









Valvole Italia was established in 2014 by a group of hydraulics and electronics engineers who, after between 7 and 25 years of experience in R&D, sales, production and management for large multinational companies, decided to try their own luck, and set off to create the perfect counterbalance company.

As the task at hand seemed somewhat too easy, we decided to start in three continents at the same time, based on it not being perfect at all for a company to be up and running only about 10 hours, when there are clearly 24 available in a day. Also, and maybe more importantly, it's because the customers we serve are often very large and very global organizations.

Just like everyone else, we believe in superior engineering, service, quality, customer orientation, lean processes, fair pricing, and technology that makes people's lives better. Only we try to do so a bit harder than the rest (or maybe, who knows, just for real)

Valvole Italia and its associate companies, **Valvole America** (Medina, Ohio) and **Valvole Asia** (Shenzhen, PRC), do not have product roadmaps, and do not believe in them. Every innovation that is brought into the product comes out of direct involvement in the customers' engineering, purchasing and manufacturing processes, and is meant to bring value to them.

Please enjoy our range of finely engineered plug-and-play solutions, and look for the little differences. We assure you there are plenty.

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Cartridge Valves

Valve name	pilot ratio	setting	capacity	cavity	configuration
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Load Holding Valves

Standard Configuration

Normale SAE08 4:1 fixed setting	4:1	fixed	30 lpm (8 gpm)	SAE08	standard	40
Normale SAE08 4:1 adjustable setting	4:1	adjustable	30 lpm (8 gpm)	SAE08	standard	41
Normale SAE08 4:1 SP fixed setting ultra fine control	4:1	fixed	4 lpm (1 gpm)	SAE08	standard	42
Normale SAE08 4:1 SP adjustable setting ultra fine control	4:1	adjustable	4 lpm (1 gpm)	SAE08	standard	43
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Normale SAE08 4:1 SP adjustable setting fine control	4:1	adjustable	15 lpm (4 gpm)	SAE08	standard	45
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Normale SAE08 8:1 fixed setting	8:1	fixed	30 lpm (8 gpm)	SAE08	standard	48
Normale SAE08 8:1 adjustable setting	8:1	adjustable	30 lpm (8 gpm)	SAE08	standard	49
Normale SAE10 3:1 fixed setting	3:1	fixed	60 lpm (15 gpm)	SAE10	standard	50
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Valve name	pilot ratio	setting	capacity	cavity	configuration	page
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Normale SAE12 4:1 fixed setting	4:1	fixed	120 lpm (30 gpm)	SAE12	standard	54
Normale SAE12 4:1 adjustable setting	4:1	adjustable	120 lpm (30 gpm)	SAE12	standard	55
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Normale SAE16 4:1 adjustable setting	4:1	adjustable	200 lpm (50 gpm)	SAE16	standard	57
Normale SAE20 4:1 fixed setting	4:1	fixed	320 lpm (85 gpm)	SAE20	standard	58
Normale SAE20 4:1 adjustable setting	4:1	adjustable	320 lpm (85 gpm)	SAE20	standard	59
Normale SAE20 8:1 fixed setting	8:1	fixed	320 lpm (85 gpm)	SAE20	standard	60
Normale SAE20 8:1 adjustable setting	8:1	adjustable	320 lpm (85 gpm)	SAE20	standard	61
Normale SAE20 GT 8:1 fixed setting	8:1	fixed	350 lpm (90 gpm)	SAE20	standard	62
Normale SAE20 GT 8:1 adjustable setting	8:1	adjustable	350 lpm (90 gpm)	SAE20	standard	63
Normale Ristrtta T11A 2:1 SP fixed setting	2:1	fixed	30 lpm (8 gpm)	T11A	standard	64
Normale Ristrtta T11A 2:1 SP adjustable setting	2:1	adjustable	30 lpm (8 gpm)	T11A	standard	65
Normale Ristrtta T11A 3:1 fixed setting ultra fine control	3:1	fixed	4 lpm (1 gpm)	T11A	standard	66
Normale Ristrtta T11A 3:1 adjustable setting ultra fine control	3:1	adjustable	4 lpm (1 gpm)	T11A	standard	67
Normale Ristrtta T11A 3:1 SP fixed setting ultra fine control	3:1	fixed	4 lpm (1 gpm)	T11A	standard	68
Normale Ristrtta T11A 3:1 SP adjustable setting ultra fine control	3:1	adjustable	4 lpm (1 gpm)	T11A	standard	69
Normale Ristrtta T11A 3:1 fixed setting fine control	3:1	fixed	15 lpm (4 gpm)	T11A	standard	70
Normale Ristrtta T11A 3:1 adjustable setting fine control	3:1	adjustable	15 lpm (4 gpm)	T11A	standard	71
Normale Ristrtta T11A 3:1 SP fixed setting fine control	3:1	fixed	15 lpm (4 gpm)	T11A	standard	72
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Normale Ristrtta T11A 3:1 adjustable setting	3:1	adjustable	30 lpm (8 gpm)	T11A	standard	75
Normale Ristrtta T11A 3:1 SP fixed setting	3:1	fixed	30 lpm (8 gpm)	T11A	standard	76



Valve name	pilot ratio	setting	capacity	cavity	configuration	page
Normale Ristrtta T11A 3:1 SP adjustable setting	3:1	adjustable	30 lpm (8 gpm)	T11A	standard	77
Normale Ristrtta T11A 4:1 fixed setting ultra fine control	4:1	fixed	4 lpm (1 gpm)	T11A	standard	78
Normale Ristrtta T11A 4:1 adjustable setting ultra fine control	4:1	adjustable	4 lpm (1 gpm)	T11A	standard	79
Normale Ristrtta T11A 4:1 SP fixed setting ultra fine control	4:1	fixed	4 lpm (1 gpm)	T11A	standard	80
Normale Ristrtta T11A 4:1 SP adjustable setting ultra fine control	4:1	adjustable	4 lpm (1 gpm)	T11A	standard	81
Normale Ristrtta T11A 4:1 fixed setting fine control	4:1	fixed	15 lpm (4 gpm)	T11A	standard	82
Normale Ristrtta T11A 4:1 adjustable setting fine control	4:1	adjustable	15 lpm (4 gpm)	T11A	standard	83
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Normale Ristrtta T11A 4:1 SP adjustable setting fine control	4:1	adjustable	15 lpm (4 gpm)	T11A	standard	85
Normale Ristrtta T11A 4:1 fixed setting	4:1	fixed	30 lpm (8 gpm)	T11A	standard	86
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Normale Ristrtta T11A 4:1 SP fixed setting	4:1	fixed	30 lpm (8 gpm)	T11A	standard	88
Normale Ristrtta T11A 4:1 SP adjustable setting	4:1	adjustable	30 lpm (8 gpm)	T11A	standard	89
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Normale Ristrtta T11A 7,5:1 SP adjustable setting	7,5:1	adjustable	30 lpm (8 gpm)	T11A	standard	91
Normale Ristrtta T11A 9:1 fixed setting	9:1	fixed	30 lpm (8 gpm)	T11A	standard	92
Normale Ristrtta T11A 9:1 adjustable setting	9:1	adjustable	30 lpm (8 gpm)	T11A	standard	93
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Normale Ristrtta T11A 9:1 SP adjustable setting	9:1	adjustable	30 lpm (8 gpm)	T11A	standard	95
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Normale T11A TG 3:1 fixed setting	3:1	fixed	40 lpm (10 gpm)	T11A	standard	98
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Normale T11A 2:1 adjustable setting	2:1	adjustable	60 lpm (15 gpm)	T11A	standard	101

Valve name	pilot ratio	setting	capacity	cavity	configuration	page
Normale T11A 3:1 fixed setting	3:1	fixed	60 lpm (15 gpm)	T11A	standard	102
Normale T11A 3:1 adjustable setting	3:1	adjustable	60 lpm (15 gpm)	T11A	standard	103
Normale T11A 3:1 SP fixed setting	3:1	fixed	60 lpm (15 gpm)	T11A	standard	104
Normale T11A 3:1 SP adjustable setting	3:1	adjustable	60 lpm (15 gpm)	T11A	standard	105
Normale T11A 5:1 fixed setting	5:1	fixed	60 lpm (15 gpm)	T11A	standard	106
Normale T11A 5:1 adjustable setting	5:1	adjustable	60 lpm (15 gpm)	T11A	standard	107
Normale T11A 8:1 fixed setting	8:1	fixed	60 lpm (15 gpm)	T11A	standard	108
Normale T11A 8:1 adjustable setting	8:1	adjustable	60 lpm (15 gpm)	T11A	standard	109
Normale T11A 10:1 fixed setting	10:1	fixed	60 lpm (15 gpm)	T11A	standard	110
Normale T11A 10:1 adjustable setting	10:1	adjustable	60 lpm (15 gpm)	T11A	standard	111
Normale T11A 10:1 SP fixed setting	10:1	fixed	60 lpm (15 gpm)	T11A	standard	112
Normale T11A 10:1 SP adjustable setting	10:1	adjustable	60 lpm (15 gpm)	T11A	standard	113
Normale T11A GT 3:1 fixed setting	3:1	fixed	75 lpm (20 gpm)	T11A	standard	114
Normale T11A GT 3:1 adjustable setting	3:1	adjustable	75 lpm (20 gpm)	T11A	standard	115
Normale T11A GT 8:1 fixed setting	8:1	fixed	75 lpm (20 gpm)	T11A	standard	116
Normale T11A GT 8:1 adjustable setting	8:1	adjustable	75 lpm (20 gpm)	T11A	standard	117
Normale T11A GT 10:1 fixed setting	10:1	fixed	75 lpm (20 gpm)	T11A	standard	118
Normale T11A GT 10:1 adjustable setting	10:1	adjustable	75 lpm (20 gpm)	T11A	standard	119
Normale T11A CVT 2:1 fixed setting	2:1	fixed	60 lpm (15 gpm)	T11A	standard	120
Normale T11A CVT 2:1 adjustable setting	2:1	adjustable	60 lpm (15 gpm)	T11A	standard	121
Normale T11A CVT 3:1 fixed setting	3:1	fixed	60 lpm (15 gpm)	T11A	standard	122
Normale T11A CVT 3:1 adjustable setting	3:1	adjustable	60 lpm (15 gpm)	T11A	standard	123
Normale T11A CVT 5:1 fixed setting	5:1	fixed	60 lpm (15 gpm)	T11A	standard	124
Normale T11A CVT 5:1 adjustable setting	5:1	adjustable	60 lpm (15 gpm)	T11A	standard	125
Normale T11A CVT 8:1 fixed setting	8:1	fixed	60 lpm (15 gpm)	T11A	standard	126



Valve name	pilot ratio	setting	capacity	cavity	configuration	page
Normale T11A CVT 8:1 adjustable setting	8:1	adjustable	60 lpm (15 gpm)	T11A	standard	127
Normale T11A CVT 10:1 fixed setting	10:1	fixed	60 lpm (15 gpm)	T11A	standard	128
Normale T11A CVT 10:1 adjustable setting	10:1	adjustable	60 lpm (15 gpm)	T11A	standard	129
Normale T2A 4:1 fixed setting	4:1	fixed	120 lpm (30 gpm)	T2A	standard	130
Normale T2A 4:1 adjustable setting	4:1	adjustable	120 lpm (30 gpm)	T2A	standard	131
Normale T2A 10:1 fixed setting	10:1	fixed	120 lpm (30 gpm)	T2A	standard	132
Normale T2A 10:1 adjustable setting	10:1	adjustable	120 lpm (30 gpm)	T2A	standard	133
Normale T2A GT 4:1 fixed setting	4:1	fixed	150 lpm (38gpm)	T2A	standard	134
Normale T2A GT 4:1 adjustable setting	4:1	adjustable	150 lpm (38gpm)	T2A	standard	135
Normale T17A 4:1 adjustable setting	4:1	adjustable	240 lpm (60 gpm)	T17A	standard	136
Normale T17A 8:1 adjustable setting	8:1	adjustable	240 lpm (60 gpm)	T17A	standard	137
Normale T19A 5:1 adjustable setting	5:1	adjustable	480 lpm (120 gpm)	T19A	standard	138
Normale T19A 8:1 adjustable setting	8:1	adjustable	480 lpm (120 gpm)	T19A	standard	139
Normale i08 2:1 SP fixed setting ultra fine control	2:1	fixed	4 lpm (1 gpm)	i08	standard	140
Normale i08 2:1 SP adjustable setting ultra fine control	2:1	adjustable	4 lpm (1 gpm)	i08	standard	141
Normale i08 2:1 SP fixed setting very fine control	2:1	fixed	10 lpm (2,6 gpm)	i08	standard	142
Normale i08 2:1 SP adjustable setting very fine control	2:1	adjustable	10 lpm (2,6 gpm)	i08	standard	143
Normale i08 2:1 SP fixed setting fine control	2:1	fixed	15 lpm (4 gpm)	i08	standard	144
Normale i08 2:1 SP adjustable setting fine control	2:1	adjustable	15 lpm (4 gpm)	i08	standard	145
Normale i08 2:1 SP fixed setting	2:1	fixed	30 lpm (8 gpm)	i08	standard	146
Normale i08 2:1 SP adjustable setting	2:1	adjustable	30 lpm (8 gpm)	i08	standard	147
Normale i08 3:1 fixed setting ultra fine control	3:1	fixed	4 lpm (1 gpm)	i08	standard	148
Normale i08 3:1 adjustable setting ultra fine control	3:1	adjustable	4 lpm (1 gpm)	i08	standard	149
Normale i08 3:1 fixed setting very fine control	3:1	fixed	10 lpm (2,6 gpm)	i08	standard	150

Valve name	pilot ratio	setting	capacity	cavity	configuration	page
Normale i08 3:1 adjustable setting very fine control	3:1	adjustable	10 lpm (2,6 gpm)	i08	standard	151
Normale i08 3:1 fixed setting fine control	3:1	fixed	15 lpm (4 gpm)	i08	standard	152
Normale i08 3:1 adjustable setting fine control	3:1	adjustable	15 lpm (4 gpm)	i08	standard	153
Normale i08 3:1 fixed setting	3:1	fixed	30 lpm (8 gpm)	i08	standard	154
Normale i08 3:1 adjustable setting	3:1	adjustable	30 lpm (8 gpm)	i08	standard	155
Normale i08 3:1 SP fixed setting ultra fine control	3:1	fixed	4 lpm (1 gpm)	i08	standard	156
Normale i08 3:1 SP adjustable setting ultra fine control	3:1	adjustable	4 lpm (1 gpm)	i08	standard	157
Normale i08 3:1 SP fixed setting very fine control	3:1	fixed	10 lpm (2,6 gpm)	i08	standard	158
Normale i08 3:1 SP adjustable setting very fine control	3:1	adjustable	10 lpm (2,6 gpm)	i08	standard	159
Normale i08 3:1 SP fixed setting fine control	3:1	fixed	15 lpm (4 gpm)	i08	standard	160
Normale i08 3:1 SP adjustable setting fine control	3:1	adjustable	15 lpm (4 gpm)	i08	standard	161
Normale i08 3:1 SP fixed setting	3:1	fixed	30 lpm (8 gpm)	i08	standard	162
Normale i08 3:1 SP adjustable setting	3:1	adjustable	30 lpm (8 gpm)	i08	standard	163
Normale i08 4:1 fixed setting ultra fine control	4:1	fixed	4 lpm (1 gpm)	i08	standard	164
Normale i08 4:1 adjustable setting ultra fine control	4:1	adjustable	4 lpm (1 gpm)	i08	standard	165
Normale i08 4:1 fixed setting fine control	4:1	fixed	15 lpm (4 gpm)	i08	standard	166
Normale i08 4:1 adjustable setting fine control	4:1	adjustable	15 lpm (4 gpm)	i08	standard	167
Normale i08 4:1 fixed setting	4:1	fixed	30 lpm (8 gpm)	i08	standard	168
Normale i08 4:1 adjustable setting	4:1	adjustable	30 lpm (8 gpm)	i08	standard	169
Normale i08 4:1 SP fixed setting ultra fine control	4:1	fixed	4 lpm (1 gpm)	i08	standard	170
Normale i08 4:1 SP adjustable setting ultra fine control	4:1	adjustable	4 lpm (1 gpm)	i08	standard	171
Normale i08 4:1 SP fixed setting fine control	4:1	fixed	15 lpm (4 gpm)	i08	standard	172
Normale i08 4:1 SP adjustable setting fine control	4:1	adjustable	15 lpm (4 gpm)	i08	standard	173
Normale i08 4:1 SP fixed setting	4:1	fixed	30 lpm (8 gpm)	i08	standard	174



Valve name	pilot ratio	setting	capacity	cavity	configuration	page
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Normale i08 5:1 SP fixed setting	5:1	fixed	30 lpm (8 gpm)	i08	standard	176
Normale i08 5:1 SP adjustable setting	5:1	adjustable	30 lpm (8 gpm)	i08	standard	177
Normale i08 8:1 SP fixed setting	8:1	fixed	30 lpm (8 gpm)	i08	standard	178
Normale i08 8:1 SP adjustable setting	8:1	adjustable	30 lpm (8 gpm)	i08	standard	179
Normale i08 10:1 SP fixed setting	10:1	fixed	30 lpm (8 gpm)	i08	standard	180
Normale i08 10:1 SP adjustable setting	10:1	adjustable	30 lpm (8 gpm)	i08	standard	181
Normale i12 4:1 fixed setting	4:1	fixed	120 lpm (30 gpm)	i12	standard	182
Normale i12 4:1 adjustable setting	4:1	adjustable	120 lpm (30 gpm)	i12	standard	183
Normale i16 4:1 adjustable setting	4:1	adjustable	200 lpm (50 gpm)	i16	standard	184
Normale 31PB 4:1 adjustable setting	4:1	adjustable	60 lpm (15 gpm)	31PB	standard	185
Normale 34PB 4:1 adjustable setting fine control	4:1	adjustable	120 lpm (30 gpm)	34PB	standard	186
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Balanced Configuration

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Compensata T2A 4:1 adjustable setting	4:1	adjustable	120 lpm (30 gpm)	T2A	balanced	191
Compensata T2A 4:1 SP fixed setting	4:1	fixed	120 lpm (30 gpm)	T2A	balanced	192
Compensata T2A 4:1 SP adjustable setting	4:1	adjustable	120 lpm (30 gpm)	T2A	balanced	193
Compensata i12 4:1 SP fixed setting	4:1	fixed	120 lpm (30 gpm)	i12	balanced	194
Compensata i12 4:1 SP adjustable setting	4:1	adjustable	120 lpm (30 gpm)	i12	balanced	195

Valve name	pilot ratio	setting	capacity	cavity	configuration	page
Vented Configuration						
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Ventilata SAE08 4:1 adjustable setting	4:1	adjustable	30 lpm (8 gpm)	SAE08	vented	197
Ventilata SAE10 3:1 adjustable setting	3:1	adjustable	60 lpm (15 gpm)	SAE10	vented	198
Ventilata SAE12 4:1 adjustable setting	4:1	adjustable	120 lpm (30 gpm)	SAE12	vented	199
Ventilata SAE16 4:1 adjustable setting	4:1	adjustable	200 lpm (50 gpm)	SAE16	vented	200
Ventilata Ristretta T11A 3:1 fixed setting ultra fine control	3:1	fixed	30 lpm (8 gpm)	T11A	vented	201
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Ventilata Ristretta T11A 3:1 fixed setting fine control	3:1	fixed	30 lpm (8 gpm)	T11A	vented	203
Ventilata Ristretta T11A 3:1 adjustable setting fine control	3:1	adjustable	30 lpm (8 gpm)	T11A	vented	204
Ventilata Ristretta T11A 3:1 fixed setting	3:1	fixed	30 lpm (8 gpm)	T11A	vented	205
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Ventilata Ristretta T11A 4:1 fixed setting ultra fine control	4:1	fixed	30 lpm (8 gpm)	T11A	vented	207
Ventilata Ristretta T11A 4:1 adjustable setting ultra fine control	4:1	adjustable	30 lpm (8 gpm)	T11A	vented	208
Ventilata Ristretta T11A 4:1 fixed setting fine control	4:1	fixed	30 lpm (8 gpm)	T11A	vented	209
Ventilata Ristretta T11A 4:1 adjustable setting fine control	4:1	adjustable	30 lpm (8 gpm)	T11A	vented	210
Ventilata Ristretta T11A 4:1 fixed setting	4:1	fixed	30 lpm (8 gpm)	T11A	vented	211
Ventilata Ristretta T11A 4:1 adjustable setting	4:1	adjustable	30 lpm (8 gpm)	T11A	vented	212
Ventilata T11A 1:1 adjustable setting	1:1	adjustable	60 lpm (15 gpm)	T11A	vented	213
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Ventilata T11A 3:1 adjustable setting	3:1	adjustable	60 lpm (15 gpm)	T11A	vented	215
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Ventilata T11A 10:1 adjustable setting	10:1	adjustable	60 lpm (15 gpm)	T11A	vented	218
Ventilata T2A 2:1 adjustable setting	2:1	adjustable	120 lpm (30 gpm)	T2A	vented	219



Valve name	pilot ratio	setting	capacity	cavity	configuration	page
Ventilata T2A 4:1 adjustable setting	4:1	adjustable	120 lpm (30 gpm)	T2A	vented	220
Ventilata T2A 8:1 adjustable setting	8:1	adjustable	120 lpm (30 gpm)	T2A	vented	221
Ventilata T17A 4:1 adjustable setting	4:1	adjustable	240 lpm (60 gpm)	T17A	vented	222
Ventilata T19A 5:1 adjustable setting	5:1	adjustable	480 lpm (120 gpm)	T19A	vented	223
Ventilata T19A 8:2 adjustable setting	8:2	adjustable	480 lpm (120 gpm)	T19A	vented	224
Ventilata i08 4:1 fixed setting	4:1	fixed	30 lpm (8 gpm)	i08	vented	225
Ventilata i08 4:1 adjustable setting	4:1	adjustable	30 lpm (8 gpm)	i08	vented	226
Ventilata i12 4:1 adjustable setting	4:1	adjustable	120 lpm (30 gpm)	i12	vented	227
Ventilata i16 4:1 adjustable setting	4:1	adjustable	200 lpm (50 gpm)	i16	vented	228
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Drained Configuration

Drenata T21A 1:1 adjustable setting	1:1	adjustable	60 lpm (15 gpm)	T21A	drained	230
Drenata T21A 2:1 adjustable setting	2:1	adjustable	60 lpm (15 gpm)	T21A	drained	231
Drenata T21A 3:1 adjustable setting	3:1	adjustable	60 lpm (15 gpm)	T21A	drained	232
Drenata T21A 5:1 adjustable setting	5:1	adjustable	60 lpm (15 gpm)	T21A	drained	233
Drenata T21A 8:1 adjustable setting	8:1	adjustable	60 lpm (15 gpm)	T21A	drained	234
Drenata T21A 10:1 adjustable setting	10:1	adjustable	60 lpm (15 gpm)	T21A	drained	235

Check Valves

P.O. check T11A fixed setting	3:1	fixed	60 lpm (15 gpm)	T11A	drained	236
P.O. check T11A SP fixed setting	3:1	fixed	60 lpm (15 gpm)	T11A	standard	237
P.O. check i08 fixed setting	3:1	fixed	30 lpm (8 gpm)	i08	standard	238
P.O. check i08 SP fixed setting	3:1	fixed	30 lpm (8 gpm)	i08	standard	239
Check Valve i10 fixed setting		fixed	90 lpm (25 gpm)	i10	standard	240

Valve name	pilot ratio	setting	capacity	cavity	configuration	page
Relief Valves						
VM6 direct acting adjustable setting		adjustable	1,5 lpm (0,4 gpm)	VM6	standard	241
VM31 direct acting - guided poppet type adjustable setting		adjustable	30 lpm (8gpm)	VM31	standard	242
VM31 direct acting - guided poppet type Hard Seat F adjustable setting		adjustable	30 lpm (8gpm)	VM31	standard	243
VMP2 10A pilot operated		adjustable	60 lpm (15gpm)	SAE10 std	standard	244

Sequence Valves

Sequenza SAE10 AP		adjustable	60 lpm (15 gpm)	SAE10 std	drained	245
Sequenza SAE10 AD		adjustable	60 lpm (15 gpm)	SAE10 std	drained	246
Sequenza T11A AP		adjustable	60 lpm (15 gpm)	T11A	drained	247

Pressure Reducing Valves

CRPR SAE10 DMP		adjustable	20 lpm (5 gpm)	SAE10	standard	248
CRPR SAE10		adjustable	30 lpm (8 gpm)	SAE10	standard	249



Parts in body valves

Valve name	pilot ratio	capacity	type	ports	connection	configuration	setting	page
Standard Configuration								
Normale 79 S L 1/4	4:1	40 lpm (10 gpm)	single	G 1/4	in line	standard	adjustable	254
Normale 79 S L PIL 1/4	4:1	40 lpm (10 gpm)	single	G 1/4	in line - pil port	standard	adjustable	255
Normale 79 S FC2 1/4	4:1	40 lpm (10 gpm)	single	G 1/4	flanged	standard	adjustable	256
Normale 79 D L 1/4	4:1	40 lpm (10 gpm)	double	G 1/4	in line	standard	adjustable	257
Normale 79 D FC2 1/4	4:1	40 lpm (10 gpm)	double	G 1/4	flanged	standard	adjustable	258
Normale 79 D L 1/4 steel	4:1	40 lpm (10 gpm)	double	G 1/4	in line	standard	adjustable	259
Normale 79 D FC2 1/4 steel	4:1	40 lpm (10 gpm)	double	G 1/4	flanged	standard	adjustable	260
Normale 31 NPS S L 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	in line	standard	fixed	261
Normale 31 NPS S L 3/8	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	in line	standard	adjustable	262
Normale 31 NPS S L PIL 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	in line - pil port	standard	fixed	263
Normale 31 NPS S L PIL 3/8	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	in line - pil port	standard	adjustable	264
Normale 31 NPS S FC1 PIL 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	flanged - pil port	standard	fixed	265
Normale 31 NPS S FC1 PIL 3/8	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	flanged - pil port	standard	adjustable	266
Normale 31 NPS S FC2 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	flanged	standard	fixed	267
Normale 31 NPS S FC2 3/8	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	flanged	standard	adjustable	268
Normale 31 NPS S FC1 PL 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	flanged c2	standard	fixed	269
Normale 31 NPS S FC1 PL 3/8	4:1 - 8:1	90 lpm (24 gpm)	single	G 3/8	flanged c2	standard	adjustable	270
Normale 31 NPS S L 1/2 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	in line	standard	fixed	271
Normale 31 NPS S L 1/2	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	in line	standard	adjustable	272
Normale 31 NPS S L PIL 1/2 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	flanged - pil port	standard	fixed	273
Normale 31 NPS S L PIL 1/2	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	flanged - pil port	standard	adjustable	274
Normale 31 NPS S FC2 1/2 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	flanged	standard	fixed	275
Normale 31 NPS S FC2 1/2	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	flanged	standard	adjustable	276

Valve name	pilot ratio	capacity	type	ports	connection	configuration	setting	page
Normale 31 NPS S FC1 PL 1/2 F	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	flanged c2	standard	fixed	277
Normale 31 NPS S FC1 PL 1/2	4:1 - 8:1	90 lpm (24 gpm)	single	G 1/2	flanged c2	standard	adjustable	278
Normale 31 NPS D L 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	double	G 3/8	in line	standard	fixed	279
Normale 31 NPS D L 3/8	4:1 - 8:1	90 lpm (24 gpm)	double	G 3/8	in line	standard	adjustable	280
Normale 31 NPS D FC1 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	double	G 3/8	flanged c2	standard	fixed	281
Normale 31 NPS D FC1 3/8	4:1 - 8:1	90 lpm (24 gpm)	double	G 3/8	flanged c2	standard	adjustable	282
Normale 31 NPS D FC2 3/8 F	4:1 - 8:1	90 lpm (24 gpm)	double	G 3/8	flanged	standard	fixed	283
Normale 31 NPS D FC2 3/8	4:1 - 8:1	90 lpm (24 gpm)	double	G 3/8	flanged	standard	adjustable	284
Normale 31 NPS D L 1/2 F	4:1 - 8:1	90 lpm (24 gpm)	double	G 1/2	in line	standard	fixed	285
Normale 31 NPS D L 1/2	4:1 - 8:1	90 lpm (24 gpm)	double	G 1/2	in line	standard	adjustable	286
Normale 31 NPS D FC1 1/2 F	4:1 - 8:1	90 lpm (24 gpm)	double	G 1/2	flanged c2	standard	fixed	287
Normale 31 NPS D FC1 1/2	4:1 - 8:1	90 lpm (24 gpm)	double	G 1/2	flanged c2	standard	adjustable	288
Normale 31 NPS D FC2 1/2 F	4:1 - 8:1	90 lpm (24 gpm)	double	G 1/2	flanged	standard	fixed	289
Normale 31 NPS D FC2 1/2	4:1 - 8:1	90 lpm (24 gpm)	double	G 1/2	flanged	standard	adjustable	290
Normale 34 S L 1/2	4:1 - 8:1	150 lpm (40 gpm)	single	G 1/2	in line	standard	adjustable	291
Normale 34 S FC1 PL 1/2	4:1 - 8:1	150 lpm (40 gpm)	single	G 1/2	flanged c2	standard	adjustable	292
Normale 34 S FC2 1/2	4:1 - 8:1	150 lpm (40 gpm)	single	G 1/2	flanged	standard	adjustable	293
Normale 34 S L 3/4	4:1 - 8:1	150 lpm (40 gpm)	single	G 3/4	in line	standard	adjustable	294
Normale 34 S FC1 PL 3/4	4:1 - 8:1	150 lpm (40 gpm)	single	G 3/4	flanged c2	standard	adjustable	295
Normale 34 S FC2 3/4	4:1 - 8:1	150 lpm (40 gpm)	single	G 3/4	flanged	standard	adjustable	296
Normale 34 D L 1/2	4:1 - 8:1	150 lpm (40 gpm)	single	G 1/2	in line	standard	adjustable	297
Normale 34 D FC2 1/2	4:1 - 8:1	150 lpm (40 gpm)	single	G 1/2	flanged	standard	adjustable	298
Normale 34 D L 3/4	4:1 - 8:1	150 lpm (40 gpm)	single	G 3/4	in line	standard	adjustable	299
Normale 34 D FC2 3/4	4:1 - 8:1	150 lpm (40 gpm)	single	G 3/4	flanged	standard	adjustable	300
Normale 43 S L Pil 1	4:1	350 lpm (93 gpm)	single	G 1	in line - pil port	standard	adjustable	301



Valve name	pilot ratio	capacity	type	ports	connection	configuration	setting	page
Balanced configuration								
Compensata 31 NPS S L 3/8	4:1	90 lpm (24 gpm)	single	G 3/8	in line	balanced	adjustable	302
Compensata 31 NPS S L Pil 3/8	4:1	90 lpm (24 gpm)	single	G 3/8	in line - pil port	balanced	adjustable	303
Compensata 31 NPS S FC1 Pil 3/8	4:1	90 lpm (24 gpm)	single	G 3/8	flanged - pil port	balanced	adjustable	304
Compensata 31 NPS S FC1 PL 3/8	4:1	90 lpm (24 gpm)	single	G 3/8	flanged c2	balanced	adjustable	305
Compensata 31 NPS S FC2 3/8	4:1	90 lpm (24 gpm)	single	G 3/8	flanged	balanced	adjustable	306
Compensata 31 NPS S L 1/2	4:1	90 lpm (24 gpm)	single	G 1/2	in line	balanced	adjustable	307
Compensata 31 NPS S L Pil 1/2	4:1	90 lpm (24 gpm)	single	G 1/2	in line - pil port	balanced	adjustable	308
Compensata 31 NPS S FC1 PL 1/2	4:1	90 lpm (24 gpm)	single	G 1/2	flanged c2	balanced	adjustable	309
Compensata 31 NPS S FC2 1/2	4:1	90 lpm (24 gpm)	single	G 1/2	flanged	balanced	adjustable	310
Compensata 31 NPS D L 3/8	4:1	90 lpm (24 gpm)	double	G 3/8	in line	balanced	adjustable	311
Compensata 31 NPS D FC2 3/8	4:1	90 lpm (24 gpm)	double	G 3/8	flanged	balanced	adjustable	312
Compensata 31 NPS D L 1/2	4:1	90 lpm (24 gpm)	double	G 1/2	in line	balanced	adjustable	313
Compensata 31 NPS D FC2 1/2	4:1	90 lpm (24 gpm)	double	G 1/2	flanged	balanced	adjustable	314
Vented Configuration								
Ventilata 79 D FC2P 1/4	4:1	40 lpm (10 gpm)	double	G 1/4	flanged	vented	adjustable	315
Ventilata 79 D FC2 3/8	4:1	40 lpm (10 gpm)	double	G 3/8	flanged	vented	adjustable	316
Ventilata 34 S L 1/2	4:1 -8:1	150 lpm (40 gpm)	single	G 1/2	in line	vented	adjustable	317
Ventilata 34 S FC1 PL 1/2	4:1 -8:1	150 lpm (40 gpm)	single	G 1/2	flanged c2	vented	adjustable	318
Ventilata 34 S FC2 1/2	4:1 -8:1	150 lpm (40 gpm)	single	G 1/2	flanged	vented	adjustable	319
Ventilata 34 S L 3/4	4:1 -8:1	150 lpm (40 gpm)	single	G 3/4	in line	vented	adjustable	320
Ventilata 34 S FC1 PL 3/4	4:1 -8:1	150 lpm (40 gpm)	single	G 3/4	flanged c2	vented	adjustable	321
Ventilata 34 S FC2 PL 3/4	4:1 -8:1	150 lpm (40 gpm)	single	G 3/4	flanged	vented	adjustable	322

Valve name	pilot ratio	capacity	type	ports	connection	configuration	setting	page
Ventilata 34 D L 1/2	4:1 -8:1	150 lpm (40 gpm)	double	G 1/2	in line	vented	adjustable	323
Ventilata 34 D FC2 1/2	4:1 -8:1	150 lpm (40 gpm)	double	G 1/2	flanged	vented	adjustable	324
Ventilata 34 D L 3/4	4:1 -8:1	150 lpm (40 gpm)	double	G 1/2	in line	vented	adjustable	325
Ventilata 34 D FC2 3/4	4:1 -8:1	150 lpm (40 gpm)	double	G 1/2	flanged	vented	adjustable	326

Regenerative Function

Rigenerativo 79	4:1	9 lpm (24 gpm)	regenerative	G 3/8	flanged		adjustable	327
Rigenerativo 43	4:1	400 lpm (106 gpm)	regenerative	1" SAE6000	flanged		adjustable	328

Valves for motors

Normale 43 S FW 1	13:1	350 lpm (93 gpm)	single	1" SAE6000 - 1"1/4 SAE6000	flanged		adjustable	329
Normale ZG SAE20	8:1	320 lpm (85 gpm)	double	1" SAE6000	flanged		adjustable	330









Nemo tam callidus ne callidior inveniri possit.



VALVOLLE ITALIA

> Introduction

The term *Counterbalance Valve* has become generally accepted globally for valves that perform the following functions in mobile equipment:

- > **Load Holding:** securing the last commanded position of an actuator by preventing fluid from escaping work chambers, usually in a leak free mode.
- > **Motion Control:** maintaining positive effort of an actuator in all conditions, even in cases where the load can work with forces of gravity.
- > **Overcenter Control:** preventing the load from running ahead of the power supply to the actuator in cases where the work of the actuator transitions from a positive force in the requested direction of movement to a negative force in the same direction
- > **Free upstream flow** into the actuator through a check valve; for example for load lifting.
- > **Pressure relieving** (with open center spool in the directional valve) for pressure surges in the actuator work chamber caused, for example, by oil expansion due to heating, etc.

Valvole Italia offers a wide range of counterbalance valves to best suit the performance needs of a large number of applications. This first catalog only shows the standard range of components, but of course our team of hydraulic, service and design engineers is available to support our Customers to:

- > Customize blocks and solutions to better fit each application
- > Customize, when needed, the valves function and components design in order to reach the proper performance level required by the application

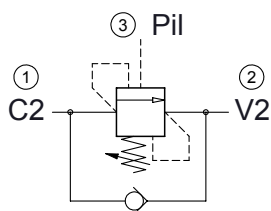
> Important features of Valvole Italia counterbalance valves

- > Low leakage when closed: maximum 5 drops/min when valve closes with reseal pressure applied to load holding port
- > Standard maximum operating pressure 350 Bar (5000 PSI), and optional maximum working pressure of 420 Bar (6100 PSI).
- > Reliable and stable hydraulic performance over full temperature range, -30°C – 100°C (-22F – 212F).
- > Wide range of pilot ratios from 2:1 to 24:1
- > High level of contamination resistance: the critical components of the load holding valve are hardened and are not subjected to performance degrading damage with normal levels of fluid contamination. However, good system design considerations should be made to maintain ISO 4406 19/17/14 for all high pressure components.
- > Unsealed or Sealed Pilot Piston: the pilot piston can be provided with a glide ring for reduced hysteresis which allows a very low level of leakage which is beneficial for bleeding air from the pilot chamber on commissioning. The pilot piston can also be provided with positive seals for critical low flow or master/slave circuits where no leakage through the pilot chamber can be tolerated.
- > Setting Adjustment in CLOCKWISE direction. Most hydraulic components are made with setting adjustment mechanisms following the convention that adjustment made in a CLOCKWISE direction INCREASES the set value. Some counterbalance valve companies have created components where COUNTERCLOCKWISE adjustments INCREASE the set value. However the latter feature is achieved mechanically, the increasing adjustment in a COUNTERCLOCKWISE direction is not intuitive and therefore may be unsafe.
- > Fixed or Adjustable Setting: counterbalance valves can be produced with fixed or adjustable settings. Adjustable setting valves can be provided with tamper indicating caps.
- > Reseat: in the product datasheets which follow, the reseal value indicated is obtained with valve set at maximum setting value allowed; this reseal value (in percentage of the setting) decreases with decreasing setting values.



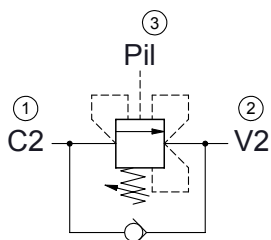
There are several versions of counterbalance valves designed to optimize machine performance, efficiency and stability based on the fact that some level of backpressure will always exist while the valve is in operation.

NORMALE standard counterbalance valve



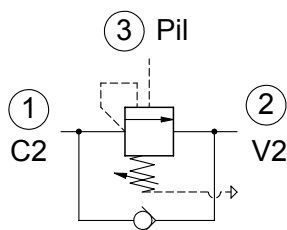
Port (1) is the load port; Port (2) is the exhaust port and Port (3) is the pilot port. The spring chamber on the NORMALE counterbalance valve is drained/connected to port (2). In this case, backpressure has effects on both the relief and pilot opening pressures since it pushes the relief piston in the closed direction and it opposes the pilot piston too.

COMPENSATA compensated counterbalance valve



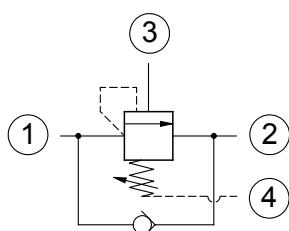
The spring chamber is connected to the exhaust port (2), however, this valve type has a special configuration on the relief piston that allows the relief opening independently from any back pressure. The pilot opening pressure, instead, remains influenced by backpressure at port 2. These valves may be employed in those applications that require to relieve pressure at the established pressure setting value, independently from any backpressure in the return line. They are frequently fitted in systems with directional valves with closed center spools equipped with port relief valves

VENTILATA vented counterbalance valve



The Vented counterbalance valve has a vented spring chamber. Both the relief and the pilot opening of the valve are independent from backpressure at port 2. These valves must be used only in conjunction with directional valves with closed center spools and equipped with port relief valves. This version of counterbalance valve will be more efficient in systems with high backpressure or line losses between the counterbalance valve and the directional control.

DRENATA drained counterbalance valve



The drained counterbalance valve includes a fourth port which allows the spring chamber to be connected either to tank line (sump) or other pressure sources in the system. In case the drain line is connected to tank pressure, the performance can be similar as the vented counterbalance valve as far as the pressure in the drain line is close to zero. These valves type can be used when the application boundary conditions makes it preferable to avoid a vented spring chamber, or in various special applications as regenerative circuits.

The following information concerns **Valvole Italia** valve series 79, 31NPS, 34, 43, and the cartridge valves included in this catalog.

➤ Determining the Proper Pressure Setting of a Counterbalance Valve

The pressure setting (P_s) of a counterbalance valve must be at least thirty percent higher than the maximum load induced pressure (P_L).

$$P_s \geq 1.3 \cdot P_L$$

➤ Determining the Opening Pressure of a Counterbalance Valve

The pilot pressure to open the counterbalance valve (or pressure to lower the load) depends on the valve setting, pilot ratio, load induced pressure, and pressures at the valve outlet and/or in the spring chamber. Following discussion and calculations use these variable definitions:

P_S Counterbalance Valve setting

R_{pil} Counterbalance Valve Pilot Ratio

P_L Load Induced Pressure

P_B Pressure at the Counterbalance Valve Outlet (Backpressure)

P_{pil} Pilot pressure required to open the counterbalance valve (Load Lowering Pressure)

P_R Pressure at port 1 required to open the relief function of the counterbalance valve

α Cylinder bore area / cylinder annular area

The effects of backpressure on the pilot opening pressure and on the relief opening pressure of the valve are different, depending on the valve type.

These effects should be considered when selecting null conditions for directional control valve, design of plumbing and the ability for the counterbalance valve to function as a relief valve. For example the influence of back pressure can often be used to help stabilize functions as it creates a type of feedback helping the counterbalance valve to regulate the load during lowering. However, in cases where backpressure exists, system efficiency is in general compromised.

For a normal valve, it must be considered, that the backpressure has also effect of the relief opening pressure, with a factor = $R_{pil}+1$. So, in case of backpressure, not only the pilot opening, but also the relief setting of a NORMALE counterbalance valve becomes higher. The relief opening pressure (at port 1) of a standard type (NORMALE) counterbalance valve can be calculated as follows:

$$P_R = P_S + P_B \cdot (R_{pil} + 1)$$



Example:

NORMALE counterbalance valve with 4:1 pilot ratio, with

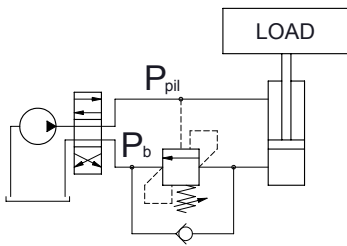
- > nominal relief setting of 350 bar
 - > and backpressure of 10 bar
- has an effective relief opening at:
 $350 + 10 \cdot (4+1) = 400$ Bar.

If we consider the case of:

- > a standard counterbalance valve (sensitive to backpressure) and a vented valve
- > fitted to a double acting cylinder with a certain area ratio,
 α = cylinder bore area / cylinder annular area
- > ideal situation of absence or negligible effect of seal friction

The P_{pil} required to start opening the valve can be calculated as follows:

In case of load pushing the cylinder rod and valve fitted to the full bore side



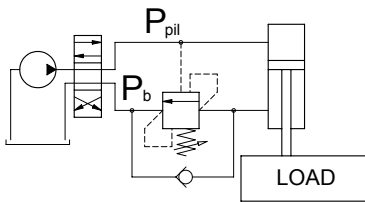
NORMAL valve (as represented in the picture on the left)

$$P_{pil} = \frac{P_S - P_L + P_B \cdot (R_{pil} + 1)}{R_{pil} + \frac{1}{\alpha}} \quad \text{often simplified as } P_{pil} = \frac{P_S - P_L + P_B \cdot (R_{pil} + 1)}{R_{pil}}$$

VENTED valve

$$P_{pil} = \frac{P_S - P_L}{R_{pil} + \frac{1}{\alpha}} \quad \text{often simplified as } P_{pil} = \frac{P_S - P_L}{R_{pil}}$$

In case of load pulling the cylinder rod and valve fitted to the annular chamber



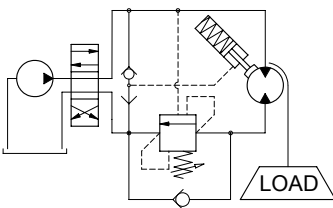
NORMAL valve (as represented in the picture on the left)

$$P_{pil} = \frac{P_S - P_L + P_B \cdot (R_{pil} + 1)}{R_{pil} + \alpha}$$

VENTED valve

$$P_{pil} = \frac{P_S - P_L}{R_{pil} + \alpha}$$

In case of valve fitted to an equal area actuator or to a hydraulic motor where $\alpha=1$



NORMAL valve (as represented in the picture on the left)

$$P_{pil} = \frac{P_S - P_L + P_B \cdot (R_{pil} + 1)}{R_{pil} + 1}$$



NLX 2000 | 500



> Valvole Italia counterbalance technology

In general, the use of lower pilot ratios can help to achieve more stable functions/systems, but on the other hand this also creates a loss of efficiency of the function/system.

The specific requirements of each application and the boundary conditions of the system have to be taken into account in order to select the proper valve for each function, also considering the relevant characteristics of the other components which have an influence on the valve behavior (main directional valve, pump, control system, actuator, etc.).

Basing on these inputs **Valvole Italia** supports the Customers and Partners to select the most suitable load holding valve, and can also offer support in order to achieve a fine tuning of the valve on the application in order to keep the optimum pilot ratio (to support the system efficiency) and at the same time reach the desired stability, controllability and reactivity of the movement.

In order to find the proper tuning to keep

- > High pilot ratio => higher efficiency
- > Good stability and controllability of the movement
- > Good reactivity, also in cold conditions

depending on the valve type, different strategies are possible and **Valvole Italia** can propose different devices to control the signals that determine the quality of the load handling / motion control.

Simply put, the counterbalance valve performance must match the system dynamic in which it is installed: this includes hydraulic system reaction as well as machine rigidity or stiffness.

To advance counterbalance valve performance, optimizations have been made around the core of the counterbalance valve – The Load Holding Piston and Seat. Creating better flow paths, and extending the stroke of the load holding piston allows for larger flows (or less pressure drop) in the same or smaller valve packages. Furthermore, the modified flow passages and longer stroke allows for customization of the load holding piston to create area gains that best match the machine system dynamic over the opening time of the counterbalance valve. This also allows for designs of load holding pistons (poppets) which have either a very linear open area gain, or one that is progressive. Both of these techniques support better more stable transitions as the counterbalance valve regulates to safely control load lowering movements, and allows for increased speed of actuators in a predefined cavity or space.

> Valve Packaging, Flexibility, Labeling, Branding and Life

Valvole Italia has adopted all best practices into the design and manufacturing of counterbalance valves. Having a sharp focus on the single function of load holding allows those best practices to be installed in a flexible way such that no single process must inhibit innovation of product or Customer support. Being flexible means the company can flow with industry demands on technical and commercial issues, while always expanding the technology on which the company survives.

Every consideration is made with the Customer in mind.



An example is the labeling of products. Incorporating laser labeling technology into the manufacturing process means that the identification of the finished valves can easily be whatever the Customer wishes. This includes Customer part numbers, logos, and a data matrix which will direct end users or machinery service centers and dealers to Customer-selected source of support for replacement parts, service information and warranty data. The service life of a counterbalance valve should match the service life of the machine in which it is installed. Since the counterbalances valves of **Valvole Italia** are designed and tested to criteria exceeding market standards, the warranty which covers that product from normal service life failures also exceeds industry standards. All **Valvole Italia** products are provided with a 30months warranty from the manufacturing date marked on the valve.

➤ Technical Data

Detailed information about product performance, selection and installation can be provided by our Customer Engineering Department: the following paragraphs provide a general summary of specifications and guidelines, with the aim to provide a general guidance only.

Hydraulic Fluids

Mineral oil based hydraulic fluids suitable for hydraulic systems can be used in combination with **Valvole Italia** valves, with physical lubricating and chemical properties as specified by:

- > MINERAL OIL BASED HYDRAULIC FLUIDS HL (DIN 51524 part 1)
- > MINERAL OIL BASED HYDRAULIC FLUIDS HLP (DIN 51524 part 2)

For use of environmental friendly fluids please consult **Valvole Italia**.

Fluid viscosity

Exception made for cases in which different specifications are indicated in the individual product data sheet, the fluid viscosity should remain within the range **10 to 500 cSt**.

The performance curves and specifications data shown in **Valvole Italia** catalog are obtained using mineral based fluid **ISO VG 46**, i.e. **46 cSt at 40°C (104°F)**, with an oil temperature of **30-40°C (86-104°F)**. More detailed technical characteristics are available upon request at **Valvole Italia**.

Fluid temperature recommendation

Valvole Italia products are generally equipped with BUNA-N seals and, for this reason, the fluid temperature should remain within the **-30°C and +100°C range (-22°F and +212°F)**. In case of temperatures outside this range, consult **Valvole Italia**.

Fluid cleanliness requirements

Excessive contamination is often the cause of malfunctions in hydraulic systems. Hard contamination particles present in the fluid, can cause premature wear and leakages in hydraulic components. For the correct operation of **Valvole Italia** products, it is necessary to put in place filtration methods which guarantee for life the specified fluid cleanliness level. Fluid filtration must comply with the specifications given by following guideline.

▼
* **Absolute filtration:** characteristic of each type of filter; it refers approximately to the size (in micron) of the largest spherical particle that can get through the openings in the filter element

System / Valve type

System / Valve type	Recommendations		
	Cleanliness class recommended		Absolute filtration (micron rating)*
	ISO 4406:1999	NAS 1638	
<ul style="list-style-type: none"> > System/Component operating at high pressure (>250 bar , 3000 psi) > High duty cycle applications > Systems/Components with LOW dirt tolerance 	18 / 16 / 13	7 – 8	5
<ul style="list-style-type: none"> > System/Component operating at medium-high pressure > Systems/Components with moderate dirt tolerance 	19 / 17 / 14	9	10
<ul style="list-style-type: none"> > System/Component operating at low pressure (100 bar< , 1500 psi) > low duty cycle applications > Systems/Components with good dirt tolerance 	20 / 18 / 15	10- 11	20

> Pressure setting

Valvole Italia products are supplied pre-set at the standard pressure setting indicated in the relevant catalog sheet. If the application requires a readjustment, please ensure that the limits of the indicated pressure range and maximum working pressure are never exceeded.

> Storage of new valves

The valves shall not be exposed to direct sun light nor to sources of heat or ozone (like electric motors running), and should be stored in their original, protective packing at ambient temperature within the range **-20°C and +50°C (-4°F and 122°F)**.



> Seals

O-Rings: Buna N (acrylonitrile butadiene), also named NBR (according to ASTM), compatible with fluids having mineral oil base, water-in-oil emulsions, and water-glycol fluids. These seals are standard for temperatures within the range **-30°C and +100°C (-22°F and +212°F)**.

Back-up rings and Slide rings: strengthened PTFE (Politetrafluoroetilene like Teflon®, Lubriflon®, Ecoflon®, or similar).

FPM (Viton®) seals are available on request.

Note: the seals materials are compatible with the fluids normally used in hydraulic systems; in case of special fluids, if you suspect incompatibility between the fluid used and the standard seals, contact **Valvole Italia**.

➤ Seal kits

Cartridge valves: the kits include all the external seals

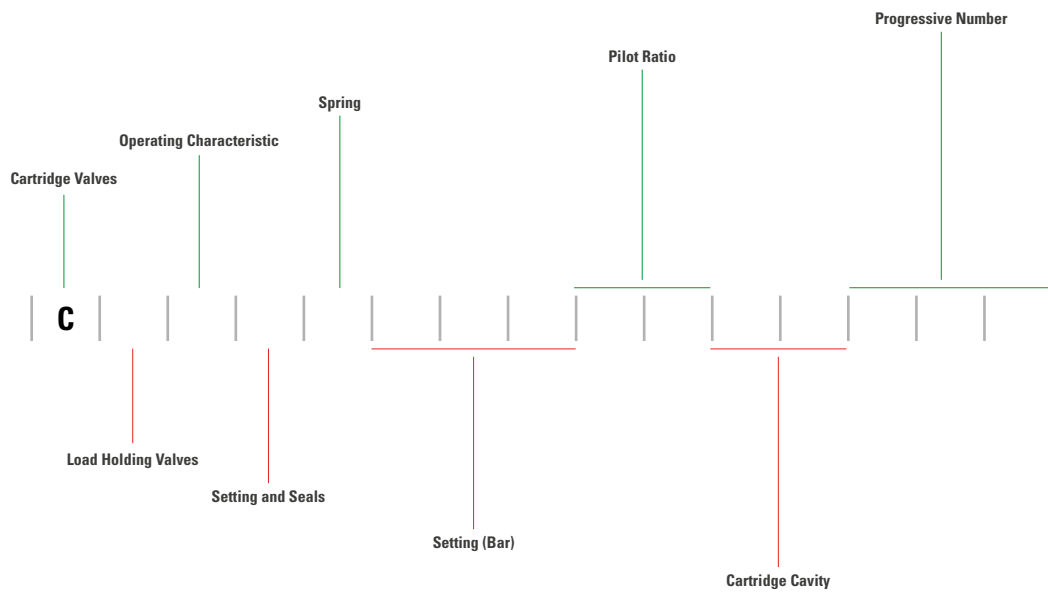
Parts-in-body valves: the kits normally include all external seals for flange fitting (please refer to each single datasheet)



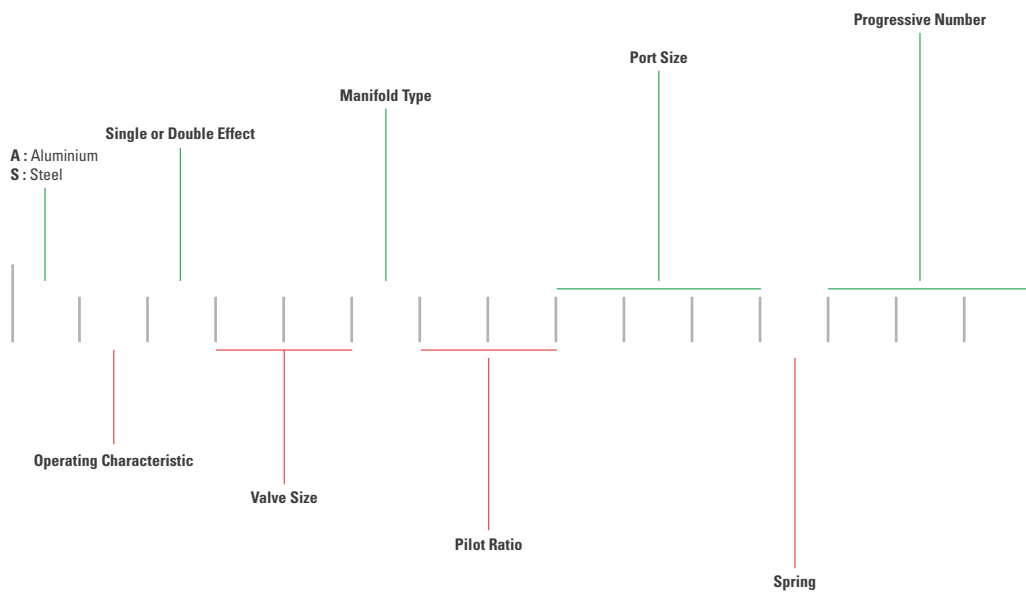
➤ Installation

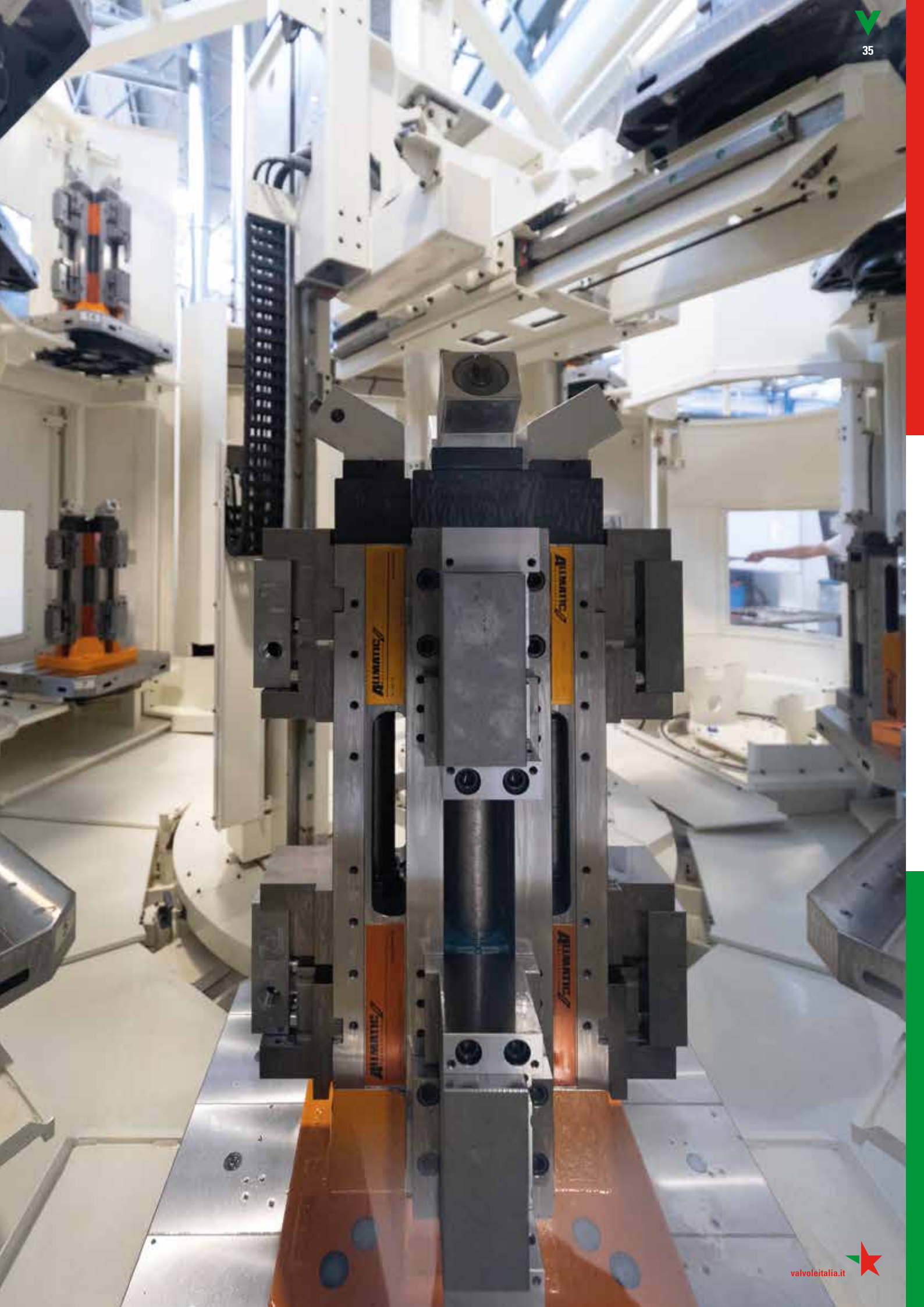
- Ensure that all matching surfaces are clean, without contamination.
- Ensure that all seals and back-up rings for the matching surfaces are flawless and correctly placed.
- Do not put any sealing material other than the standard seals.
- Place the valve in position, then, by hand, insert the fittings and the locating screws.
- In case of cartridge valve, check that the cavity is clean, without sharp edges or chips. Dip the cartridge in clean oil, then insert it into the cavity and screw it in by hand, until you begin to compress the top O-Ring.
- Finally tighten with a calibrated torque wrench and torque up to the specifications shown in the catalog.

➤ Cartridge Valves



➤ Parts in body





**VALVOLE
ITALIA**



**VALVOLE ITALIANE
ORGOGGIO NAZIONALE**

REGIA TIPOGRAFIA F.LLI MALAGOLI • SITA IN MODENA, IN VIA DELL'IMPERO AL NUMERO 37



Non hai mai chiesto Valvole Italia

Da più di vent'anni milioni di persone in tutto il mondo usano i prodotti di Valvole Italia, la ditta che aiuta a muovere, sospendere e posizionare ogni carico, per pesante e delicato che sia. E tu cosa aspetti?

L'azienda che ha aiutato a ricostruire l'Italia è pronta a portare una musica nuova nella tua vita di progettista, costruttore o semplice utilizzatore di macchine operatrici meccaniche e idrauliche. Prova anche tu Valvole Italia, le valvole che per incanto fanno scomparire ogni preoccupazione, lasciandoti libero di dedicare il tempo guadagnato all'acquisto di nuovi beni di consumo di cui non potrai più fare a meno.

ma allora...



**VALVOLE
KITALIA®**

PREMIATA
TIPOGRAFIA
BORGHI
MALAGOLI
E FIGLI

MODENA,
VIA XXV APRILE, 37

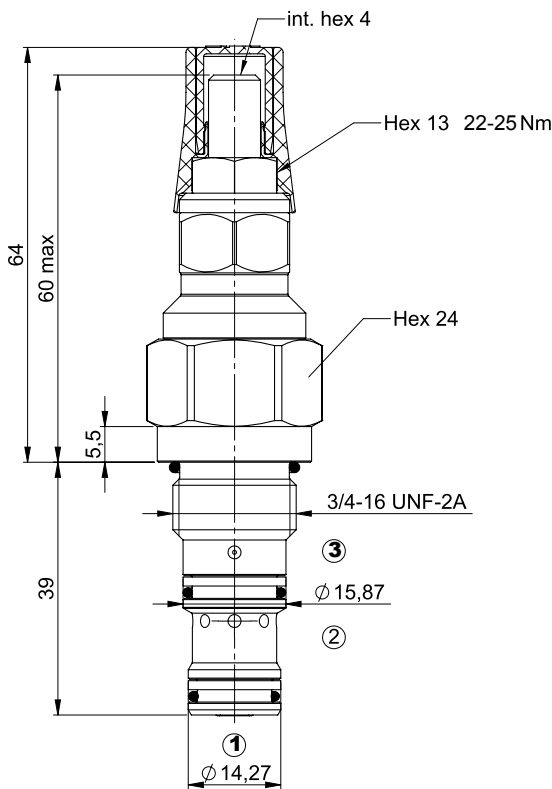
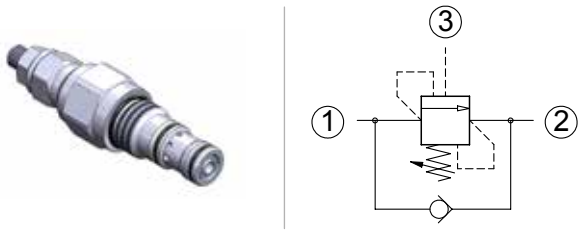
Cartridge Valves





Load holding valves

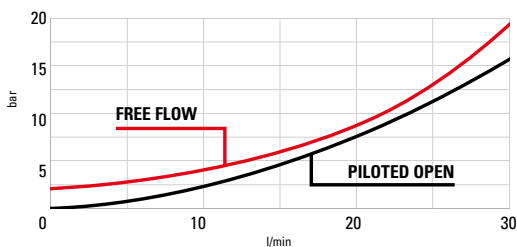
Normale SAE08 4:1 adjustable setting



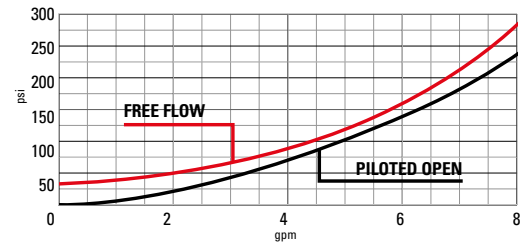
Technical Details

cavity	SAE08
capacity	30 lpm (8 gpm)
max operating pressure	350 bar
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE08SN700000
seal kit (viton)	S0SAE08SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 0

Setting (bar)

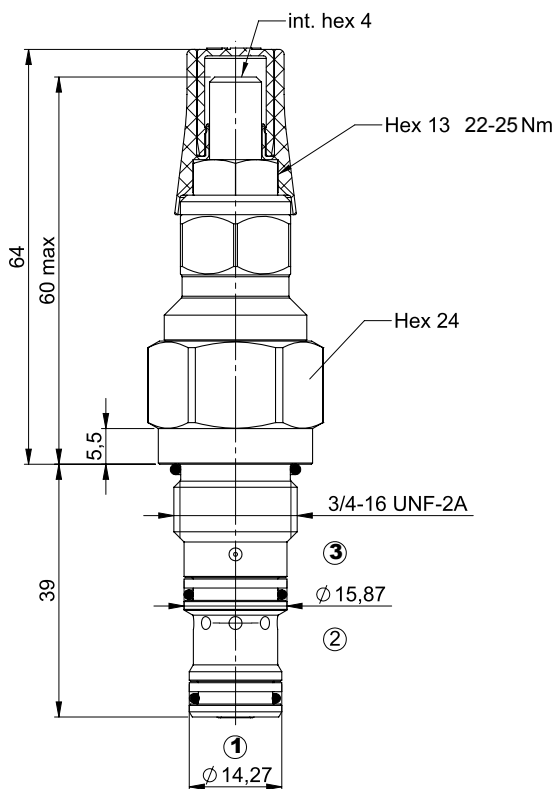
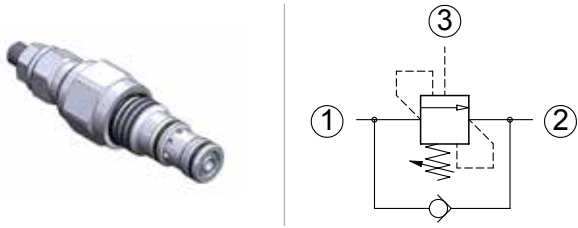
Spring

- L = 30-105 bar
- T = 70-150 bar
- M = 100-210 bar
- D = 200-350 bar

0 | 4 | 0 | 8 | 0 | 0 | A

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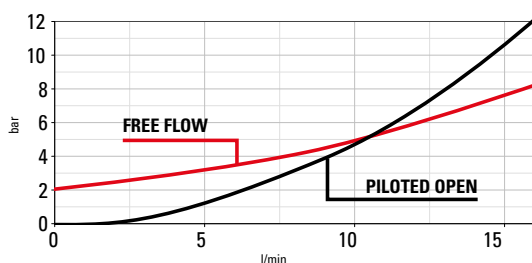
Load holding valves

Normale SAE08 4:1 SP adjustable setting **FINE CONTROL**

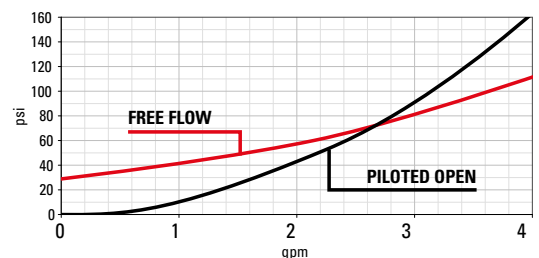
Technical Details

cavity	SAE08
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE08SN700000
seal kit (viton)	S0SAE08SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + anti tampering + sealed piston
- H = VITON + anti tampering + sealed piston

C | W | 0

0 | 4 | 0 | 8 | 0 | 0 | A

Setting (bar)

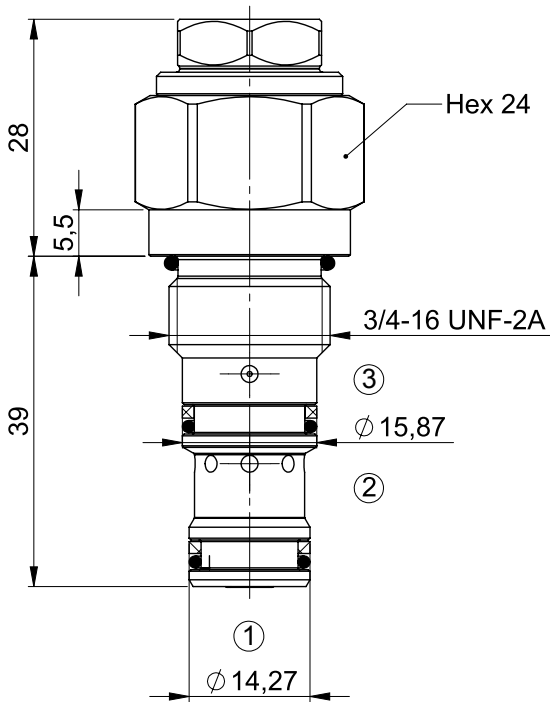
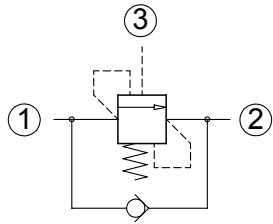
Spring

- L = 30-105 bar
- T = 70-150 bar
- M = 100-210 bar
- D = 200-350 bar

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Load holding valves

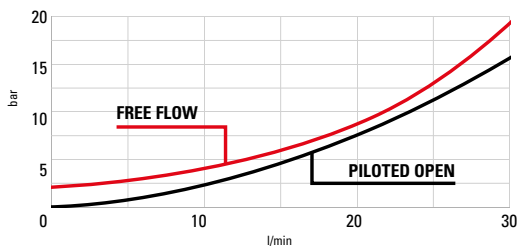
Normale SAE08 4:1 SP fixed setting



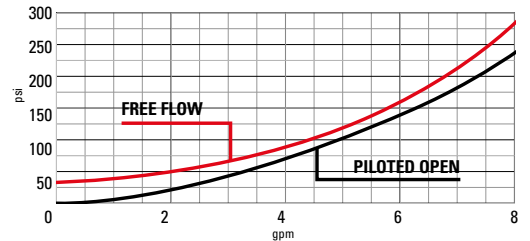
Technical Details

cavity	SAE08
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	100 bar (1450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE08SN700000
seal kit (viton)	S0SAE08SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

Spring Setting (bar)
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

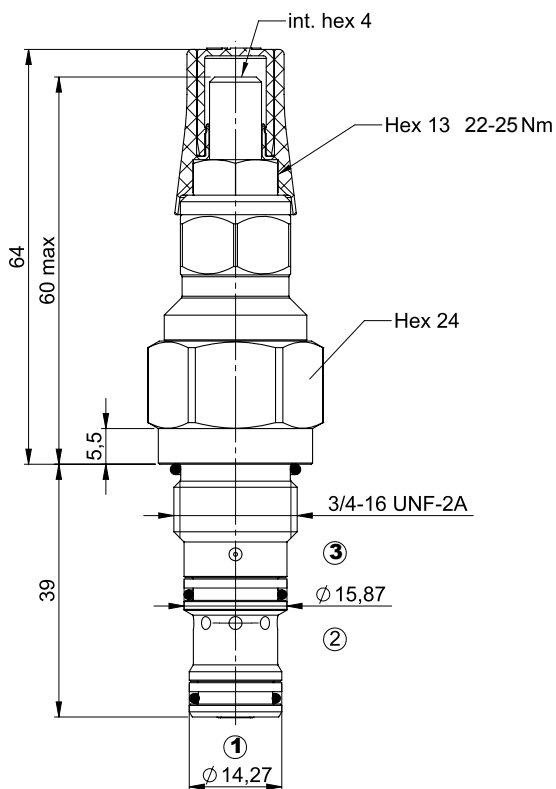
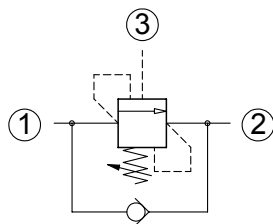
C | 0 | 0 | | | | | | | 0 | 4 | 0 | 8 | 0 | 0 | A

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Load holding valves

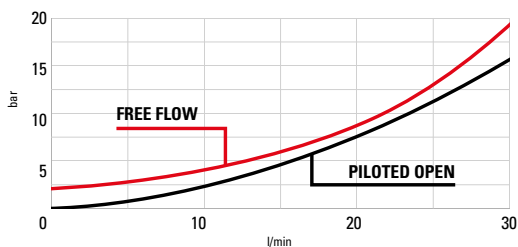
Normale SAE08 4:1 SP adjustable setting



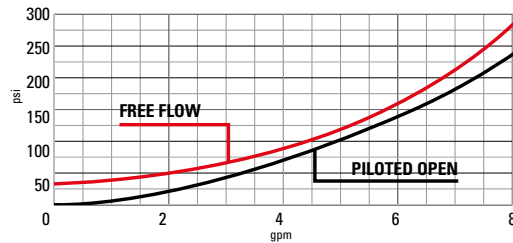
Technical Details

cavity	SAE08
capacity	30 lpm (8 gpm)
max operating pressure	350 bar
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE08SN700000
seal kit (viton)	S0SAE08SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + anti tampering + sealed piston
- H = VITON + anti tampering + sealed piston

C | 0 | 0

0 | 4 | 0 | 8 | 0 | 0 | A

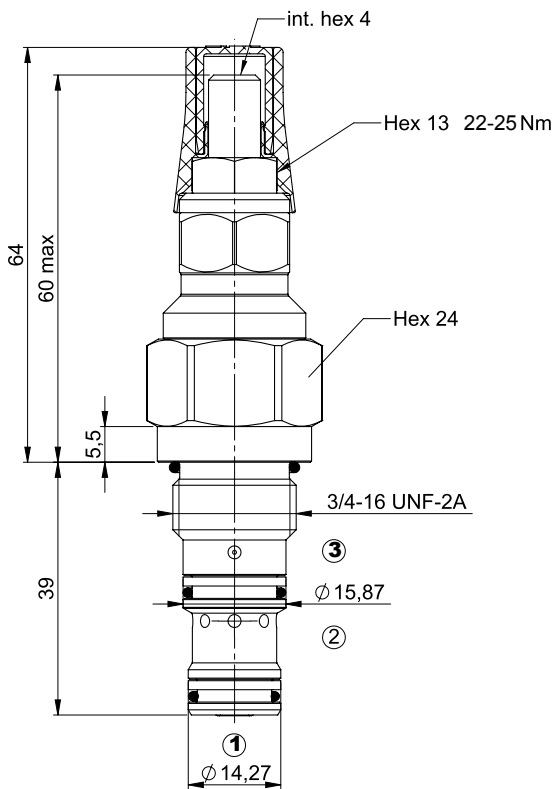
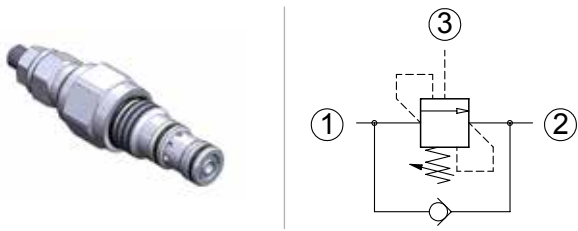
Spring Setting (bar)

- L = 30-105 bar
- T = 70-150 bar
- M = 100-210 bar
- D = 200-350 bar

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Load holding valves

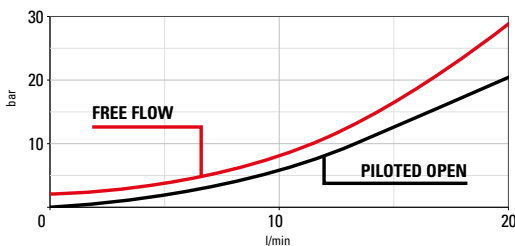
Normale SAE08 8:1 adjustable setting



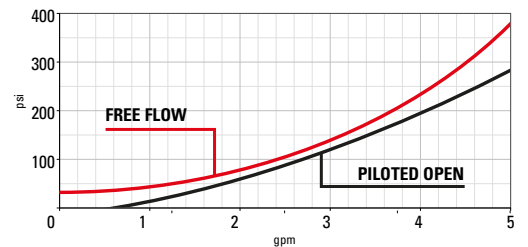
Technical Details

cavity	SAE08
capacity	20 lpm (5 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	140 bar (2000 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	310 bar (4500 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE08SN700000
seal kit (viton)	S0SAE08SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 0 | | | | | | | | | 0 | 8 | 0 | 8 | 0 | 0 | A

Setting (bar)

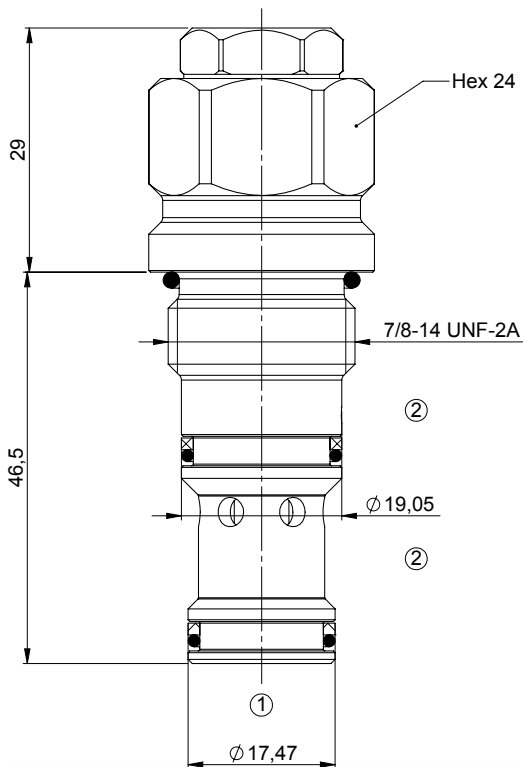
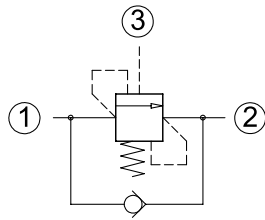
Spring

- T = 70-150 bar
- M = 100-210 bar
- D = 200-350 bar

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Load holding valves

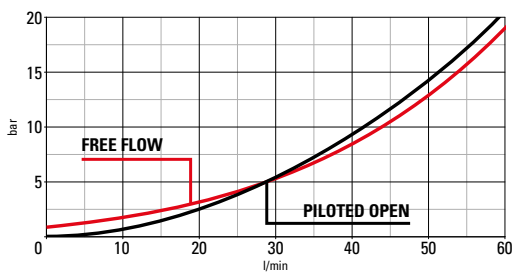
Normale SAE10 3:1 fixed setting



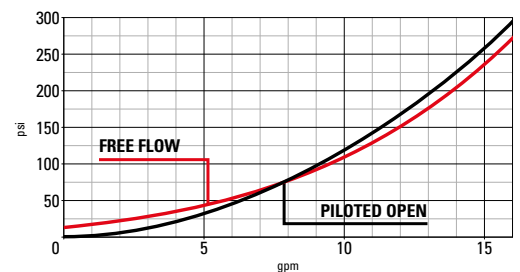
Technical Details

cavity	SAE10
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	35 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
valve weight	0.190 Kg (0.42 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE10SN700000
seal kit (viton)	S0SAE10SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

Setting (bar)

Spring
T = 35-130 bar
M = 130-210 bar
D = 200-350 bar

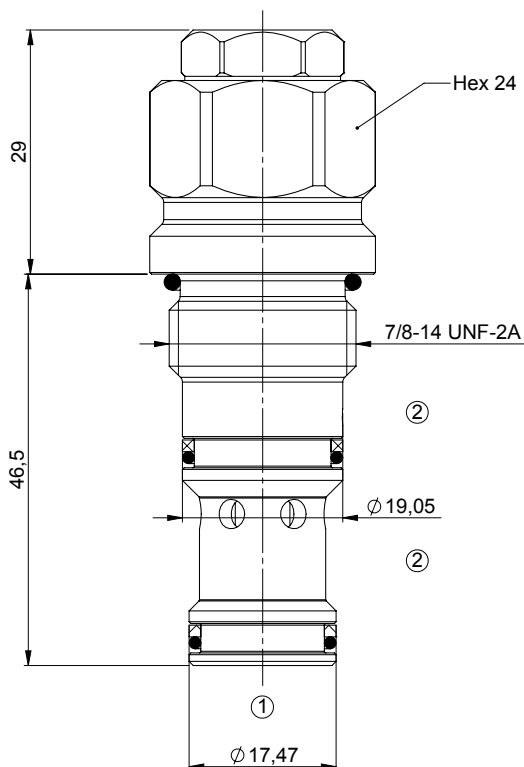
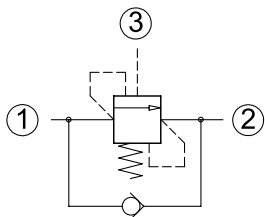
C | 0 | 0 | | | | | | | 0 | 3 | 1 | 0 | 0 | 0 | A

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Load holding valves

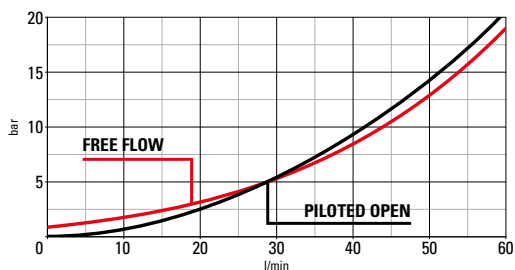
Normale SAE10 8:1 fixed setting



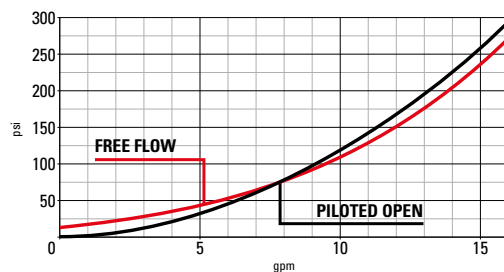
Technical Details

cavity	SAE10
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	100 bar (1450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
valve weight	0.190 Kg (0.42 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOSAE10SN700000
seal kit (viton)	SOSAE10SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 0 | 0 | | | | | | | | 0 | 8 | 1 | 0 | 0 | 0 | A

Setting (bar)

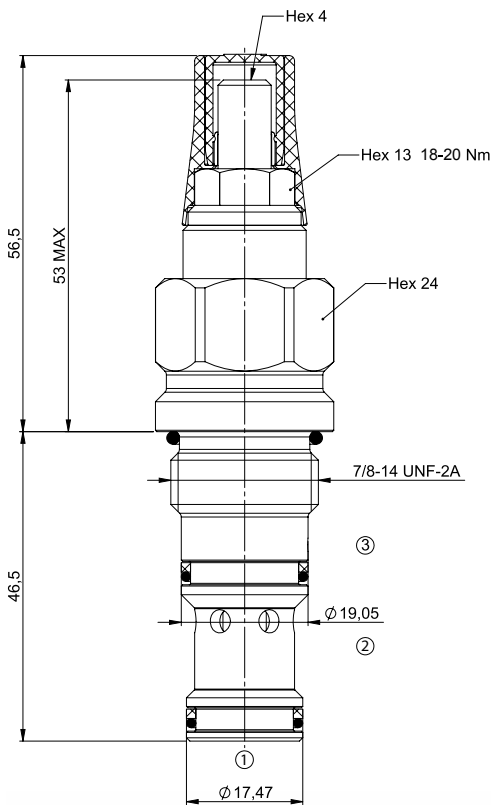
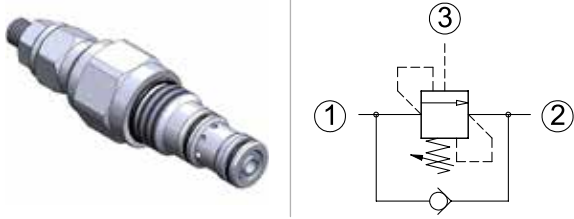
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

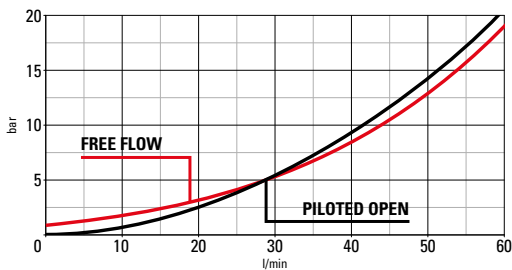
Normale SAE10 8:1 adjustable setting



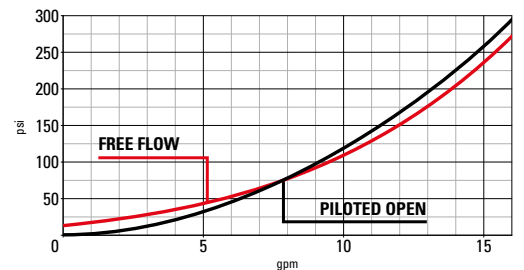
Technical Details

cavity	SAE10
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	100 bar (spring D) 48 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0.190 Kg (0.42 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOSAE10SN700000
seal kit (viton)	SOSAE10SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 0 | 0 | | | | | | | 0 | 8 | 1 | 0 | 0 | 0 | A

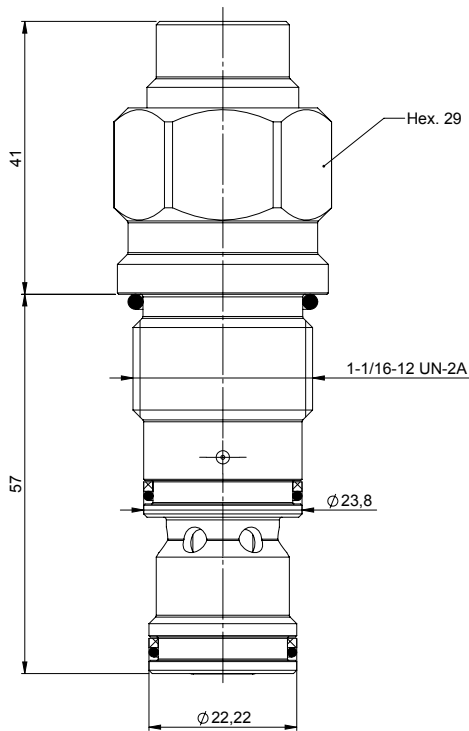
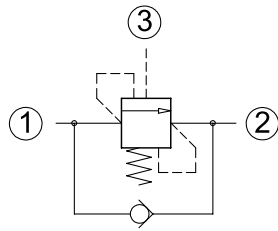
Setting (bar)

Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

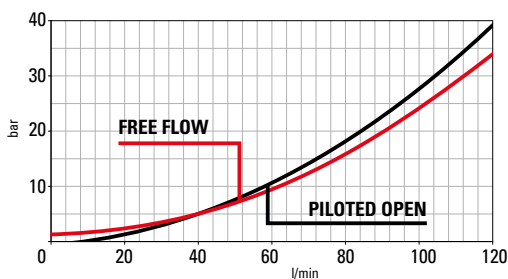
Normale SAE12 4:1 fixed setting



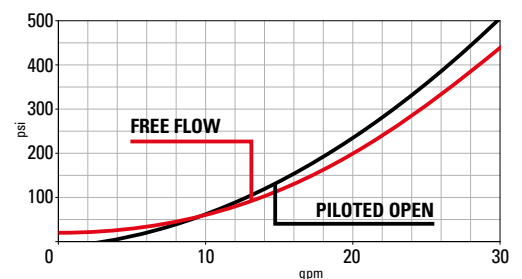
Technical Details

cavity	SAE12
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	81-95 Nm (45 lbf ft)
valve weight	0,320 kg (0,70 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE12SN700000
seal kit (viton)	S0SAE12SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 0 | 0 | | | | | | | 0 | 4 | 1 | 2 | 0 | 0 | A

Setting (bar)

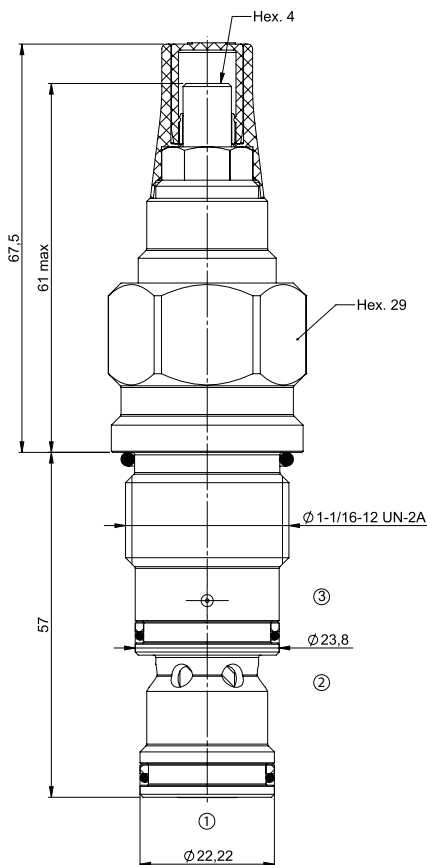
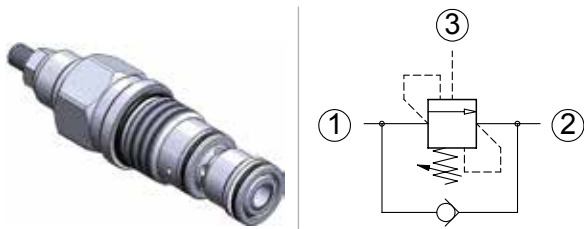
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

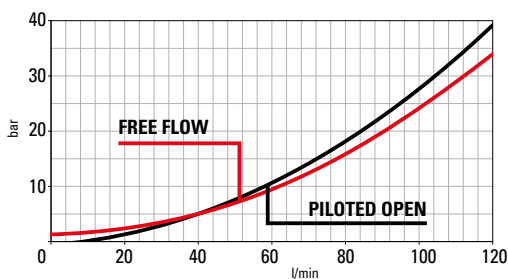
Normale SAE12 4:1 adjustable setting



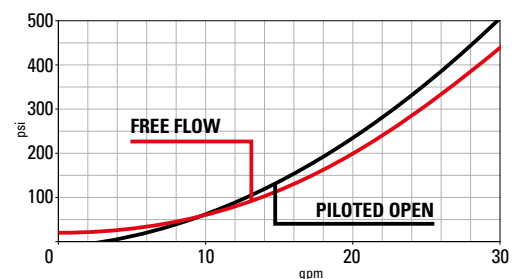
Technical Details

cavity	SAE12
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	81-95 Nm (60-70 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE12SN700000
seal kit (viton)	S0SAE12SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Turn adjustment clockwise to increase setting
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

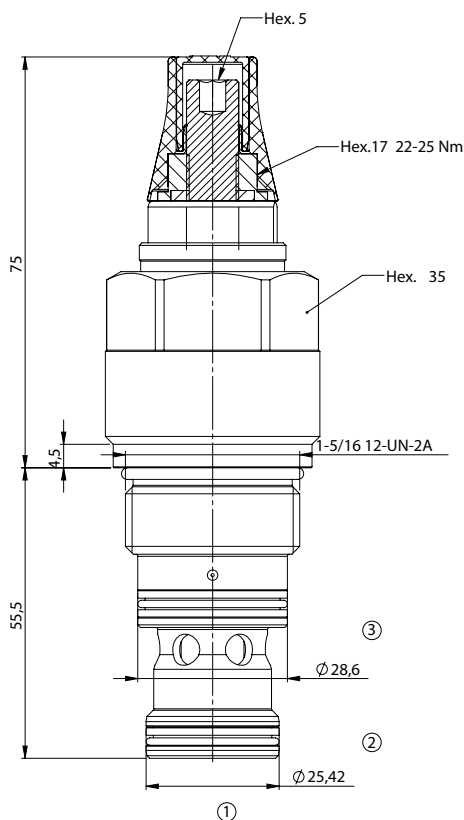
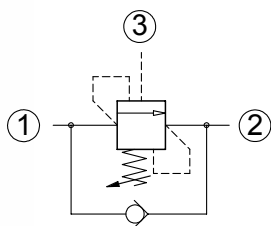
C | 0 | 0 | **Setting (bar)** | **0 | 4 | 1 | 2 | 0 | 0 | A**

Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

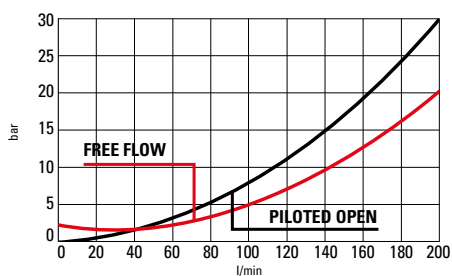
Normale SAE16 4:1 adjustable setting



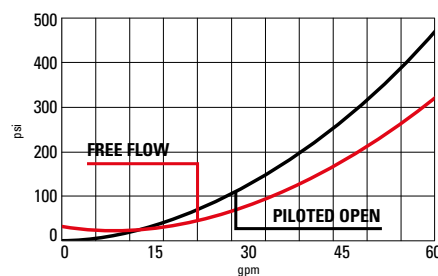
Technical Details

cavity	SAE16
capacity	200 lpm (50 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	41 bar (spring M) - 123 bar (spring D)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	35
valve installation torque	108-122 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.6 kg
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE16SN700000
seal kit (viton)	S0SAE16SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm2/s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 0 | 0 | | | | | 0 | 4 | 1 | 6 | 0 | 0 | A

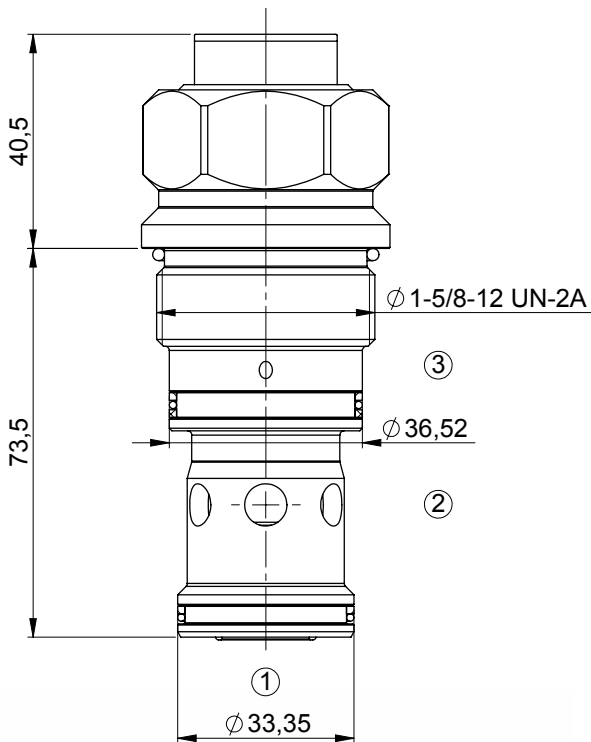
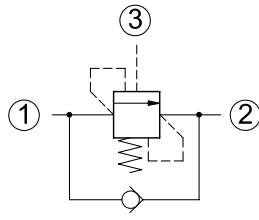
Setting (bar)

Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

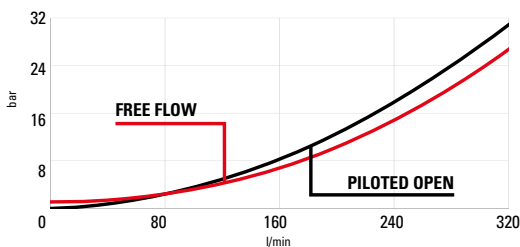
Normale SAE20 4:1 fixed setting



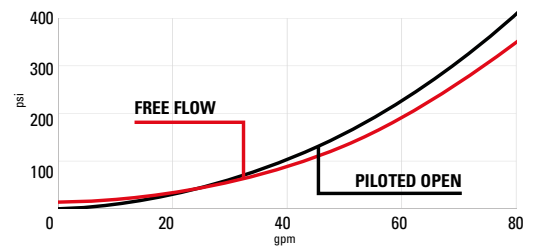
Technical Details

cavity	SAE20
capacity	320 lpm (85 gpm)
max operating pressure	420 bar (6000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve hex size (mm)	41
valve installation torque	128-149 Nm (95-110 lbf ft)
valve weight	1 kg (2,2 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE20SN700000
seal kit (viton)	S0SAE20SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA SEALS
D = VITON SEALS

C | **0** | **0** | | | | | | | | **0** | **4** | **2** | **0** | **0** | **0** | **A**

Setting (bar)

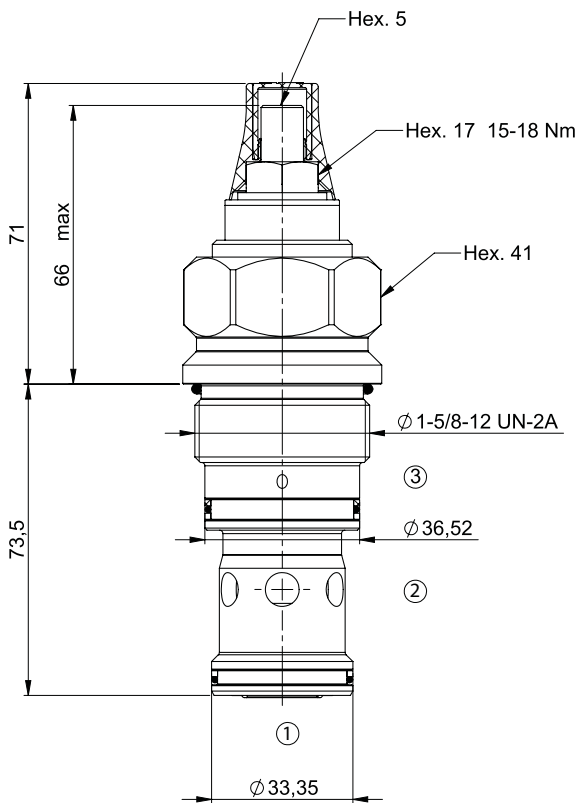
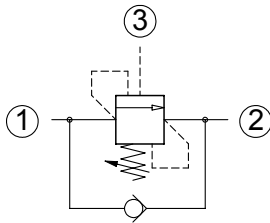
Spring
D = 140-350 bar

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Load holding valves

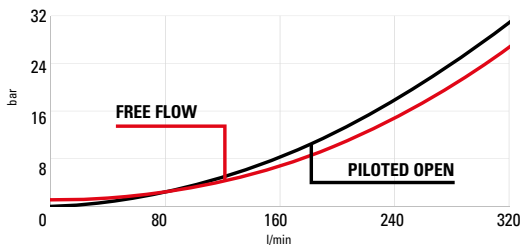
Normale SAE20 4:1 adjustable setting



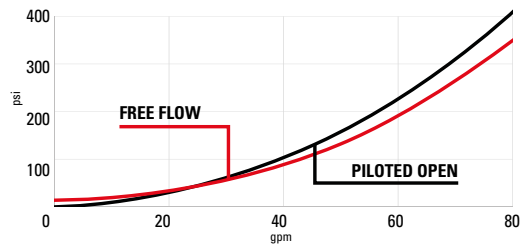
Technical Details

cavity	SAE20
capacity	320 lpm (85 gpm)
max operating pressure	420 bar (6000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	115 bar (spring D) - 85 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	41
valve installation torque	128-149 Nm (95-110 lbf ft)
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	15-18 Nm (11-13 lbf ft)
valve weight	1 kg (2,2 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE20SN700000
seal kit (viton)	S0SAE20SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + tamper resistant + sealed piston
H = VITON + tamper resistant + sealed piston

C | 0 | 0 | | | | | | | 0 | 4 | 2 | 0 | 0 | 0 | A

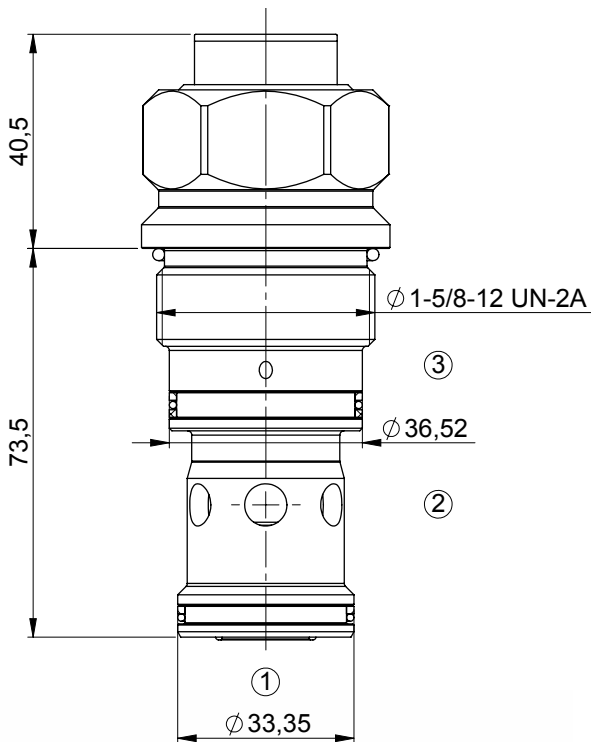
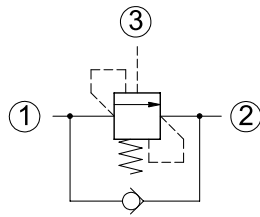
Setting (bar)

Spring
D = 140-350 bar

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Load holding valves

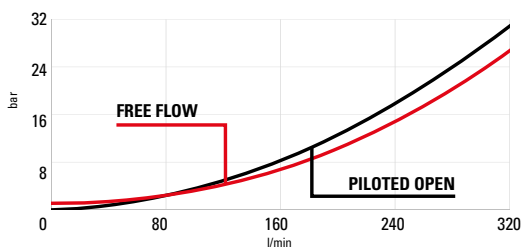
Normale SAE20 8:1 fixed setting



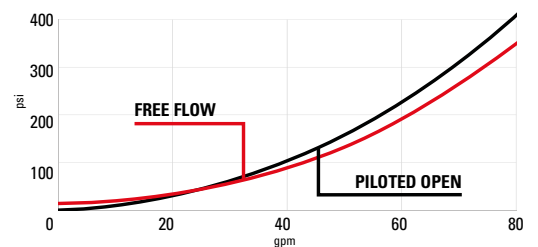
Technical Details

cavity	SAE20
capacity	320 lpm (85 gpm)
max operating pressure	420 bar (6000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve hex size (mm)	41
valve installation torque	128-149 Nm (95-110 lbf ft)
valve weight	1 kg (2,2 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE20SN700000
seal kit (viton)	S0SAE20SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA SEALS
D = VITON SEALS

C | 0 | 0 | **Setting (bar)** | **0 | 8 | 2 | 0 | 0 | 0 | A**

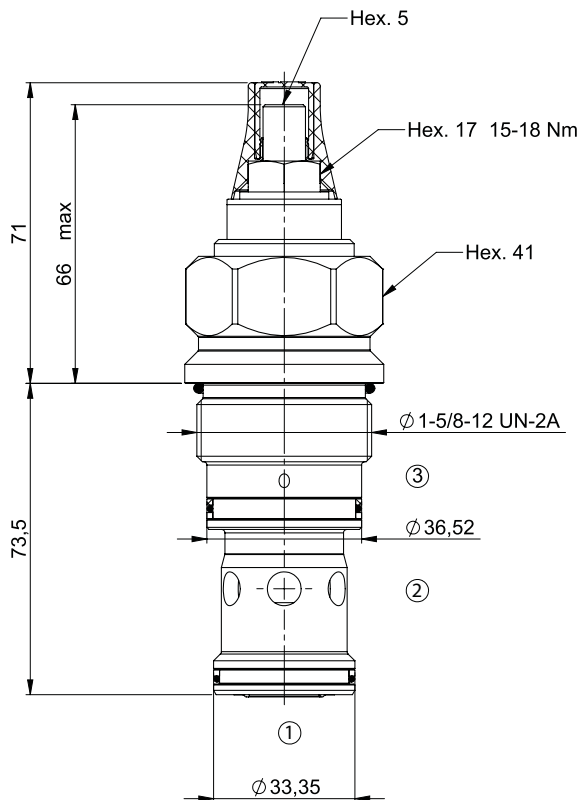
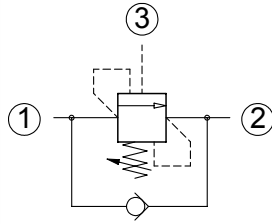
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

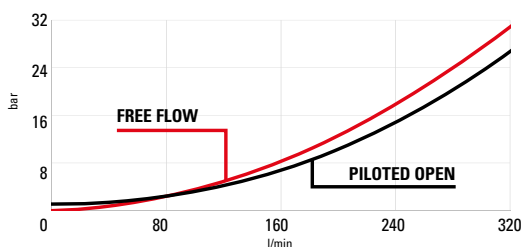
Normale SAE20 8:1 adjustable setting



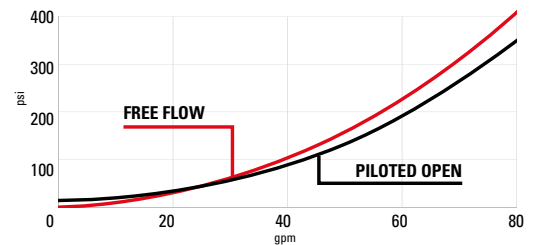
Technical Details

cavity	SAE20
capacity	320 lpm (85 gpm)
max operating pressure	420 bar (6000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	133 bar (spring D) - 85 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	350 bar (5000 psi)
valve hex size (mm)	41
valve installation torque	128-149 Nm (95-110 lbf ft)
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	15-18 Nm (11-13 lbf ft)
valve weight	1 kg (2,2 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE20SN700000
seal kit (viton)	S0SAE20SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 0 | 0

| 0 | 8 | 2 | 0 | 0 | 0 | A

Setting (bar)

Spring

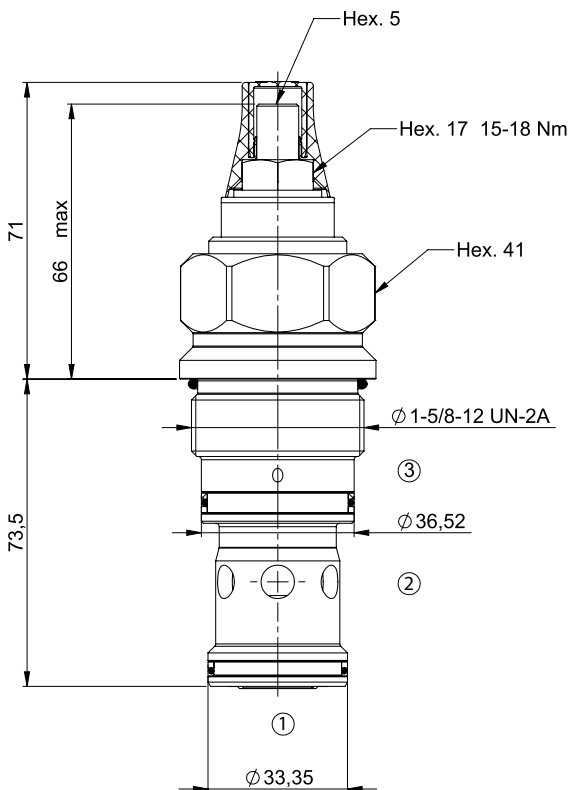
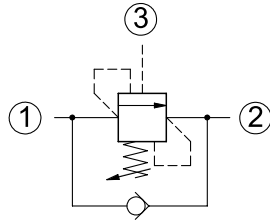
- M = 70-210 bar
- D = 140-420 bar

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Load holding valves

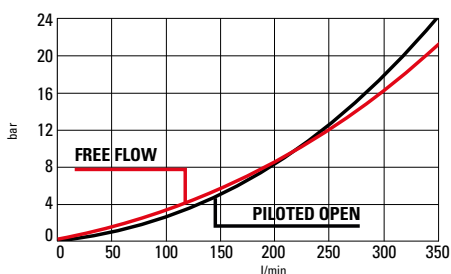
Normale SAE20 GT 8:1 adjustable setting



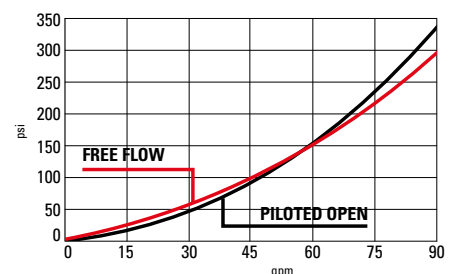
Technical Details

cavity	SAE20
capacity	350 lpm (90 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	133 bar (spring D) - 85 bar (spring M)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	41
valve installation torque	128 - 149 Nm (95-119 lbf ft)
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	25
valve weight	1 Kg (2,2 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE20SN700000
seal kit (viton)	S0SAE20SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 2 | 0

Setting (bar)

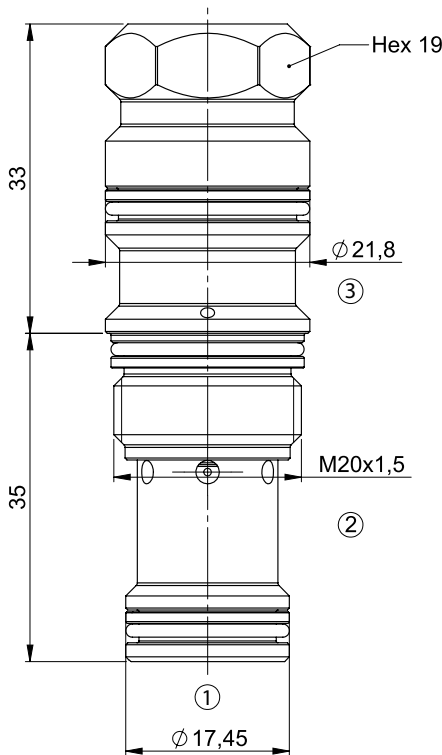
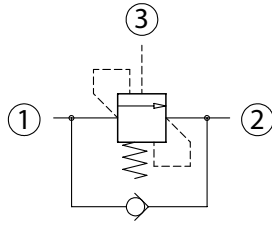
Spring

- M = 70-210 bar
- D = 140-350 bar

0 | 8 | 2 | 0 | 0 | 0 | A

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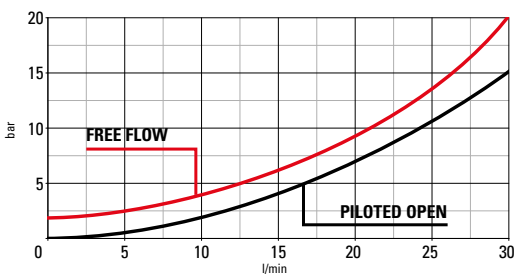
Normale Ristretta T11A 2:1 SP fixed setting



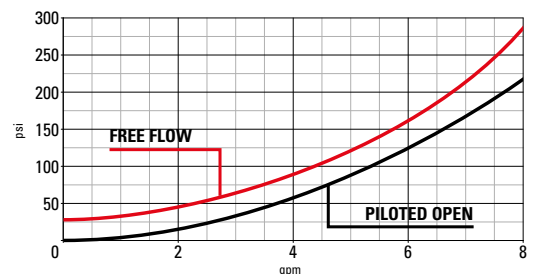
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Indicated Reseat value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
B = BUNA SEALS
D = VITON SEALS

0 = Standard Zinc plating
Z = Zinc Nickel plating

C | 0 | 4 | **Setting (bar)** | **0 | 2 | 1 | 1** | **0 | A**

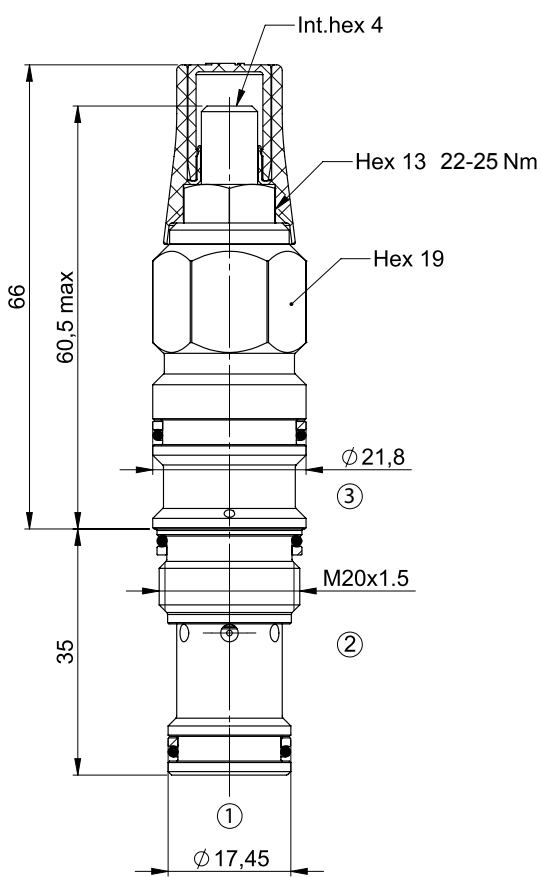
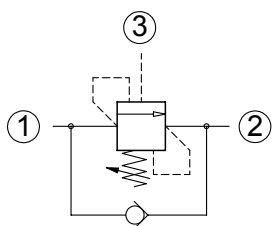
Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

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Load holding valves

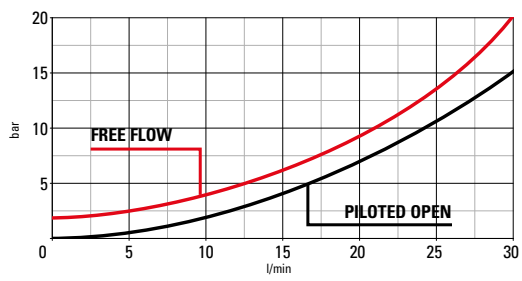
Normale Ristretta T11A 2:1 SP adjustable setting



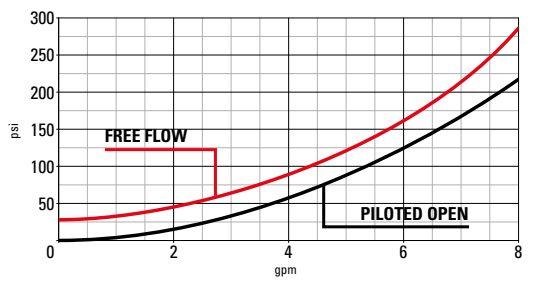
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



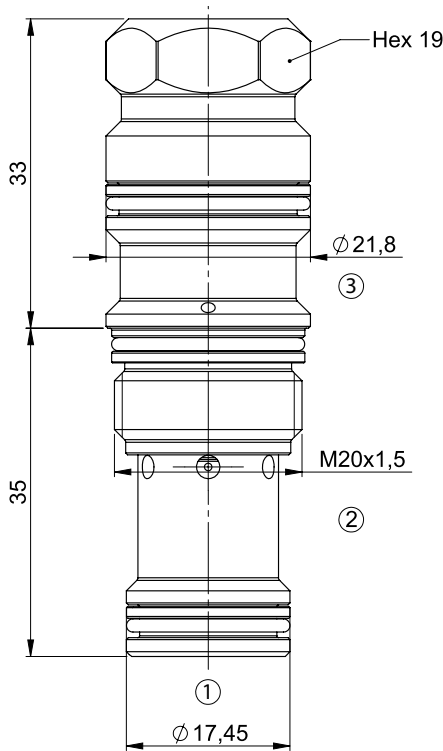
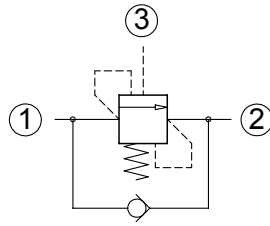
Seals
A = BUNA SEALS
G = BUNA tamper resistant
C = VITON SEALS
H = VITON tamper resistant

Setting (bar)
Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

C | 0 | 4 | | | | | | | 0 | 2 | 1 | 1 | 0 | 0 | A

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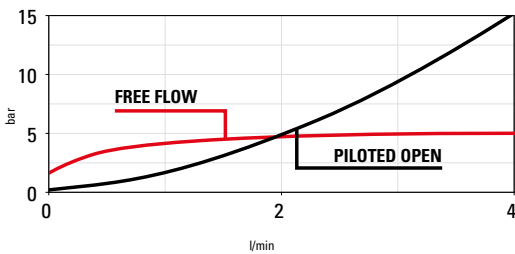
Normale Ristretta T11A 3:1 fixed setting **ULTRA FINE CONTROL**



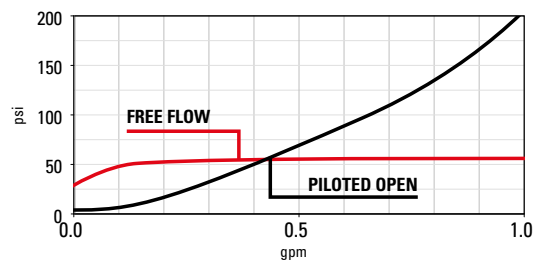
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,130 kg (0,29 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm2/s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

0 = Standard Zinc plating
Z = Zinc Nickel plating

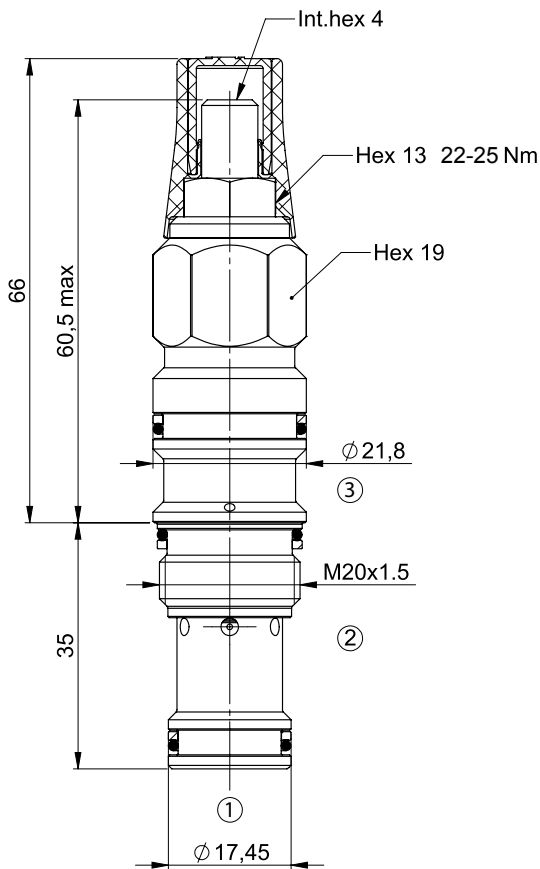
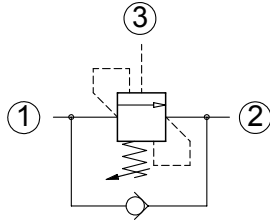
C | D | 4 | **Setting (bar)** | **0 | 3 | 1 | 1** | **0 | A**

Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

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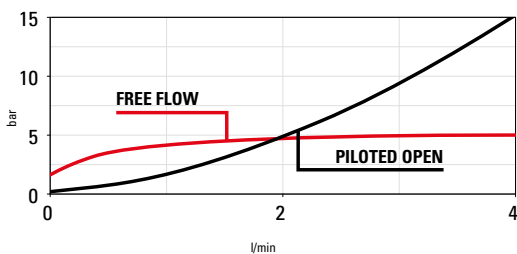
Load holding valves

Normale Ristretta T11A 3:1 adj. setting **ULTRA FINE CONTROL**

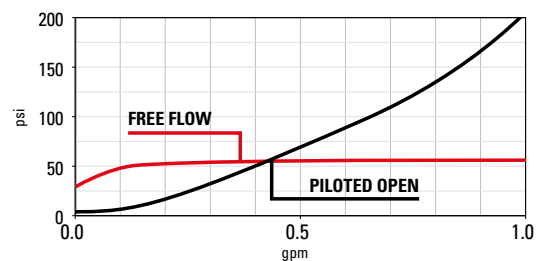
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | D | 4 | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

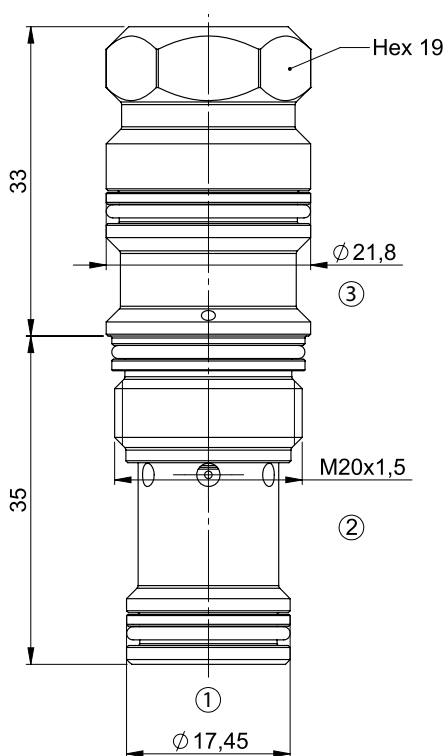
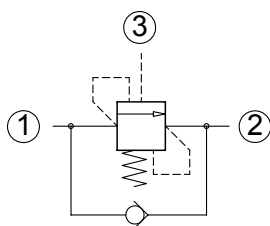
Setting (bar)

Spring

- T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

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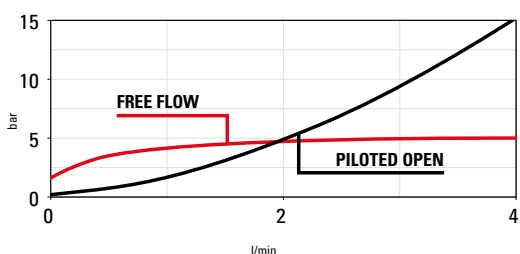
Normale Ristretta T11A 3:1 SP fixed setting **ULTRA FINE CONTROL**



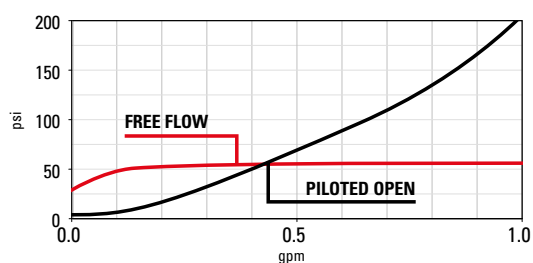
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,130 kg (0,29 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA SEALS
D = VITON SEALS

0 = Standard Zinc plating
Z = Zinc Nickel plating

C | D | 4 | | | | | | | | | | | | | 0 | 3 | 1 | 1 | | | | 0 | A

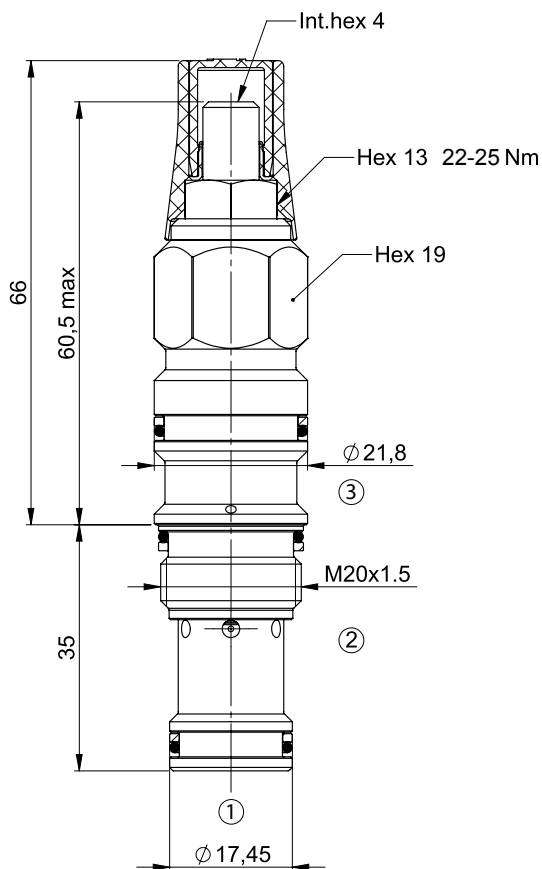
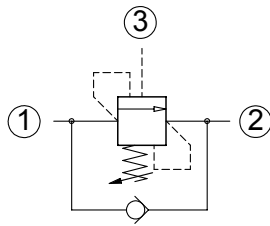
Setting (bar)

Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

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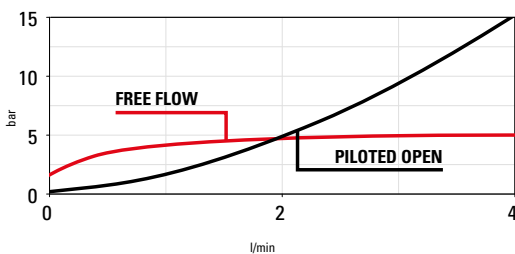
Load holding valves

Normale Ristretta T11A 3:1 SP adj. setting **ULTRA FINE CONTROL**

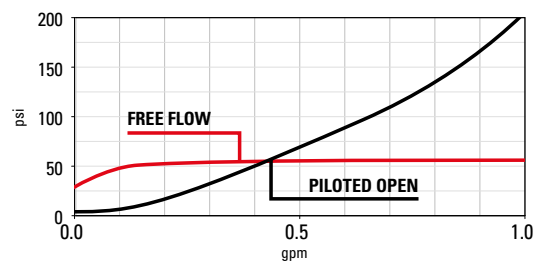
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



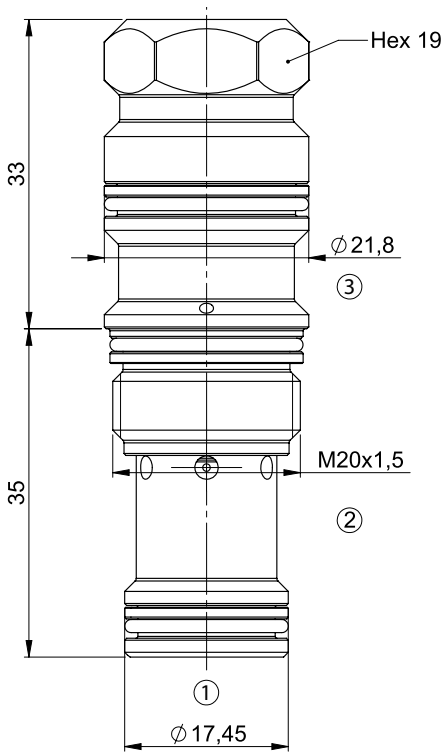
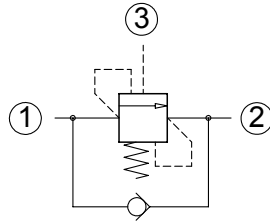
Performance curves



Seals														
A	=	BUNA	SEALS											
G	=	BUNA	tamper resistant											
C	=	VITON	SEALS											
H	=	VITON	tamper resistant											
Setting (bar)														
C	D	4						0	3	1	1	0	0	A
Spring														
T	=	30-105	bar											
M	=	100-280	bar											
D	=	200-390	bar											

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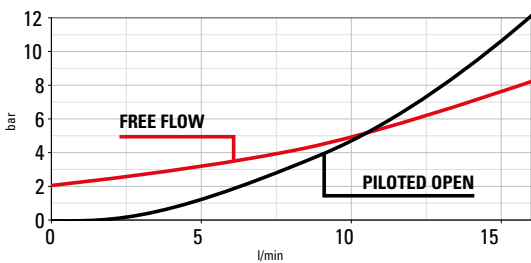
Normale Ristretta T11A 3:1 fixed setting FINE CONTROL



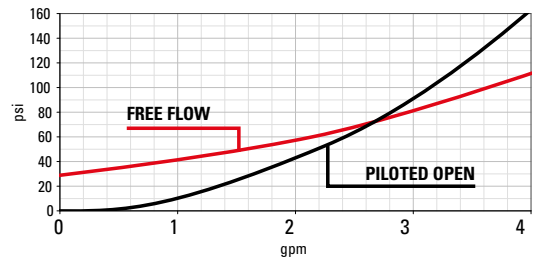
Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,130 kg (0,29 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



C | **W** | **4** | **0** | **3** | **1** | **1** | **0** | **A**

Seals
1 = BUNA SEALS
3 = VITON SEALS

Setting (bar)
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

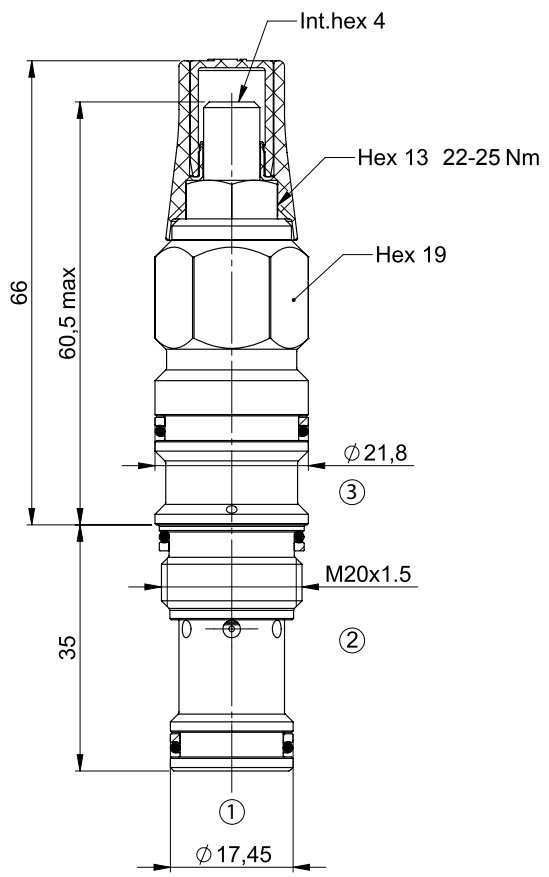
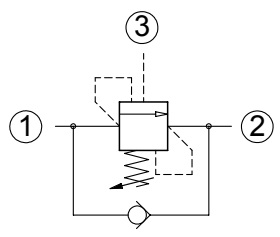
0 = Standard Zinc plating
Z = Zinc Nickel plating

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Load holding valves

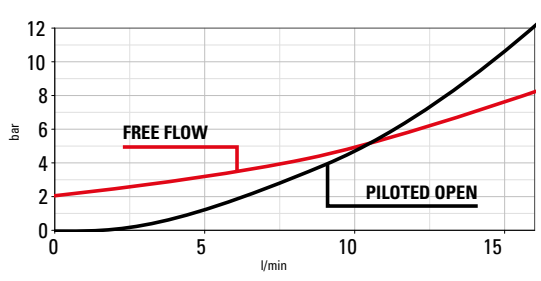
Normale Ristretta T11A 3:1 adj. setting **FINE CONTROL**



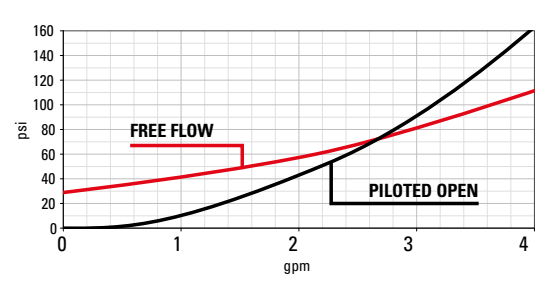
Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

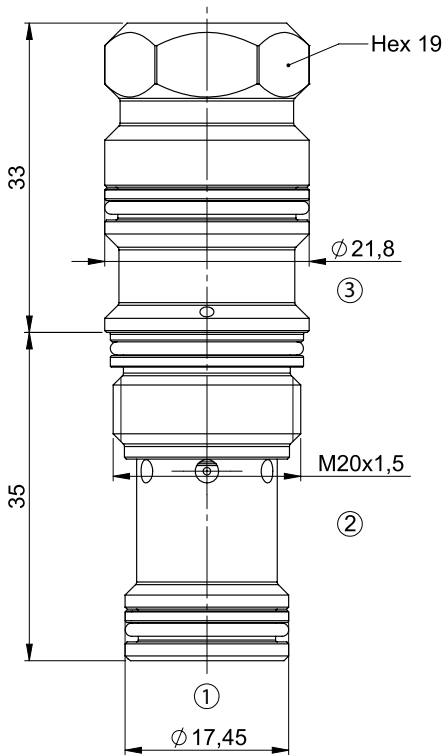
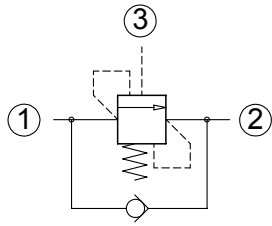
C | W | 4 | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Setting (bar)
Spring
 T = 30-105 bar
 M = 100-280 bar
 D = 200-390 bar

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Load holding valves

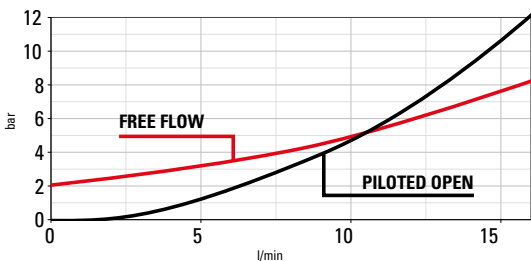
Normale Ristretta T11A 3:1 SP fixed setting FINE CONTROL



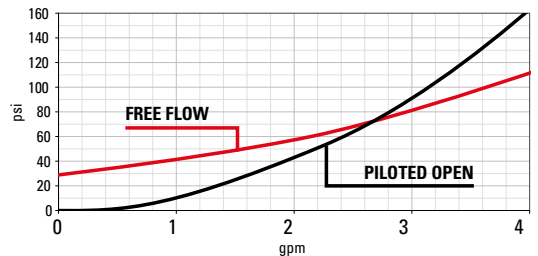
Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,130 kg (0,29 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



C | **W** | **4** | **0** | **3** | **1** | **1** | **0** | **A**

Seals
B = BUNA SEALS
D = VITON SEALS

Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

0 = Standard Zinc plating
Z = Zinc Nickel plating

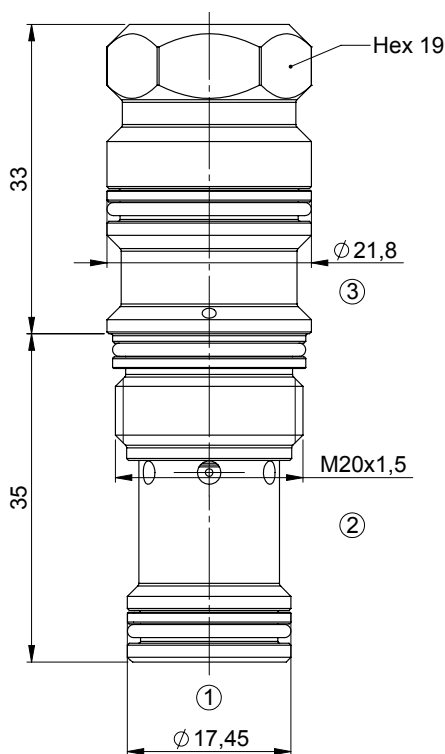
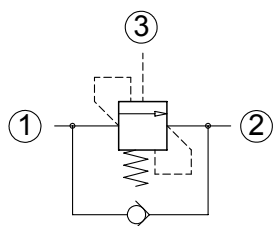
Setting (bar)

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Load holding valves

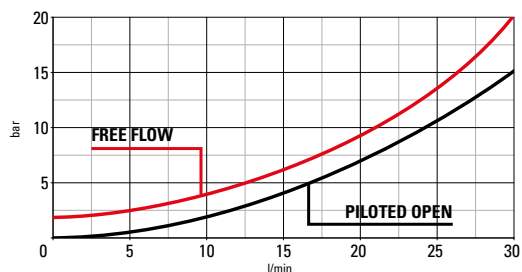
Normale Ristretta T11A 3:1 fixed setting



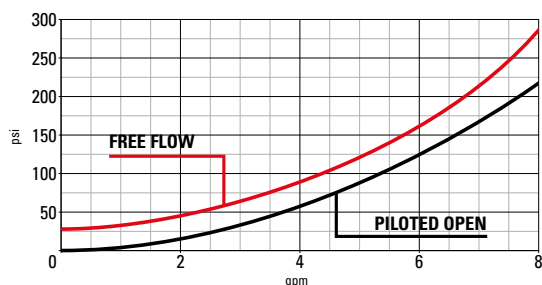
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,130 kg (0,29 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



C | **0** | **4** | | | | | | | | | | **0** | **3** | **1** | **1** | | | | | | | | | | | | **0** | **A**

Seals
1 = BUNA SEALS
3 = VITON SEALS

Setting (bar)
Setting (bar)

Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

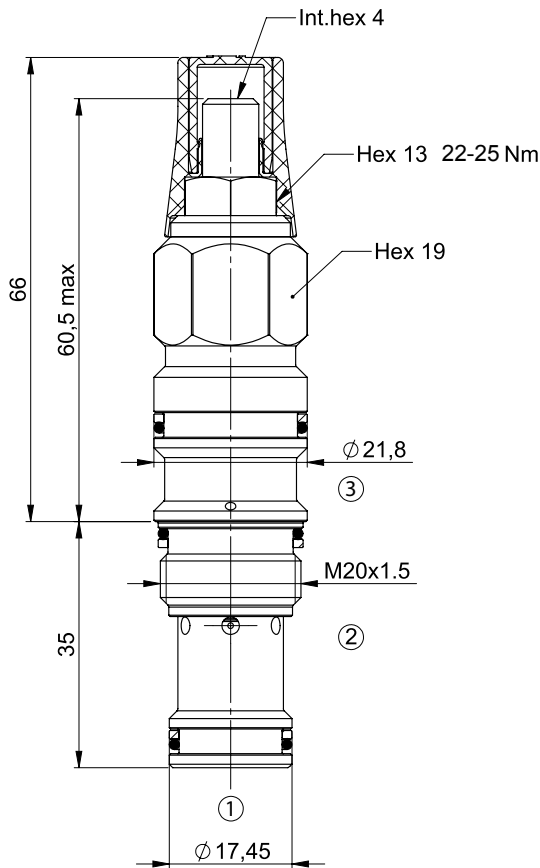
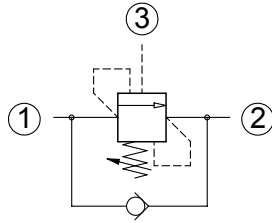
0 = Standard Zinc plating
Z = Zinc Nickel plating

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Load holding valves

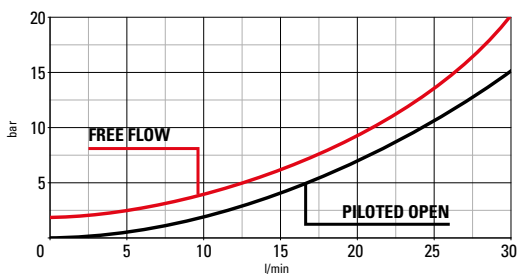
Normale Ristretta T11A 3:1 adjustable setting



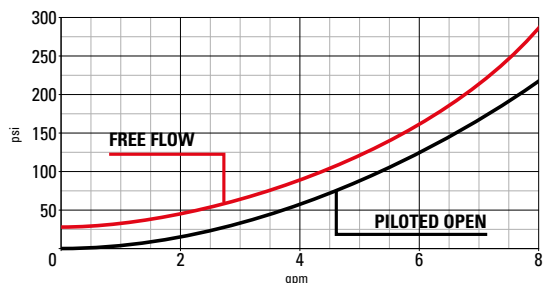
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Indicated Reseat value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 4

Setting (bar)

Spring

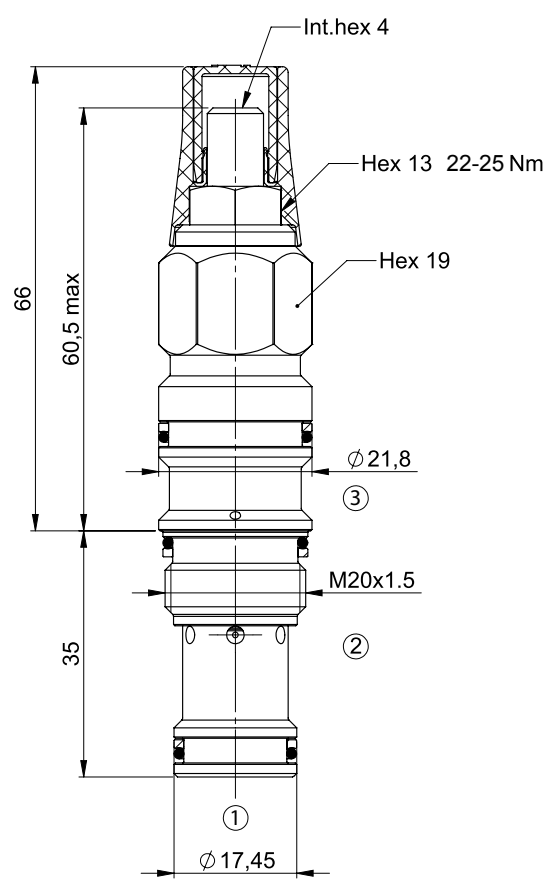
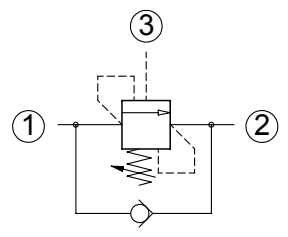
- T = 30-105 bar
- M = 100-280 bar
- D = 200-390 bar

0 | 3 | 1 | 1 | 0 | 0 | A

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Load holding valves

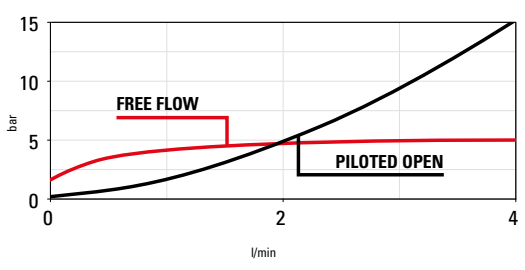
Normale Ristretta T11A 4:1 adj. setting **ULTRA FINE CONTROL**



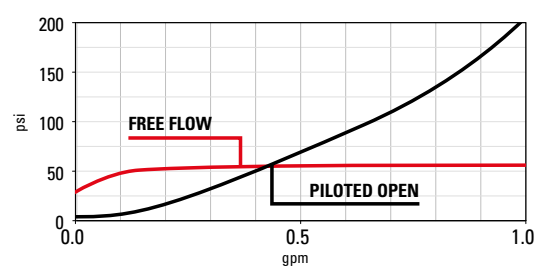
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

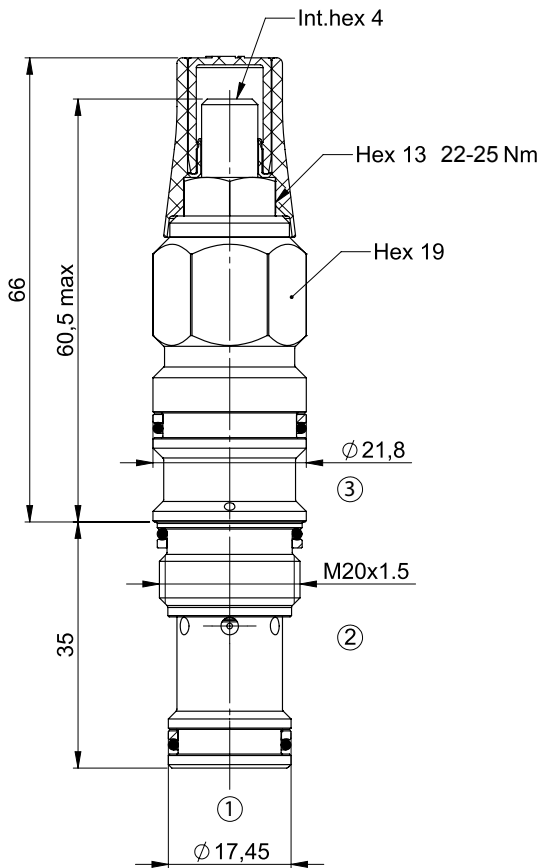
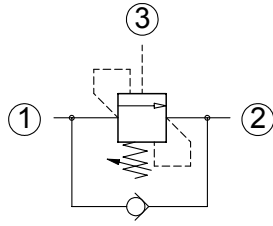
C | D | 4 | 0 | 4 | 1 | 1 | 0 | 0 | A

Setting (bar)
Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

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Load holding valves

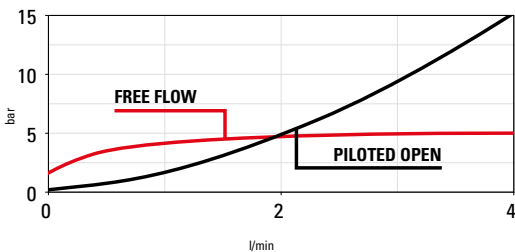
Normale Ristretta T11A 4:1 SP adj. setting **ULTRA FINE CONTROL**



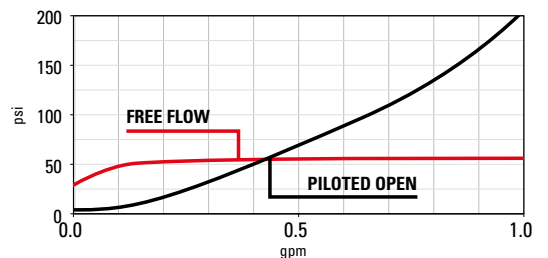
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | D | 4 | | | | | 0 | 4 | 1 | 1 | 0 | 0 | A

Setting (bar)

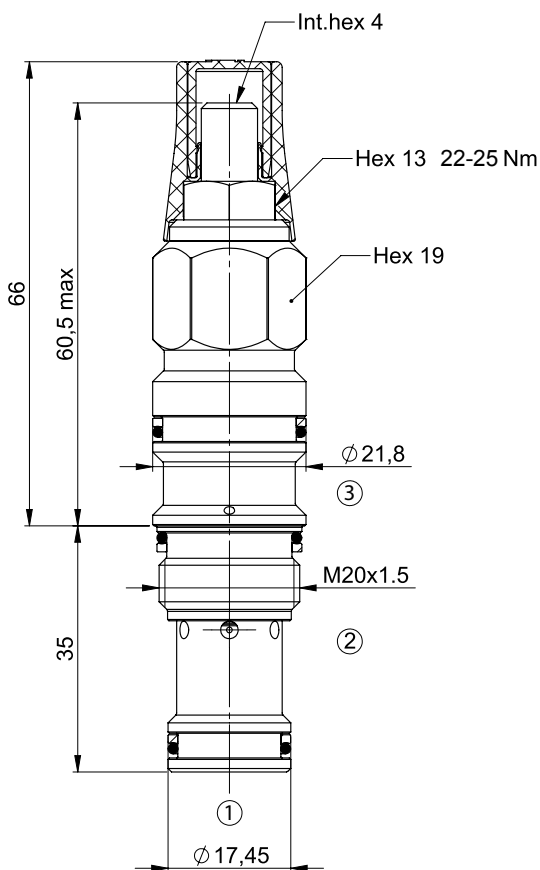
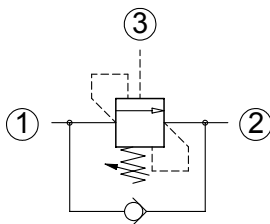
Spring

- T = 30-105 bar
- M = 100-280 bar
- D = 200-390 bar

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Load holding valves

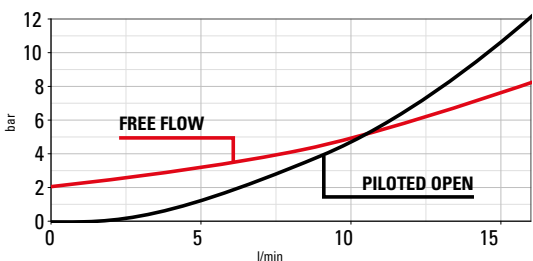
Normale Ristretta T11A 4:1 SP adj. setting FINE CONTROL



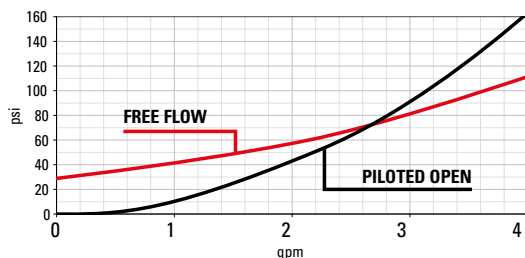
Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | W | 4

Setting (bar)

Spring

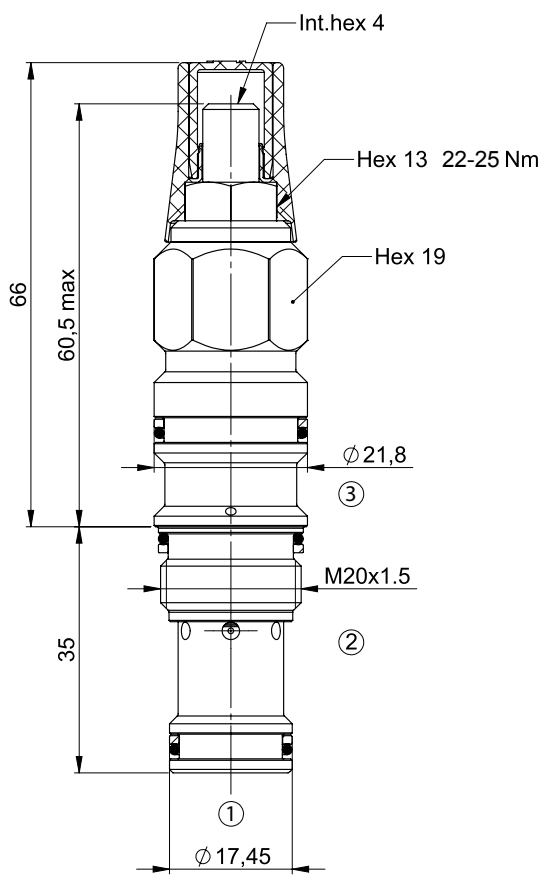
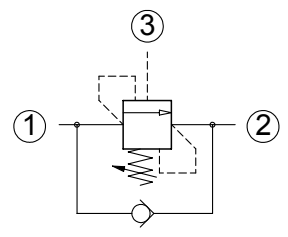
- T = 30-105 bar
- M = 100-280 bar
- D = 200-390 bar

0 | 4 | 1 | 1 | 0 | 0 | A

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Load holding valves

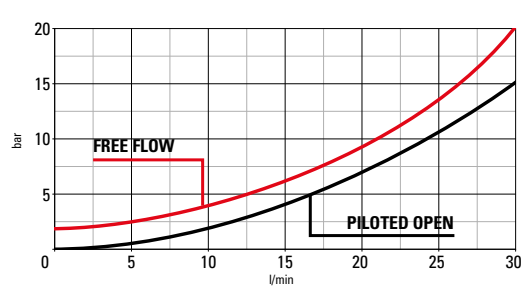
Normale Ristretta T11A 4:1 adjustable setting



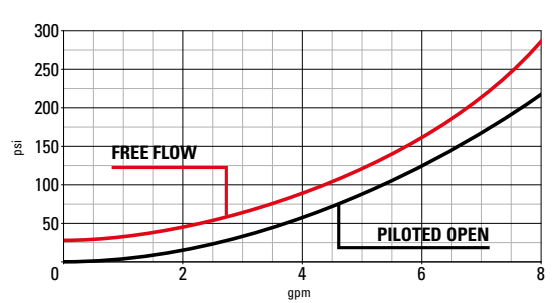
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

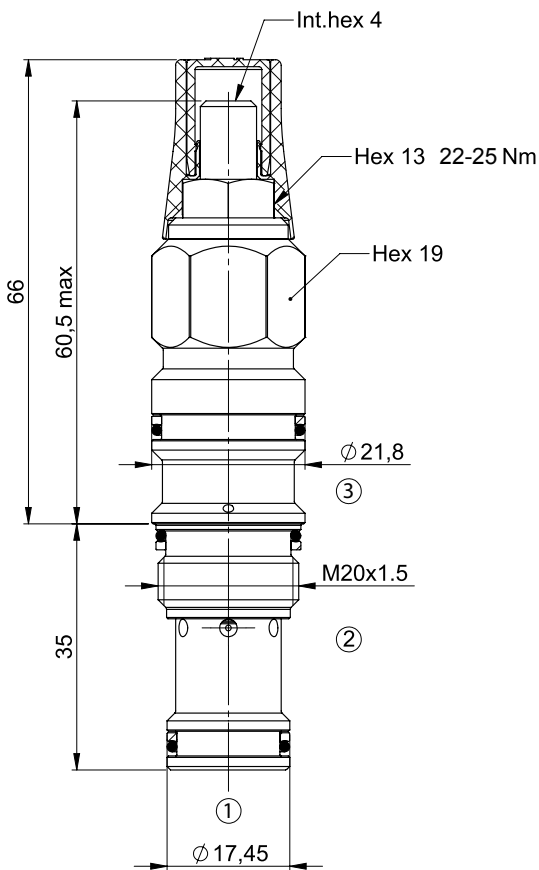
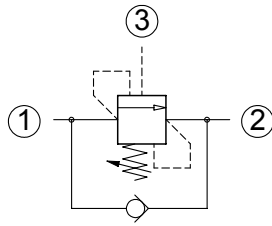
C | 0 | 4 | | | | | | | 0 | 4 | 1 | 1 | 0 | 0 | A

Setting (bar)
Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

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Load holding valves

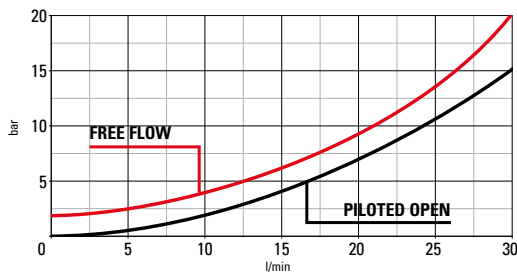
Normale Ristretta T11A 4:1 SP adjustable setting



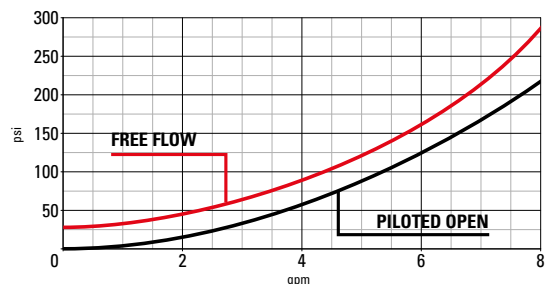
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 4

0 | 4 | 1 | 1 | 0 | 0 | A

Setting (bar)

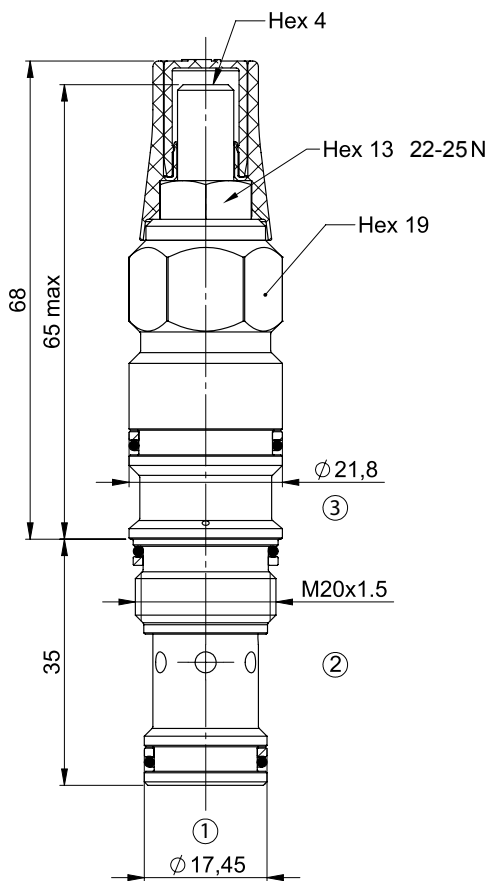
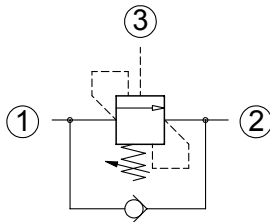
Spring

- T = 30-105 bar
- M = 100-280 bar
- D = 200-390 bar

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Load holding valves

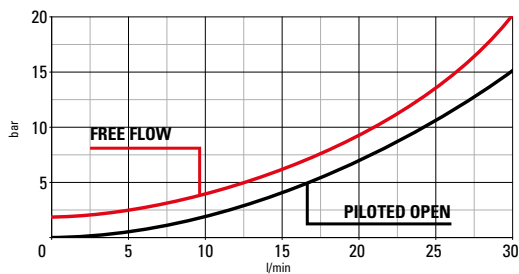
Normale Ristretta T11A 7,5:1 SP adjustable setting



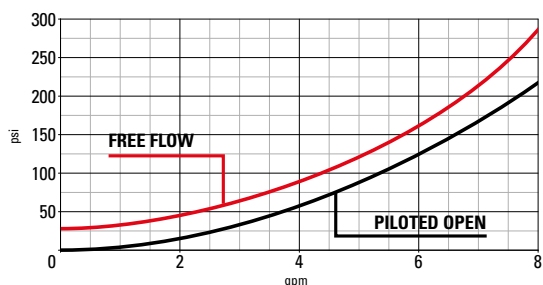
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	7,5:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 4

0 | 7 | 1 | 1 | 0 | 0 | A

Setting (bar)

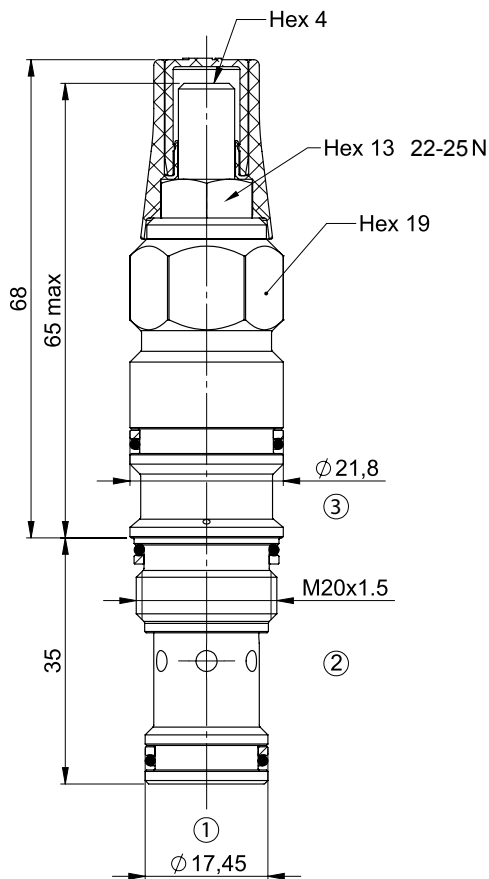
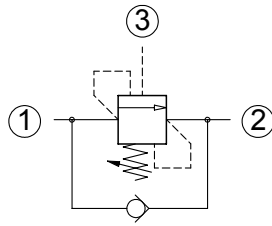
Spring

- T = 30-105 bar
- M = 100-280 bar
- D = 200-390 bar

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Load holding valves

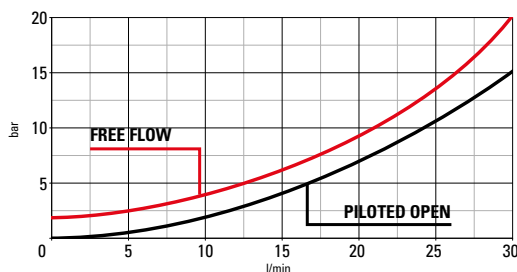
Normale Ristretta T11A 9:1 adjustable setting



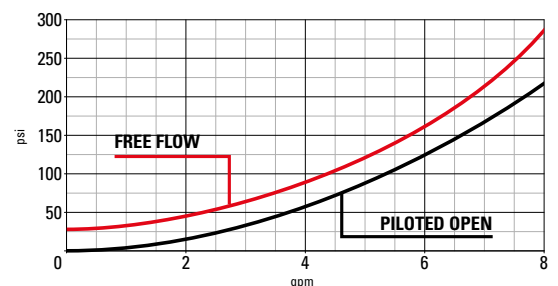
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	9:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 4

Setting (bar)

Spring

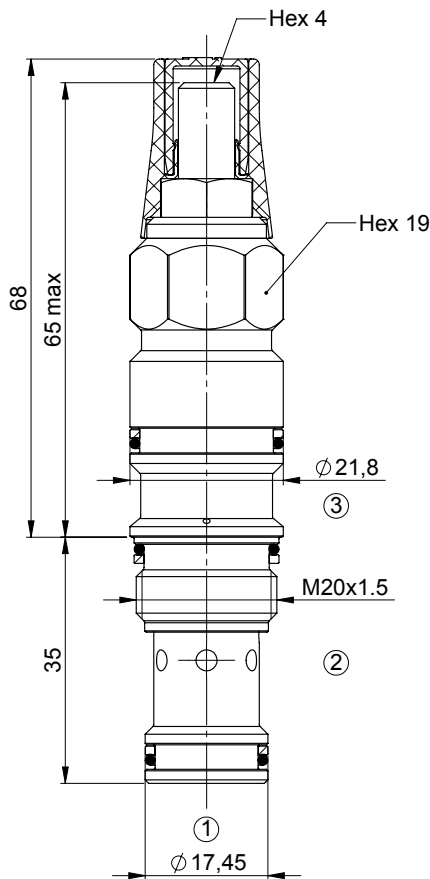
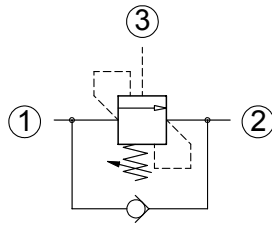
- T = 30-105 bar
- M = 100-280 bar
- D = 200-390 bar

| 0 | 9 | 1 | 1 | 0 | 0 | A

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Load holding valves

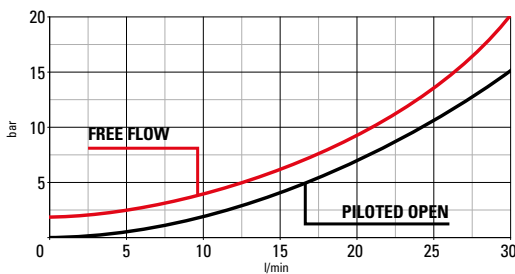
Normale Ristretta T11A 9:1 SP adjustable setting



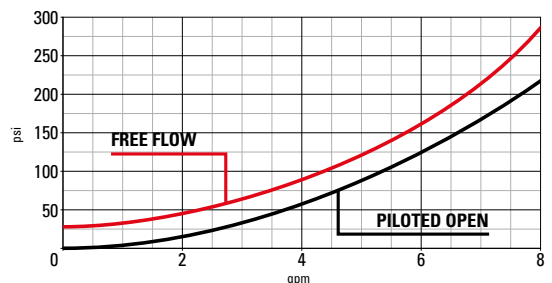
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	9:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	173 bar (Spring D) - 155 bar (Spring M) - 27 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

A = BUNA SEALS
 G = BUNA tamper resistant
 C = VITON SEALS
 H = VITON tamper resistant

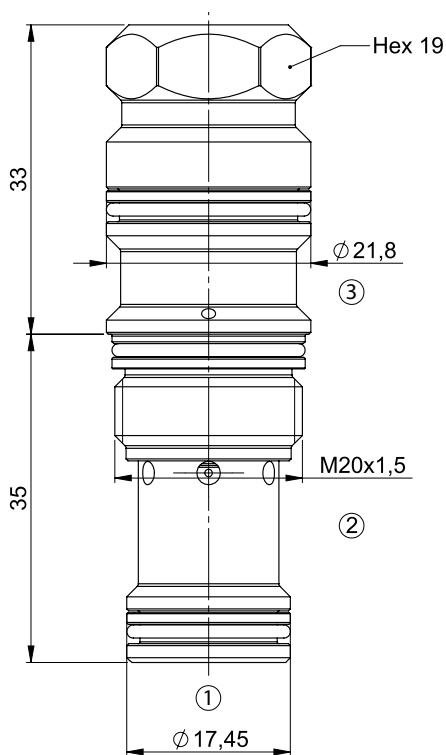
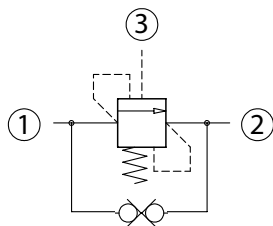
Setting (bar)

Spring
 T = 30-105 bar
 M = 100-280 bar
 D = 200-390 bar

C | 0 | 4 | | | | | | | 0 | 9 | 1 | 1 | 0 | 0 | A

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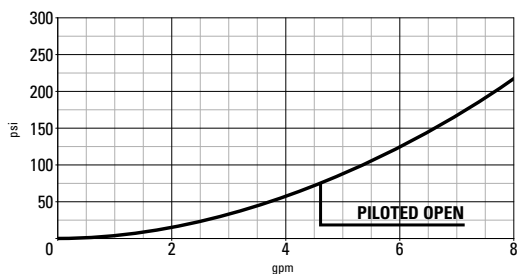
Normale Ristretta T11A 3:1 SBB fixed setting



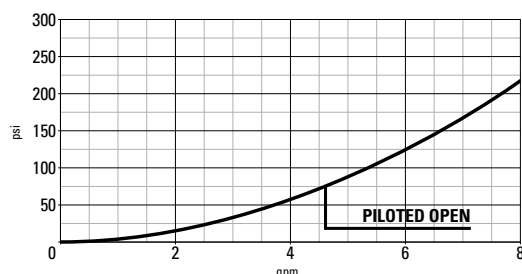
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	30 bar (450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Indicated Reseat value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
B = BUNA SEALS
D = VITON SEALS

0 = Standard Zinc plating
Z = Zinc Nickel plating

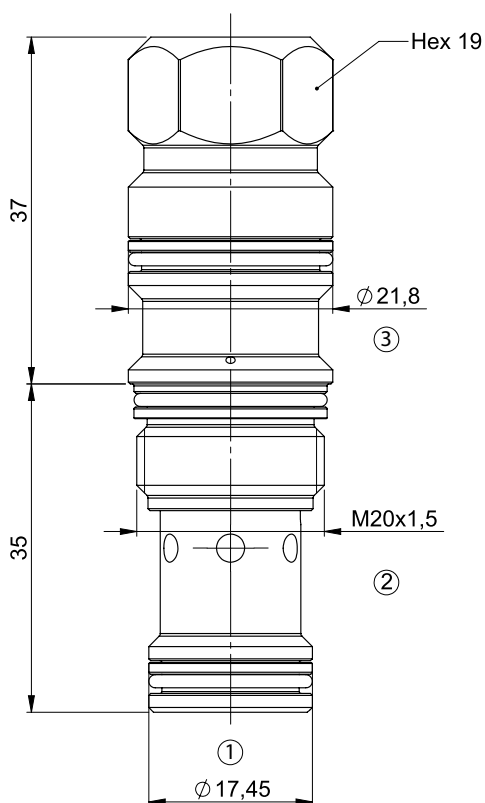
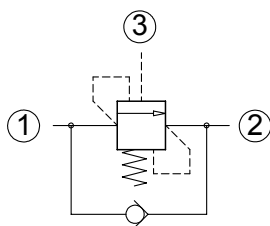
C | 0 | M | **Setting (bar)** | **0 | 3 | 1 | 1** | **0 | A**

Spring
T = 30-105 bar
M = 100-280 bar
D = 200-390 bar

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Load holding valves

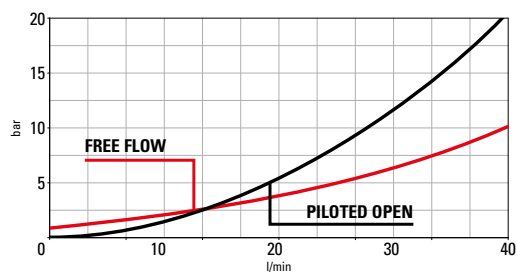
Normale T11A TG 3:1 fixed setting



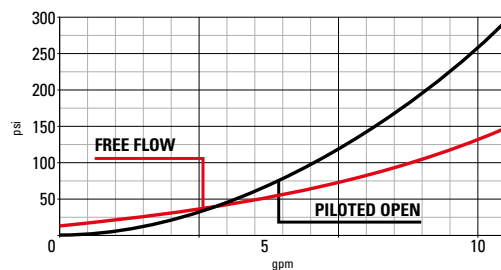
Technical Details

cavity	T11A
capacity	40 lpm (10 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	450 bar (6500 psi)
minimum setting	30 bar (450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	350 bar (5000 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

0 = Standard Zinc plating
Z = Zinc Nickel plating

C | 1 | 0 | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Setting (bar)

Spring

T = 30-105 bar

M = 105-320 bar

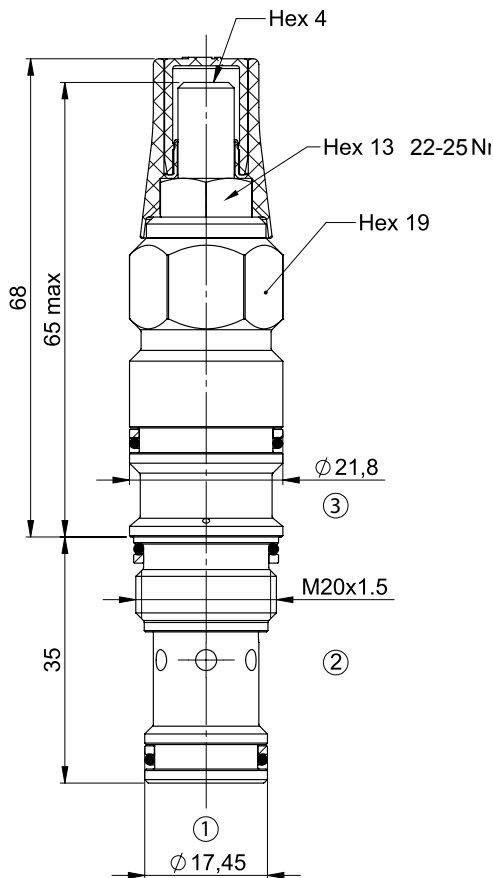
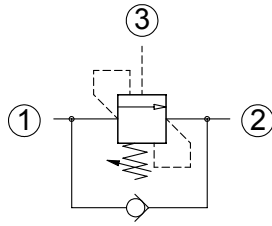
D = 200-450 bar

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Load holding valves

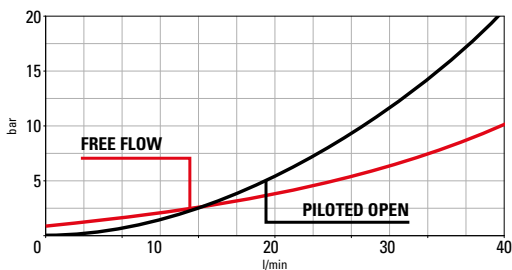
Normale T11A TG 3:1 adjustable setting



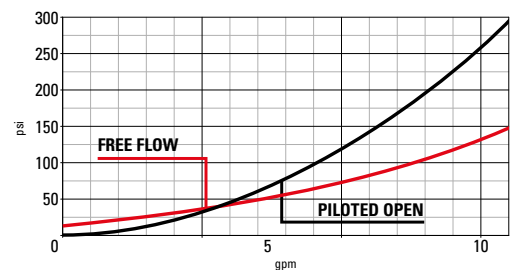
Technical Details

cavity	T11A
capacity	40 lpm (10 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	450 bar (6500 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	201 bar (Spring D) - 135 bar (Spring M) - 33 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	350 bar (5000 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/20

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 1 | 0

Setting (bar)

Spring

- T = 30-105 bar
- M = 105-320 bar
- D = 200-450 bar

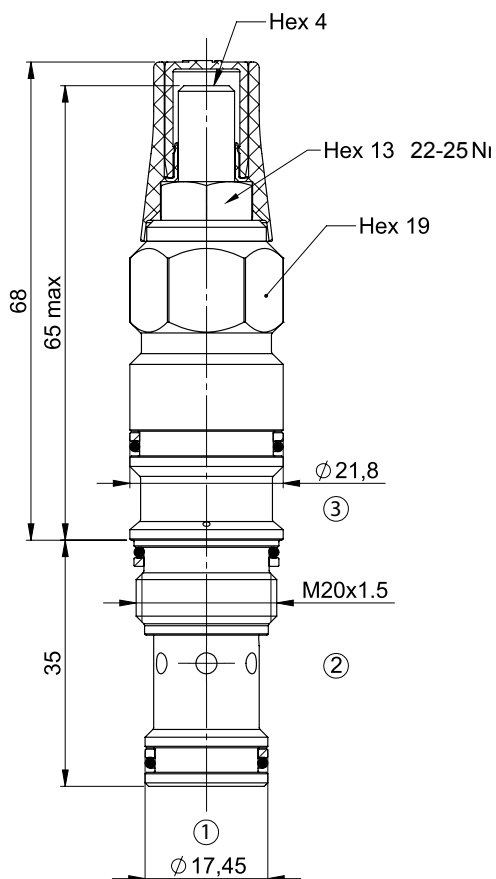
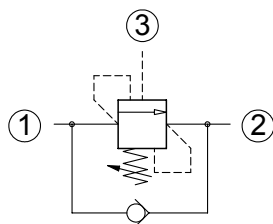
| 0 | 3 | 1 | 1 | 0 | 0 | A

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Load holding valves

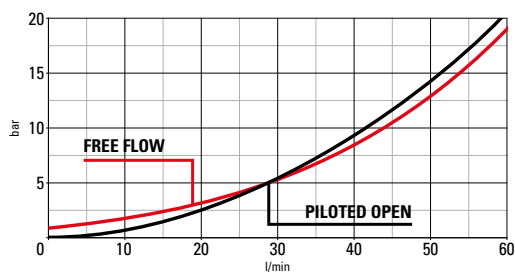
Normale T11A 2:1 adjustable setting



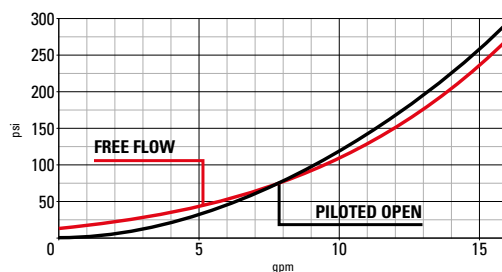
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	420 bar (6000 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	235 bar (Spring S) - 201 bar (Spring D) - 135 bar (Spring M) - 33 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/20

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 0

0 | 2 | 1 | 1 | 0 | 0 | A

Setting (bar)

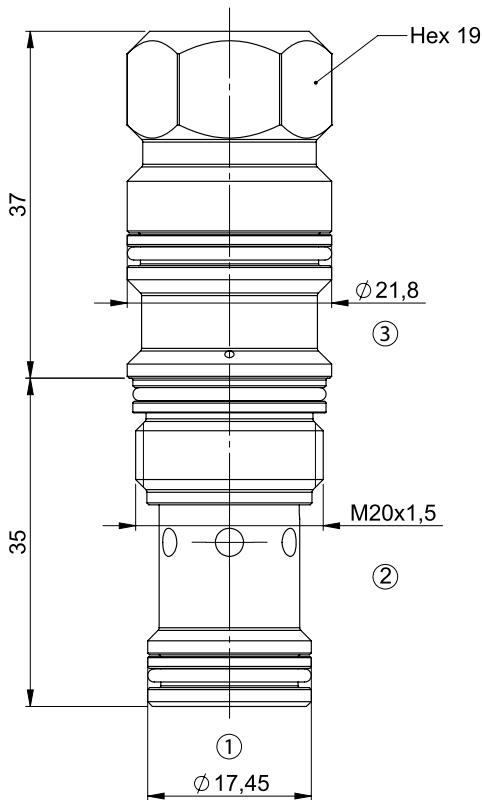
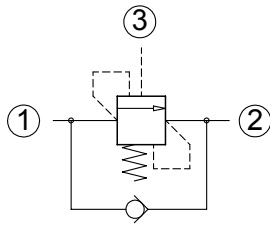
Spring

- T = 30-105 bar
- M = 105-210 bar
- D = 200-350 bar
- S = 340-420 bar

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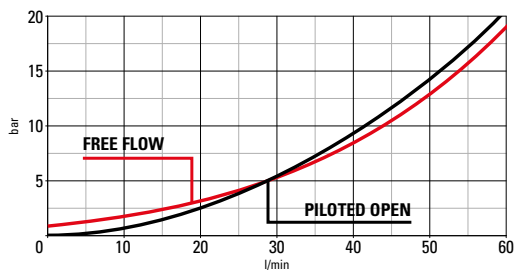
Normale T11A 3:1 fixed setting



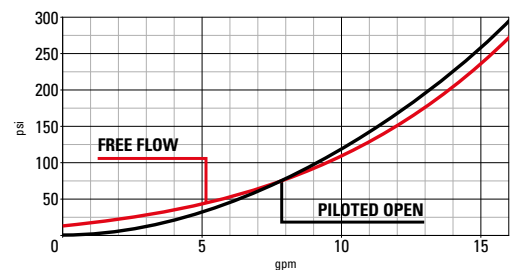
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	420 bar (6000 psi)
minimum setting	30 bar (450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
 1 = BUNA SEALS
 3 = VITON SEALS

Setting (bar)
 0 3 1 1 0 0 A

Spring
 T = 30-105 bar
 M = 105-210 bar
 D = 200-350 bar
 S = 340-420 bar

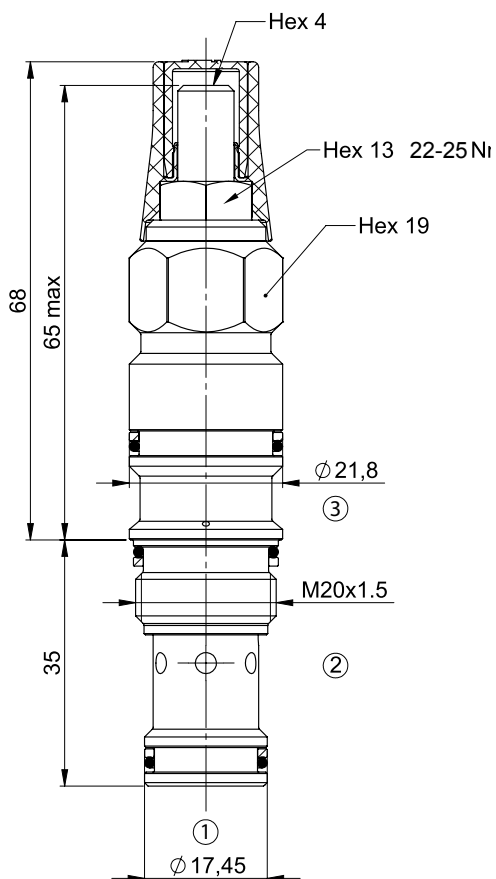
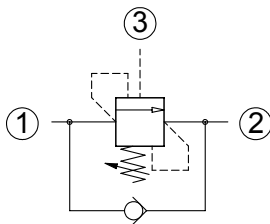
0 = Standard Zinc plating
 Z = Zinc Nickel plating

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Load holding valves

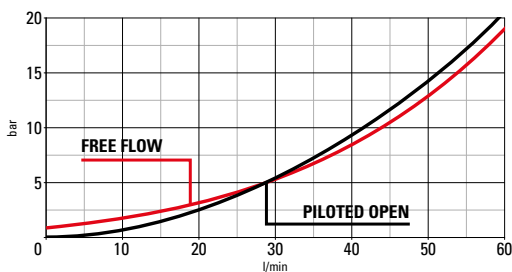
Normale T11A 3:1 adjustable setting



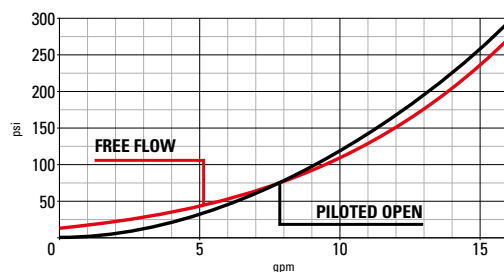
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	420 bar (6000 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	201 bar (Spring D) - 135 bar (Spring M) - 33 bar (Spring T) - 235 bar (Spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/20

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 0

Setting (bar)

0 | 3 | 1 | 1 | 0 | 0 | A

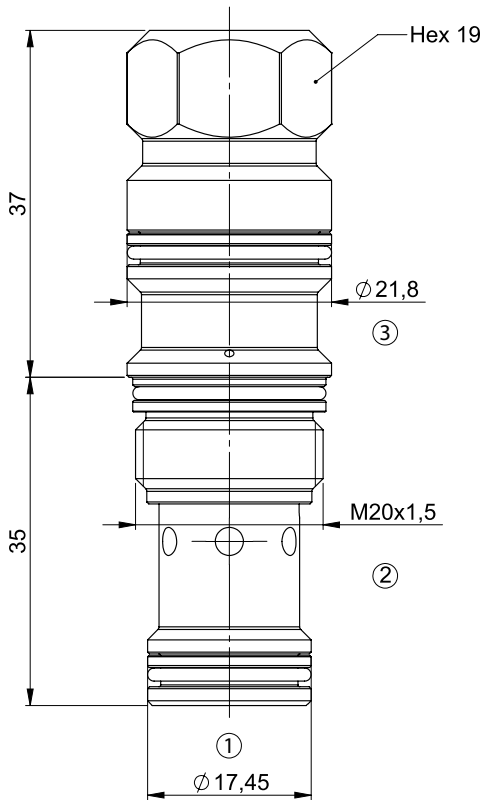
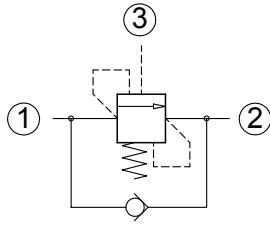
Spring

- T = 30-105 bar
- M = 105-210 bar
- D = 200-350 bar
- S = 340-420 bar

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Load holding valves

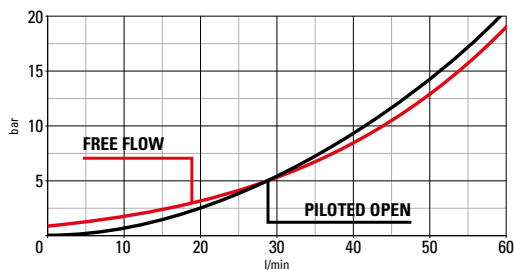
Normale T11A 3:1 SP fixed setting



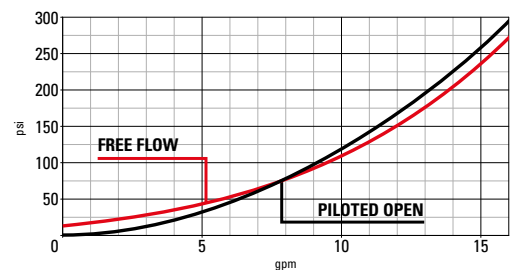
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	420 bar (6000 psi)
minimum setting	30 bar (450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



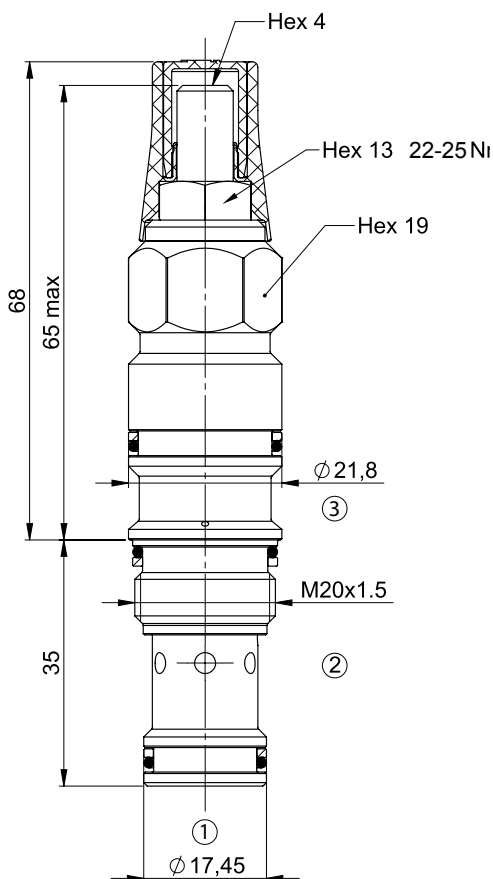
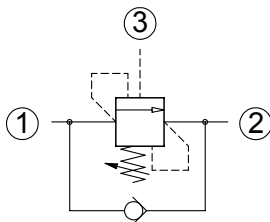
C 0 0	Setting (bar)							0 3 1 1			0 0 A			
<table border="0"> <tr> <td>Seals B = BUNA SEALS D = VITON SEALS</td> <td>Spring T = 30-105 bar M = 105-210 bar D = 200-350 bar S = 340-420 bar</td> <td>0 = Standard Zinc plating Z = Zinc Nickel plating</td> </tr> </table>												Seals B = BUNA SEALS D = VITON SEALS	Spring T = 30-105 bar M = 105-210 bar D = 200-350 bar S = 340-420 bar	0 = Standard Zinc plating Z = Zinc Nickel plating
Seals B = BUNA SEALS D = VITON SEALS	Spring T = 30-105 bar M = 105-210 bar D = 200-350 bar S = 340-420 bar	0 = Standard Zinc plating Z = Zinc Nickel plating												

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Load holding valves

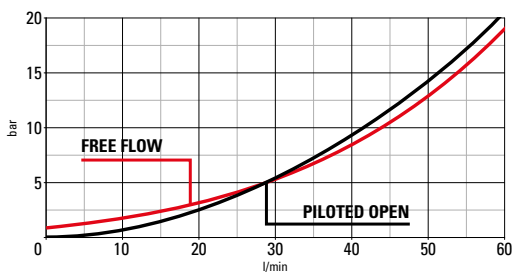
Normale T11A 3:1 SP adjustable setting



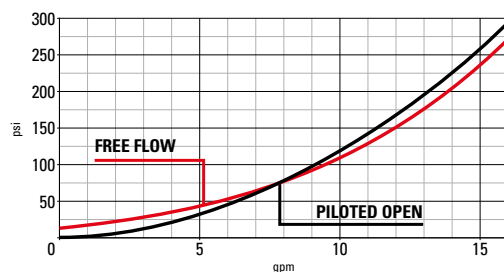
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	420 bar (6000 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	201 bar (Spring D) - 135 bar (Spring M) - 33 bar (Spring T) - 235 bar (Spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/20

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum settin



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 0

Setting (bar)

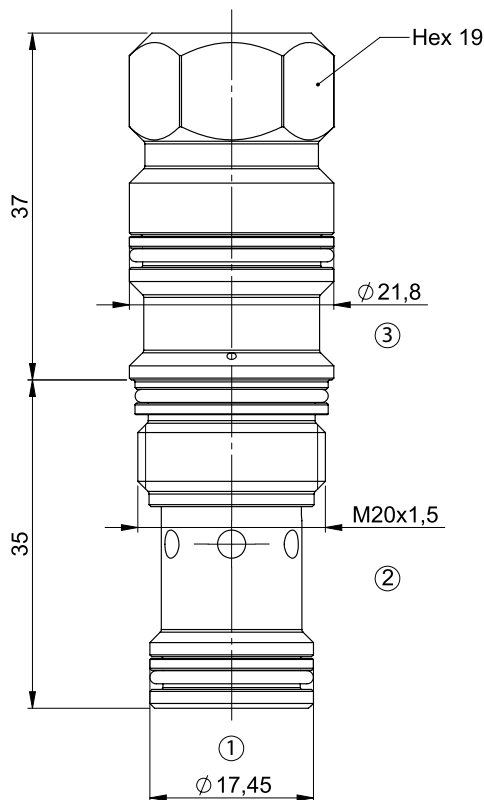
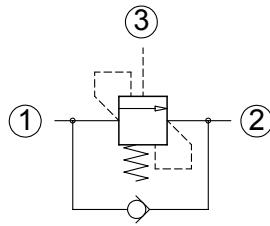
0 | 3 | 1 | 1 | 0 | 0 | A

Spring

- T = 30-105 bar
- M = 105-210 bar
- D = 200-350 bar
- S = 340-420 bar

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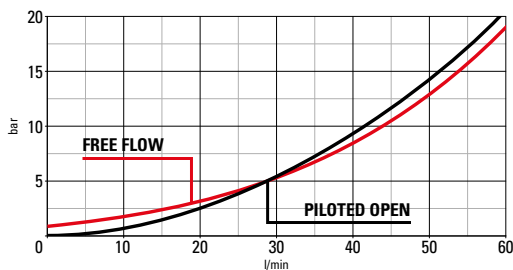
Normale T11A 5:1 fixed setting



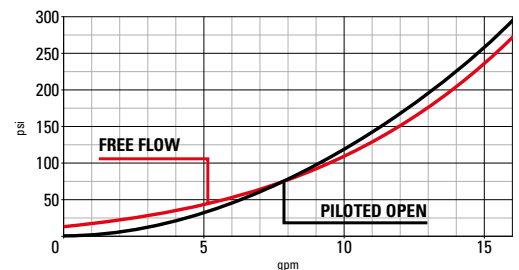
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	420 bar (6000 psi)
minimum setting	30 bar (450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/23

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
 1 = BUNA SEALS
 3 = VITON SEALS

0 = Standard Zinc plating
 Z = Zinc Nickel plating

C | 0 | 0 | | | | | | | | 0 | 5 | 1 | 1 | | | 0 | A

Setting (bar)

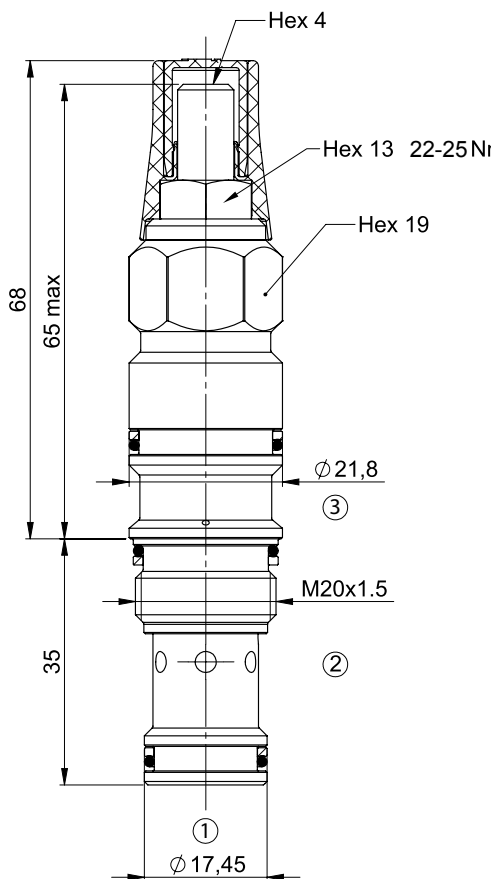
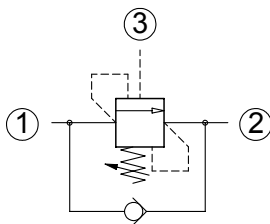
Spring
 L = 30-105 bar
 T = 50-210 bar
 D = 210-360 bar
 S = 360-420 bar

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Load holding valves

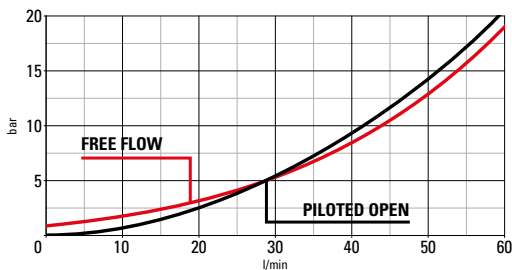
Normale T11A 5:1 adjustable setting



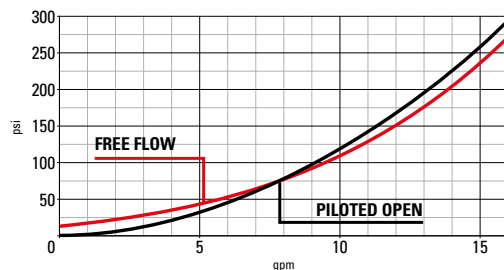
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	420 bar (6000 psi)
minimum setting	30 bar (450 psi)
pressure increase per turn	238 bar (Spring S) - 165 bar (Spring D) - 58 bar (Spring T) - 32 bar (Spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/22

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 0 | 0

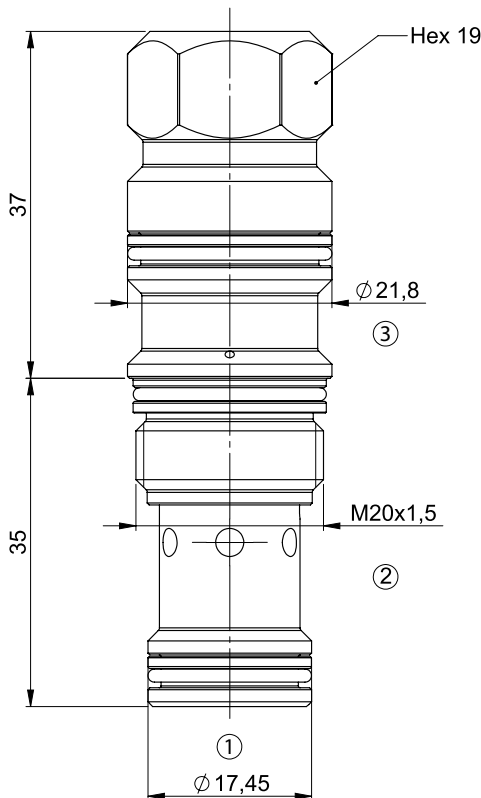
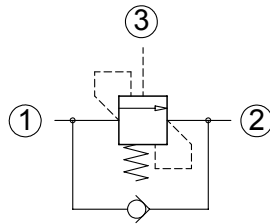
Setting (bar)

0 | 5 | 1 | 1 | 0 | 0 | A

Spring
L = 30-105 bar
T = 50-210 bar
D = 210-360 bar
S = 360-420 bar

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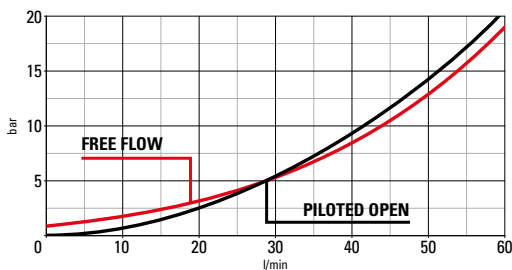
Normale T11A 8:1 fixed setting



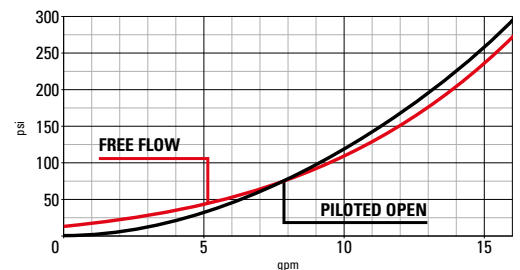
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/25

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
 1 = BUNA SEALS
 3 = VITON SEALS

0 = Standard Zinc plating
 Z = Zinc Nickel plating

C | 0 | 0 | | | | | | | | 0 | 8 | 1 | 1 | | | 0 | A

Setting (bar)

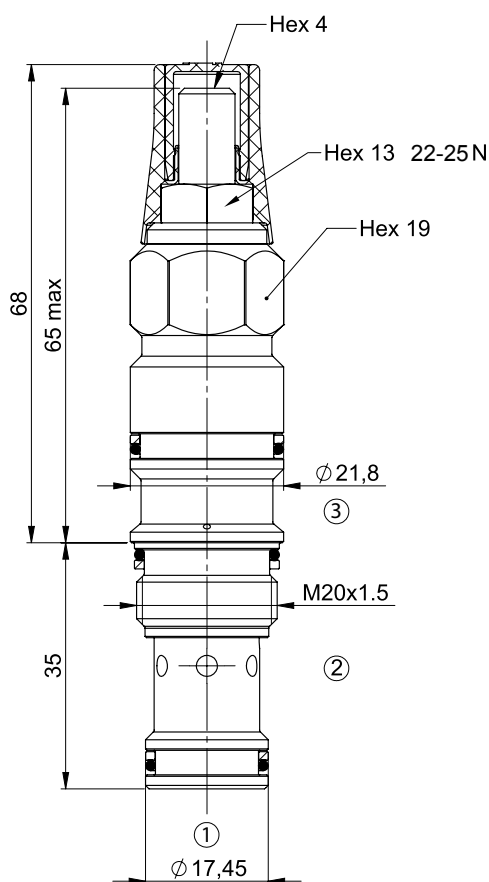
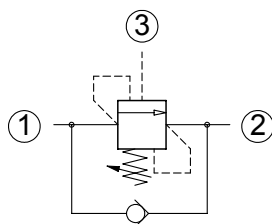
Spring
 M = 70-210 bar
 D = 140-350 bar

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Load holding valves

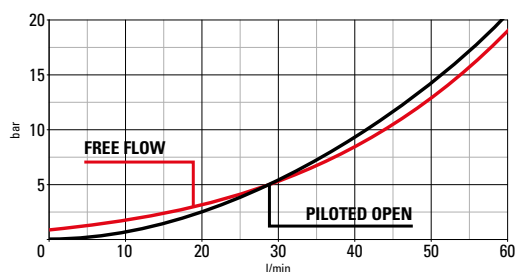
Normale T11A 8:1 adjustable setting



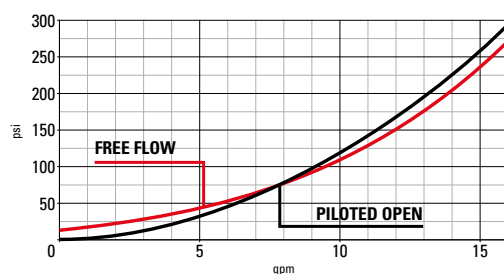
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	93 bar (Spring D) - 50 bar (Spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/24

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 0

Setting (bar)

0 | 8 | 1 | 1 | 0 | 0 | A

Spring

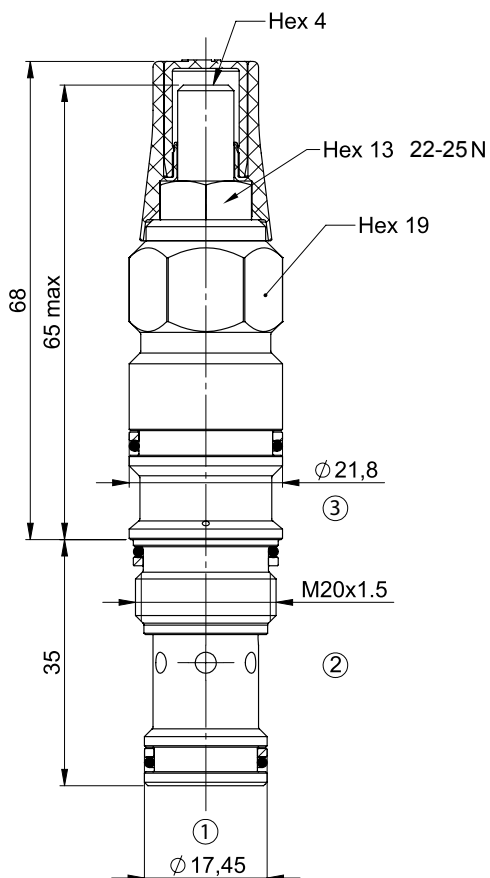
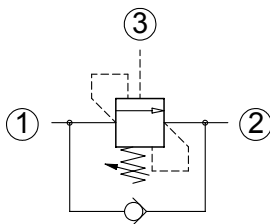
- M = 70-210 bar
- D = 140-350 bar

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Load holding valves

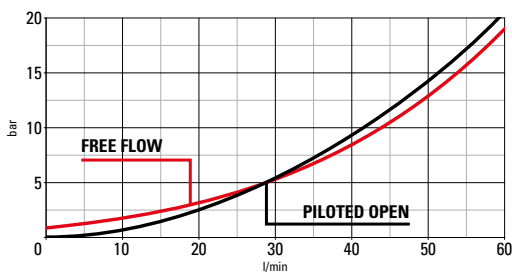
Normale T11A 10:1 adjustable setting



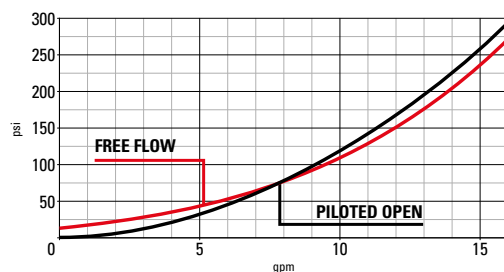
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	115 bar (spring D) - 63 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOOT11ASN900000
seal kit (viton)	SOOT11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

Spring

- M = 70-210 bar
- D = 140-420 bar

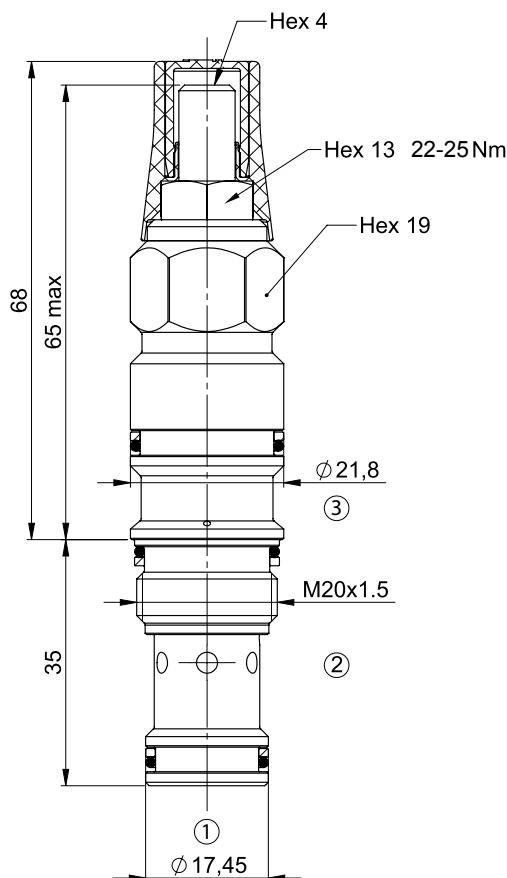
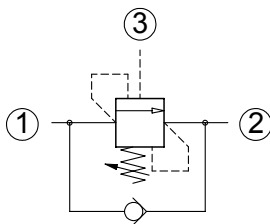
C | 0 | 0 | | | | | | | 1 | 0 | 1 | 1 | 0 | 0 | A

Setting (bar)

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Load holding valves

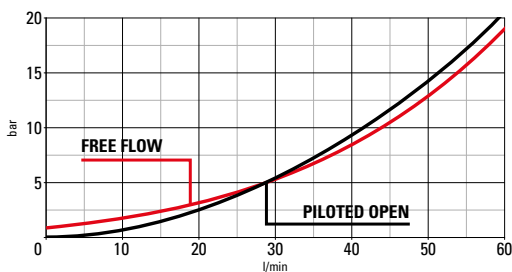
Normale T11A 10:1 SP adjustable setting



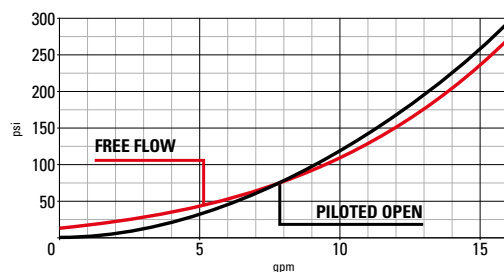
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	115 bar (spring D) - 63 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOOT11ASN900000
seal kit (viton)	SOOT11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

C | 0 | 0

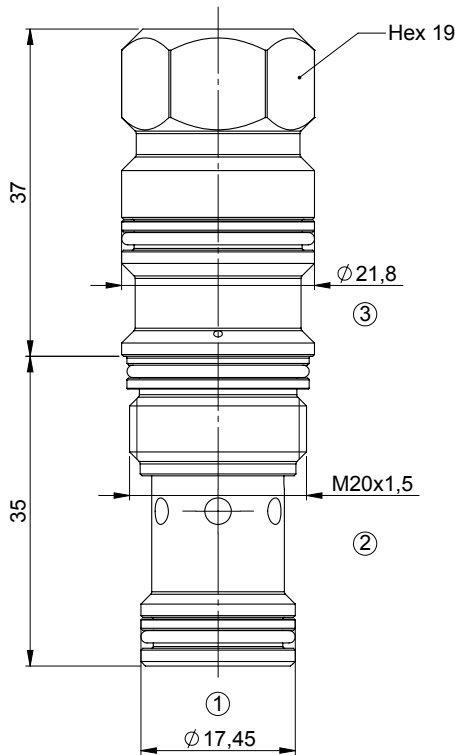
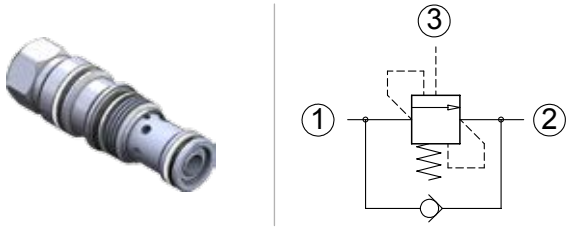
Setting (bar)

| 1 | 0 | 1 | 1 | 0 | 0 | A

Spring
 M = 70-210 bar
 D = 140-420 bar

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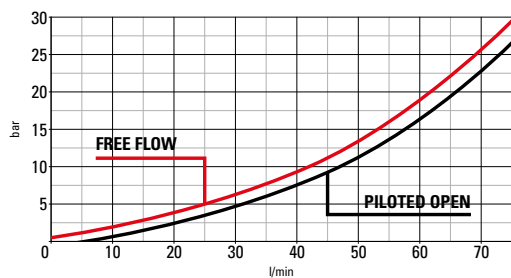
Normale T11A GT 3:1 fixed setting



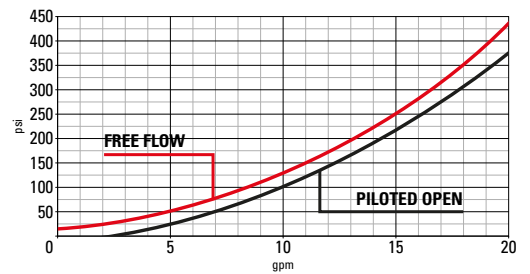
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	265 bar (3800 psi)
minimum setting	35 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	210 bar (3000 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/29

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
 1 = BUNA SEALS
 3 = VITON SEALS

C | 2 | 0 | | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

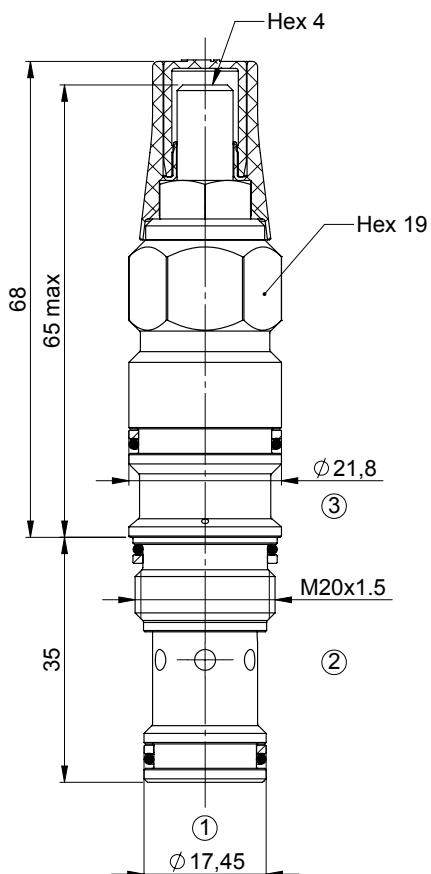
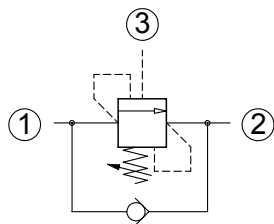
Spring
 T = 35-105 bar
 M = 105-155 bar
 D = 140-265 bar

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Load holding valves

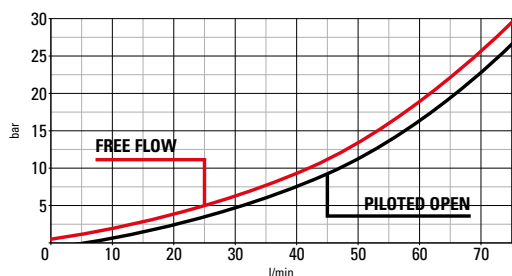
Normale T11A GT 3:1 adjustable setting



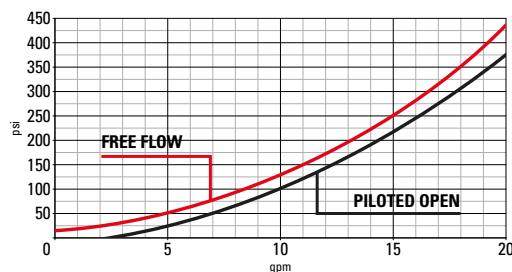
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	265 bar (3800 psi)
minimum setting	35 bar (500 psi)
pressure increase per turn	206 bar (spring D) - 132 bar (spring M) - 33 bar (spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	210 bar (3000 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/28

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

C | 2 | 0

Setting (bar)

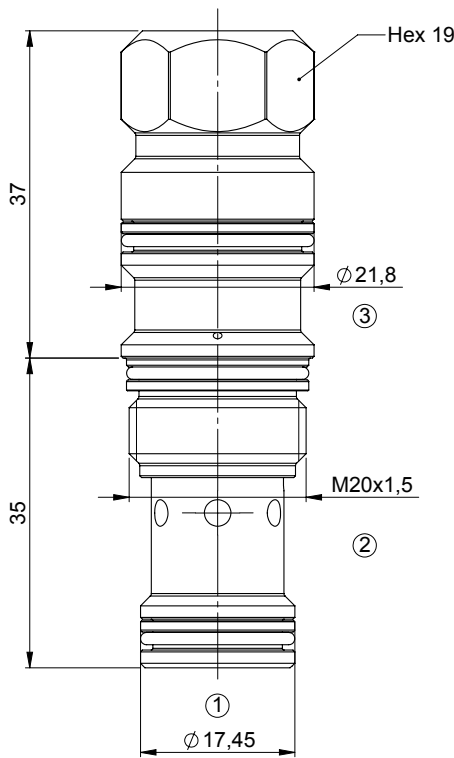
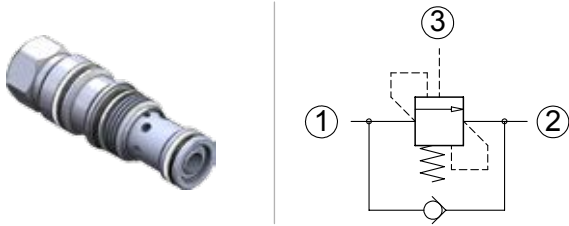
0 | 3 | 1 | 1 | 0 | 0 | A

Spring

T = 35-105 bar
 M = 105-155 bar
 D = 140-265 bar

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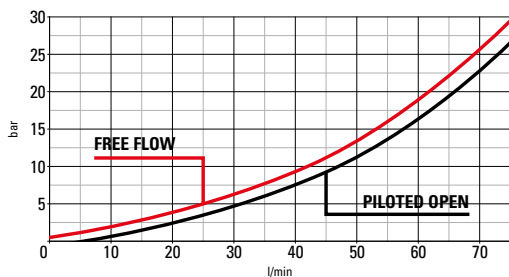
Normale T11A GT 8:1 fixed setting



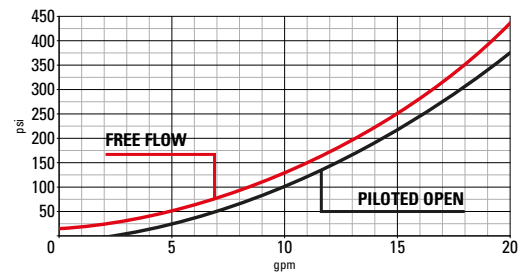
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	270 bar (4000 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs) 0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 2 | 0 | | | | | | | | | | 0 | 8 | 1 | 1 | 0 | 0 | A

Setting (bar)

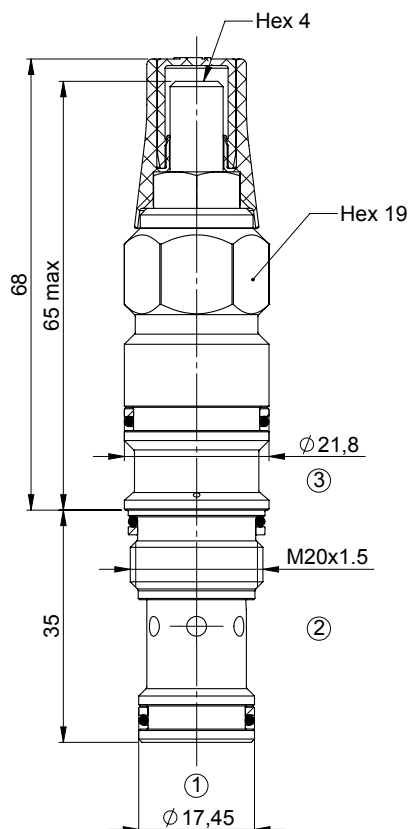
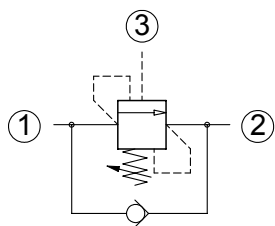
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

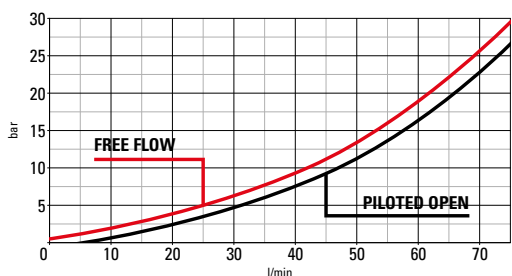
Normale T11A GT 8:1 adjustable setting



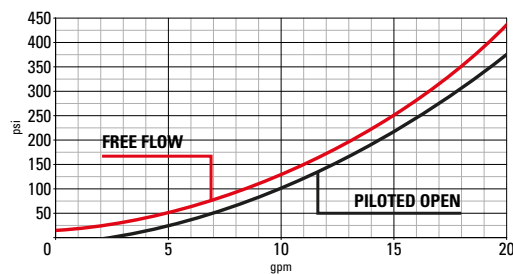
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	93 bar (spring D) - 50 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	270 bar (4000 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 2 | 0

Setting (bar)

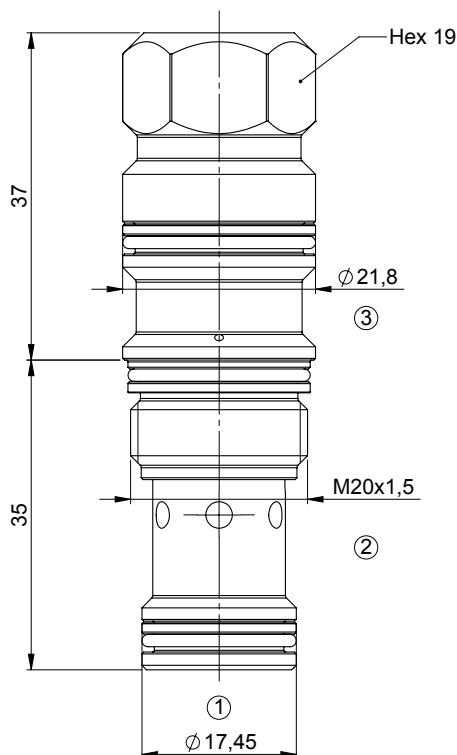
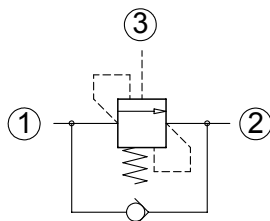
0 | 8 | 1 | 1 | 0 | 0 | A

Spring

- M = 70-190 bar
- D = 140-310 bar

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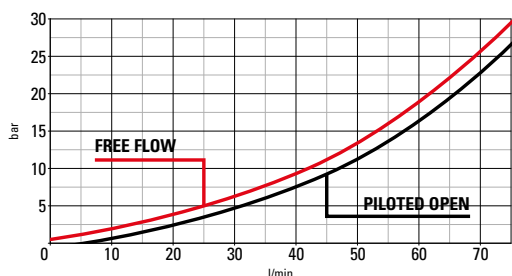
Normale T11A GT 10:1 fixed setting



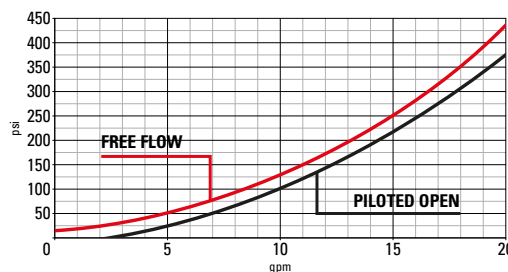
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	390 bar (5650 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	310 bar (4500 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0,136 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 2 | 0 | | | | | | | | 1 | 0 | 1 | 1 | 0 | 0 | A

Setting (bar)

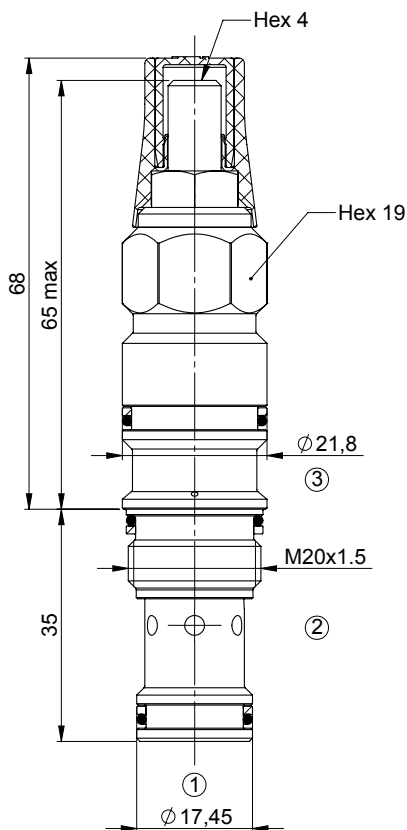
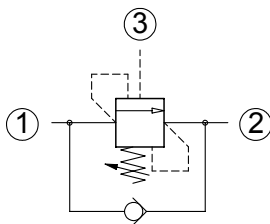
Spring
M = 70-190 bar
D = 140-390 bar

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Load holding valves

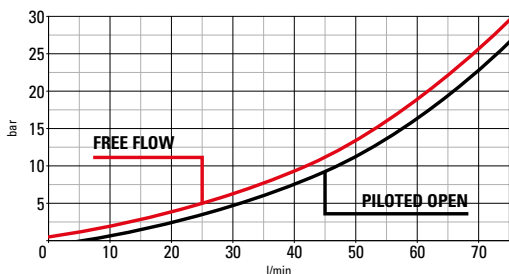
Normale T11A GT 10:1 adjustable setting



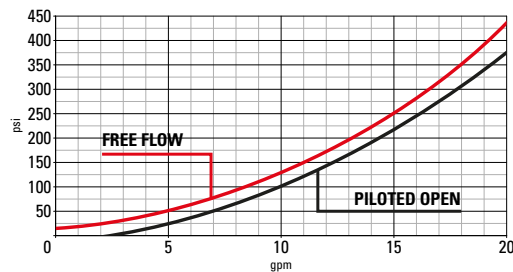
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	390 bar (5650 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	115 bar (spring D) - 63 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	310 bar (4500 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOOT11ASN900000
seal kit (viton)	SOOT11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 2 | 0

Setting (bar)

| 1 | 0 | 1 | 1 | 0 | 0 | A

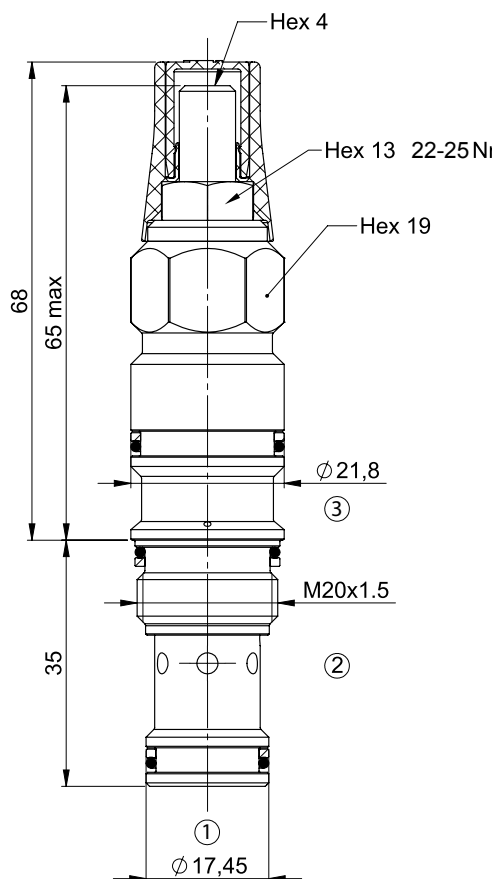
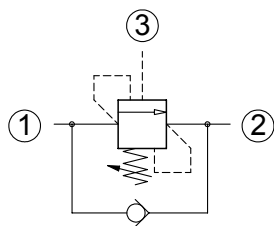
Spring

- M = 70-190 bar
- D = 140-390 bar

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Load holding valves

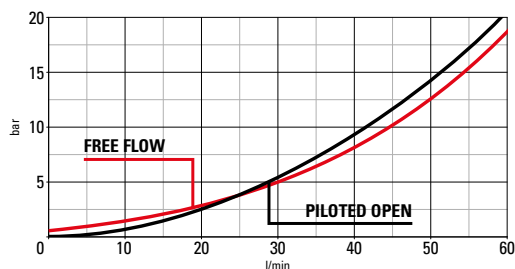
Normale T11A 2:1 CVT adjustable setting



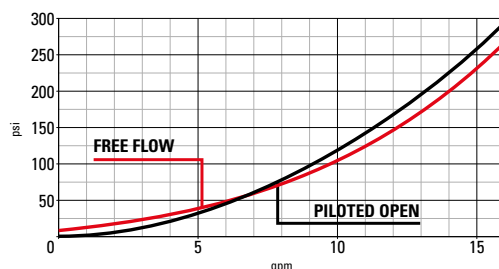
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	35 bar (500 psi)
pressure increase per turn	201 bar (Spring D) - 135 bar (Spring M) - 33 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/20

- Check valve setting: 0,3 bar
- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | A

Setting (bar)

0 | 2 | 1 | 1 | 0 | 0 | A

Spring

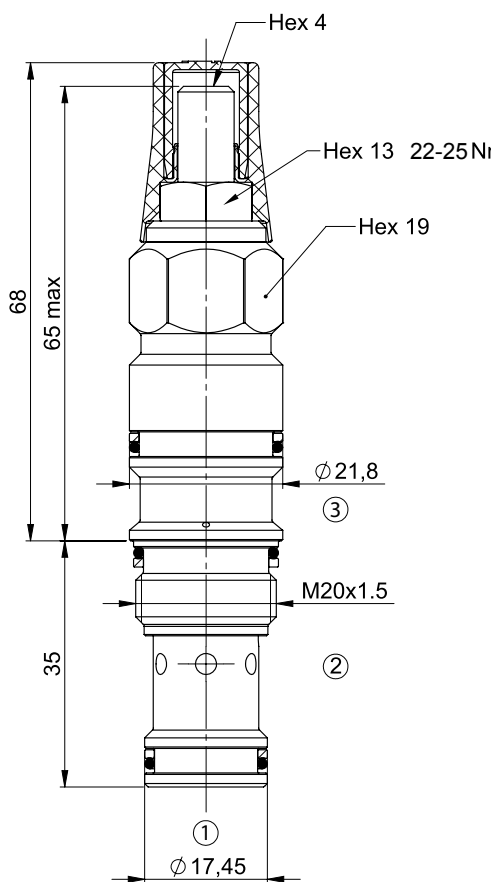
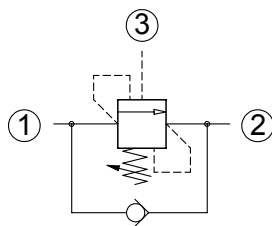
- T = 35-105 bar
- M = 105-210 bar
- D = 200-350 bar

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Load holding valves

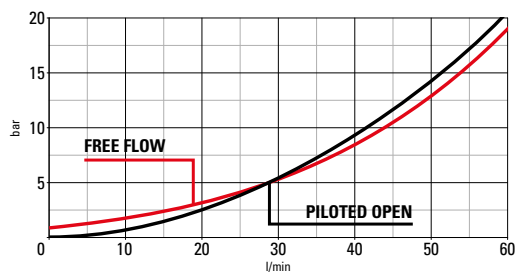
Normale T11A 3:1 CVT adjustable setting



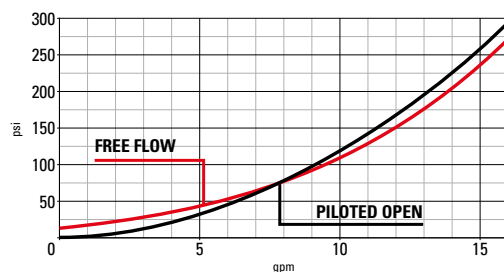
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	420 bar (6000 psi)
minimum setting	35 bar (500 psi)
pressure increase per turn	201 bar (Spring D) - 135 bar (Spring M) - 33 bar (Spring T) - 235 bar (Spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/20

- Check valve setting: 0,3 bar
- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum settin



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | A

Setting (bar)

0 | 3 | 1 | 1 | 0 | 0 | A

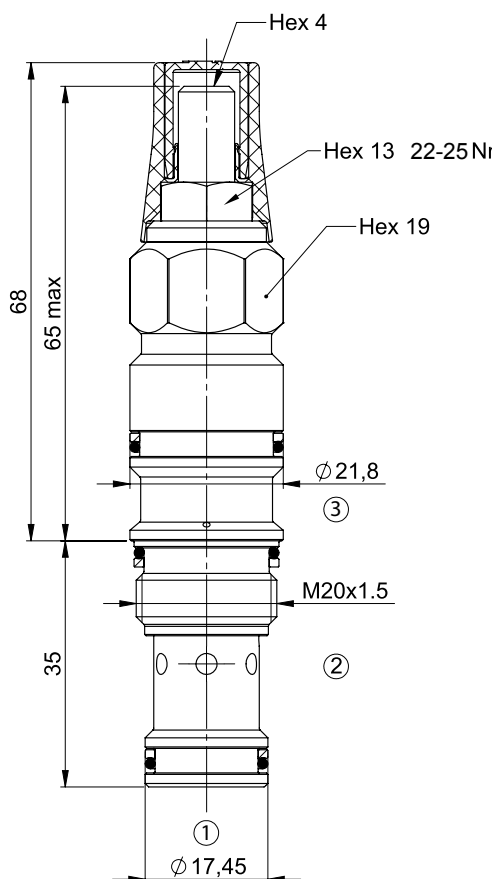
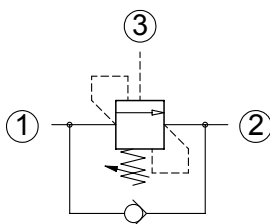
Spring

- T = 35-105 bar
- M = 105-210 bar
- D = 200-350 bar
- S = 340-420 bar

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Load holding valves

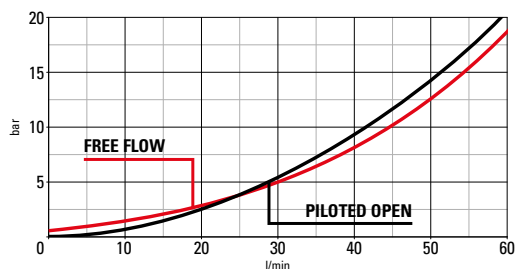
Normale T11A 5:1 CVT adjustable setting



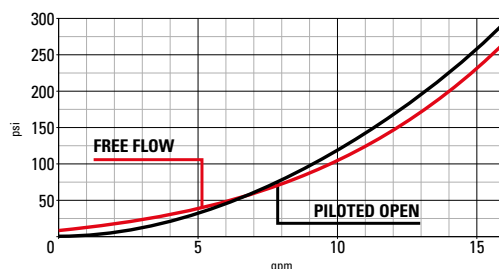
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	360 bar (5220 psi)
minimum setting	50 bar (725 psi)
pressure increase per turn	238 bar (Spring S) - 165 bar (Spring D) - 58 bar (Spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/22

- Check valve setting: 0,3 bar
- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | A

Setting (bar)

0 | 5 | 1 | 1 | 0 | 0 | A

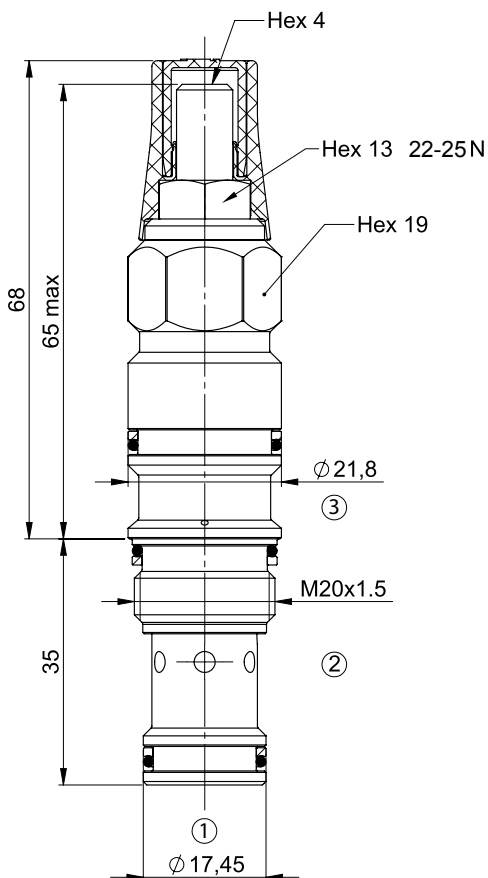
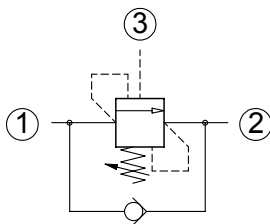
Spring

- T = 50-210 bar
- D = 210-360 bar
- S = 360-420 bar

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Load holding valves

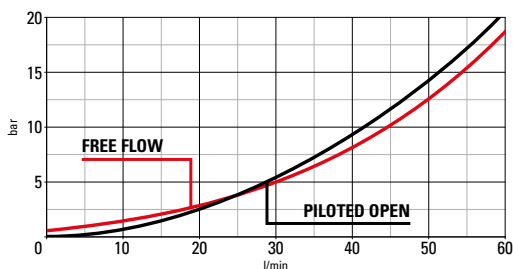
Normale T11A 8:1 CVT adjustable setting



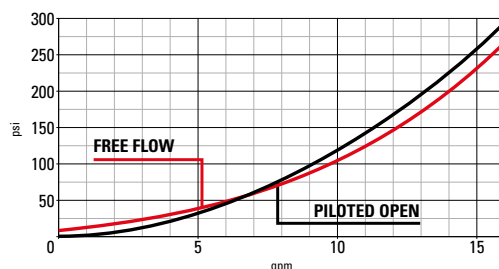
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	93 bar (Spring D) - 50 bar (Spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/24

- Check valve setting: 0,3 bar
- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

C | 0 | A

Setting (bar)

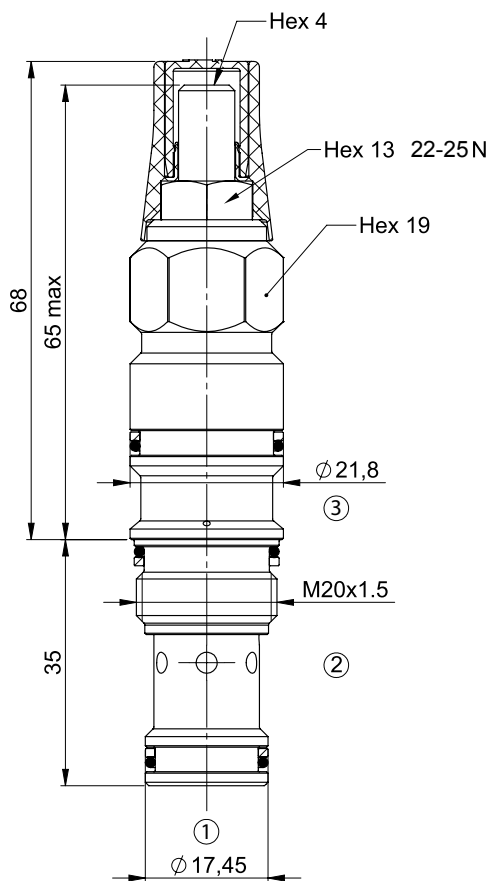
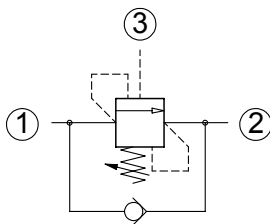
0 | 8 | 1 | 1 | 0 | 0 | A

Spring
 M = 70-210 bar
 D = 140-350 bar

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Load holding valves

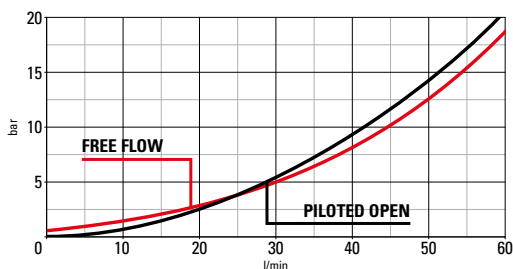
Normale T11A 10:1 CVT adjustable setting



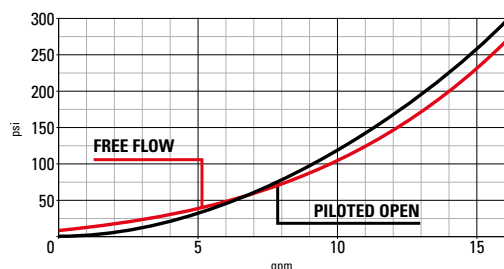
Technical Details

cavity	T11A
capacity	60 lpm (16gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	115 bar (spring D) - 63 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOOT11ASN900000
seal kit (viton)	SOOT11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Check valve setting: 0,3 bar
- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

C | 0 | A

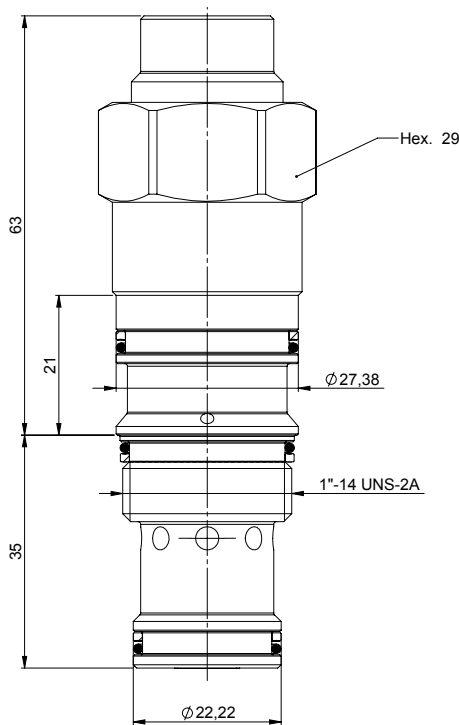
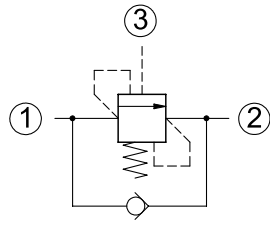
Setting (bar)

1 | 0 | 1 | 1 | 0 | 0 | A

Spring
 M = 70-210 bar
 D = 140-420 bar

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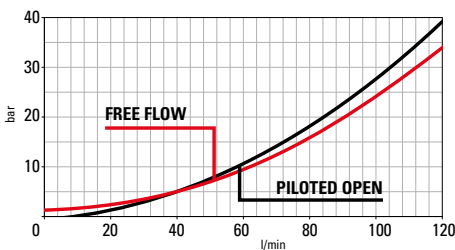
Normale T2A 4:1 fixed setting



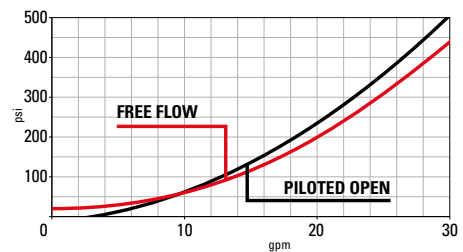
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 0 | 0 | | | | | | | 0 | 4 | 0 | 2 | 0 | 0 | A

Setting (bar)

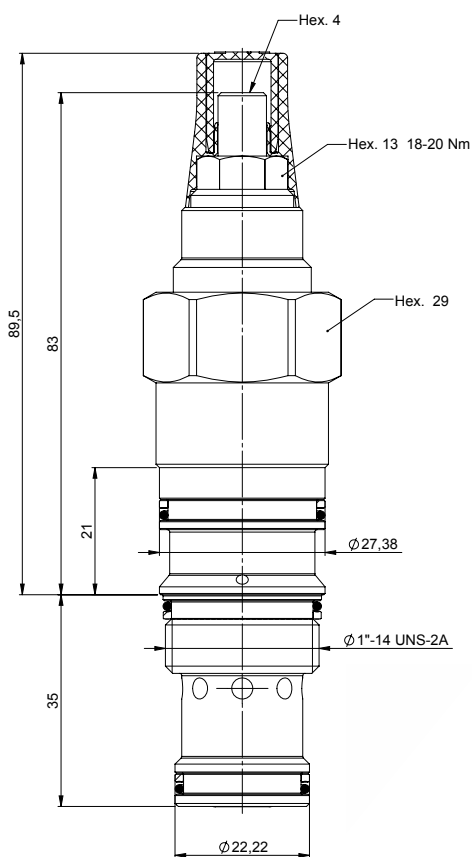
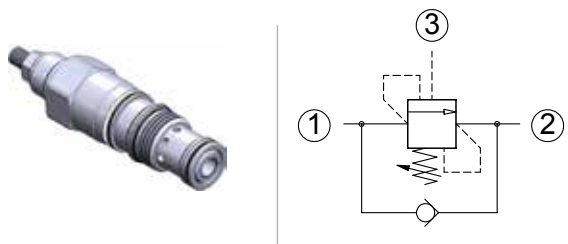
Spring
M = 70-210 bar
D = 140-350 bar
S = 300-420 bar

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Load holding valves

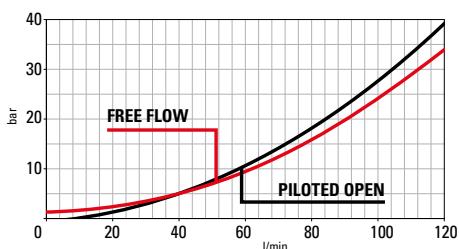
Normale T2A 4:1 adjustable setting



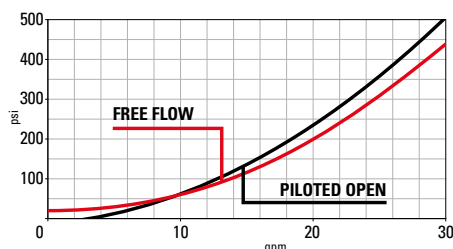
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (Spring D) - 49 bar (Spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 0 | 0

Setting (bar)

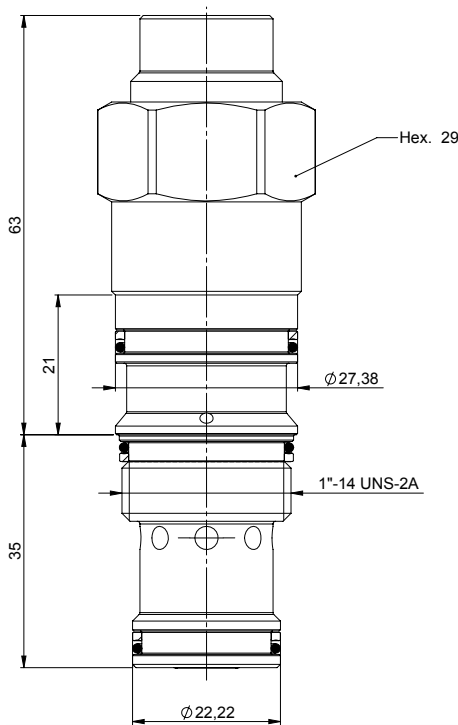
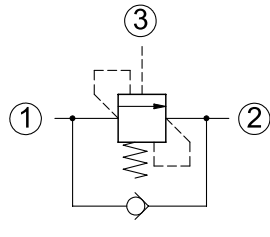
0 | 4 | 0 | 2 | 0 | 0 | A

Spring
M = 70-210 bar
D = 140-350 bar
S = 300-420 bar

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Load holding valves

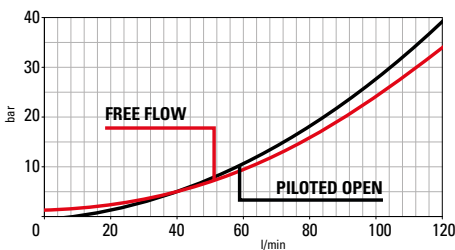
Normale T2A 10:1 fixed setting



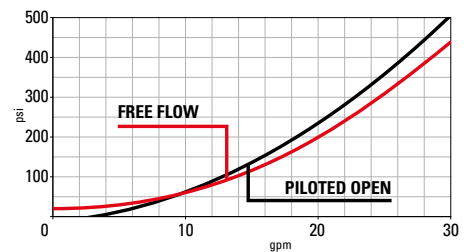
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4700 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 0 | 0 | | | | | | | 1 | 0 | 0 | 2 | 0 | 0 | A

Setting (bar)

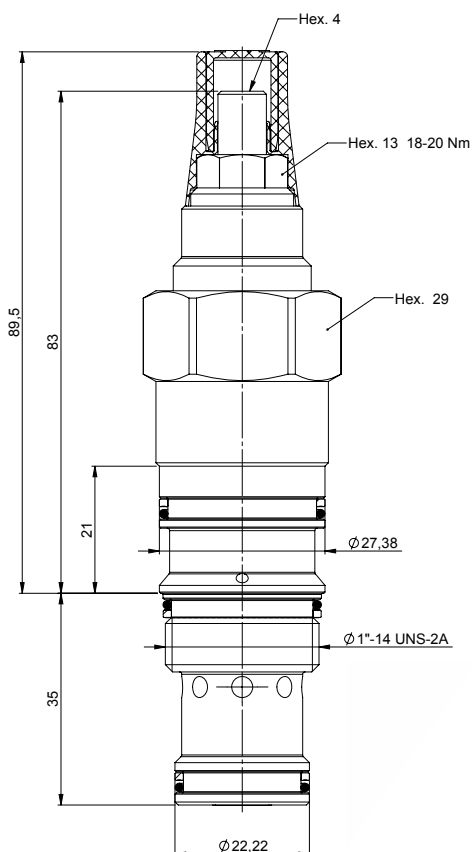
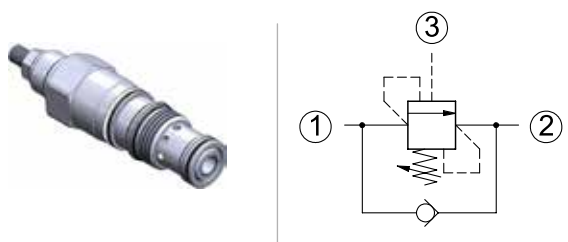
Spring
M = 70-280 bar
D = 140-420 bar

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Load holding valves

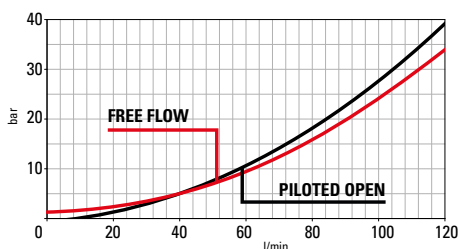
Normale T2A 10:1 adjustable setting



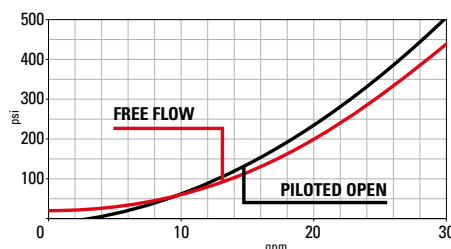
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	89 bar (spring M) – 122 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4700 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 0 | 0

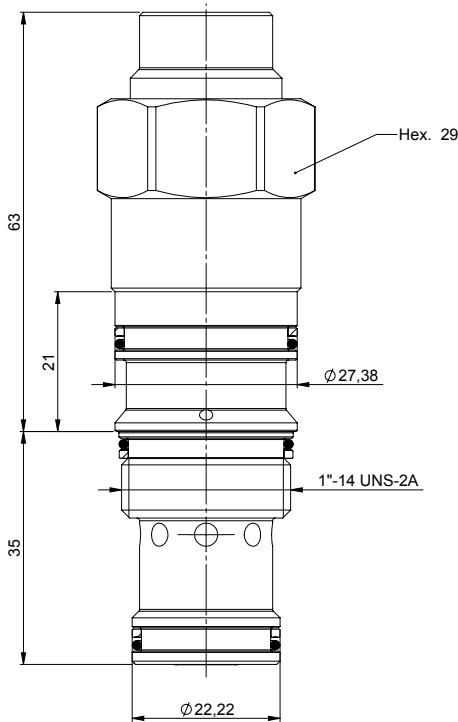
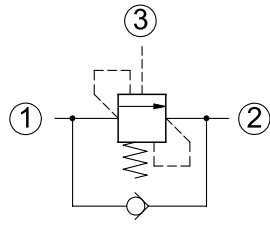
Setting (bar)

| 1 | 0 | 0 | 2 | 0 | 0 | A

Spring
M = 70-280 bar
D = 140-420 bar

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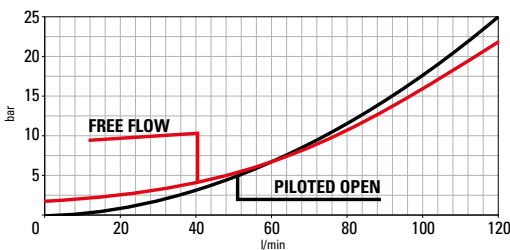
Normale T2A GT 4:1 fixed setting



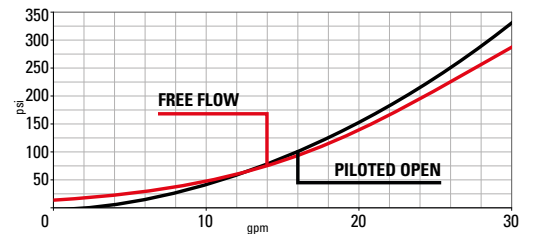
Technical Details

cavity	T2A
capacity	150 lpm (38 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 2 | 0 | | | | | | | | 0 | 4 | 0 | 2 | 0 | 0 | A

Setting (bar)

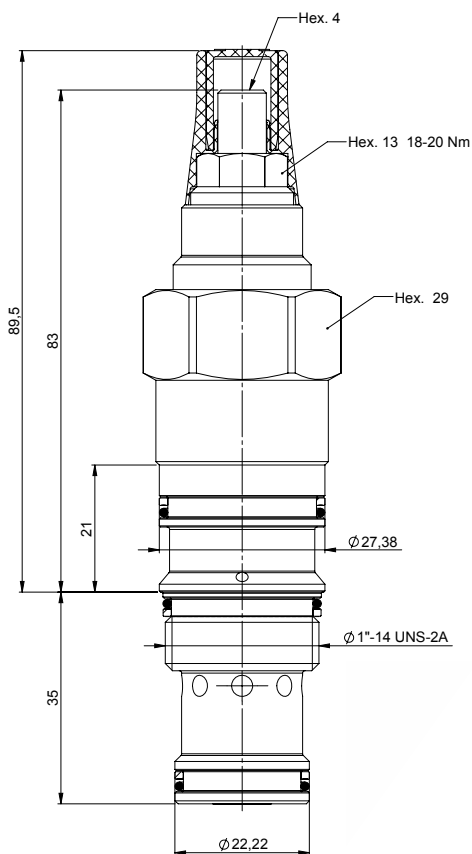
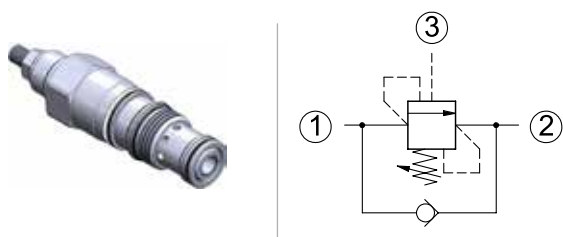
Spring
M = 70-210 bar
D = 140-240 bar
S = 300-350 bar

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Load holding valves

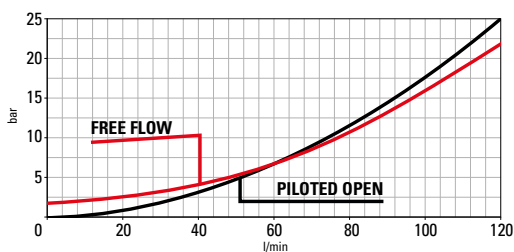
Normale T2A GT 4:1 adjustable setting



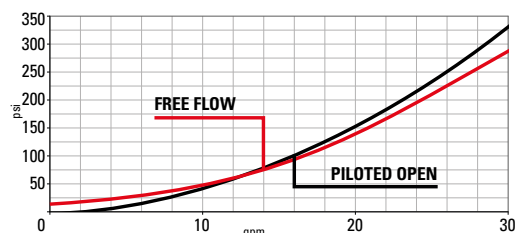
Technical Details

cavity	T2A
capacity	150 lpm (38 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 2 | 0

Setting (bar)

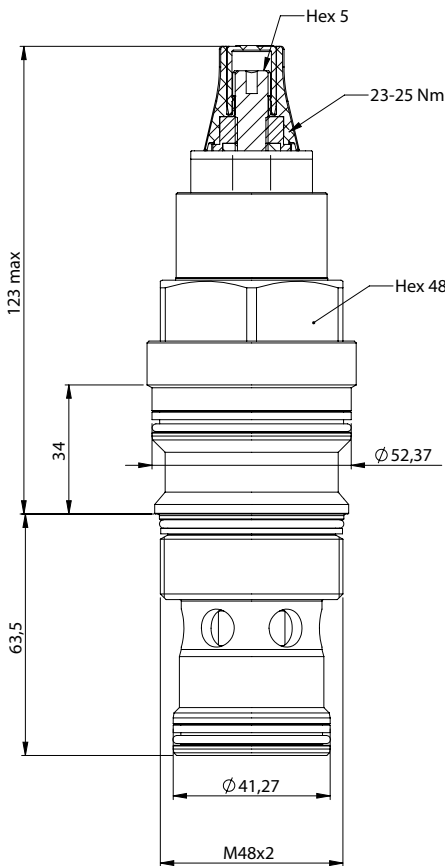
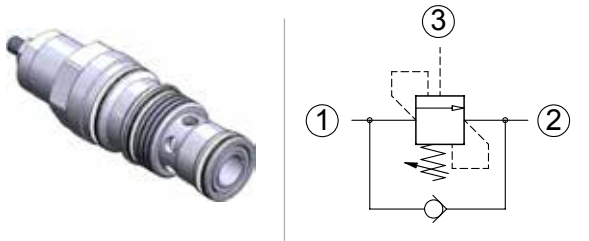
0 | 4 | 0 | 2 | 0 | 0 | A

Spring
M = 70-210 bar
D = 140-290 bar
S = 300-350 bar

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Load holding valves

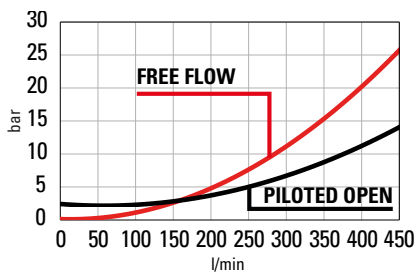
Normale T19A 8:1 adjustable setting



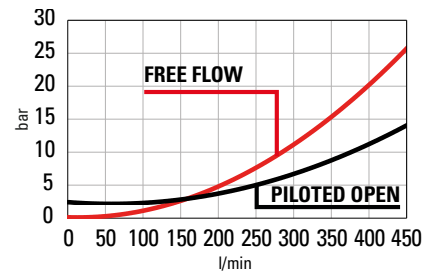
Technical Details

cavity	T19A
capacity	480 lpm (120 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	450 bar (6500 psi)
minimum setting	140
pressure increase per turn	112 bar (spring D)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	350 bar (5000 psi)
valve hex size (mm)	48
valve installation torque	475-510 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	1.6 kg
external component surface treatment	zinc plating
seal kit (nbr)	S00T19ASN900000
seal kit (viton)	S00T19ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting
- For settings lower than 140 bar please consult factory



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 0 | 0 | | | | | | | | | 0 | 8 | 1 | 9 | 0 | 0 | A

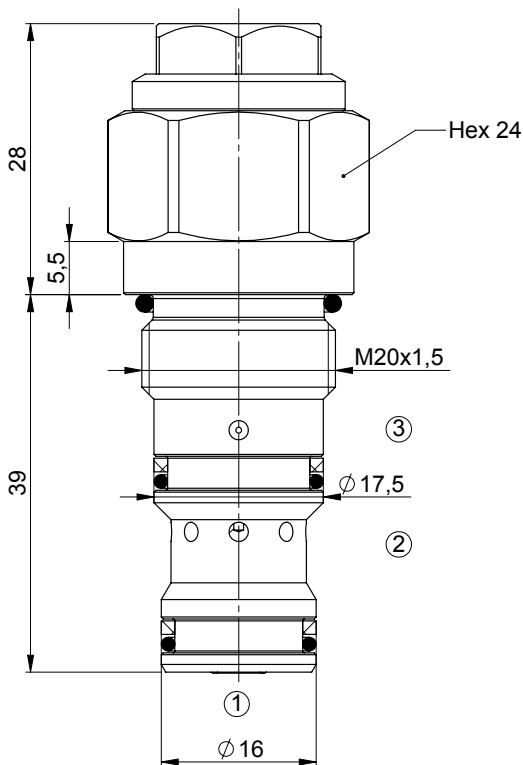
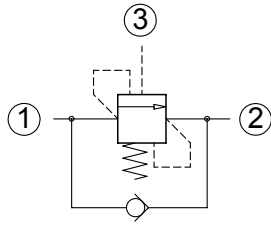
Setting (bar)

Spring
D = 140-450 bar

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Load holding valves

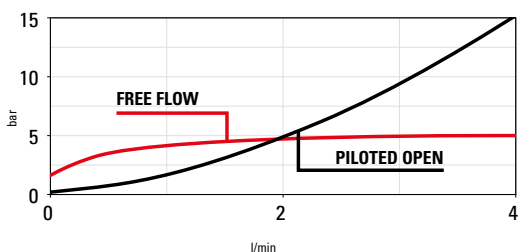
Normale i08 2:1 SP fixed setting **ULTRA FINE CONTROL**



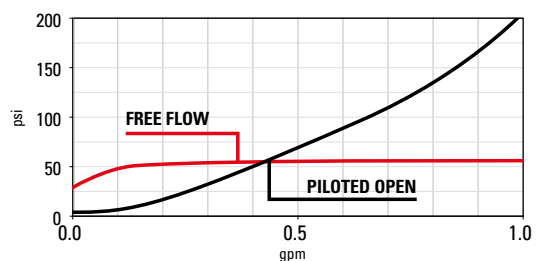
Technical Details

cavity	IH A6610
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | D | 0 | | | | | **0 | 2 | 6 | 6 | 0 | 0 | A**

Setting (bar)

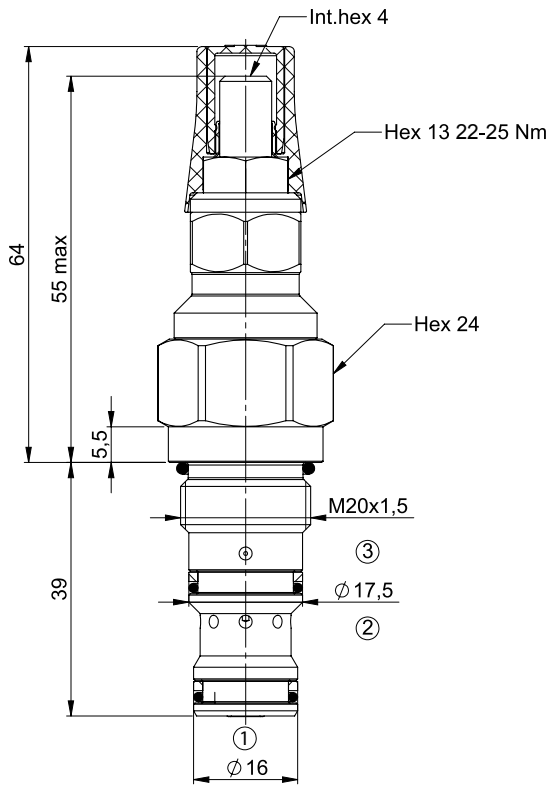
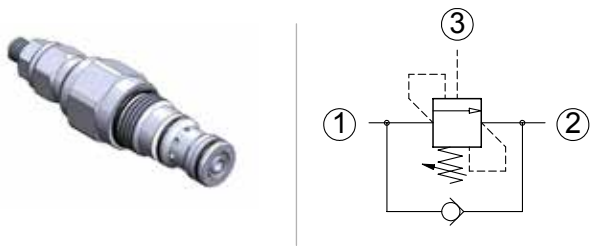
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

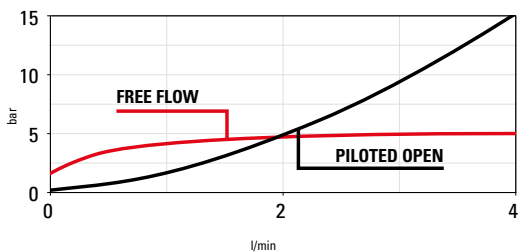
Normale i08 2:1 SP adj. setting **ULTRA FINE CONTROL**



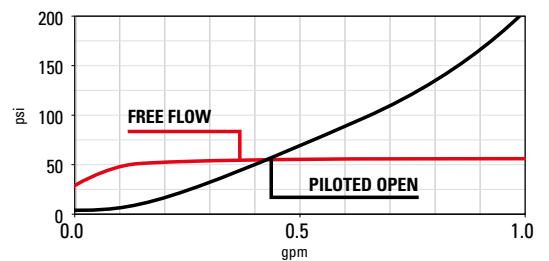
Technical Details

cavity	IH A6610
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

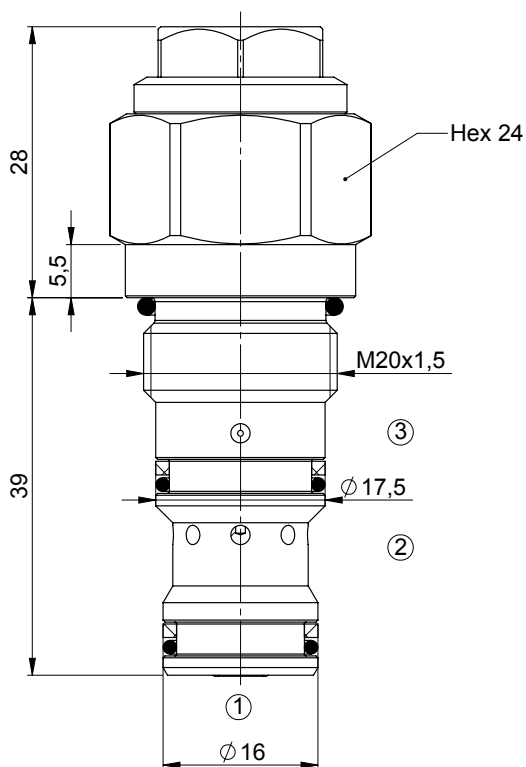
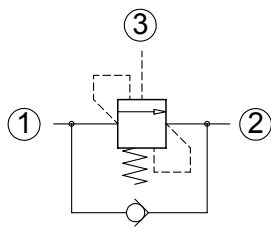
C | D | 0 | 0 | 2 | 6 | 6 | 0 | 0 | A

Setting (bar)
Spring
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

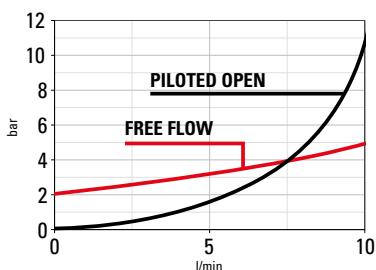
Normale i08 2:1 SP fixed setting **VERY FINE CONTROL**



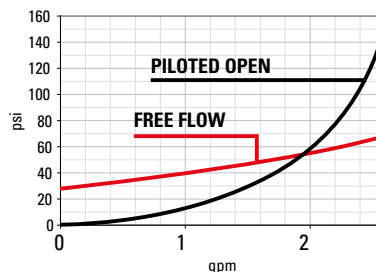
Technical Details

cavity	IH A6610
capacity	10 lpm (2,6 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | J | 0

Setting (bar)

0 | 2 | 6 | 6 | 0 | 0 | A

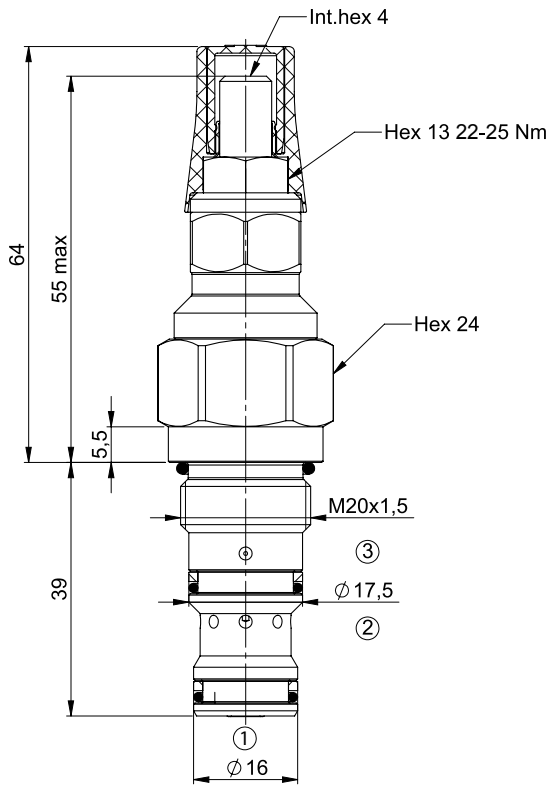
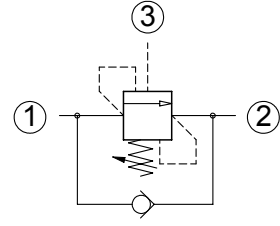
Spring
T = 30-105 bar
M = 100-210 bar
D = 210-350 bar

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Load holding valves

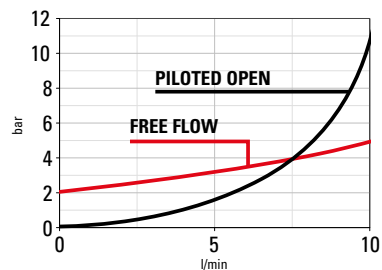
Normale i08 2:1 SP adjustable setting **VERY FINE CONTROL**



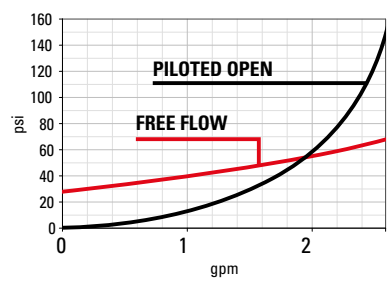
Technical Details

cavity	IH A6610
capacity	10 lpm (2,6 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



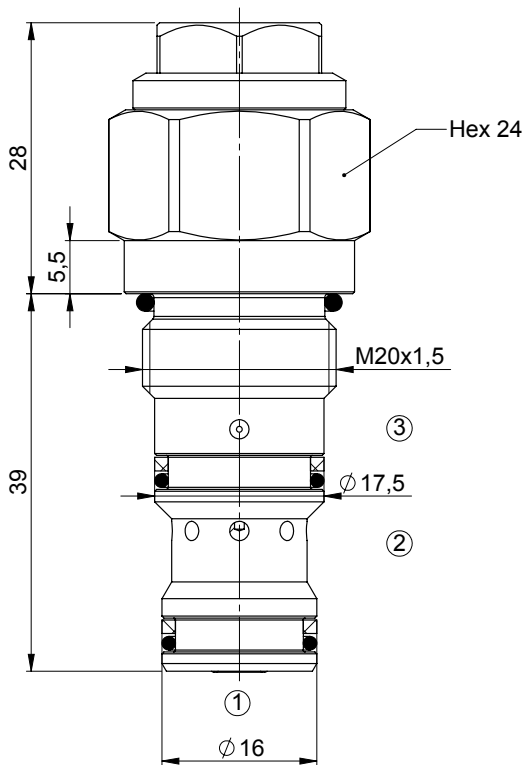
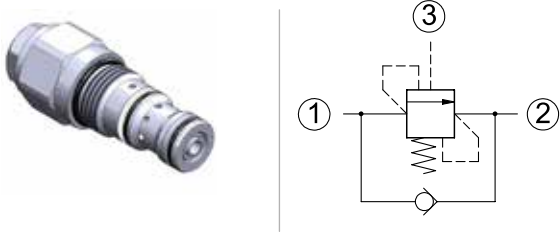
Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | **J** | **0** | | | | **0** | **2** | **6** | **6** | **0** | **0** | **A**

Spring Setting (bar)
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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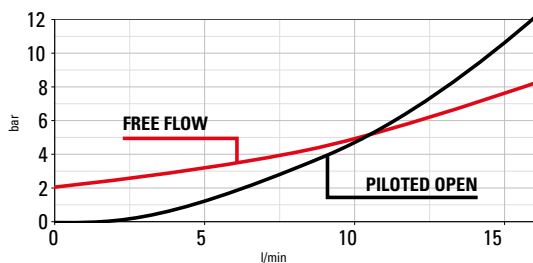
Normale i08 2:1 SP fixed setting FINE CONTROL



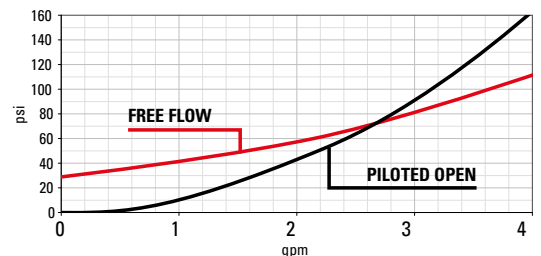
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA
D = VITON

C | W | 0 | | | | | | | 0 | 2 | 6 | 6 | 0 | 0 | A

Setting (bar)

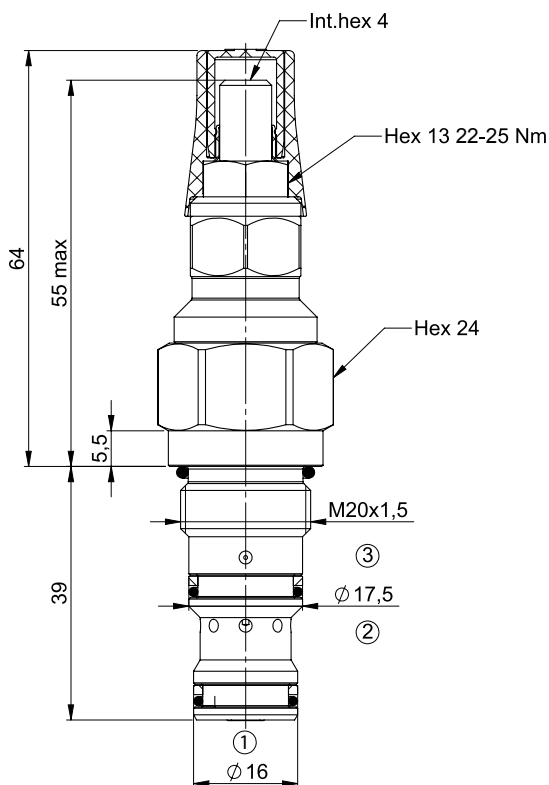
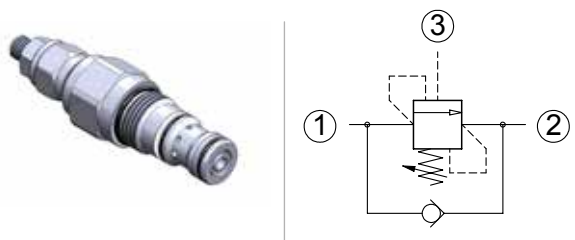
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

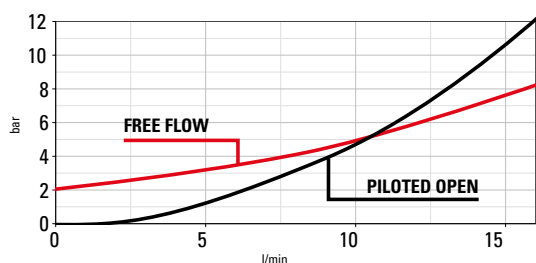
Normale i08 2:1 SP adjustable setting FINE CONTROL



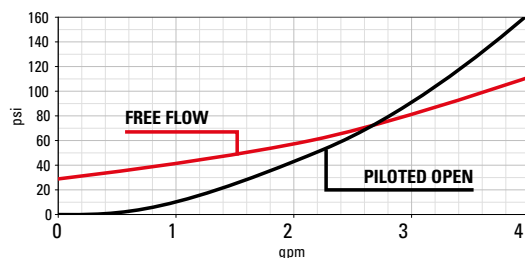
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

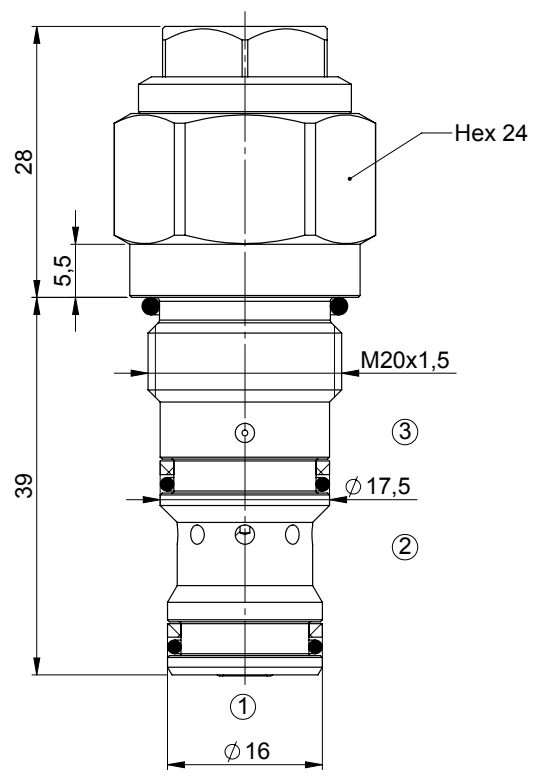
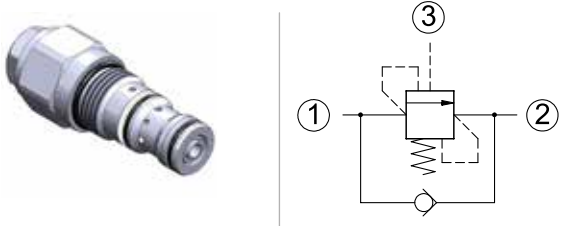
C | W | 0 | | | | | | | | | 0 | 2 | 6 | 6 | 0 | 0 | A

Spring
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

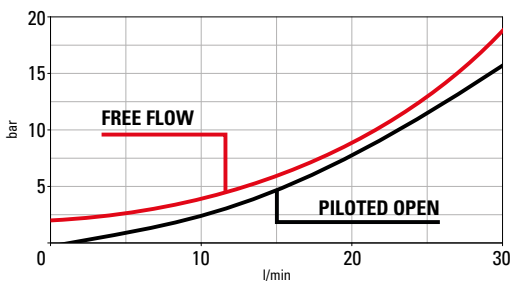
Normale i08 2:1 SP fixed setting



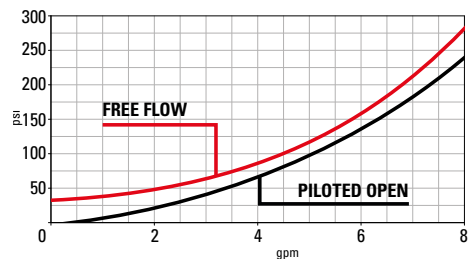
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 0 | | | | | | | | 0 | 2 | 6 | 6 | 0 | 0 | A

Setting (bar)

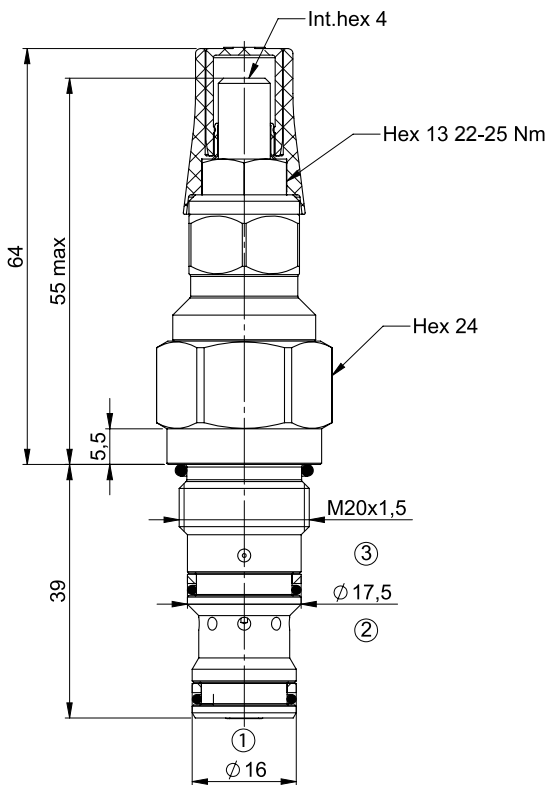
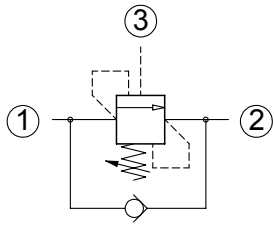
Spring
T = 30-105 bar
M = 100-210 bar
D = 210-350 bar

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Load holding valves

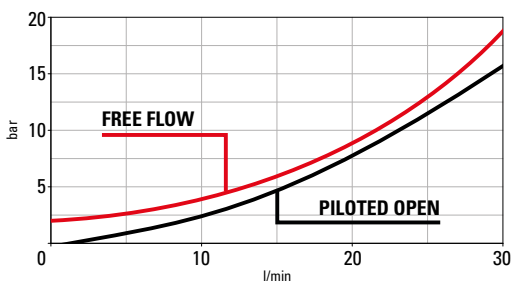
Normale i08 2:1 SP adjustable setting



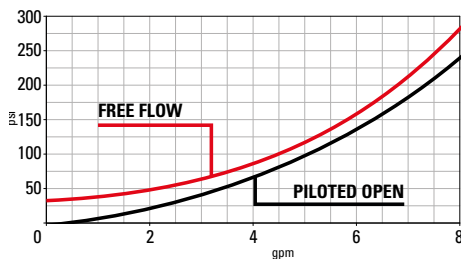
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | 0 | 0

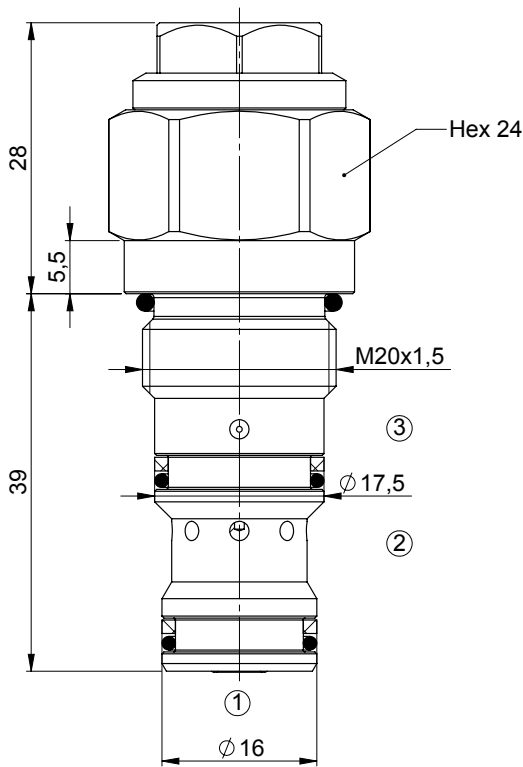
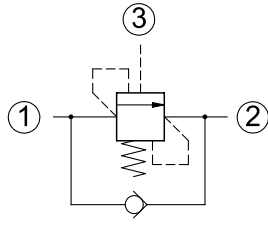
0 | 2 | 6 | 6 | 0 | 0 | A

Spring Setting (bar)
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

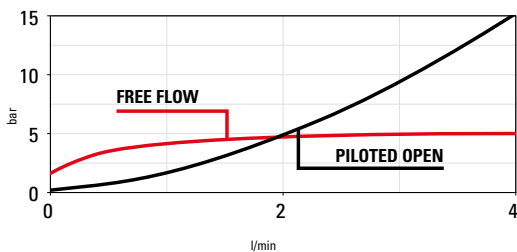
Normale i08 3:1 fixed setting **ULTRA FINE CONTROL**



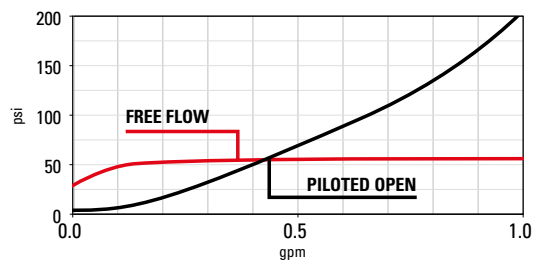
Technical Details

cavity	IH A6610
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA
3 = VITON

C | D | 0 | | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Setting (bar)

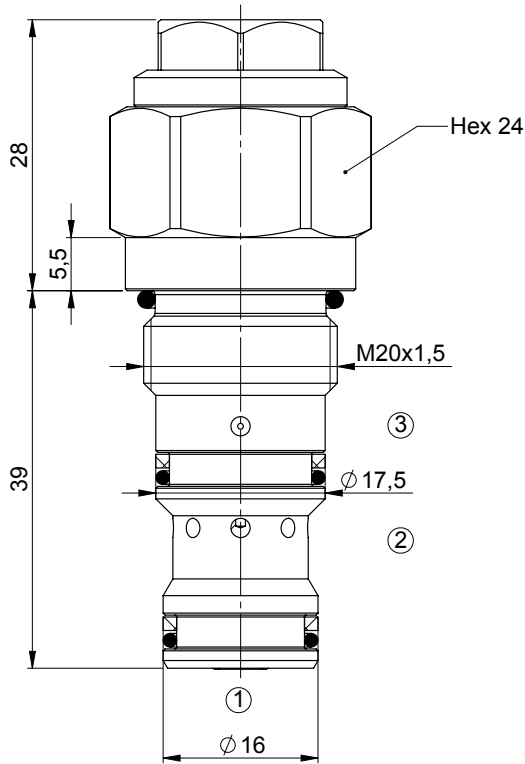
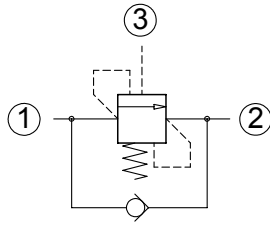
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

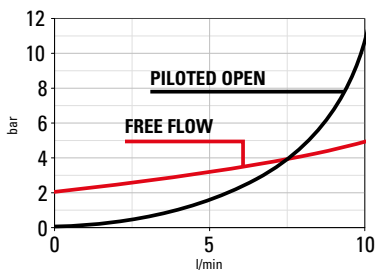
Normale i08 3:1 fixed setting **VERY FINE CONTROL**



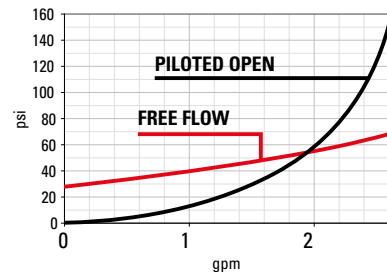
Technical Details

cavity	IH A6610
capacity	10 lpm (2,6 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
 1 = BUNA + sealed piston
 3 = VITON + sealed piston

C | J | 0 | | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Setting (bar)

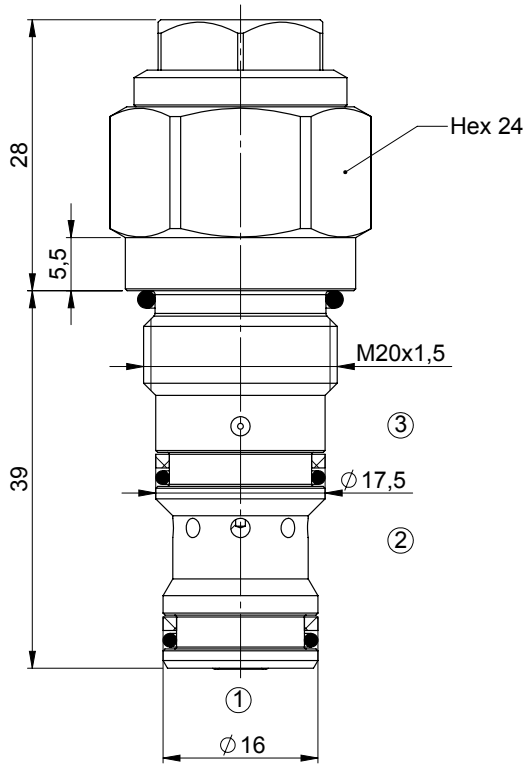
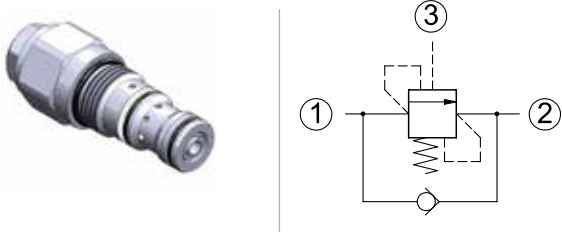
Spring
 T = 30-105 bar
 M = 105-210 bar
 D = 210-350 bar

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Load holding valves

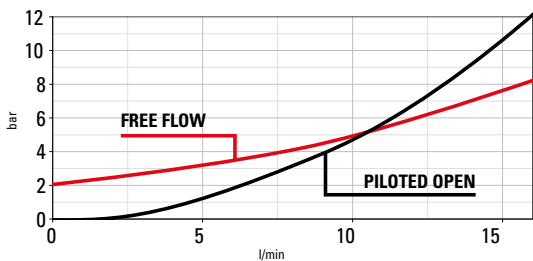
Normale i08 3:1 fixed setting **FINE CONTROL**



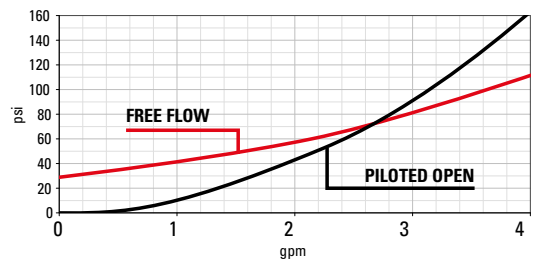
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA
3 = VITON

C | W | 0 | | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Setting (bar)

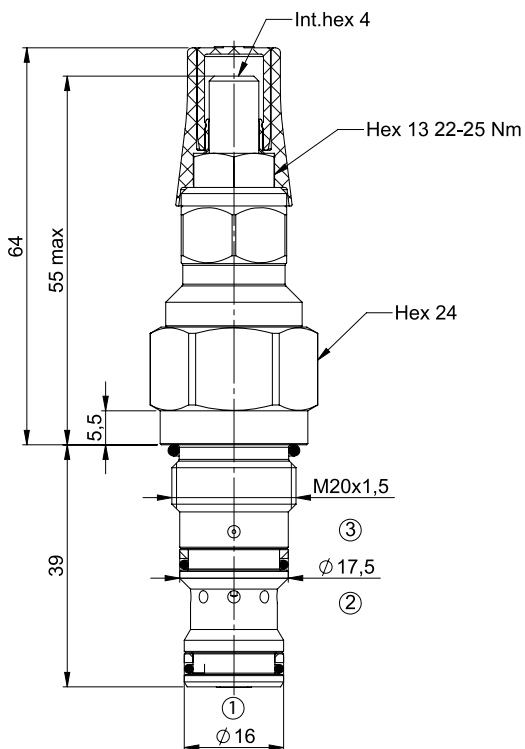
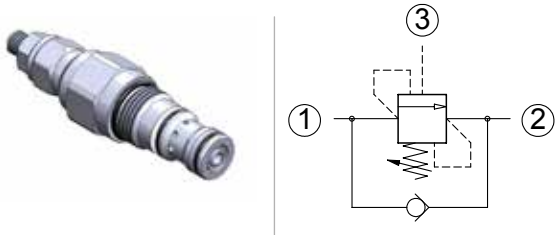
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

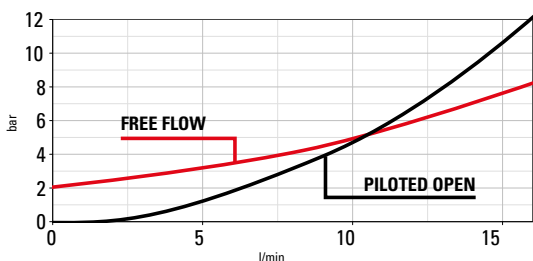
Normale i08 3:1 adj. setting FINE CONTROL



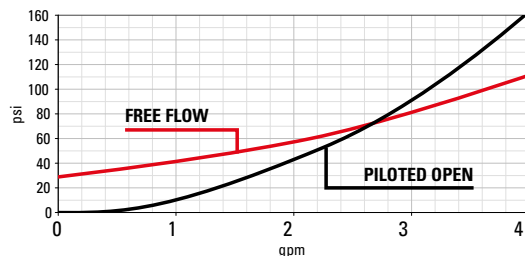
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



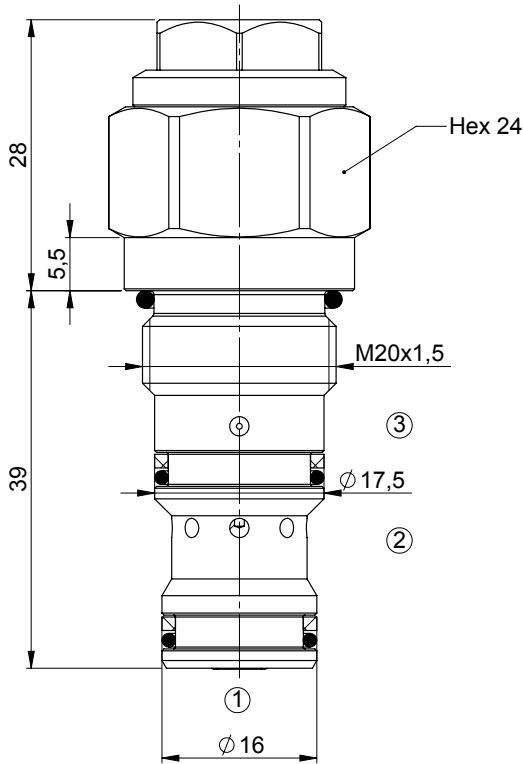
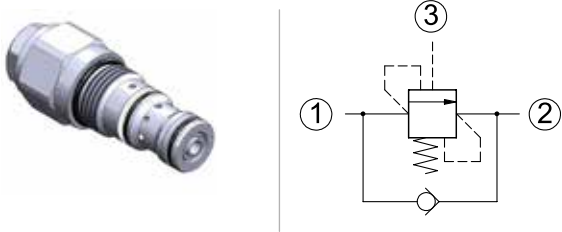
Seals
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

Setting (bar)
 Spring
 L = 30-105 bar
 T = 70-150 bar
 M = 100-210 bar
 D = 200-350 bar

C | W | 0 | | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

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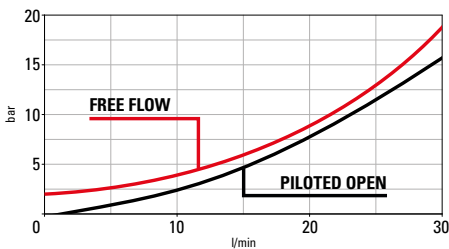
Normale i08 3:1 fixed setting



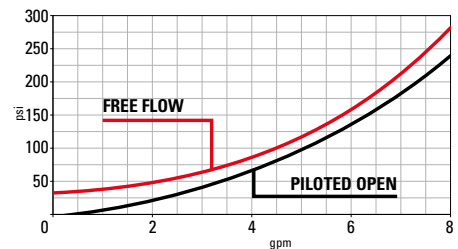
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA
3 = VITON

C | 0 | 0 | | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Setting (bar)

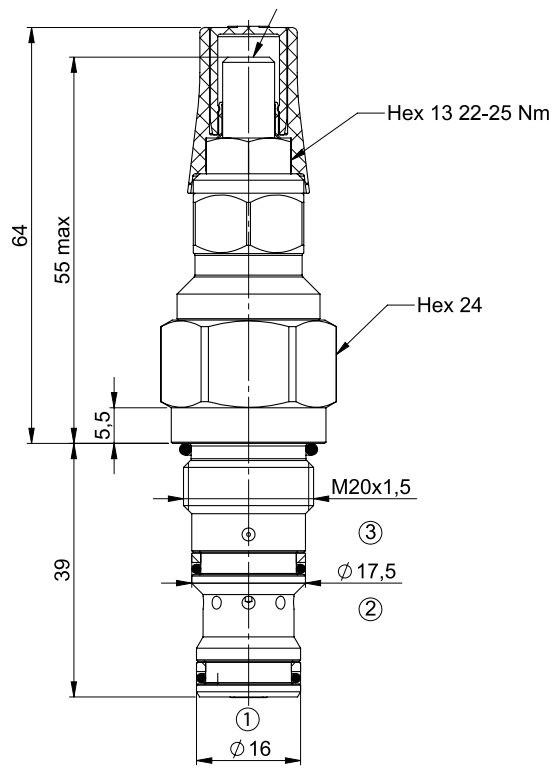
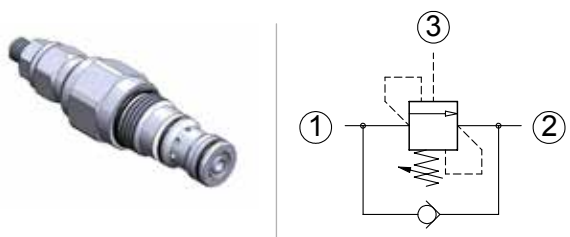
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

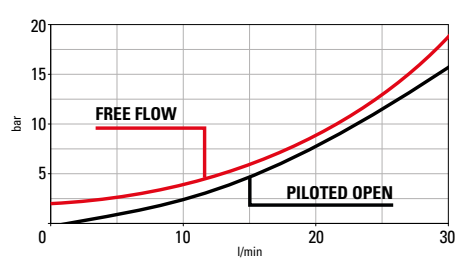
Normale i08 3:1 adjustable setting



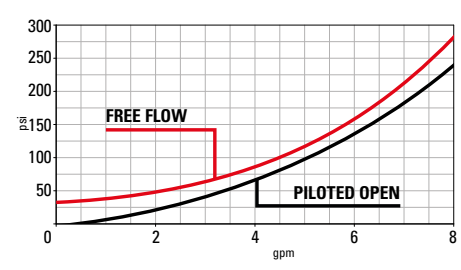
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

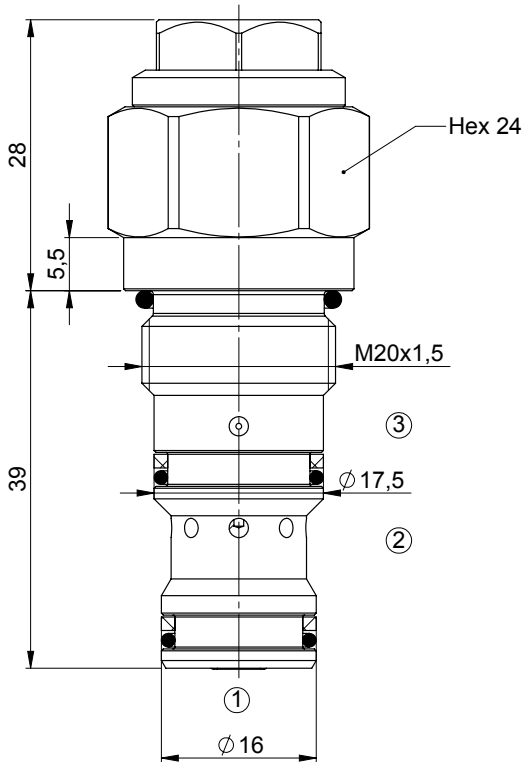
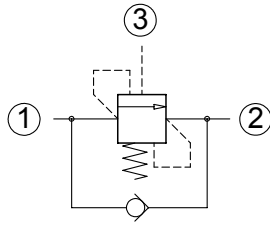
C | 0 | 0 | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Spring Setting (bar)
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

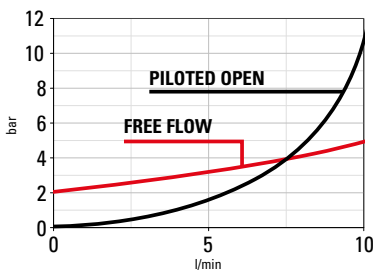
Normale i08 3:1 SP fixed setting **VERY FINE CONTROL**



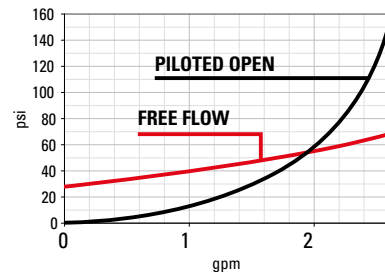
Technical Details

cavity	IH A6610
capacity	10 lpm (2,6 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | J | 0 | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

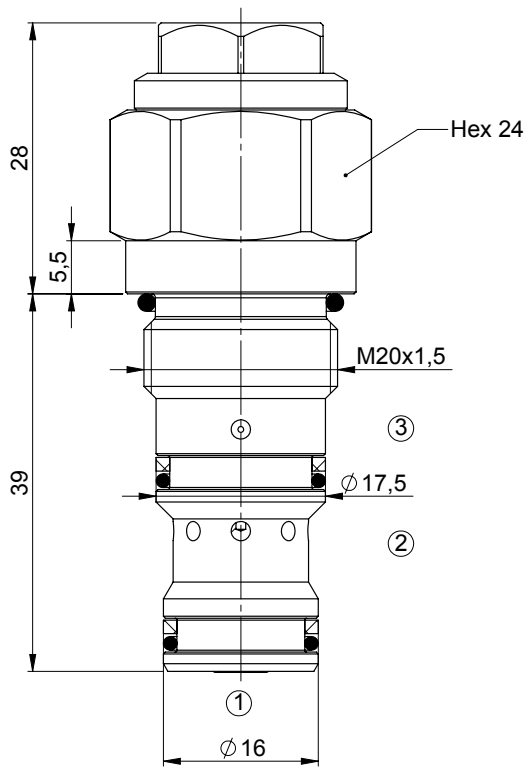
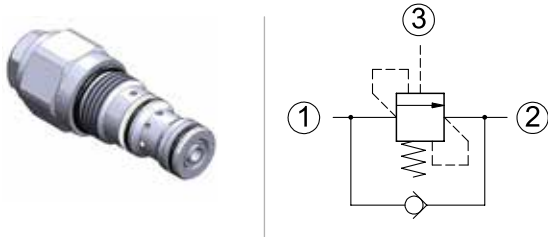
Setting (bar)

Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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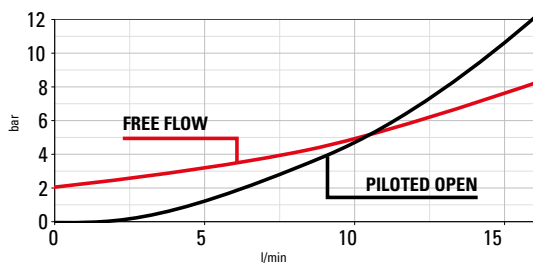
Normale i08 3:1 SP fixed setting FINE CONTROL



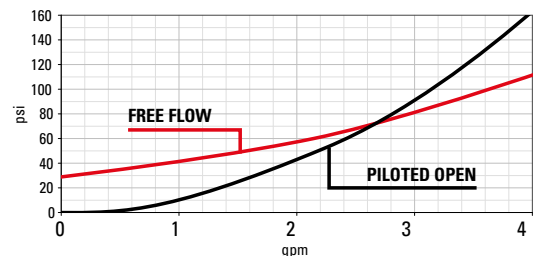
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | W | 0 | | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Setting (bar)

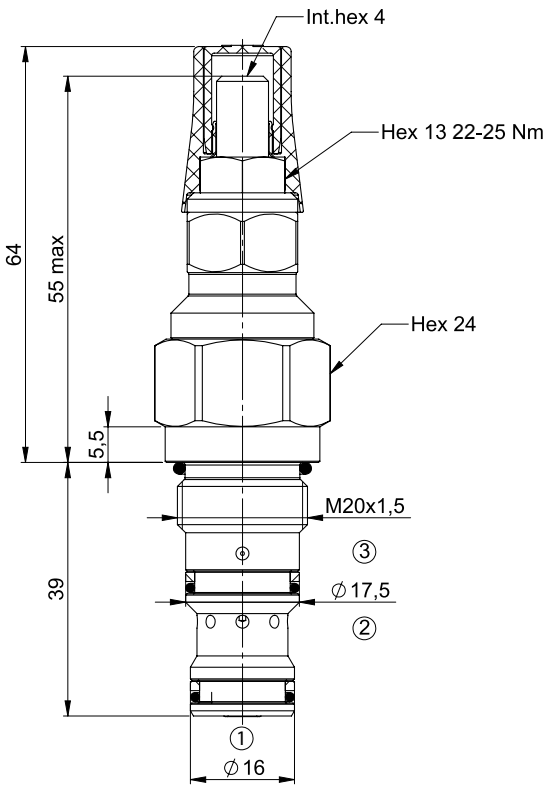
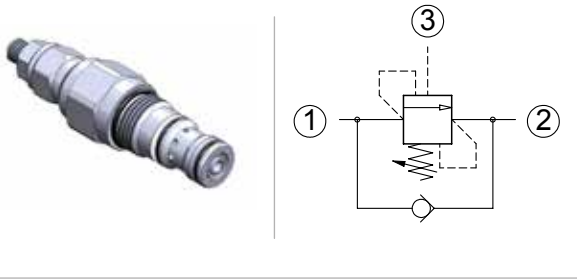
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

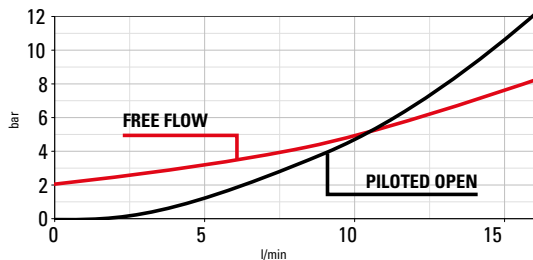
Normale i08 3:1 SP adjustable setting FINE CONTROL



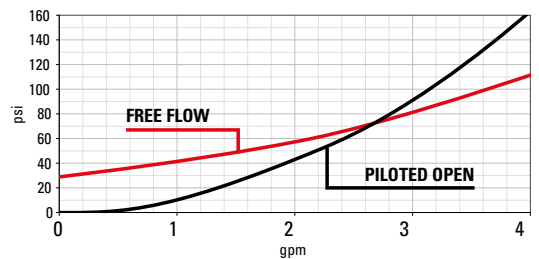
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



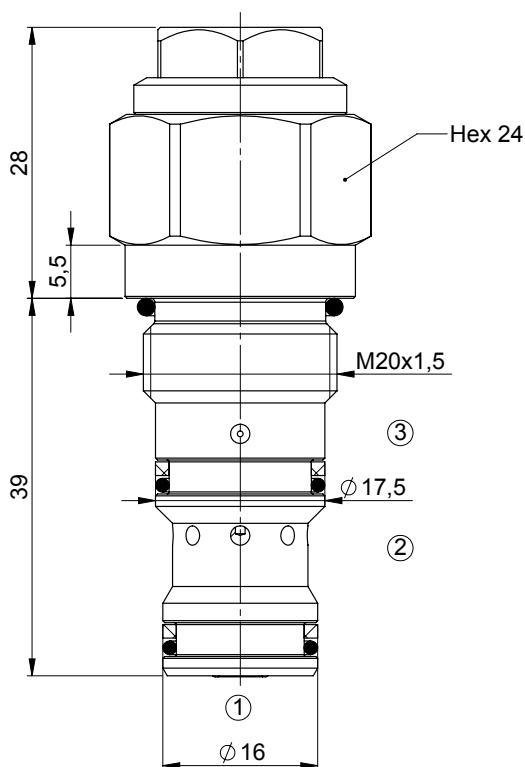
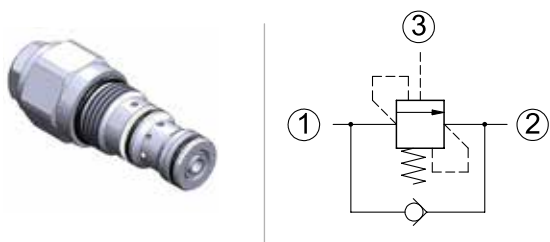
Seals
 A = BUNA + sealed piston
 C = VITON + sealed piston
 G = BUNA + piombatura + sealed piston
 H = VITON + piombatura + sealed piston

C | W | 0 | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Setting (bar)
 Spring
 L = 30-105 bar
 T = 70-150 bar
 M = 100-210 bar
 D = 200-350 bar

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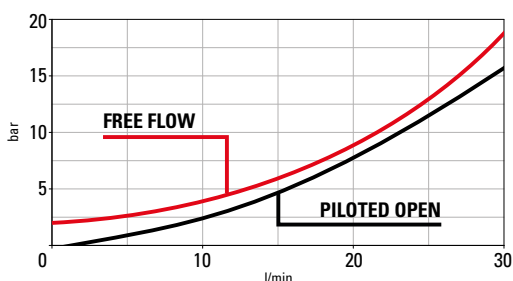
Normale i08 3:1 SP fixed setting



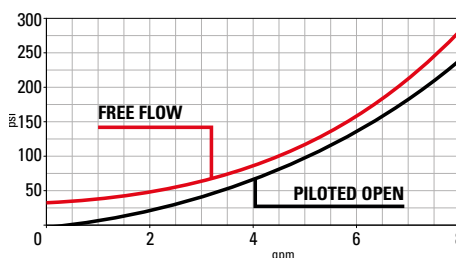
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 0 | | | | | | | | 0 | 3 | 6 | 6 | 0 | 0 | A

Setting (bar)

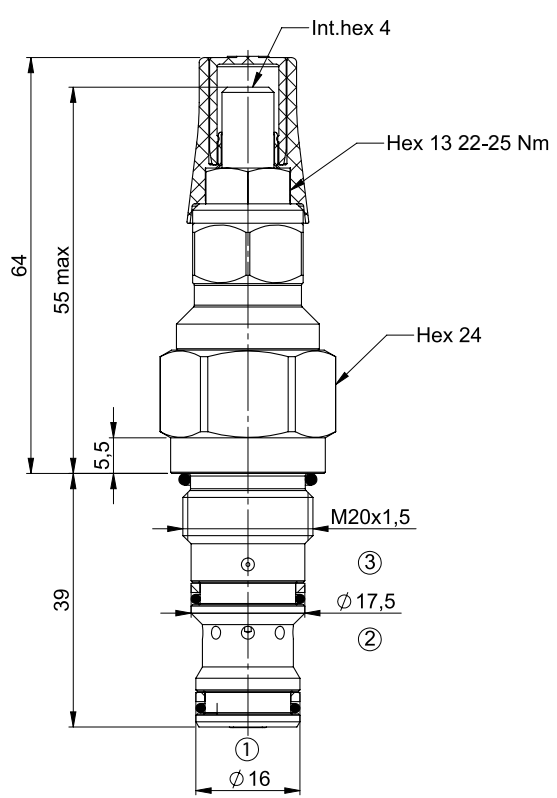
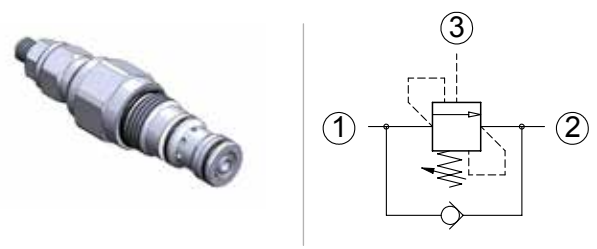
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

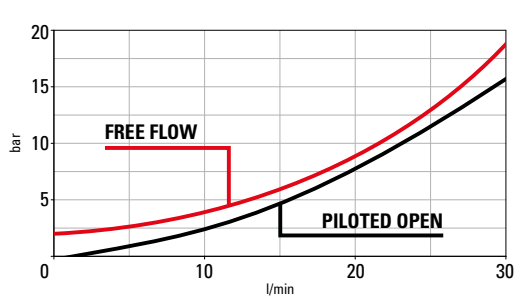
Normale i08 3:1 SP adjustable setting



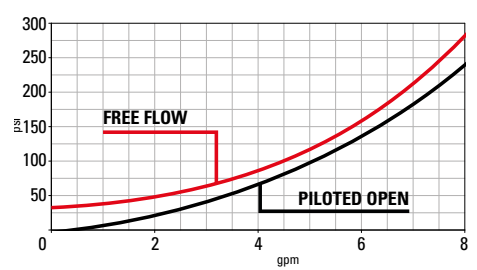
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | **0** | **0**

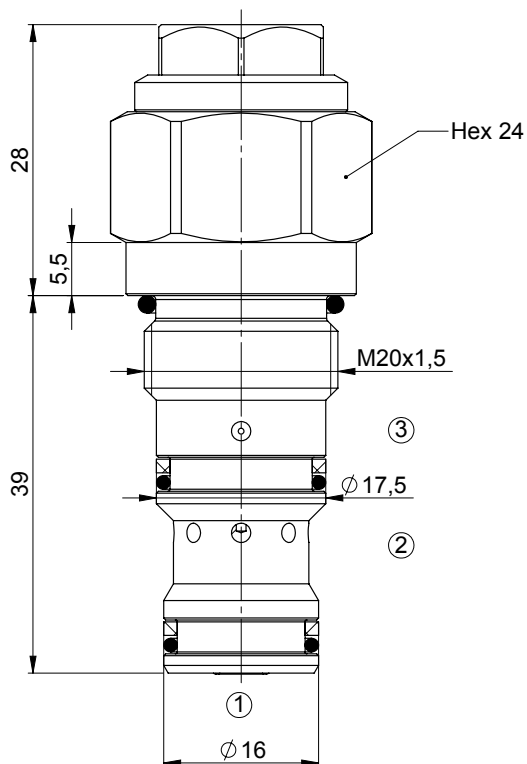
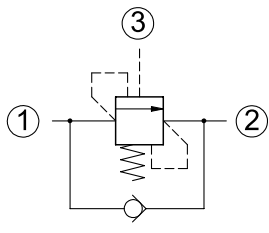
| **0** | **3** | **6** | **6** | **0** | **0** | **A**

Setting (bar)
Spring
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

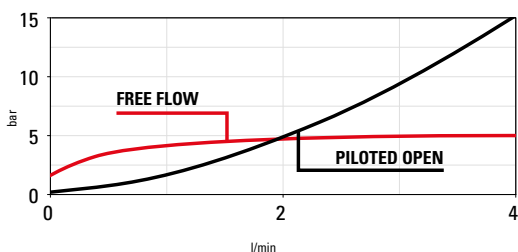
Normale i08 4:1 fixed setting **ULTRA FINE CONTROL**



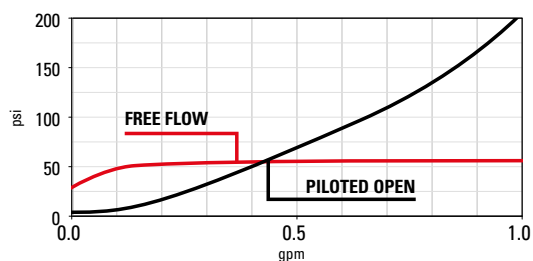
Technical Details

cavity	IH A6610
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA
3 = VITON

C | D | 0 | | | | | | 0 | 4 | 6 | 6 | 0 | 0 | A

Setting (bar)

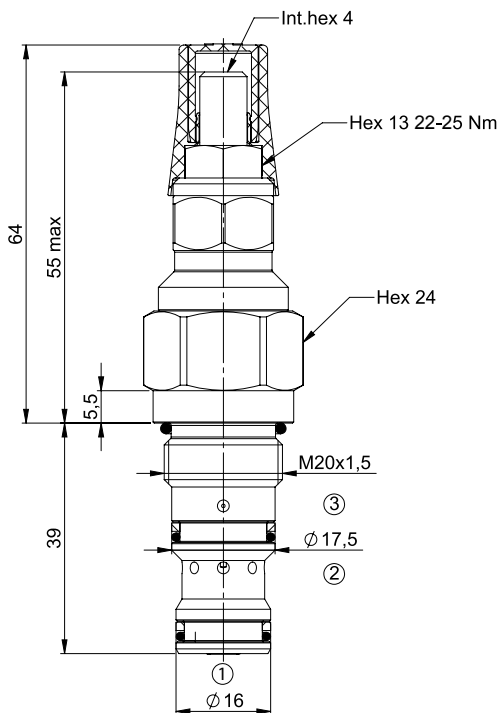
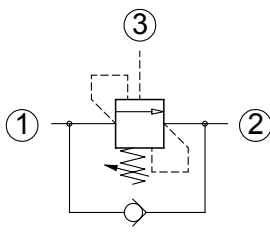
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

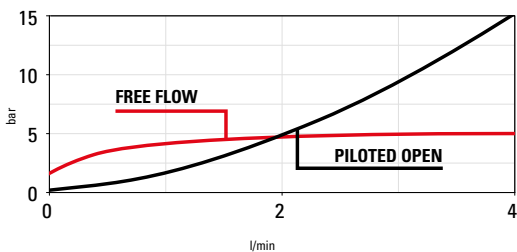
Normale i08 4:1 adj. setting **ULTRA FINE CONTROL**



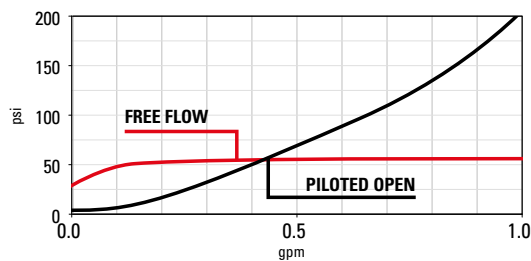
Technical Details

cavity	IH A6610
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

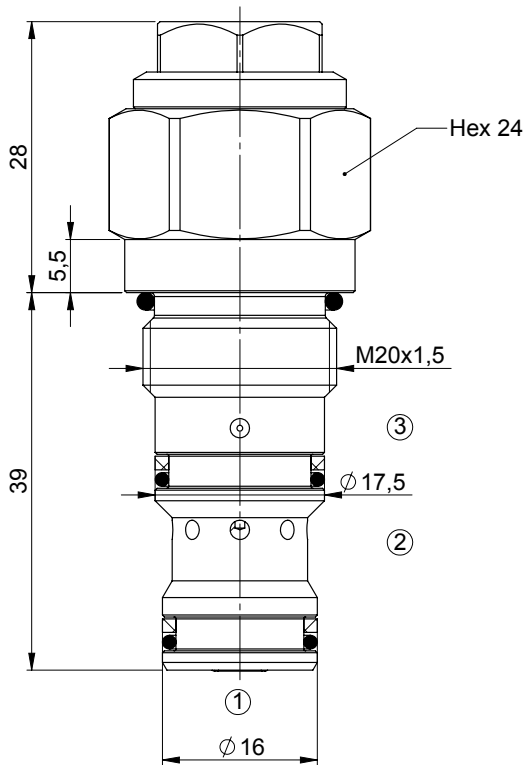
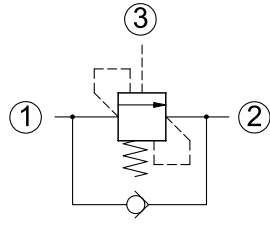
C | D | 0 | | | | | | | 0 | 4 | 6 | 6 | 0 | 0 | A

Spring Setting (bar)
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

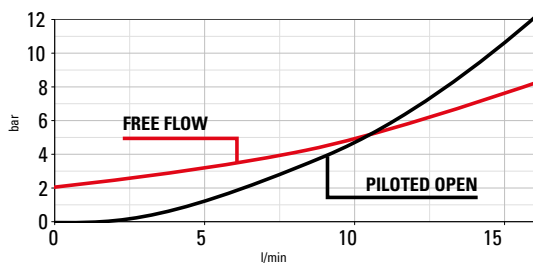
Normale i08 4:1 fixed setting FINE CONTROL



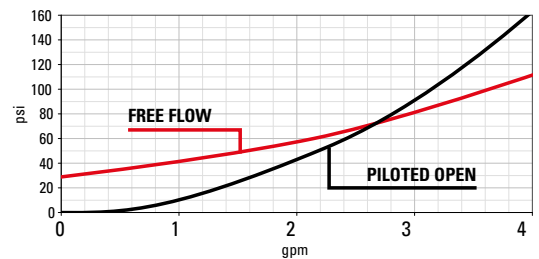
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA
3 = VITON

C | W | 0 | | | | | | | | 0 | 4 | 6 | 6 | 0 | 0 | A

Setting (bar)

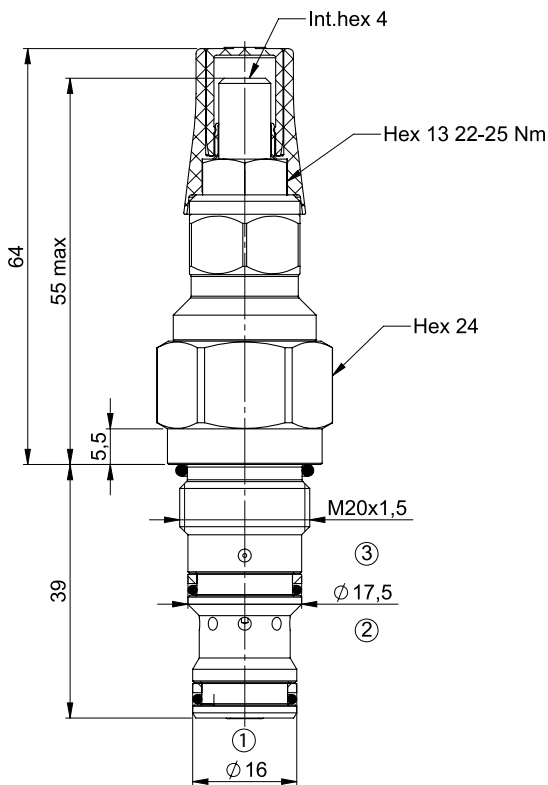
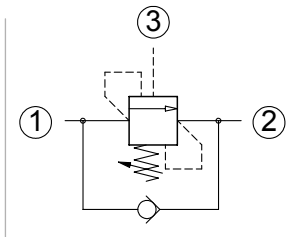
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

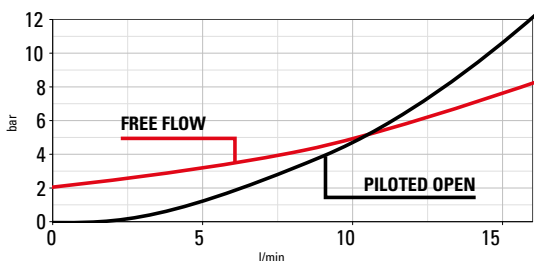
Normale i08 4:1 adj. setting FINE CONTROL



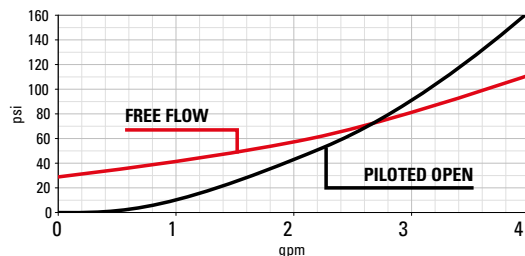
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

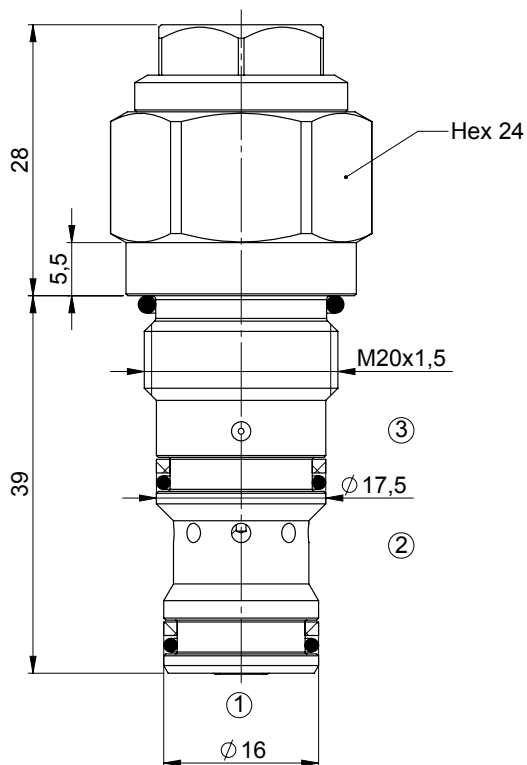
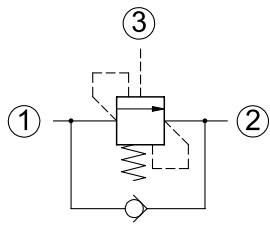
C | W | 0

Setting (bar)
 Spring
 L = 30-105 bar
 T = 70-150 bar
 M = 100-210 bar
 D = 200-350 bar

0 | 4 | 6 | 6 | 0 | 0 | A

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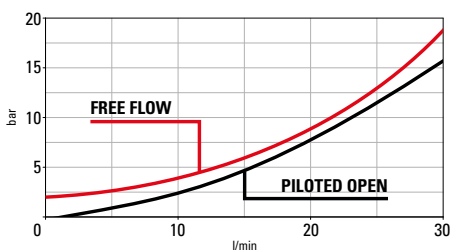
Normale i08 4:1 fixed setting



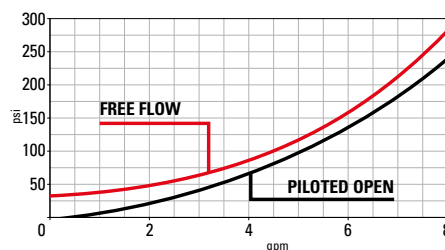
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA
3 = VITON

C | 0 | 0 | | | | | | | 0 | 4 | 6 | 6 | 0 | 0 | A

Setting (bar)

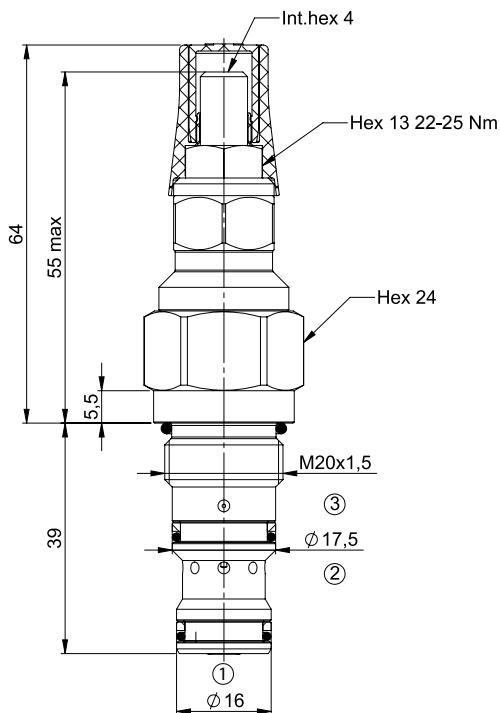
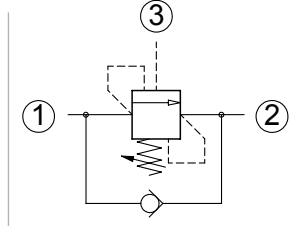
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

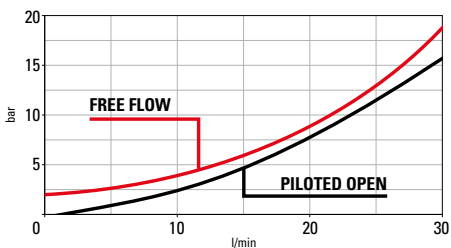
Normale i08 4:1 adjustable setting



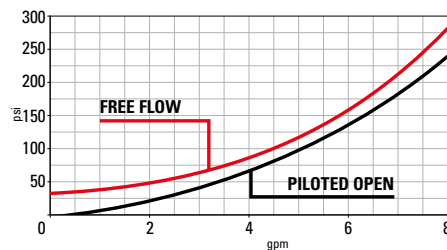
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 0 | 0

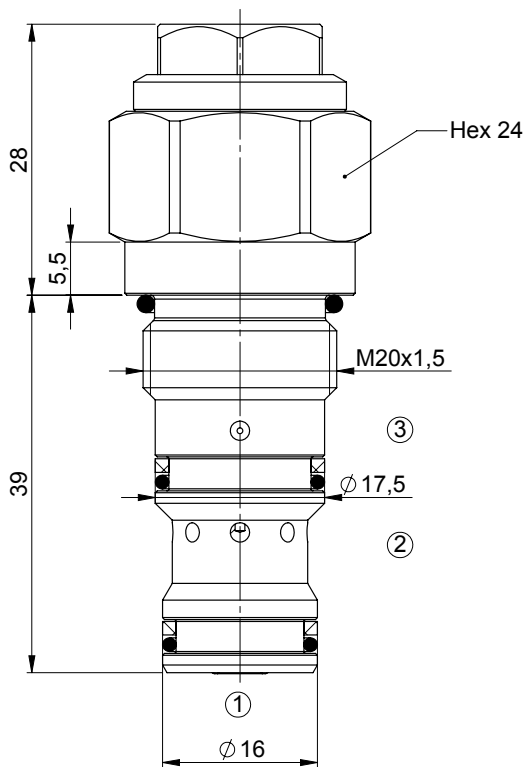
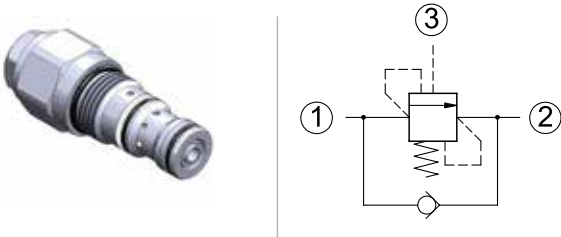
Spring Setting (bar)
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

| 0 | 4 | 6 | 6 | 0 | 0 | A

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Load holding valves

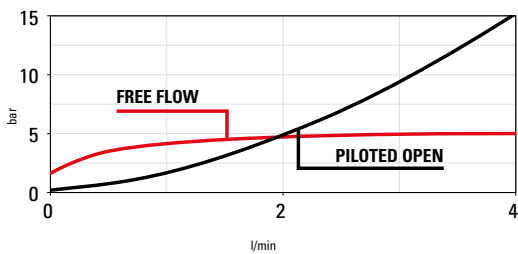
Normale i08 4:1 SP fixed setting **ULTRA FINE CONTROL**



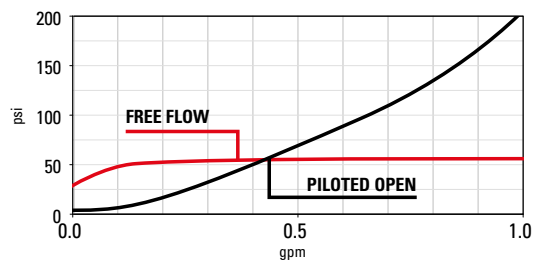
Technical Details

cavity	IH A6610
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | **D** | **0** | | | | | | **0** | **4** | **6** | **6** | **0** | **0** | **A**

Setting (bar)

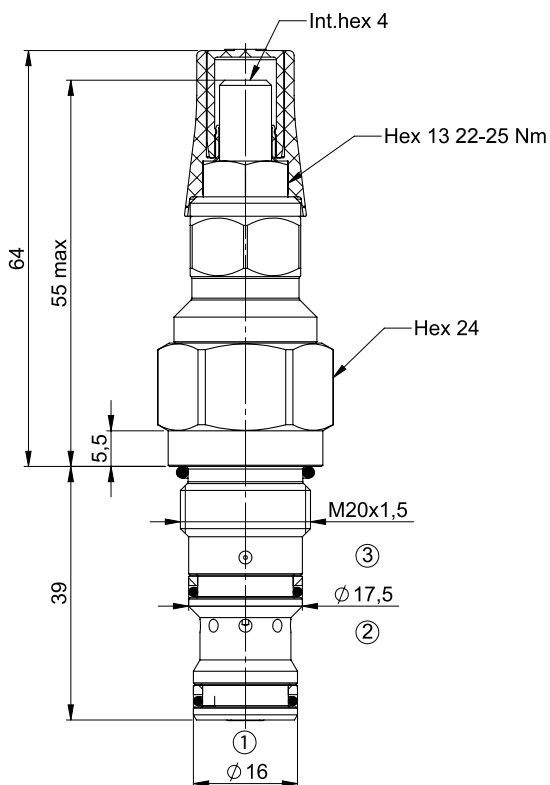
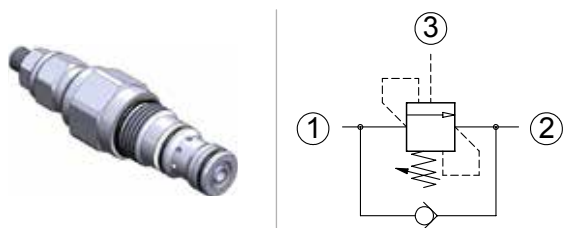
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

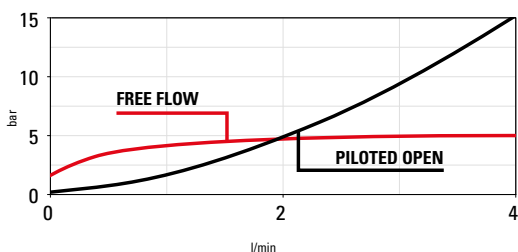
Normale i08 4:1 SP adj. setting **ULTRA FINE CONTROL**



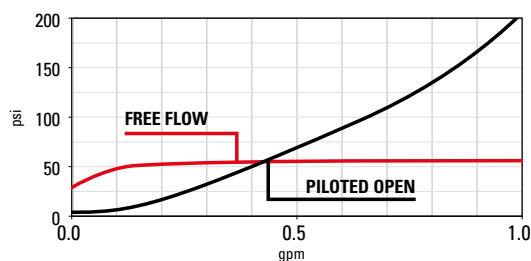
Technical Details

cavity	IH A6610
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

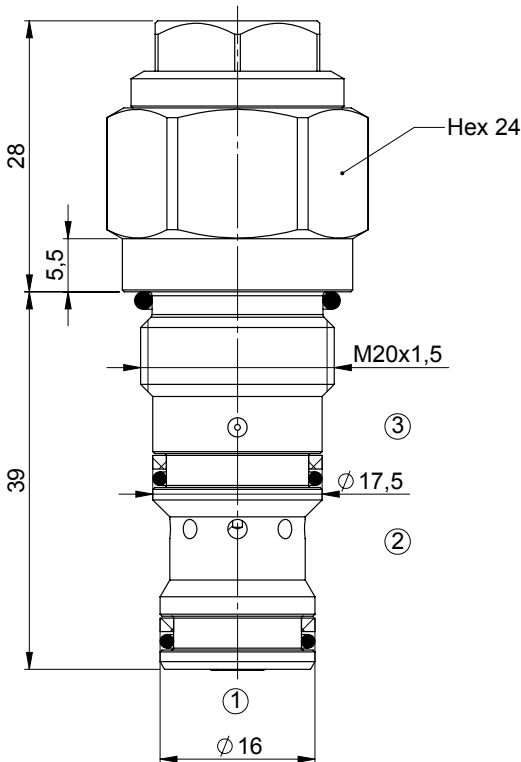
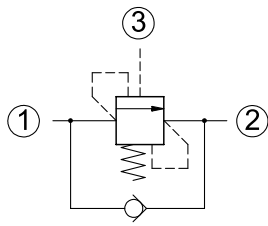
C | **D** | **0** | | | | | | | | | **0** | **4** | **6** | **6** | **0** | **0** | **A**

Spring Setting (bar)
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

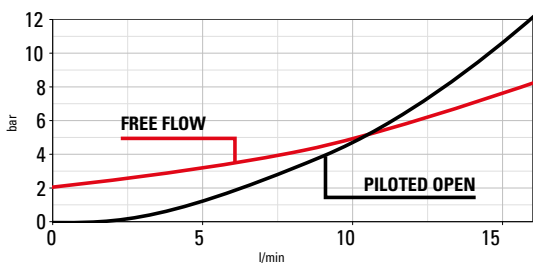
Normale i08 4:1 SP fixed setting FINE CONTROL



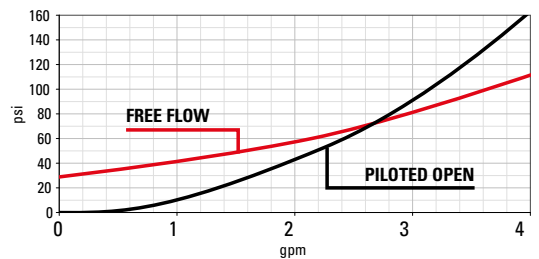
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | W | 0 | | | | | | | | 0 | 4 | 6 | 6 | 0 | 0 | A

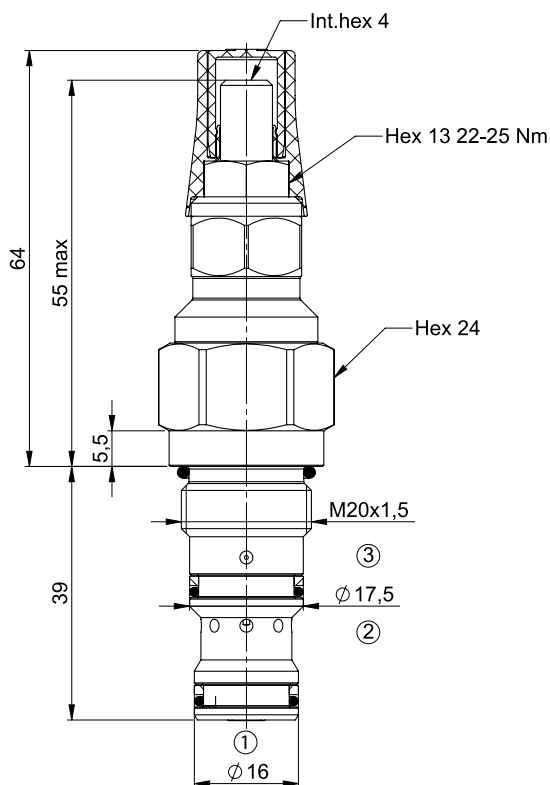
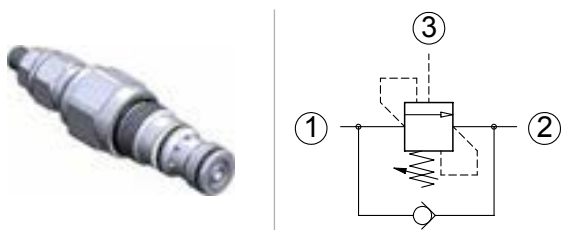
Setting (bar)

Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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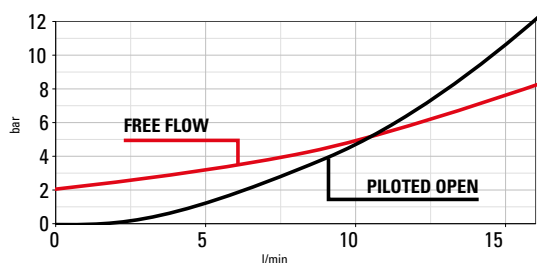
Load holding valves

 Normale i08 4:1 SP adjustable setting **FINE CONTROL**


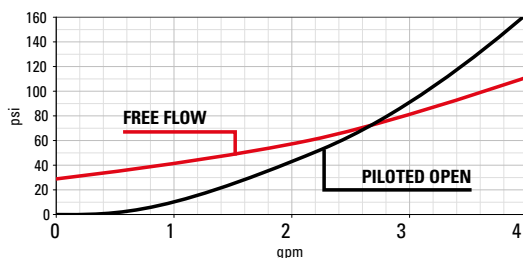
Technical Details

cavity	IH A6610
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | **W** | **0**
Setting (bar)
Spring
L = 30-105 bar

T = 70-150 bar

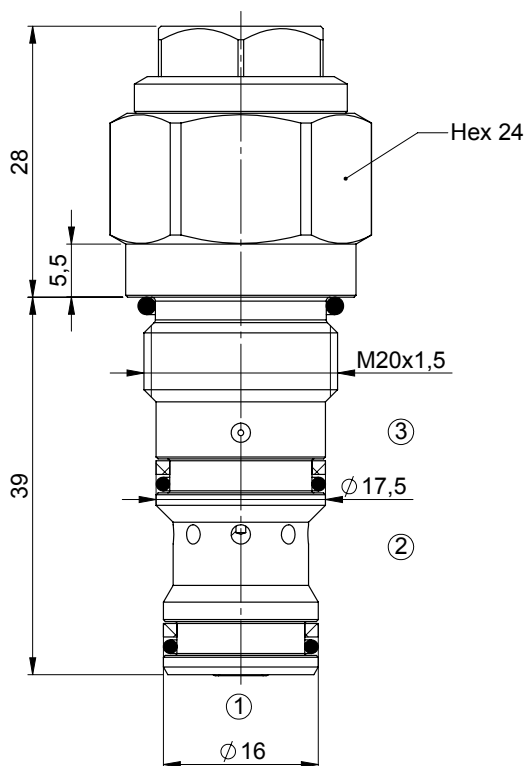
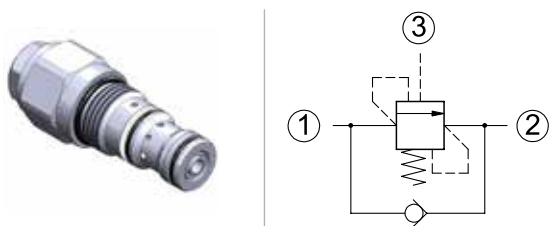
M = 100-210 bar

D = 200-350 bar

0 | **4** | **6** | **6** | **0** | **0** | **A**

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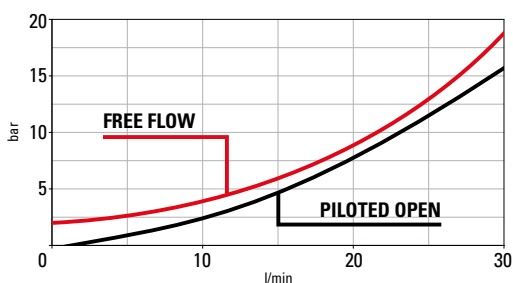
Normale i08 4:1 SP fixed setting



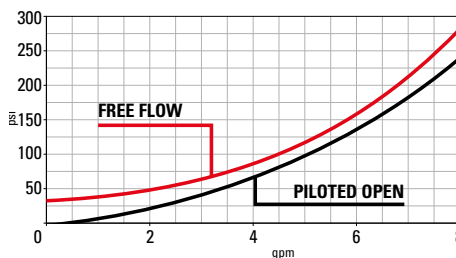
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 0 | | | | | | | | 0 | 4 | 6 | 6 | 0 | 0 | A

Setting (bar)

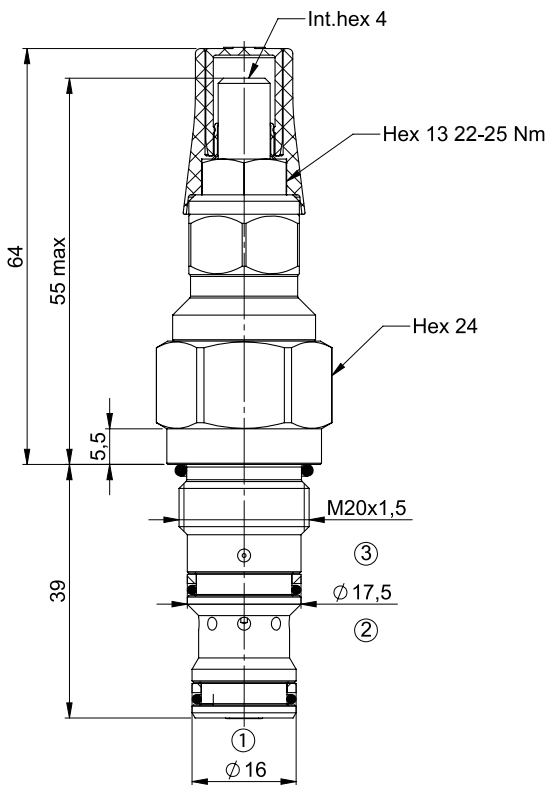
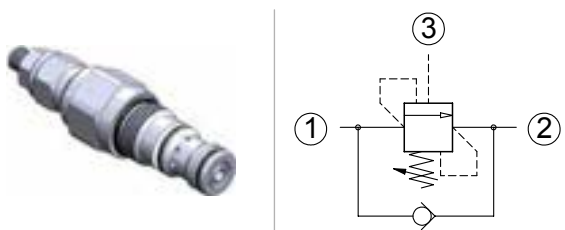
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

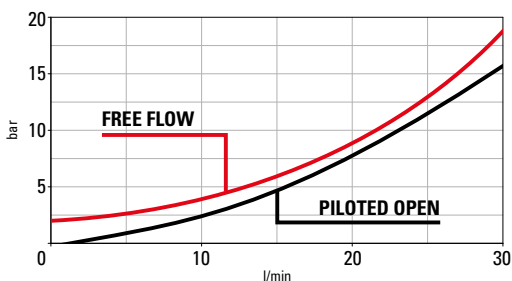
Normale i08 4:1 SP adjustable setting



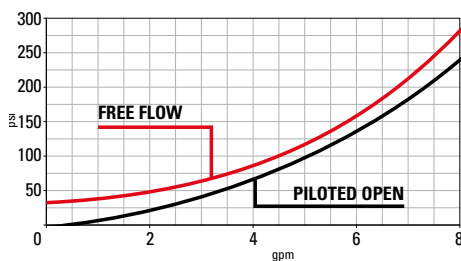
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | 0 | 0

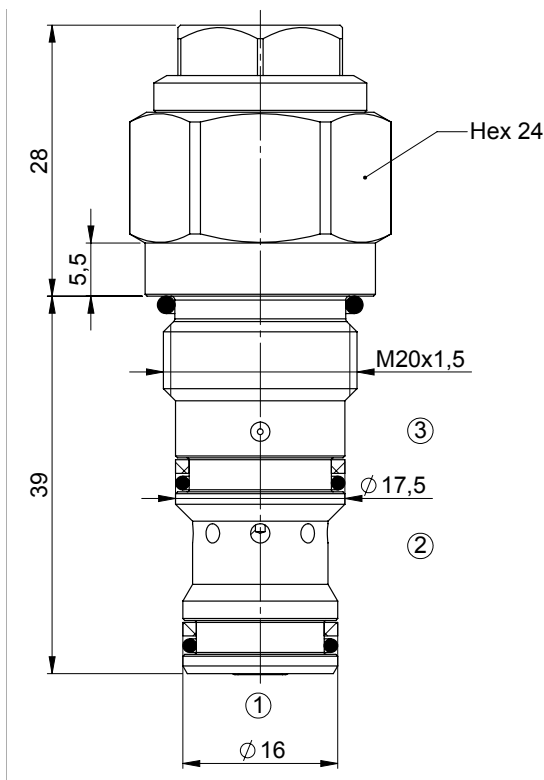
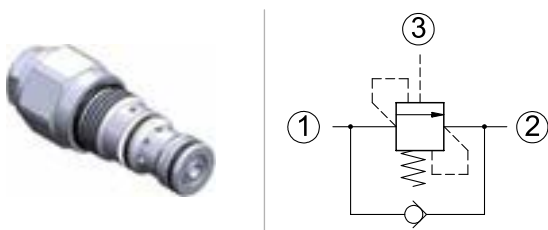
| 0 | 4 | 6 | 6 | 0 | 0 | A

Spring Setting (bar)

L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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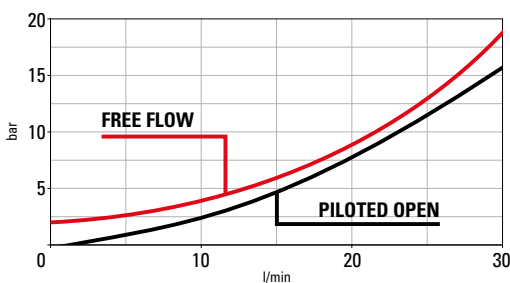
Normale i08 5:1 SP fixed setting



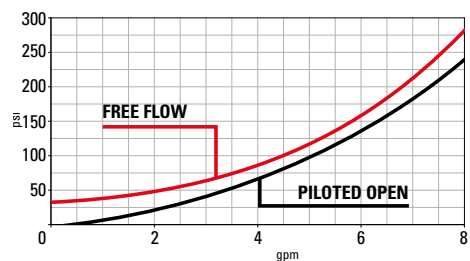
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting
- For settings lower than 100 bar please consult factory



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 0 | | | | | | | | 0 | 5 | 6 | 6 | 0 | 0 | A

Setting (bar)

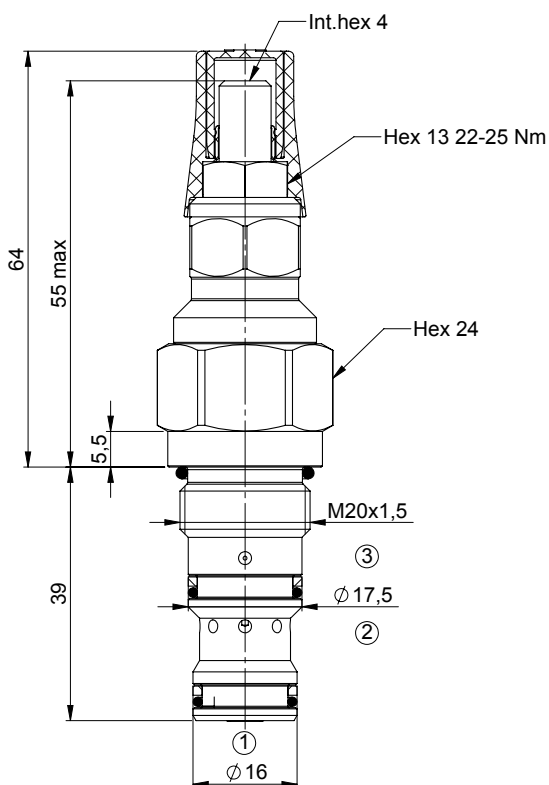
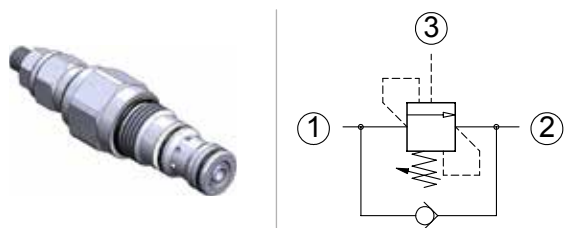
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

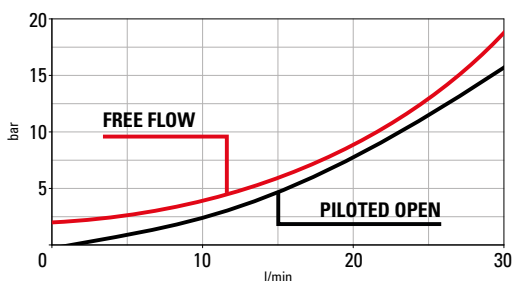
Normale i08 5:1 SP adjustable setting



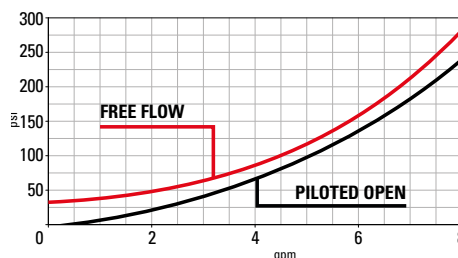
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | **0** | **0**

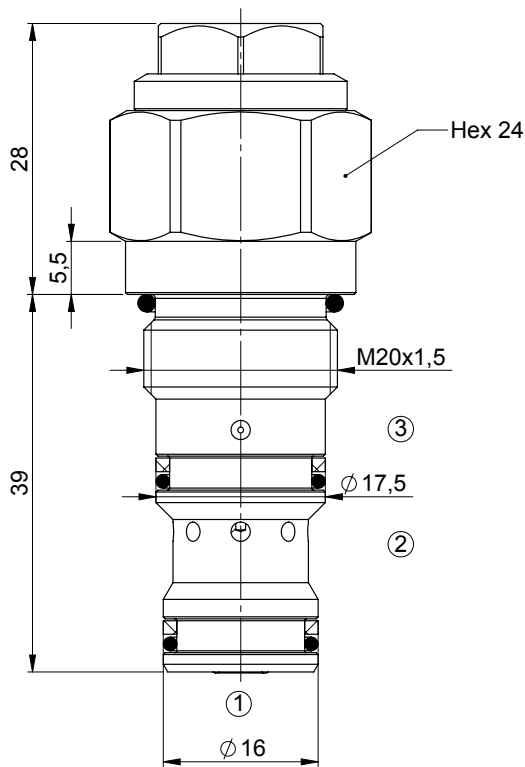
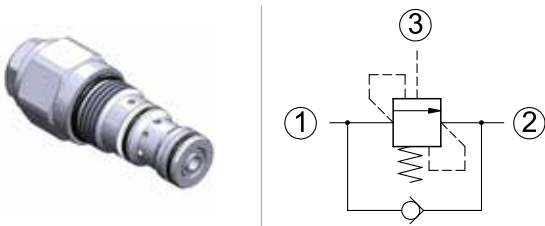
| **0** | **5** | **6** | **6** | **0** | **0** | **A**

Spring
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

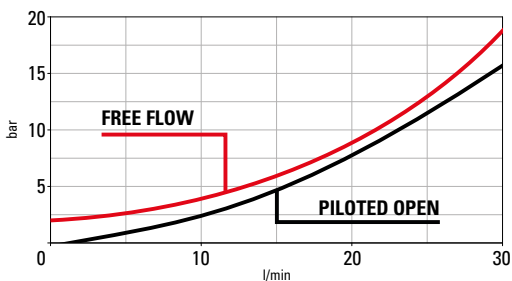
Normale i08 8:1 SP fixed setting



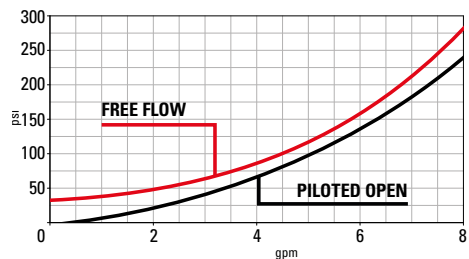
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting
- For settings lower than 100 bar please consult factory



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 0 | | | | | | | 0 | 8 | 6 | 6 | 0 | 0 | A

Setting (bar)

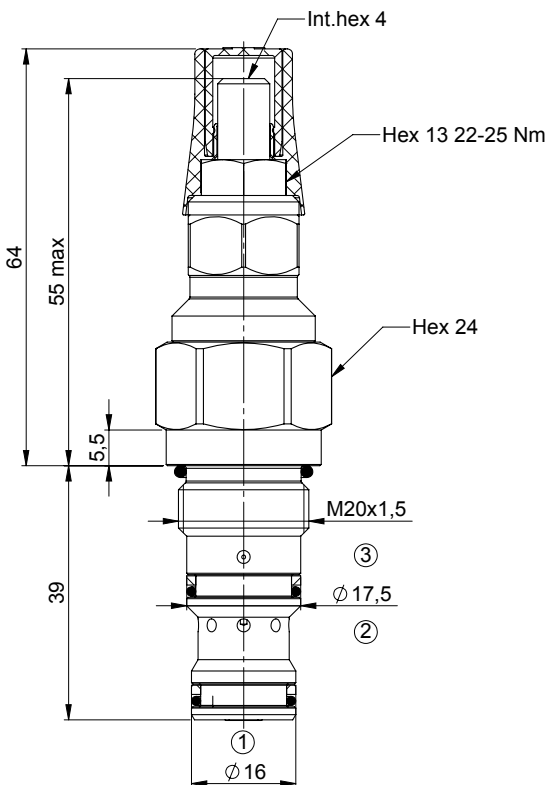
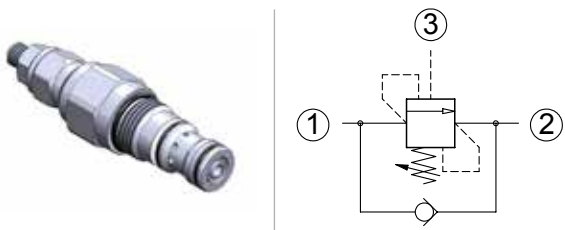
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

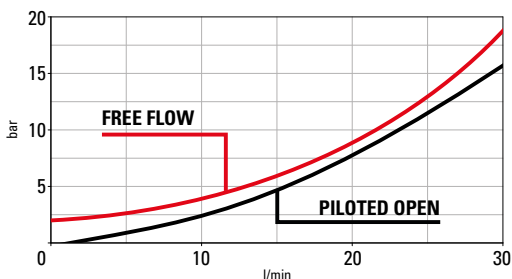
Normale i08 8:1 SP adjustable setting



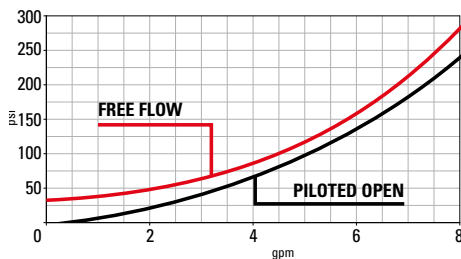
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

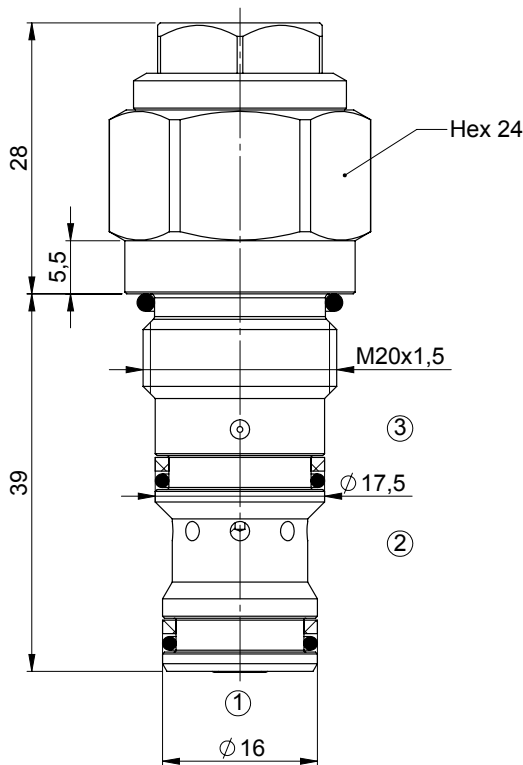
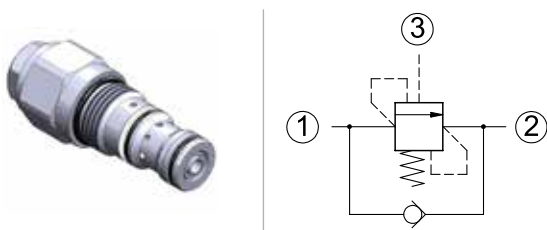
C | **0** | **0** |

| **0** | **8** | **6** | **6** | **0** | **0** | **A**

Spring
L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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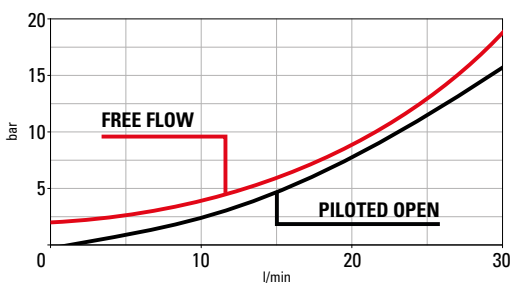
Normale i08 10:1 SP fixed setting



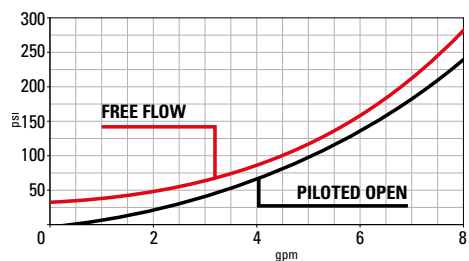
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 0 | | | | | | | 1 | 0 | 6 | 6 | 0 | 0 | A

Setting (bar)

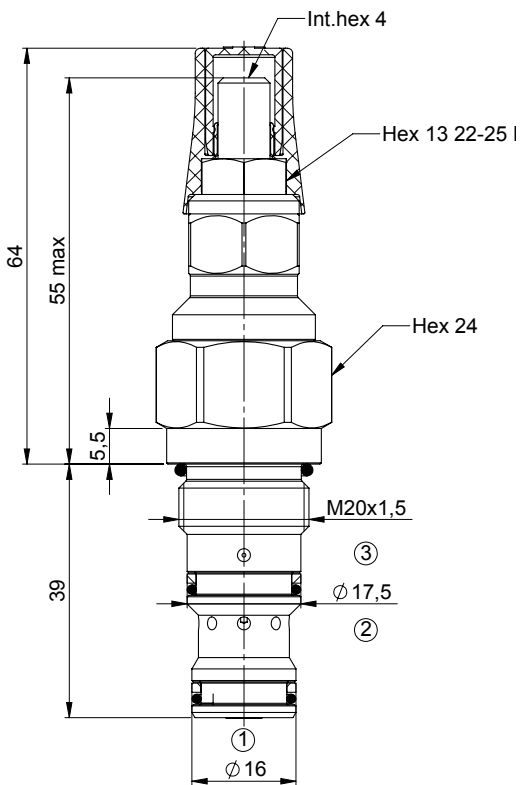
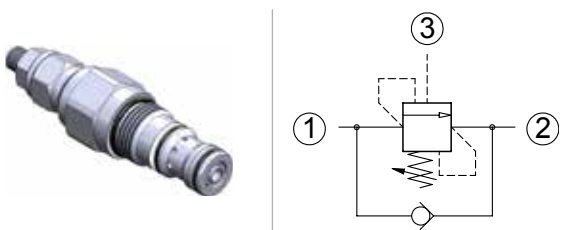
Spring
T = 30-105 bar
M = 105-210 bar
D = 210-350 bar

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Load holding valves

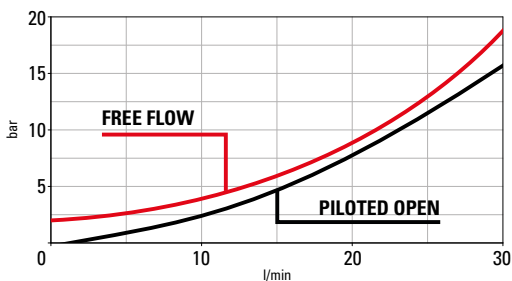
Normale i08 10:1 SP adjustable setting



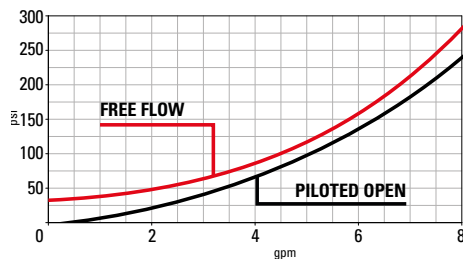
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	350 bar (5000 psi)
minimum setting	30 bar (500 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T) - 27 bar (spring L)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOA6610SN700000
seal kit (viton)	SOA6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | 0 | 0

| 1 | 0 | 6 | 6 | 0 | 0 | A

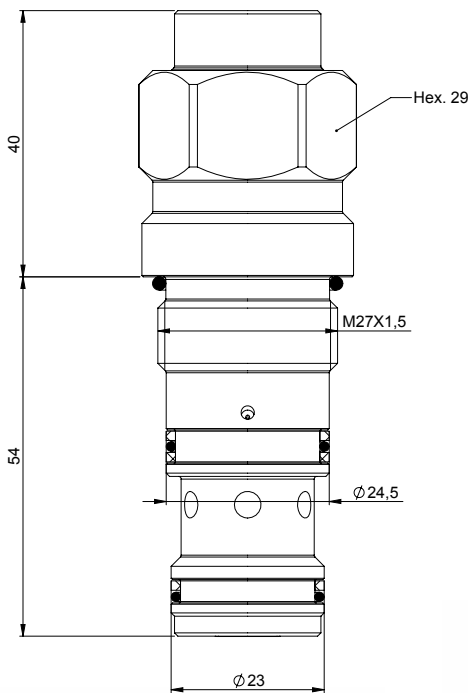
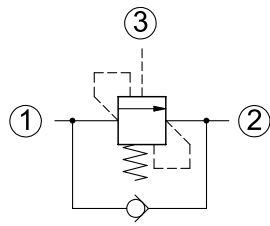
Spring Setting (bar)

L = 30-105 bar
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

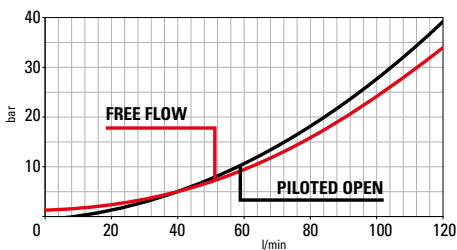
Normale i12 4:1 fixed setting



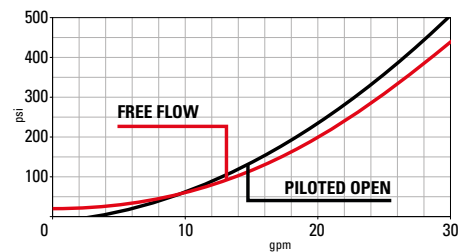
Technical Details

cavity	IH A12336
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60 Nm (44 lbf ft)
valve weight	0,40 kg (0,88 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE12SN700000
seal kit (viton)	S0SAE12SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 0 | | | | | | | 0 | 4 | 3 | 6 | 0 | 0 | A

Setting (bar)

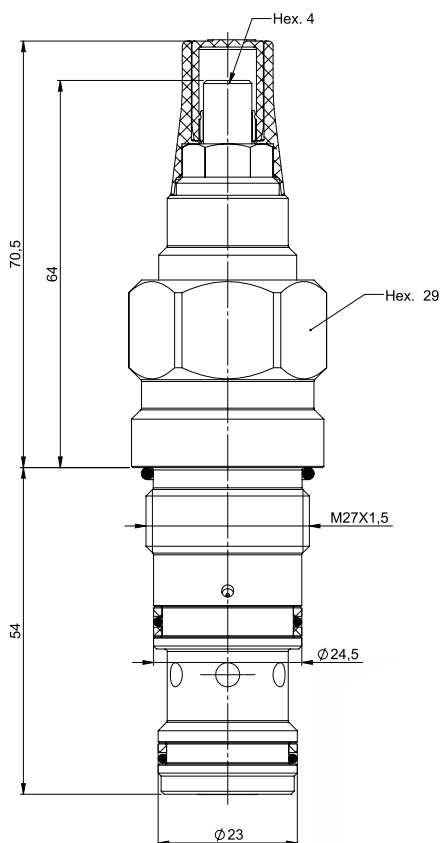
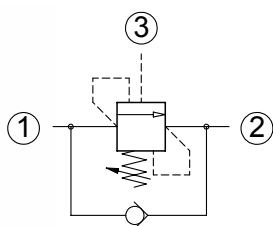
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

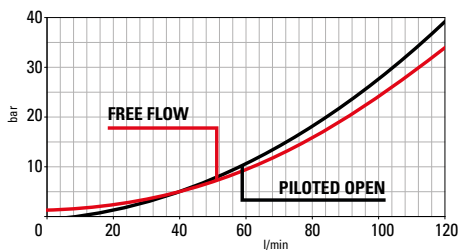
Normale i12 4:1 adjustable setting



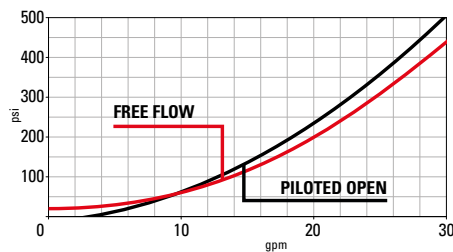
Technical Details

cavity	IH A12336
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60 Nm (44 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,40 kg (0,88 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SA12336SN700000
seal kit (viton)	SA12336SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | 0 | 0

Setting (bar)

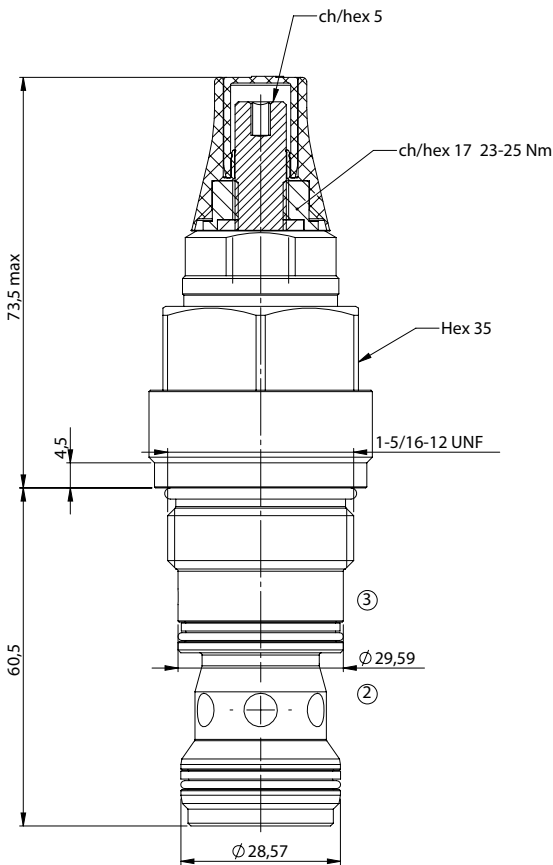
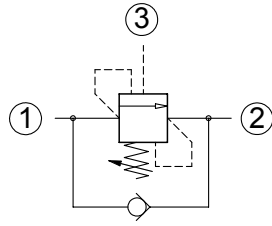
0 | 4 | 3 | 6 | 0 | 0 | A

Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

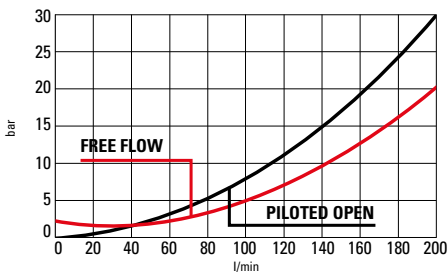
Normale i16 4:1 adjustable setting



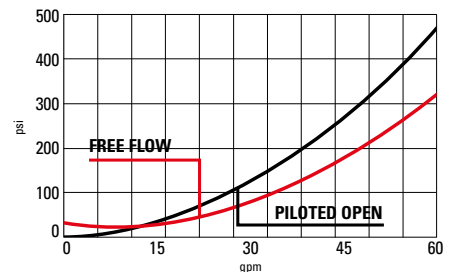
Technical Details

cavity	IH A877
capacity	200 lpm (50 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	140
pressure increase per turn	66 bar (spring M) / 123 bar (spring D)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	35
valve installation torque	100-110 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	25
valve weight	0.6 kg
external component surface treatment	zinc plating
seal kit (nbr)	S00877ASN900000
seal kit (viton)	S00877ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm2/s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 0 | 0 | | | | | | | 0 | 4 | 8 | 7 | 0 | 0 | A

Setting (bar)

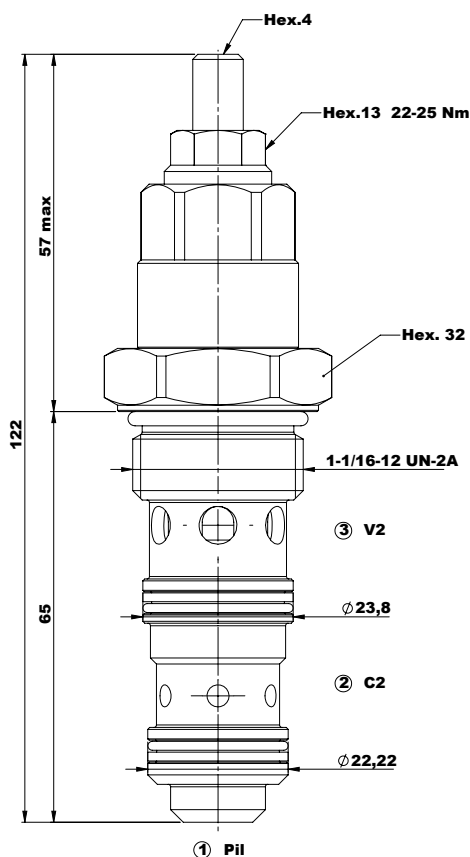
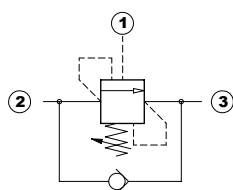
Spring

- M = 70-210 bar
- D = 140-350 bar

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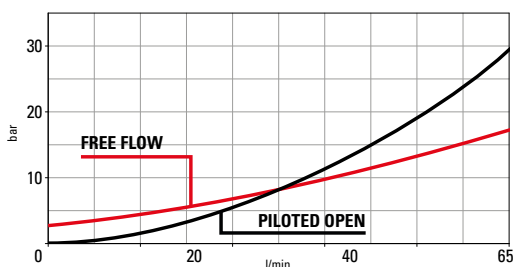
Load holding valves Normale 31PB



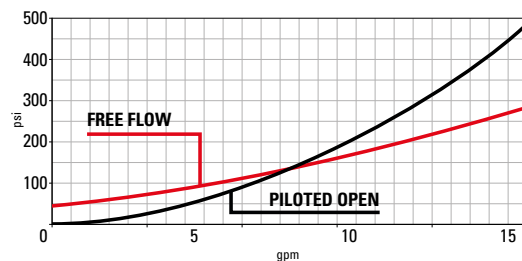
Technical Details

cavity	31pb
capacity	60 lpm (15 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350
minimum setting	70 (1000 psi)
pressure increase per turn	61,5 bar (spring M) - 138 bar (spring D)
pressure setting established @	cracking pressure
maximum valve leakage at reseal	5 drops/min
operating characteristic	standard
reseal	80%
maximum recommended load pressure at maximum setting	270 bar (4000 psi)
valve hex size (mm)	32
valve installation torque	116-128 Nm (85-95 lbf ft)
adjustment screw internal hex size (mm)	4
lock nut hex size	13
lock nut torque	22-25 Nm (16-18 lbf ft)
valve weight	0,32 kg (0,66 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S031PB0SN700000
seal kit (viton)	S031PB0SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- For anti tampering cap please consult factory



Performance curves



C | 0 | 0 | A | | | | | 0 | 4 | 3 | 1 | 0 | 0 | A

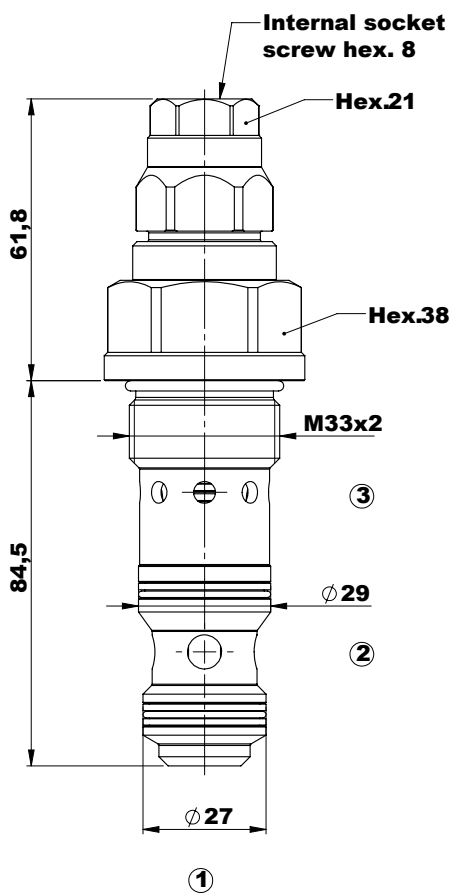
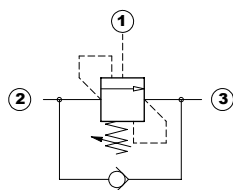
Setting (bar)

Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

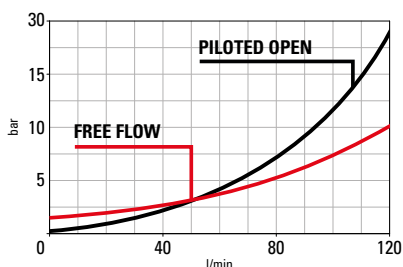
Normale 34PB FINE CONTROL



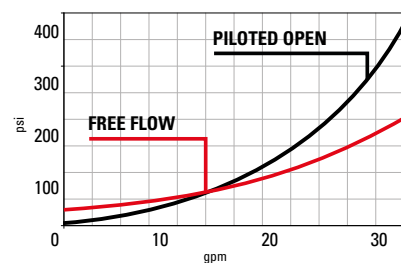
Technical Details

cavity	34pb
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	30 bar (spring M) - 73 bar (spring D)
pressure setting established @	cracking pressure
maximum valve leakage at reseal	5 drops/min
operating characteristic	standard
reseal	80%
maximum recommended load pressure at maximum setting	270 bar (4000 psi)
valve hex size (mm)	32
valve installation torque	116-128 Nm (85-95 lbf ft)
adjustment screw internal hex size (mm)	8
lock nut hex size	21
valve weight	0,32 kg (0,66 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S034PB0SN700000
seal kit (viton)	S034PB0SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- For anti tampering cap please consult factory



Performance curves



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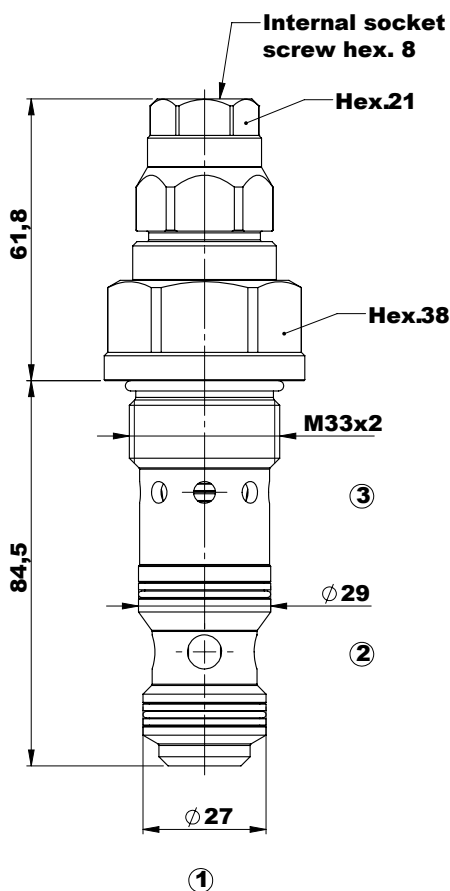
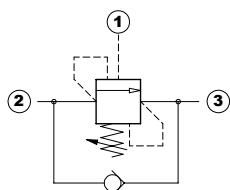
C | L | O | A | | | | | 0 | 4 | 3 | 4 | 0 | 0 | A

Setting (bar)

Spring
D = 200-350 bar
M = 90-200 bar



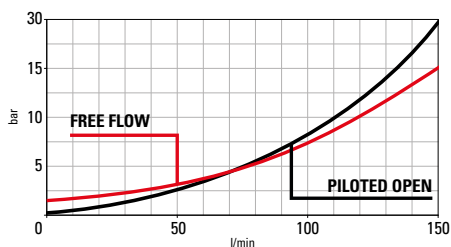
Load holding valves Normale 34PB



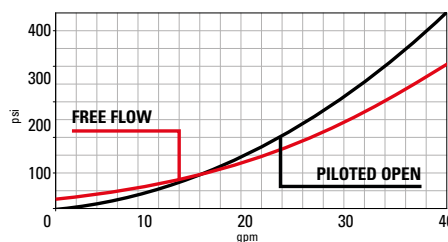
Technical Details

cavity	34pb
capacity	150 lpm (40 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	30 bar (spring M) - 73 bar (spring D)
pressure setting established @	cracking pressure
maximum valve leakage at reseal	5 drops/min
operating characteristic	standard
reseal	80%
maximum recommended load pressure at maximum setting	270 bar (4000 psi)
valve hex size (mm)	32
valve installation torque	116-128 Nm (85-95 lbf ft)
adjustment screw internal hex size (mm)	8
lock nut hex size	21
valve weight	0,32 kg (0,66 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S034PB0SN700000
seal kit (viton)	S034PB0SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- For anti tampering cap please consult factory



Performance curves



C | 0 | 0 | A | | | | | 0 | 4 | 3 | 4 | 0 | 0 | A

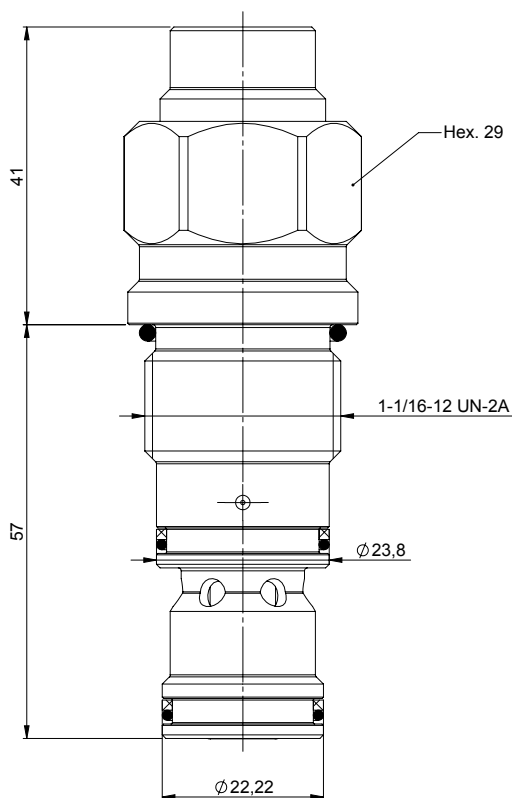
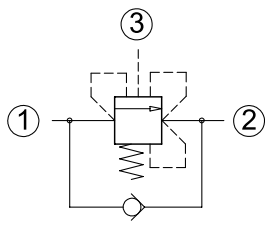
Setting (bar)

Spring
M = 60-210 bar
D = 100-350 bar

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Load holding valves

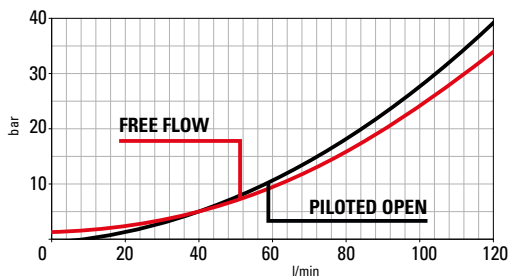
Compensata SAE12 4:1 SP fixed setting



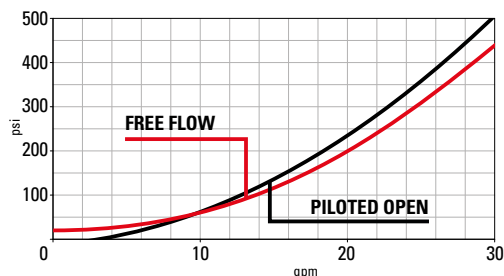
Technical Details

cavity	SAE12
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	Balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	81-95 Nm (45 lbf ft)
valve weight	0,320 kg (0,70 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE12SN700000
seal kit (viton)	S0SAE12SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA SEALS
D = VITON SEALS

C | 0 | 1 | | | | | 0 | 4 | 1 | 2 | 0 | 0 | A

Setting (bar)

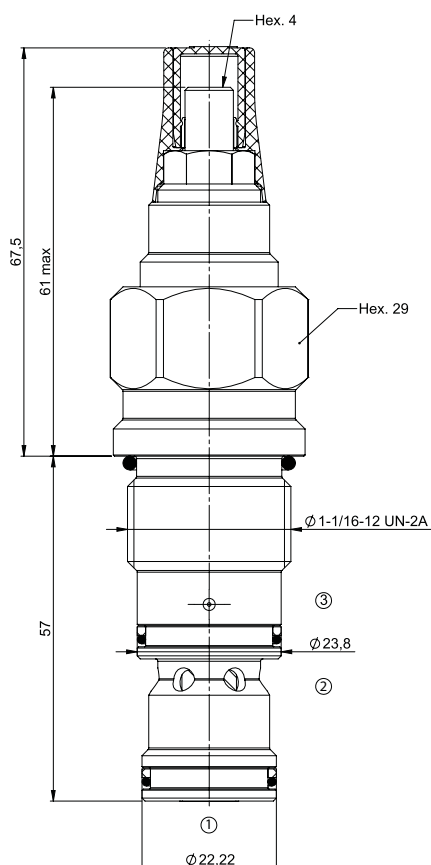
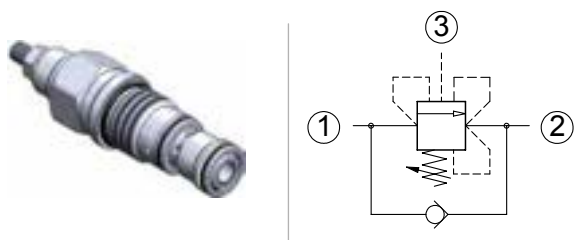
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

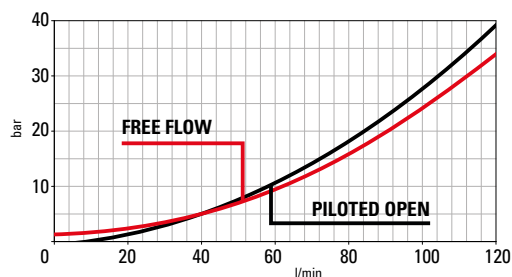
Compensata SAE12 4:1 SP adjustable setting



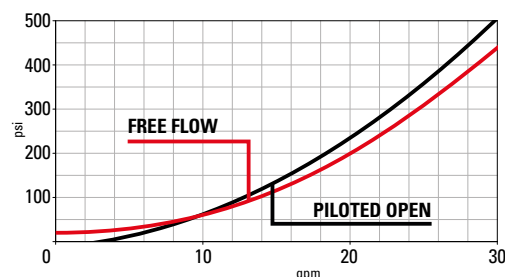
Technical Details

cavity	SAE12
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	Balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	81-95 Nm (60-70 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE12SN700000
seal kit (viton)	S0SAE12SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Turn adjustment clockwise to increase setting
- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA SEALS
G = BUNA tamper resistant
C = VITON SEALS
H = VITON tamper resistant

C | 0 | 1

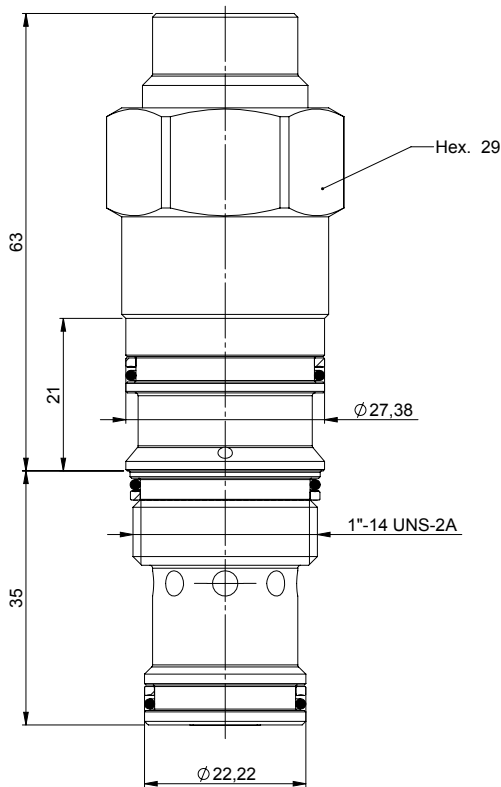
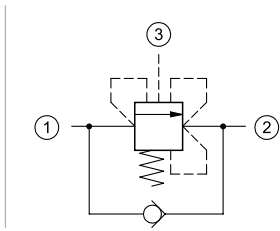
Setting (bar)

0 | 4 | 1 | 2 | 0 | 0 | A

Spring
M = 70-210 bar
D = 140-350 bar

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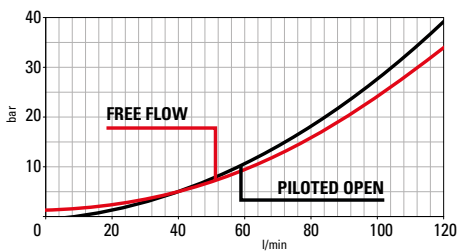
Compensata T2A 4:1 fixed setting



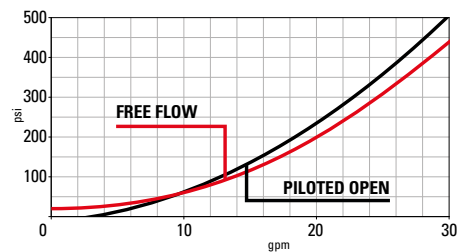
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Turn adjustment clockwise to increase setting
- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
1 = BUNA SEALS
3 = VITON SEALS

C | 0 | 1 | | | | | | | 0 | 4 | 0 | 2 | 0 | 0 | A

Setting (bar)

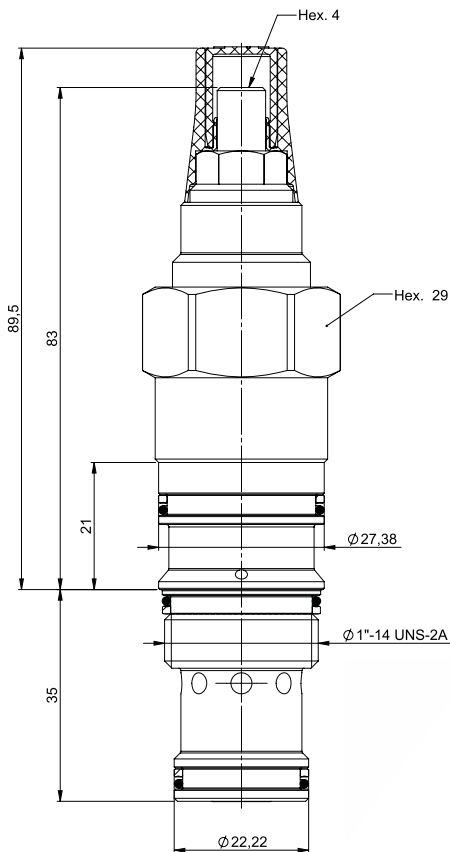
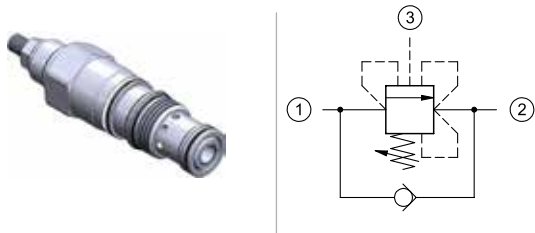
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

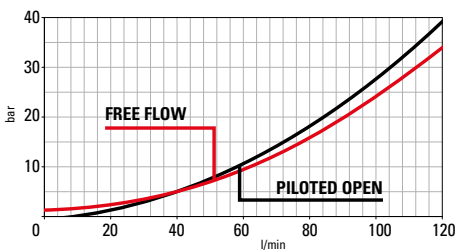
Compensata T2A 4:1 adjustable setting



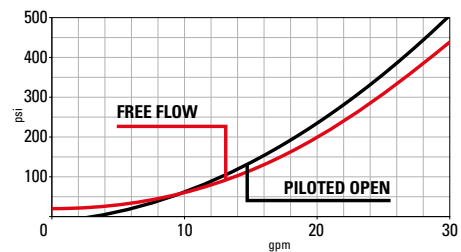
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Turn adjustment clockwise to increase setting
- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

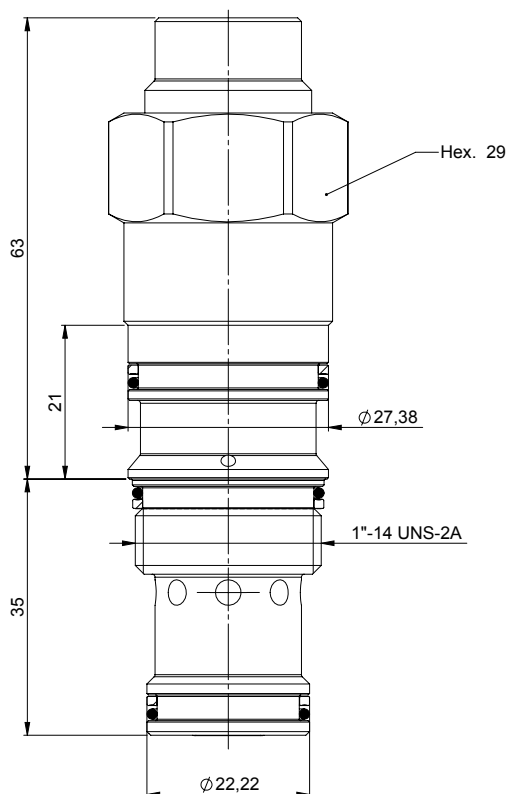
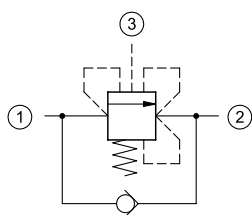
C | 0 | 1 | | | | | 0 | 4 | 0 | 2 | 0 | 0 | A

Setting (bar)

Spring
M = 70-210 bar
D = 140-350 bar

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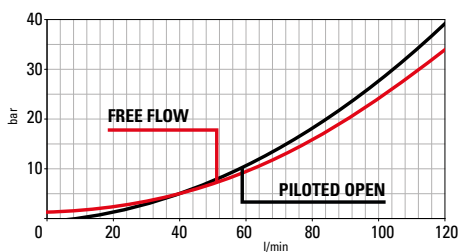
Compensata T2A 4:1 SP fixed setting



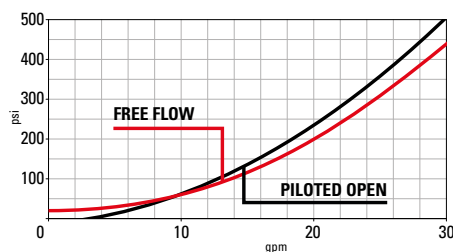
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA SEALS
D = VITON SEALS

C | **0** | **1** | | | | | **0** | **4** | **0** | **2** | **0** | **0** | **A**

Setting (bar)

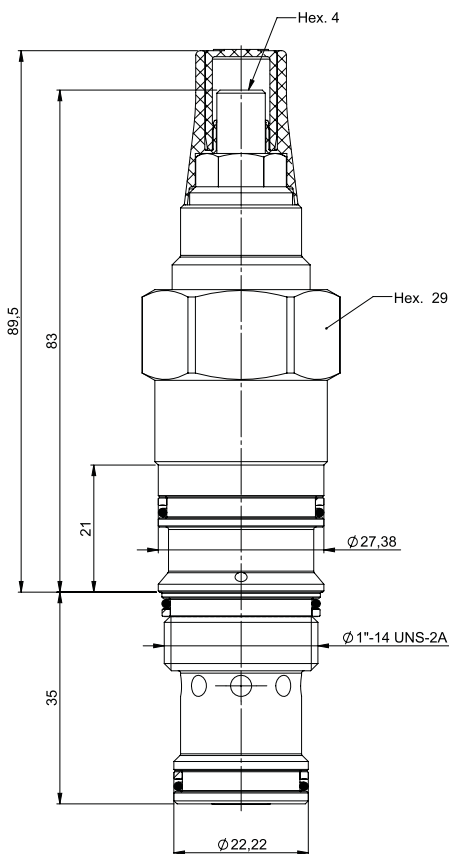
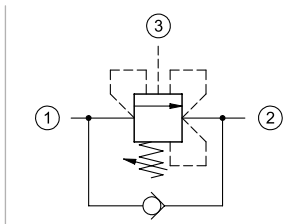
Spring
M = 70-210 bar
D = 140-290 bar

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Load holding valves

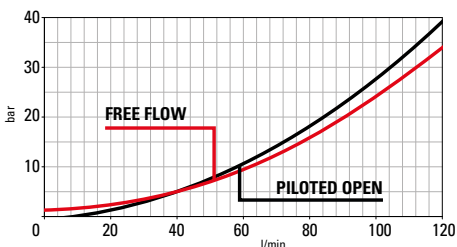
Compensata T2A 4:1 SP adjustable setting



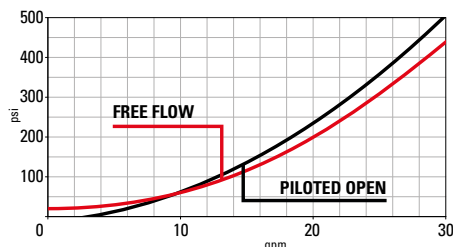
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,350 kg (0,77 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-.30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Turn adjustment clockwise to increase setting
- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA SEALS
G = BUNA tamper resistant
C = VITON SEALS
H = VITON tamper resistant

C | 0 | 1 | | | | | 0 | 4 | 0 | 2 | 0 | 0 | A

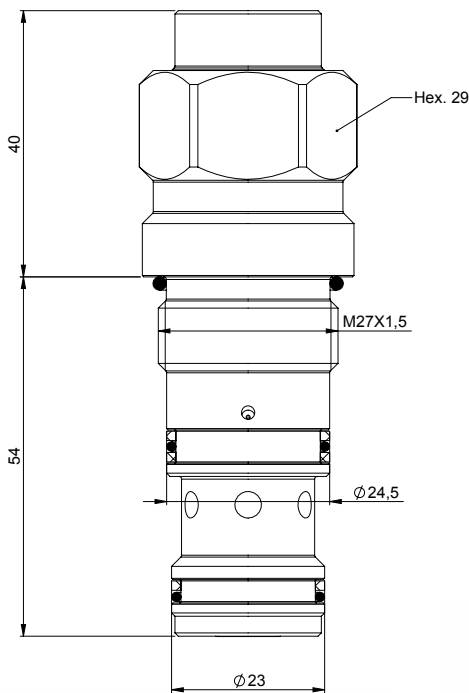
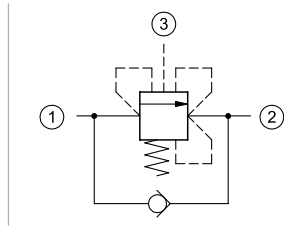
Setting (bar)

Spring
M = 70-210 bar
D = 140-290 bar

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Load holding valves

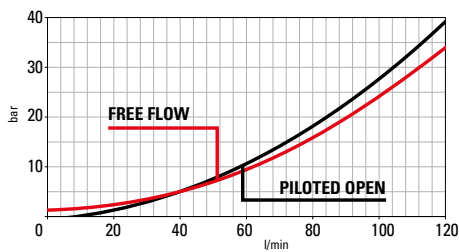
Compensata i12 4:1 SP fixed setting



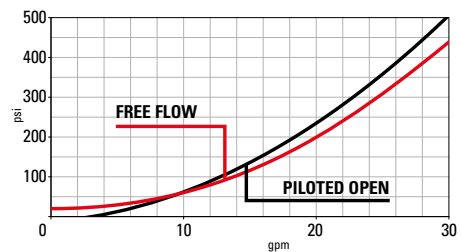
Technical Details

cavity	IH A12336
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure setting established @	cracking pressure (1 in 3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	Balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60 Nm (44 lbf ft)
valve weight	0,40 kg (0,88 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE12SN700000
seal kit (viton)	S0SAE12SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 1 | | | | | | | | 0 | 4 | 3 | 6 | 0 | 0 | A

Setting (bar)

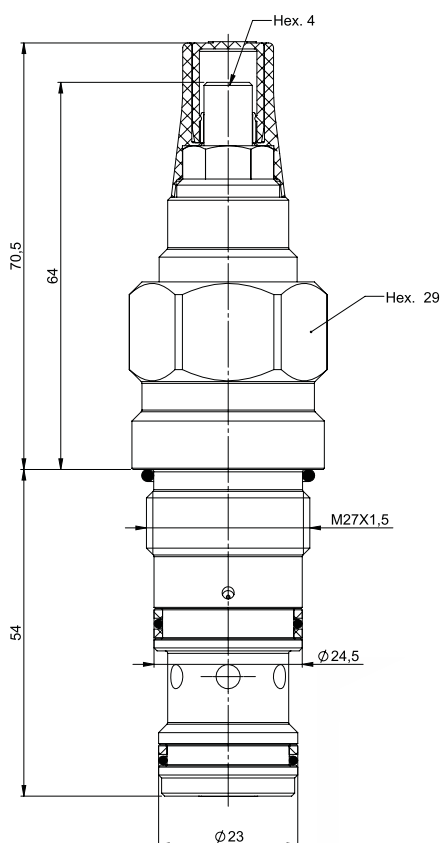
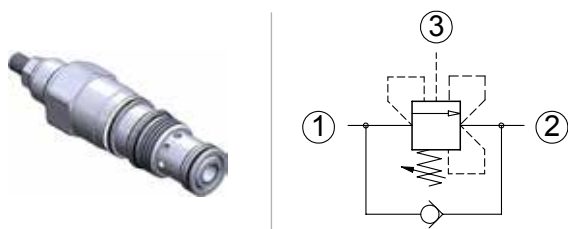
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

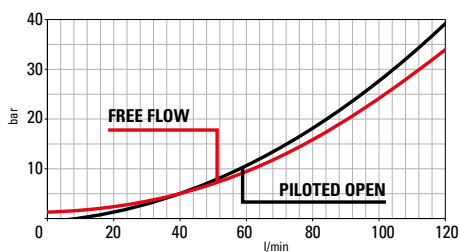
Compensata i12 4:1 SP adjustable setting



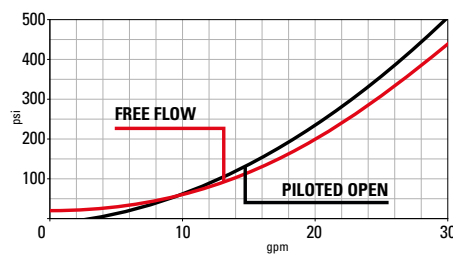
Technical Details

cavity	IH A12336
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	Balanced
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60 Nm (44 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,40 kg (0,88 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SA12336SN700000
seal kit (viton)	SA12336SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 440619/17/14

- Turn adjustment clockwise to increase setting
- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
G = VITON + sealed piston
C = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

C | **0** | **1**

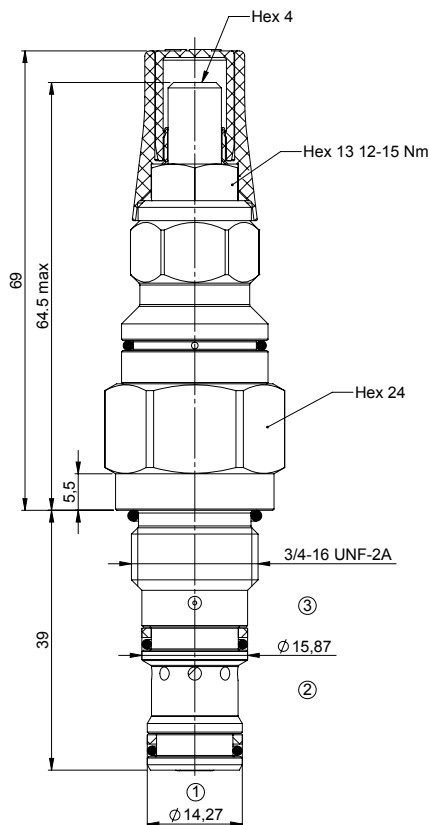
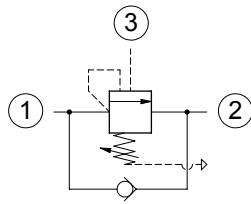
| **0** | **4** | **3** | **6** | **0** | **0** | **A**

Setting (bar)

Spring
M = 70-210 bar
D = 140-350 bar

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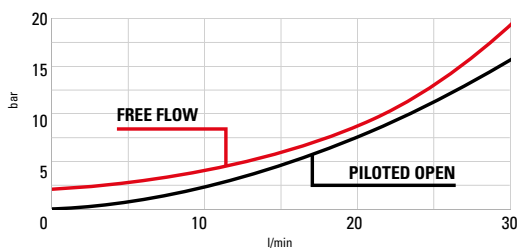
Ventilata SAE08 4:1 adjustable setting



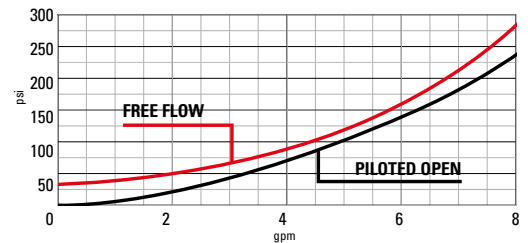
Technical Details

cavity	SAE08
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE08SN700000
seal kit (viton)	S0SAE08SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + anti tampering + sealed piston
H = VITON + anti tampering + sealed piston

C | **0** | **2** | | | | | | | | **0** | **4** | **0** | **8** | **0** | **0** | **A**

Setting (bar)

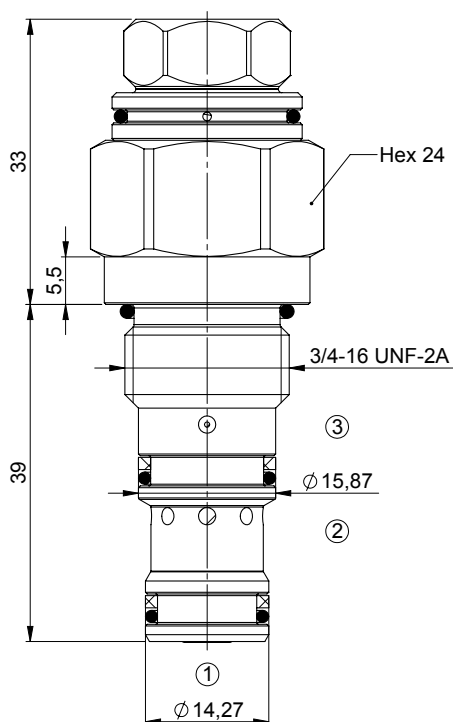
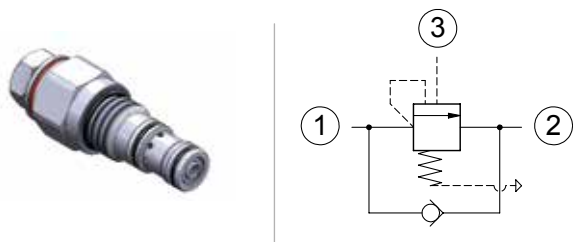
Spring
T = 70-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

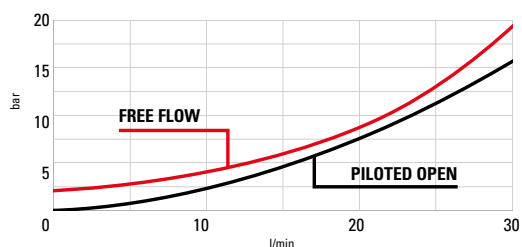
Ventilata SAE08 4:1 fixed setting



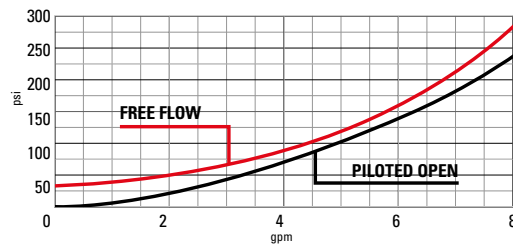
Technical Details

cavity	SAE08
capacity	30lpm (8gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	100 bar (1450 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size	24
valve installation torque	34-41 Nm (25-30 lbf ft)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S0SAE08SN700000
seal kit (viton)	S0SAE08SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/37

- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
B = BUNA + sealed piston
D = VITON + sealed piston

C | 0 | 2

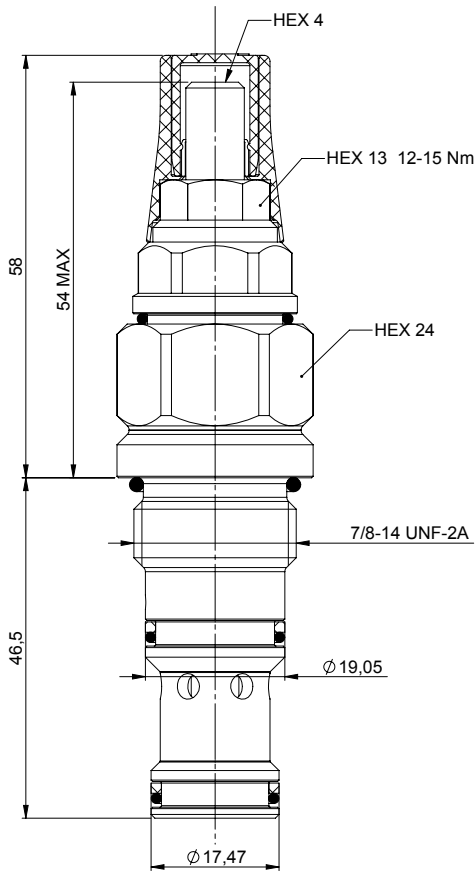
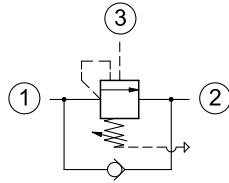
Setting (bar)

0 | 4 | 0 | 8 | 0 | 0 | A

Spring
M = 100-210 (109 bar/turn)
D = 200-350 (136 bar/turn)

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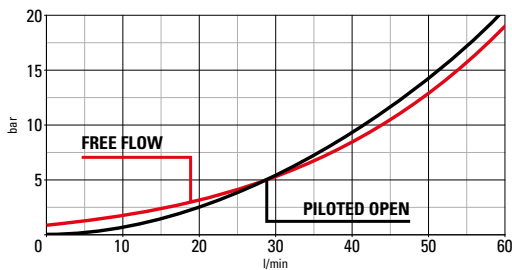
Ventilata SAE10 3:1 adjustable setting



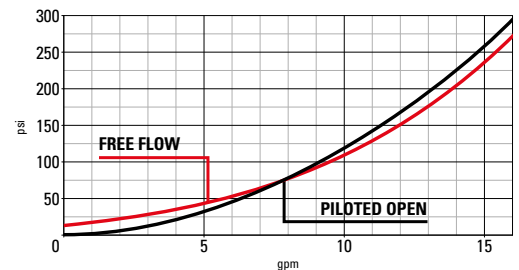
Technical Details

cavity	SAE10
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	206 bar (spring D) - 132 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.190 Kg (0.42 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE10SN700000
seal kit (viton)	S0SAE10SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
0 = BUNA SEALS
6 = BUNA tamper resistant
2 = VITON SEALS
7 = VITON tamper resistant

C | 0 | 2 | | | | | | | 0 | 3 | 1 | 0 | 0 | 0 | A

Setting (bar)

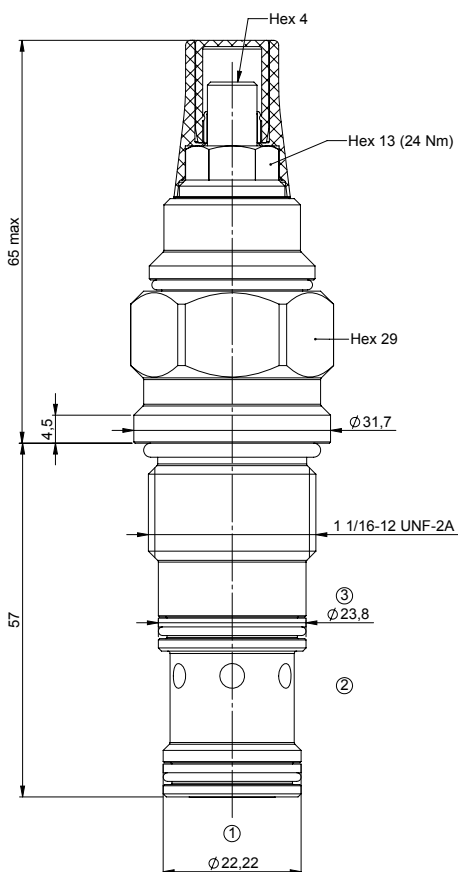
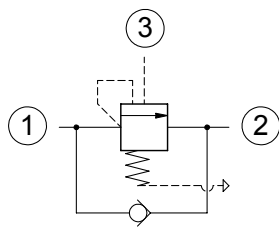
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

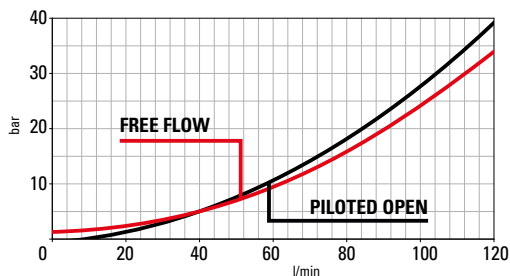
Ventilata SAE12 4:1 adjustable setting



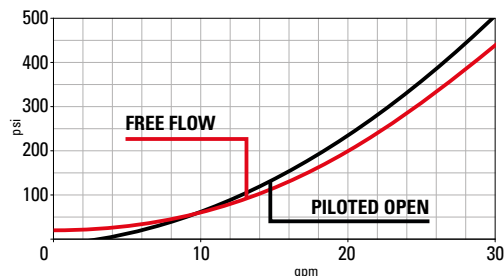
Technical Details

cavity	SAE12
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	47 bar (M spring) / 149 bar (D spring)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size	29
valve installation torque	81-95 Nm
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	22
valve weight	0.35 kg
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm2/s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/37

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + tamper resistant + sealed piston
H = VITON + tamper resistant + sealed piston

C | 0 | 2

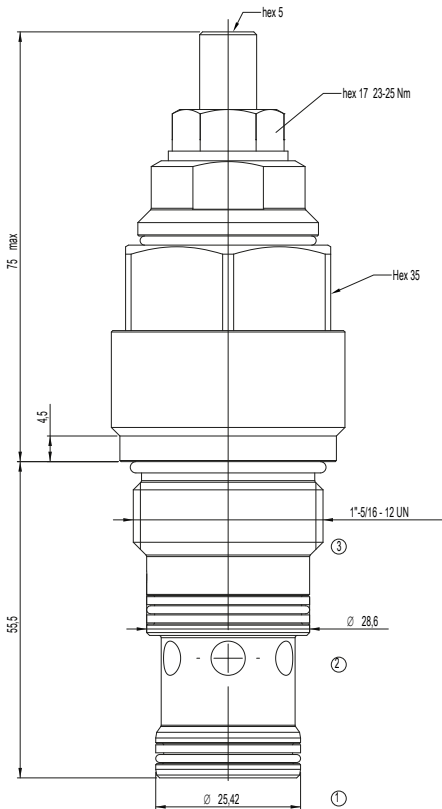
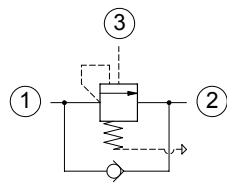
Setting (bar)

0 | 4 | 1 | 2 | 0 | 0 | A

Spring
M = 70-210 bar
D = 140-350 bar

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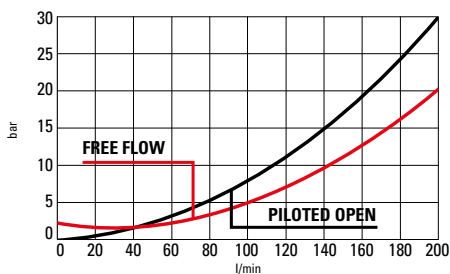
Ventilata SAE16 4:1 adjustable setting



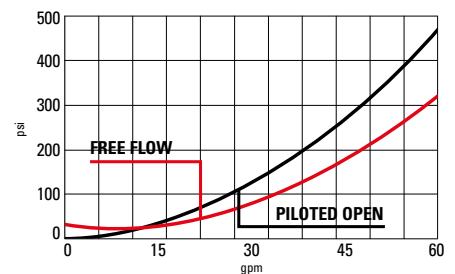
Technical Details

cavity	SAE16
capacity	200 lpm (50 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	41 bar (spring M) - 123 bar (spring D)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	35
valve installation torque	108-122 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	25
valve weight	0.6 kg
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE16SN700000
seal kit (viton)	S0SAE16SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- C = BUNA tamper resistant
- G = VITON SEALS
- H = VITON tamper resistant

C | 0 | 2 | | | | | 0 | 4 | 1 | 6 | 0 | 0 | A

Setting (bar)

Spring

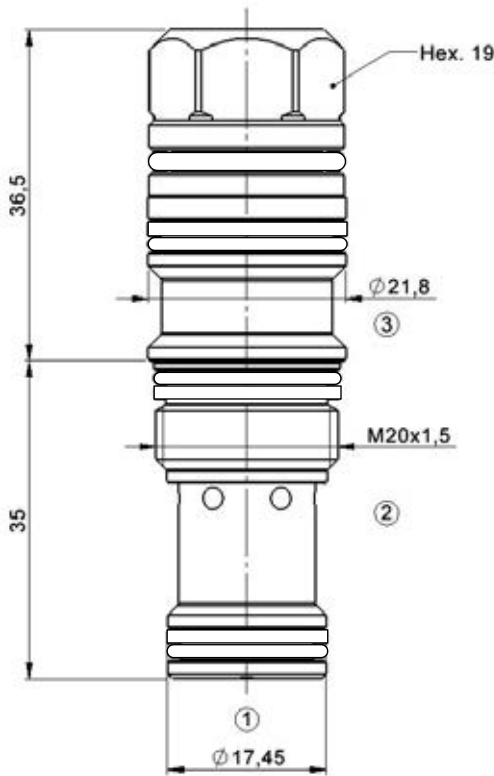
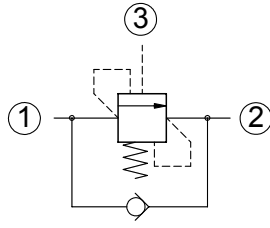
- M = 70-210 bar
- D = 140-350 bar

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Load holding valves

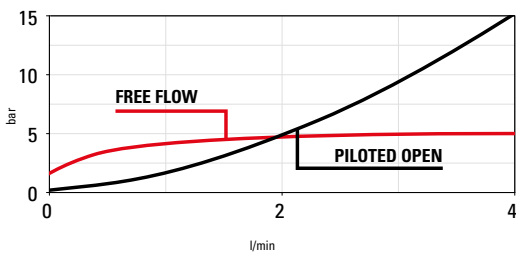
Ventilata Ristretta T11A 3:1 fixed setting **ULTRA FINE CONTROL**



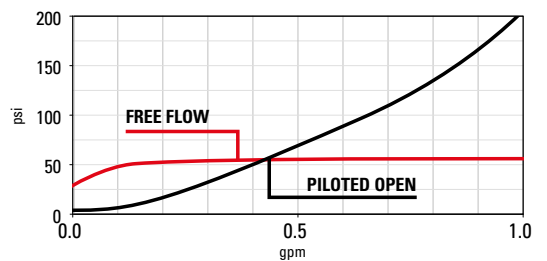
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- B = BUNA SEALS
- D = VITON SEALS

C | D | 6 | | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

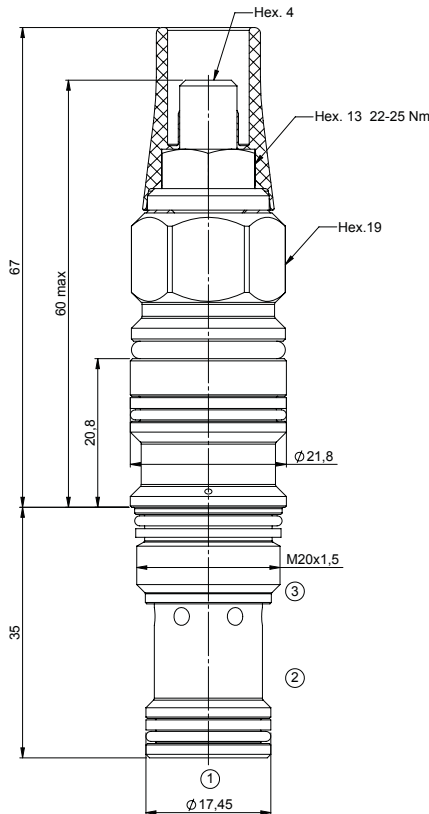
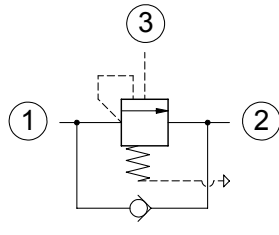
Spring Setting (bar)

- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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Load holding valves

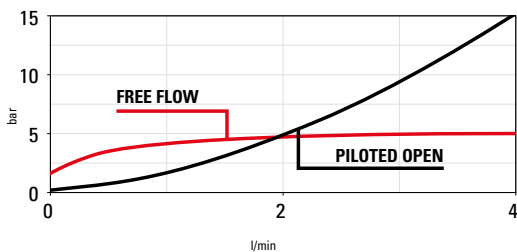
Ventilata Ristretta T11A 3:1 adj. setting **ULTRA FINE CONTROL**



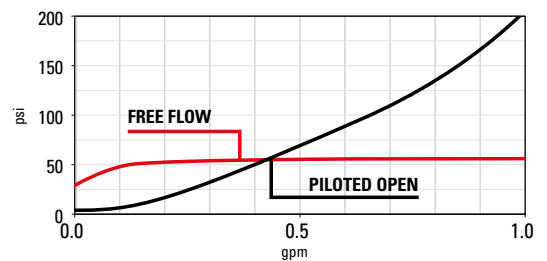
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure increase per turn	155 bar (spring M) - 27 bar (spring T) 151 bar (spring D) - 177 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | D | 6 | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

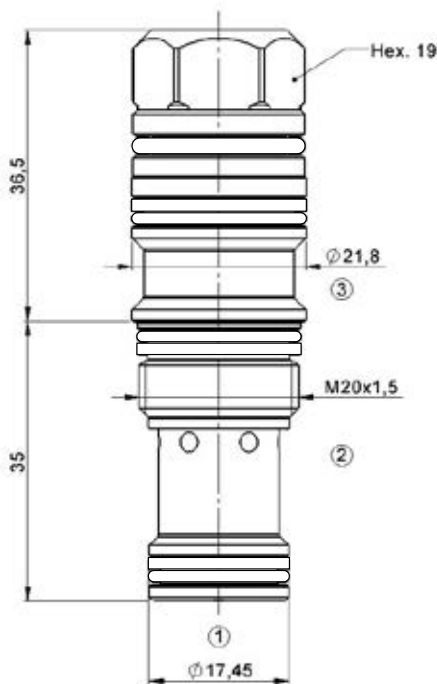
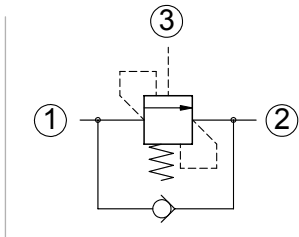
- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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Load holding valves

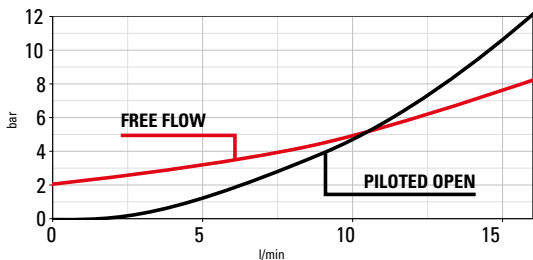
Ventilata Ristretta T11A 3:1 fixed setting **FINE CONTROL**



Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- B = BUNA SEALS
- D = VITON SEALS

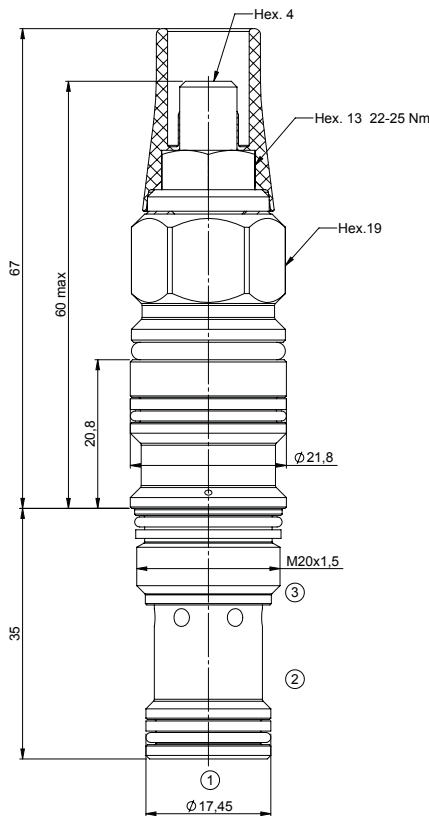
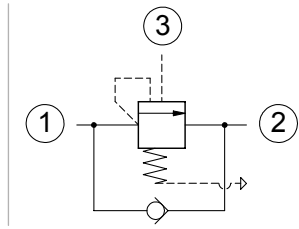
C | W | 6 | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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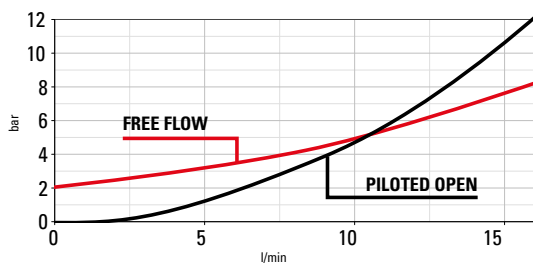
Ventilata Ristretta T11A 3:1 adjustable setting FINE CONTROL



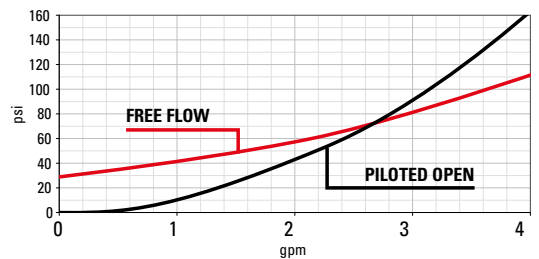
Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure increase per turn	155 bar (spring M) - 27 bar (spring T) 151 bar (spring D) - 177 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | W | 6 | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

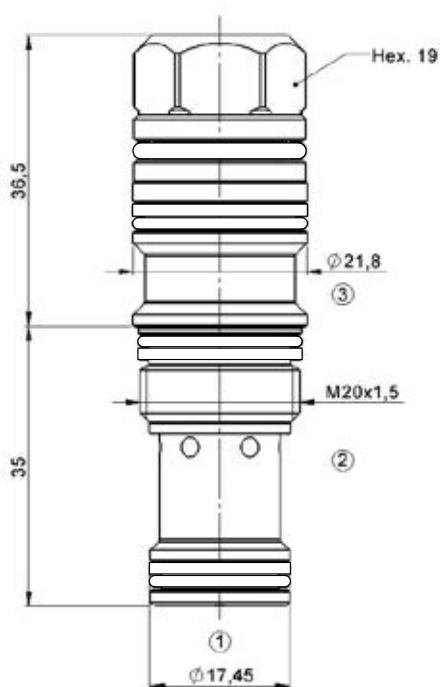
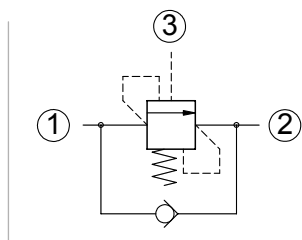
- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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Load holding valves

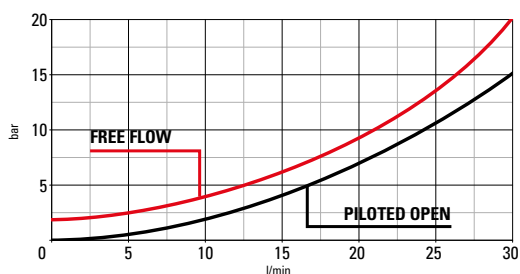
Ventilata Ristretta T11A 3:1 fixed setting



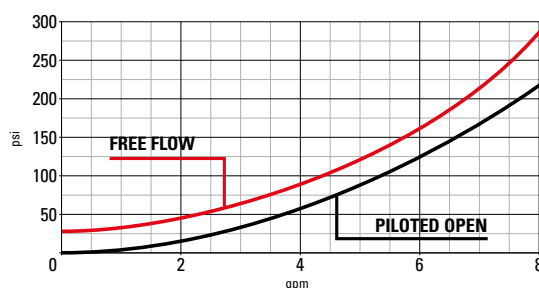
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- B = BUNA SEALS
- D = VITON SEALS

C | 0 | 6

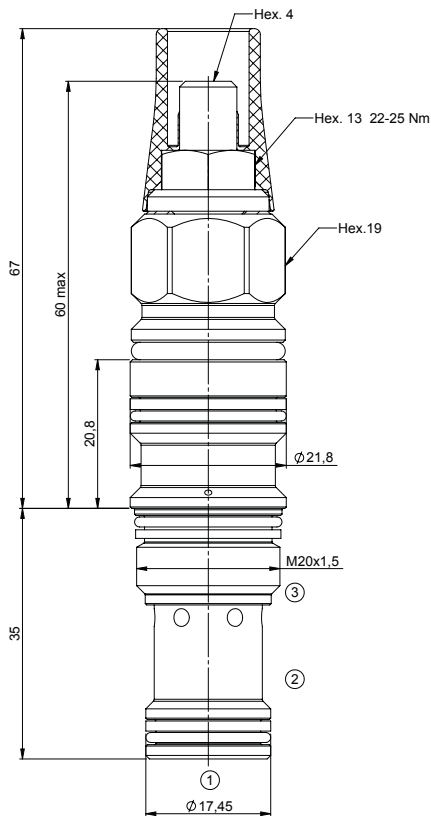
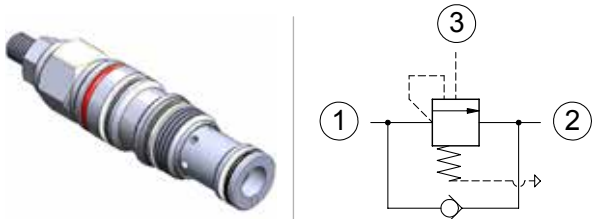
0 | 3 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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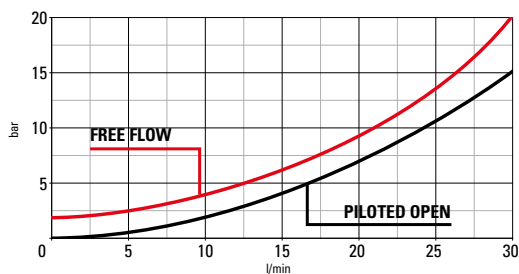
Ventilata Ristretta T11A 3:1 adjustable setting



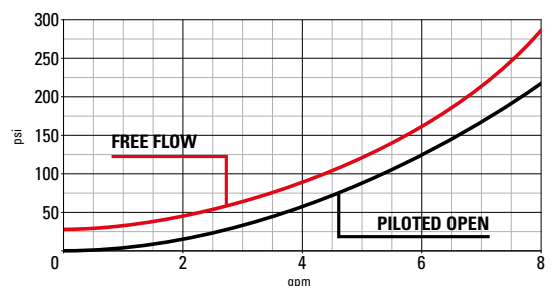
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	280 bar (4000 psi)
minimum setting	40 bar (580 psi)
pressure increase per turn	155 bar (spring M) - 27 bar (spring T) 151 bar (spring D) - 177 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	230 bar (3350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 6 | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

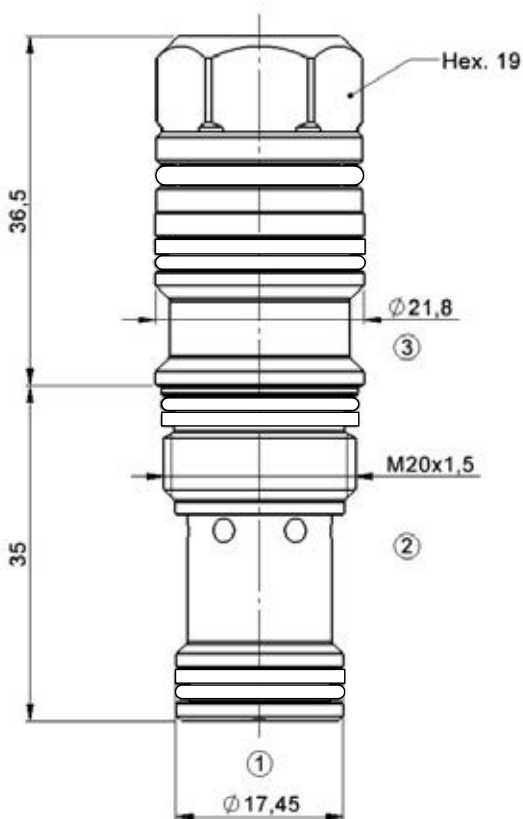
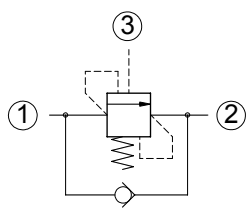
- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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Load holding valves

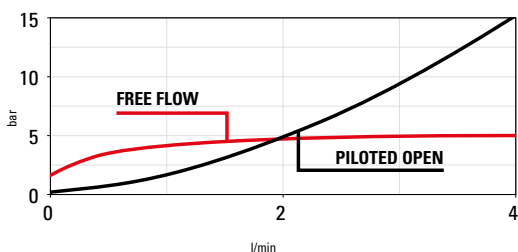
Ventilata Ristretta T11A 4:1 fixed setting **ULTRA FINE CONTROL**



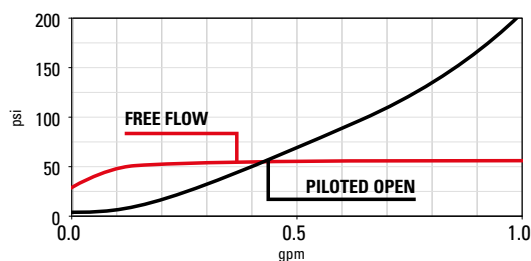
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- B = BUNA SEALS
- D = VITON SEALS

C | D | 6

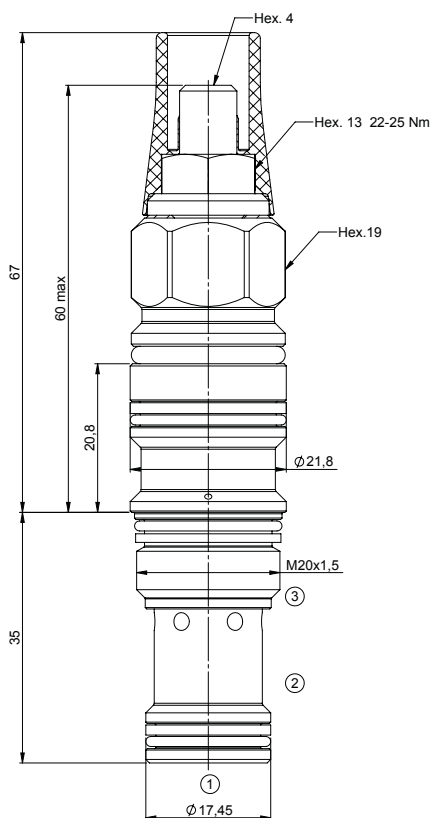
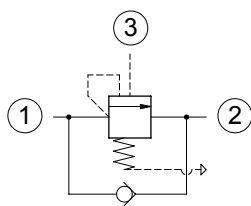
Spring Setting (bar)

- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

0 | 4 | 1 | 1 | 0 | 0 | A

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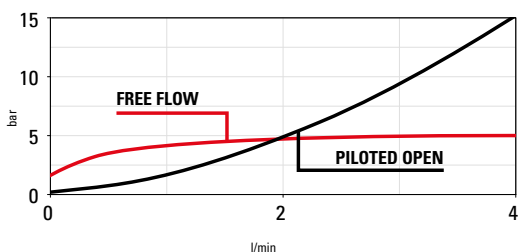
Ventilata Ristretta T11A 4:1 adj. setting **ULTRA FINE CONTROL**



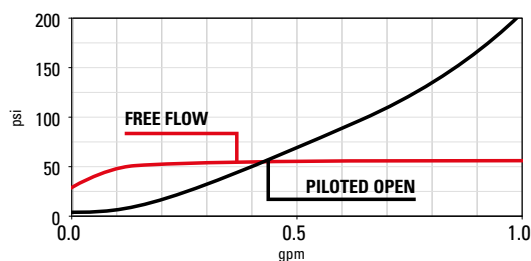
Technical Details

cavity	T11A
capacity	4 lpm (1 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure increase per turn	155 bar (spring M) - 27 bar (spring T) 151 bar (spring D) - 177 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | D | 6 | | | | | | | 0 | 4 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

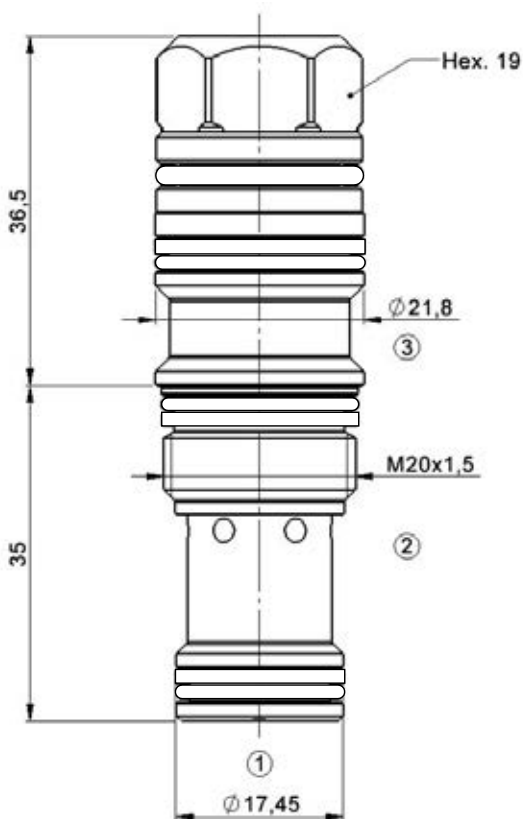
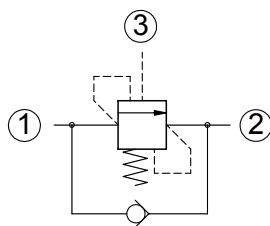
- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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Load holding valves

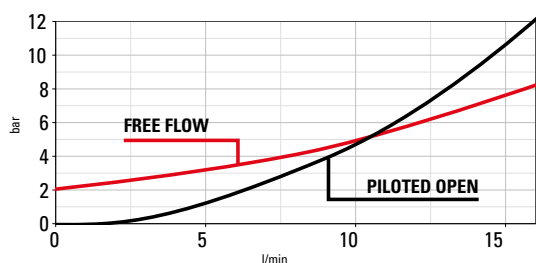
Ventilata Ristretta T11A 4:1 fixed setting **FINE CONTROL**



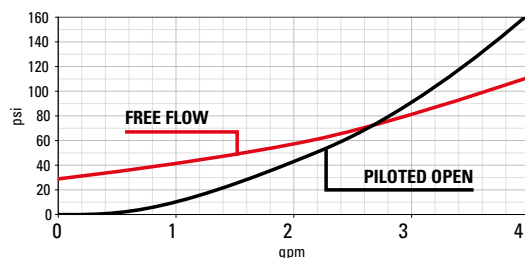
Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- B = BUNA SEALS
- D = VITON SEALS

C | W | 6

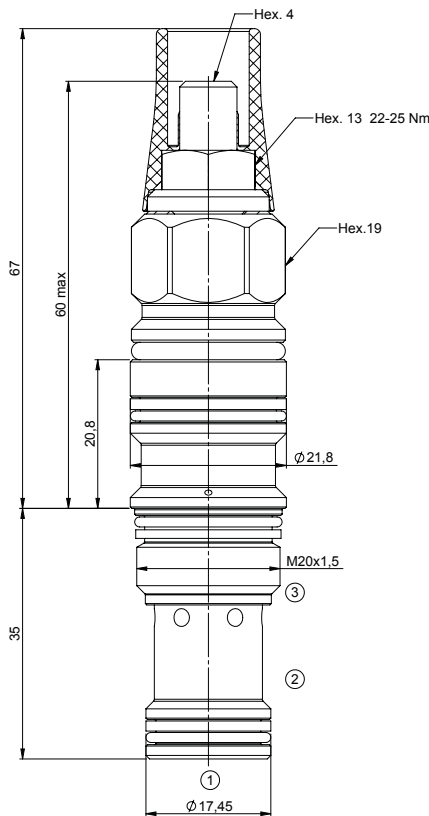
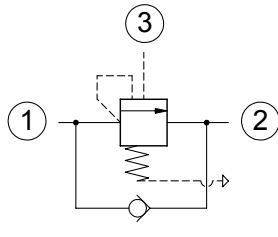
0 | 4 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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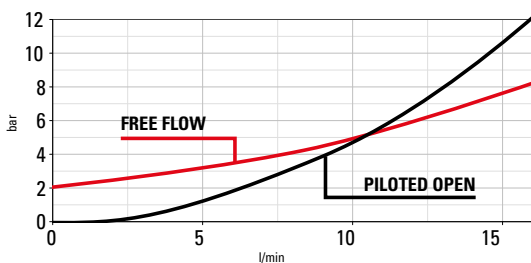
Ventilata Ristretta T11A 4:1 adjustable setting **FINE CONTROL**



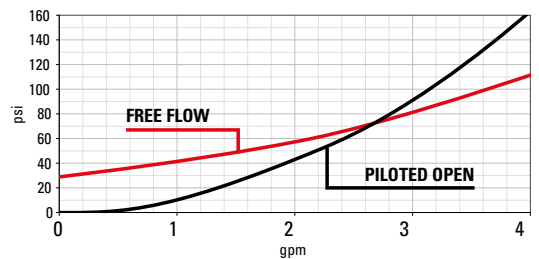
Technical Details

cavity	T11A
capacity	15 lpm (4 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure increase per turn	155 bar (spring M) - 27 bar (spring T) 151 bar (spring D) - 177 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | W | 6 | | | | | | | | 0 | 4 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

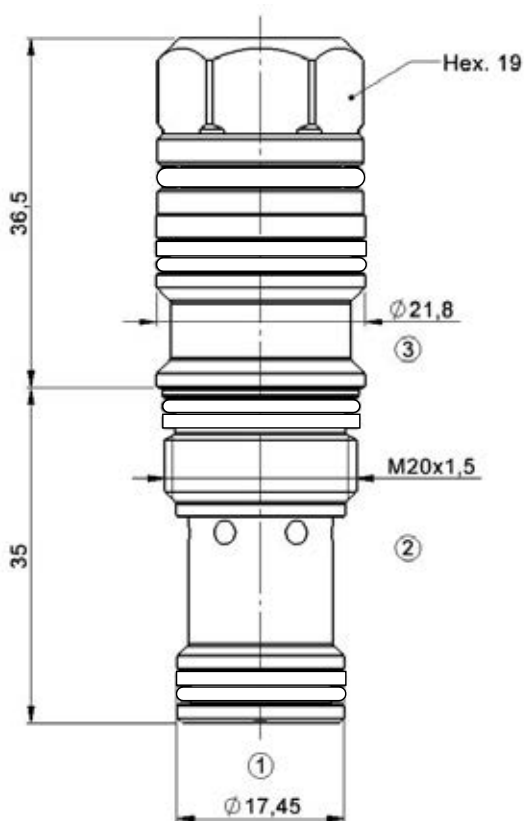
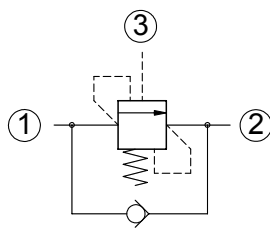
- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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Load holding valves

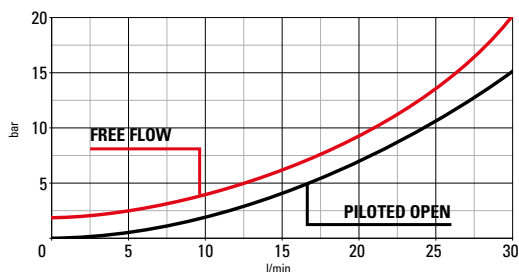
Ventilata Ristretta T11A 4:1 fixed setting



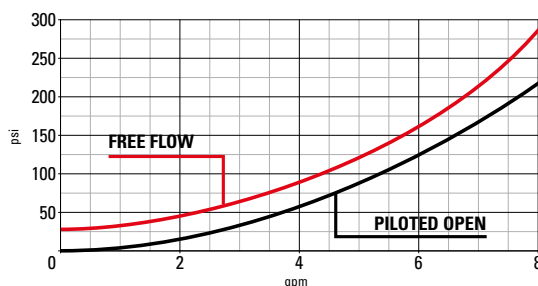
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	390 bar (5650 psi)
minimum setting	40 bar (580 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	300 bar (4350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- B = BUNA SEALS
- D = VITON SEALS

C | 0 | 6

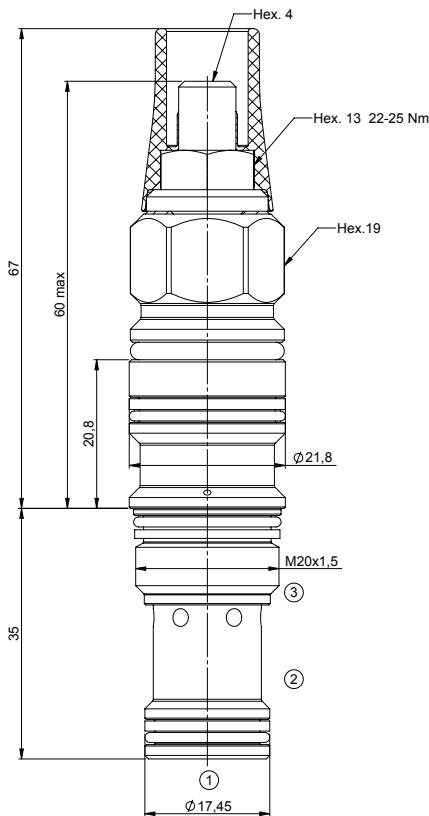
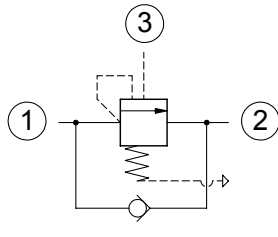
0 | 4 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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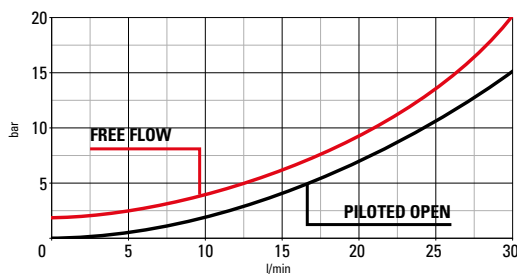
Ventilata Ristretta T11A 4:1 adjustable setting



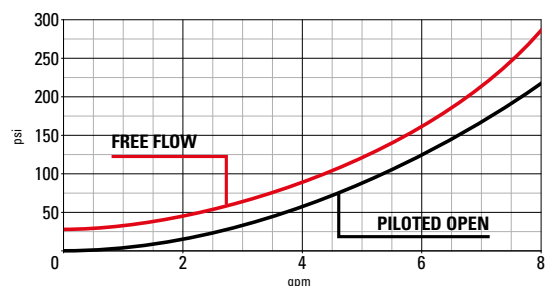
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	280 bar (4000 psi)
minimum setting	40 bar (580 psi)
pressure increase per turn	155 bar (2250 psi) spring M 27 bar (390 psi) spring T
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	230 bar (3350 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- 0 = BUNA SEALS
- 6 = BUNA tamper resistant
- 2 = VITON SEALS
- 7 = VITON tamper resistant

C | 0 | 6 | | | | | | | 0 | 4 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

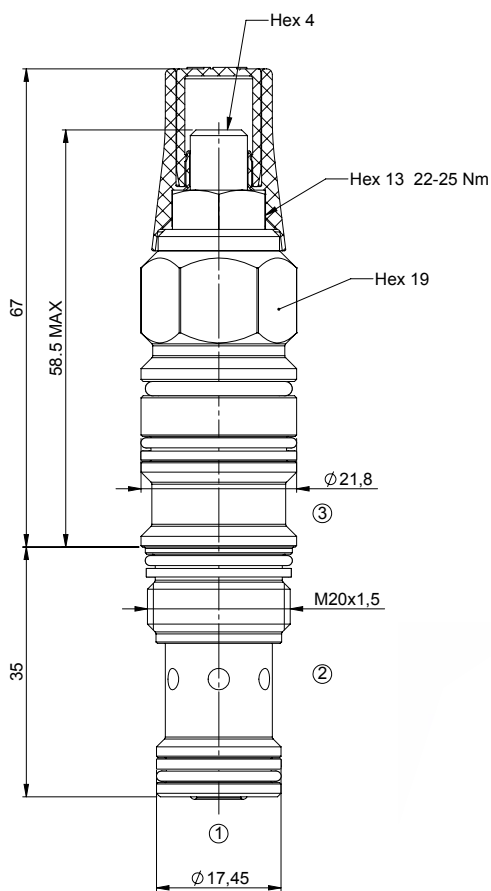
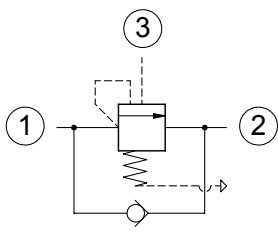
- T = 40-105 bar
- M = 105-210 bar
- D = 170-330 bar
- S = 330-390 bar

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Load holding valves

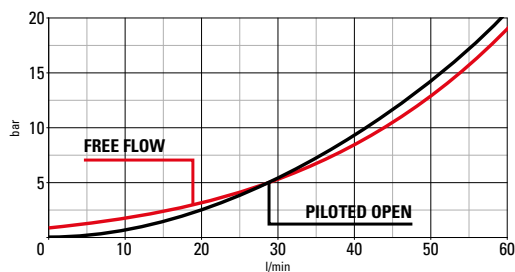
Ventilata T11A 1:1 adjustable setting



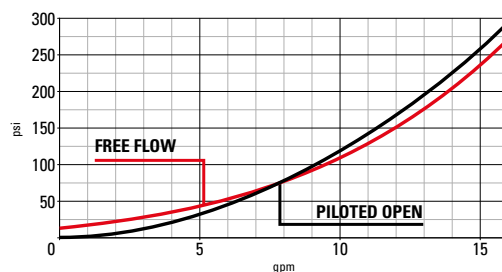
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	1:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	31 bar (spring T) - 118 bar (spring M) - 175 bar (spring D) - 204 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 2

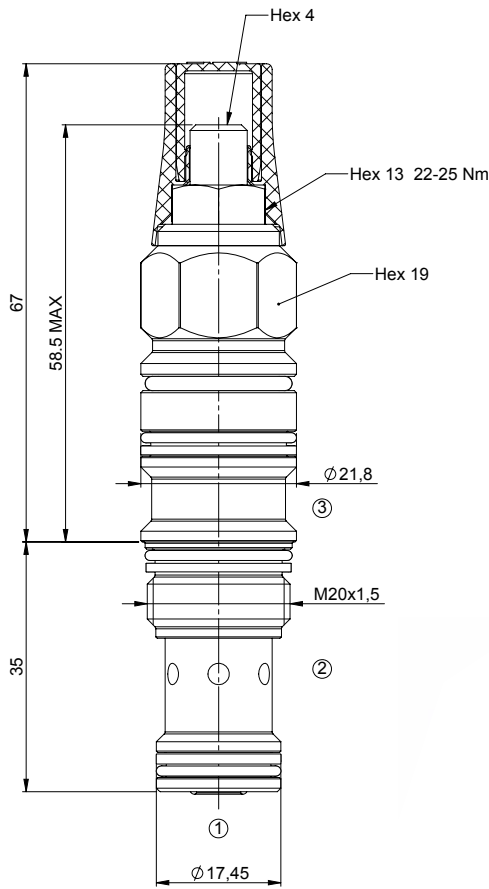
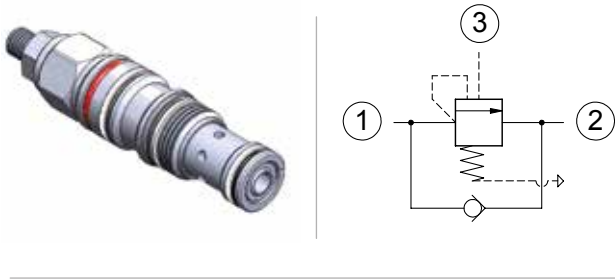
0 | 1 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

- T = 40-105 bar
- M = 90-210 bar
- D = 140-350 bar
- S = 300-420 bar

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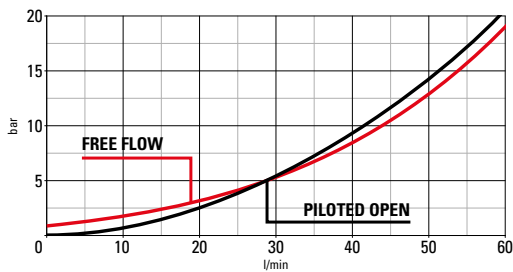
Ventilata T11A 2:1 adjustable setting



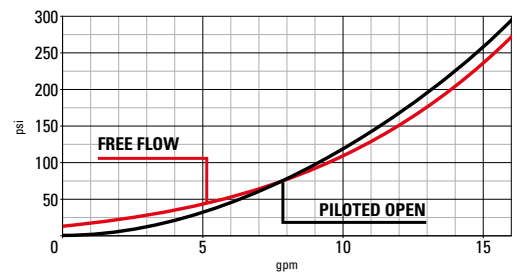
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	30 bar (spring T) - 115 bar (spring M) - 171 bar (spring D) - 200 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 2 | | | | | | | | 0 | 2 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

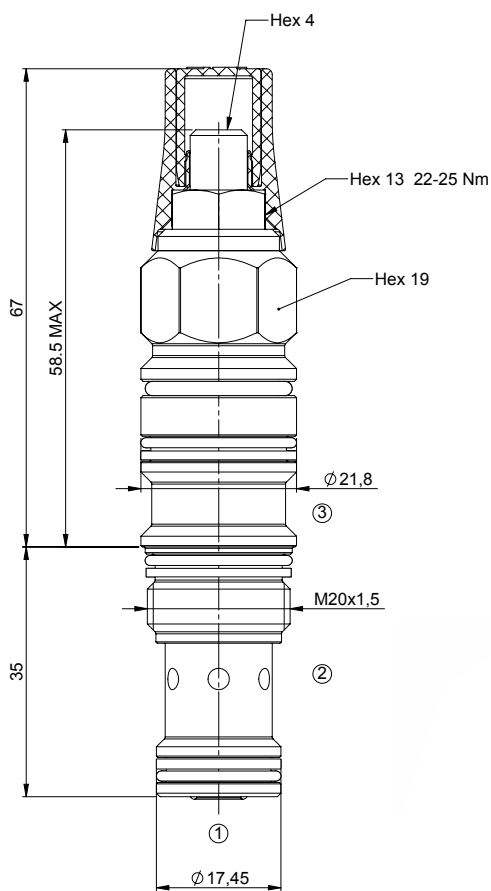
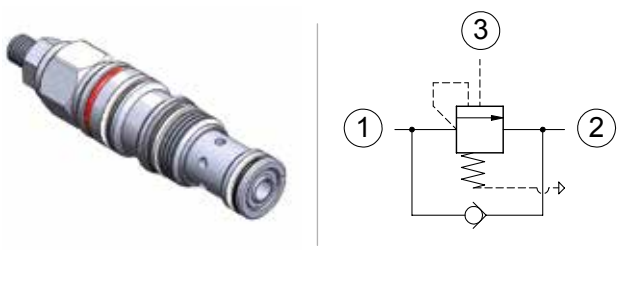
- T = 40-105 bar
- M = 90-210 bar
- D = 140-350 bar
- S = 300-420 bar

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Load holding valves

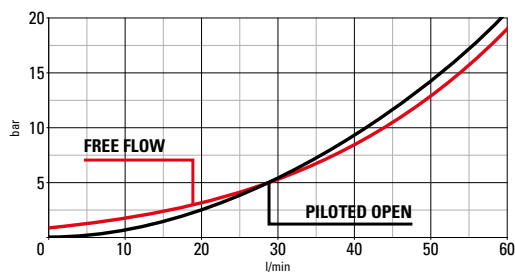
Ventilata T11A 3:1 adjustable setting



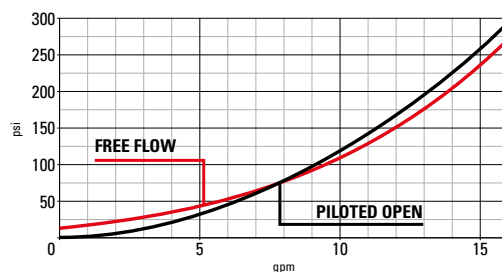
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	29 bar (spring M) - 166 bar (spring D) - 109 bar (spring T) - 193 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

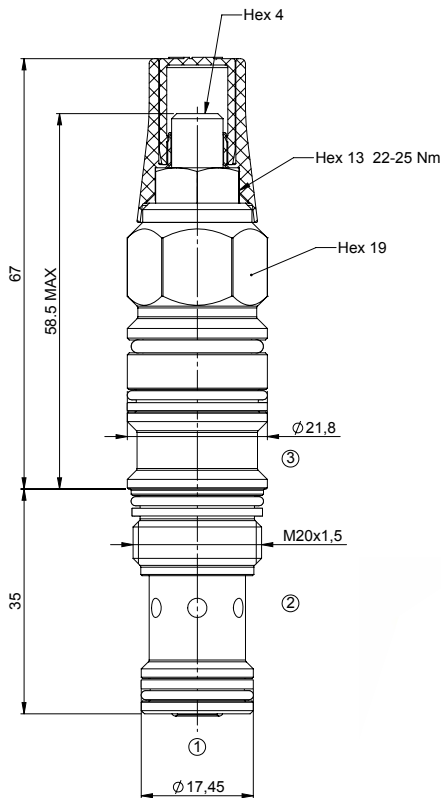
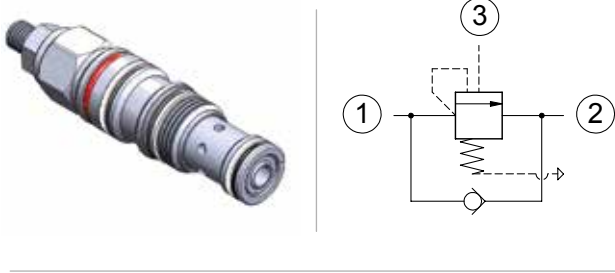
C | 0 | 2 | | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

- T = 40-105 bar
- M = 90-210 bar
- D = 140-350 bar
- S = 300-420 bar

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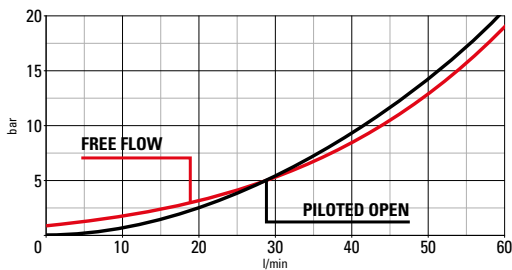
Ventilata T11A 5:1 adjustable setting



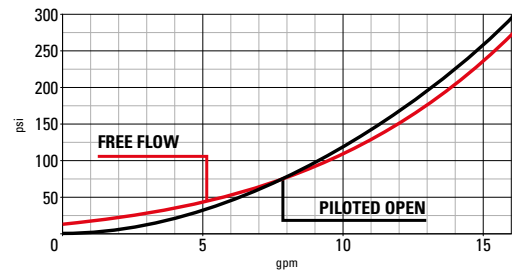
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	29 bar (spring T) - 166 bar (spring M) - 109 bar (spring D) - 193 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 2 | | | | | | | | 0 | 5 | 1 | 1 | 0 | 0 | A

Spring Setting (bar)

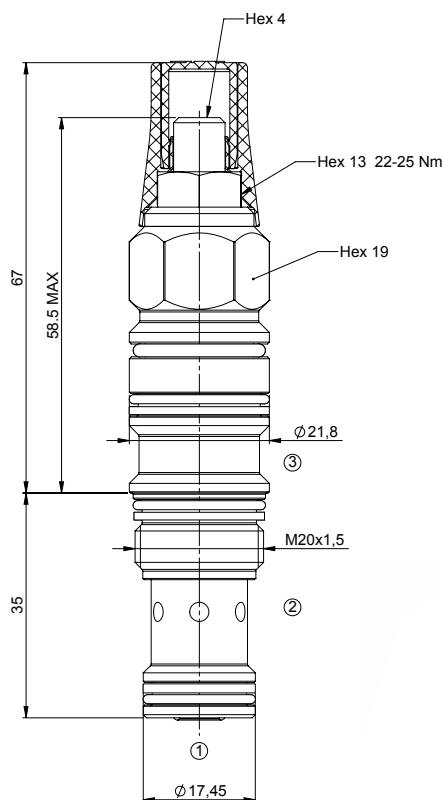
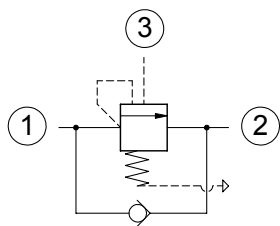
- T = 40-105 bar
- M = 90-210 bar
- D = 140-350 bar
- S = 300-420 bar

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Load holding valves

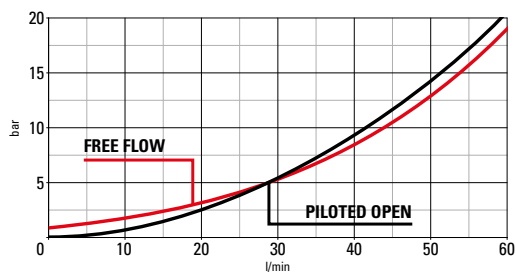
Ventilata T11A 8:1 adjustable setting



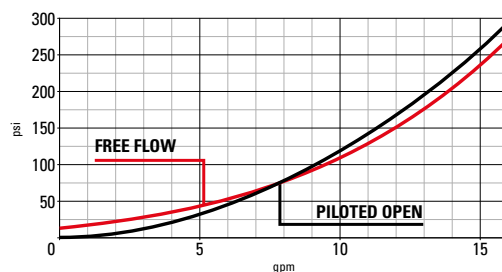
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	35 bar (spring T) - 131 bar (spring M) - 200 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 2

Setting (bar)

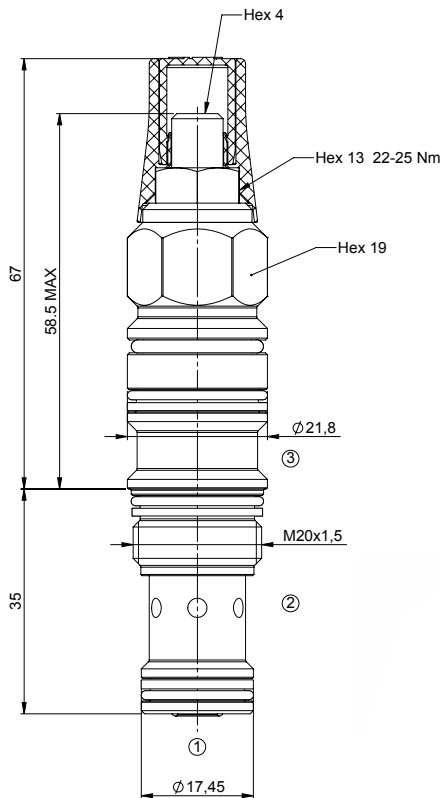
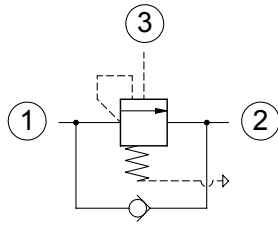
Spring

- T = 40-120 bar
- M = 110-250 bar
- D = 200-420 bar

0 | 8 | 1 | 1 | 0 | 0 | A

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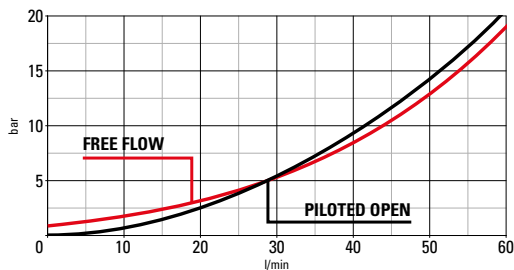
Ventilata T11A 10:1 adjustable setting



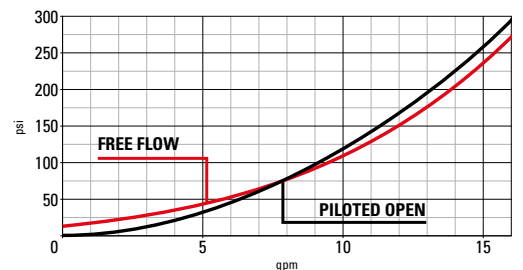
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	42 bar (spring T) - 170 bar (spring M) - 252 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 2 | | | | | | | 0 | 10 | 1 | 1 | 0 | 0 | A

Setting (bar)

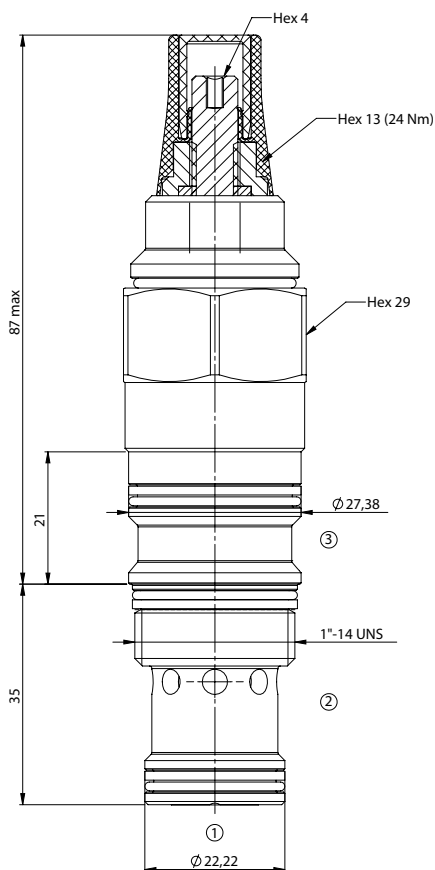
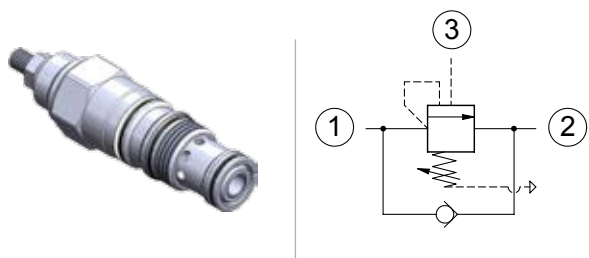
Spring

- T = 40-120 bar
- M = 110-250 bar
- D = 200-420 bar

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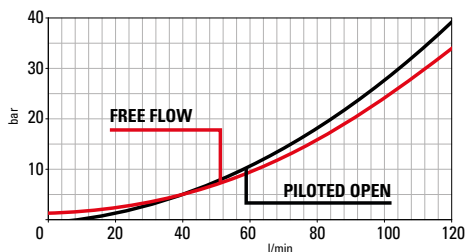
Load holding valves Ventilata T2A 2:1 adjustable setting



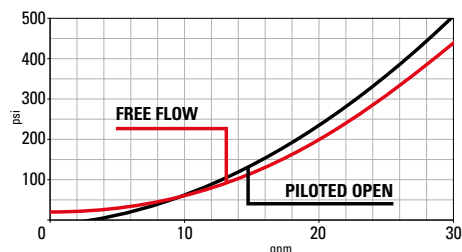
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	47 bar (M spring) / 149 bar (D spring)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0.35 kg
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm2/s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 0 | 2 | | | | | 0 | 2 | 0 | 2 | 0 | 0 | A

Setting (bar)

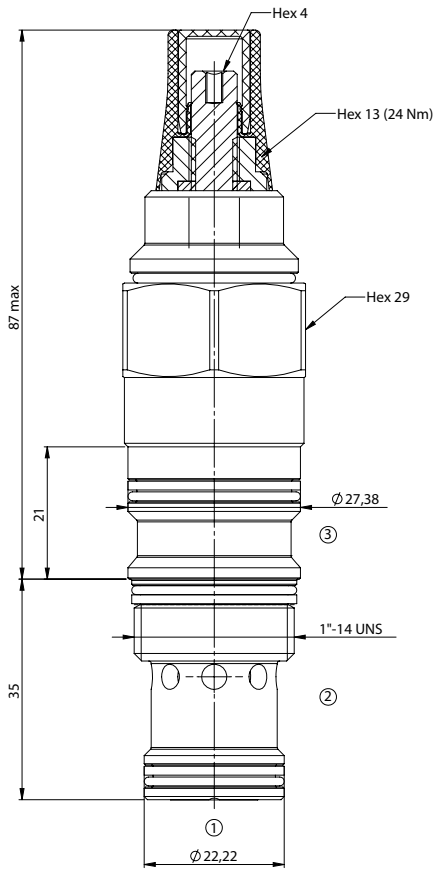
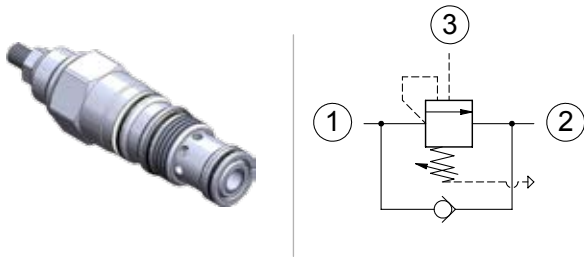
Spring

- M = 70-210 bar
- D = 140-350 bar

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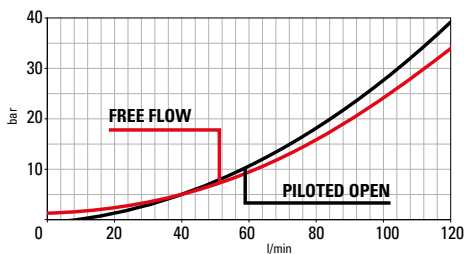
Ventilata T2A 4:1 adjustable setting



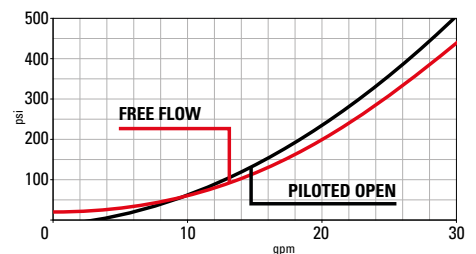
Technical Details

cavity	T2A
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	47 bar (M spring) / 149 bar (D spring)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0.35 kg
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 0 | 2 | | | | | | | 0 | 4 | 0 | 2 | 0 | 0 | A

Setting (bar)

Spring

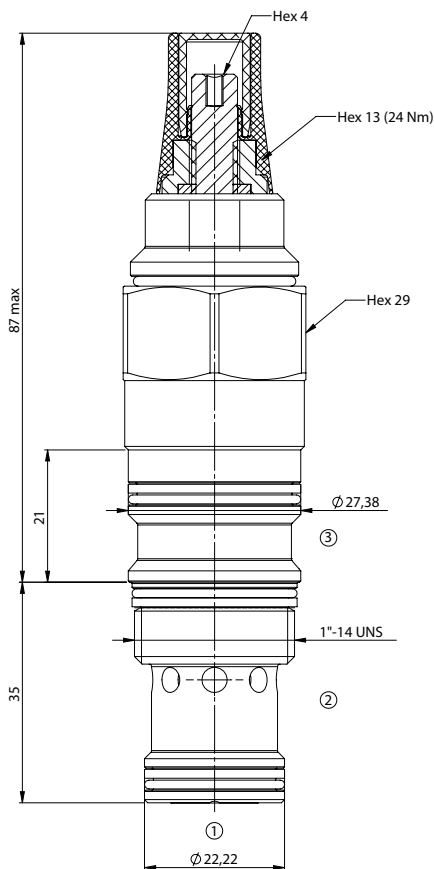
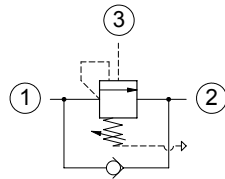
- M = 70-210 bar
- D = 140-350 bar

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Load holding valves

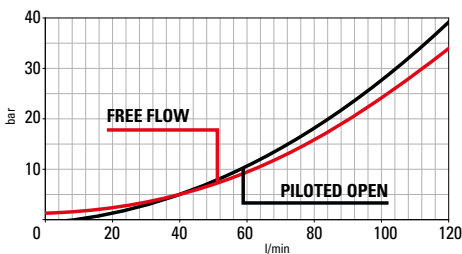
Ventilata T2A 8:1 adjustable setting



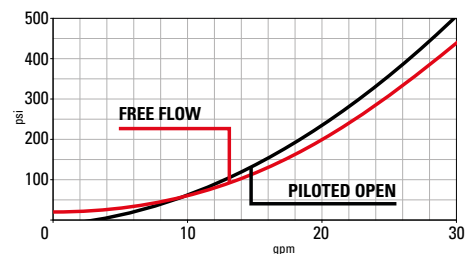
Technical Details

cavity	T2A
capacity	120 lpm
max operating pressure	350 bar (5000 psi)
pilot ratio	8 :1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	47 bar (M spring) / 96 bar (D spring)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	320 bar (4650 psi)
valve hex size (mm)	29
valve installation torque	60-70 Nm (44-52 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0.35 kg
external component surface treatment	zinc plating
seal kit (nbr)	S000T2ASN900000
seal kit (viton)	S000T2ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + tamper resistant + sealed piston
H = VITON + tamper resistant + sealed piston

C | 0 | 2

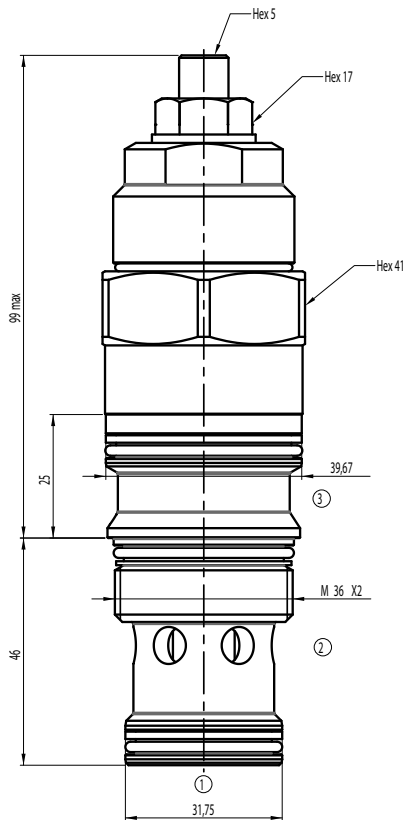
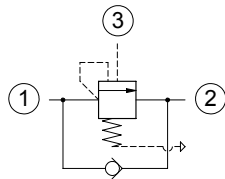
Setting (bar)

| 1 | 0 | 0 | 8 | 0 | 0 | A

Spring
M = 70-210 bar
D = 140-420 bar

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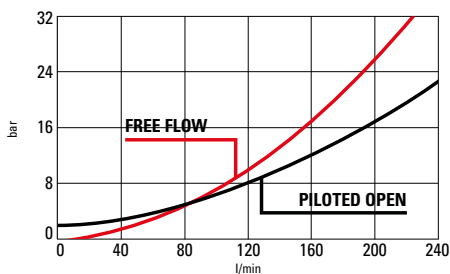
Ventilata T17A 4:1 adjustable setting



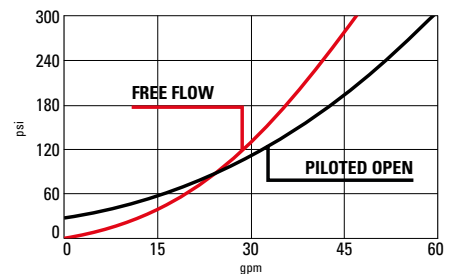
Technical Details

cavity	T17A
capacity	240 lpm (60 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	77 bar (spring M) / 119 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	Vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	41
valve installation torque	205-220 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	25
valve weight	0.9 kg
external component surface treatment	zinc plating
seal kit (nbr)	S00T17ASN900000
seal kit (viton)	S00T17ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 0 | 2 | | | | | | | 0 | 4 | 1 | 7 | 0 | 0 | A

Setting (bar)

Spring

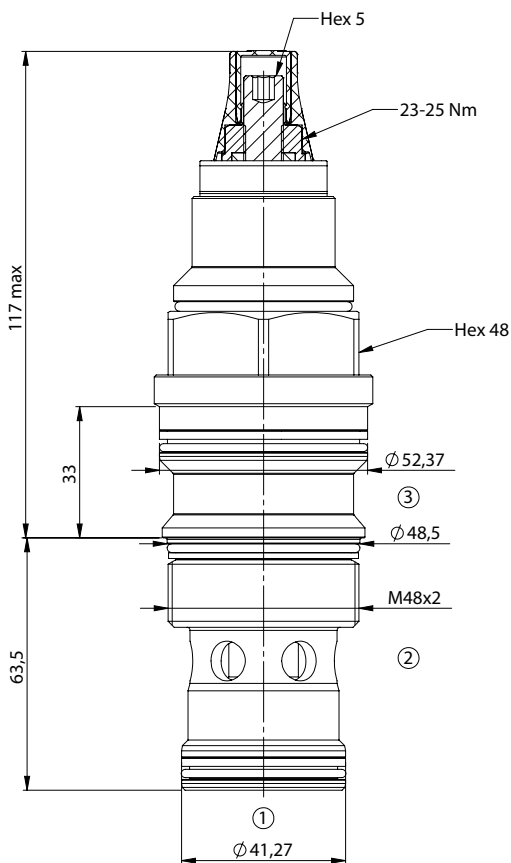
- M = 70-280 bar
- D = 140-420 bar

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Load holding valves

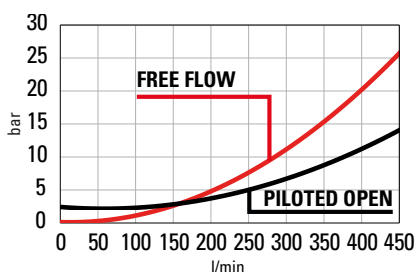
Ventilata T19A 5:1 adjustable setting



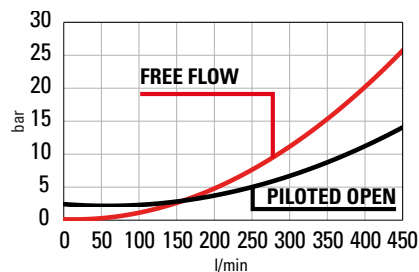
Technical Details

cavity	T19A
capacity	480 lpm (120 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	65 bar (M spring) / 107 bar (D spring)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	320 bar (4650 psi)
valve hex size (mm)	48
valve installation torque	475-510 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	25
valve weight	1.6 kg
external component surface treatment	zinc plating
seal kit (nbr)	S00T19ASN900000
seal kit (viton)	S00T19ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + tamper resistant + sealed piston
H = VITON + tamper resistant + sealed piston

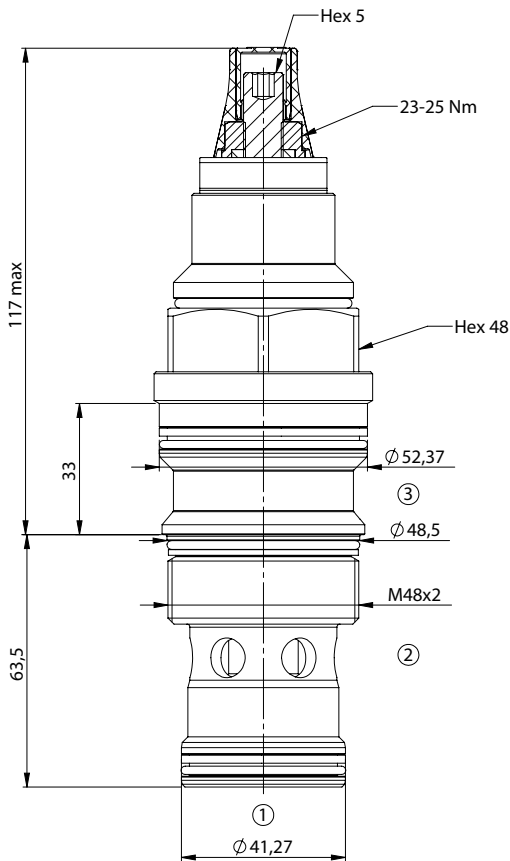
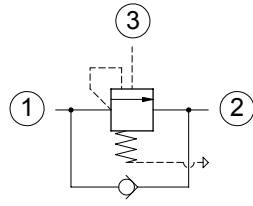
C | **0** | **2** | | | | | | | | **0** | **5** | **1** | **9** | **0** | **0** | **A**

Setting (bar)

Spring
M = 70-280 bar
D = 140-350 bar

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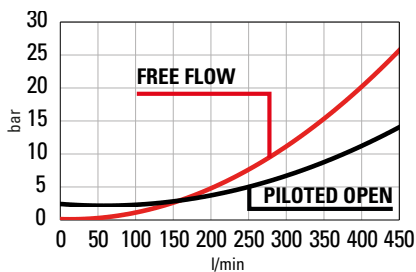
Ventilata T19A 8:1 adjustable setting



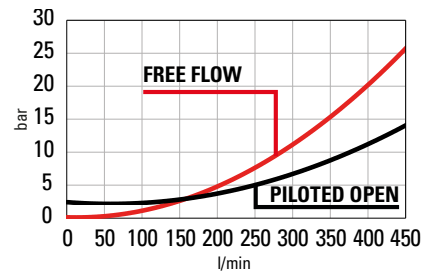
Technical Details

cavity	T19A
capacity	480 lpm (120 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	65 bar (M spring) / 107 bar (D spring)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	320 bar (4650 psi)
valve hex size (mm)	48
valve installation torque	475-510 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	25
valve weight	1.6 kg
external component surface treatment	zinc plating
seal kit (nbr)	S00T19ASN900000
seal kit (viton)	S00T19ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

C | 0 | 2 | | | | | | | | 0 | 8 | 1 | 9 | 0 | 0 | A

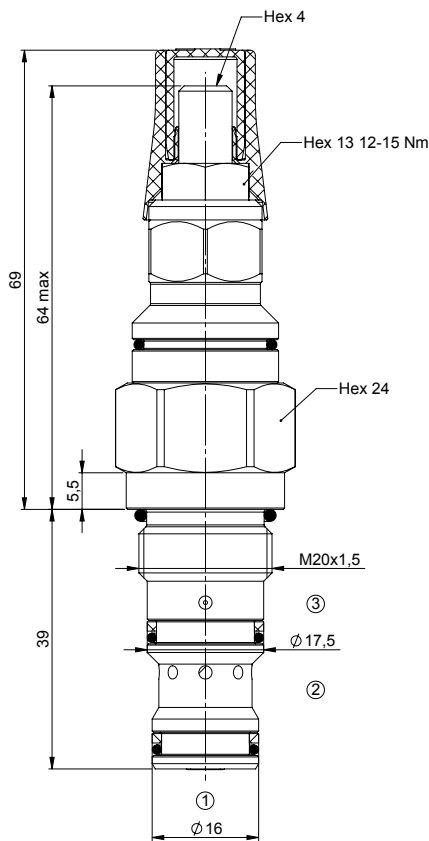
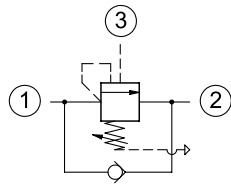
Setting (bar)

- Spring**
- M = 70-280 bar
 - D = 140-350 bar

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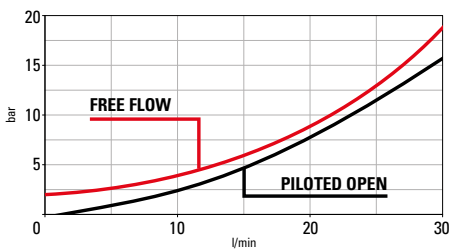
Ventilata i08 4:1 adjustable setting



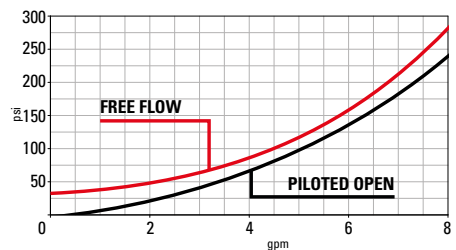
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	50 bar (1000 psi)
pressure increase per turn	136 bar (spring D) - 109 bar (spring M) - 73 bar (spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	24
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0A6610SN700000
seal kit (viton)	S0A6610SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA SEALS
C = BUNA tamper resistant
G = VITON SEALS
H = VITON tamper resistant

C | **0** | **2** | | | | **0** | **4** | **6** | **6** | **0** | **0** | **A**

Setting (bar)

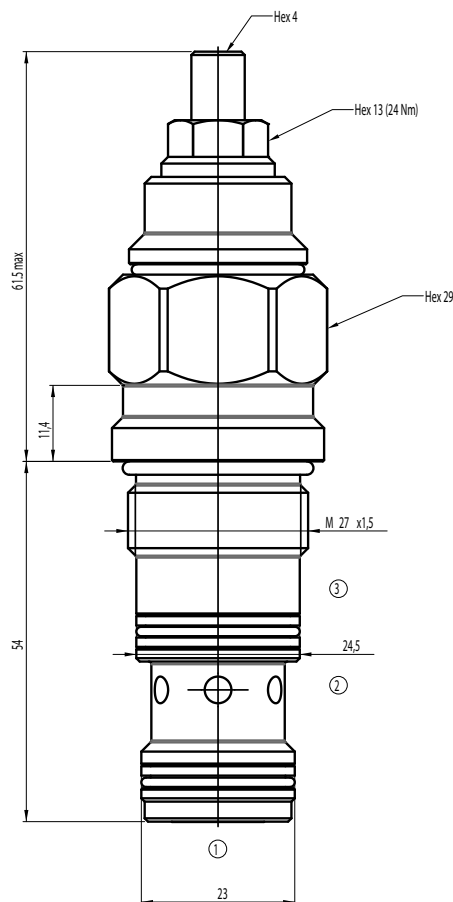
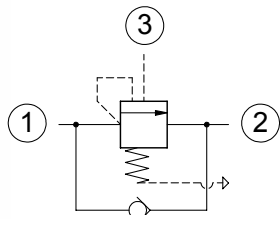
Spring
T = 50-150 bar
M = 100-210 bar
D = 200-350 bar

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Load holding valves

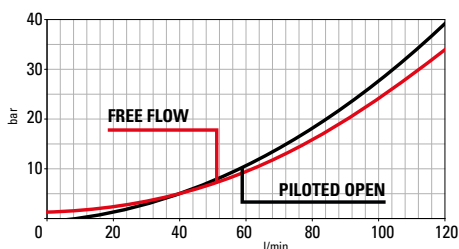
Ventilata i12 4:1 adjustable setting



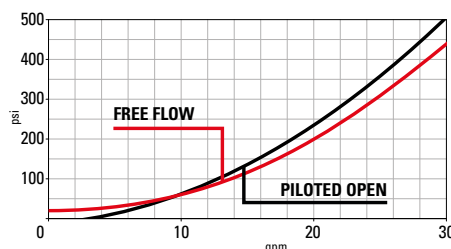
Technical Details

cavity	IH A12336
capacity	120 lpm (30 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	156 bar (spring D) - 49 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	29
valve installation torque	60 Nm (44 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	18-20 Nm (13-15 lbf ft)
valve weight	0,40 kg (0,88 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SA12336SN700000
seal kit (viton)	SA12336SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + piombatura + sealed piston
H = VITON + piombatura + sealed piston

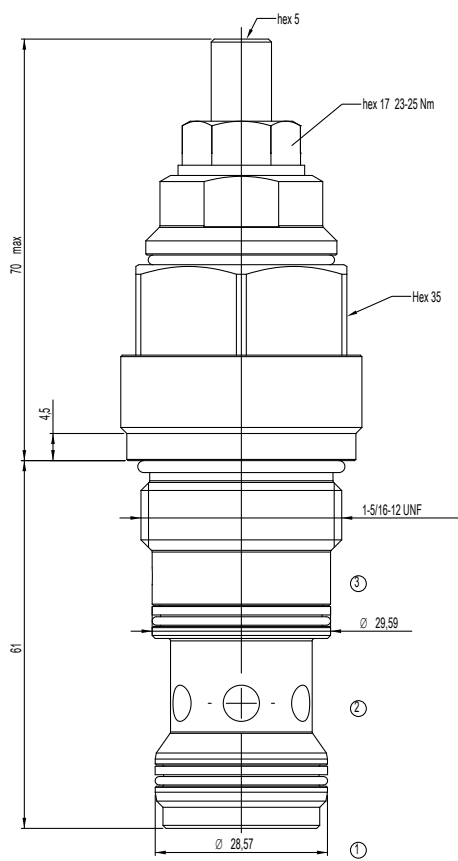
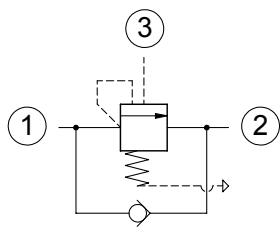
C | **0** | **2** | | | | | **0** | **4** | **3** | **6** | **0** | **0** | **A**

Setting (bar)

Spring
M = 70-210 bar
D = 140-350 bar

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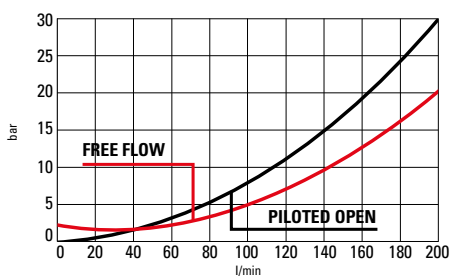
Ventilata i16 4:1 adjustable setting



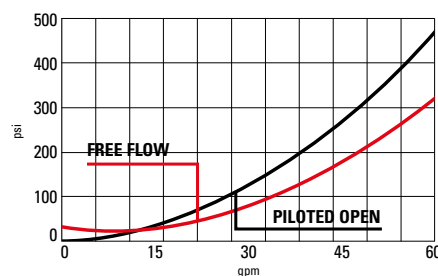
Technical Details

cavity	IH A877
capacity	200 lpm (50 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	140
pressure increase per turn	66 bar (spring M) / 123 bar (spring D)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>85%
Maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve hex size (mm)	35
valve installation torque	100-110 Nm
adjustment screw internal hex size (mm)	5
seal-lock hex size (mm)	17
seal-lock torque	25
valve weight	0.6 kg (1,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00877ASN900000
seal kit (viton)	S00877ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
A = BUNA + sealed piston
C = VITON + sealed piston
G = BUNA + tamper resistant + sealed piston
H = VITON + tamper resistant + sealed piston

C | **0** | **2** | | | | | | | | **0** | **4** | **8** | **7** | **0** | **0** | **A**

Setting (bar)

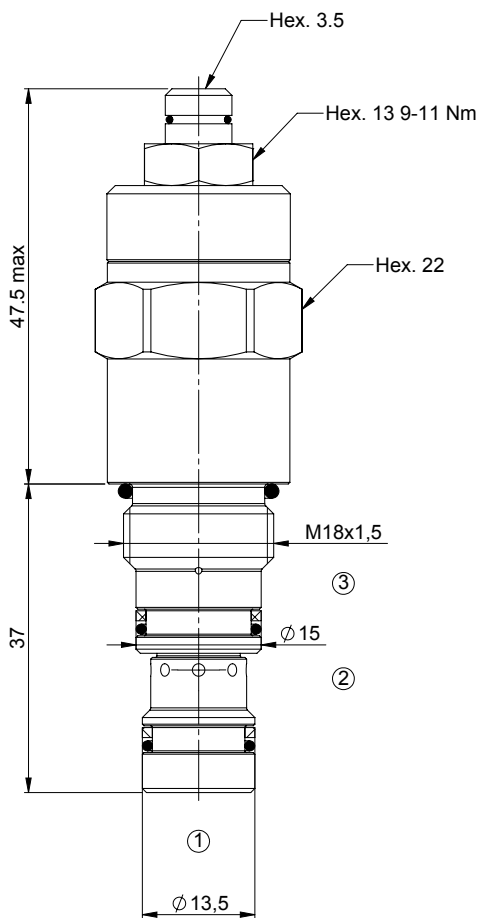
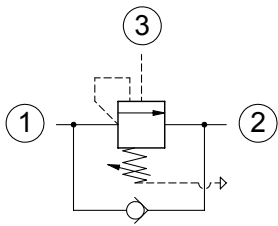
Spring
M = 70-210 bar
D = 140-350 bar

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Load holding valves

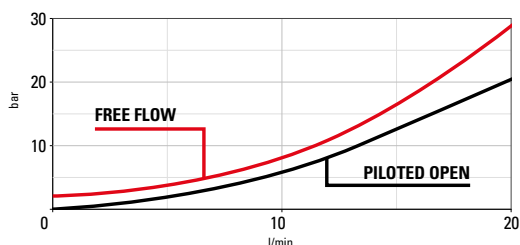
Ventilata 07P 15:1 SP adjustable setting



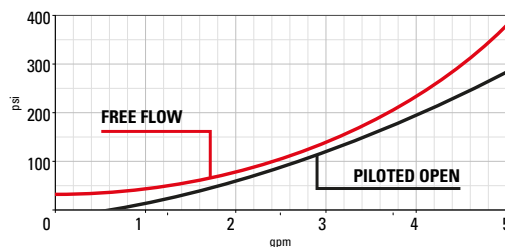
Technical Details

cavity	07P
capacity	15 lpm (5gpm)
max operating pressure	350 (5000 psi)
pilot ratio	15:1
maximum setting	380 bar (5500 psi)
minimum setting	210 bar (3000 psi)
pressure increase per turn	140 bar (2030 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>90%
Maximum recommended load pressure at maximum setting	320 bar (4680 psi)
valve hex size (mm)	22
valve installation torque	30 Nm
adjustment screw internal hex size (mm)	3,5
seal-lock hex size (mm)	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0,130 kg (0,29 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S000053SN700000
seal kit (viton)	S000053SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is vented to atmosphere.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals between all ports
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options

- A = BUNA + sealed piston
- C = VITON + sealed piston
- G = BUNA + tamper resistant + sealed piston
- H = VITON + tamper resistant + sealed piston

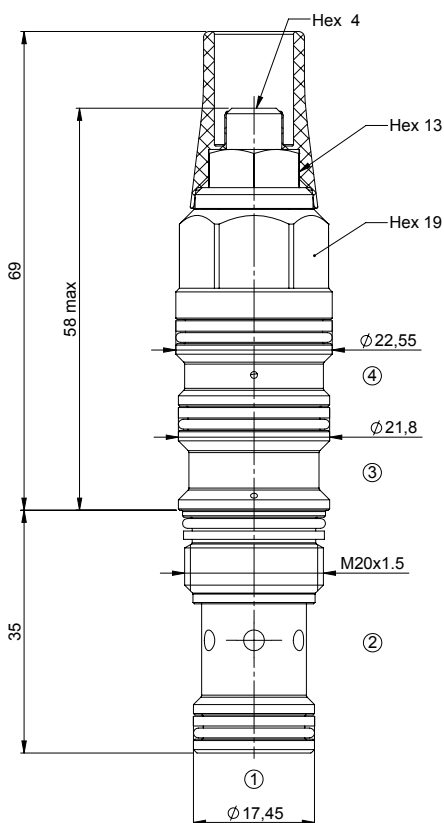
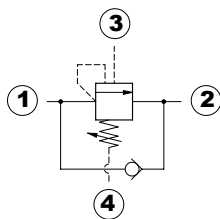
C | 0 | 2 | | | | | 1 | 5 | 5 | 3 | 0 | 0 | A

Setting (bar)

Spring
D = 210-380 bar

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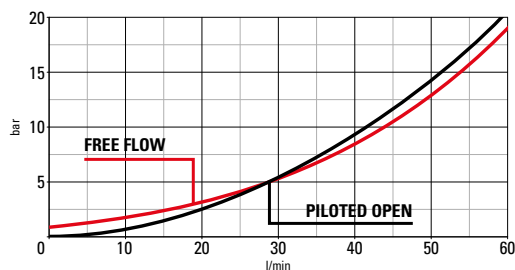
Drenata T21A 1:1 adjustable setting



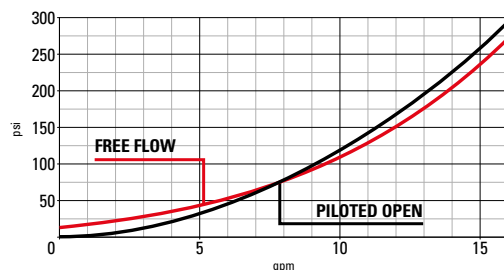
Technical Details

cavity	T21A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	1:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	31 bar (spring T) - 118 bar (spring M) - 175 bar (spring D) - 204 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	drained
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000D
seal kit (viton)	S00T11ASV90000D
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is drained to port 4.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting
- Port 4 is intended to be connected to a tank line only



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 3

| 0 | 1 | 2 | 1 | 0 | 0 | A

Spring Setting (bar)

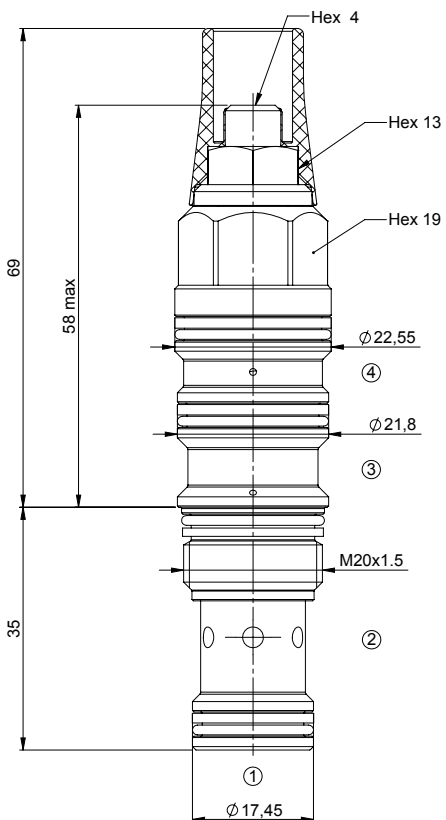
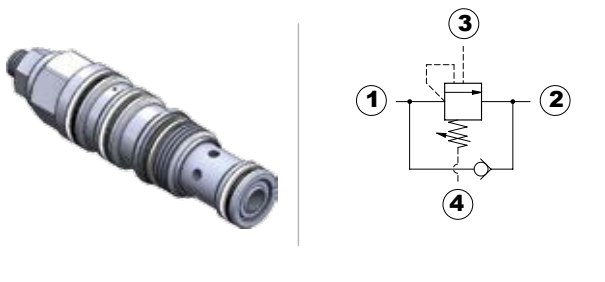
- T = 40-105 bar
- M = 90-210 bar
- D = 140-350 bar
- S = 300-420 bar

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Load holding valves

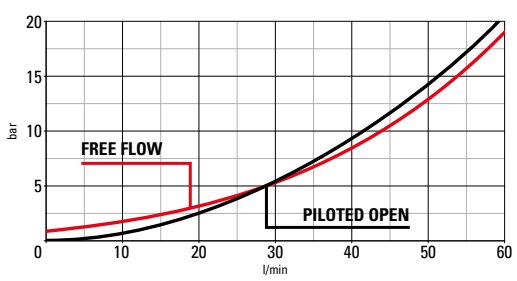
Drenata T21A 2:1 adjustable setting



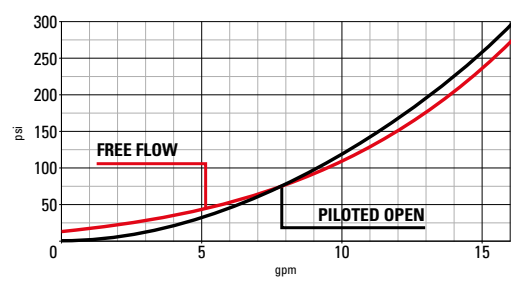
Technical Details

cavity	T21A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	2:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	30 bar (spring T) - 115 bar (spring M) - 171 bar (spring D) - 200 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	drained
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000D
seal kit (viton)	S00T11ASV90000D
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is drained to port 4.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting
- Port 4 is intended to be connected to a tank line only



Performance curves



Seals and anti-tamper options

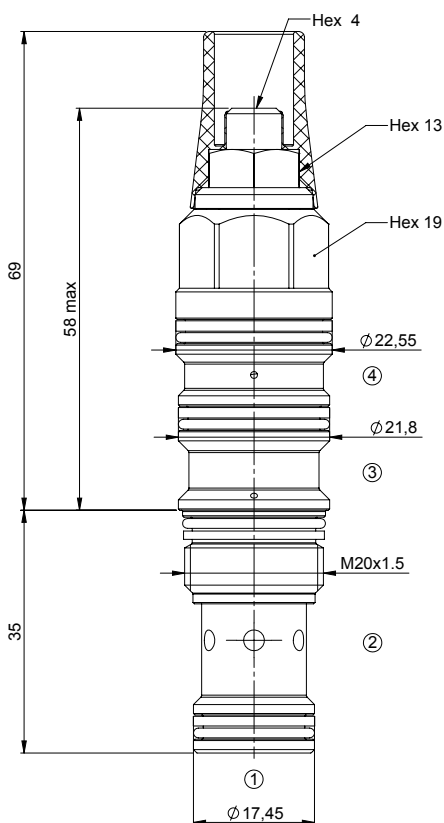
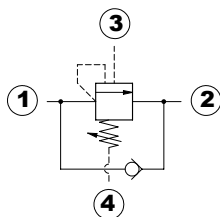
- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 3 | | | | | | | | 0 | 2 | 2 | 1 | 0 | 0 | A

- Spring Setting (bar)
- T = 40-105 bar
 - M = 90-210 bar
 - D = 140-350 bar
 - S = 300-420 bar

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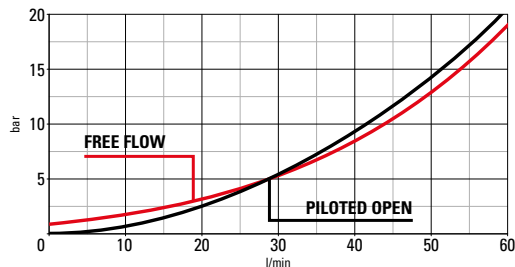
Drenata T21A 3:1 adjustable setting



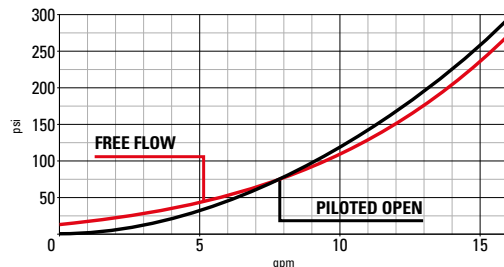
Technical Details

cavity	T21A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	109 bar (spring M) 166 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	drained
reseal	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000D
seal kit (viton)	S00T11ASV90000D
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is drained to port 4.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting
- Port 4 is intended to be connected to a tank line only



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 3

Setting (bar)

0 | 3 | 2 | 1 | 0 | 0 | A

Spring

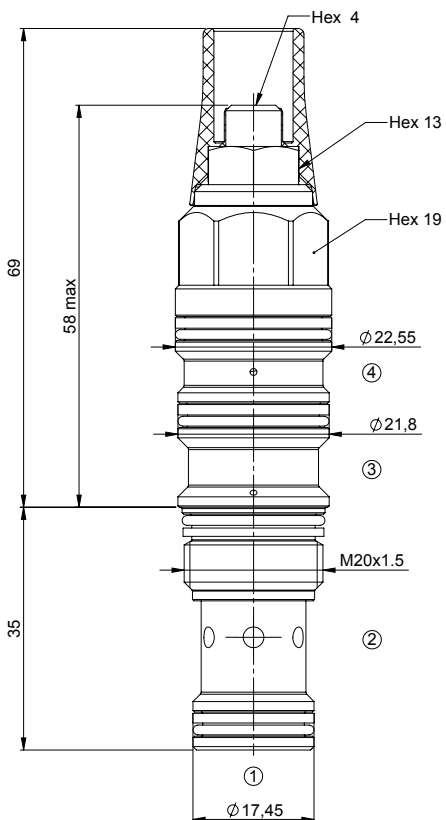
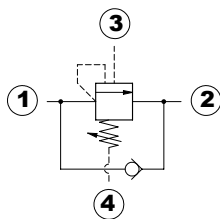
- M = 70-210 bar
- D = 140-350 bar

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Load holding valves

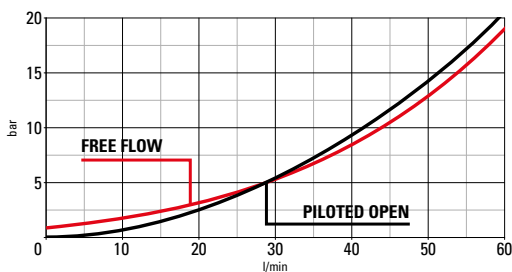
Drenata T21A 5:1 adjustable setting



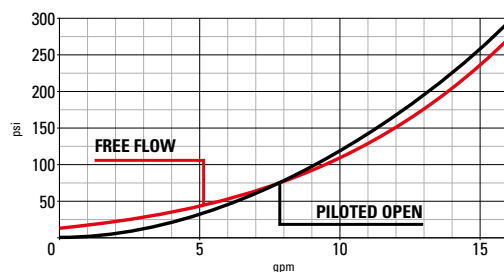
Technical Details

cavity	T21A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	109 bar (spring M) - 166 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	drained
reseal	>85%
maximum recommended load pressure at maximum setting	320 bar (4600 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is drained to port 4.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting
- Port 4 is intended to be connected to a tank line only



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 3

Setting (bar)

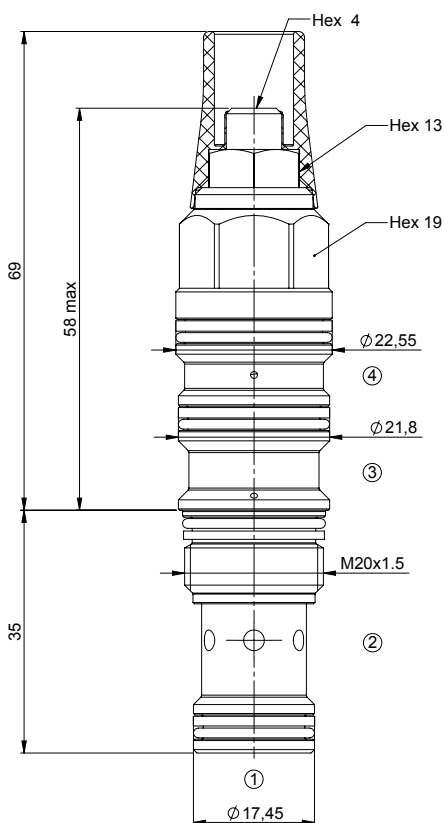
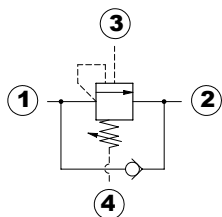
Spring

- M = 70-210 bar
- D = 140-350 bar

0 | 5 | 2 | 1 | 0 | 0 | A

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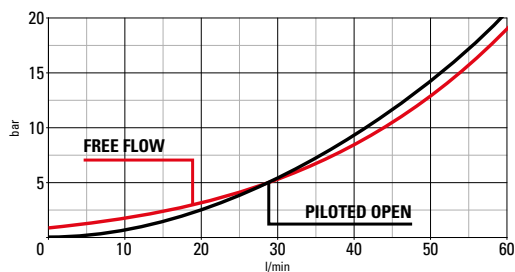
Drenata T21A 8:1 adjustable setting



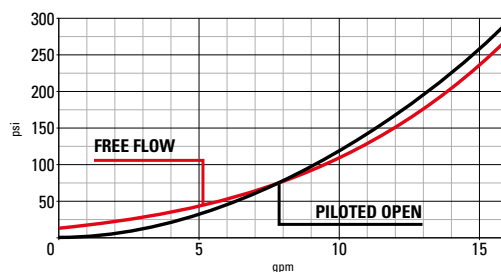
Technical Details

cavity	T21A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	131 bar (spring M) - 200 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	drained
reseal	>85%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000V
seal kit (viton)	S00T11ASV90000V
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is drained to port 4.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting
- Port 4 is intended to be connected to a tank line only



Performance curves



Seals and anti-tamper options

- A = BUNA SEALS
- G = BUNA tamper resistant
- C = VITON SEALS
- H = VITON tamper resistant

C | 0 | 3

Setting (bar)

0 | 8 | 2 | 1 | 0 | 0 | A

Spring

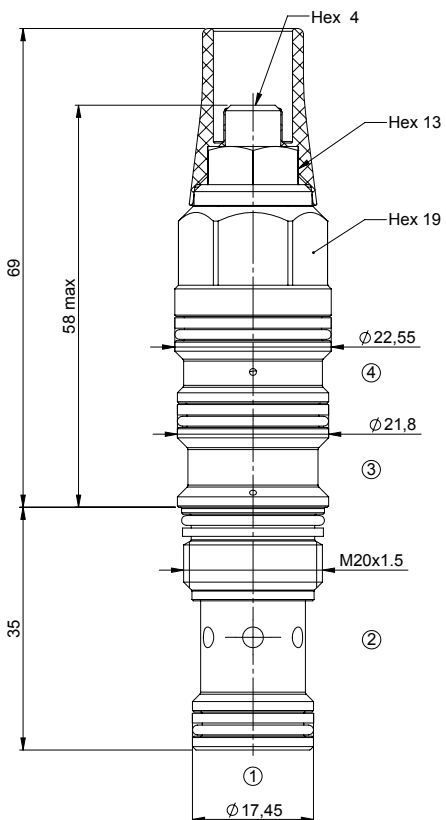
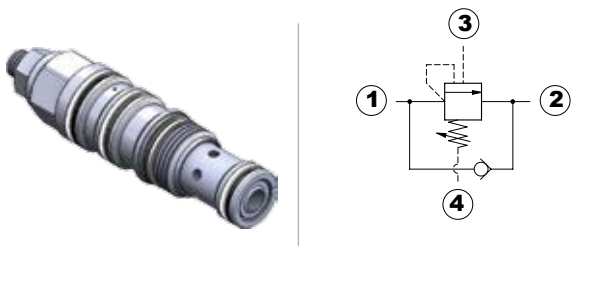
- M = 70-210 bar
- D = 140-420 bar

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Load holding valves

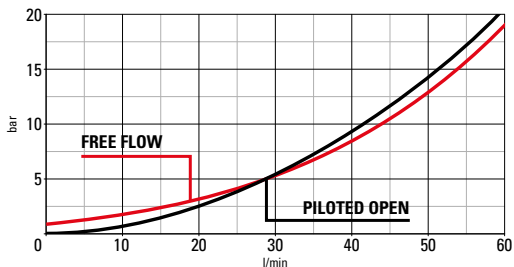
Drenata T21A 10:1 adjustable setting



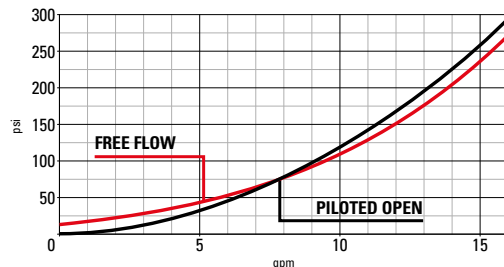
Technical Details

cavity	T21A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	40 bar (600 psi)
pressure increase per turn	42 bar (spring T) - 170 bar (spring M) - 252 bar (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	drained
reseal	>85%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	4
seal-lock hex size (mm)	13
seal-lock torque	22-25 Nm (16-18 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000D
seal kit (viton)	S00T11ASV90000D
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Operations of all functions are independent of back.-pressure at port 2, thanks to the fact that the spring chamber is drained to port 4.
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure.
- This valve is provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting
- Port 4 is intended to be connected to a tank line only



Performance curves



Seals and anti-tamper options
A = BUNA SEALS
G = BUNA tamper resistant
C = VITON SEALS
H = VITON tamper resistant

C | 0 | 3

| 1 | 0 | 2 | 1 | 0 | 0 | A

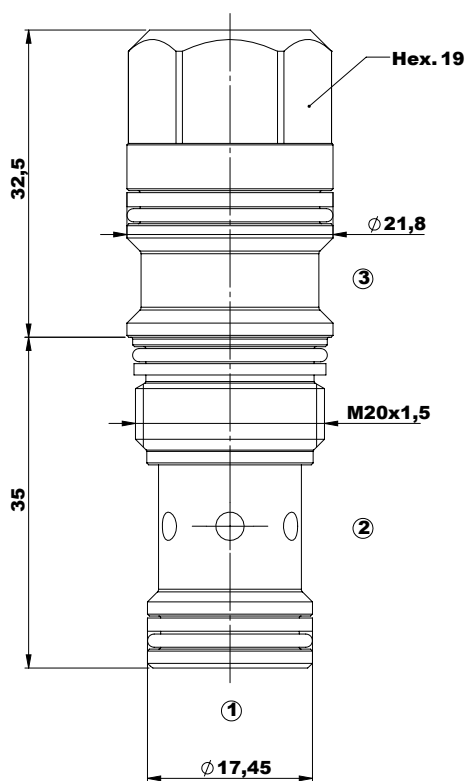
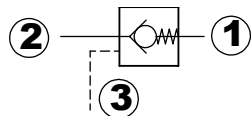
Setting (bar)

Spring
T = 40-120 bar
M = 110-250 bar
D = 200-420 bar

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Check Valves

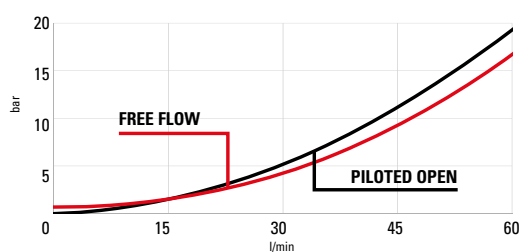
P.O.Check T11A



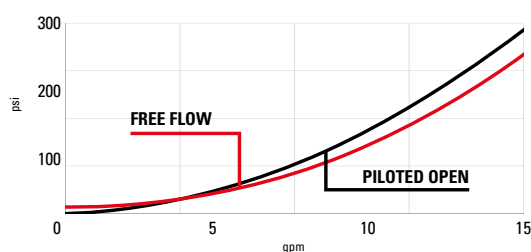
Technical Details

cavity	T11A
capacity	60 lpm (15 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum valve leakage at reseal	5 drops/min
operating characteristic	standard
valve hex size (mm)	19
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0,13 kg (0,27 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000
seal kit (viton)	S00T11ASV90000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 5 to 800 mm ² /s (cSt)
filtration	Nominal value max. 10 μ m (NAS 8) ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- This valve is not provided with positive seals on pilot section



Performance curves



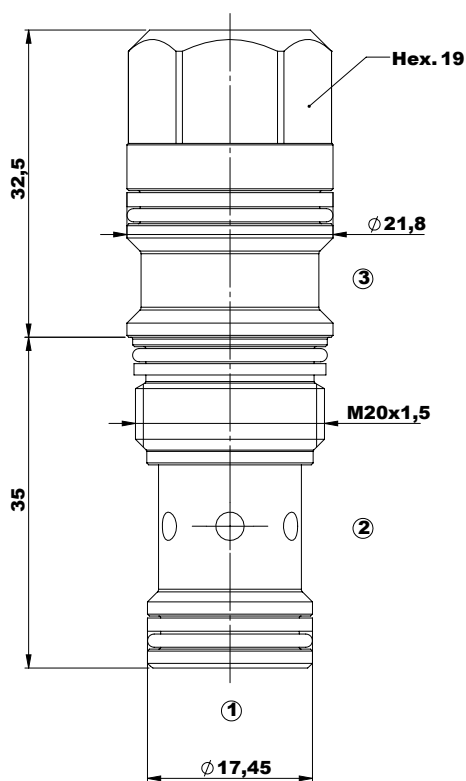
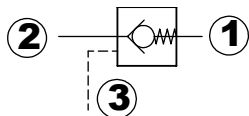
C | 6 | 2 | 2 | 0 | 2 | 3 | 6 | 0 | T | 1 | 1 | 0 | 0 | A

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Check Valves

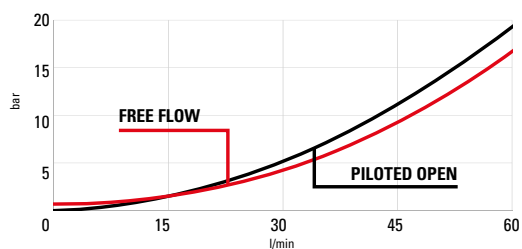
P.O.Check T11A SP



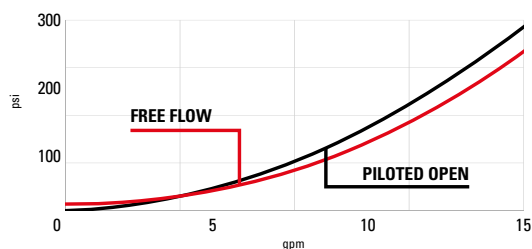
Technical Details

cavity	T11A
capacity	60 lpm (15 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum valve leakage at reseal	5 drops/min
operating characteristic	standard
valve hex size (mm)	19
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0,13 kg (0,27 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN90000
seal kit (viton)	S00T11ASV90000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 5 to 800 mm ² /s (cSt)
filtration	Nominal value max. 10 μ m (NAS 8) ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- This valve is provided with positive seals on pilot section



Performance curves

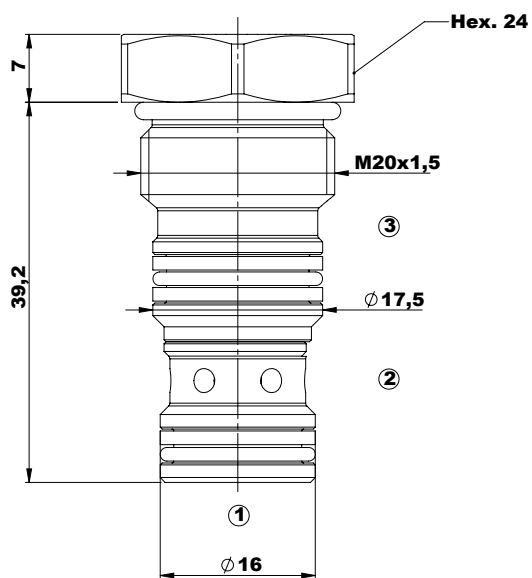
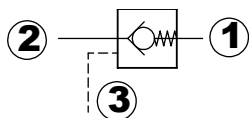


C | 6 | S | 2 | 0 | 2 | 3 | 6 | 0 | T | 1 | 1 | 0 | 0 | A

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Check Valves

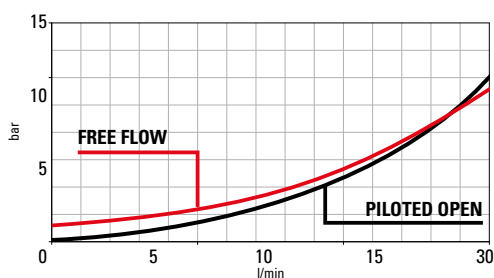
P.O.Check i08



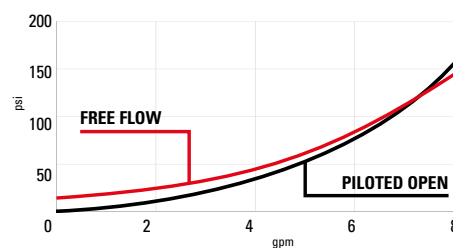
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum valve leakage at reseal	5 drops/min
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0,08 kg (XX lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00CVI8SN700000
seal kit (viton)	S00CVI8SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 5 to 800 mm ² /s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14

• This valve is not provided with positive seals on pilot section



Performance curves

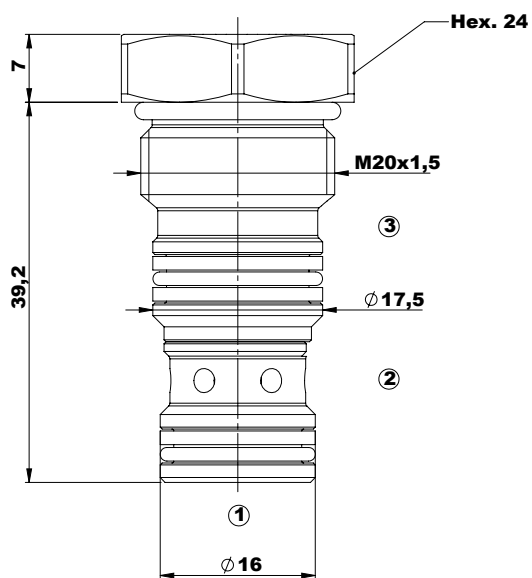
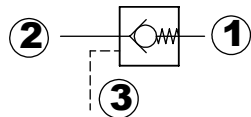


C | 6 | 2 | 0 | 0 | 2 | 3 | 3 | 0 | 0 | 6 | 6 | 0 | 0 | A

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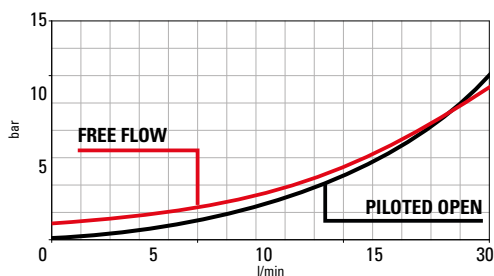
Check Valves P.O.Check i08 SP



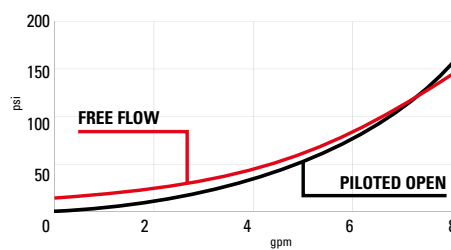
Technical Details

cavity	IH A6610
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum valve leakage at reseal	5 drops/min
valve hex size (mm)	24
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0,08 kg (XX lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00CVI8SN700000
seal kit (viton)	S00CVI8SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 5 to 800 mm ² /s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14

• This valve is provided with positive seals on pilot section



Performance curves

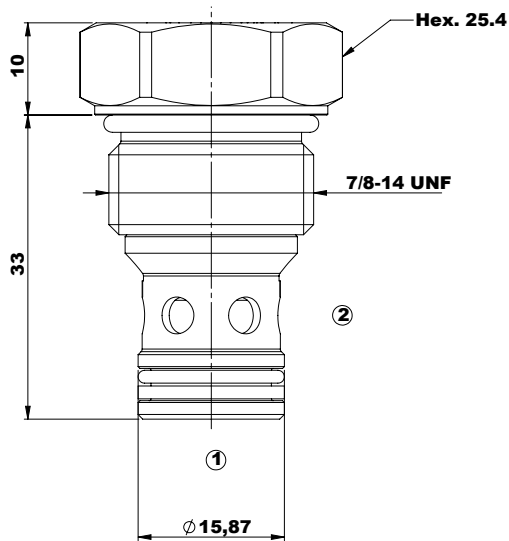
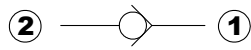


C | 6 | S | 0 | 0 | 2 | 3 | 3 | 0 | 0 | 6 | 6 | 0 | 0 | A

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Check Valves

Check Valve i10

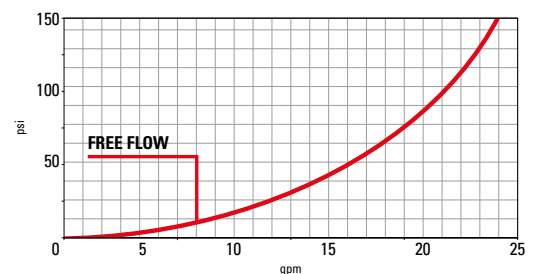


Technical Details

cavity	IH A12370
capacity	90 lpm (25 gpm)
max operating pressure	350 bar (5000 psi)
maximum valve leakage at reseal	5 drops/min
valve hex size (mm)	25,4 (1")
valve installation torque	45-50 Nm (33-37 lbf ft)
valve weight	0,09 kg (XX lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00010SN700000
seal kit (viton)	S00010SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 5 to 800 mm ² /s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14



Performance curves

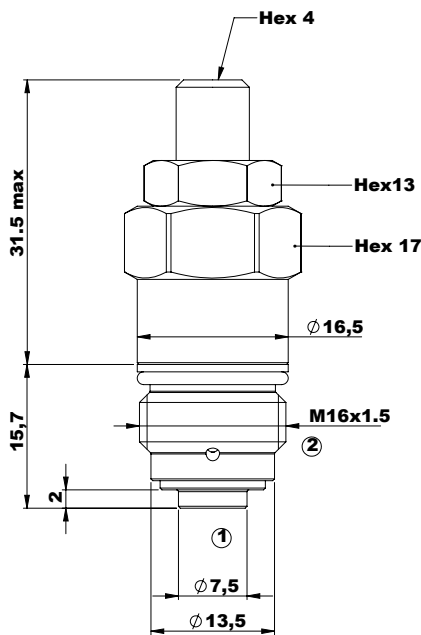
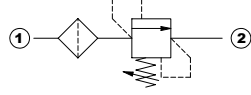


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C | 6 | 2 | 0 | Z | 2 | 0 | 5 | 0 | 0 | 7 | 0 | 0 | 0 | A



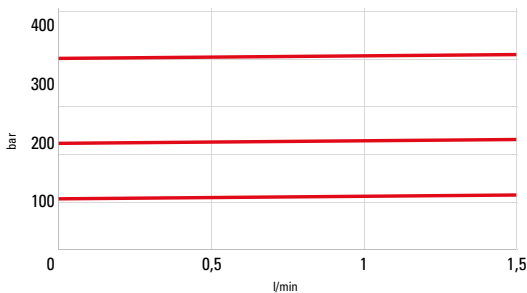
Relief Valves VM6 direct acting



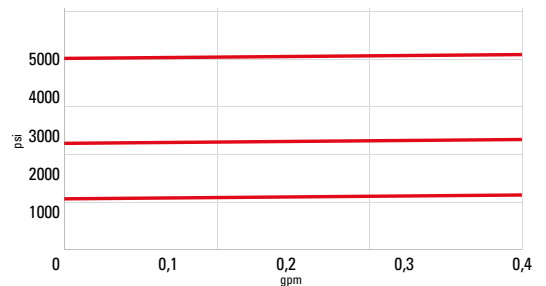
Technical Details

cavity	vm6
capacity	1,5 lpm (0,4 gpm)
max operating pressure	460 bar (6600 psi)
maximum setting	460 bar (6600 psi)
minimum setting	8 bar (115 psi)
pressure increase per turn	17 bar (spring L) - 50 bar (spring T) - 91 bar (spring M) - 205 bar (spring D) - 294 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
reseal	>85%
valve hex size (mm)	17
valve installation torque	27-33 Nm (20-24 lbf ft)
adjustment screw internal hex size (mm)	4
lock nut hex size	13
lock nut torque	9-11 Nm
valve weight	0,05 kg (0,11 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0VM600SN700000
seal kit (viton)	S0VM600SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- For anti tampering cap please consult factory



Performance curves

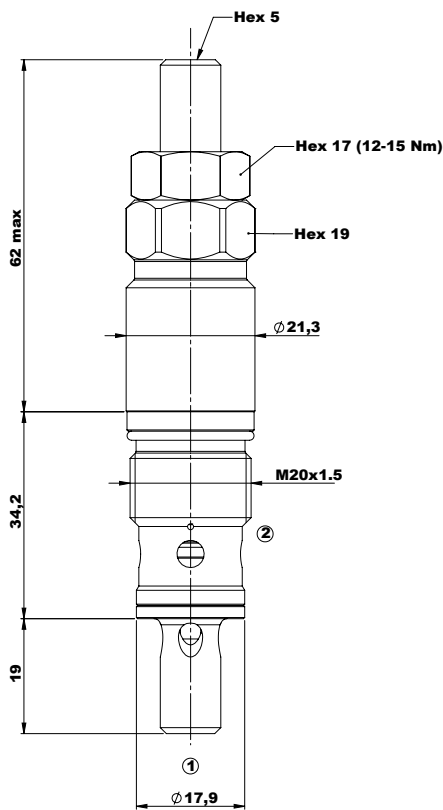
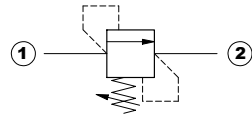


C | 3 | 0 | 1 | | | | | 1 | 6 | 0 | 2 | 0 | 0 | A

Setting (bar)
Spring
 L = 8-35 bar
 T = 25-100 bar
 M = 100-200 bar
 D = 200-300 bar
 S = 300-460 bar

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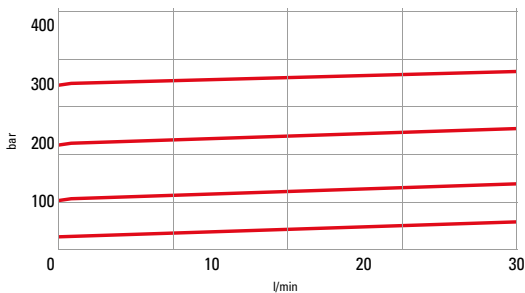
VM31 direct acting - guided poppet type



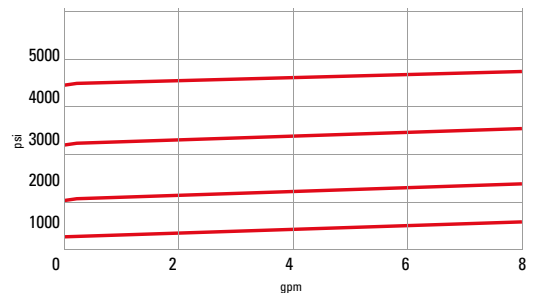
Technical Details

cavity	vm31
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
maximum setting	420 bar (6000 psi)
minimum setting	5 bar (70 psi)
pressure increase per turn	17 bar (spring L) - 50 bar (spring T) - 91 bar (spring M) - 205 bar (spring D) - 294 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
reseal	>85%
valve hex size (mm)	19
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	5
lock nut hex size	17
lock nut torque	12-15 Nm
valve weight	0,2 kg (0,44 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0VM310SN700000
seal kit (viton)	S0VM310SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 10 to 500 mm2/s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



9 = standard adjustment
P = plastic handknob

Setting (bar)

C | 3 | 0 | **2 | 0 | 3 | 0 | 0 | 0 | A**

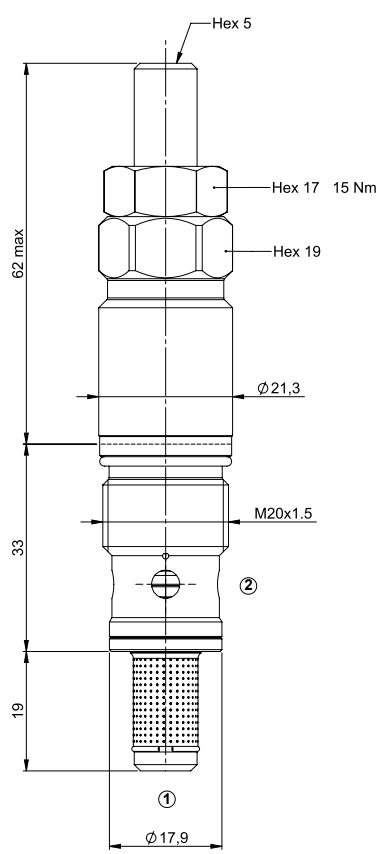
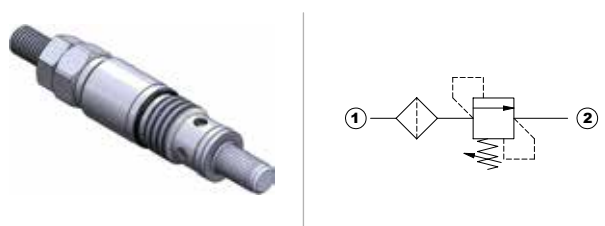
Spring
L = 5-50 bar
T = 30-100 bar
M = 50-210 bar
D = 100-300 bar
S = 200-420 bar

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Relief Valves

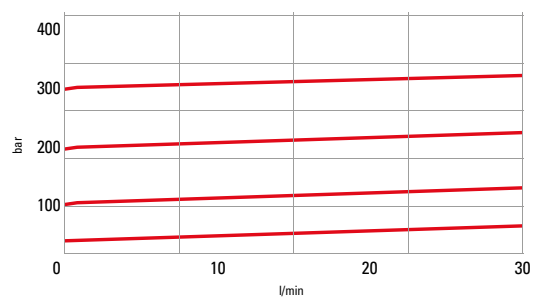
VM31 direct acting - guided poppet type **HARD SEAT F**



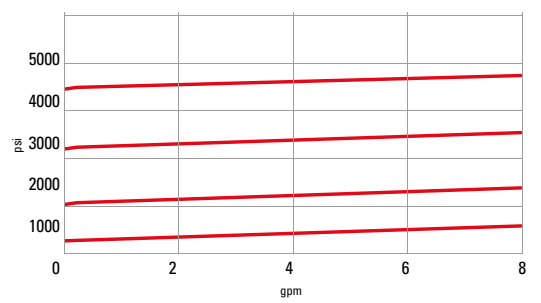
Technical Details

cavity	vm31
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
maximum setting	420 bar (6000 psi)
minimum setting	5 bar (70 psi)
pressure increase per turn	17 bar (spring L) - 50 bar (spring T) - 91 bar (spring M) - 205 bar (spring D) - 294 bar (spring S)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
reseal	>85%
valve hex size (mm)	19
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	5
lock nut hex size	17
lock nut torque	12-15 Nm
valve weight	0,2 kg (0,44 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0VM310SN700000
seal kit (viton)	S0VM310SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 10 to 500 mm2/s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



1 = standard adjustment
L = plastic handknob

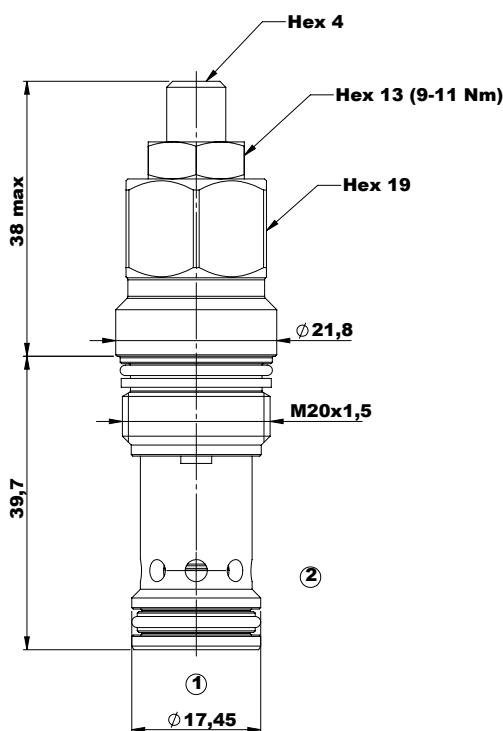
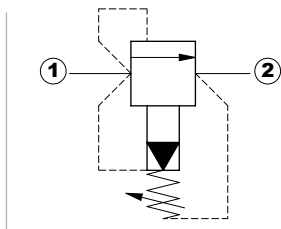
Setting (bar)

C | 3 | 0 | | | | | | | 2 | 0 | 3 | 0 | 0 | 0 | A

Spring
L = 5-50 bar
T = 30-100 bar
M = 50-210 bar
D = 100-300 bar
S = 200-420 bar

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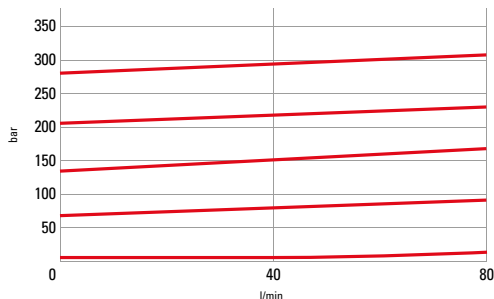
VMP2 10A pilot operated



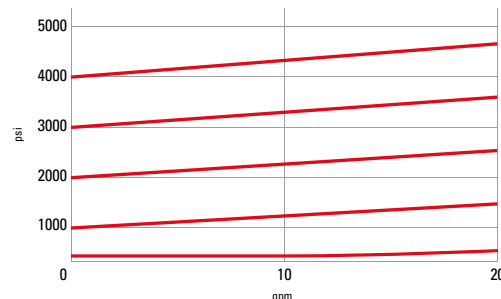
Technical Details

cavity	T10A
capacity	60 lpm (15 gpm)
minimum flow rate	3 l/min
max operating pressure	350 bar (5000 psi)
maximum setting	450 bar (6500 psi)
minimum setting	10 bar (150 psi)
pressure increase per turn	11 bar (spring L) - 50 bar (spring T) - 90 bar (spring M) - 206 bar (spring D) - 295 bar (spring S)
pressure setting established @	4 l/min
maximum valve leakage at reseal	200 cc/min @ 200 bar
valve hex size (mm)	19
valve installation torque	40-45 Nm (30-33 lbf ft)
adjustment screw internal hex size (mm)	4
lock nut hex size	13
lock nut torque	9-11 Nm
valve weight	0,15 kg (0,3 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SOVMP20SN700000
seal kit (viton)	SOVMP20SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetic oil with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10 μm (NAS 8) ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- For anti tampering cap please consult factory
- For setting higher than 300 bar please consult factory



Performance curves



C | 3 | 0 | 1 | | | | | | 2 | 0 | 3 | 0 | 0 | 0 | A

Setting (bar)

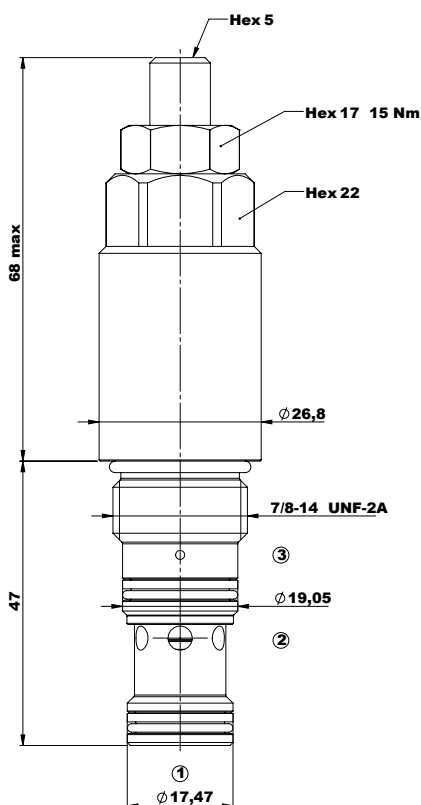
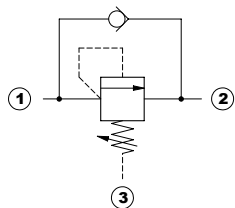
Spring
 L = 10-35 bar
 T = 35-100 bar
 M = 80-200 bar
 D = 170-350 bar
 S = 300-450 bar

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Sequence Valves

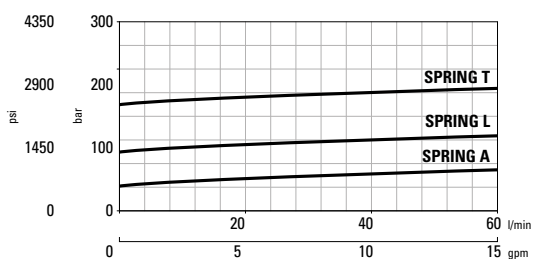
Sequenza SAE10 AP



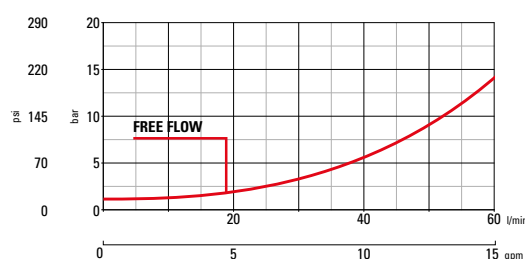
Technical Details

cavity	SAE10 STD
capacity	60 lpm (15 gpm)
max operating pressure	350 bar (5000 psi)
maximum setting	170 bar (2500 psi)
minimum setting	5 bar (70 psi)
pressure increase per turn	16 bar (spring L) - 57 bar (spring T) - 5,5 bar (spring A)
pressure setting established @	cracking pressure
maximum valve leakage at reseal	10 drops/min
reseal	80%
valve hex size (mm)	22
valve installation torque	41-47 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	5
lock nut hex size	17
lock nut torque	12-15 Nm
valve weight	0,3 kg (0,66 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0610SN900000
seal kit (viton)	S0610SV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Declared reseal value is obtained with valve set @ maximum setting
- This valve is provided with external spring chamber drain



Performance curves



C | 3 | 0 | 1 | | | | | 2 | 0 | 3 | 0 | 0 | 0 | A

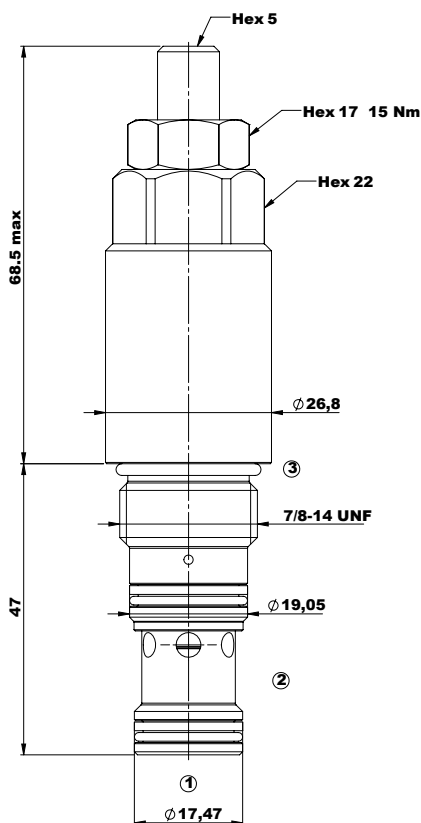
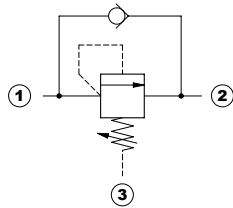
Setting (bar)

Spring
L = 10-85 bar
T = 60-170 bar
A = 5-40 bar

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Sequence Valves

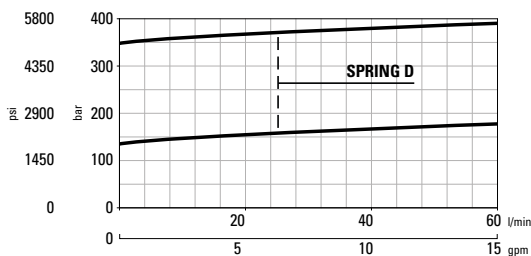
Sequenza SAE10 AD



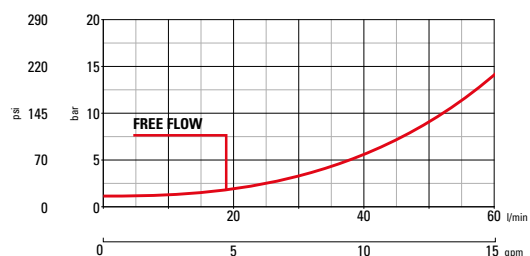
Technical Details

cavity	SAE10 STD
capacity	60 lpm (15 gpm)
max operating pressure	350 bar (5000 psi)
maximum setting	350 bar (5000 psi)
minimum setting	140 bar (2000 psi)
pressure increase per turn	122 bar (spring D)
pressure setting established @	cracking pressure
maximum valve leakage at reseal	10 drops/min
reseal	80%
valve hex size (mm)	22
valve installation torque	41-47 Nm (30-35 lbf ft)
adjustment screw internal hex size (mm)	5
lock nut hex size	17
lock nut torque	12-15 Nm
valve weight	0,3 kg (0,66 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0610SN900000
seal kit (viton)	S0610SV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10 μ m (NAS 8) ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- For anti tampering cap please consult factory



Performance curves



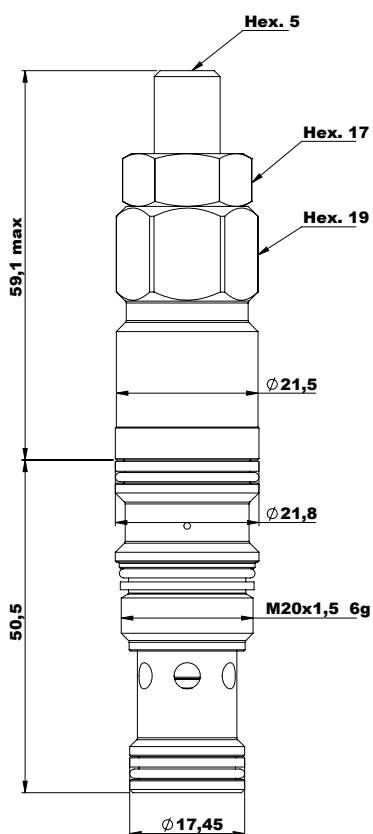
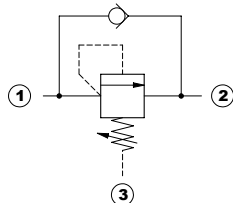
C | 5 | 2 | 0 | D | | | | | 1 | 0 | 6 | 0 | 0 | 0 | A
Setting (bar)

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Sequence Valves

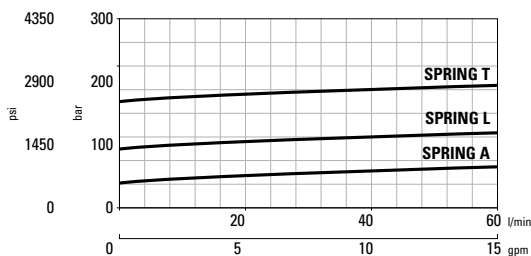
Sequenza T11A AP



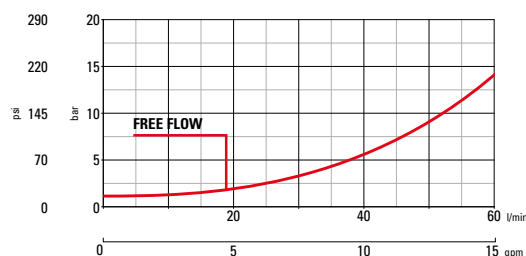
Technical Details

cavity	T11A
capacity	60 lpm (15 gpm)
max operating pressure	350 bar (5000 psi)
maximum setting	170 bar (2500 psi)
minimum setting	5 bar (70 psi)
pressure increase per turn	16 bar (spring L) - 57 bar (spring T) - 5,5 bar (spring A)
pressure setting established @	cracking pressure
maximum valve leakage at reseal	10 drops/min
reseal	80%
valve hex size (mm)	19
valve installation torque	45-50 Nm (33-37 lbf ft)
adjustment screw internal hex size (mm)	5
lock nut hex size	17
lock nut torque	12-15
valve weight	0,3 kg (0,66 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral based or synthetics oil with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10 µm (NAS 8) ISO 4406 19/17/14

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting of the valve
- Declared reseal value is obtained with valve set @ maximum setting
- For anti tampering cap please consult factory



Performance curves



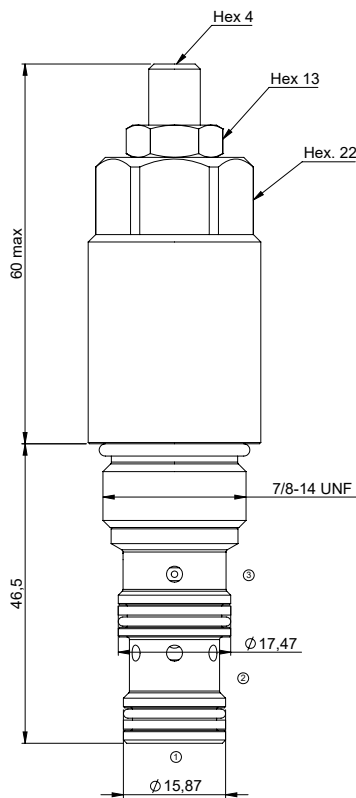
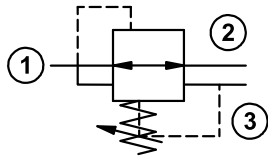
C | 5 | 2 | 0 | | | | | 1 | 0 | 6 | 0 | 0 | 0 | A

Setting (bar)

Spring
L = 10-85 bar
T = 60-170 bar
A = 5-40 bar

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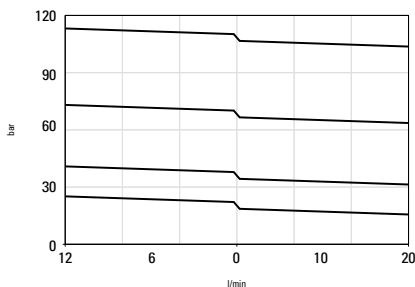
Pressure Reducing Valves CRPR SAE10 DMP



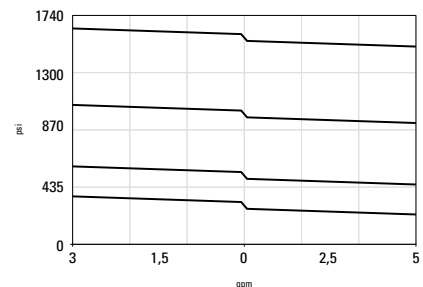
Technical Details

cavity	SAE10 STD
capacity	20 lpm (5 gpm)
max operating pressure	350 bar (5000 psi)
maximum setting	100 bar (1450 psi)
minimum setting	3 bar (43 psi)
pressure increase per turn	2 bar (Spring L) 5 bar (Spring T) 10 bar (Spring M) 21 bar (Spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum internal leakage	150 cc / minute
valve hex size	22
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	9-11 Nm (6,5-8 lbf ft)
valve weight	0.2 Kg (0.44 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE10SN700000
seal kit (viton)	S0SAE10SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- This valve is provided with hardened spool and cage



Performance curves



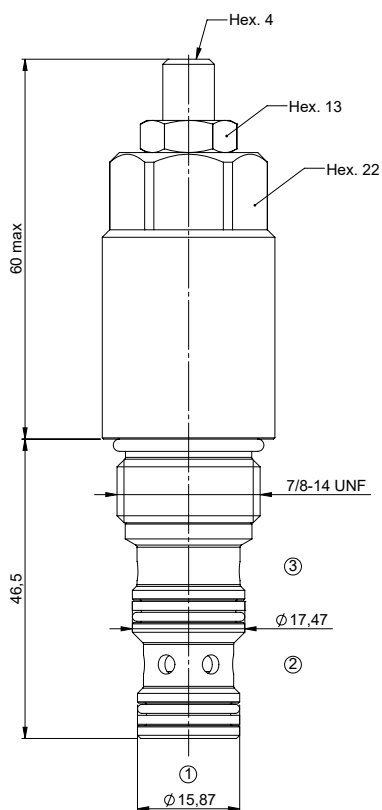
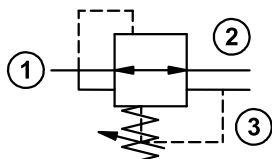
C | 4 | 0 | 9 | | | | | 0 | 0 | 1 | 0 | 0 | 0 | A

Setting (bar)
Spring
L = 3-20 bar
T = 5-35 bar
M = 10-65 bar
D = 50-100 bar

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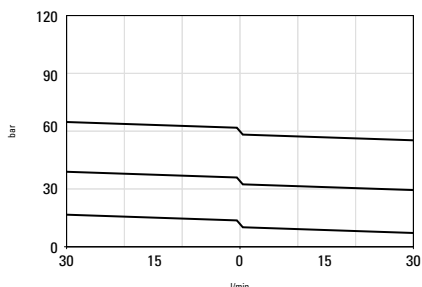
Pressure Reducing Valves CRPR SAE10



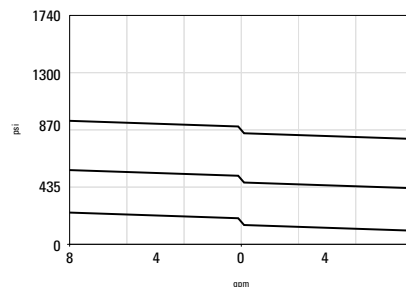
Technical Details

cavity	SAE10 STD
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
maximum setting	65 bar (950 psi)
minimum setting	3 bar (43 psi)
pressure increase per turn	3,4 bar (Spring L) 6,5 bar (Spring T) 13,5 bar (Spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum internal leakage	200 cc / minute
valve hex size	22
valve installation torque	34-41 Nm (25-30 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	9-11 Nm (6,5-8 lbf ft)
valve weight	0.2 Kg (0.44 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	S0SAE10SN700000
seal kit (viton)	S0SAE10SV700000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

• This valve is provided with hardened spool and cage



Performance curves



C | 4 | 0 | 0 | | | | | 0 | 0 | 1 | 0 | 0 | 0 | A

Setting (bar)

Spring
L = 3-20 bar
T = 8-40 bar
M = 30-65 bar

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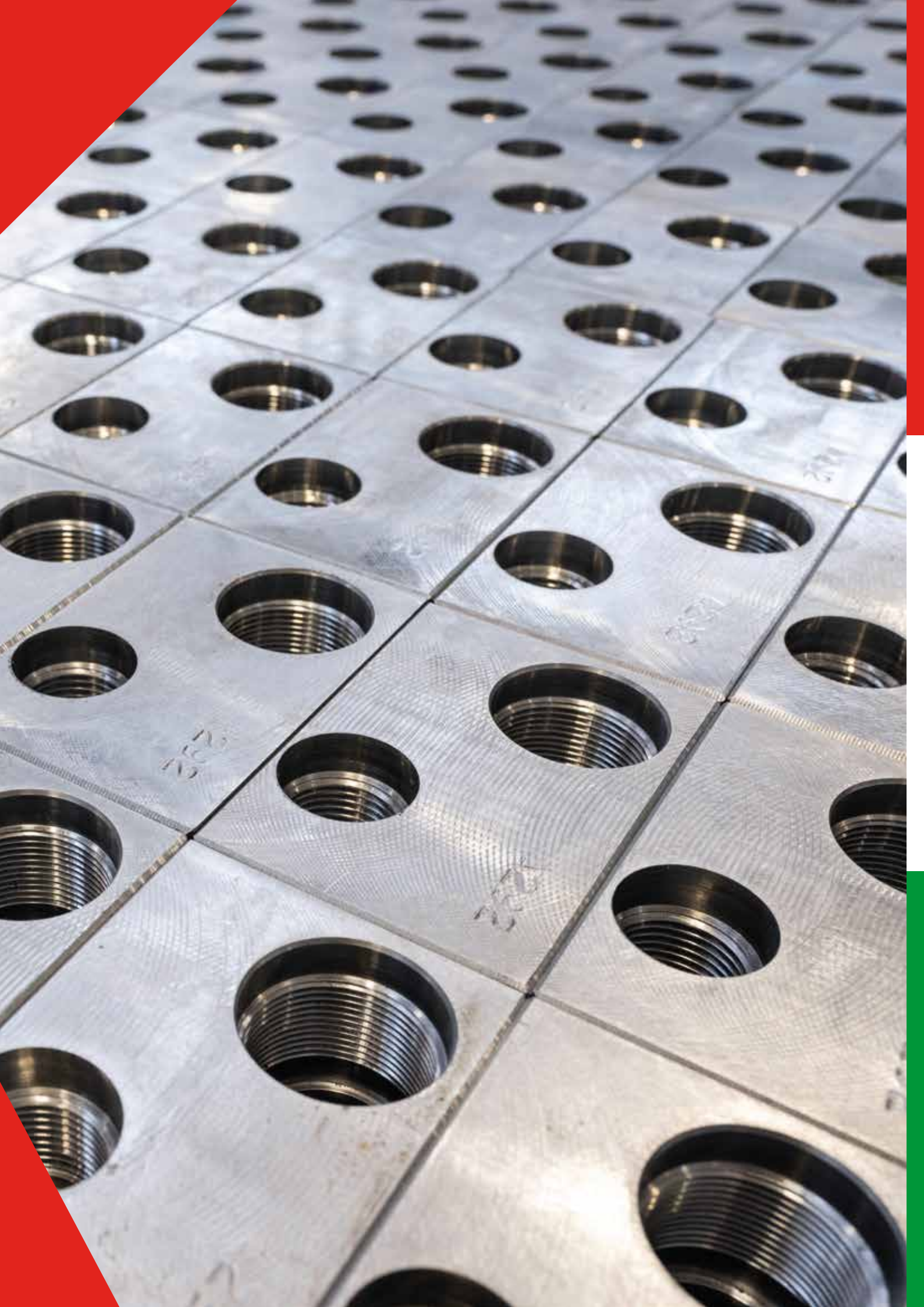
**VALVOLE
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Marchio registrato in Italia

MALAGOLI & BORGHINI ARTI GRAFICHE S.P.A.
MODENA, VIA 25 APRILE, NR. 37

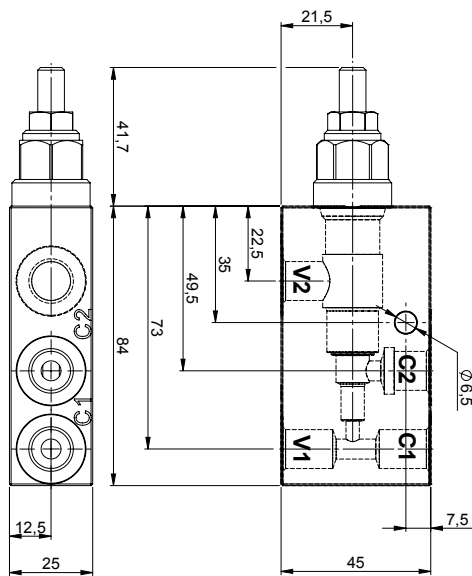
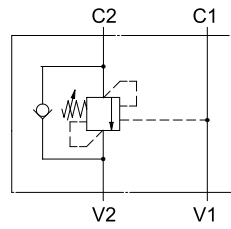
Parts in body





Load holding valves

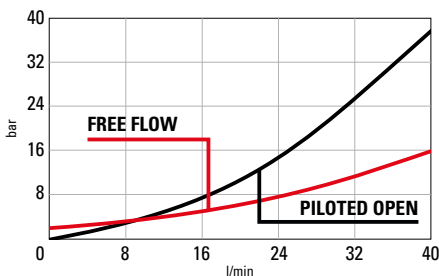
Normale 79 S L 1/4



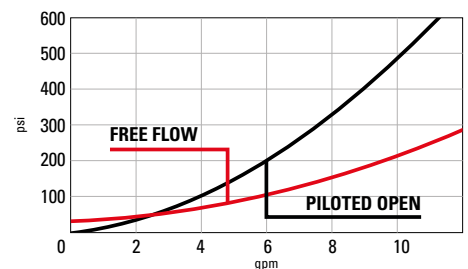
Technical Details

body material	zinc plated steel
capacity	40 lpm (10 gpm)
ports size	V1, V2, C1, C2: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 103 bar/turn Spring D: 171.5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0,75 Kg (1,65 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 8:1 pilot ratio please consult factory



Performance curves



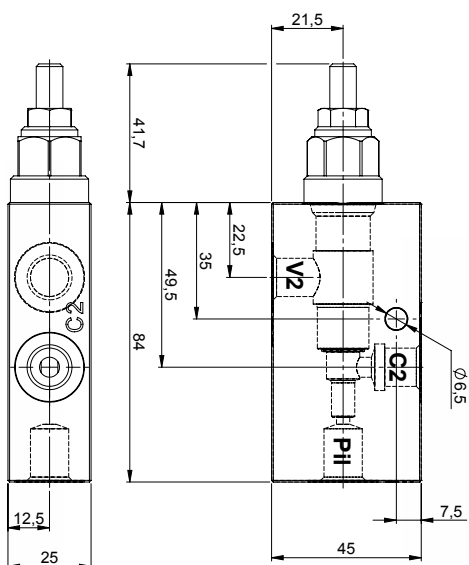
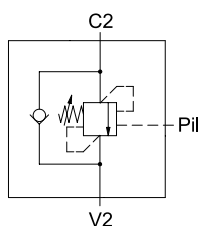
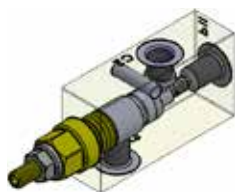
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

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S | N | S | 7 | 9 | L | 0 | 4 | G | 1 | 4 | | 0 | 0 | 0



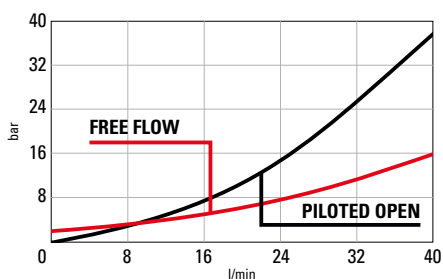
Load holding valves Normale 79 S L PIL 1/4



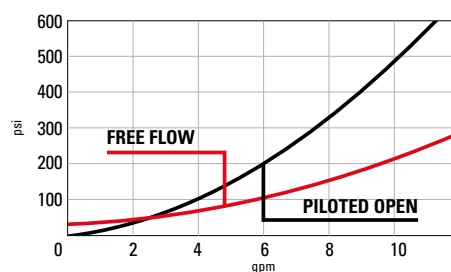
Technical Details

body material	zinc plated steel
capacity	40 lpm (10 gpm)
ports size	V2, C2, PIL: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 103 bar/turn Spring D: 171.5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0,7 Kg (1,5 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 8:1 pilot ratio please consult factory



Performance curves



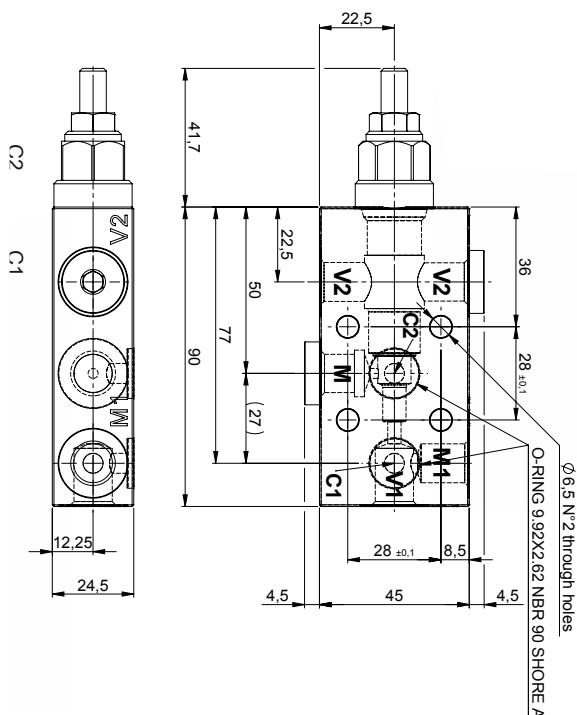
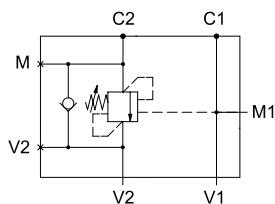
4:1 Spring M = 60-210 bar
 (Standard Setting 200 bar)
 Spring D = 110-350 bar
 (Standard Setting 350 bar)

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S | N | S | 7 | 9 | P | 0 | 4 | G | 1 | 4 | | 0 | 0 | 0

Load holding valves

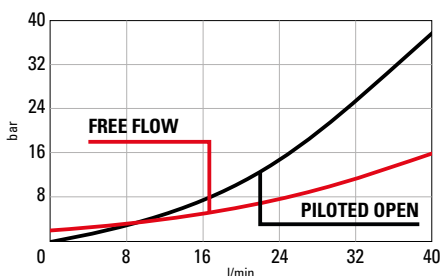
Normale 79 S FC2 1/4



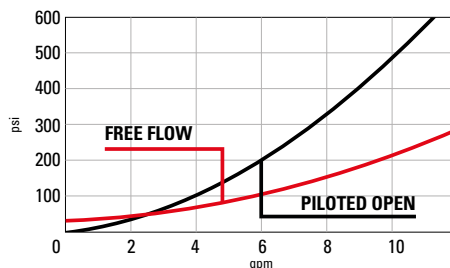
Technical Details

body material	zinc plated steel
capacity	40 lpm (10 gpm)
ports size	V1, V2, M, M1: G 1/4 C1, C2: $\phi 6$
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 103 bar/turn Spring D: 171.5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0,7 Kg (1,5 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH0992X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 8:1 pilot ratio please consult factory



Performance curves



4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

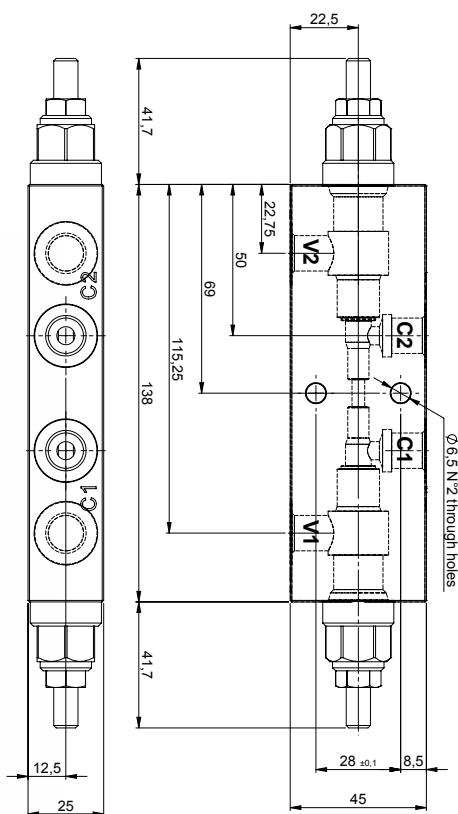
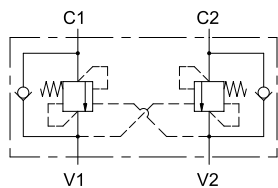
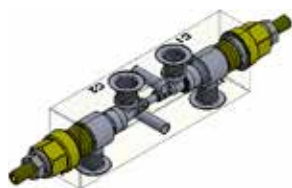
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S | N | S | 7 | 9 | 2 | 0 | 4 | G | 1 | 4 | | | 0 | 0 | 0



Load holding valves

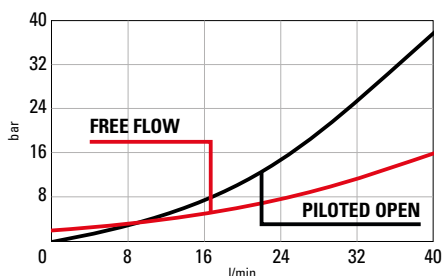
Normale 79 D L 1/4



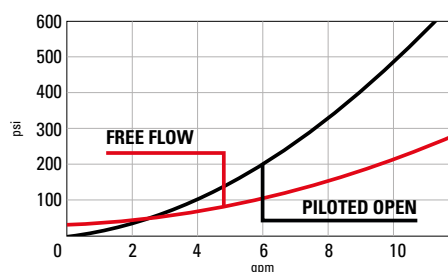
Technical Details

body material	aluminum
capacity	40 lpm (10 gpm)
ports size	V1, V2, C1, C2: G 1/4
max operating pressure	210 bar (3000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 103 bar/turn Spring D: 171.5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0,6 Kg (1,35 lbs)
external component surface treatment	black or white anodization
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 8:1 pilot ratio please consult factory



Performance curves

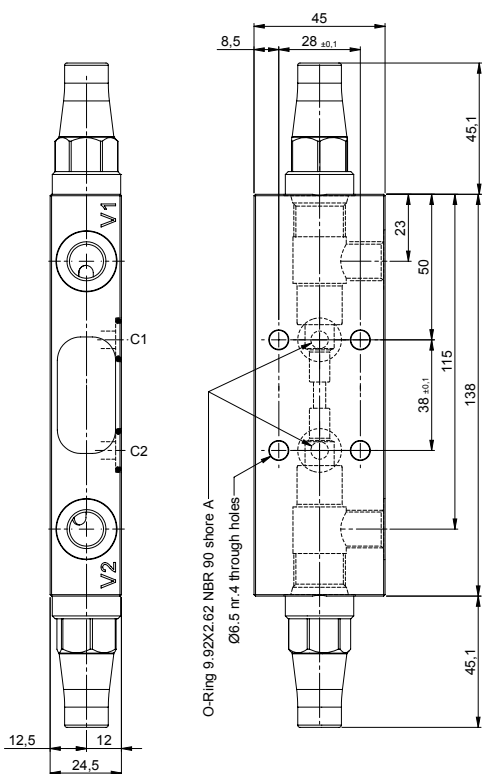
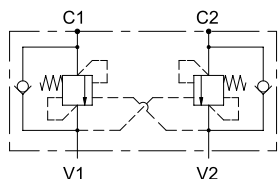


4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

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A | N | D | 7 | 9 | L | 0 | 4 | G | 1 | 4 | | 0 | 0 | 0

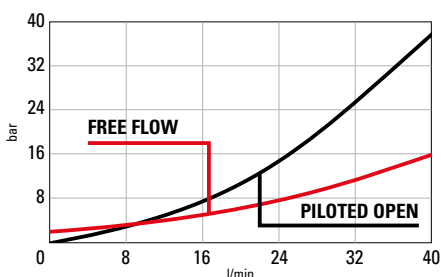
Normale 79 D FC2 1/4



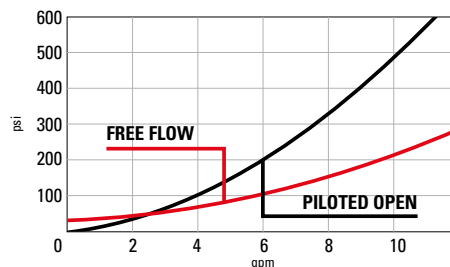
Technical Details

body material	aluminum
capacity	40 lpm (10 gpm)
ports size	V1, V2: G 1/4 C1, C2: $\varnothing 7$
max operating pressure	210 bar (3000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 103 bar/turn Spring D: 171.5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0,6 Kg (1,35 lbs)
external component surface treatment	black or white anodization
seal kit (nbr)	SK290SH0992X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 8:1 pilot ratio please consult factory



Performance curves



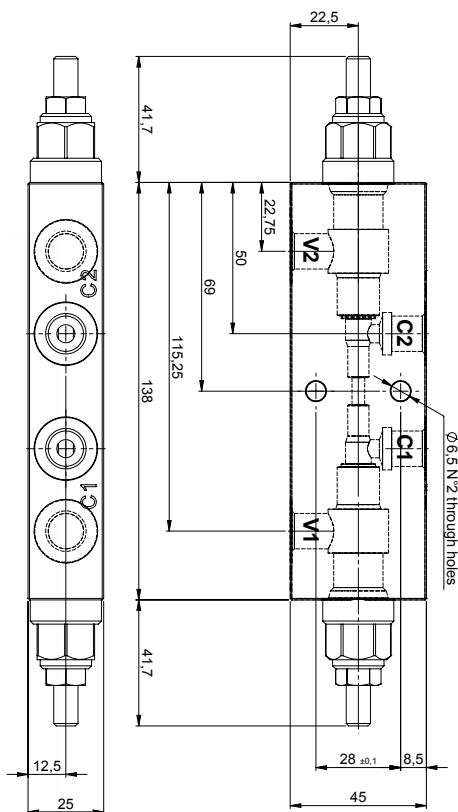
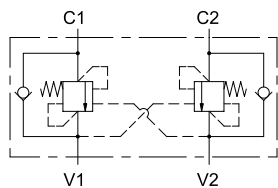
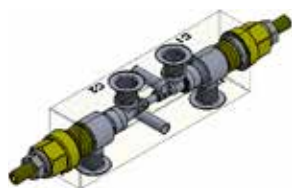
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

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A | N | D | 7 | 9 | 2 | 0 | 4 | G | 1 | 4 | | 0 | 0 | 0



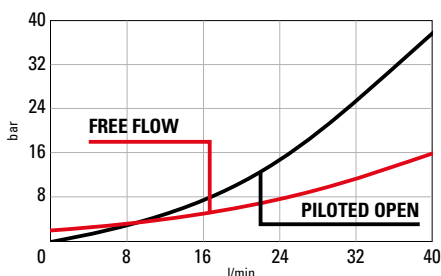
Load holding valves Normale 79 D L 1/4



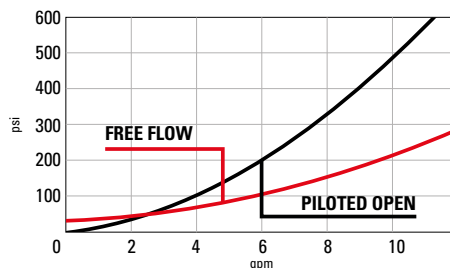
Technical Details

body material	zinc plated steel
capacity	40 lpm (10 gpm)
ports size	V1, V2, C1, C2: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 103 bar/turn Spring D: 171.5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,5 Kg (3,2 lbs)
external component surface treatment	zinc plating
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 8:1 pilot ratio please consult factory



Performance curves



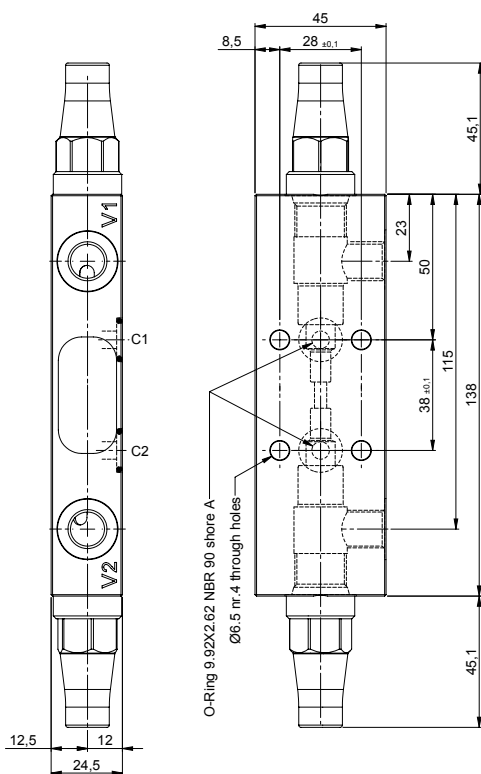
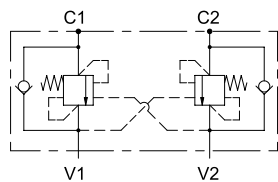
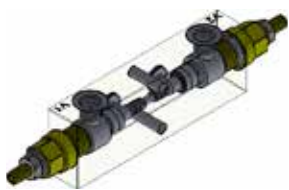
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

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S | N | D | 7 | 9 | L | 0 | 4 | G | 1 | 4 | | 0 | 0 | 0

Load holding valves

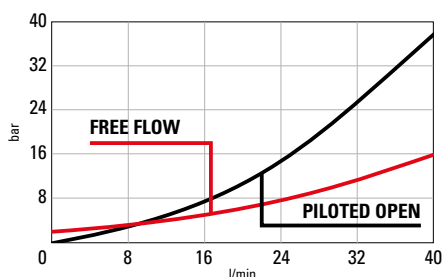
Normale 79 D FC2 1/4



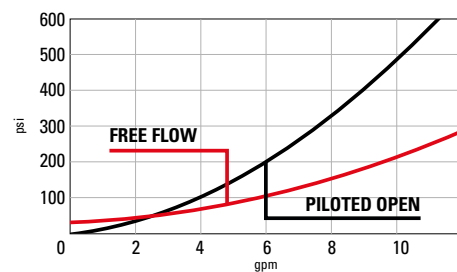
Technical Details

body material	zinc plated steel
capacity	40 lpm (10 gpm)
ports size	V1, V2: G 1/4 C1, C2: $\varnothing 7$
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 103 bar/turn Spring D: 171.5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,5 Kg (3.2 lbs)
external component surface treatment	zinc plating
seal kit (nbr)	SK290SH0992X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 8:1 pilot ratio please consult factory



Performance curves



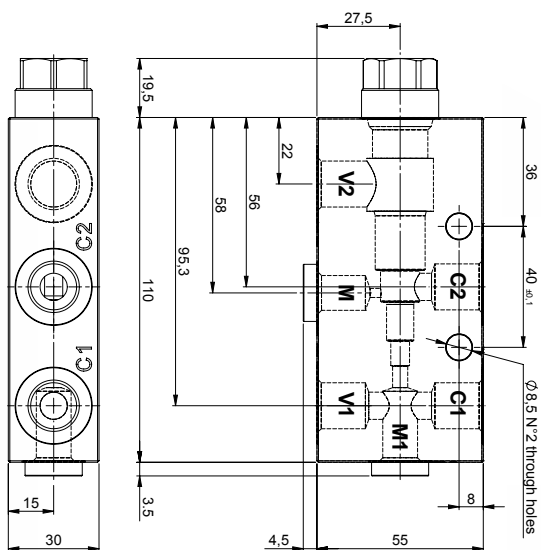
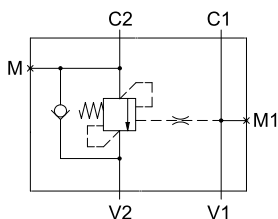
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

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A | N | D | 7 | 9 | 2 | 0 | 4 | G | 1 | 4 | | 0 | 0 | 0



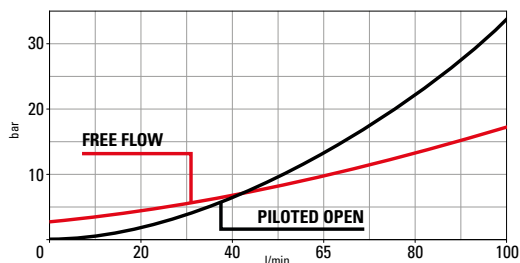
Load holding valves Normale 31NPS S L 3/8 F



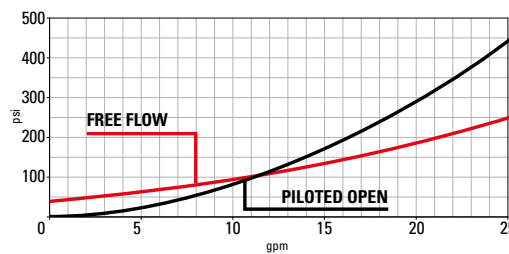
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2: G 3/8 M: G 1/4, M1: G 1/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,34 Kg (2,95 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | L | | | G | 3 | 8 | | | 0 | 0 | 0

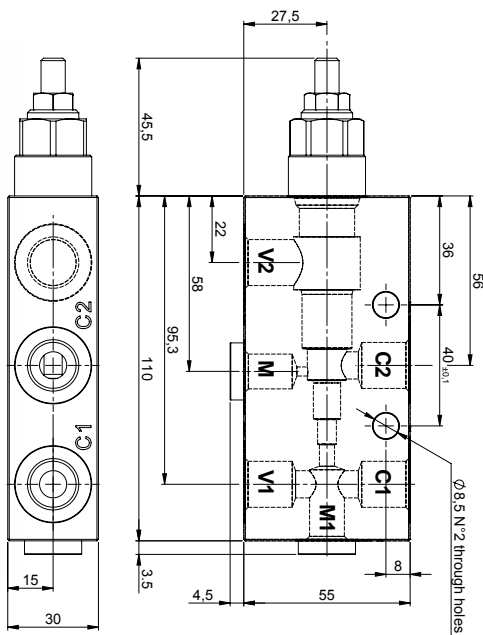
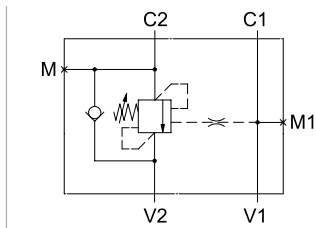
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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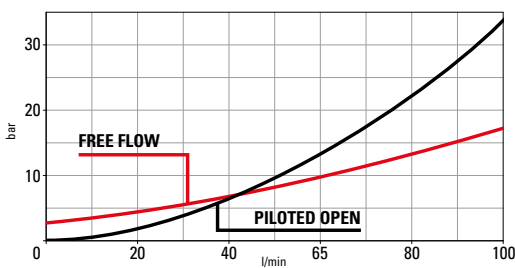
Normale 31NPS S L 3/8



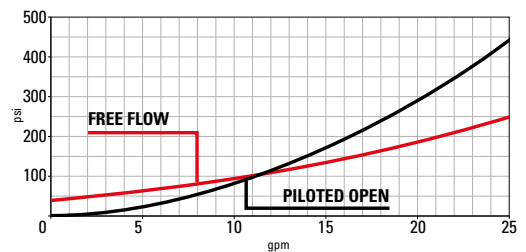
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V1, V2, C1, C2: G 3/8 M: G 1/4, M1: G 1/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,37 Kg (3 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | L | | | G | 3 | 8 | | | 0 | 0 | 0

04 = 4:1
08 = 8:1

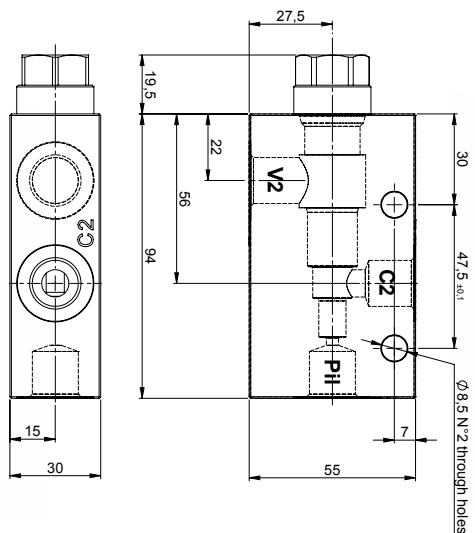
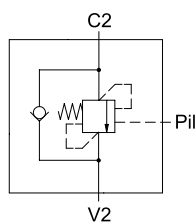
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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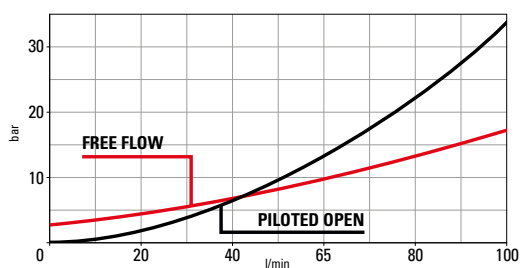
Load holding valves Normale 31NPS S L PIL 3/8 F



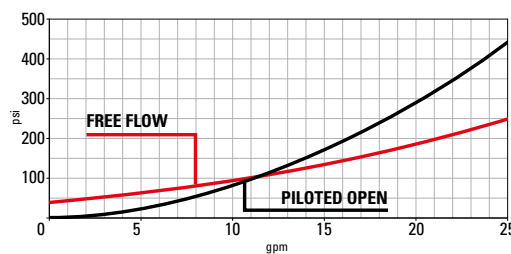
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V2, C2, Pil: G 3/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,11 Kg (2,44 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | P | | | G | 3 | 8 | | | 0 | 0 | 0

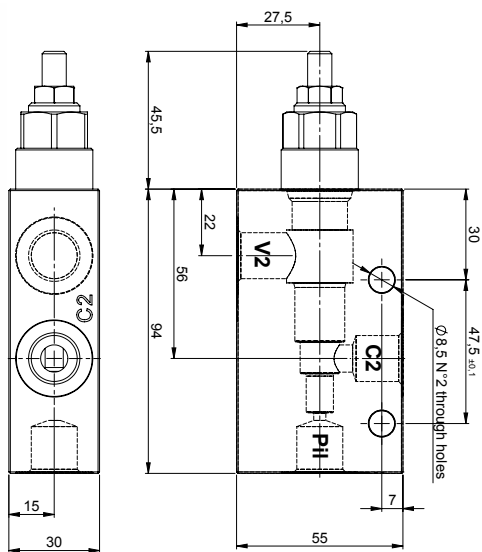
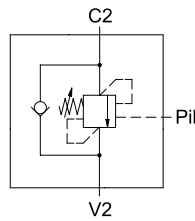
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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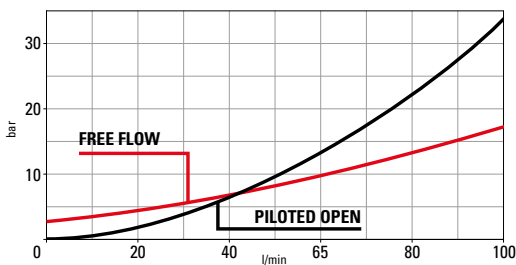
Normale 31NPS S L PIL 3/8



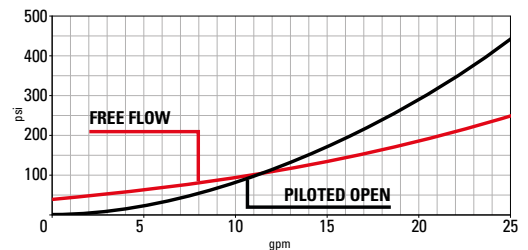
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V2, C2, Pil: G 3/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,15 Kg (2,5 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | P | | | G | 3 | 8 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

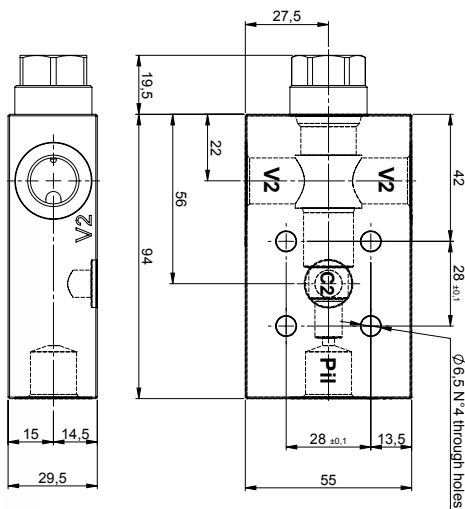
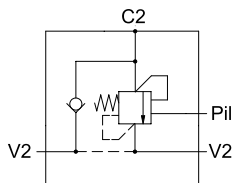
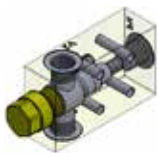
8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

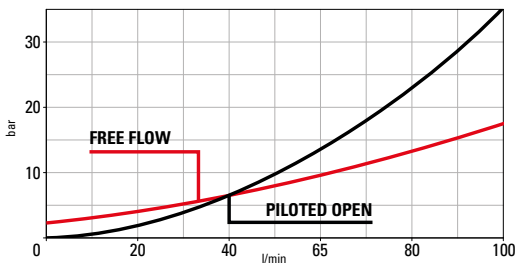
Normale 31NPS S FC1 PIL 3/8 F



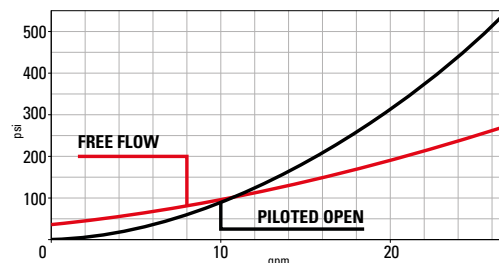
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V2, Pil: G 3/8 C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,09 Kg (2,4 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 1 | | | G | 3 | 8 | | 0 | 0 | 0

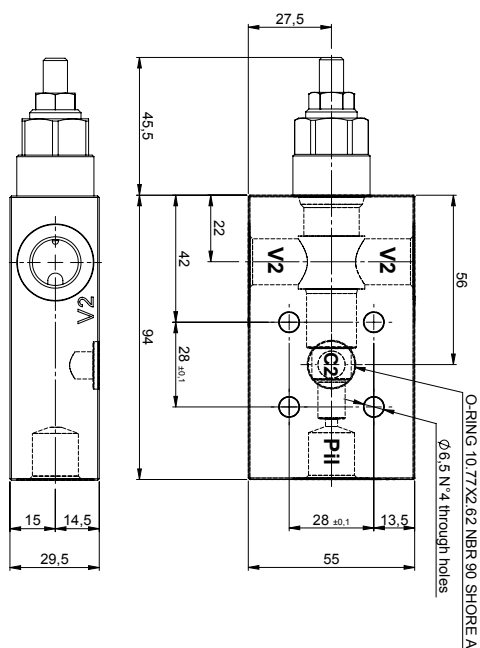
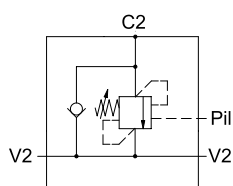
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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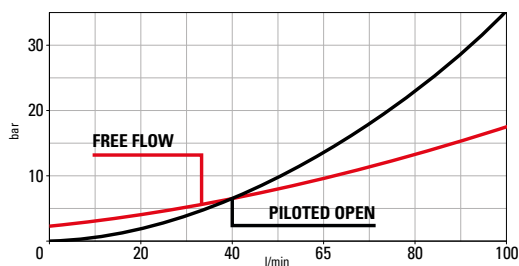
Normale 31NPS S FC1 PIL 3/8



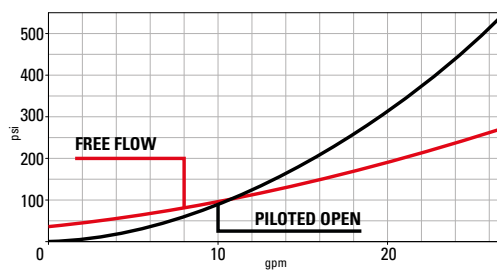
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V2, Pil: G 3/8 - C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114.5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,12 Kg (2,46 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 1 | | | G | 3 | 8 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

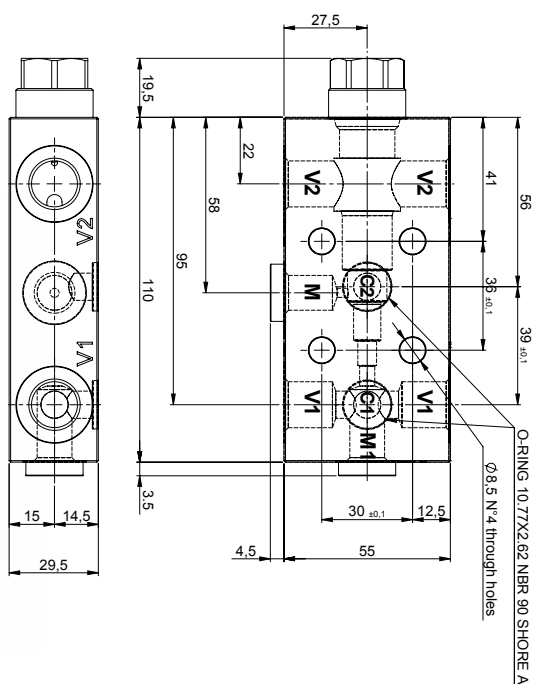
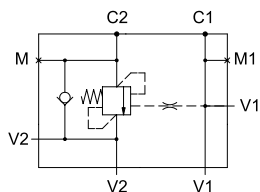
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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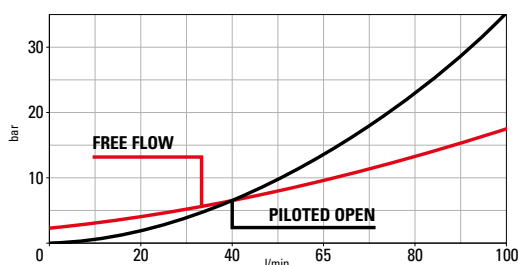
Load holding valves Normale 31NPS S FC2 3/8 F



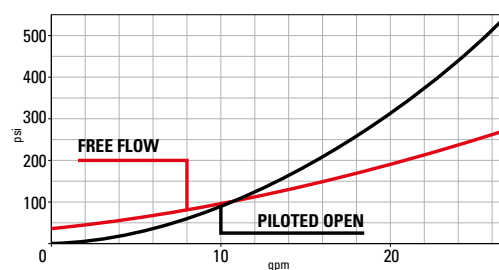
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 3/8 M: G 1/4, M1: G 1/8 C1, C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,28 Kg (2,82 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 2 | | | G | 3 | 8 | | 0 | 0 | 0

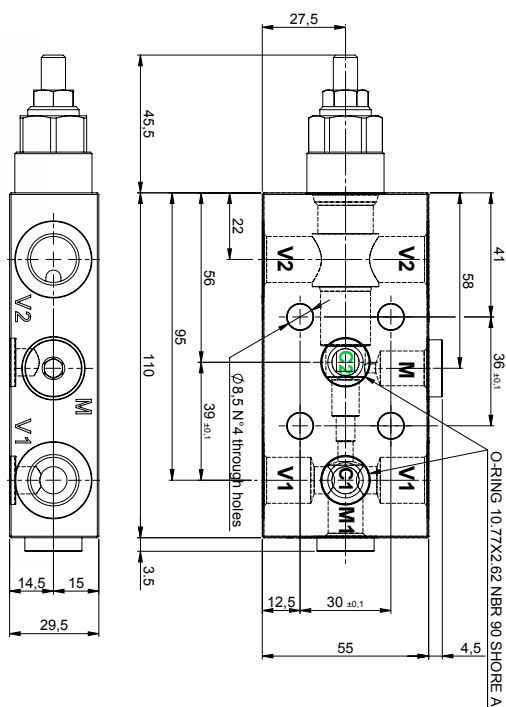
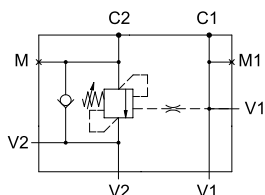
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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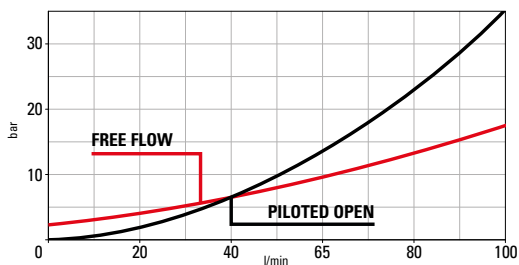
Normale 31NPS S FC2 3/8



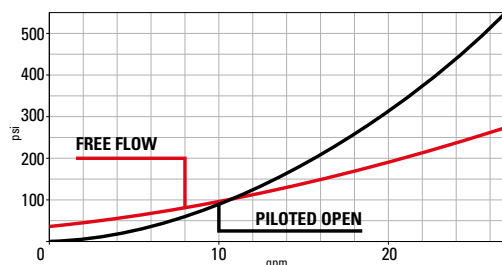
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V1, V2: G 3/8 M: G 1/4, M1: G 1/8 C1, C2: φ9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,32 Kg (2,9 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 2 | | | G | 3 | 8 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

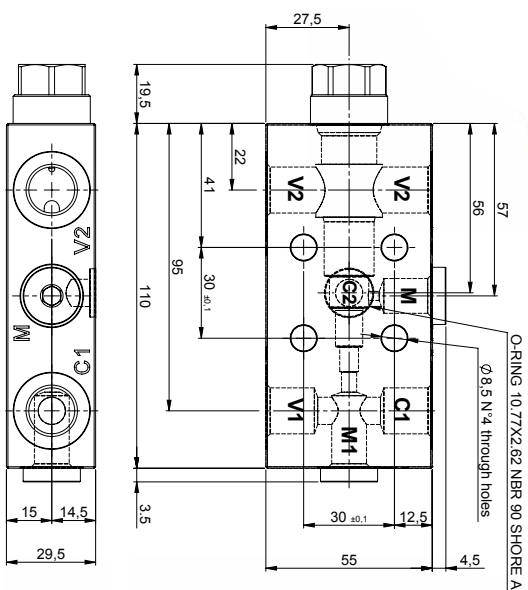
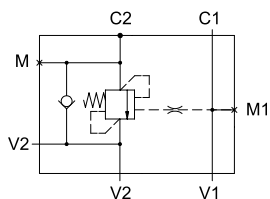
8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

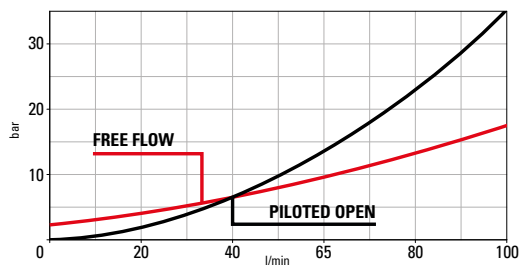
Normale 31NPS S FC1 PL 3/8 F



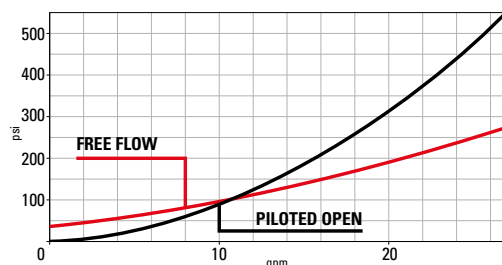
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 3/8 M: G 1/4, M1: G 1/8 C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1.29 Kg (2,84 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 3 | | | G | 3 | 8 | | | 0 | 0 | 0

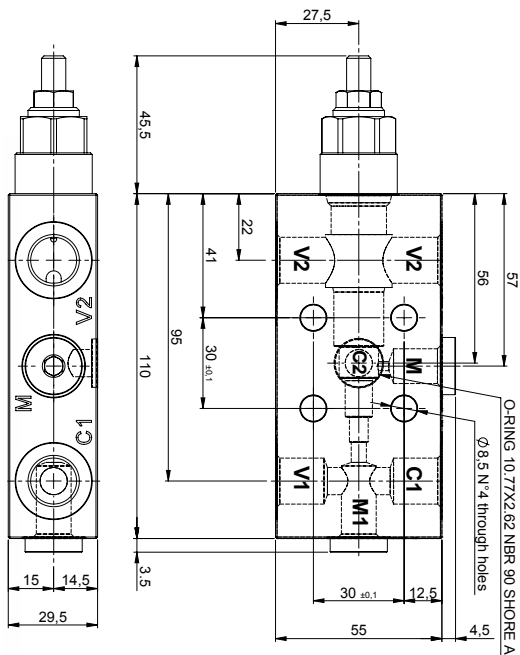
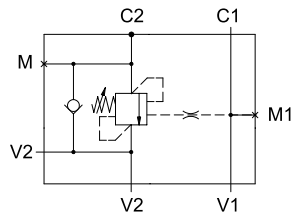
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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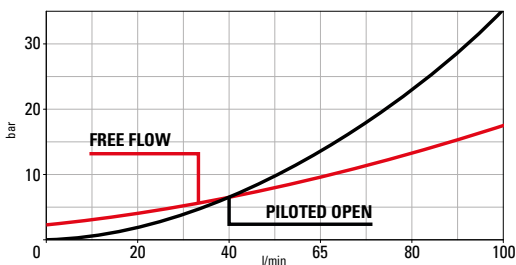
Normale 31NPS S FC1 PL 3/8



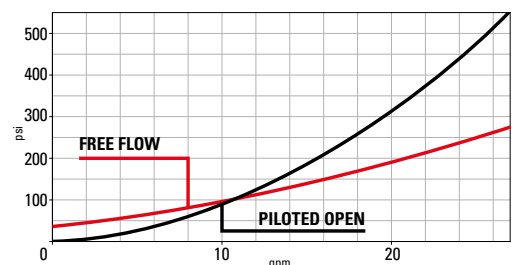
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V1, V2, C1: G 3/8 M: G 1/4, M1: G 1/8 C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,32 Kg (2,9 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 3 | | | G | 3 | 8 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

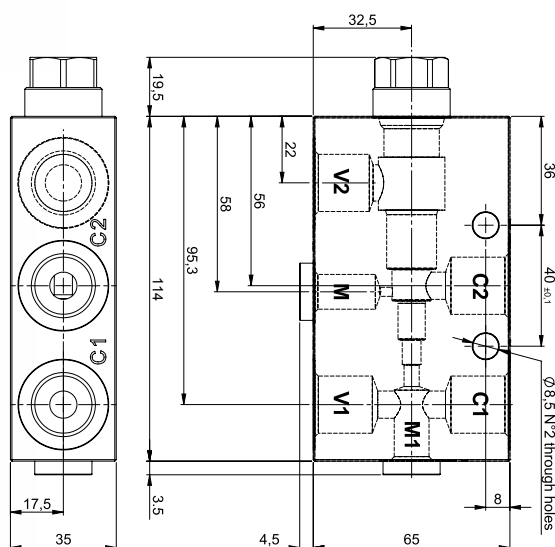
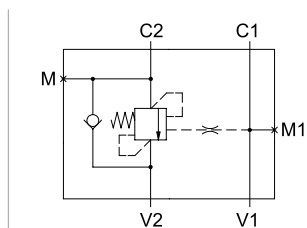
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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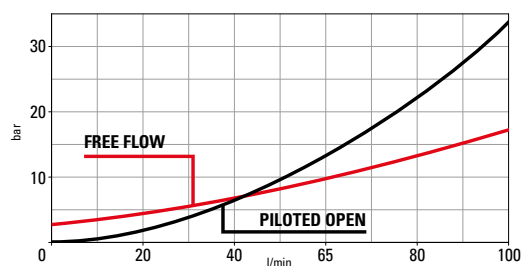
Load holding valves Normale 31NPS S L 1/2 F



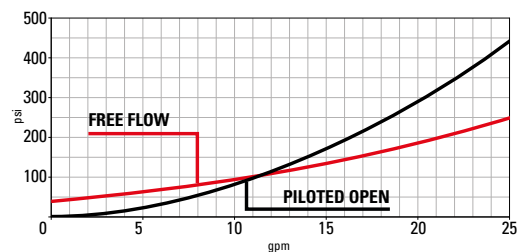
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2: G 1/2 M, M1: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,8 Kg (3,95 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | L | | | G | 1 | 2 | | 0 | 0 | 0

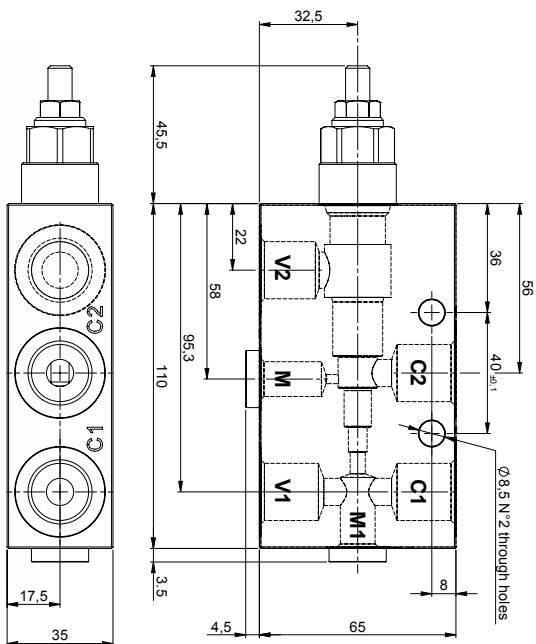
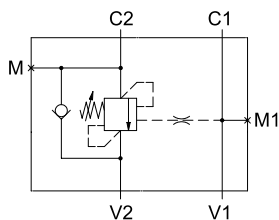
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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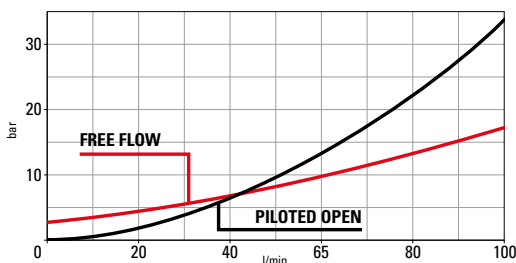
Normale 31NPS S L 1/2



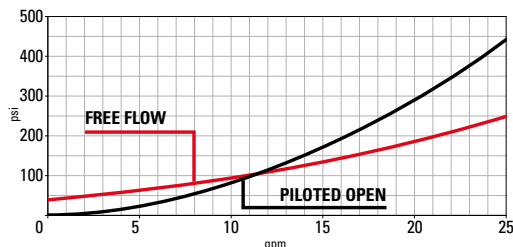
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2: G 1/2 - M, M1: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114.5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,85 Kg (4 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | L | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

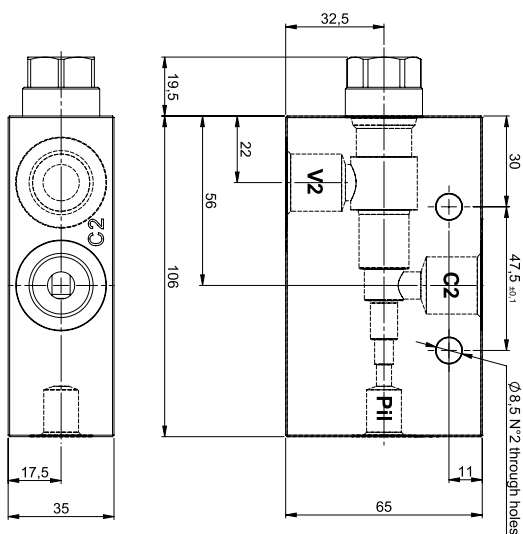
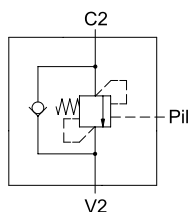
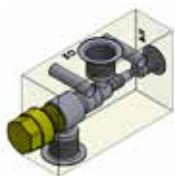
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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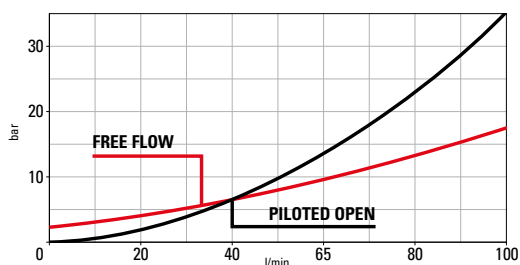
Load holding valves Normale 31NPS S L PIL 1/2 F



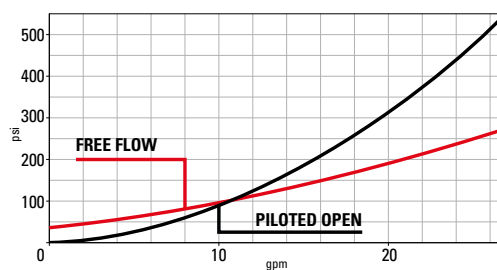
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V2, C2: G 1/2 Pil: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,75 Kg (3,85 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | P | | | G | 1 | 2 | | 0 | 0 | 0

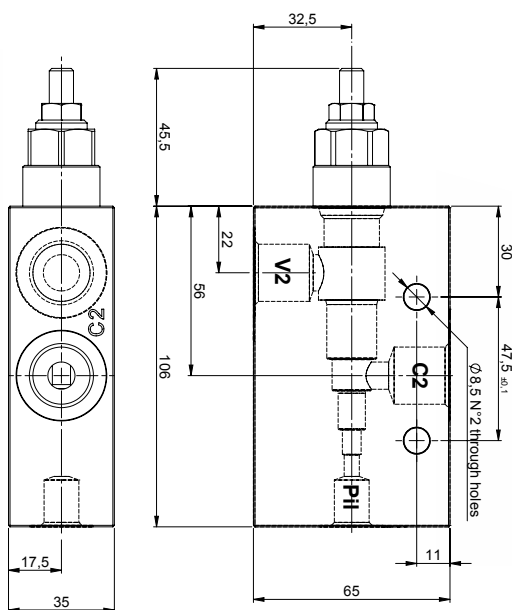
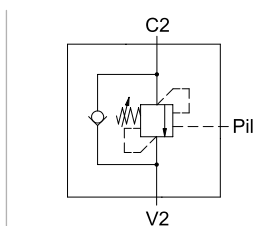
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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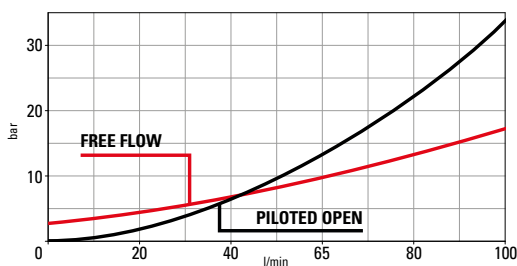
Normale 31NPS S L PIL 1/2



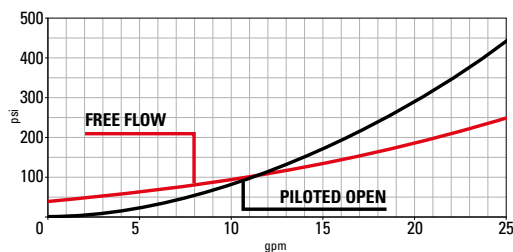
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V2, C2: G 1/2 Pil: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61,5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,8 Kg (3,95 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | P | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

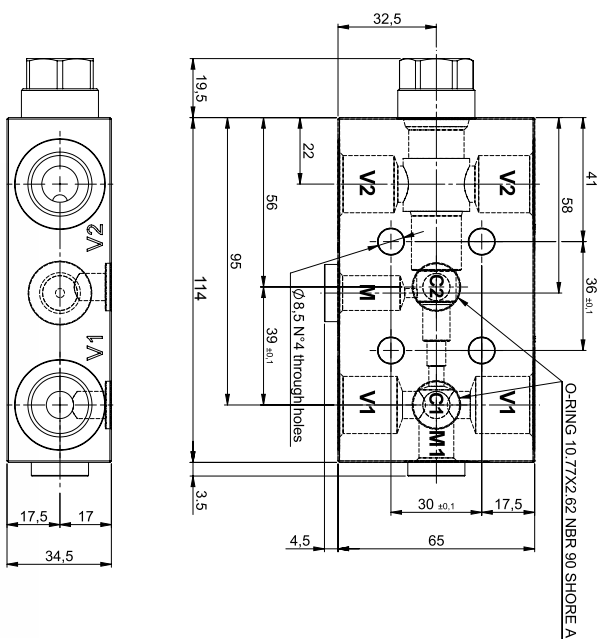
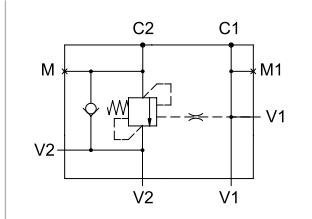
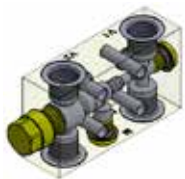
8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

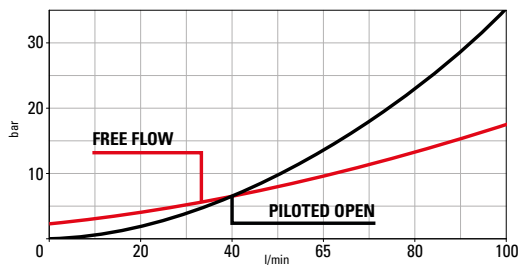
Normale 31NPS S FC2 1/2 F



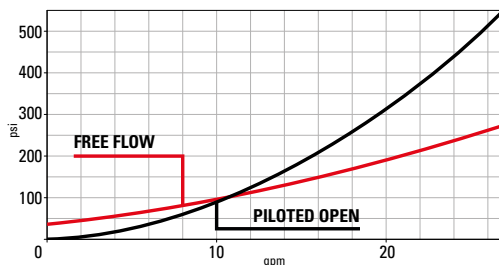
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 1/2 M, M1: G 1/4 C1, C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,74 Kg (3,83 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 2 | | | G | 1 | 2 | | 0 | 0 | 0

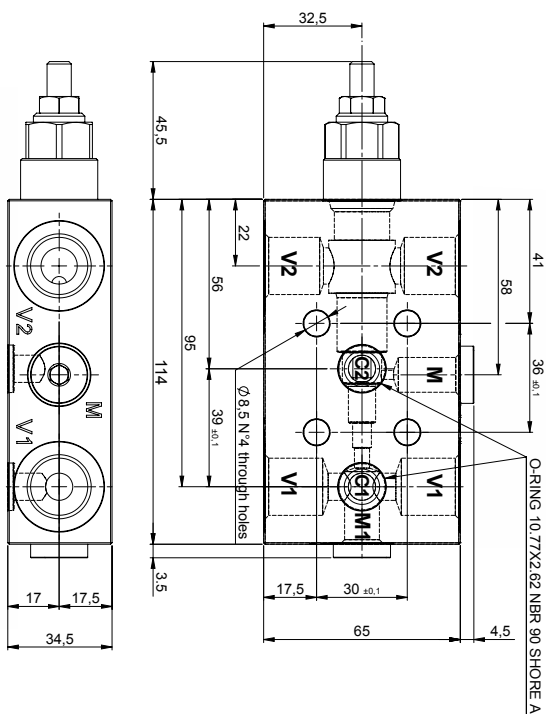
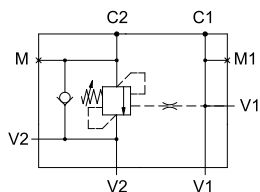
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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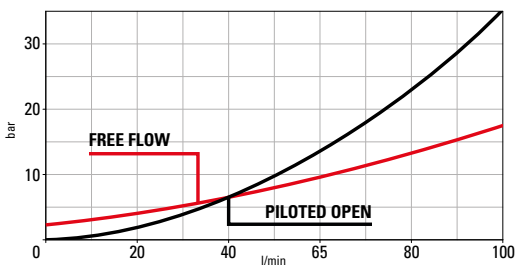
Normale 31NPS S FC2 1/2



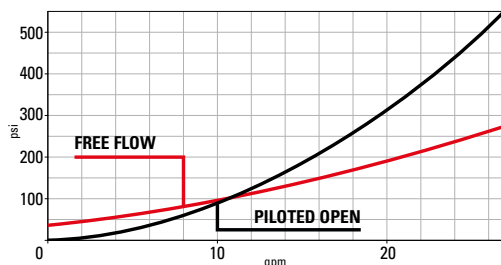
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 1/2 - M, M1: G 1/4 - C1, C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,77 Kg (3,9 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 2 | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

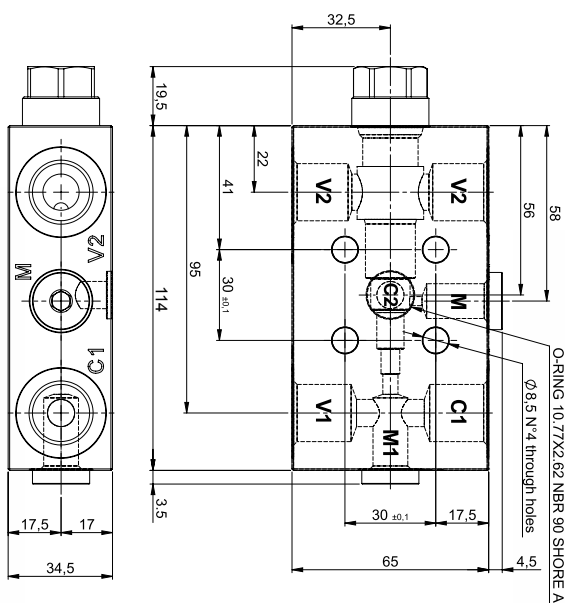
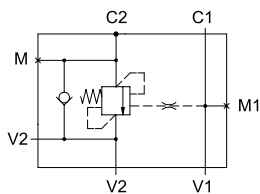
8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

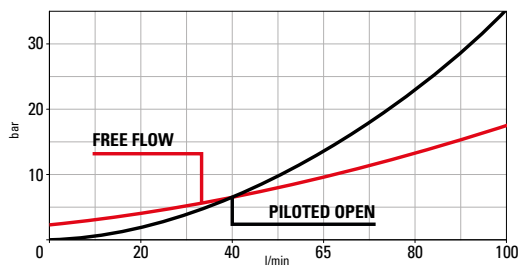
Normale 31NPS S FC1 PL 1/2 F



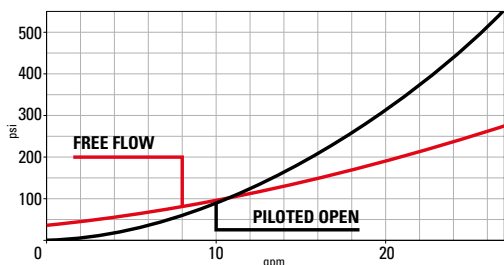
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 1/2 M, M1: G 1/4 C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,75 Kg (3,85 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 3 | | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

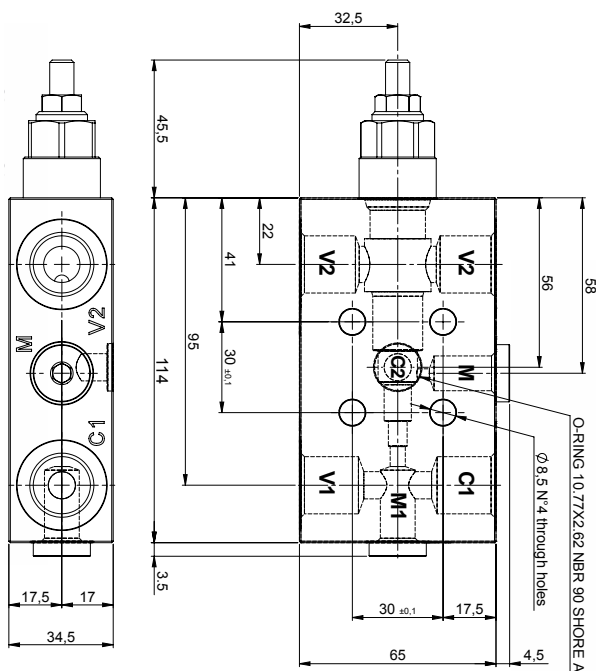
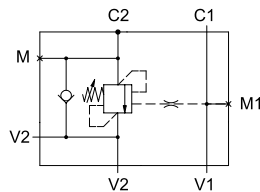
4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

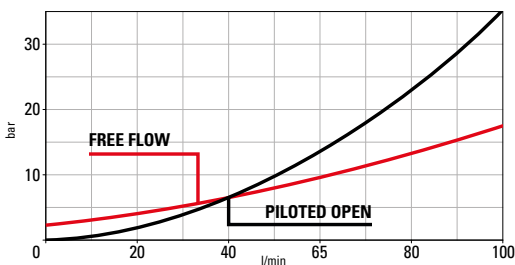
Normale 31NPS S FC1 PL 1/2



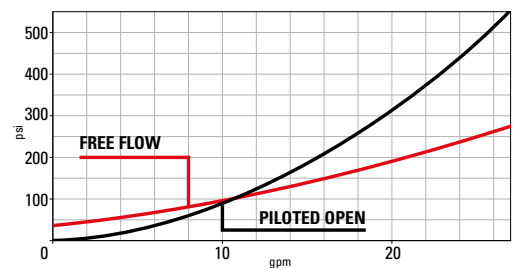
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 1/2 - M, M1: G 1/4 - C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1
	100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn
	8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,78 Kg (3,92 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | S | 3 | 1 | 3 | | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

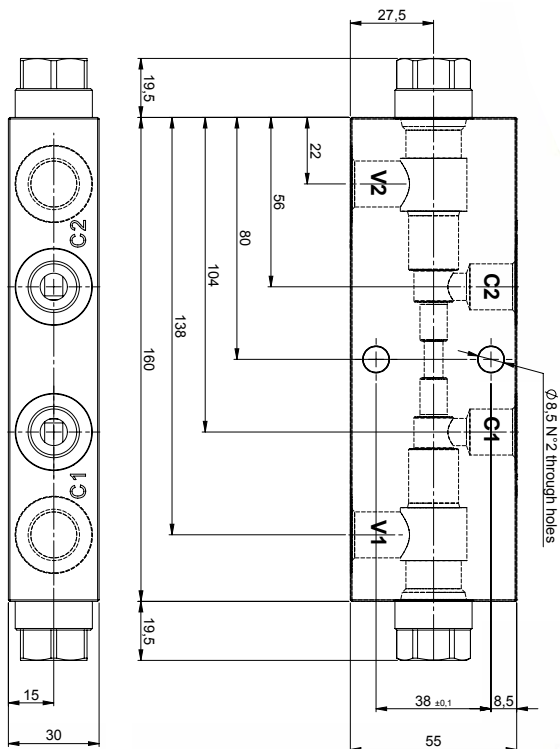
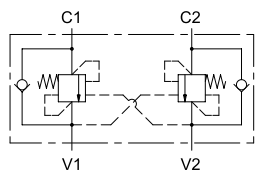
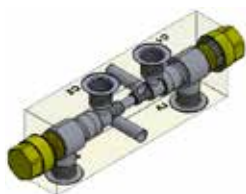
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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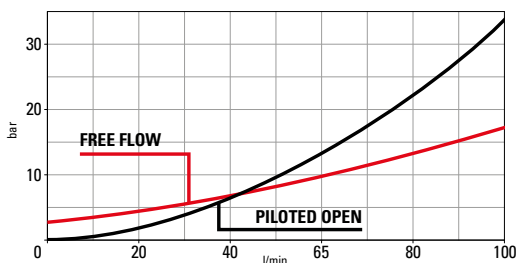
Load holding valves Normale 31NPS D L 3/8 F



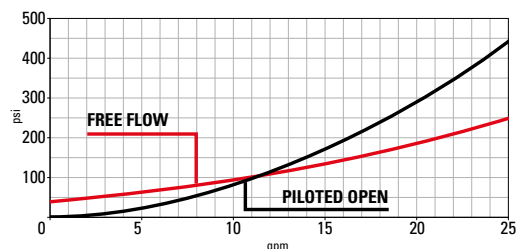
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2: G 3/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,94 Kg (4,27 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | L | | | G | 3 | 8 | | | 0 | 0 | 0

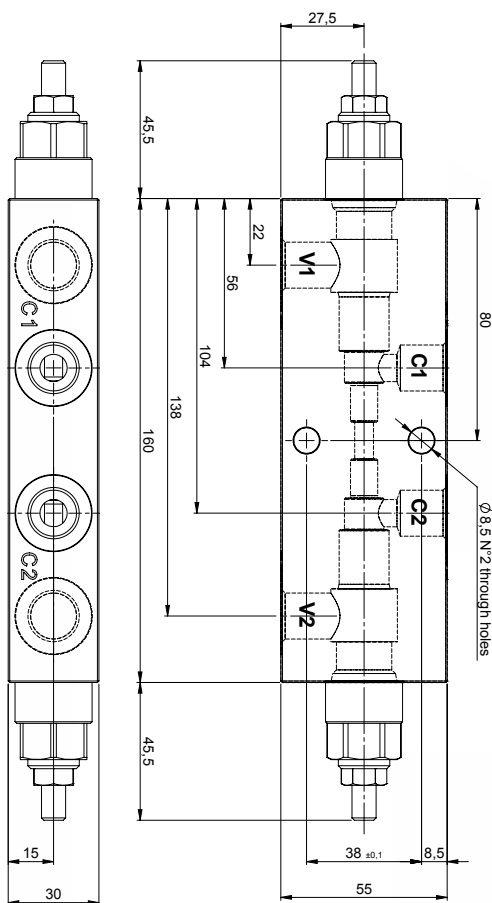
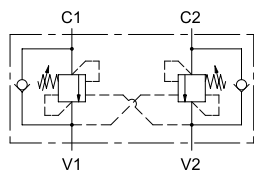
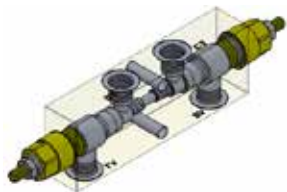
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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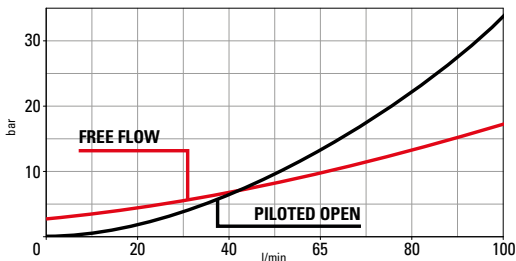
Normale 31NPS D L 3/8



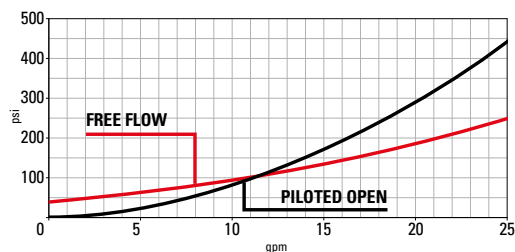
Technical Details

body material	zinc plated steel	
capacity	90 lpm (24 gpm)	
Ports size	V1, V2, C1, C2: G 3/8	
max operating pressure	350 bar (5000 psi)	
pilot ratio	4:1 - 8:1	
maximum setting	420 bar (6100 psi)	
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1	
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn	
	8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn	
	pressure setting established @	cracking pressure (1in3/min)
	maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard	
reseal	>80%	
maximum recommended load pressure at maximum setting	330 bar (4800 psi)	
adjustment screw internal hex size	4	
seal-lock hex size	13	
seal-lock torque	12-15 Nm (9-11 lbf ft)	
valve weight	2 Kg (4,4 lbs)	
external component surface treatment	zinc plating + sealing	
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals	
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)	
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14	

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | L | | | G | 3 | 8 | | | 0 | 0 | 0

04 = 4:1
08 = 8:1

4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

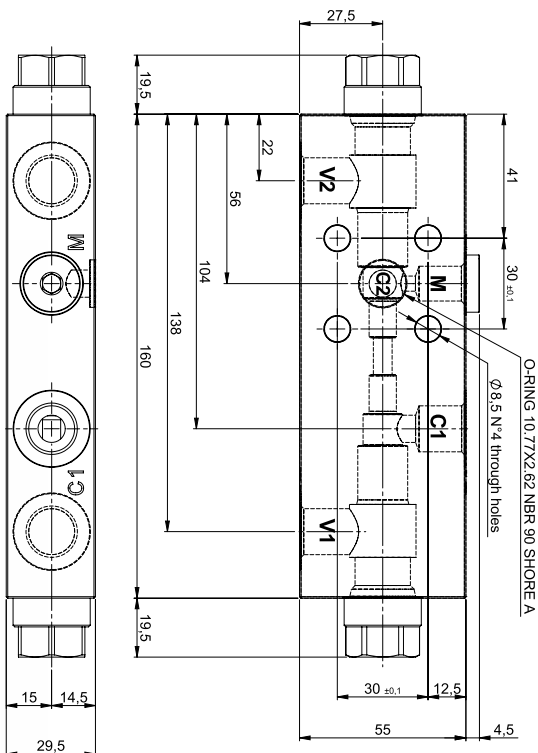
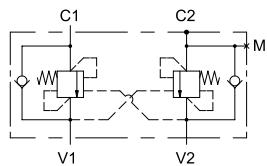
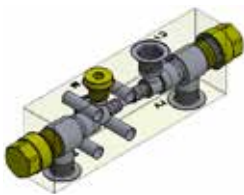
8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

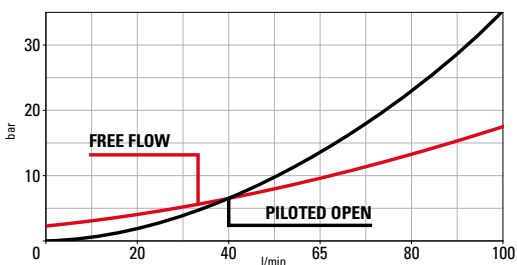
Normale 31NPS D FC1 3/8 F



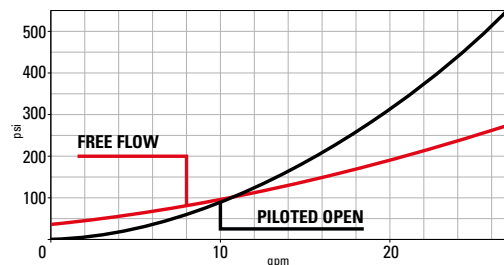
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 3/8 M: G 1/4 C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,92 Kg (4,23 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 1 | | | G | 3 | 8 | | 0 | 0 | 0

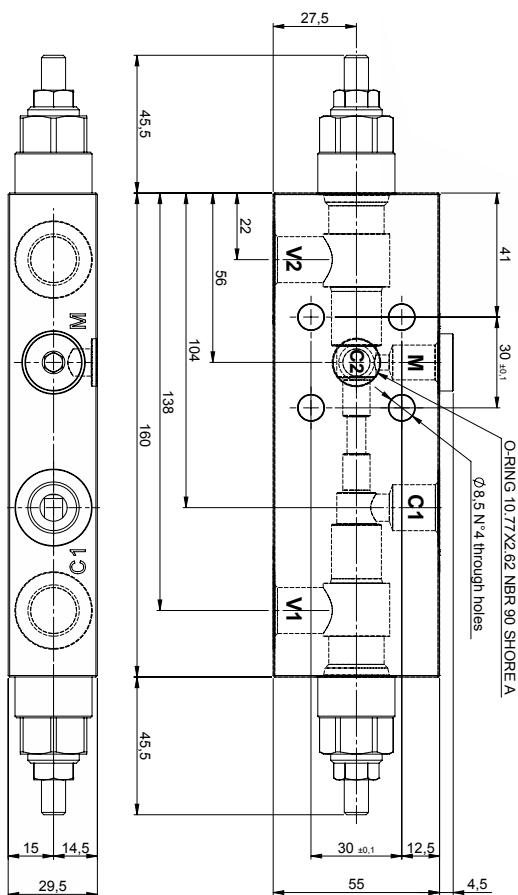
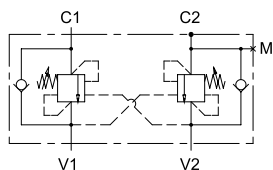
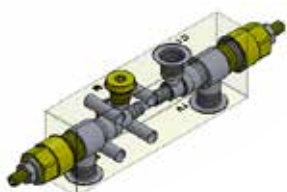
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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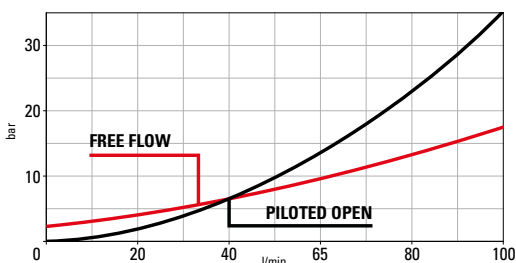
Normale 31NPS D FC1 3/8



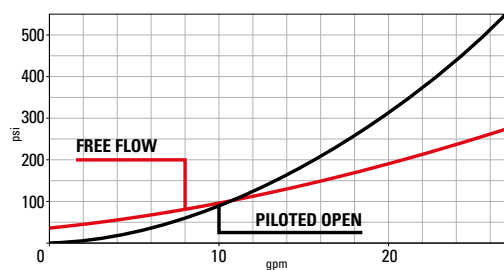
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 3/8 - M: G1/4 - C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114.5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	2 Kg (4,4 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 1 | | | G | 3 | 8 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

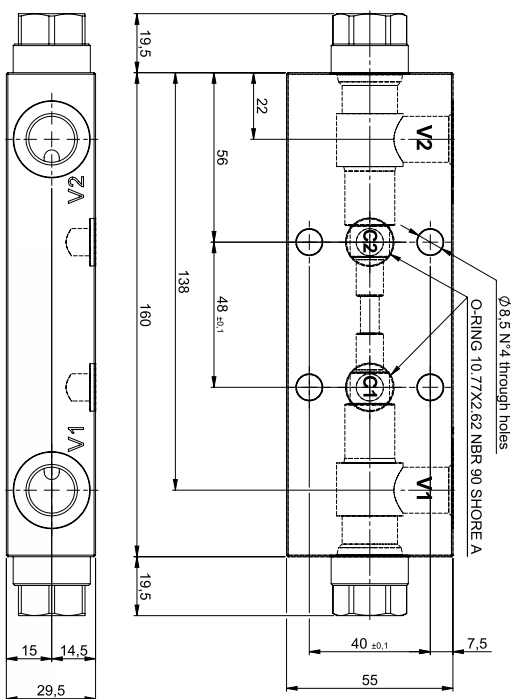
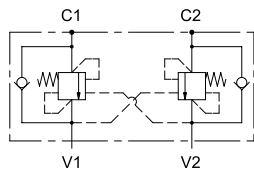
8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

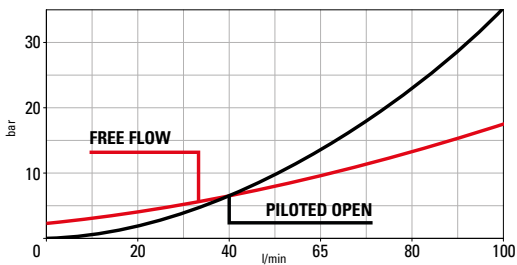
Normale 31NPS D FC2 3/8 F



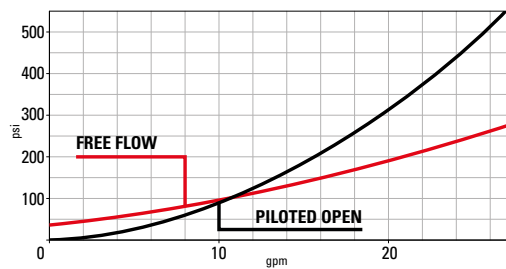
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 3/8 C1, C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	1,9 Kg (4,18 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 2 | | | G | 3 | 8 | | 0 | 0 | 0

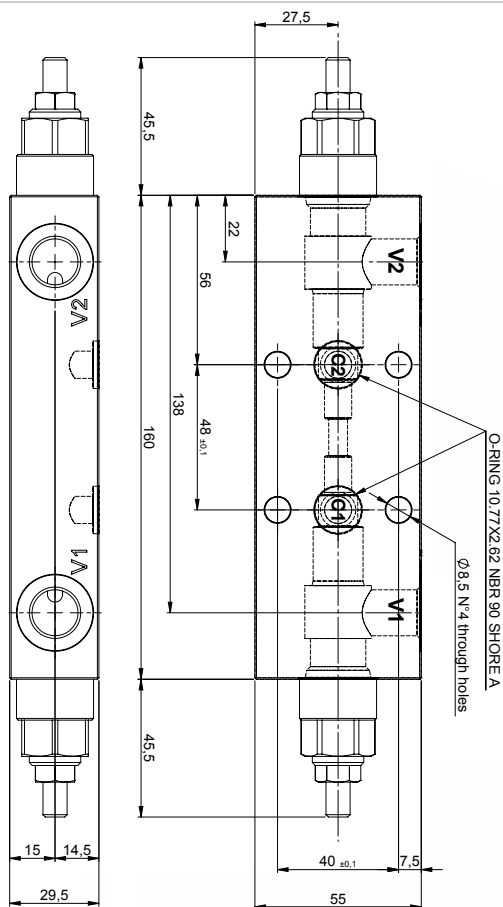
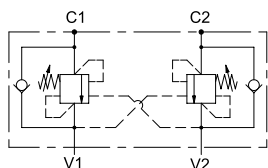
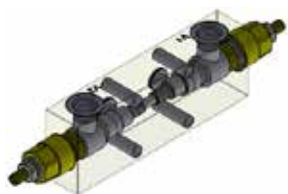
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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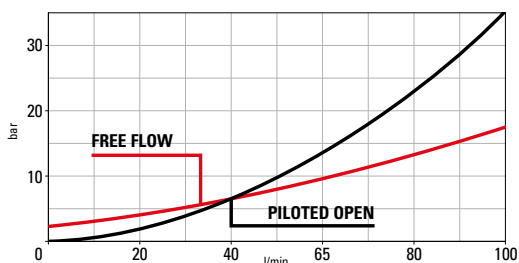
Normale 31NPS D FC2 3/8



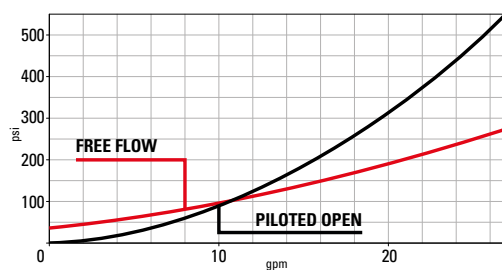
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 3/8 - C1, C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	2 Kg (4,4 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 2 | | | G | 3 | 8 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

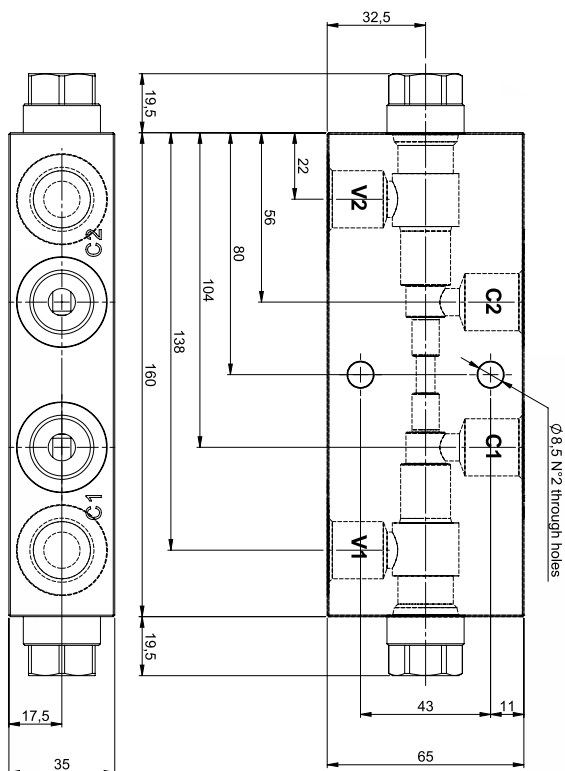
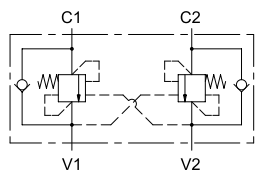
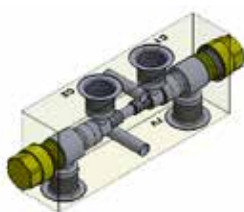
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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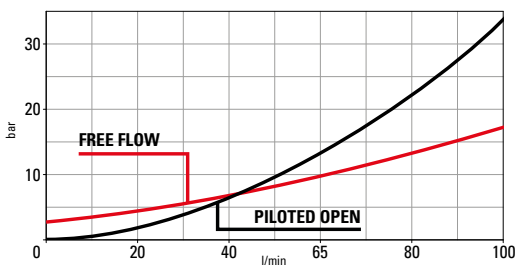
Load holding valves Normale 31NPS D L 1/2 F



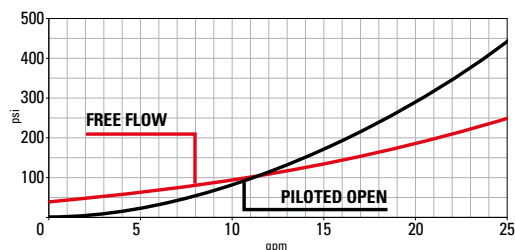
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2: G 1/2
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	2,63 Kg (5,8 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | L | | | G | 1 | 2 | | 0 | 0 | 0

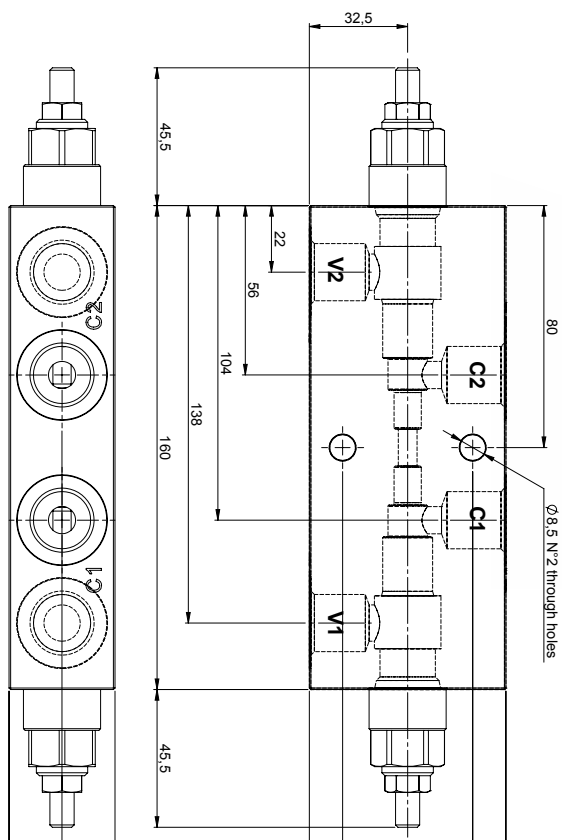
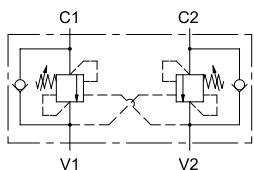
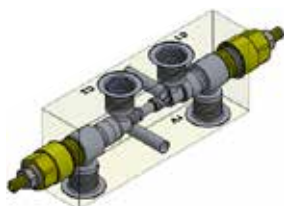
04 = 4:1
08 = 8:1

4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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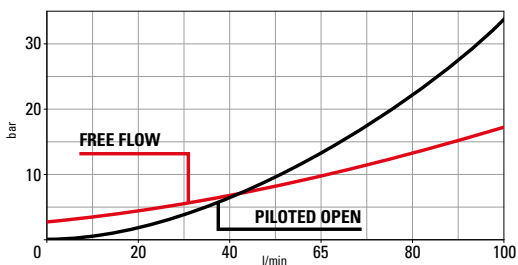
Normale 31NPS D L 1/2



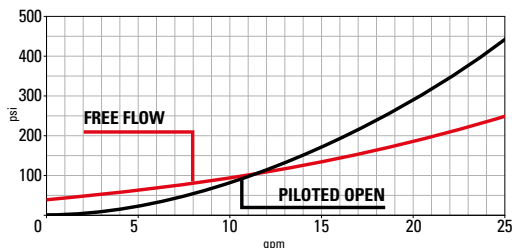
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2 : G 1/2
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114,5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	2,7 Kg (5,95 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | L | | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

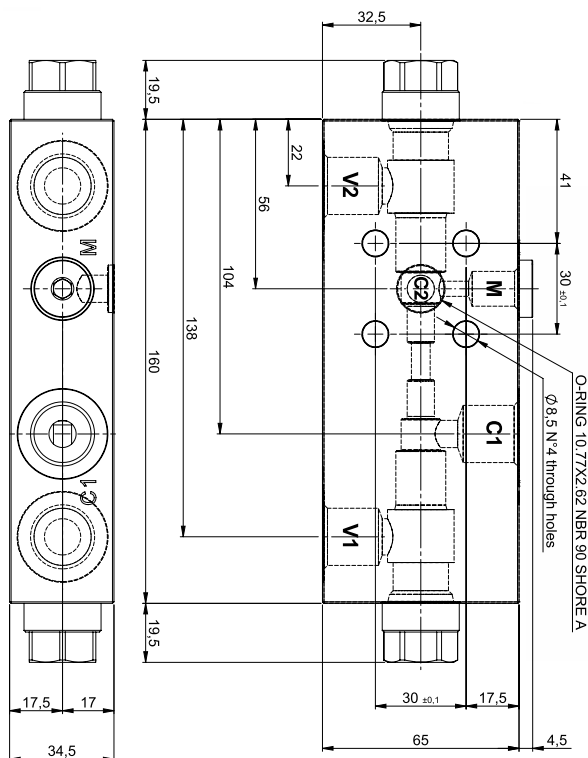
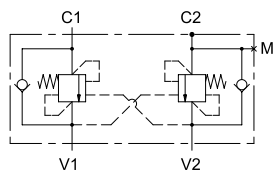
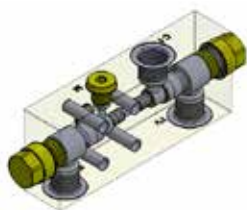
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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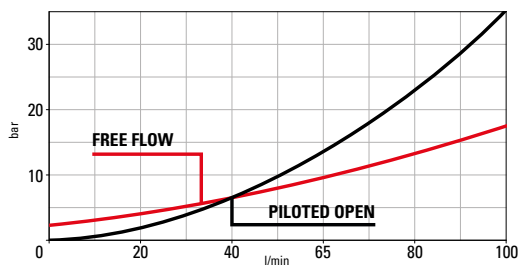
Load holding valves Normale 31NPS D FC1 1/2 F



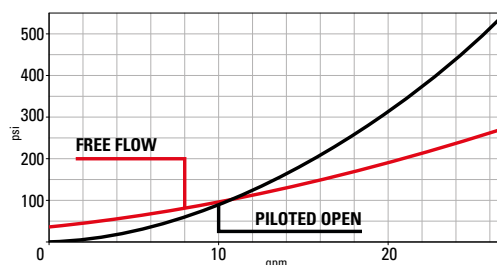
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 1/2 M: G 1/4 C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	2,6 Kg (5,73 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 1 | | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

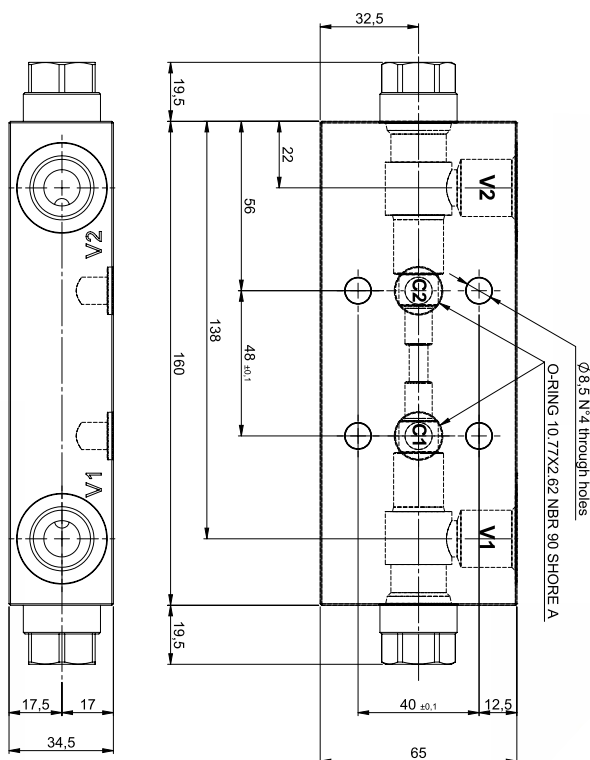
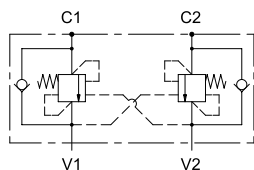
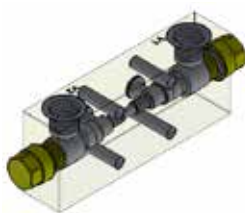
4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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Load holding valves

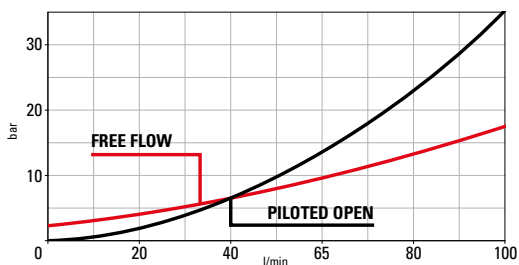
Normale 31NPS D FC2 1/2 F



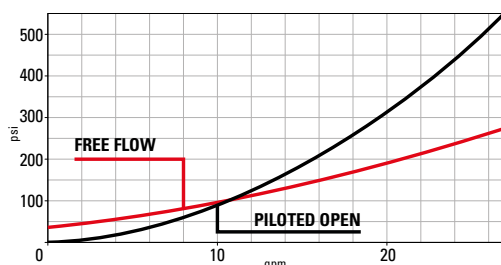
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V1, V2: G 1/2 C1, C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
valve weight	2,65 Kg (5,84 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 2 | | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

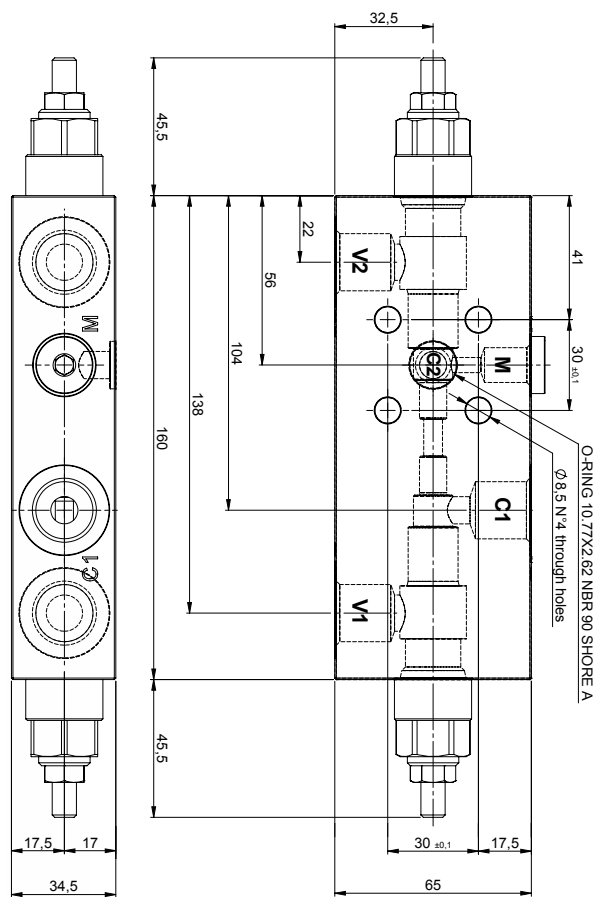
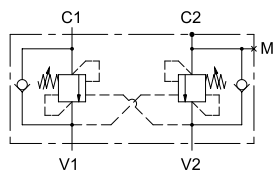
4:1 Spring I = 60-210 bar
(Standard Setting 200 bar)
Spring H = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring I = 100-380 bar
(Standard Setting 200 bar)
Spring H = 200-420 bar
(Standard Setting 350 bar)

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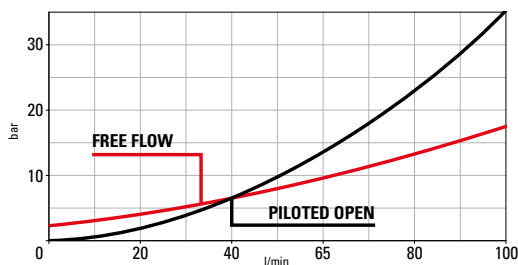
Load holding valves Normale 31NPS D FC1 1/2



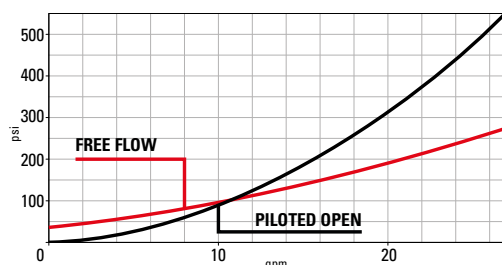
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 1/2 - M: G 1/4 - C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114.5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	2.68 Kg (5.9 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 1 | | | G | 1 | 2 | | 0 | 0 | 0

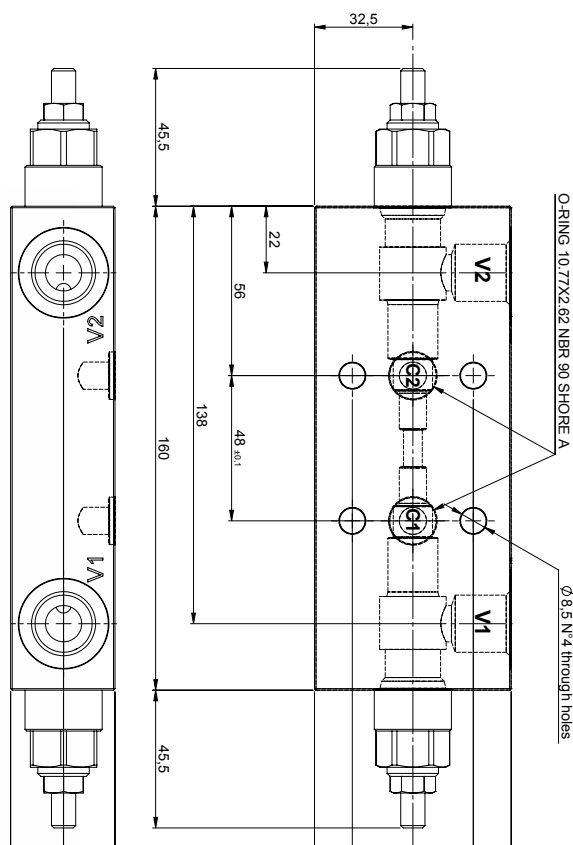
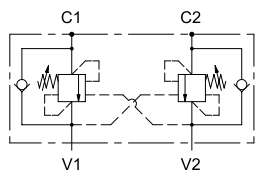
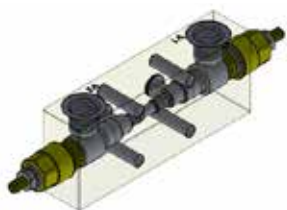
04 = 4:1
08 = 8:1

4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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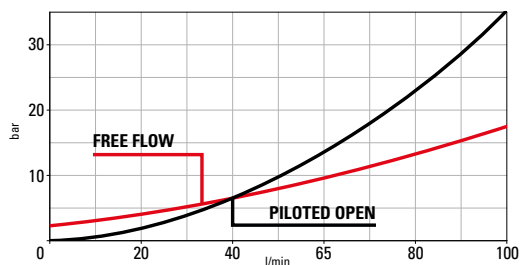
Normale 31NPS D FC2 1/2



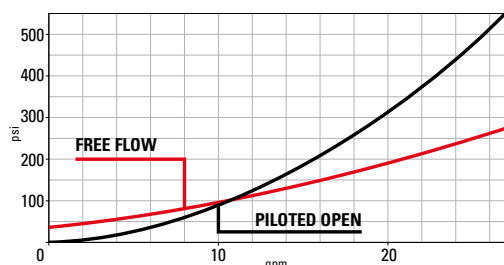
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 1/2 - C1, C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi): 4:1 100 bar (1450 psi): 8:1
pressure increase per turn	4:1 Spring M: 61.5 bar/turn Spring D: 137 bar/turn 8:1 Spring M: 114.5 bar/turn Spring D: 256 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	2.72 Kg (5.99 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory
- For 2:1 pilot ratio please consult factory



Performance curves



S | N | D | 3 | 1 | 2 | | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

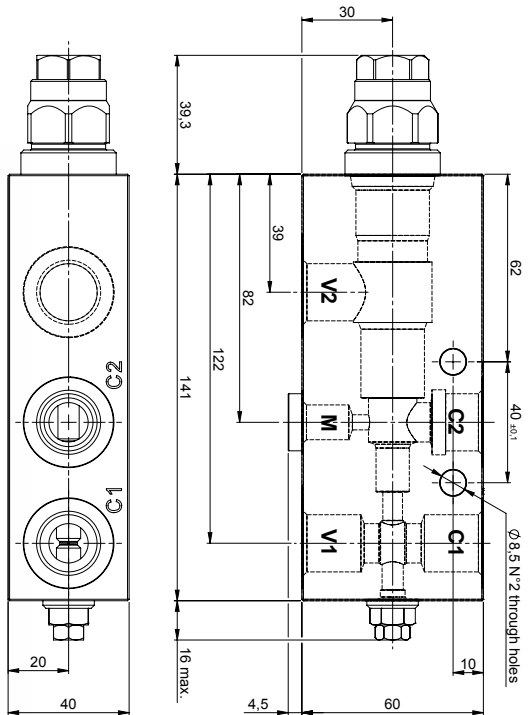
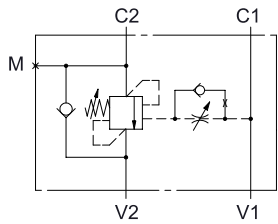
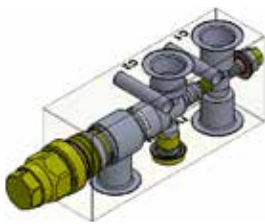
4:1 Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

8:1 Spring M = 100-380 bar
(Standard Setting 200 bar)
Spring D = 200-420 bar
(Standard Setting 350 bar)

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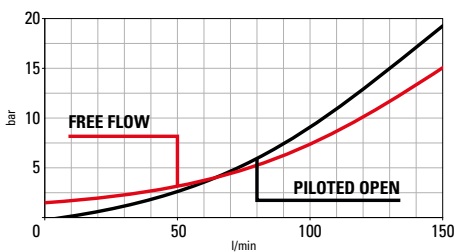
Load holding valves Normale 34 S L 1/2



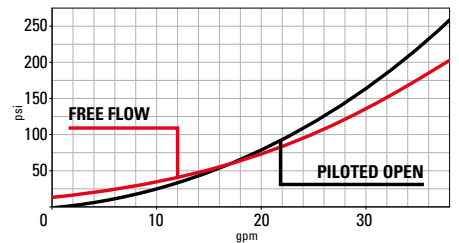
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 1/2 M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,47 Kg (5,4 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

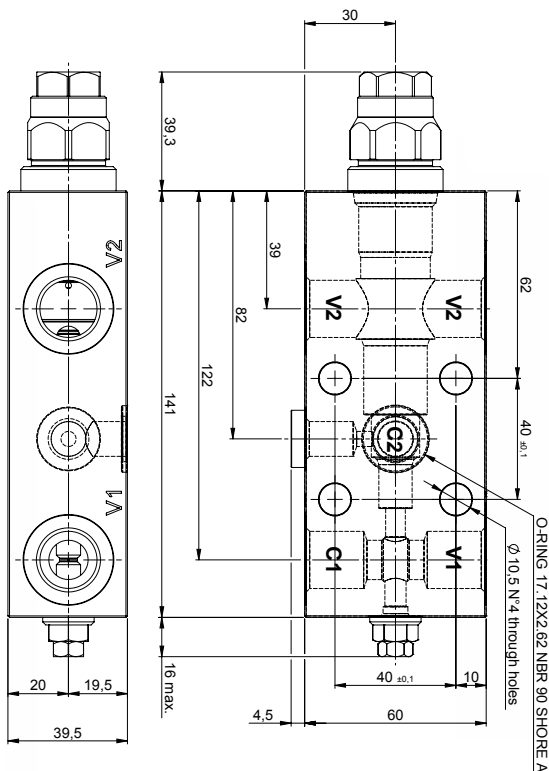
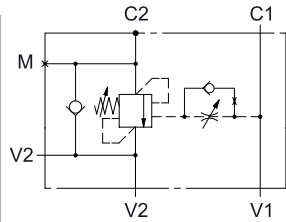
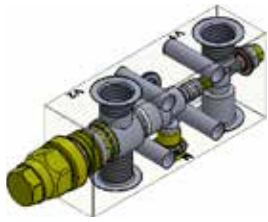
N | S | 3 | 4 | L | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

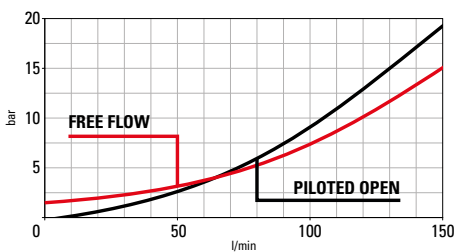
Normale 34 S FC1 PL 1/2



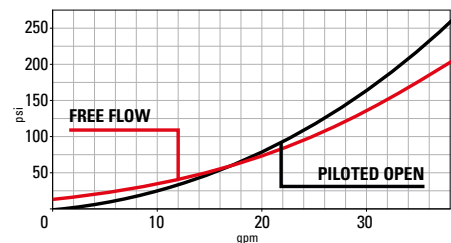
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, V1, V2: G 1/2 C2: φ15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,36 Kg (5,2 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK190SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

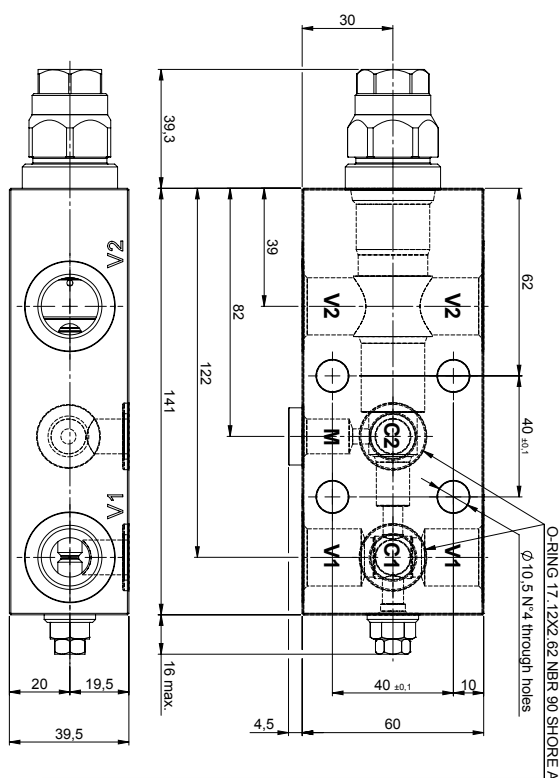
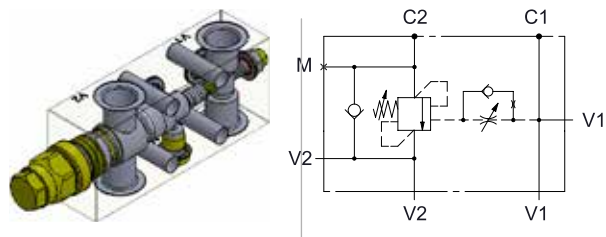
N | S | 3 | 4 | 1 | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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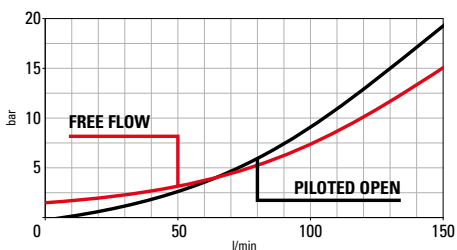
Load holding valves Normale 34 S FC2 1/2



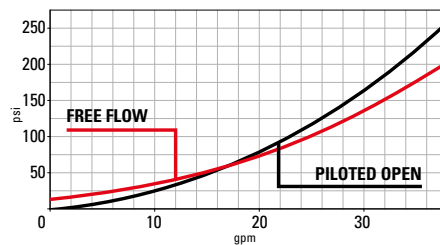
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 1/2 C1, C2: ϕ 15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn
	8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,35 Kg (5,18 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-350 bar
(Standard Setting 350 bar)

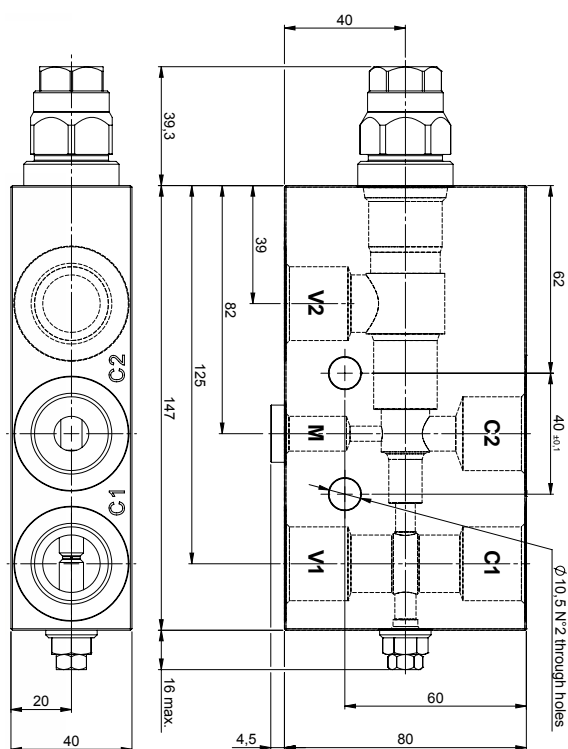
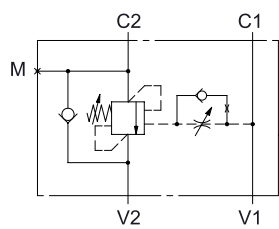
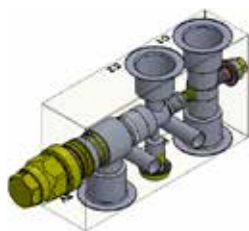
N | S | 3 | 4 | 2 | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

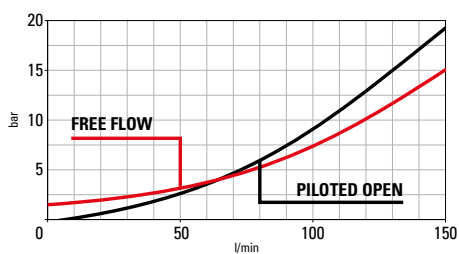
Normale 34 S L 3/4



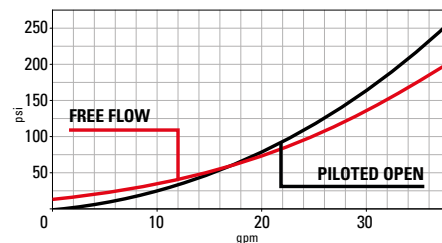
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 3/4 M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	3,26 Kg (7,2 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

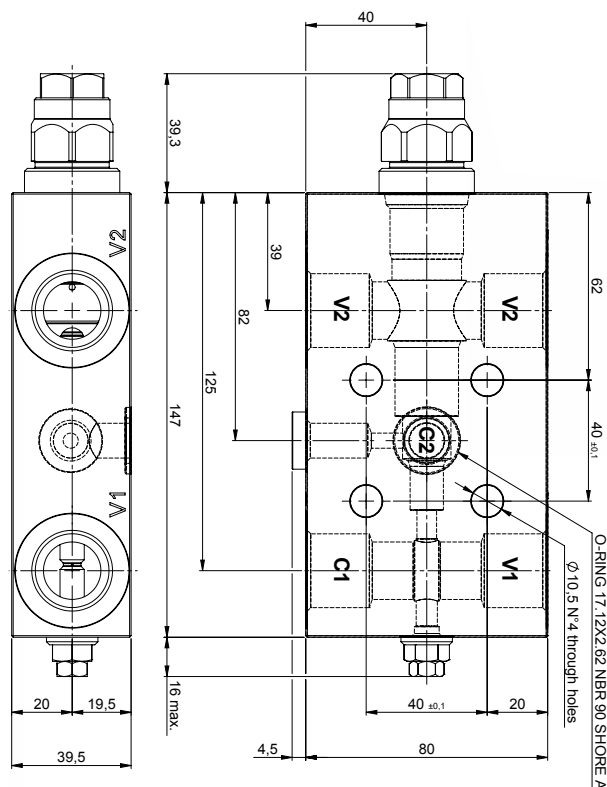
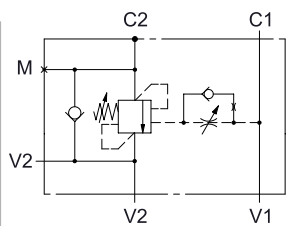
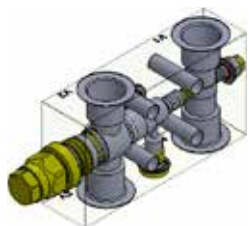
N | S | 3 | 4 | L | G | 3 | 4 | 0 | 0 | 0

04 = 4:1
08 = 8:1

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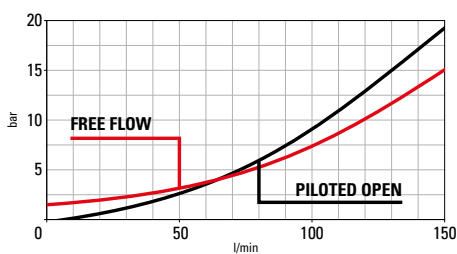
Load holding valves Normale 34 S FC1 PL 3/4



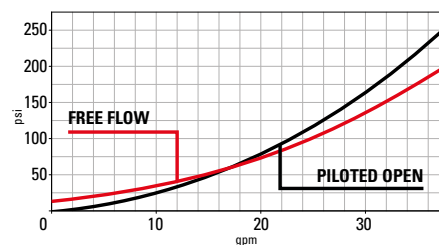
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, V1, V2: G 3/4 C2: φ15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	3,13 Kg (6,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK190SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

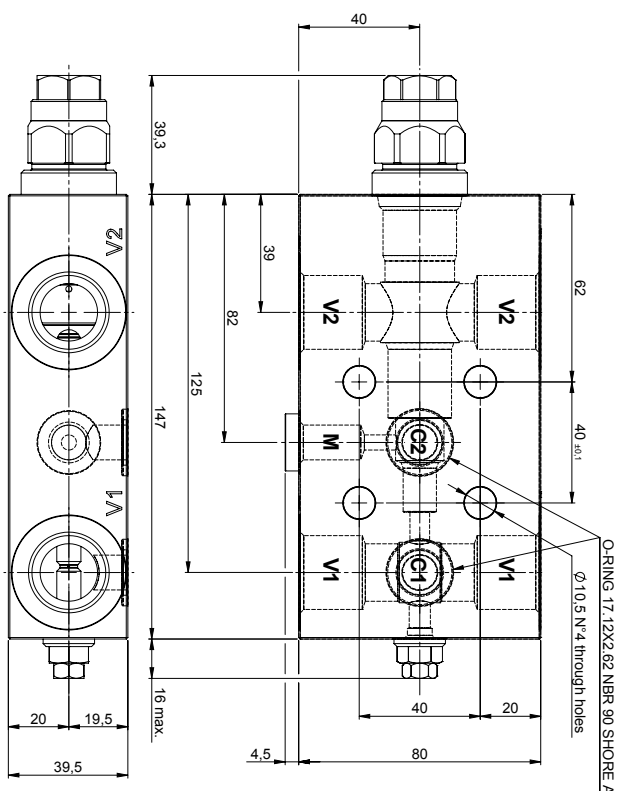
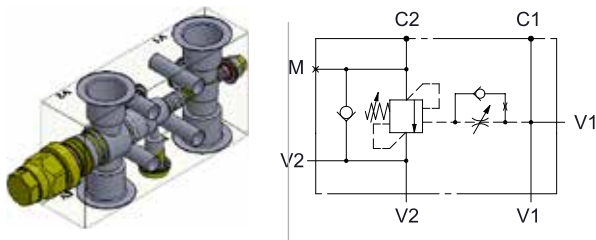
N | S | 3 | 4 | 1 | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

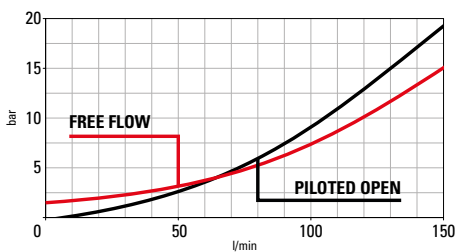
Normale 34 S FC2 3/4



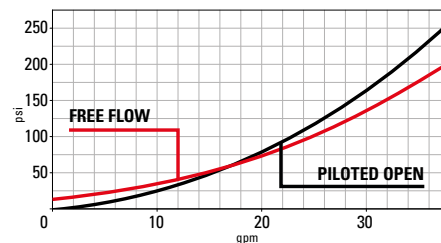
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 3/4 C1, C2: ϕ 15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	3,13 Kg (6,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

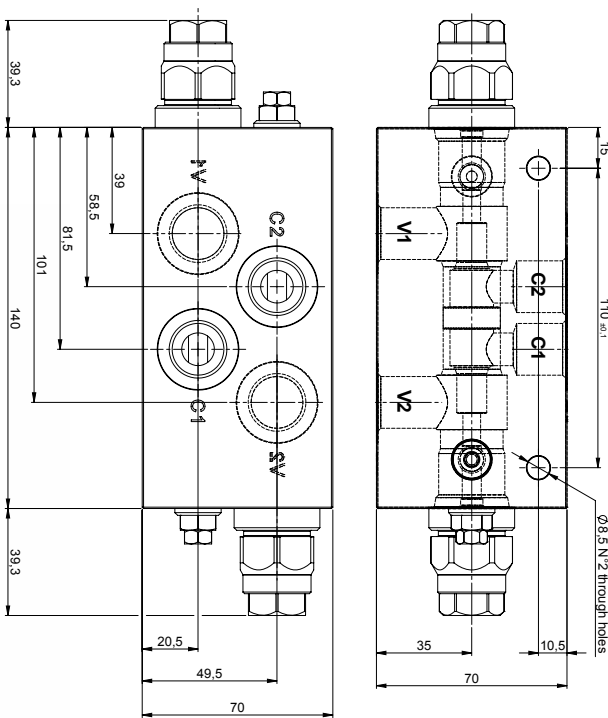
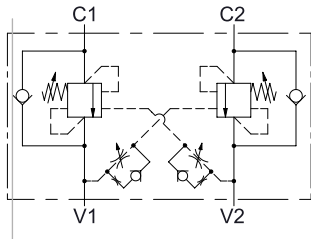
N | S | 3 | 4 | 2 | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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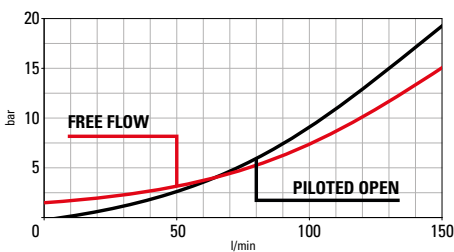
Load holding valves Normale 34 D L 1/2



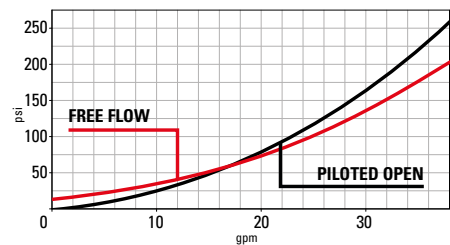
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 1/2
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1
	Spring M: 30 bar/turn
	Spring D: 73 bar/turn
	8:1
pressure setting established @	cracking pressure (1 in3/min)
	maximum valve leakage at reseal
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,3 Kg (5 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

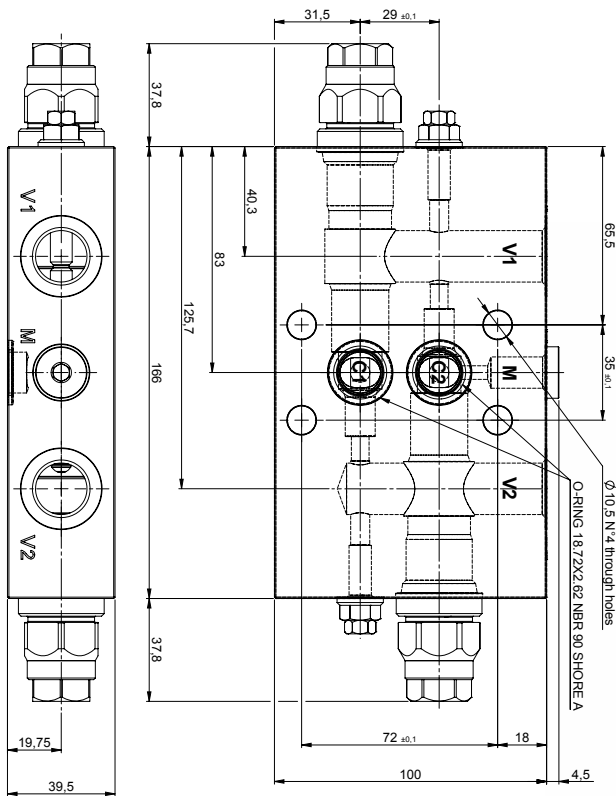
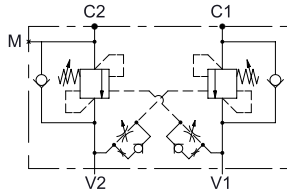
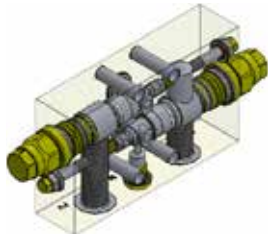
N | D | 3 | 4 | L | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

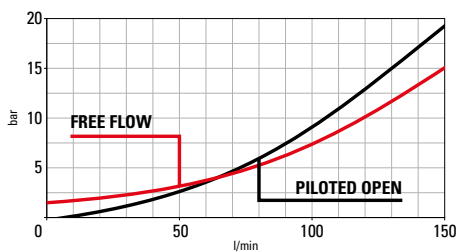
Normale 34 D FC2 1/2



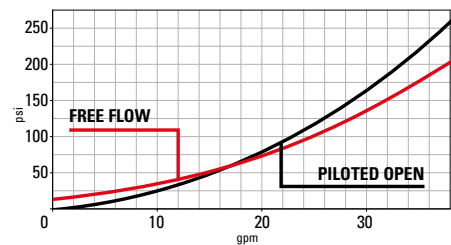
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 1/2 C1, C2: ϕ 15
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn
	8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,2 Kg (4,85 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1812X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

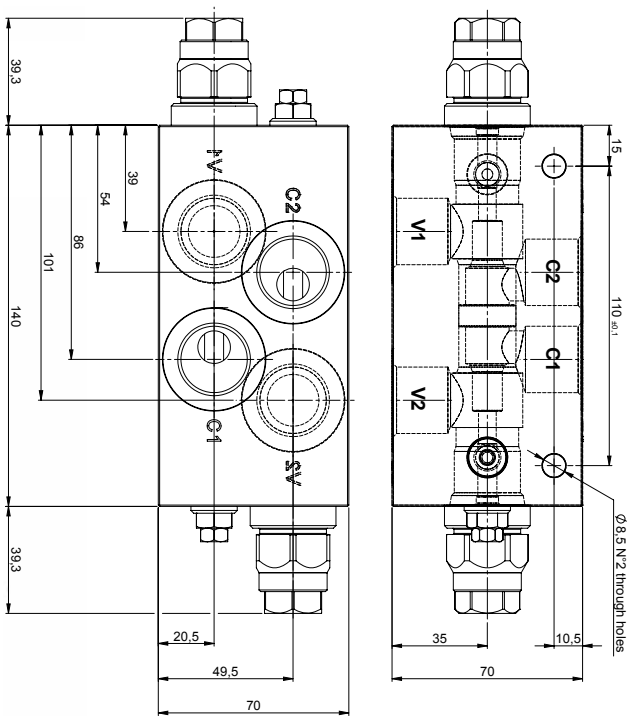
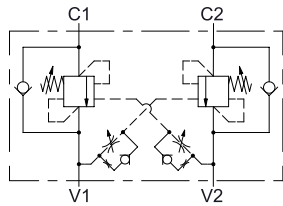
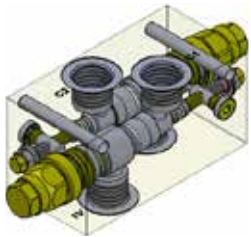
N D 3 4 2 | G 1 2 | 0 0 0

04 = 4:1
08 = 8:1

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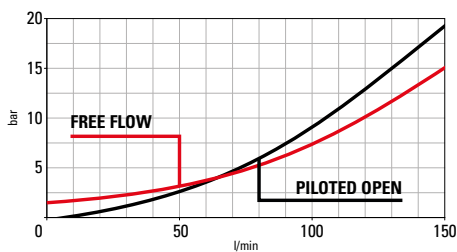
Load holding valves Normale 34 D L 3/4



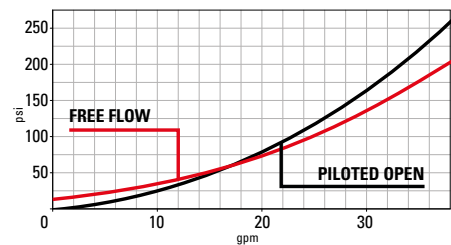
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 3/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1
	Spring M: 30 bar/turn
	Spring D: 73 bar/turn
pressure setting established @	cracking pressure (1 in3/min)
	maximum valve leakage at reseal
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,3 Kg (5 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

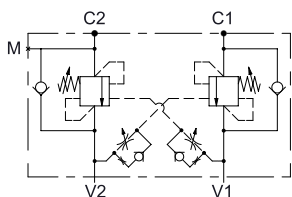
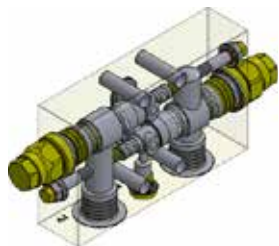
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N | D | 3 | 4 | L | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

Load holding valves

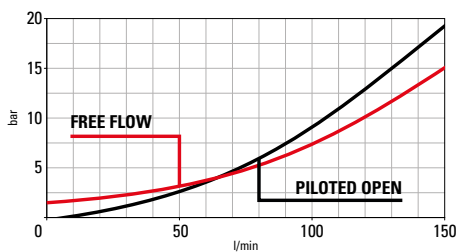
Normale 34 D FC2 3/4



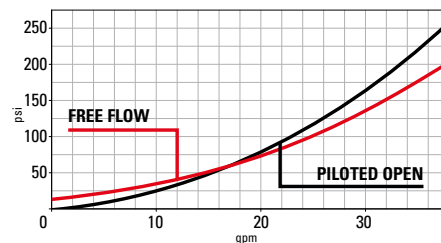
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 3/4 C1, C2: $\phi 15$
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1
	Spring M: 30 bar/turn
	Spring D: 73 bar/turn
	8:1
pressure setting established @	cracking pressure (1in3/min)
	maximum valve leakage at reseal
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,2 Kg (4,85 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1812X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseal value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-350 bar
(Standard Setting 350 bar)

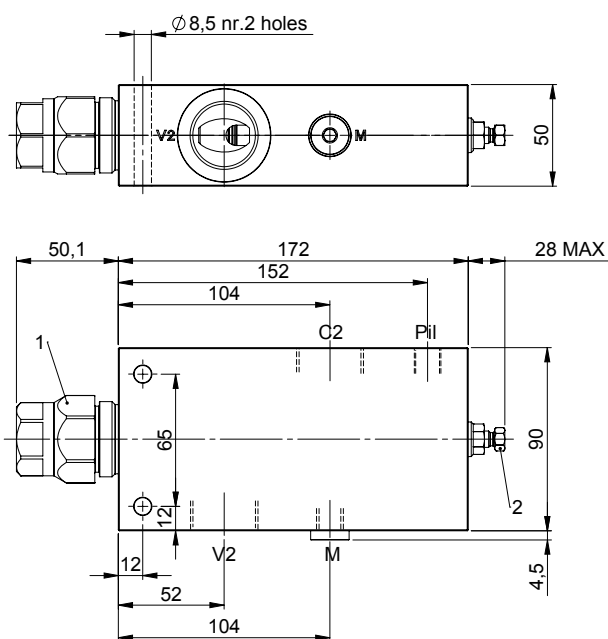
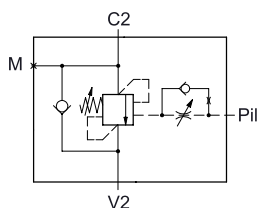
N | D | 3 | 4 | 2 | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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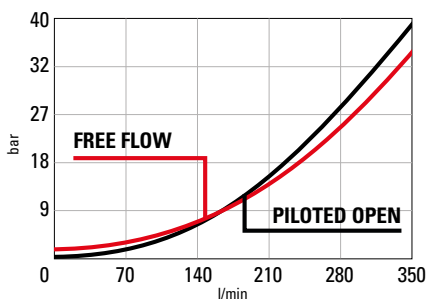
Load holding valves Normale 43 S L Pil 1



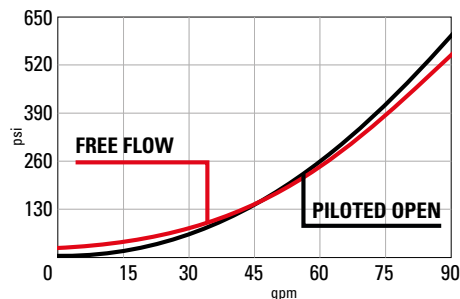
Technical Details

body material	zinc plated steel
capacity	350 lpm (93 gpm)
ports size	V2, C2: G 1 M, Pil: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	350 bar (5000 psi)
minimum setting	50 bar (750 psi)
pressure increase per turn	29 bar/turn (spring M) 48 bar/turn (spring D)
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve weight	5,75 kg (12,65 lbs)
external component surface treatment	zinc plating + sealing
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum body can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For special ports please consult factory



Performance curves

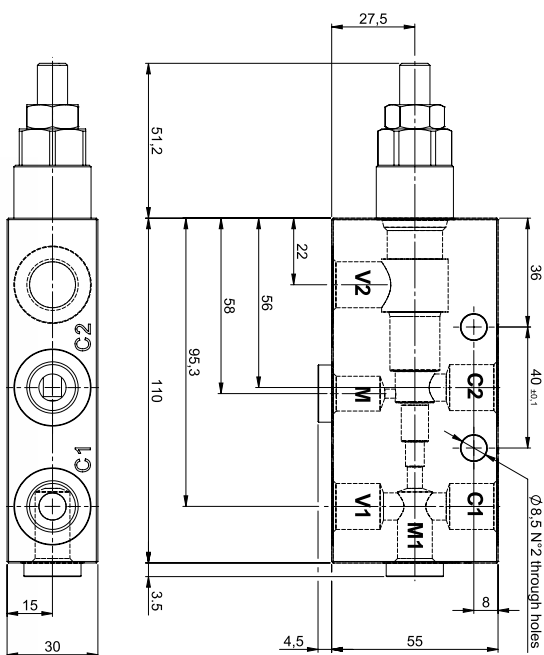
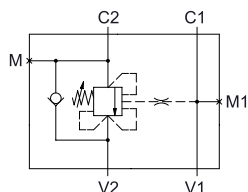
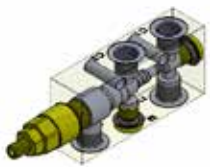


M = 50-210 bar
(Standard Setting 200 bar)
D = 150-350 bar
(Standard Setting 350 bar)

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S | N | S | 4 | 3 | P | 0 | 4 | G | 0 | 1 | | 0 | 0 | 0

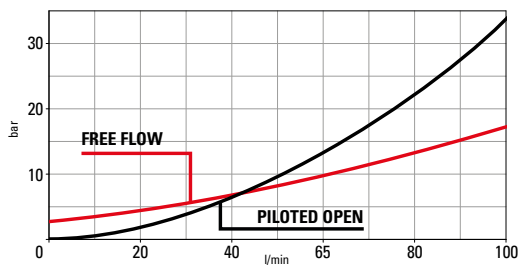
Compensata 31NPS S L 3/8



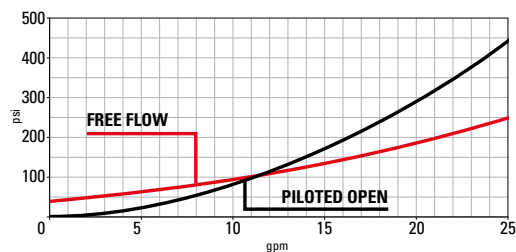
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2: G 3/8, M: G 1/4, M1: G 1/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,37 Kg (3 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



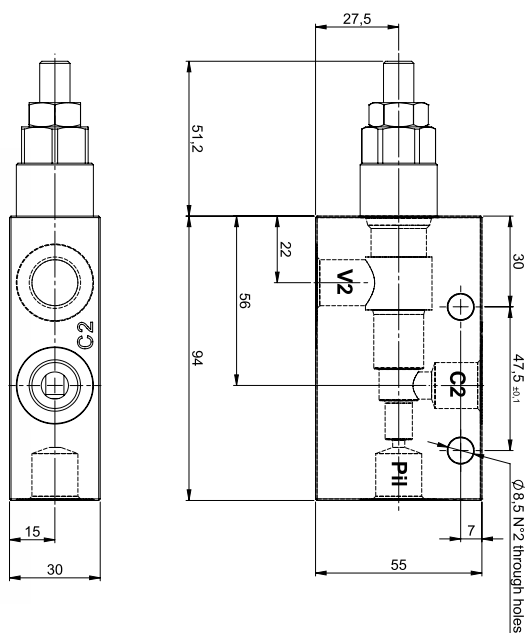
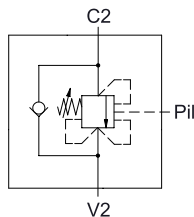
Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | S | 3 | 1 | L | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0



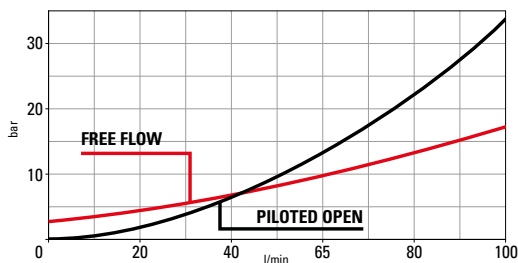
Load holding valves Compensata 31NPS S L PIL 3/8



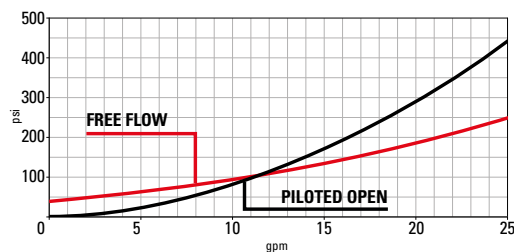
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V2, C2, Pil: G 3/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,15 Kg (2,5 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

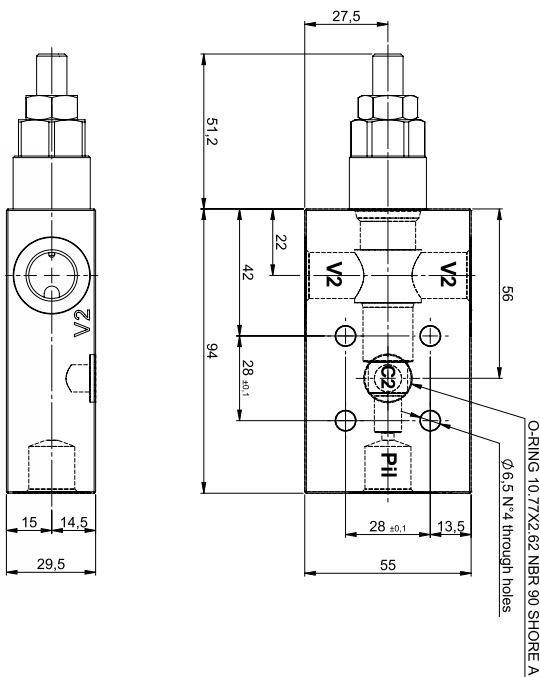
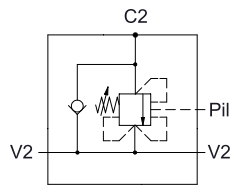


Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | S | 3 | 1 | P | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0

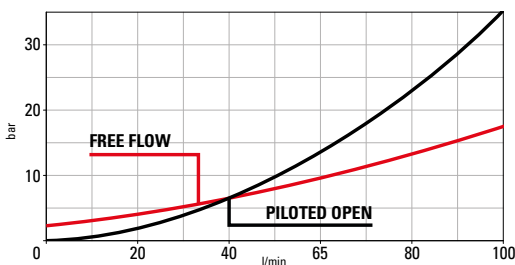
Compensata 31NPS S FC1 PIL 3/8



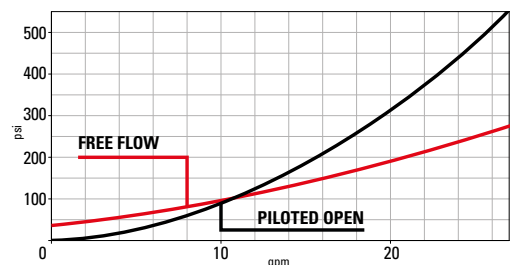
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V2, Pil: G 3/8 C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,12 Kg (2,46 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

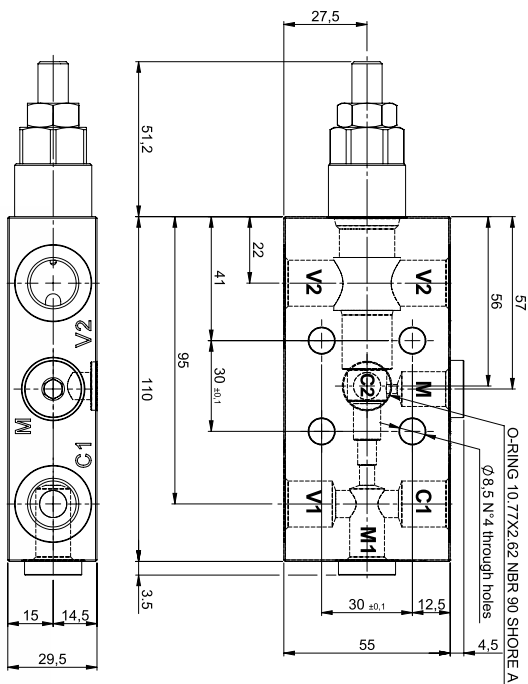
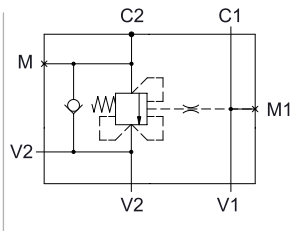
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S | C | S | 3 | 1 | 1 | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0



Load holding valves

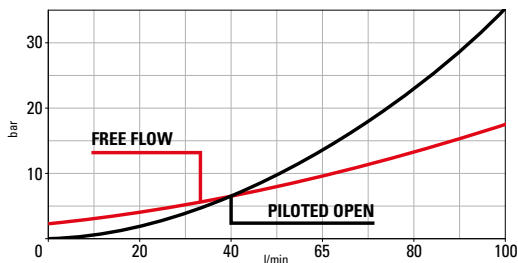
Compensata 31NPS S FC1 PL 3/8



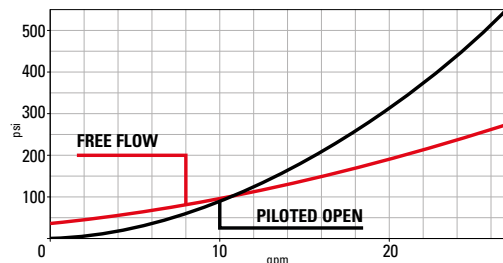
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V1, V2, C1: G 3/8 M: G 1/4, M1: G 1/8 C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,12 Kg (2,46 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

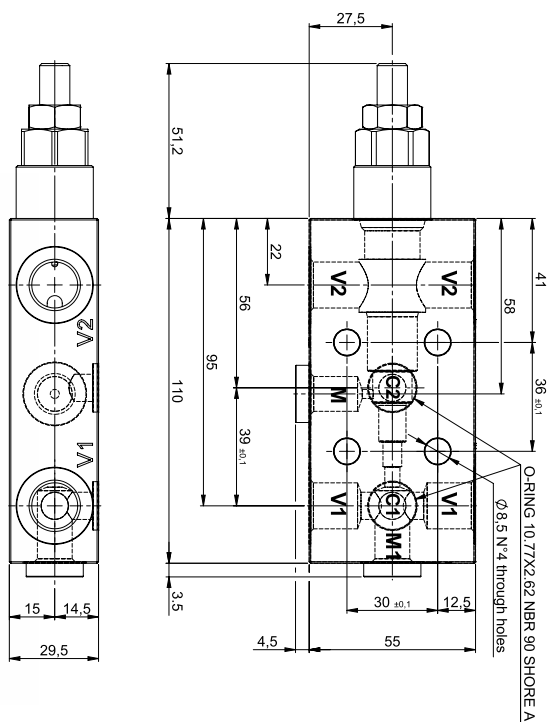
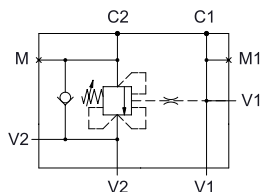


Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | S | 3 | 1 | 3 | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0

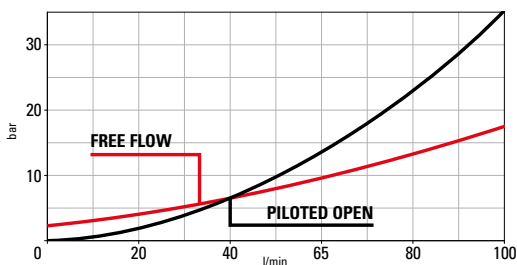
Compensata 31NPS S FC2 3/8



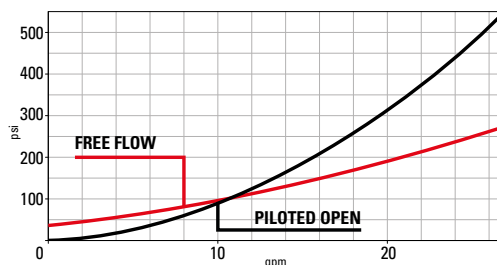
Technical Details

body material	aluminum or zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V1, V2: G 3/8 M: G 1/4, M1: G 1/8 C1, C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,32 Kg (2,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



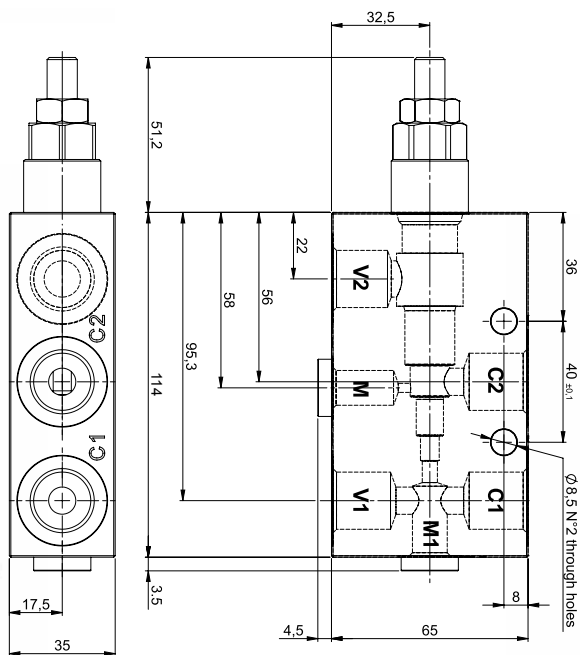
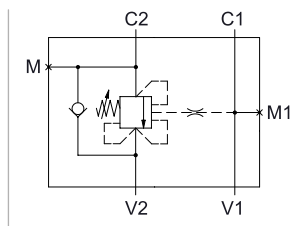
Spring M = 60-210 bar
(Standard Setting 200 bar)
 Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | S | 3 | 1 | 2 | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0



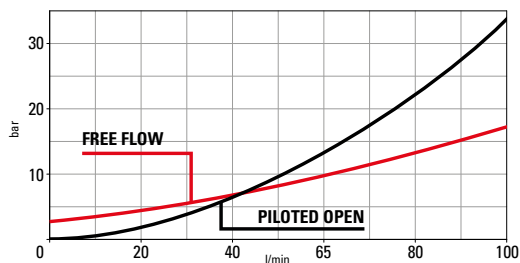
Load holding valves Compensata 31NPS S L 1/2



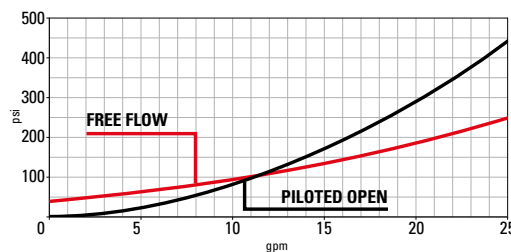
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2: G 3/8, M: G 1/4, M1: G 1/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,37 Kg (3 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseal value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

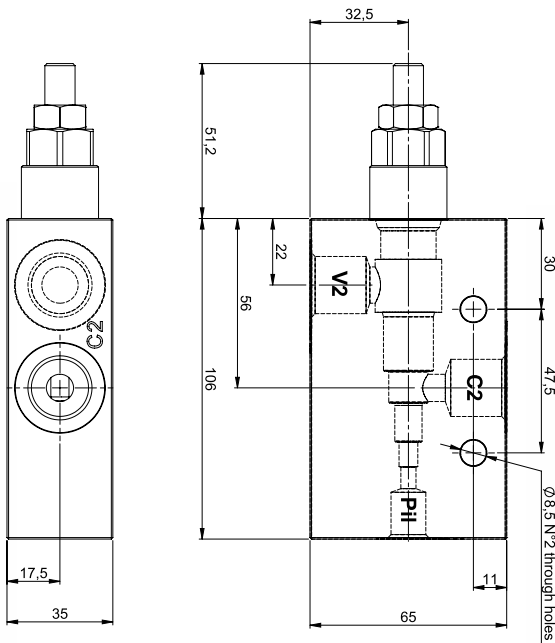
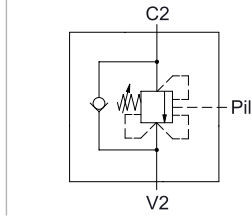
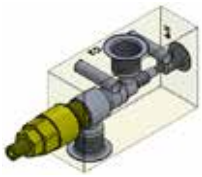


Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | S | 3 | 1 | L | 0 | 4 | G | 1 | 2 | | 0 | 0 | 0

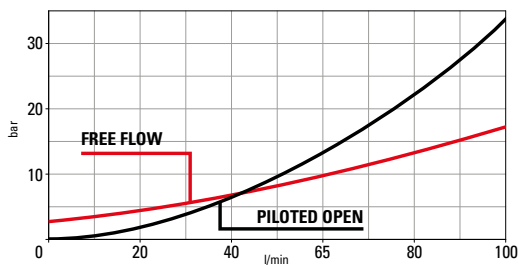
Compensata 31NPS S L PIL 1/2



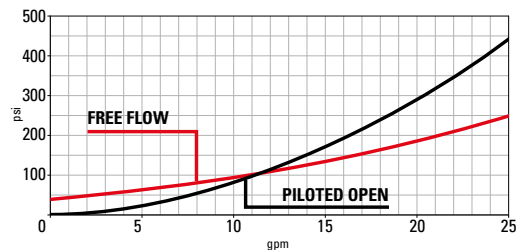
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V2, C2: G 1/2 Pil: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,37 Kg (3 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseal value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

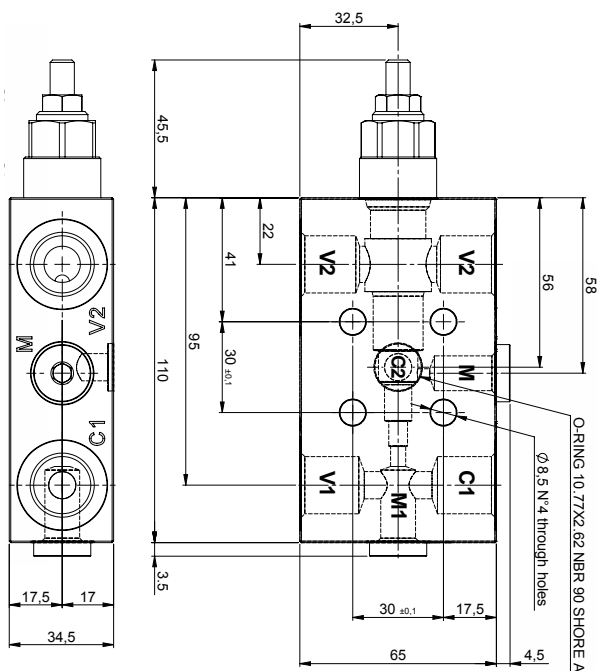
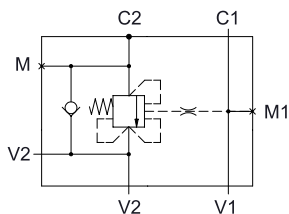
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S | C | S | 3 | 1 | P | 0 | 4 | G | 1 | 2 | | 0 | 0 | 0



Load holding valves

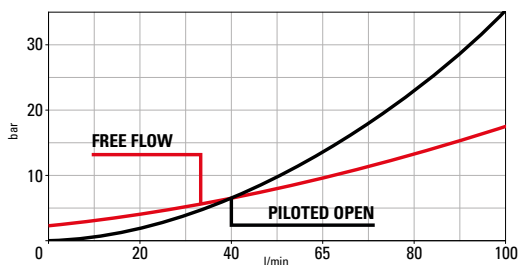
Compensata 31NPS S FC1 PL 1/2



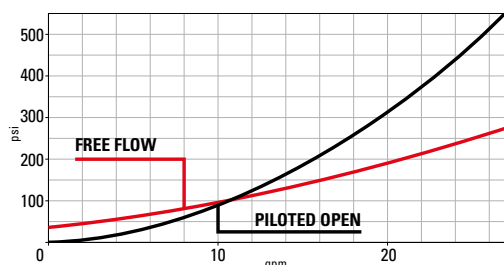
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1: G 1/2 M: G 1/4, M1: G 1/8 C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1.32 Kg (2,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK190SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

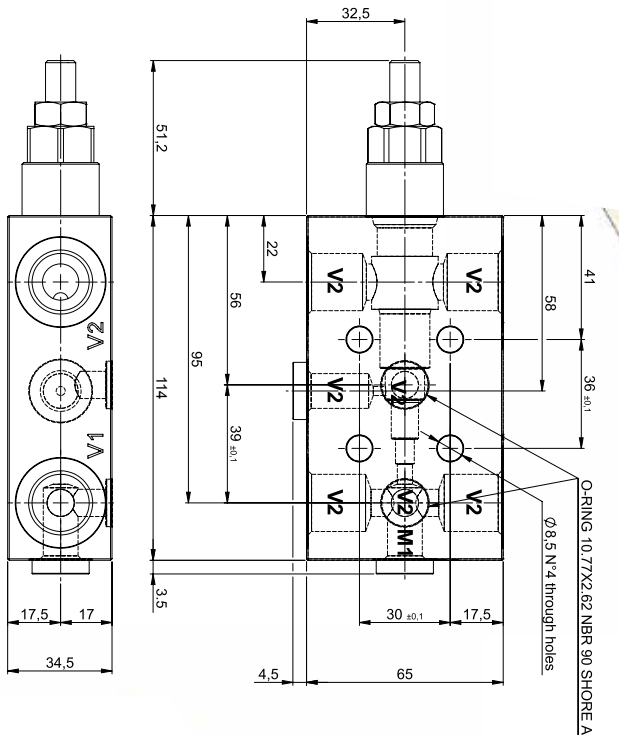
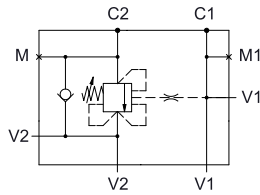


Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | S | 3 | 1 | 3 | 0 | 4 | G | 1 | 2 | | 0 | 0 | 0

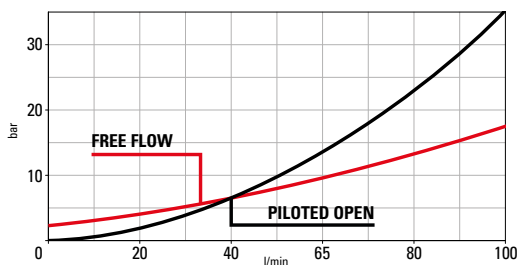
Compensata 31NPS S FC2 1/2



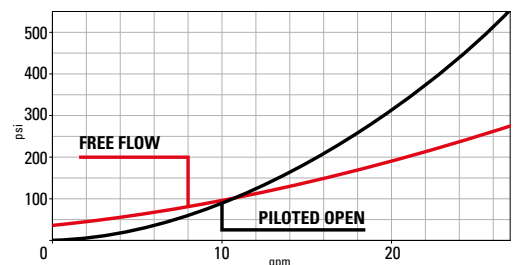
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 1/2 M: G 1/4, M1: G 1/8 C1, C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,32 Kg (2,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



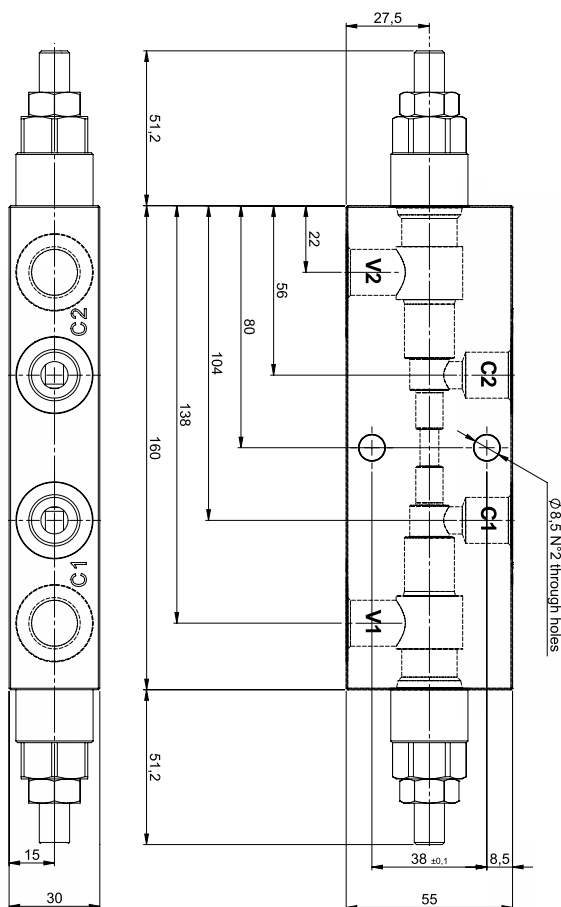
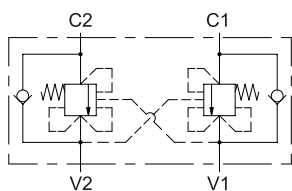
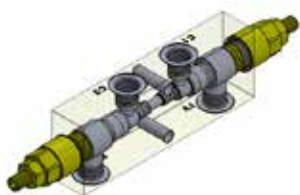
Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | S | 3 | 1 | 2 | 0 | 4 | G | 1 | 2 | | 0 | 0 | 0



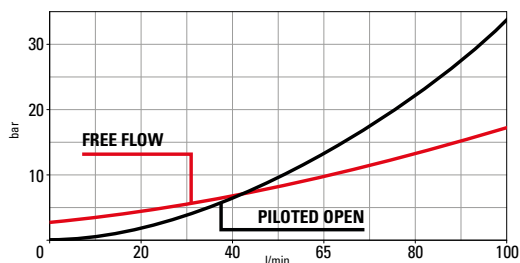
Load holding valves Compensata 31NPS D L 3/8



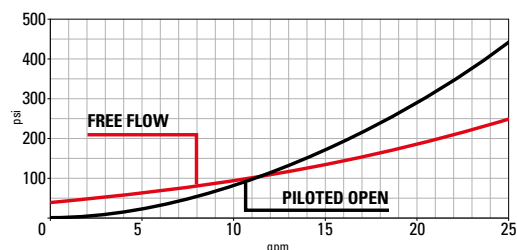
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
Ports size	V1, V2, C1, C2: G 3/8
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	2 Kg (4,4 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseal value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

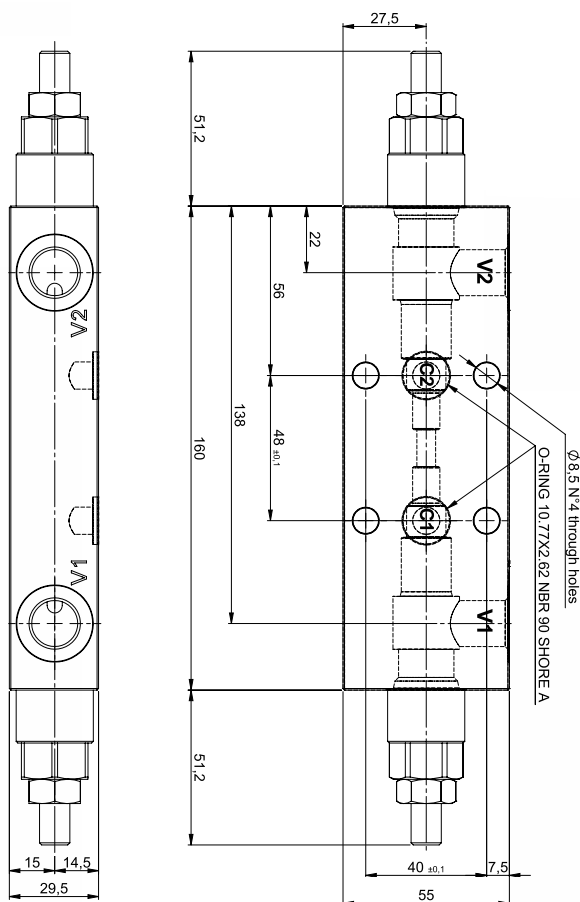
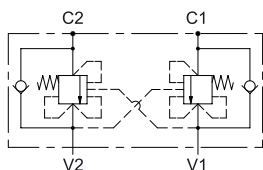
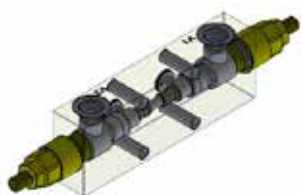


Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | D | 3 | 1 | L | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0

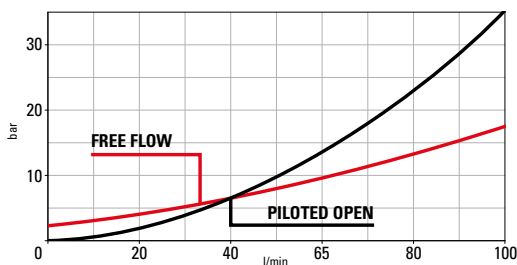
Compensata 31NPS D FC2 3/8



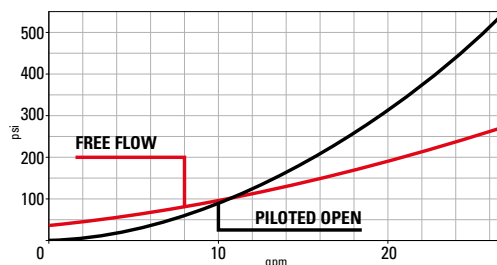
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 3/8 C1, C2: ϕ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	2 Kg (4,4 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseal value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

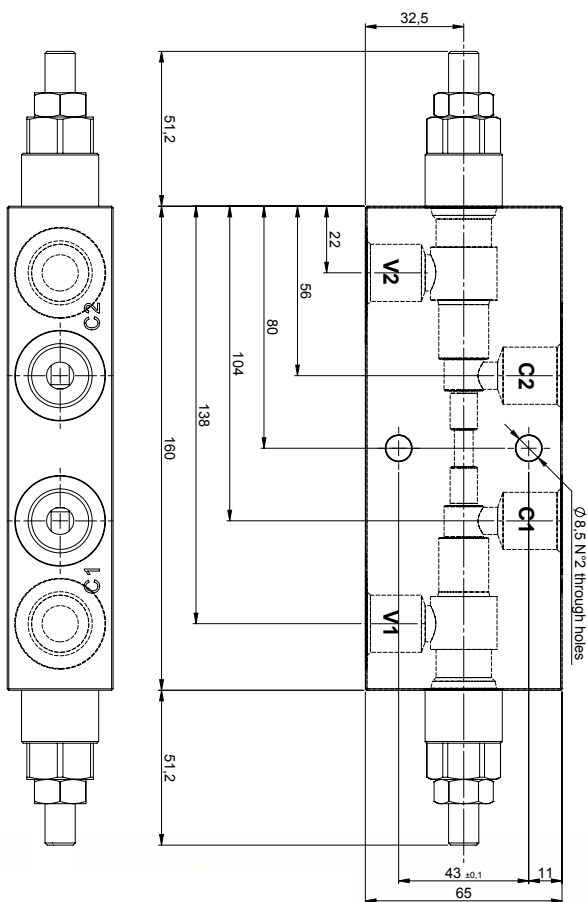
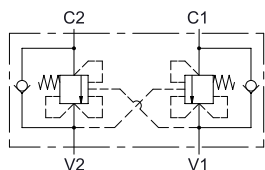
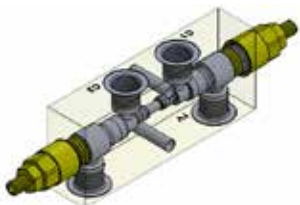
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S | C | D | 3 | 1 | 2 | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0



Load holding valves

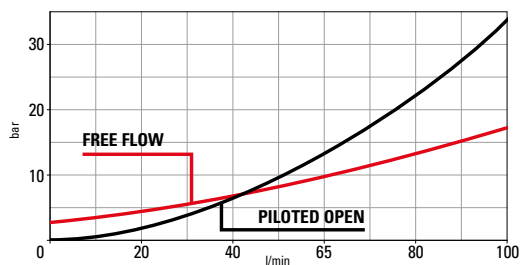
Compensata 31NPS D L 1/2



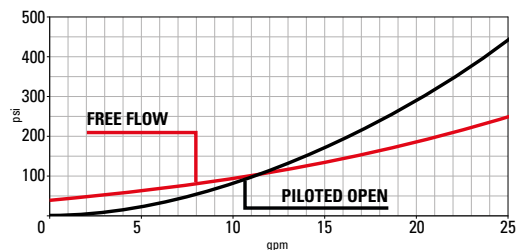
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2, C1, C2 : G 1/2
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,37 Kg (3 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseal value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

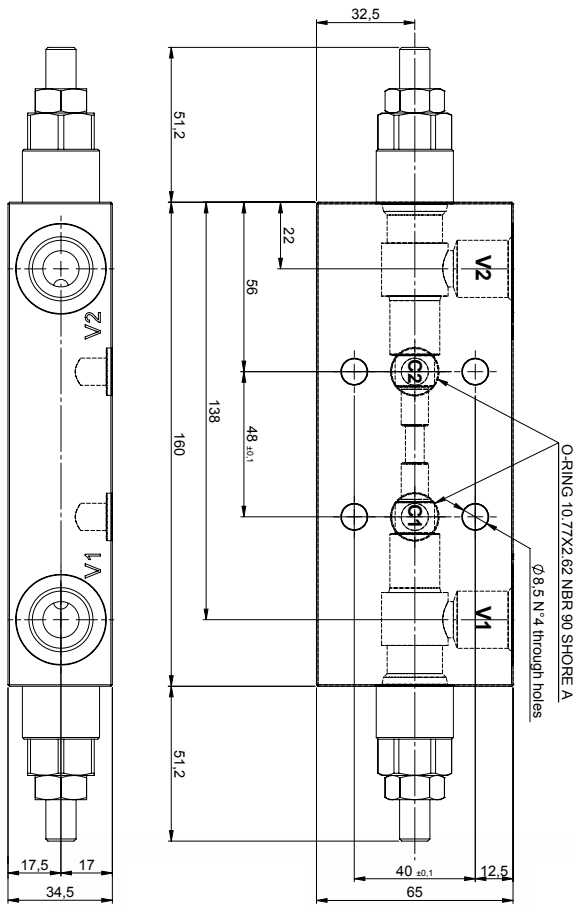
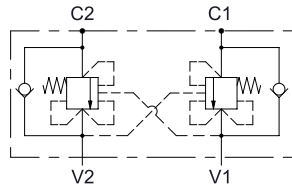
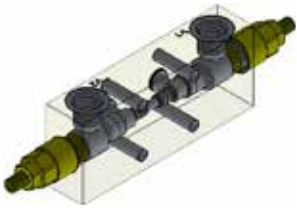


Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | D | 3 | 1 | L | 0 | 4 | G | 1 | 2 | | 0 | 0 | 0

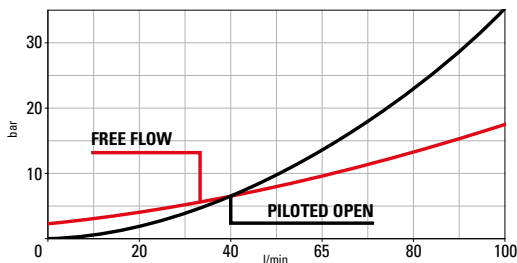
Compensata 31NPS D FC2 1/2



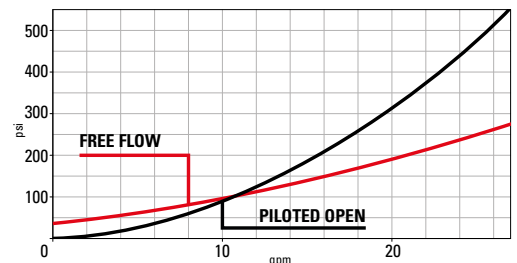
Technical Details

body material	zinc plated steel
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 1/2 C1, C2: φ 9
max operating pressure	350 bar (5000 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 49 bar/turn Spring D: 110 bar/turn
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
nut hex size	17
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,32 Kg (2,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1077x262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Balanced piston design allows relief operations to be independent of backpressure at port 2; piloted opening is still subject to additive pressure at port 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseal value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



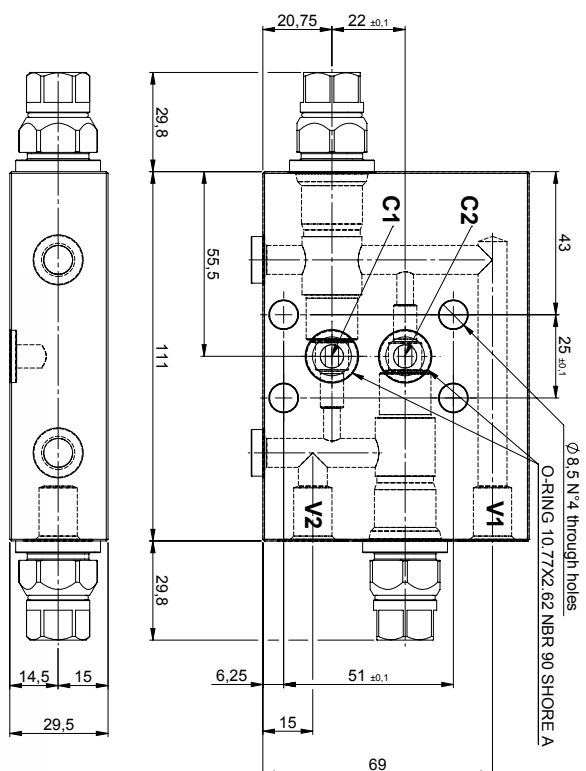
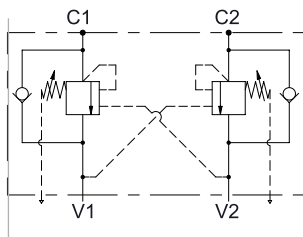
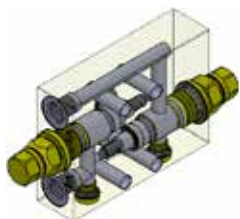
Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-360 bar
(Standard Setting 350 bar)

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S | C | D | 3 | 1 | 2 | 0 | 4 | G | 1 | 2 | | 0 | 0 | 0



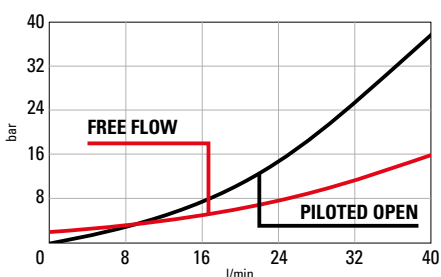
Load holding valves Ventilata 79 D FC2P 1/4



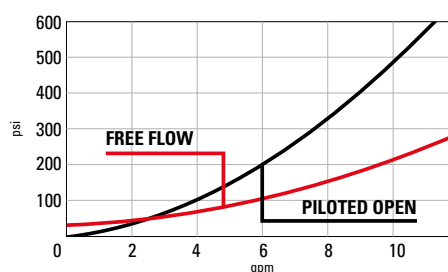
Technical Details

body material	aluminum
capacity	40 lpm (10 gpm)
ports size	V1, V2: G 1/4 C1, C2: $\phi 7$
max operating pressure	210 bar
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 82 bar/turn Spring D: 137 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
valve weight	0,9 Kg (2 lbs)
external component surface treatment	black or white anodization
seal kit (nbr)	SK290SH0992X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



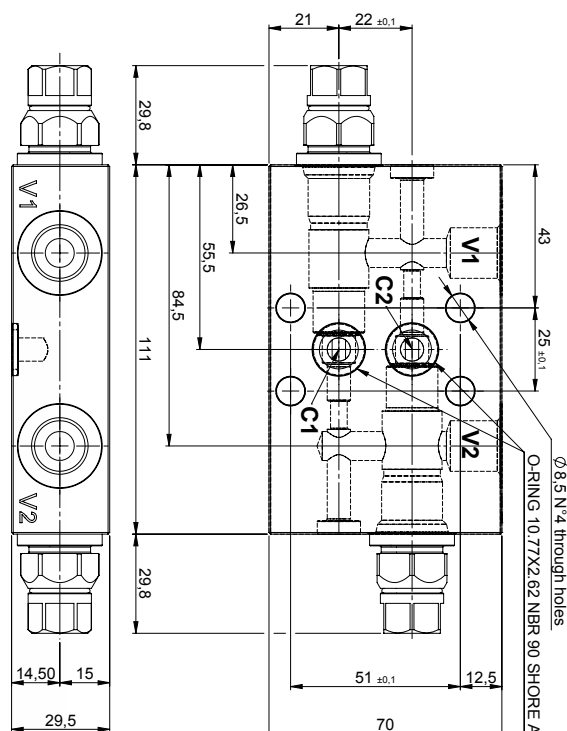
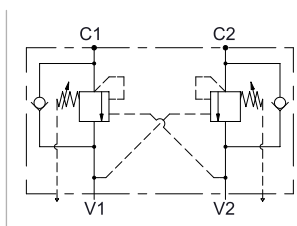
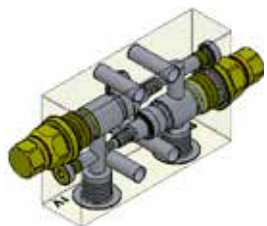
Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

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A | V | D | 7 | 9 | 3 | 0 | 4 | G | 1 | 4 | | 0 | 0 | 0

Load holding valves

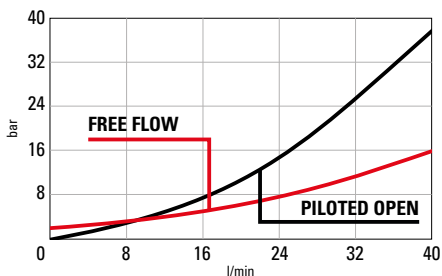
Ventilata 79 D FC2 3/8



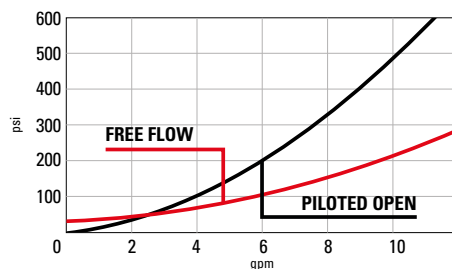
Technical Details

body material	aluminum
capacity	40 lpm (10 gpm)
ports size	V1, V2: G 3/8 C1, C2: 7
max operating pressure	210 bar
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	Spring M: 82 bar/turn Spring D: 137 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
valve weight	0,8 Kg (1,8 lbs)
external component surface treatment	black or white anodization
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



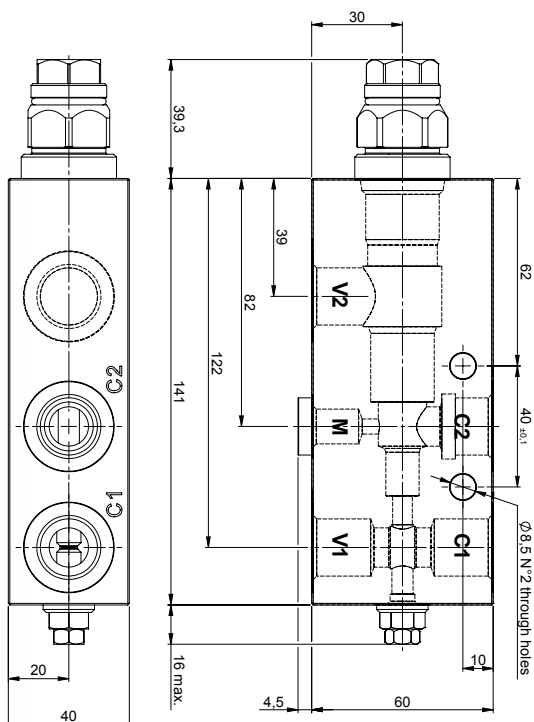
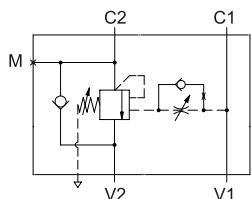
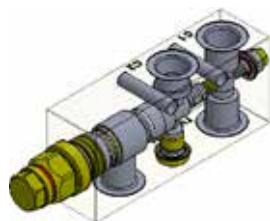
Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

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A | V | D | 7 | 9 | 2 | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0



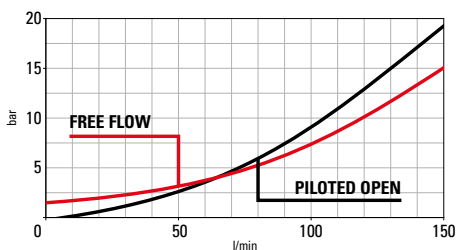
Load holding valves Ventilata 34 S L 1/2



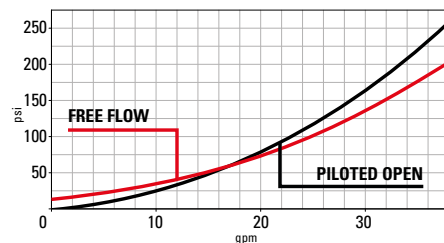
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 1/2 M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,47 Kg (5,4 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

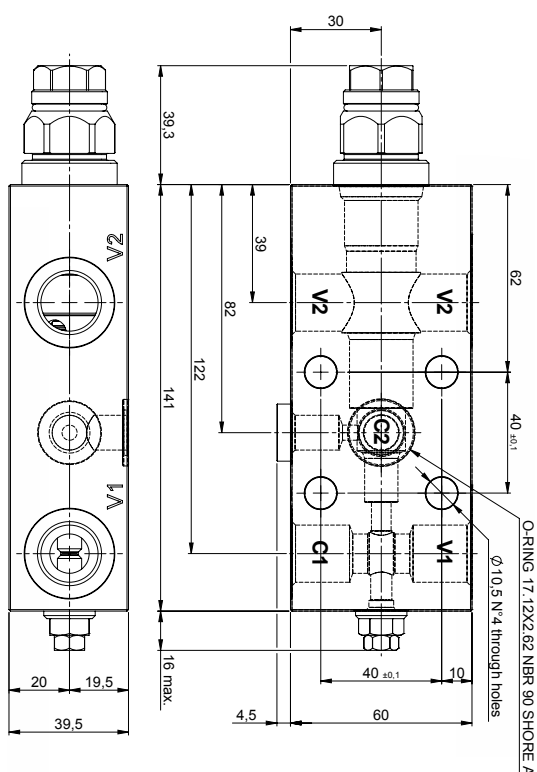
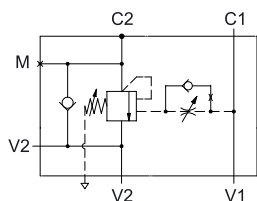
V | S | 3 | 4 | L | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

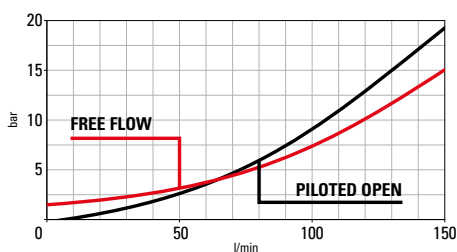
Ventilata 34 S FC1 PL 1/2



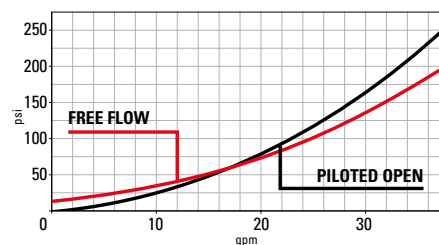
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, V1, V2: G 1/2 C2: φ15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,35 Kg (5,18 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK190SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

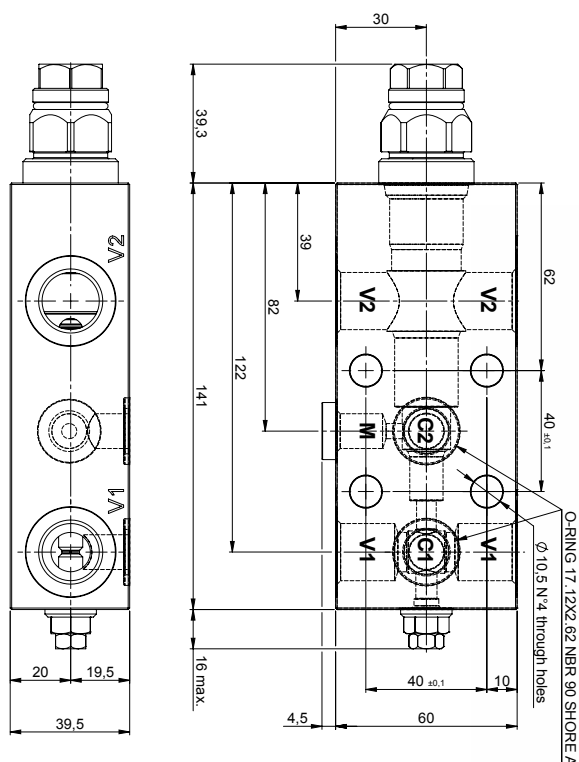
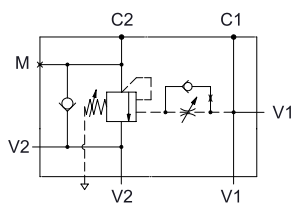
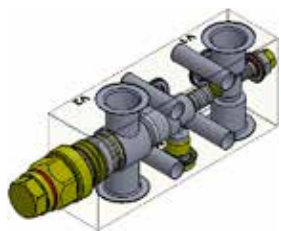
V | S | 3 | 4 | 1 | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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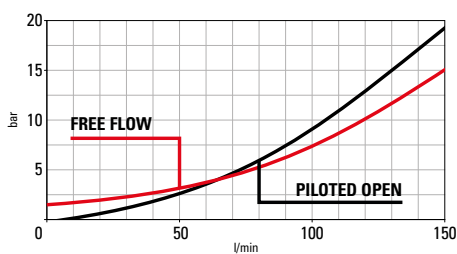
Load holding valves Ventilata 34 S FC2 1/2



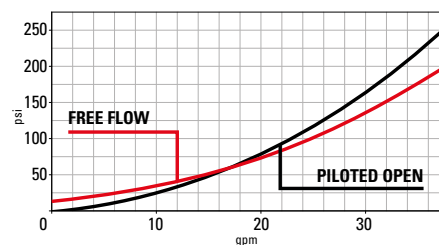
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 1/2 C1, C2: ϕ 15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,35 Kg (5,18 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

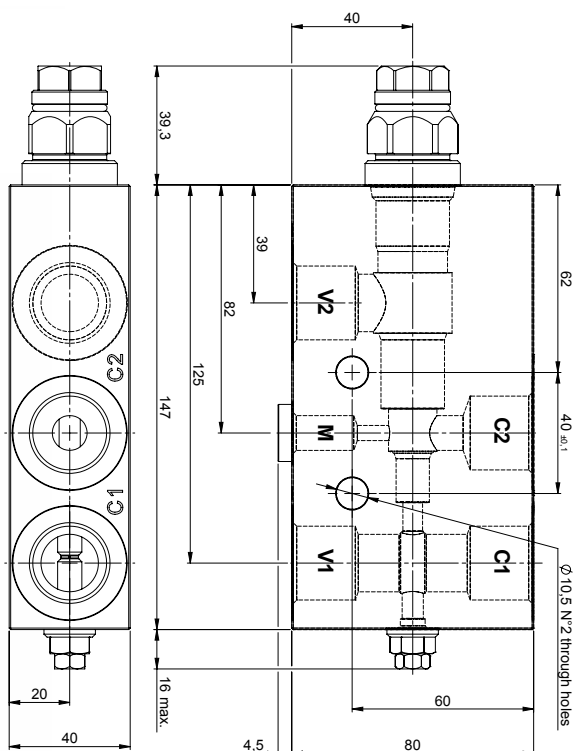
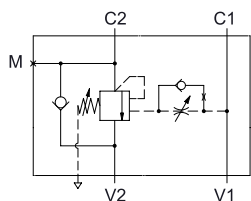
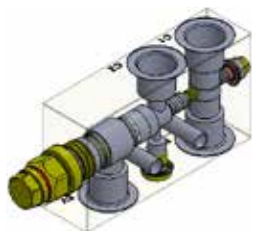
Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

V | S | 3 | 4 | 2 | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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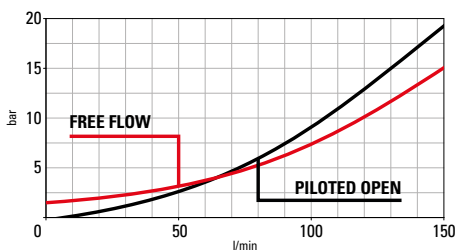
Load holding valves Ventilata 34 S L 3/4



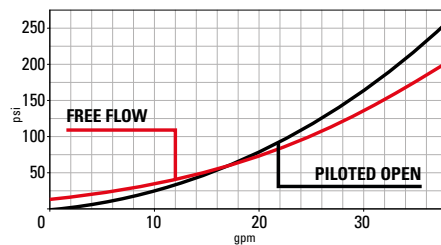
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 3/4 M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	3,26 Kg (7,2 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 210-350 bar
(Standard Setting 350 bar)

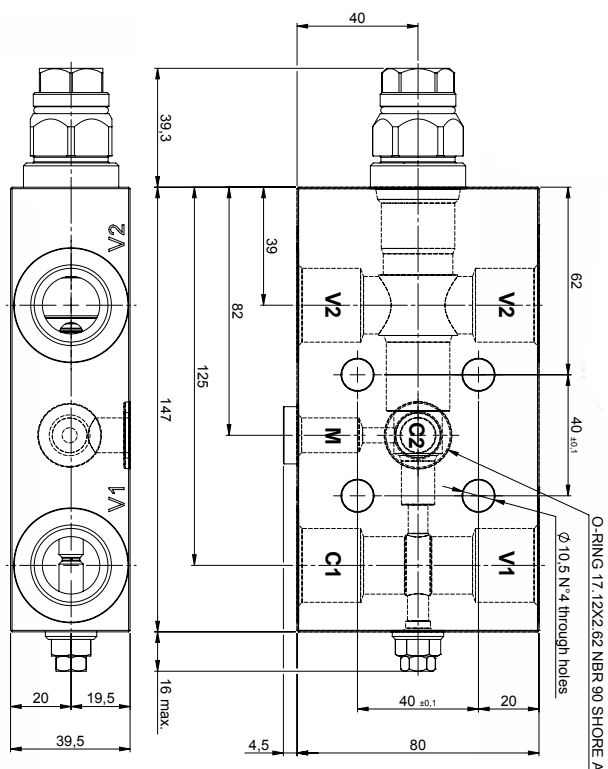
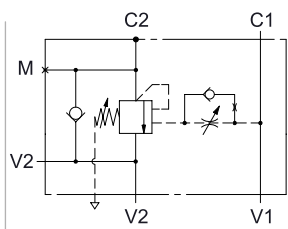
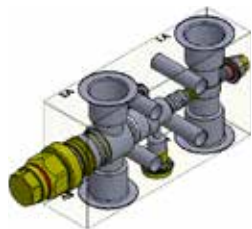
V | S | 3 | 4 | L | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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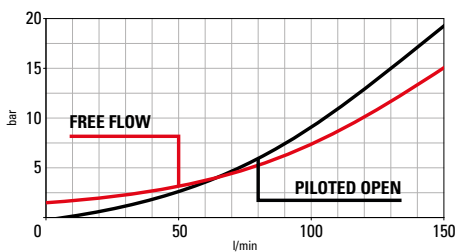
Load holding valves Ventilata 34 S FC1 PL 3/4



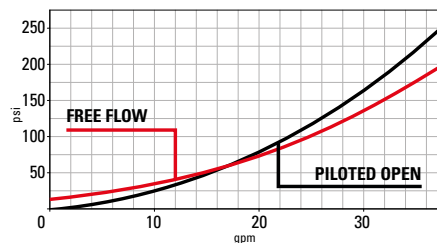
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, V1, V2: G 3/4 C2: φ15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	3,13 Kg (6,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK190SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

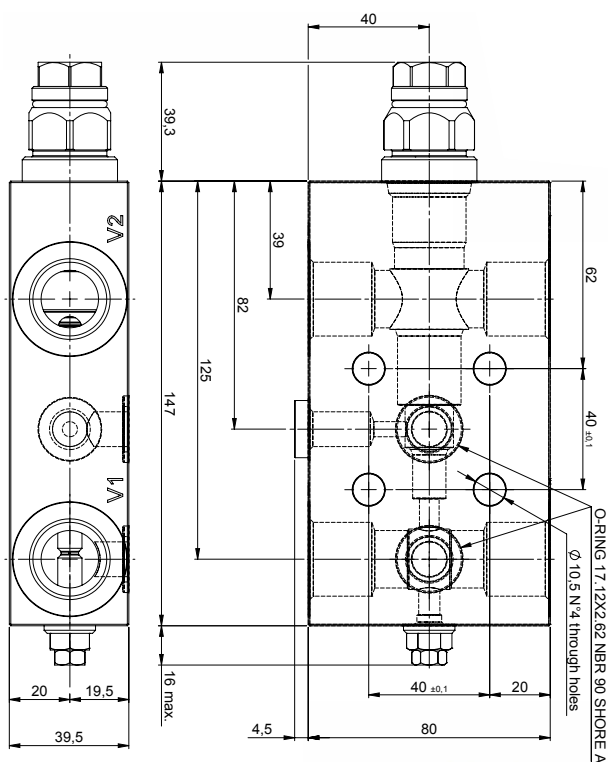
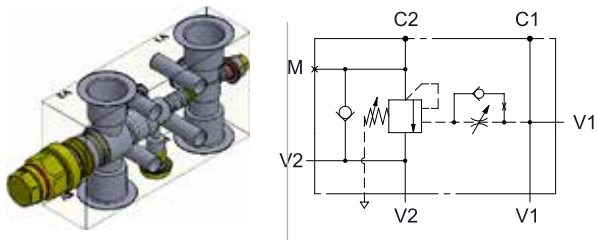
V | S | 3 | 4 | 1 | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

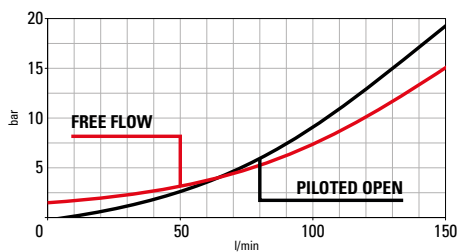
Ventilata 34 S FC2 3/4



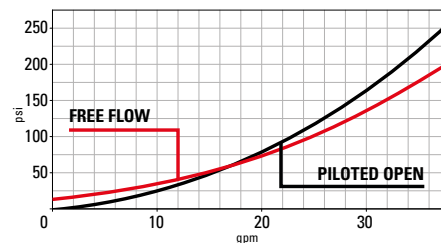
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 3/4 C1, C2: ϕ 15, M: G 1/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	3,13 Kg (6,9 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1712X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

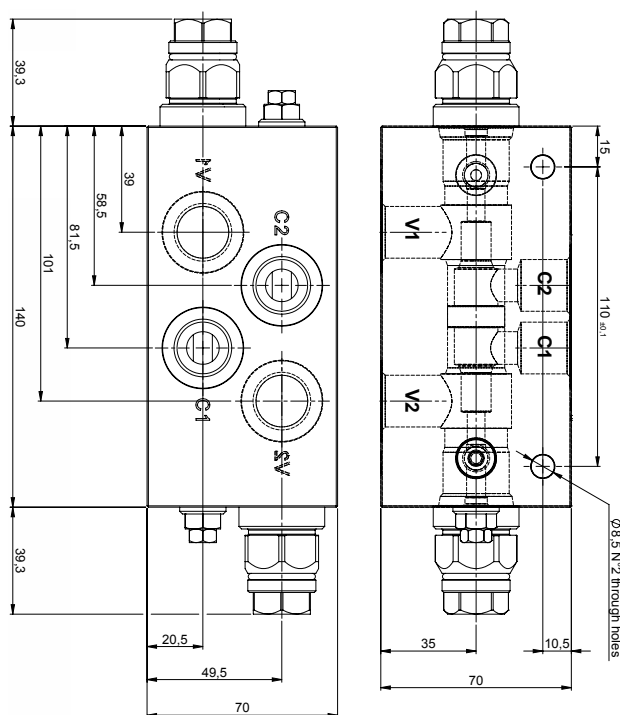
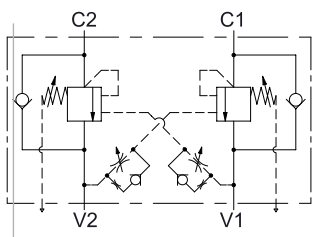
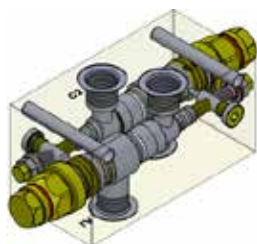
V | S | 3 | 4 | 2 | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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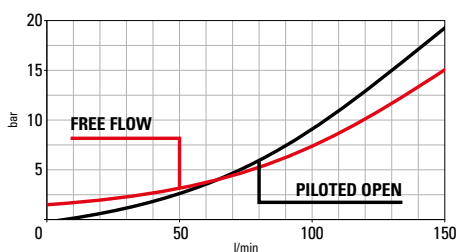
Load holding valves Ventilata 34 D L 1/2



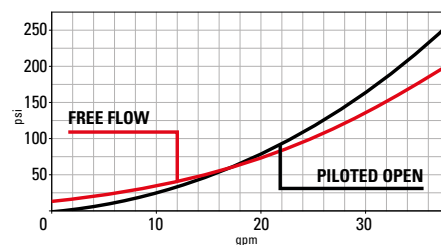
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 1/2
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1
	Spring M: 30 bar/turn
	Spring D: 73 bar/turn
	8:1
pressure setting established @	cracking pressure (1in3/min)
	maximum valve leakage at reseal
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,3 Kg (5 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

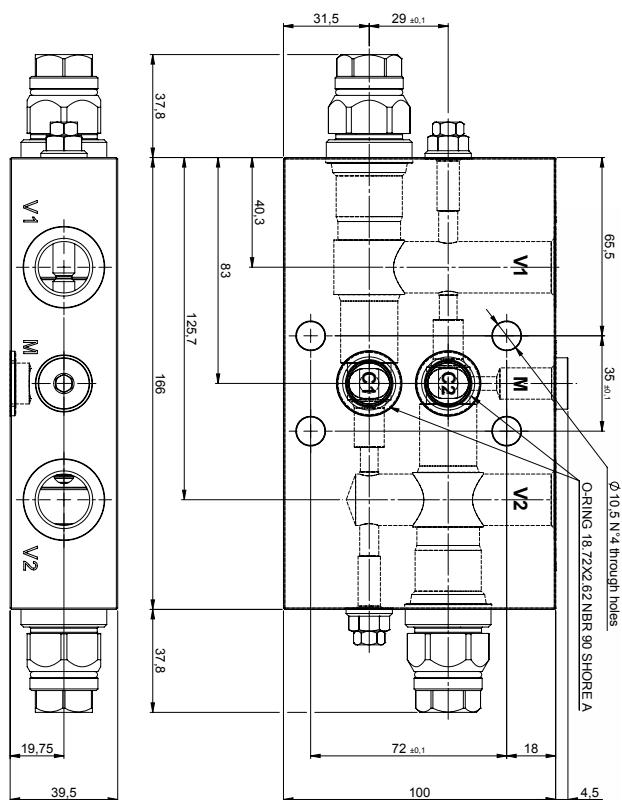
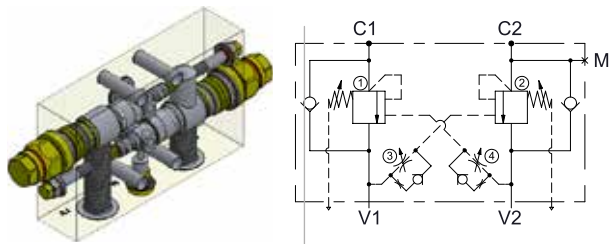
V | S | 3 | 4 | L | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

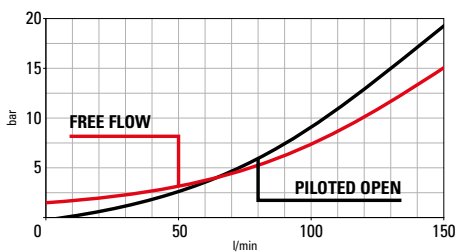
Ventilata 34 D FC2 1/2



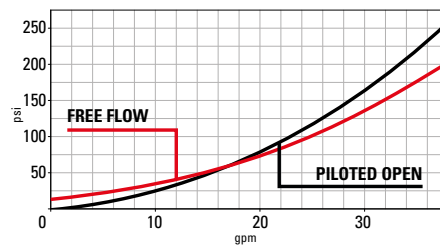
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 1/2 C1, C2: ϕ 15
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,2 Kg (4,85 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1812X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

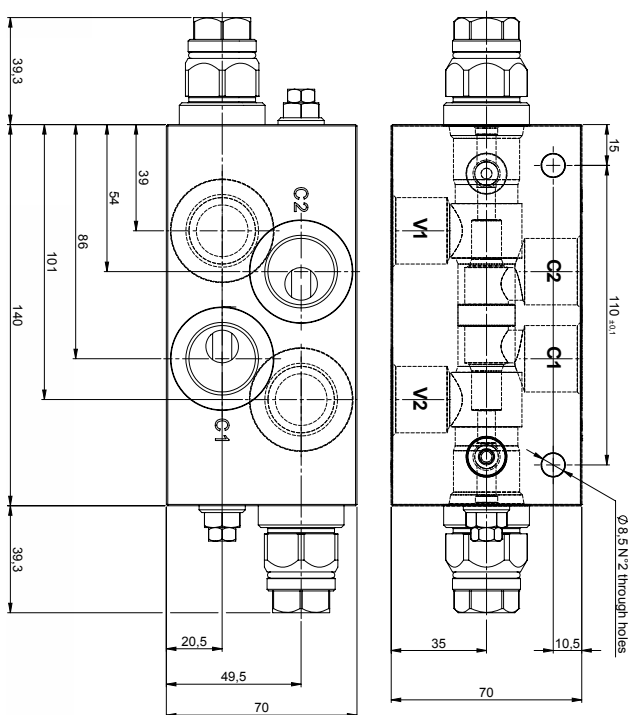
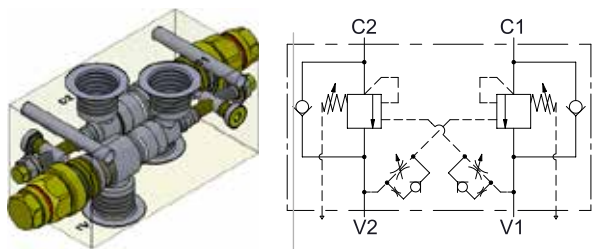
V | D | 3 | 4 | 2 | | G | 1 | 2 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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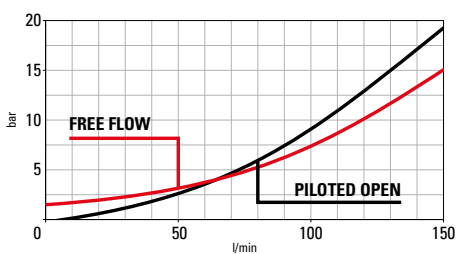
Load holding valves Ventilata 34 D L 3/4



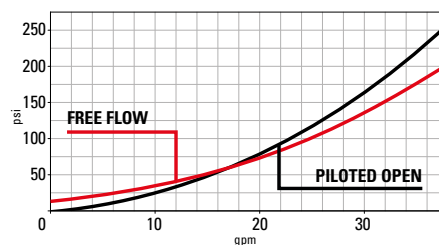
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	C1, C2, V1, V2: G 3/4
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1
	Spring M: 30 bar/turn
	Spring D: 73 bar/turn
	8:1
pressure setting established @	cracking pressure (1 in3/min)
	maximum valve leakage at reseal
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,2 Kg (4,85 lbs)
external component surface treatment	zinc plating + sealing for steel body
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

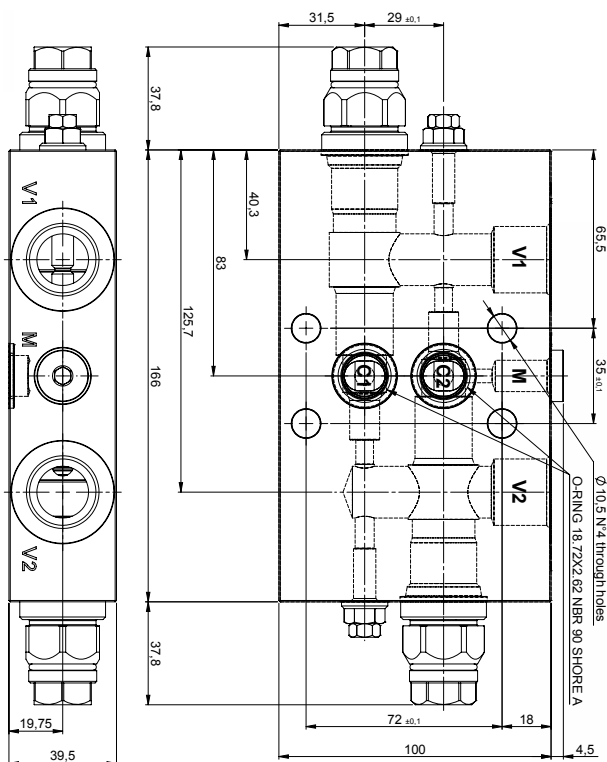
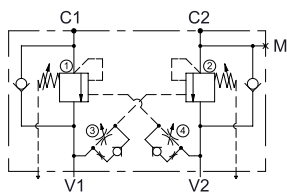
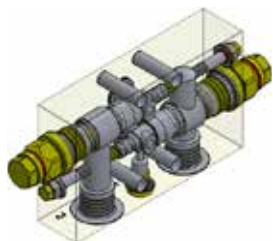
V | S | 3 | 4 | L | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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Load holding valves

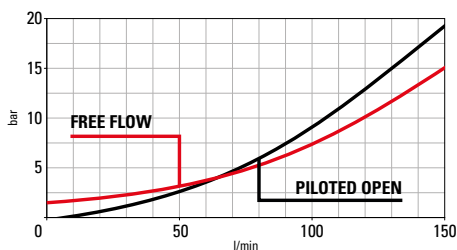
Ventilata 34 D FC2 3/4



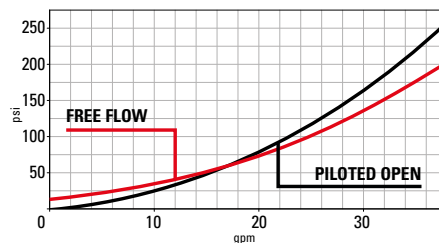
Technical Details

body material	aluminum or zinc plated steel
capacity	150 lpm (40 gpm)
ports size	V1, V2: G 3/4 C1, C2: ϕ 15
max operating pressure	350 bar (steel block) - 210 bar (aluminum block)
pilot ratio	4:1 - 8:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (4:1) - 100 bar (8:1)
pressure increase per turn	4:1 Spring M: 30 bar/turn Spring D: 73 bar/turn 8:1 Spring M: 54.5 bar/turn Spring D: 132 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	vented
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	8
valve weight	2,3 Kg (5 lbs)
external component surface treatment	zinc plating + sealing for steel body
seal kit (nbr)	SK290SH1812X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum bodies can be anodized upon request
- The spring chamber is vented to atmosphere allowing operation of all functions independent of back-pressure at 2
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves



A = aluminum
S = steel

Spring M = 60-210 bar
(Standard Setting 200 bar)
Spring D = 110-350 bar
(Standard Setting 350 bar)

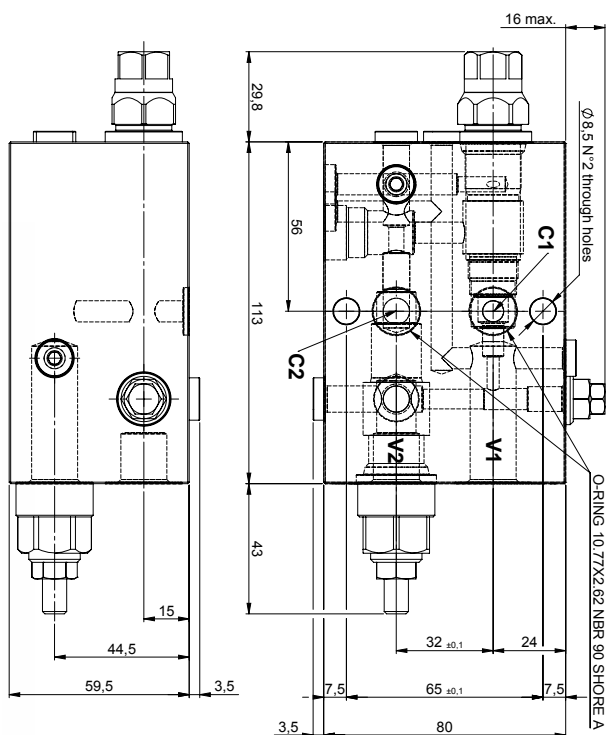
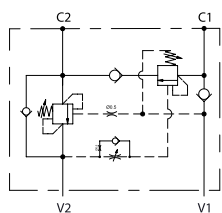
V | D | 3 | 4 | 2 | | G | 3 | 4 | | 0 | 0 | 0

04 = 4:1
08 = 8:1

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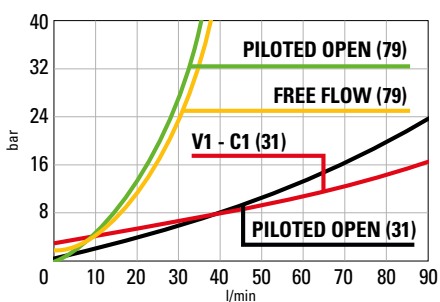
Load holding valves Rigenerativo 79-31 FC2 3/8



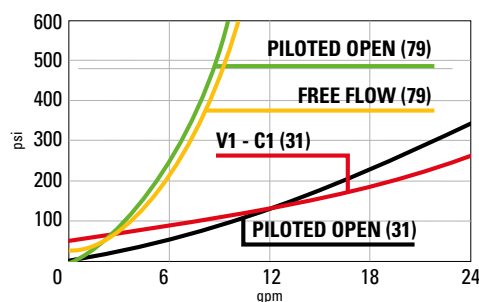
Technical Details

body material	aluminum
capacity	90 lpm (24 gpm)
ports size	V1, V2: G 3/8 C1: ϕ 7, C2: ϕ 8,75
max operating pressure	210 bar (3050 psi)
pilot ratio	4:1
maximum setting	420 bar (6100 psi)
minimum setting	60 bar (870 psi)
pressure increase per turn	31 NPS Spring M: 61.5 bar/turn Spring D: 137 bar/turn 79
	Spring M: 82 bar/turn Spring D: 134,5 bar/turn
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	4(31) / 5(79)
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	1,7 Kg (3,74 lbs)
external component surface treatment	aluminum
seal kit (nbr)	SK290SH1077X262
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum body can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

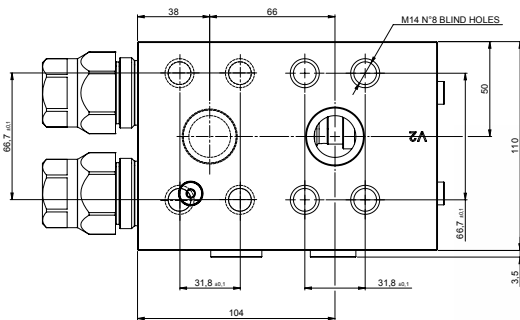
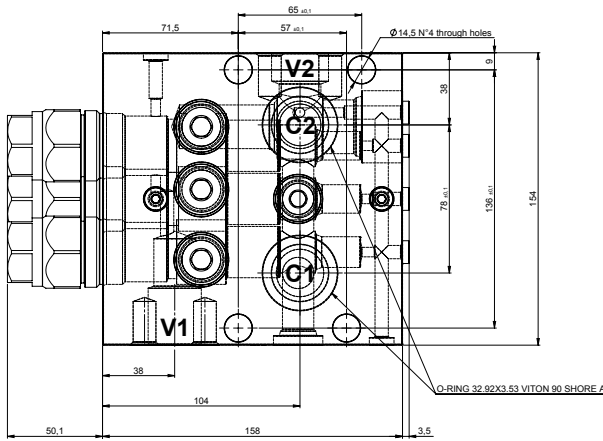
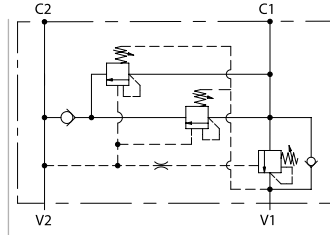
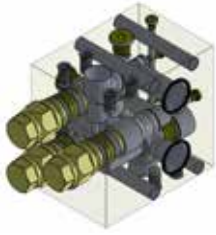


M = 50-210 bar
(Standard Setting 200 bar for 31 and 79)
D = 150-350 bar
(Standard Setting 350 bar for 79 and 31)

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A | R | I | 7 | 9 | 2 | 0 | 4 | G | 3 | 8 | | 0 | 0 | 0

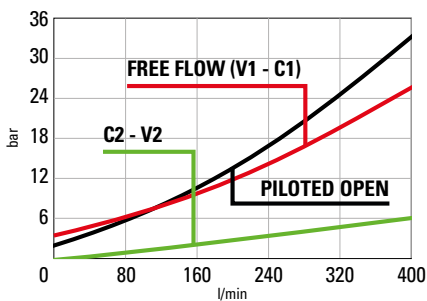
Rigenerativo 43 SAE6 1-1/4



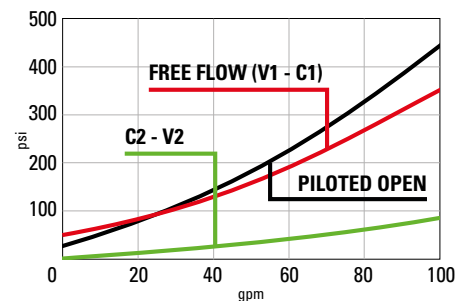
Technical Details

body material	zinc plated steel
capacity	400 lpm (106 gpm)
ports size	V1, V2: 1-1/4 SAE 6000 C1, C2: ϕ 25
max operating pressure	350 bar (5000 psi)
pilot ratio	6:1
maximum setting	520 bar (7540 psi)
minimum setting	70 bar (1015 psi)
pressure increase per turn	Spring M: 40 bar/turn Spring D: 67 bar/turn
pressure setting established @	cracking pressure (1 in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	10
valve weight	18,9 Kg (41,6 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK29VSH3292X353
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings and for settings from 360 bar to 520 bar please consult factory
- For special ports please consult factory



Performance curves



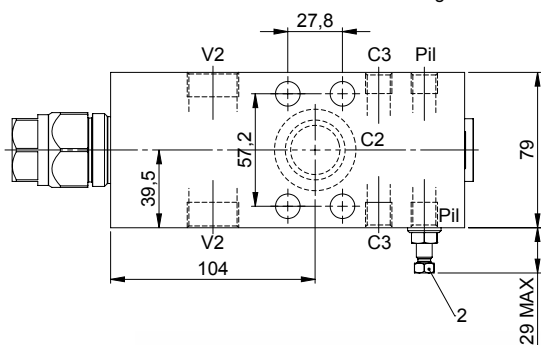
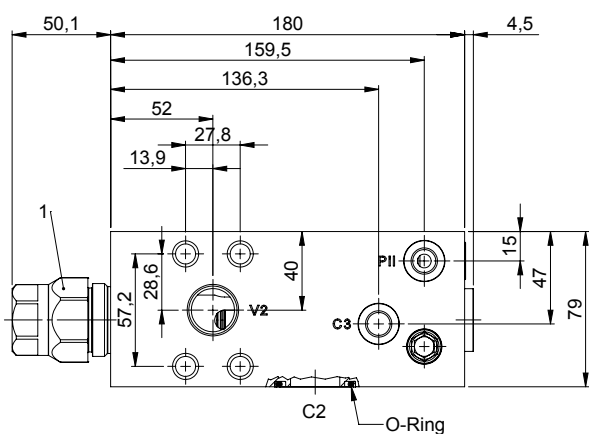
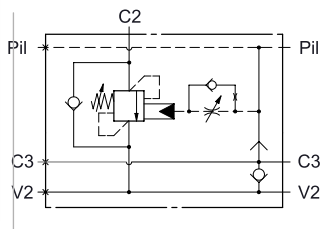
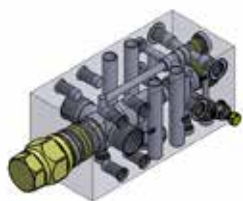
M = 50-210 bar
(Standard Setting 200 bar)
D = 100-350 bar
(Standard Setting 350 bar)

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S | R | I | 4 | 3 | 6 | 0 | 6 | 1 | 1 | 4 | | 0 | 0 | 0



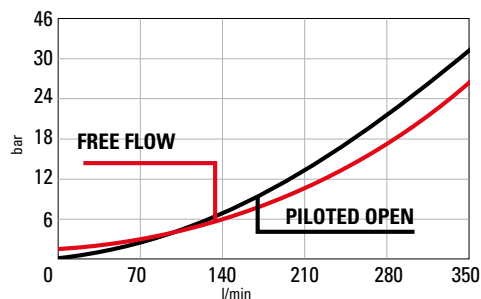
Load holding valves Normale 43 S FW 1



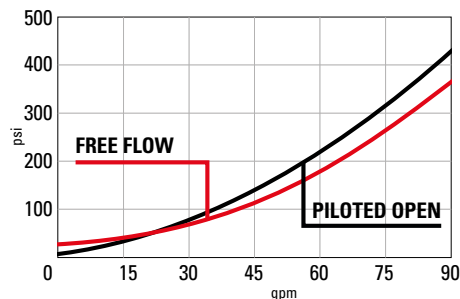
Technical Details

body material	zinc plated steel
capacity	350 lpm (93 gpm)
port sizes	V2: 1" SAE 6000 C2: 1" SAE 6000 C3, P11, M: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	13:1
maximum setting	500 bar (7250 psi)
minimum setting	140 bar (750 psi)
pressure increase per turn	40 bar/turn (spring M) 67 bar/turn (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	280 bar (4000 psi)
valve weight	5,75 kg (12,65 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK190SH3293X353
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum body can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For special ports please consult factory



Performance curves



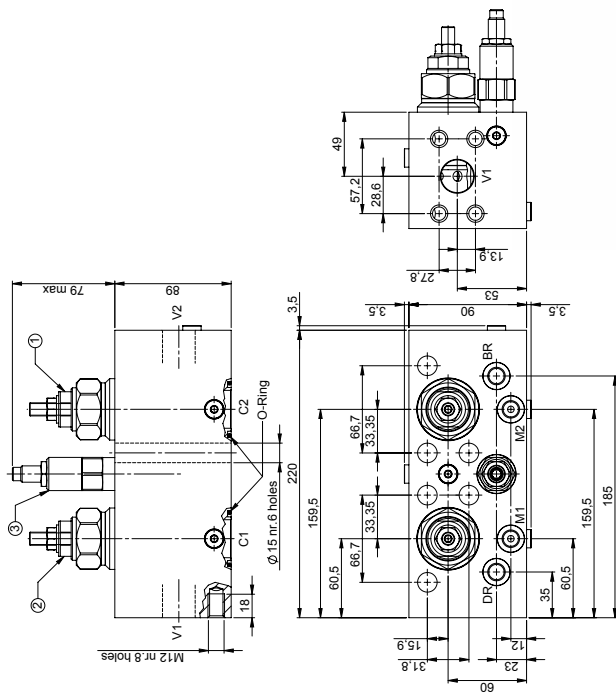
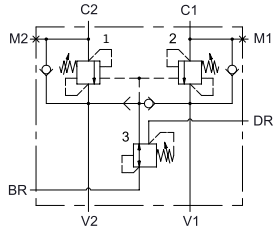
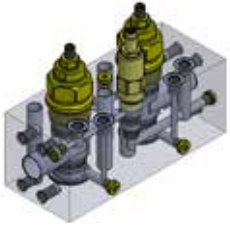
S | N | S | 4 | 3 | 6 | 1 | 3 | G | 0 | 1 | | 0 | 0 | 0

D=140-500 bar
(Standard Setting 500 bar)

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Load holding valves

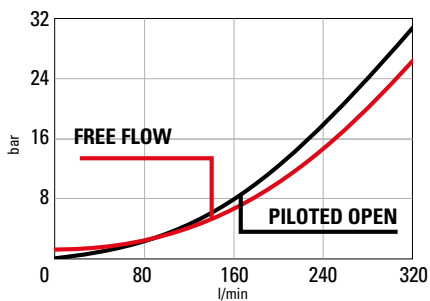
Normale ZG SAE20



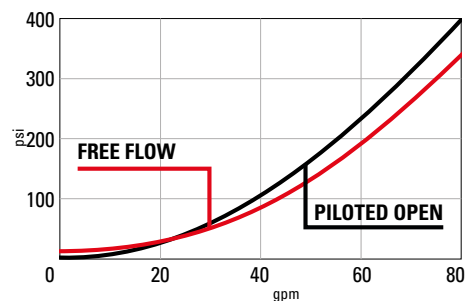
Technical Details

body material	zinc plated steel
capacity	320 lpm (85 gpm)
port sizes	V1, V2: 1" SAE 6000 C1, C2: 1" 1/4 SAE 6000 Br, Dr, M1, M2: G 1/4
max operating pressure	350 bar (5000 psi)
pilot ratio	8:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	86 bar/turn (spring M) 135 bar/turn (spring D)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>80%
maximum recommended load pressure at maximum setting	330 bar (4800 psi)
adjustment screw internal hex size	5
seal-lock hex size	17
seal-lock torque	15-18 Nm (11-13 lbf ft)
valve weight	11 Kg (24.2 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	SK270SH3609X353
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14

- Aluminum body can be anodized upon request
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- Indicated Reseat value is obtained with valve set @ maximum setting
- For customized settings from 360 bar to 420 bar please consult factory
- For special ports please consult factory



Performance curves

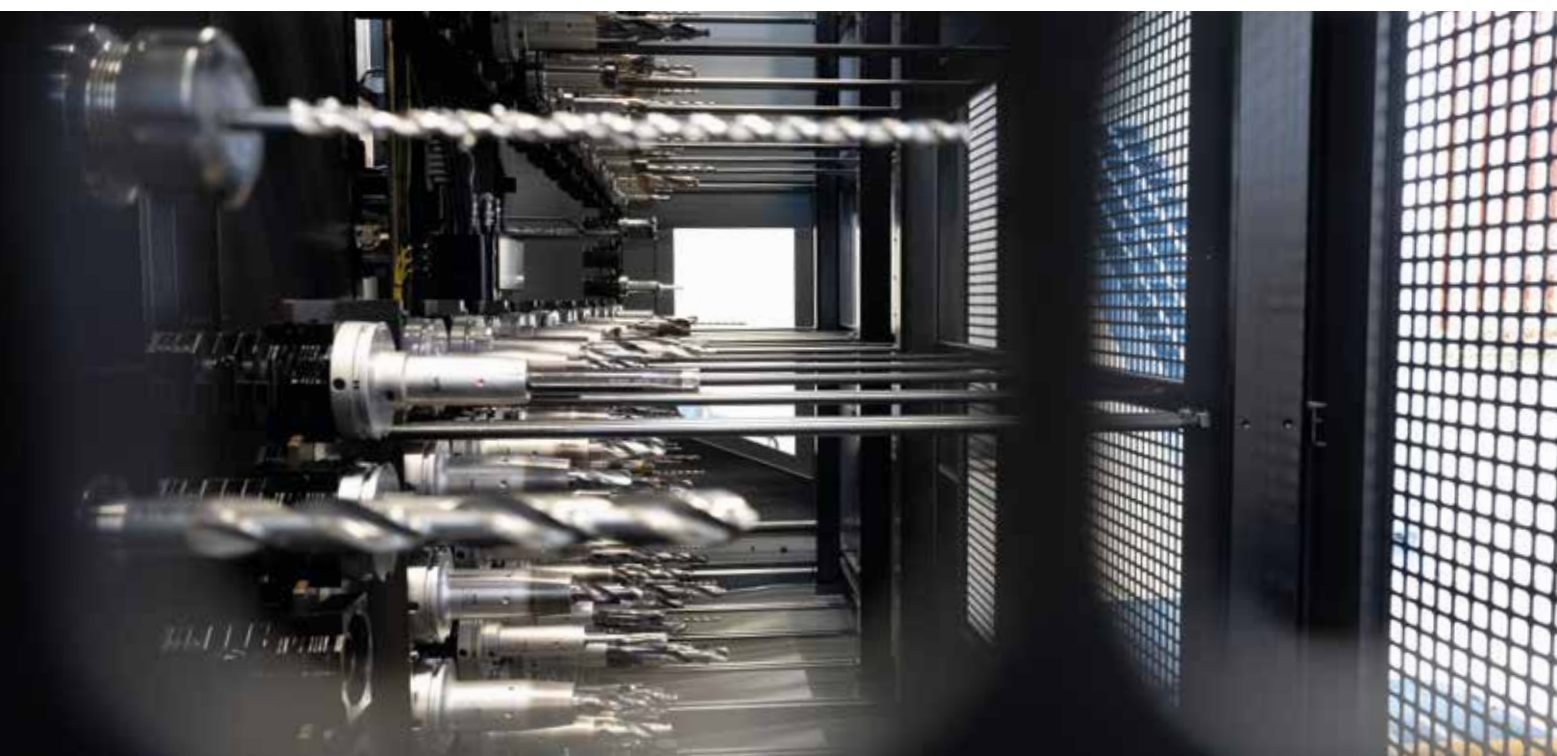


M = 70-210 bar
(Standard Setting 200 bar)
D = 140-420 bar
(Standard Setting 350 bar)

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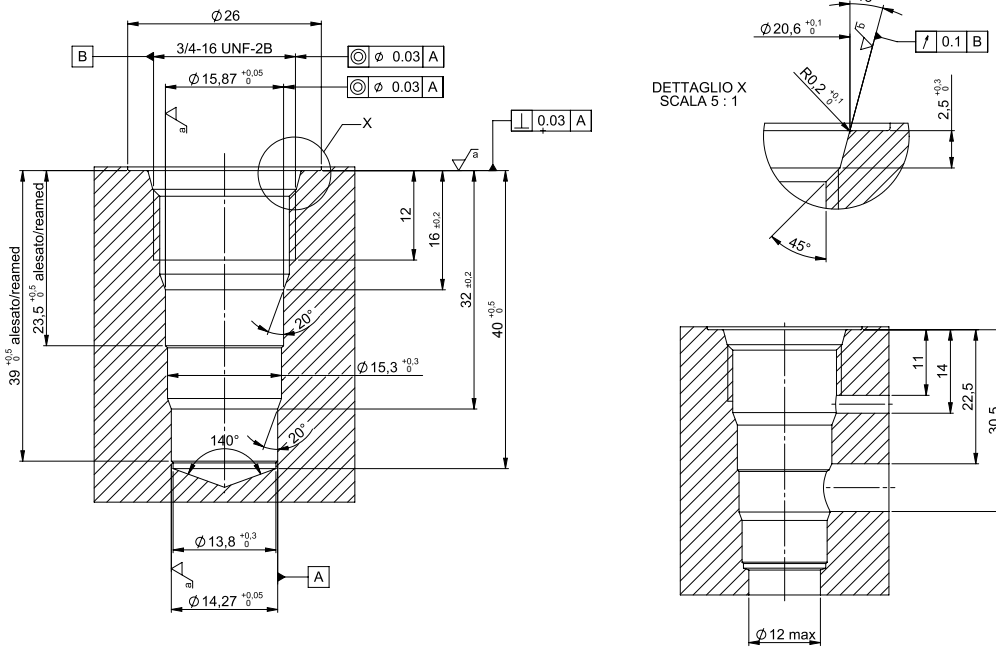
S | N | D | 2 | 0 | 6 | 0 | 8 | 1 | 1 | 4 | | | 0 | 0 | 0





➤ Cartridge Cavities

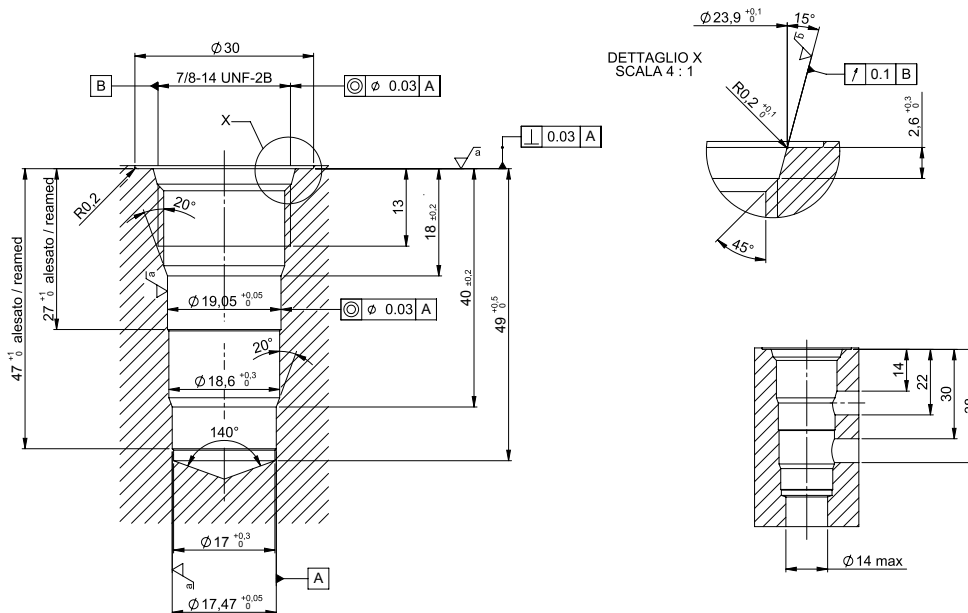
SAE08



\sqrt{a}	=	$\sqrt{\text{Ramax 1.6}}$
\sqrt{b}	=	$\sqrt{\text{Ramax 1.2}}$
\sqrt{c}	=	$\sqrt{\text{Ramax 1.2}}$

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS mm
 ANGLE PROJECTION
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (h13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

SAE10



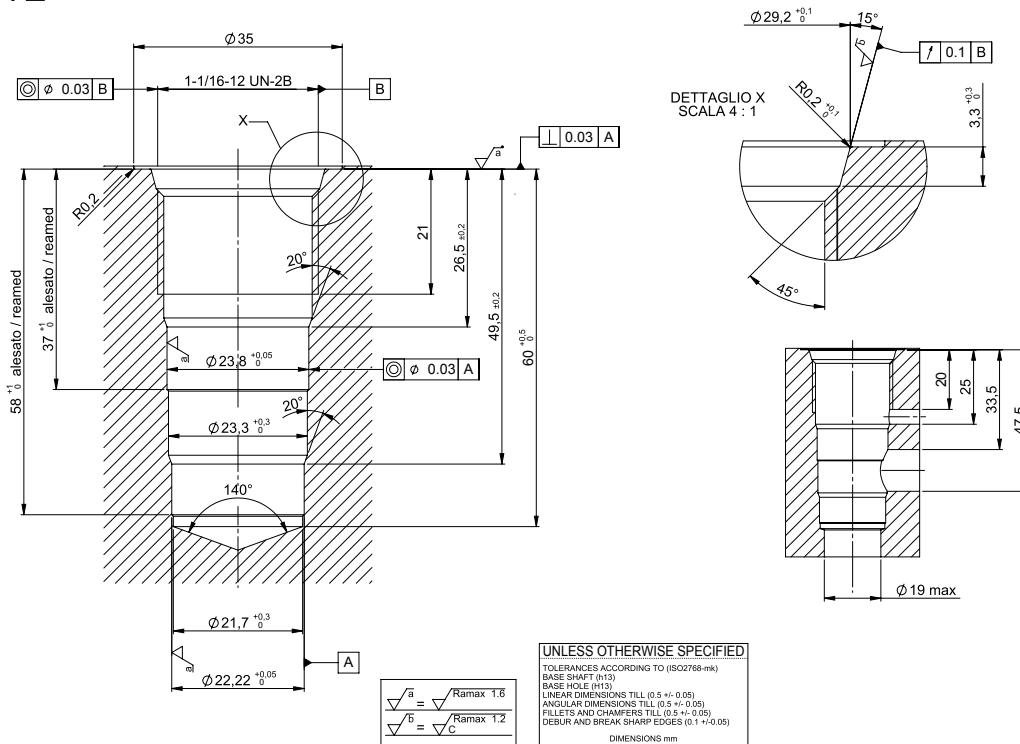
\sqrt{a}	=	$\sqrt{\text{Ramax 1.6}}$
\sqrt{b}	=	$\sqrt{\text{Ramax 1.2}}$
\sqrt{c}	=	$\sqrt{\text{Ramax 1.2}}$

UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (h13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

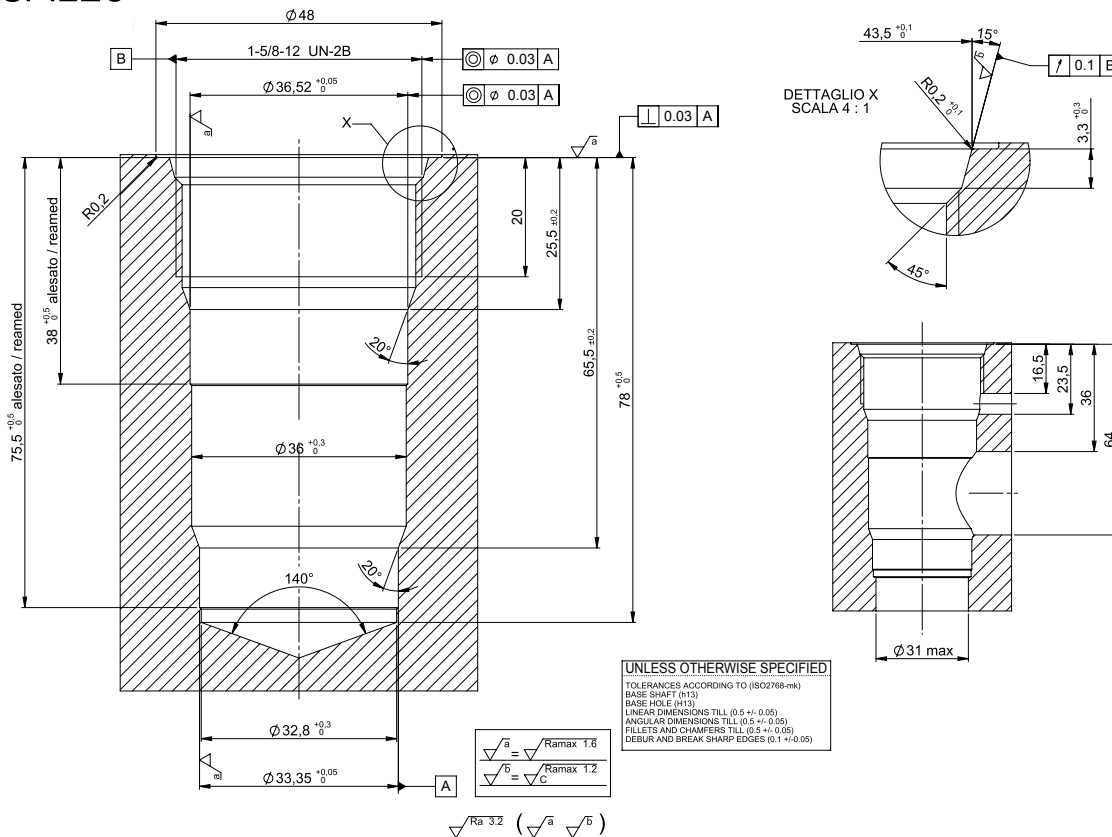
$$\sqrt{Ra 3.2} \left(\sqrt{a} \sqrt{b} \right)$$



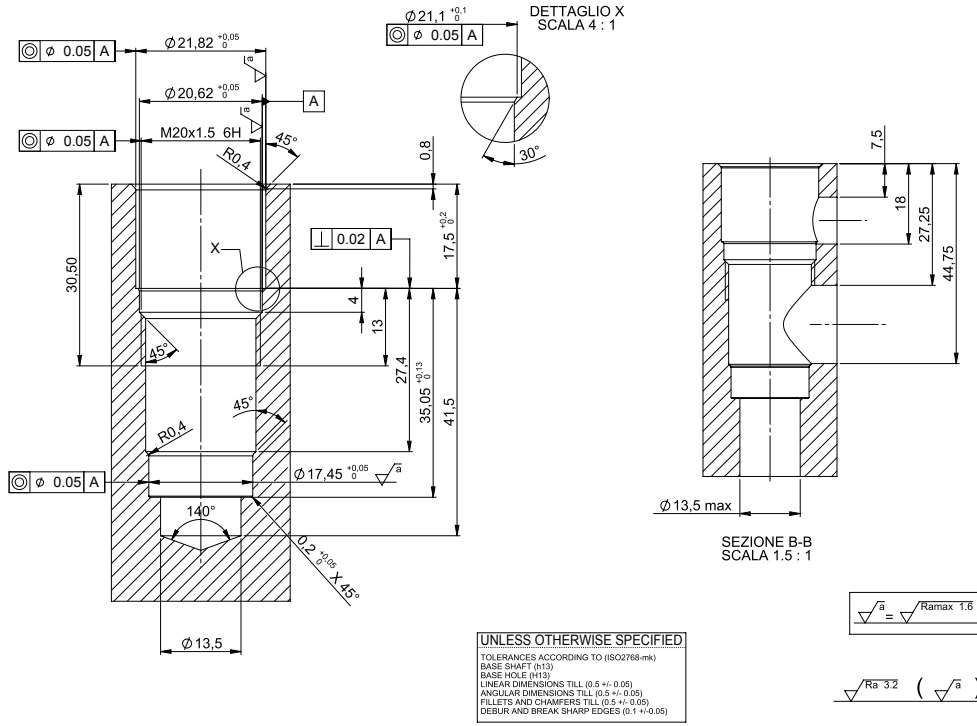
SAE12



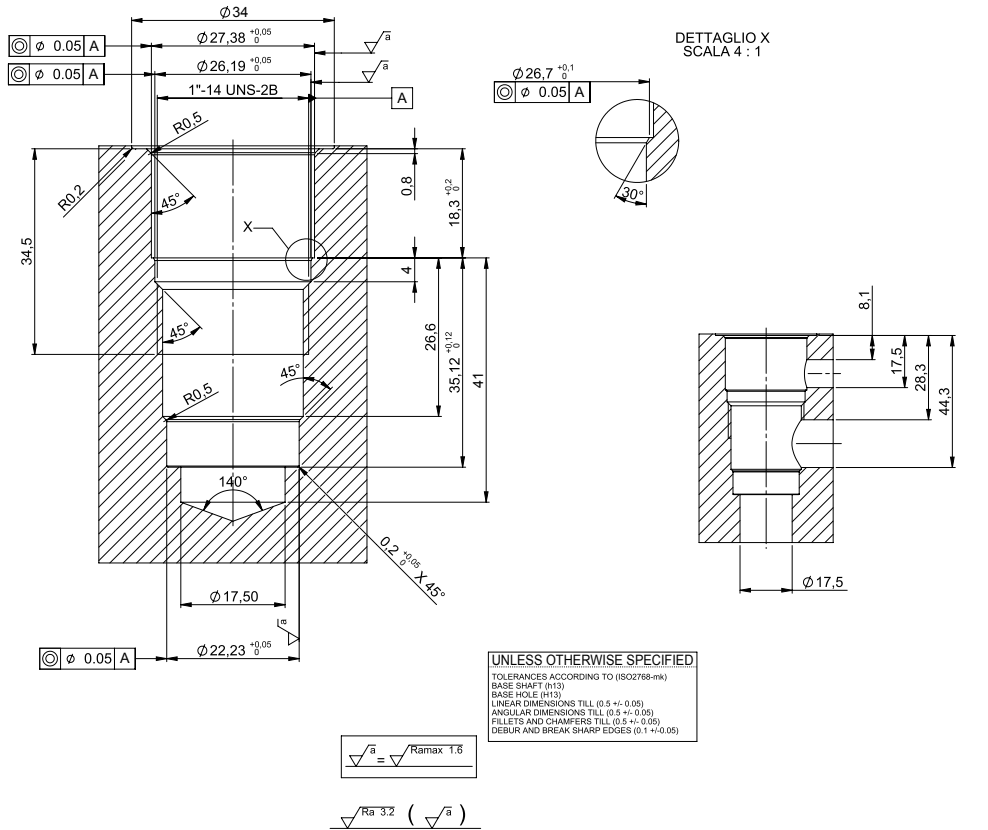
SAE20



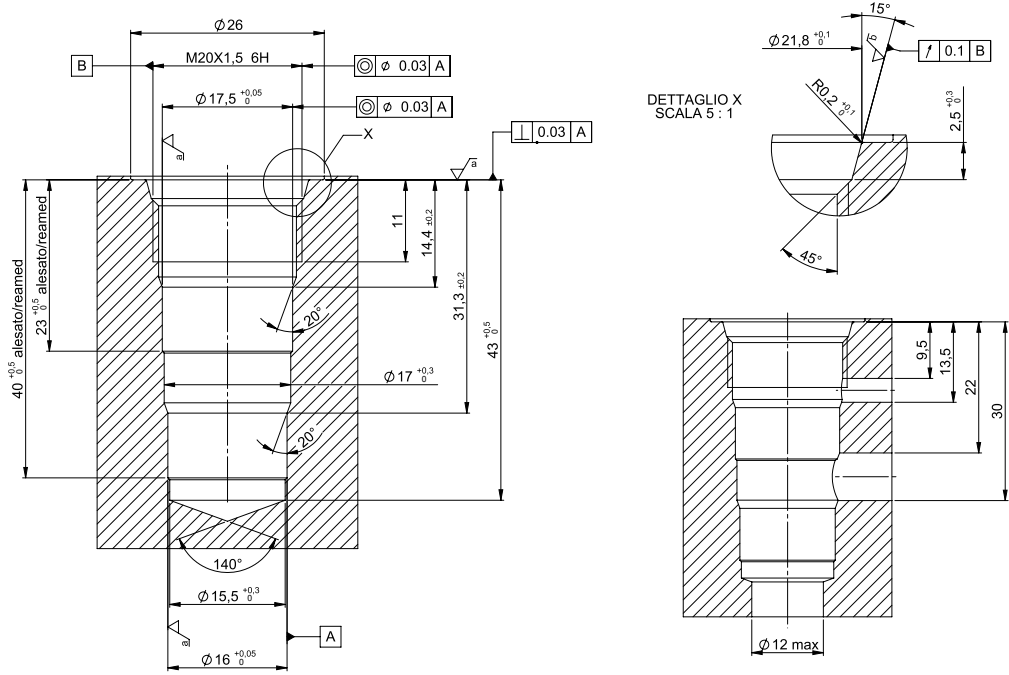
T11A



T2A



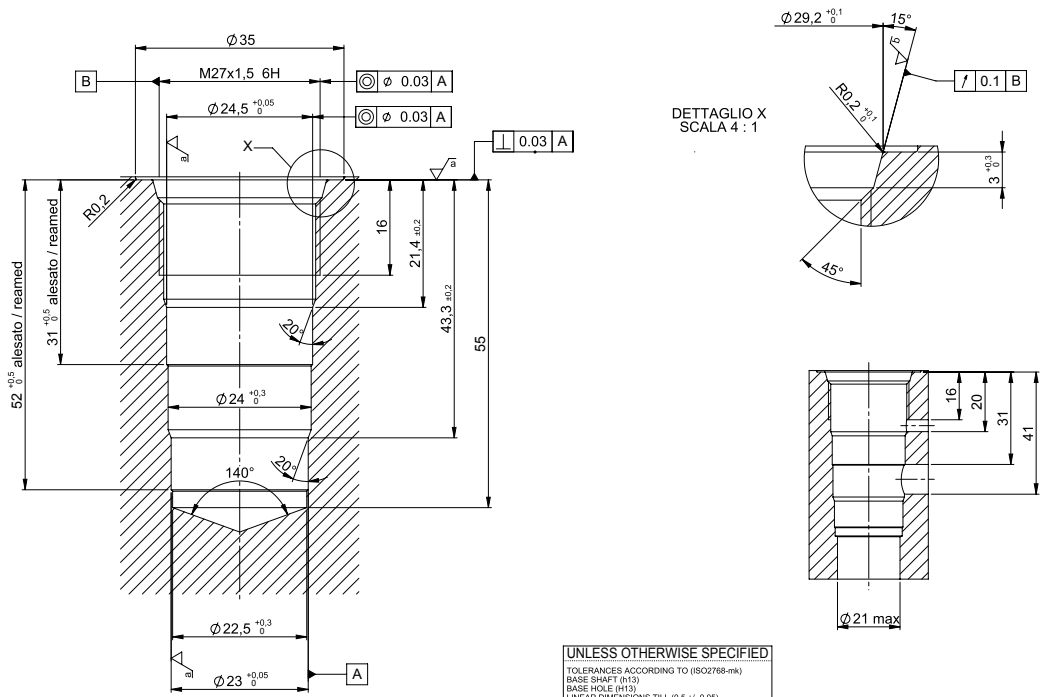
A6610



UNLESS OTHERWISE SPECIFIED
 DIMENSIONS mm ANGLE PROJECTION
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TLL (0.5 ± 0.05)
 ANGULAR DIMENSIONS TLL (0.5 ± 0.05)
 FILLETS AND CHAMFERS TLL (0.5 ± 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 ± 0.05)

$\sqrt{Ra} = \sqrt{C}$
 $\sqrt{Ra} = \sqrt{Ramax} 1.2$

A12336

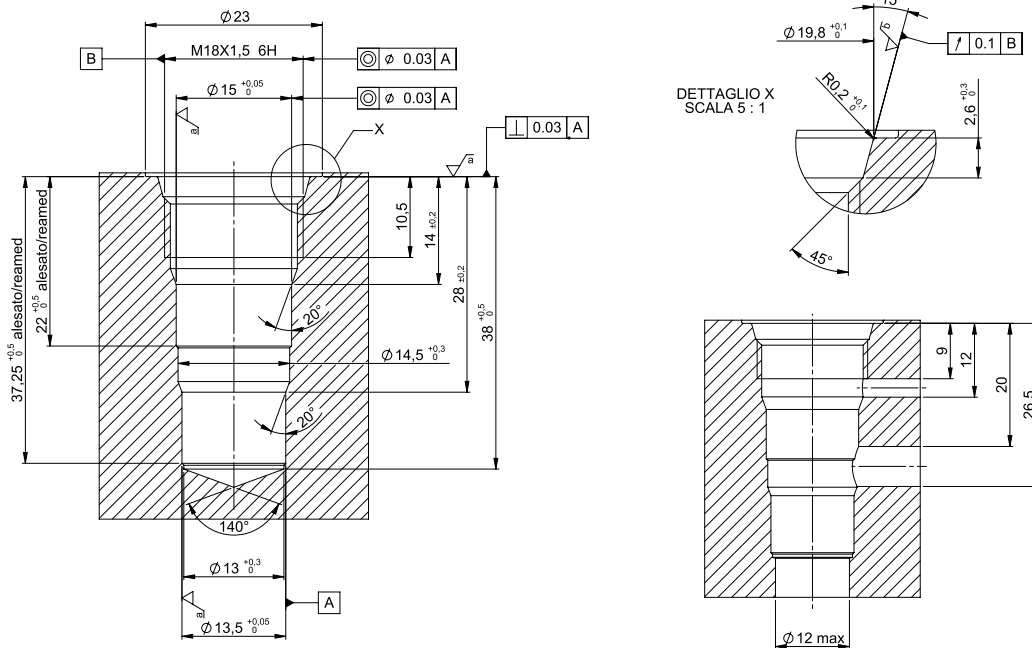


UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TLL (0.5 ± 0.05)
 ANGULAR DIMENSIONS TLL (0.5 ± 0.05)
 FILLETS AND CHAMFERS TLL (0.5 ± 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 ± 0.05)

$\sqrt{Ra} = \sqrt{C}$
 $\sqrt{Ra} = \sqrt{Ramax} 1.2$

$\sqrt{Ra} 3.2 (\sqrt{Ra} \sqrt{b})$

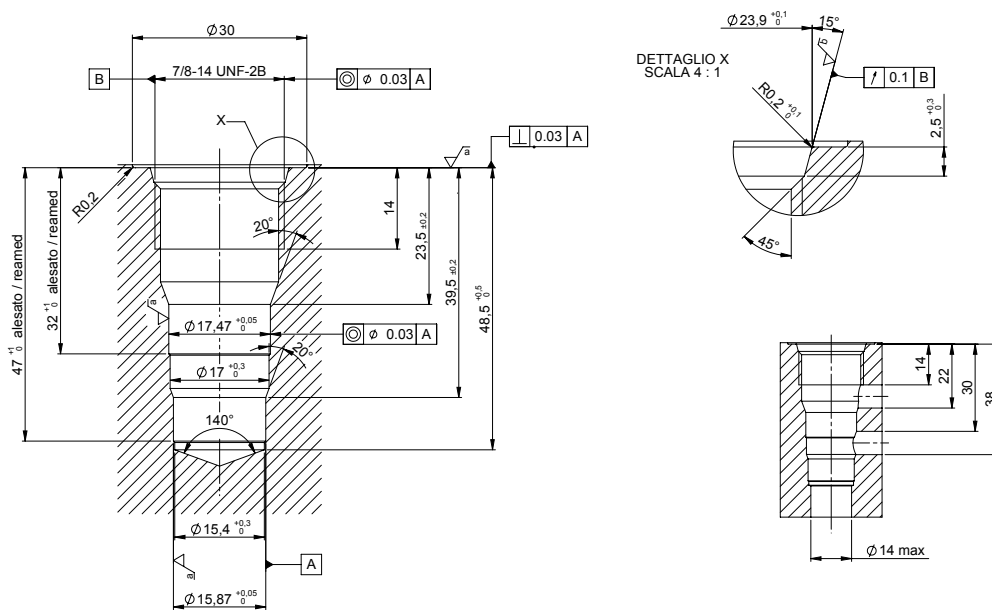
53-1



UNLESS OTHERWISE SPECIFIED
 DIMENSIONS mm ANGLE PROJECTION
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (h13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

$$\sqrt{a} = \sqrt{R_{max}} \cdot 1.6$$

SAE10 STD



UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (h13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

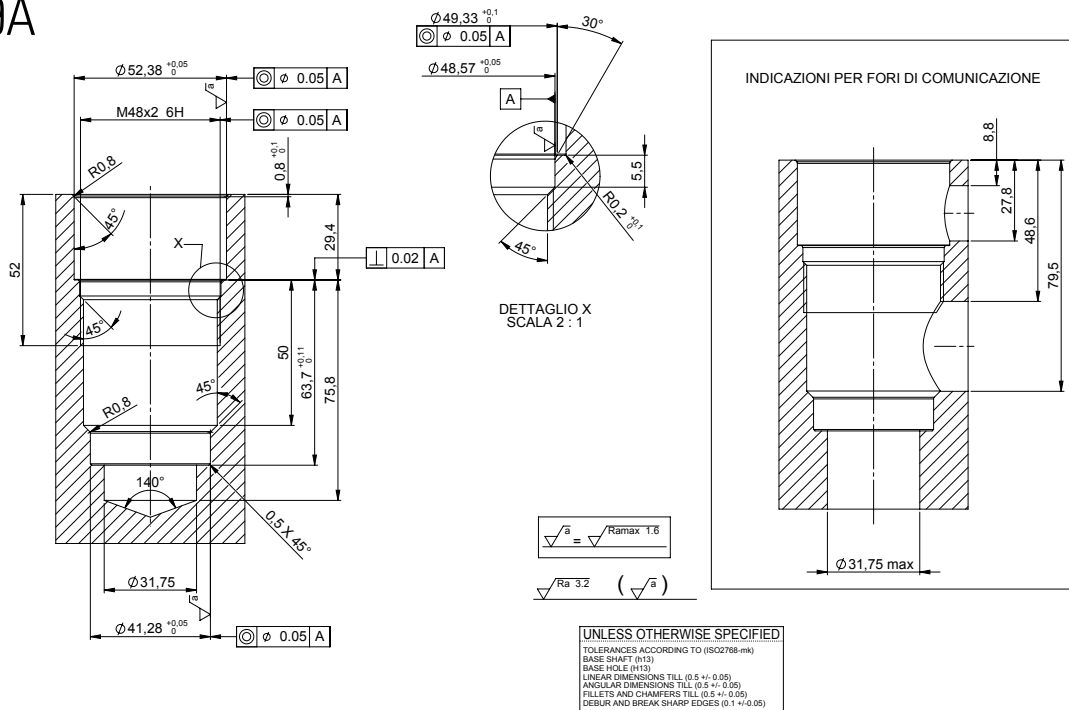
$$\sqrt{a} = \sqrt{R_{max}} \cdot 1.6$$

$$\sqrt{b} = \sqrt{C} \cdot 1.2$$

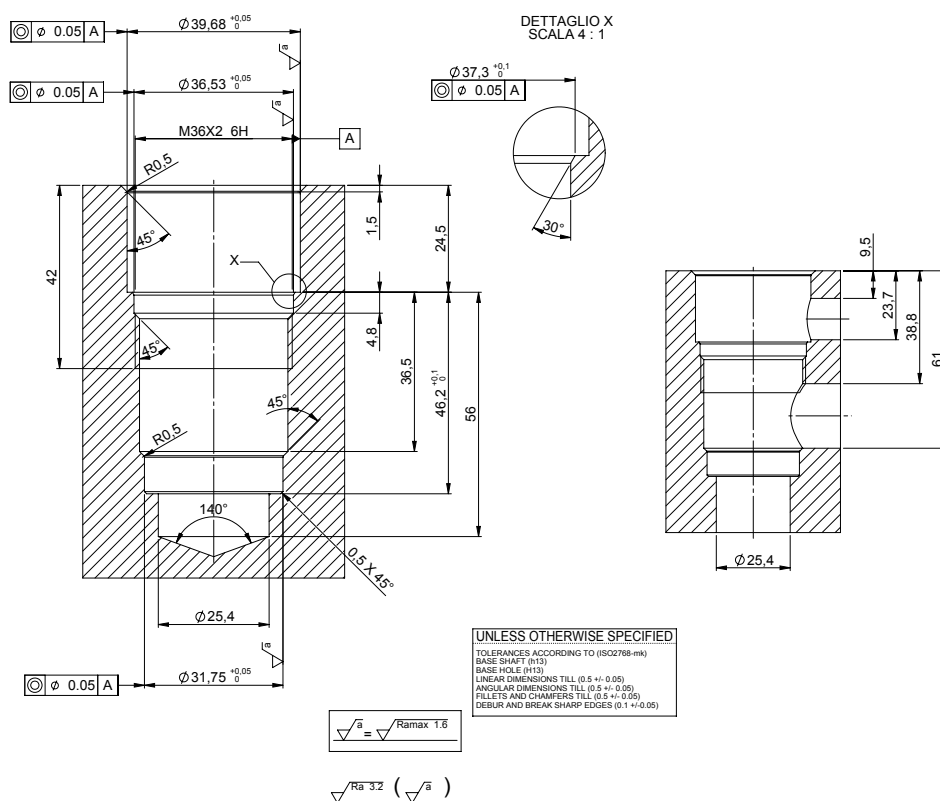
$$\sqrt{Ra} \cdot 3.2 \left(\sqrt{a} \sqrt{b} \right)$$



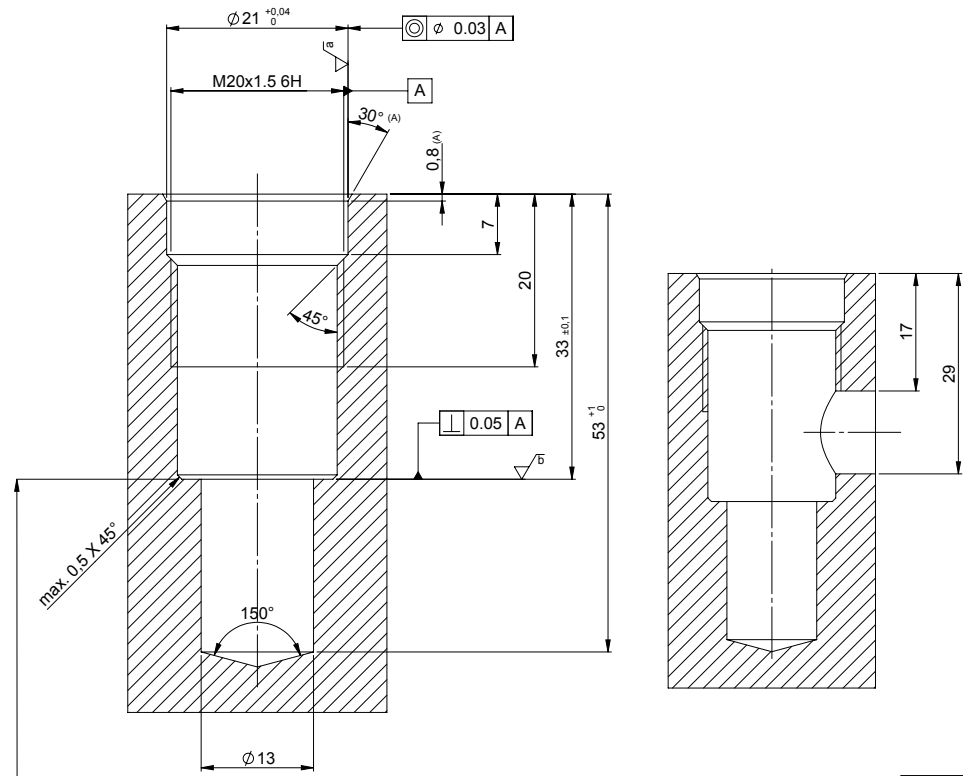
T19A



T17A



vm31

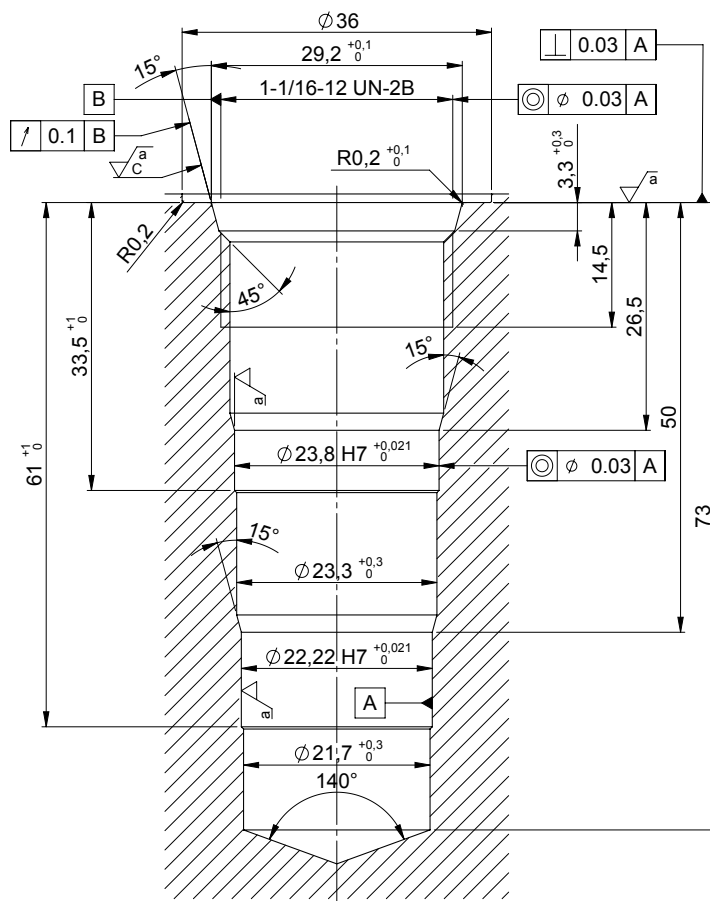


UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (h13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

PIANO DI TENUTA SENZA AMMACCATURE O VIBRAZIONI
 SEALING SURFACE WITHOUT VIBRATIONS OR DENTS

$\sqrt{a} = \sqrt{R_{\text{amax}} 1.6}$
 $\sqrt{b} = \sqrt{R_{\text{amax}} 1.2}$

31pb



UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (h13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

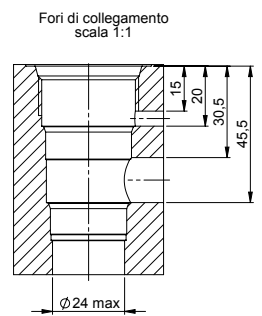
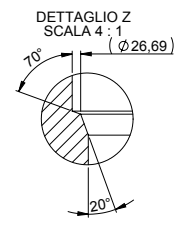
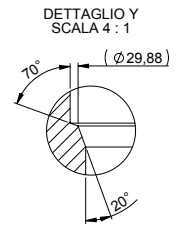
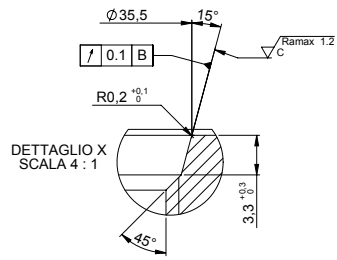
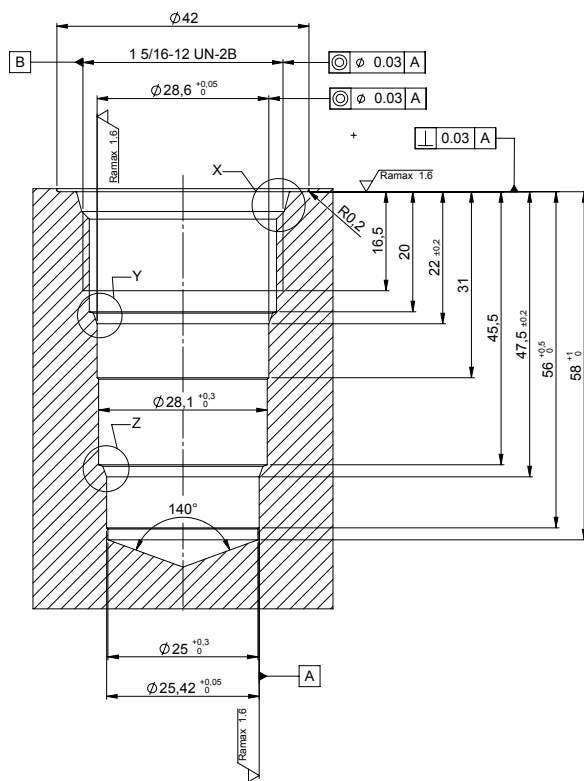
$\sqrt{a} = \sqrt{R_{\text{amax}} 1.6}$

Cavità per 31C

$\sqrt{Ra 3.2} (\sqrt{a})$

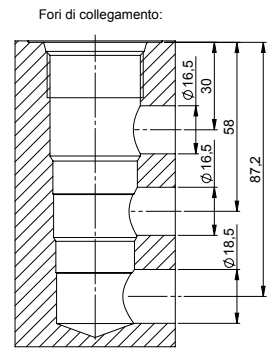
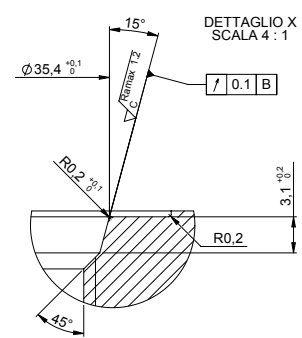
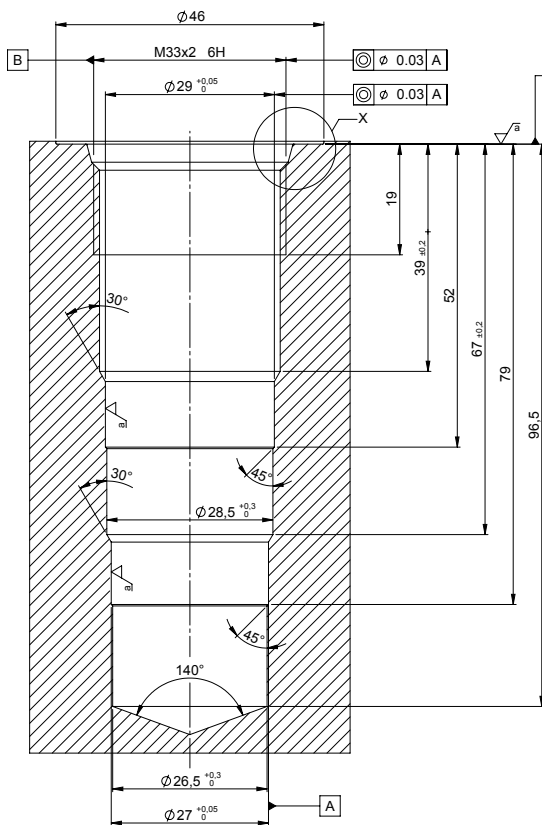


SAE16



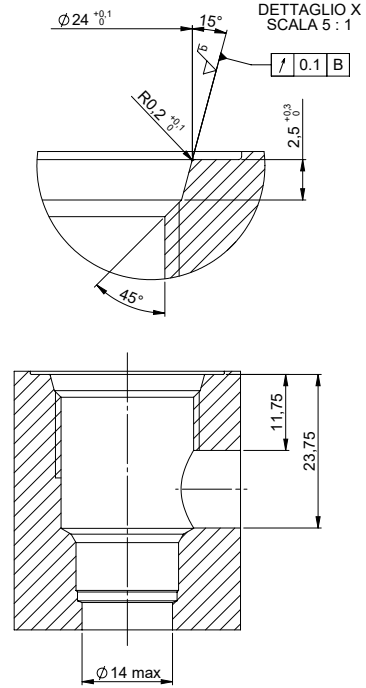
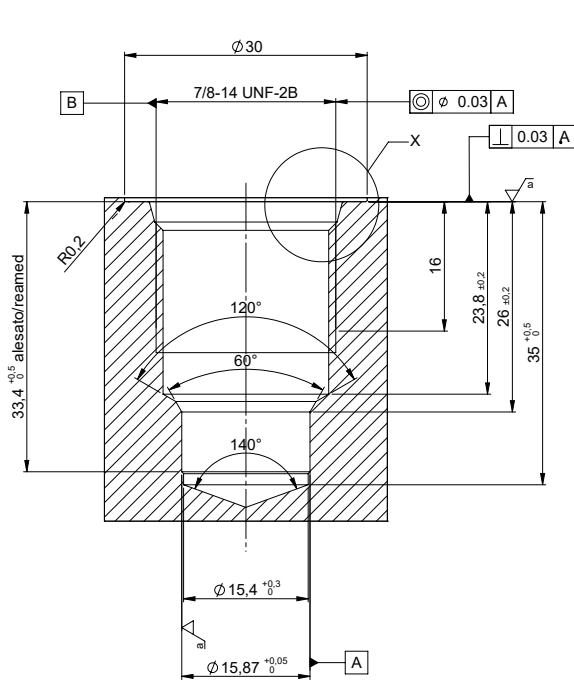
UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (h13)
 LINEAR DIMENSIONS TLL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TLL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TLL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

34pb



UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (h13)
 LINEAR DIMENSIONS TLL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TLL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TLL (0.5 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

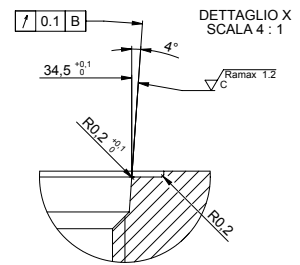
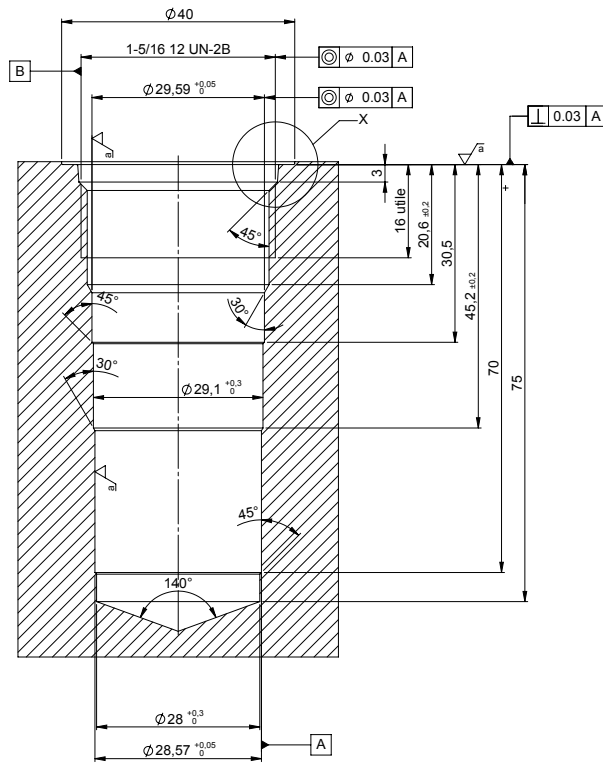
A12370



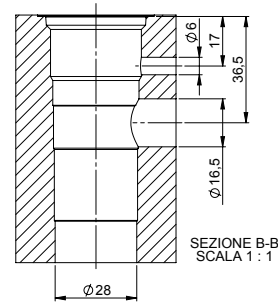
UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (h13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.15 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

$\sqrt{a} = \sqrt{Ra_{max} T.6}$
 $\sqrt{b} = \sqrt{Ra_{max} T.2}$
 $\sqrt{c} = \sqrt{Ra_{max} T.2}$

A877



Fori di collegamento:



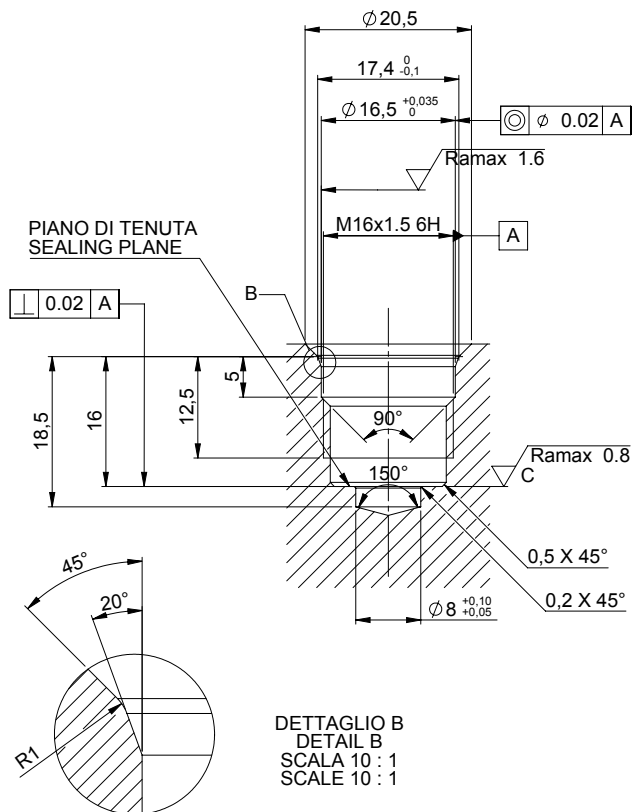
UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (h13)
 BASE HOLE (H13)
 LINEAR DIMENSIONS TILL (0.5 +/- 0.05)
 ANGULAR DIMENSIONS TILL (0.5 +/- 0.05)
 FILLETS AND CHAMFERS TILL (0.15 +/- 0.05)
 DEBUR AND BREAK SHARP EDGES (0.1 +/- 0.05)

$\sqrt{Ra} 3.2 (\sqrt{a} \sqrt{Ra_{max} T.2})$

$\sqrt{a} = \sqrt{Ra_{max} 1.6}$



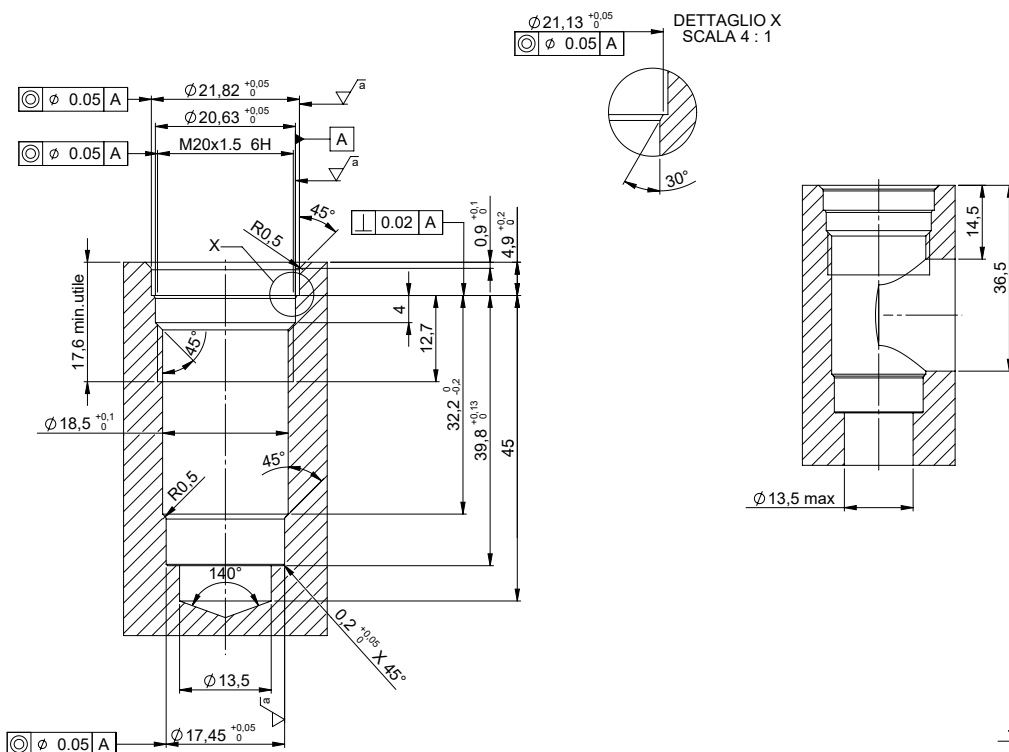
Vm6



UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (h13)
 LINEAR DIMENSIONS TLL (0,5 +/- 0,05)
 ANGULAR DIMENSIONS TLL (0,5 +/- 0,05)
 FILLETS AND CHAMFERS TLL (0,5 +/- 0,05)
 DEBUR AND BREAK SHARP EDGES (0,1 +/- 0,05)

$\sqrt{Ra} \ 3,2 \ (\sqrt{Ra_{max}} \ 1,6 \ \sqrt{Ra_{max}} \ 0,8 \)$

T10A



UNLESS OTHERWISE SPECIFIED
 TOLERANCES ACCORDING TO (ISO2768-mk)
 BASE SHAFT (H13)
 BASE HOLE (h13)
 LINEAR DIMENSIONS TLL (0,5 +/- 0,05)
 ANGULAR DIMENSIONS TLL (0,5 +/- 0,05)
 FILLETS AND CHAMFERS TLL (0,5 +/- 0,05)
 DEBUR AND BREAK SHARP EDGES (0,1 +/- 0,05)

$\sqrt{Ra} = \sqrt{Ra_{max}} \ 1,6$

$\sqrt{Ra} \ 3,2 \ (\sqrt{Ra} \)$

Note

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