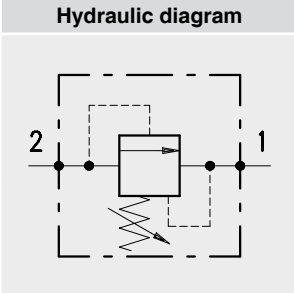




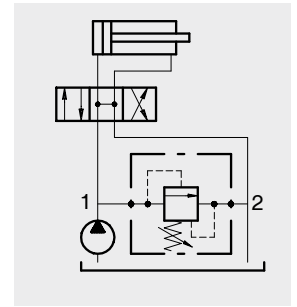
Pressure relief valves

Index

Hydraulic diagram	Type	Description	Maximum flow up to		Maximum pressure		Page
			l/min	US gpm	bar	psi	
	VMPD	Differential-control, poppet type	180	48	350	5100	43
	MG..A		100	26			

Operation

Allows oil flow from 2 to 1 when pressure in 2 reaches the setting of the spring.



Performance

Body Valves

Type VMPD	Max. flow		Max. pres.		Application range with standard spring*	Hysteresis	Oil leaks from P to T	Cavities and tools	Weight	
	l/min	US gpm	bar	psi					kg	lb
VMPD 38	35	9.2	350	5100	5÷50 bar - 72.5÷725 psi (test setting 30 bar - 435 psi at 5 l/min. - 1.32 US gpm) 20÷100 bar - 290÷1450 psi (test setting 60 bar - 870 psi at 5 l/min. - 1.32 US gpm) 5÷210 bar - 72.5÷3050 psi (test setting 150 bar - 2200 psi at 5 l/min. - 1.32 US gpm) 50÷350 bar - 72.5÷5100 psi (test setting 250 bar - 3600 psi at 5 l/min. - 1.32 US gpm)	85% of the setting value for flow capacity 1 l/min. -0.26 US gpm-	disregardable	VMPD 38	0,25	0.55
VMPD 12	60	16						VMPD 12	0,33	0.73
VMPD 34	100	26						VMPD 34	0,60	1.32
VMPD 100	180	48						VMPD 100	0,62	1.37

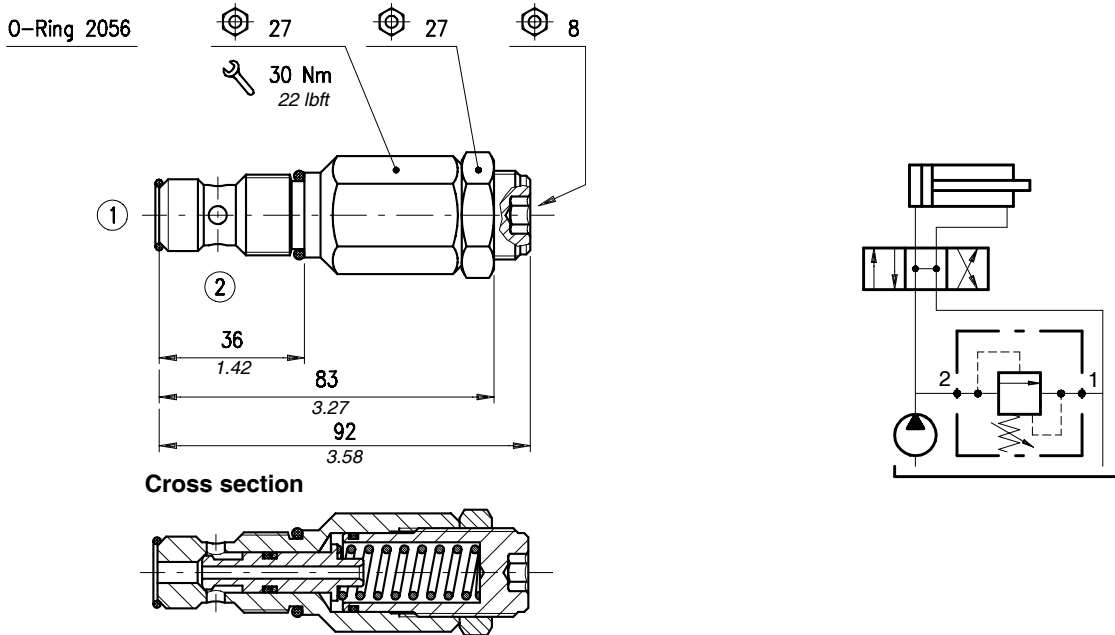
Cartridges

Type MG..A	Max. flow		Max. pres.		Application range with standard spring*	Hysteresis	Oil leaks from 2 to 1	Cavities and tools	Weight	
	l/min	US gpm	bar	psi					kg	lb
MG10A	60	16	350	5100	7÷40 bar - 101.5÷580 psi (test setting 30 bar - 435 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 1.6 bar - 23.2 psi per screw turn 20÷100 bar - 290÷1450 psi (test setting 50 bar - 725 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 7 bar - 101.5 psi per screw turn 50÷200 bar - 725÷2900 psi (test setting 150 bar - 2200 psi at 5 l/min. 1.32 US gpm) pressure increase by steps 24,5 bar - 355 psi per screw turn 150÷350 bar - 2200÷5100 psi (test setting 250 bar - 3600 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 73 bar - 1060 psi per screw turn	90% of the setting value for flow capacity 1 l/min. -0.26 US gpm-	disregardable	• see cavity SAE 10-2 page 112	0,34	0.75
MG12A	100	26							2÷100 bar - 29÷1450 psi (test setting 50 bar - 725 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 7 bar - 101.5 psi per screw turn 50÷200 bar - 725÷2900 psi (test setting 150 bar - 2200 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 27 bar - 390 psi per screw turn 150÷350 bar - 2200÷5100 psi (test setting 250 bar - 3600 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 35 bar - 505 psi per screw turn	• see cavity SAE 12-2 page 112

* the cavity have to report also the features of variation "A" see page 112

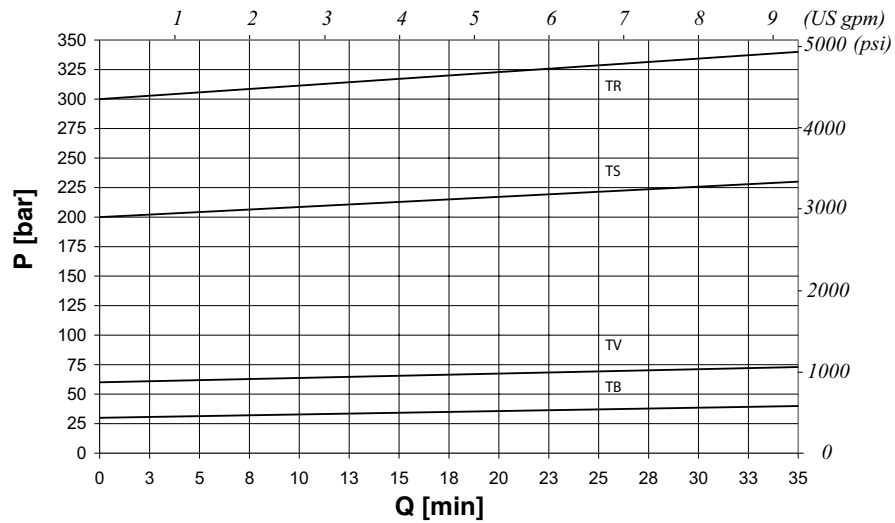
* To perform setting of the valve see the pressure drop/ flow diagram

Dimensions and hydraulic circuit



Rating diagrams

Typical pressure drop vs. flow characteristic



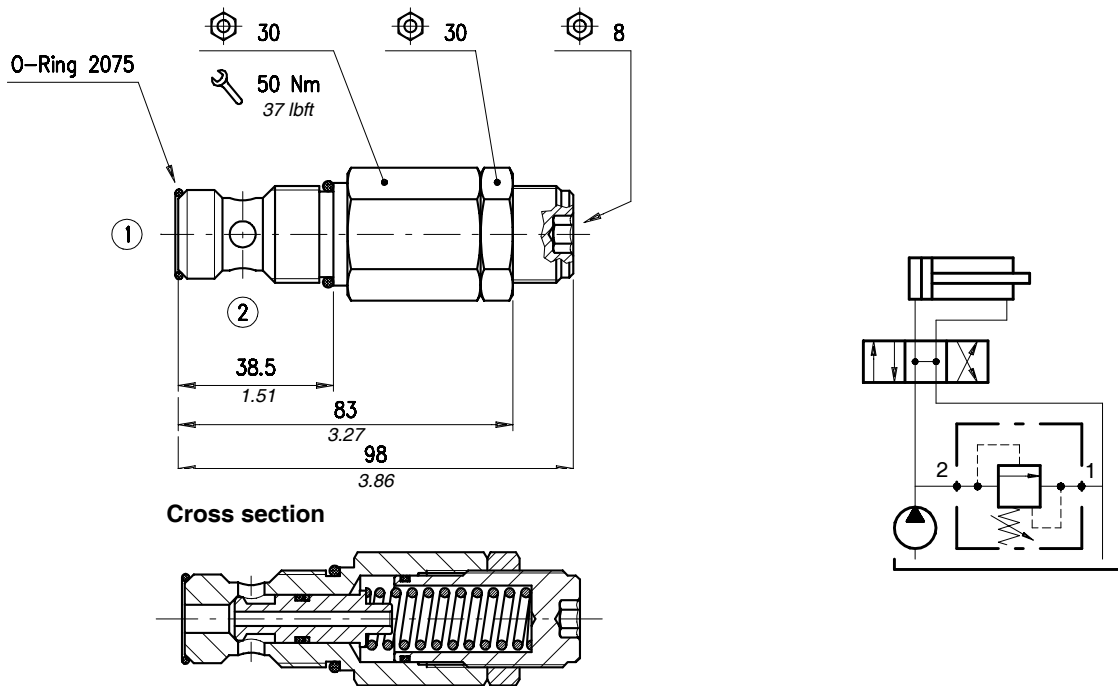
Order code

VMPD 38 / □□ . S

Pressure settings

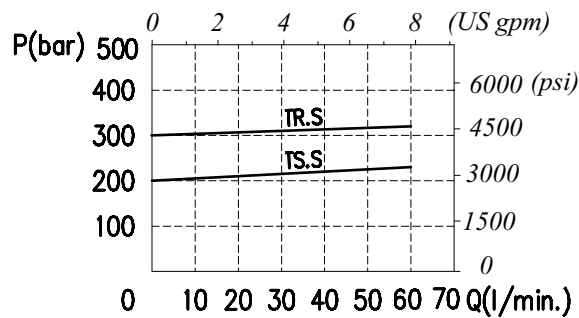
- TB)** 5÷50 bar (72.5÷580 psi)
- TV)** 20÷100 bar (290÷1450 psi)
- TS)** 5÷210 bar (72.5÷3050 psi)
- TR)** 50÷350 bar (725 ÷5100 psi)

Dimensions and hydraulic circuit



Rating diagrams

Typical pressure drop vs. flow characteristic



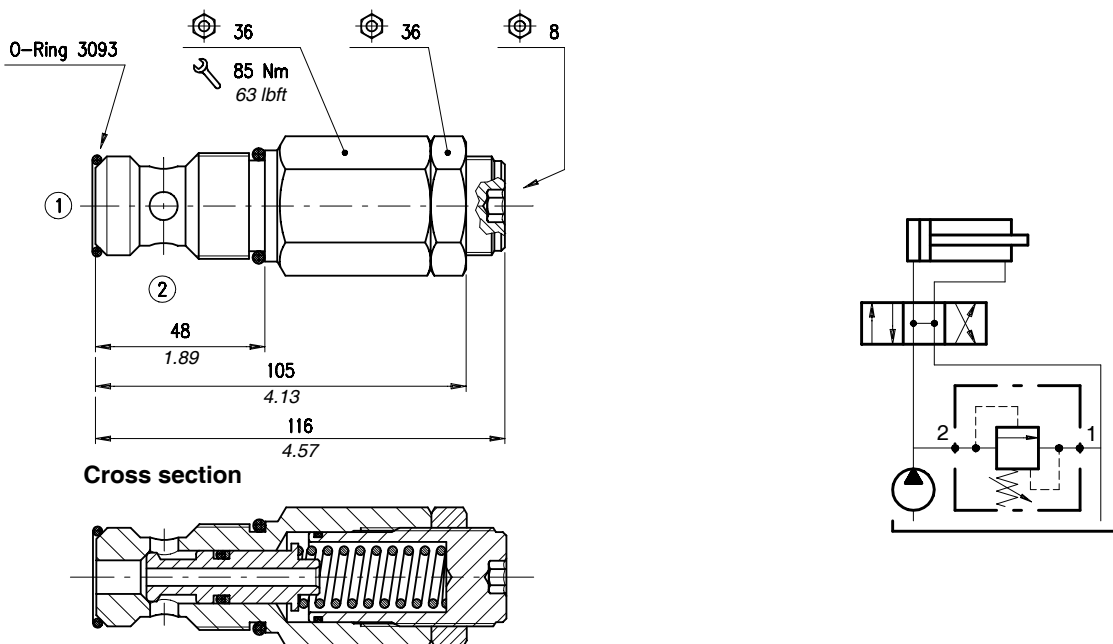
Order code

VMPD 12 / □□ . S

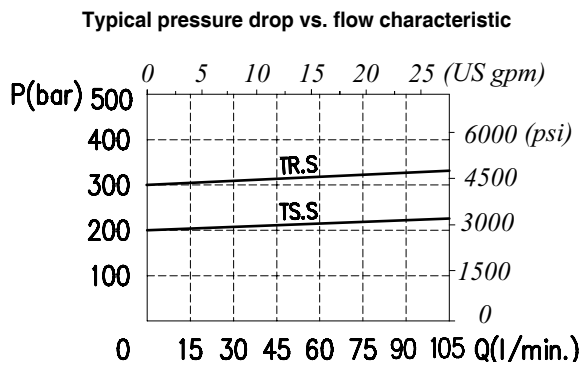
Pressure settings

TS) 5÷210 bar (72.5÷3050 psi)
TR) 50÷350 bar (725 ÷5100 psi)

Dimensions and hydraulic circuit



Rating diagrams



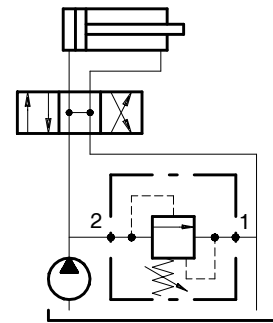
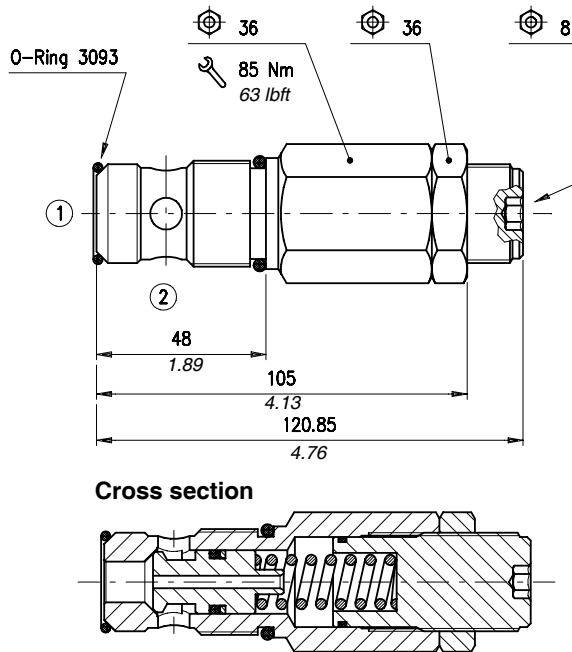
Order code

VMPD 34 / □□ . S

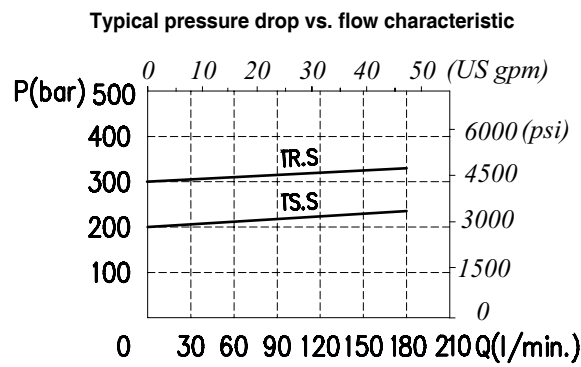
Pressure settings

TS) 5÷210 bar (72.5÷3050 psi)
TR) 50÷350 bar (725 ÷5100 psi)

Dimensions and hydraulic circuit



Rating diagrams



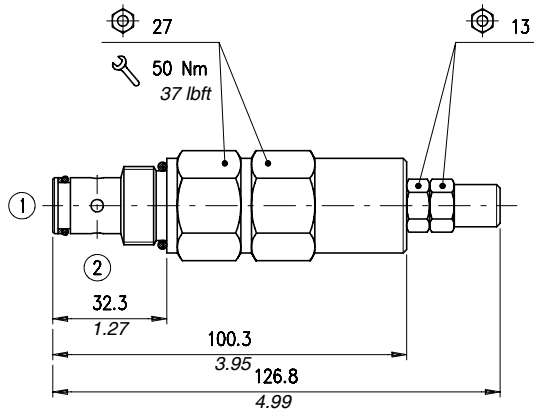
Order code

VMPD 100 / □□ . S

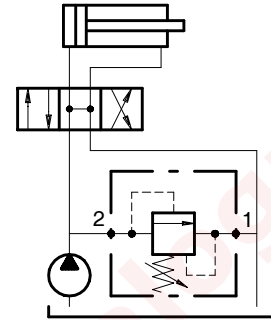
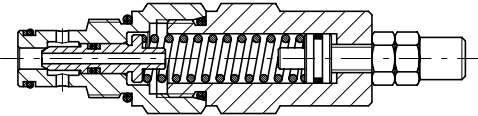
Pressure settings

TS) 5÷210 bar (72.5÷3050 psi)
TR) 50÷350 bar (725 ÷5100 psi)

Dimensions and hydraulic circuit

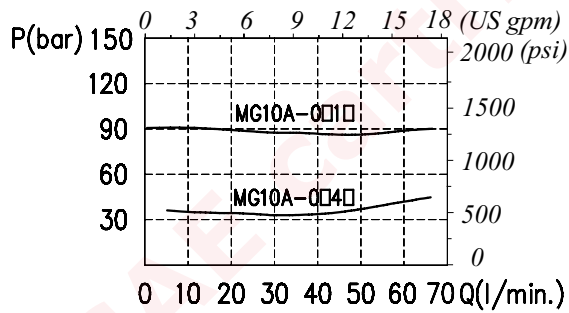


Cross section

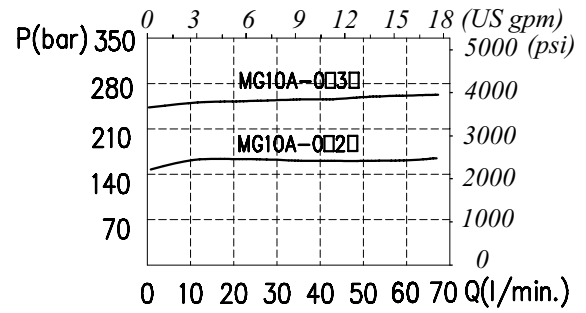


Rating diagrams

Typical pressure drop vs. flow characteristic



Typical pressure drop vs. flow characteristic



Order code

MG10A / 0 - □ - □ - □

Adjustments

(see pag.105)

- S** (screw)
- V** (handknob)
- W** (capped adjustment)

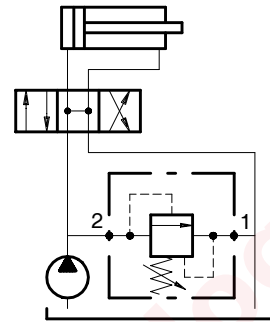
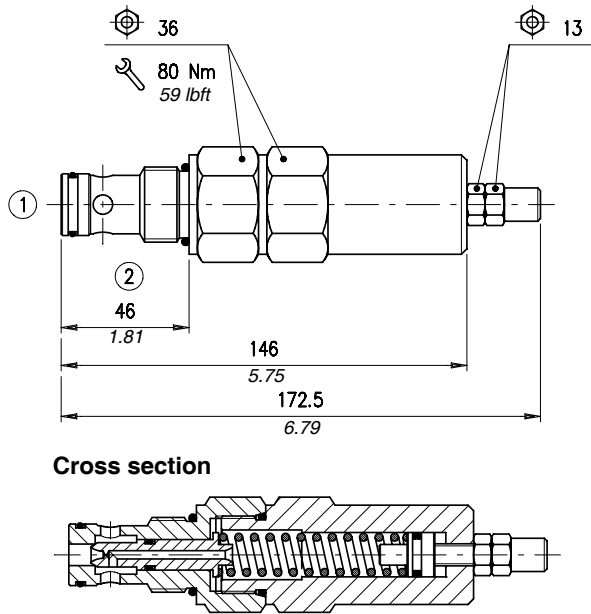
Pressure settings

- 1) 20÷100 bar (290÷1450 psi)
- 2) 50÷200 bar (725÷2900 psi)
- 3) 150÷350 bar (2200÷5100 psi)
- 4) 7÷40 bar (101.5÷580 psi)

Seals

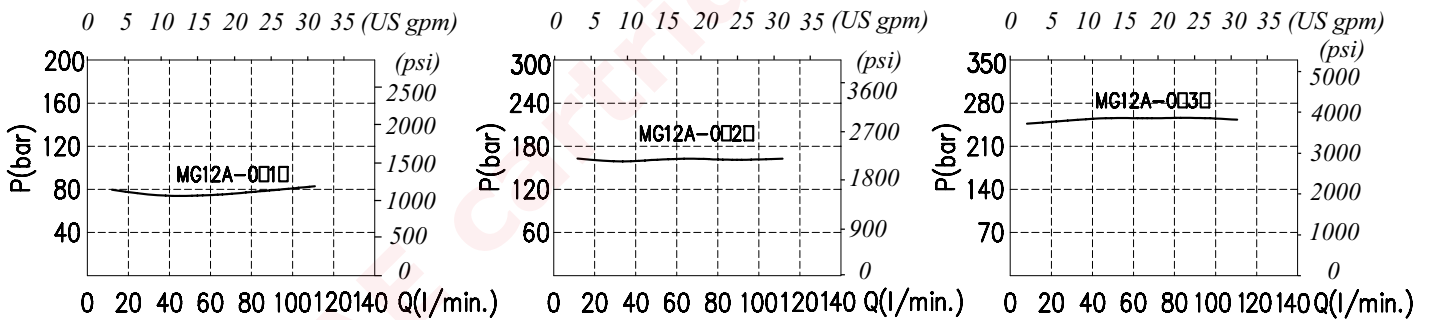
- B)** Buna
- V)** Viton

Dimensions and hydraulic circuit



Rating diagrams

Typical pressure drop vs. flow characteristic Typical pressure drop vs. flow characteristic Typical pressure drop vs. flow characteristic



Order code

MG12A / 0 - □ - □ - □

Adjustments
(see pag.105)

- S** (screw)
- V** (handknob)
- W** (capped adjustment)

Pressure settings

- 1)** 20÷100 bar (290÷1450 psi)
- 2)** 50÷200 bar (725 ÷2900 psi)
- 3)** 150÷350 bar (2200÷5100 psi)

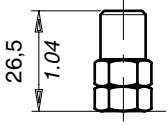
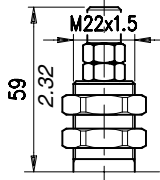
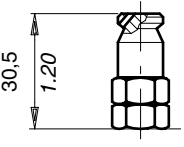
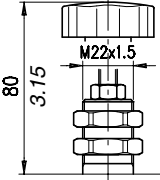
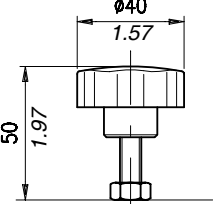
Seals

- B)** Buna
- V)** Viton

Description and operation

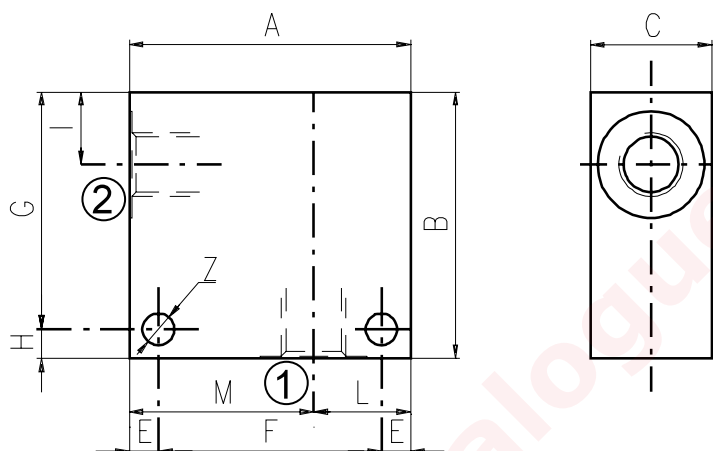
This chapter show main adjusting devices for the valves listed in this catalog.
These regulations are used to adjust flow rate between inlet and working ports.

Performance

	<p>Screw "S"</p>		<p>Panel mount "P"</p>
	<p>Copped adjustment "W"</p>		<p>Panel mount+handknob "PV"</p>
	<p>Handknob "V"</p>		

Dimensions

Material	Max. pressure	
	bar	psi
Alluminium	210	3050
Steel	350	5100



Cavità	Attacchi		A	B	C	E	F	G	H	I	L	M	Z
SAE 8/2	G 1/2	mm	70	65	35	7	56	53	12	14,5	35	35	6,5
		in	2.75	2.56	1.38	0.27	2.20	2.09	0.47	0.57	1.38	1.38	0.25
	G 1/4	mm	50	50	30	6	38	44	6	14,8	20	30	6,5
		in	1.97	1.97	1.18	0.24	1.50	1.73	0.24	0.58	0.79	1.18	0.25
	G 3/8	mm	50	50	30	6	38	44	6	14,8	20	30	6,5
		in	1.97	1.97	1.18	0.24	1.50	1.73	0.24	0.58	0.79	1.18	0.25
	SAE6	mm	50	50	30	6	38	44	6	14,8	20	30	6,5
		in	1.97	1.97	1.18	0.24	1.50	1.73	0.24	0.58	0.79	1.18	0.25
SAE 10/2	G 1/4	mm	60	60	35	6	48	54	6	18,8	25	35	6,5
		in	2.36	2.36	1.38	0.24	1.89	2.12	0.24	0.74	0.98	1.38	0.25
	G 3/8	mm	60	60	35	6	48	54	6	18,8	25	35	6,5
		in	2.36	2.36	1.38	0.24	1.89	2.12	0.24	0.74	0.98	1.38	0.25
	G 1/2	mm	60	60	35	6	48	54	6	18,8	25	35	6,5
		in	2.36	2.36	1.38	0.24	1.89	2.12	0.24	0.74	0.98	1.38	0.25
	SAE8	mm	60	70	35	6	48	64	6	18,8	25	35	6,5
		in	2.36	2.75	1.38	0.24	1.89	2.52	0.24	0.74	0.98	1.38	0.25
	SAE10	mm	70	70	35	6	58	64	6	18,5	35	35	6,5
		in	2.75	2.75	1.38	0.24	2.28	2.52	0.24	0.73	1.38	1.38	0.25
	SAE12	mm	70	70	40	8	54	62	8	22	30	40	8,5
		in	2.75	2.75	1.57	0.31	2.12	2.44	0.31	0.87	1.18	1.57	0.33
SAE 12/2	G 1/2	mm	70	80	40	8	54	72	8	25	30	40	8,5
		in	2.75	3.15	1.57	0.31	2.12	2.83	0.31	0.98	1.18	1.57	0.33
	G 3/4	mm	70	90	40	8	54	82	8	25	30	40	8,5
		in	2.75	3.54	1.57	0.31	2.12	3.23	0.31	0.98	1.18	1.57	0.33
	SAE10	mm	70	85	40	8	54	77	8	25	30	40	8,5
		in	2.75	3.35	1.57	0.31	2.12	3.03	0.31	0.98	1.18	1.57	0.33
	SAE12	mm	70	85	40	8	54	77	8	25	30	40	8,5
		in	2.75	3.35	1.57	0.31	2.12	3.03	0.31	0.98	1.18	1.57	0.33

Cavity	Ports	A	B	C	E	F	G	H	I	L	M	Z	
SAE 16/2	G 1/2	mm	80	90	50	10	60	80	10	25	35	45	10,5
		in	3.15	3.54	1.97	0.39	2.36	3.15	0.39	0.98	1.38	1.77	0.41
	G 3/4	mm	80	90	50	10	60	80	10	25	35	45	10,5
		in	3.15	3.54	1.97	0.39	2.36	3.15	0.39	0.98	1.38	1.77	0.41
	G 1	mm	85	100	60	10	65	90	10	23,5	40	45	10,5
		in	3.35	3.94	2.36	0.39	2.56	3.54	0.39	0.92	1.57	1.77	0.41
	SAE12	mm	80	90	50	10	60	80	10	25	35	45	10,5
		in	3.15	3.54	1.97	0.39	2.36	3.15	0.39	0.98	1.38	1.77	0.41
	SAE16	mm	80	100	50	10	60	90	10	25	35	45	10,5
		in	3.15	3.94	1.97	0.39	2.36	3.54	0.39	0.98	1.38	1.77	0.41

Order code

3/CC /- □ □ /20/□- □-1

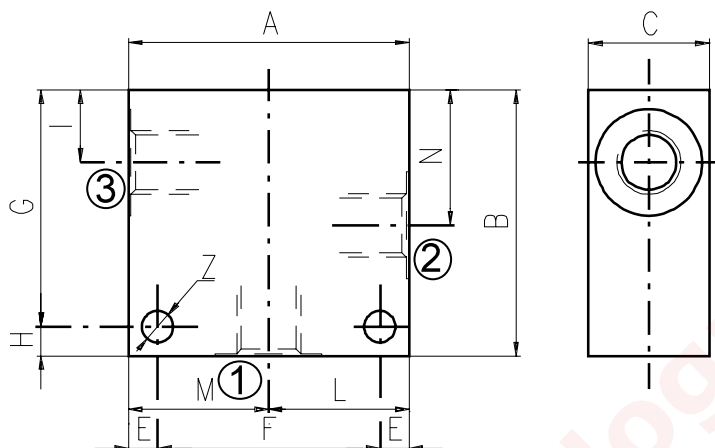
Cavity	Ports	Materials
08	B) G 1/4	1) Aluminium
10	C) G 3/8	2) Steel
12	D) G 1/2	
16	E) G 3/4	
	F) G 1	

2, 3 and 4 way Valves Bodies

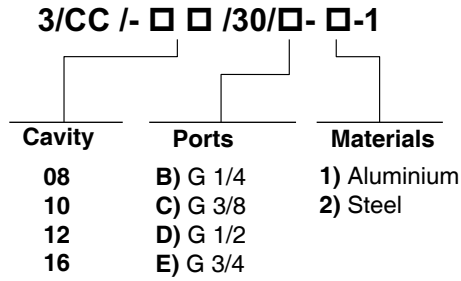
3 WAY BODIES

Dimensions

Material	Max. pressure	
	bar	psi
Alluminium	210	3050
Steel	350	5100



Cavity	Ports		A	B	C	E	F	G	H	I	L	M	N	Z
SAE 8/3	G 1/4	mm	60	60	30	7	46	48	12	14,8	30	30	29,1	6,5
		in	2.36	2.36	1.18	0.27	1.81	1.89	0.47	0.58	1.18	1.18	1.14	0.25
	G 3/8	mm	60	60	30	7	46	48	12	14,5	30	30	29,1	6,5
		in	2.36	2.36	1.18	0.27	1.81	1.89	0.47	0.57	1.18	1.18	1.14	0.25
	G 1/2	mm	70	65	35	7	56	53	12	14,5	35	35	29,1	6,5
		in	2.75	2.56	1.38	0.27	2.20	2.09	0.47	0.57	1.38	1.38	1.14	0.25
	SAE6	mm	60	60	30	7	46	48	12	14,5	30	30	29,1	6,5
		in	2.36	2.36	1.18	0.27	1.81	1.89	0.47	0.57	1.18	1.18	1.14	0.25
SAE 10/3	G 1/4	mm	60	65	35	6	48	59	6	18	30	30	34,5	7
		in	2.36	2.56	1.38	0.24	1.89	2.32	0.24	0.70	1.18	1.18	1.36	0.27
	G 3/8	mm	60	65	35	6	48	59	6	18,8	30	30	34,5	7
		in	2.36	2.56	1.38	0.24	1.89	2.32	0.24	0.74	1.18	1.18	1.36	0.27
	G 1/2	mm	65	70	35	6	53	64	6	18,8	32,5	32,5	34,5	7
		in	2.56	2.75	1.38	0.24	2.09	2.52	0.24	0.74	1.28	1.28	1.36	0.27
	SAE6	mm	65	70	35	6	53	64	6	18,8	32,5	32,5	34,5	7
		in	2.56	2.75	1.38	0.24	2.09	2.52	0.24	0.74	1.28	1.28	1.36	0.27
	SAE8	mm	65	70	35	6	53	64	6	18,8	32,5	32,5	34,5	7
		in	2.56	2.75	1.38	0.24	2.09	2.52	0.24	0.74	1.28	1.28	1.36	0.27
SAE 12/3	G 1/2	mm	70	100	40	8	54	92	8	25	35	35	53,5	8,5
		in	2.75	3.94	1.57	0.31	2.12	3.6	0.31	0.98	1.38	1.38	2.10	0.33
	G 3/4	mm	90	100	50	10	70	90	10	25,1	45	45	53,5	10,5
		in	3.54	3.94	1.97	0.39	2.75	3.54	0.39	0.99	1.77	1.77	2.11	0.41
	SAE10	mm	80	100	40	8	64	92	8	25	40	40	53,5	8,5
		in	3.15	3.94	1.57	0.31	2.52	3.6	0.31	0.98	1.57	1.57	2.11	0.33
	SAE12	mm	80	100	45	8	64	92	8	25	40	40	53,5	8,5
		in	3.15	3.94	1.57	0.31	2.52	3.6	0.31	0.98	1.57	1.57	2.11	0.33
SAE 16/3	G 3/4	mm	90	100	50	10	70	90	10	25,1	45	45	53,5	10,5
		in	3.54	3.94	1.97	0.39	2.75	3.54	0.39	0.99	1.77	1.77	2.11	0.41
	SAE12	mm	90	105	50	10	70	95	10	25,1	45	45	53,5	10,5
		in	3.54	4.13	1.97	0.39	2.75	3.74	0.39	0.99	1.77	1.77	2.11	0.41
	SAE16	mm	90	105	50	10	70	95	10	25,1	45	45	53,5	10,5
		in	3.54	4.13	1.97	0.39	2.75	3.74	0.39	0.99	1.77	1.77	2.11	0.41



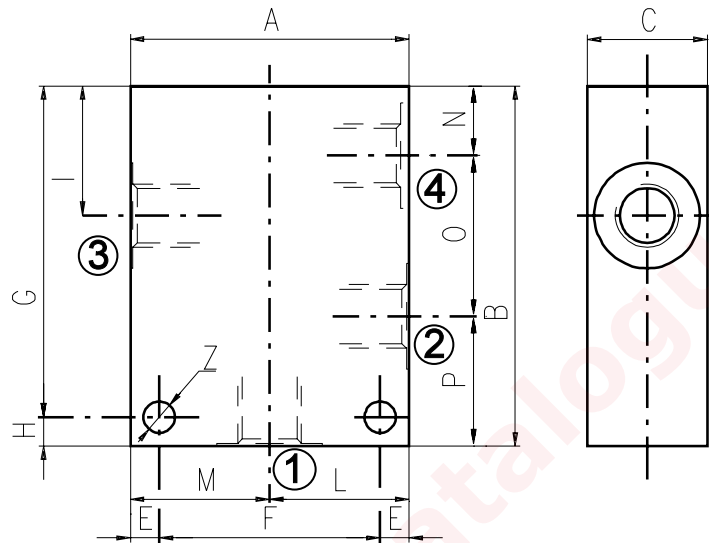
see SAE cartridges catalogue

2, 3 and 4 way Valves Bodies

4 WAY BODIES

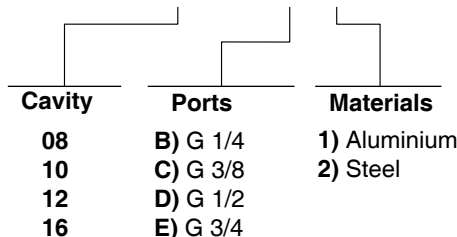
Dimensions

Material	Max. pressure	
	bar	psi
Aluminium	210	3050
Steel	350	5100

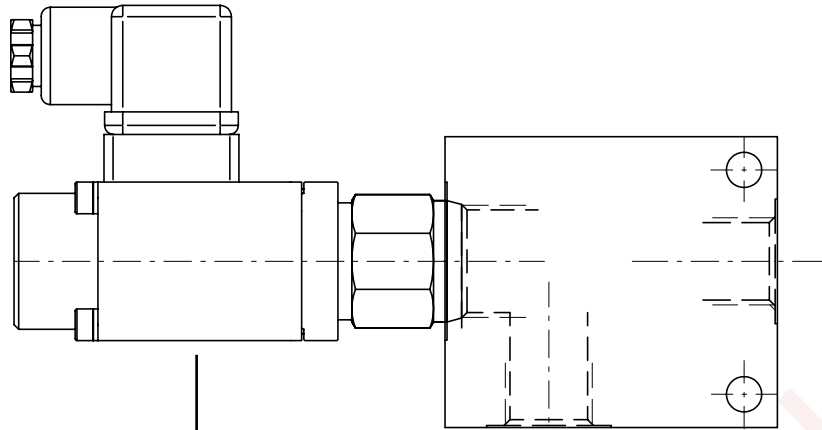


Cavity	Ports	A	B	C	E	F	G	H	I	L	M	N	O	P	Z	
SAE 8/4	G 1/4	mm	60	75	30	7	46	63	12	29,1	30	30	14,8	29,1	31,1	6,5
		in	2.36	2.95	1.18	0.27	1.81	2.48	0.47	1.14	1.18	1.18	0.58	1.14	1.22	0.25
	SAE6	mm	60	75	30	7	46	63	12	29,1	30	30	14,8	29,1	31,1	6,5
		in	2.36	2.95	1.18	0.27	1.81	2.48	0.47	1.14	1.18	1.18	0.58	1.14	1.22	0.25
SAE 10/4	G 3/8	mm	60	85	35	6	48	79	6	34,5	30	30	18,8	31,7	34,5	7
		in	2.36	3.35	1.38	0.24	1.89	3.11	0.24	1.36	1.18	1.18	0.74	1.25	1.36	0.27
	G 1/2	mm	70	85	35	6	58	79	6	34,5	35	35	18,8	31,7	34,5	7
		in	2.75	3.35	1.38	0.24	2.28	3.11	0.24	1.36	1.38	1.38	0.74	1.25	1.36	0.27
	SAE6	mm	60	85	35	6	48	79	6	34,5	30	30	18,8	31,7	34,5	7
		in	2.45	3.35	1.38	0.24	1.89	3.11	0.24	1.36	1.18	1.18	0.74	1.25	1.36	0.27
	SAE8	mm	70	85	35	6	58	79	6	34,5	35	35	18,8	31,7	34,5	7
		in	2.75	3.35	1.38	0.24	2.28	3.11	0.24	1.36	1.38	1.38	0.74	1.25	1.36	0.27
SAE 12/4	G 1/2	mm	80	115	40	8	64	107	8	44	40	40	22	44,5	48,5	8,5
		in	3.15	4.53	1.57	0.31	2.52	4.21	0.31	1.73	1.57	1.57	0.87	1.75	1.9	0.33
	SAE10	mm	80	115	40	8	64	107	8	44	40	40	22	44,5	48,5	8,5
		in	3.15	4.53	1.57	0.31	2.52	4.21	0.31	1.73	1.57	1.57	0.87	1.75	1.9	0.33
SAE 16/4	G 3/4	mm	100	130	50	10	80	120	10	53,5	50	50	25,1	56,9	48	10,5
		in	3.94	5.12	1.97	0.39	3.15	4.72	0.39	2.11	1.97	1.97	0.99	2.24	1.89	0.41

3/CC /- □ □ /40/□- □-1



How to order valves with body



CARTRIDGE CODE

MP-10-Y/0-4-1V/

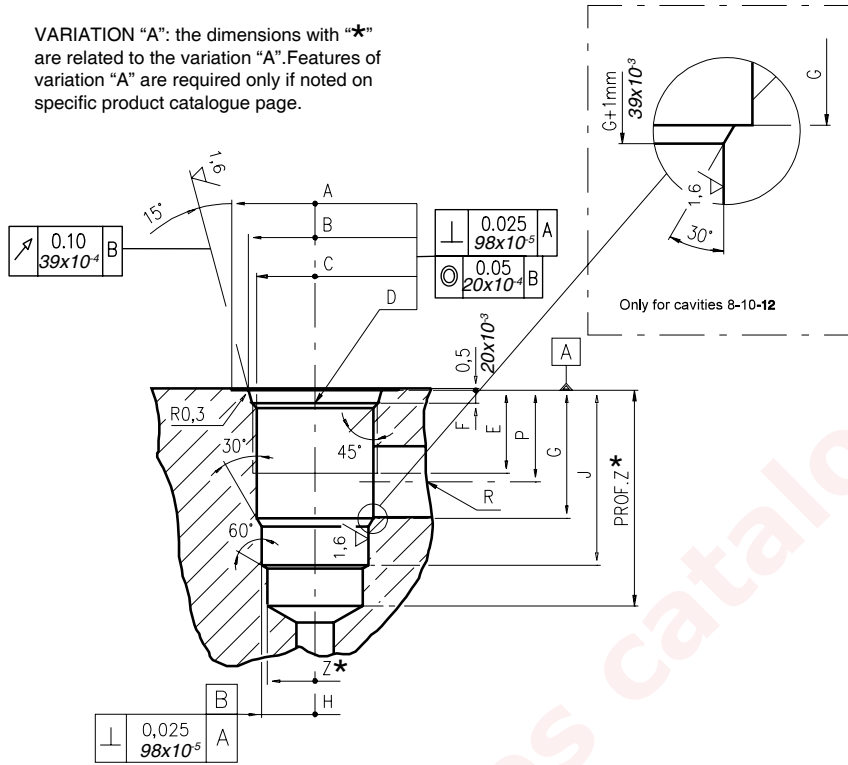
BILLET CODE

C- 1-1

Cavity	Ports	Materials
08	B) G 1/4	1) Aluminium
10	C) G 3/8	
12	D) G 1/2	
16	E) G 3/4	
	F) G 1	
	J) SAE 6	2) Steel
	K) SAE 8	
	L) SAE 10	
	M) SAE 12	
	N) SAE 16	

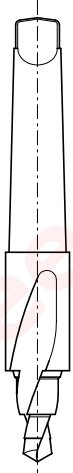
Dimensions

VARIATION "A": the dimensions with "★" are related to the variation "A". Features of variation "A" are required only if noted on specific product catalogue page.

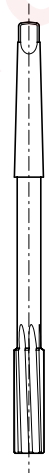


\		A	B ±0,05	C ±0,05	D	E	F	G	H ±0,02	J	K ±0,02	L	M ±0,02	N	P	R øMAX	S	T øMAX	U	V øMAX	X øMAX	Z ★ øMIN	Prof.Z MIN★
		08/2	mm	27	20,66	17,42	3/4-16 UNF	12,50	2,50	18,20	12,72	29,50	-	-	-	-	14,00	8,00	-	-	-	-	-
	in	1.06	0.81	0.68	UNF	0.49	0.10	0.72	0.50	1.16					0.55	0.31						0.47	1.53
10/2	mm	30	24,00	20,62	7/8-14 UNF	16,00	2,80	24,00	15,90	33,50	-	-	-	-	18,30	11,00	-	-	-	-	-	14,50	40
	in	1.18	0.94	0.81	UNF	0.63	0.11	0.94	0.62	1.32					0.72	0.43						0.57	1.57
12/2	mm	38	29,23	24,73	1 1/16-12 UNF	19,00	3,50	34,15	22,25	46,80	-	-	-	-	24,50	19,00	-	-	-	-	-	21,50	60
	in	1.50	1.15	0.97	UNF	0.75	0.14	1.34	0.87	1.84					0.96	0.75						0.85	2.36
16/2	mm	45	35,58	31,34	1 5/16-12 UNF	22,00	3,50	34,00	28,62	47,00	-	-	-	-	24,50	19,00	-	-	-	-	-	25,50	70
	in	1.77	1.40	1.23	UNF	0.87	0.14	1.34	1.13	1.85					0.96	0.75						1.00	2.75

Rougher tool



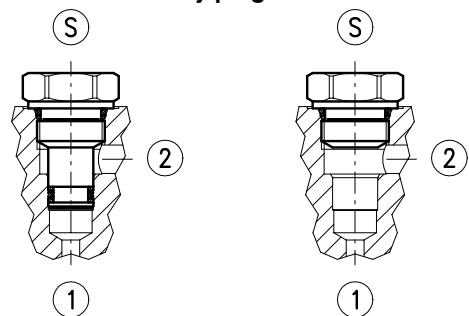
Finisher tool



Tap



Cavity plugs



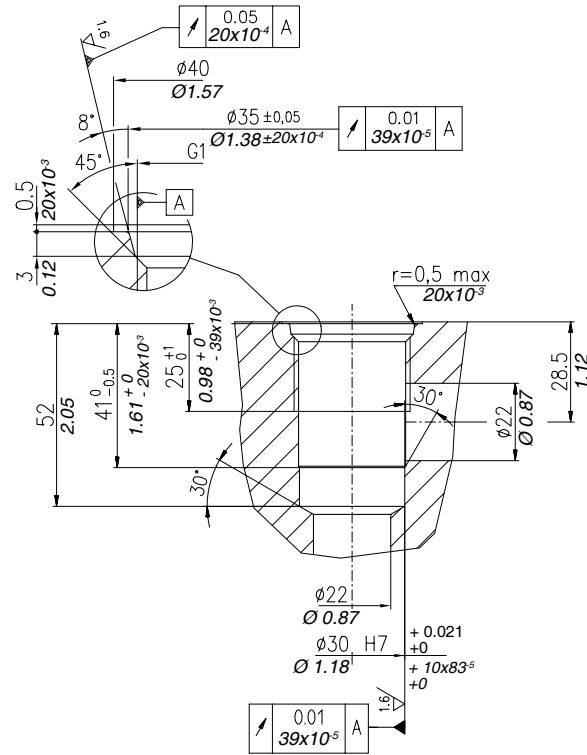
Cavity	Code number
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10/2	3UT00056610
12/2	3UT00054090
16/2	3UT00054510

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08/2	3UT06A1270N
10/2	3UT00054580
12/2	3UT00054670
16/2	3UT00054520

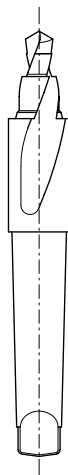
Cavity	Code number
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10/2	3UT07814UNF
12/2	3UT0111612UN
16/2	3UT0151612UN

Cavity	Code number	①	②	Ⓢ
08/2	3XTP3533700	X	X	X
	4TP5531500	0	0	X
10/2	3XTP3544200	X	X	X
	3XTP1542300	0	0	X
12/2	3XTP3555400	X	X	X
	3XTP1552900	0	0	X
16/2	3XTP3575500	X	X	X
	3XTP1572900	0	0	X

X=Closed 0=Open



Rougher tool
Cod.3UT00050870A



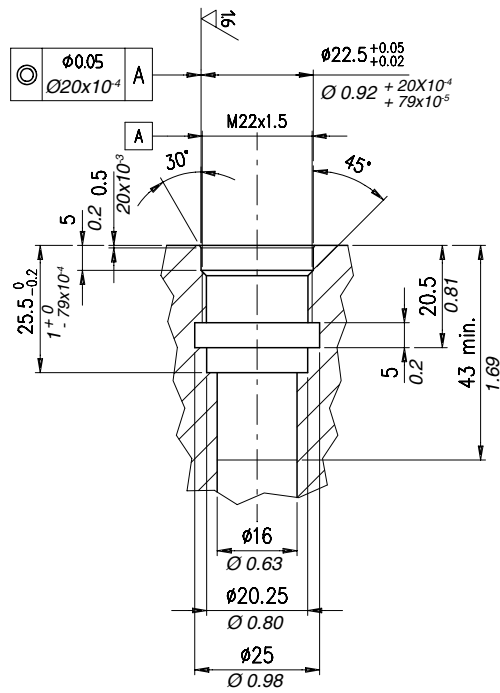
Finisher tool
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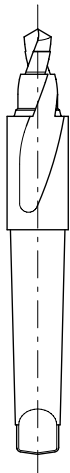
Tap
Cod.3UT09A10F11G



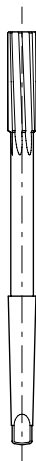
Dimensions



Rougher tool
Code 3UT00054660

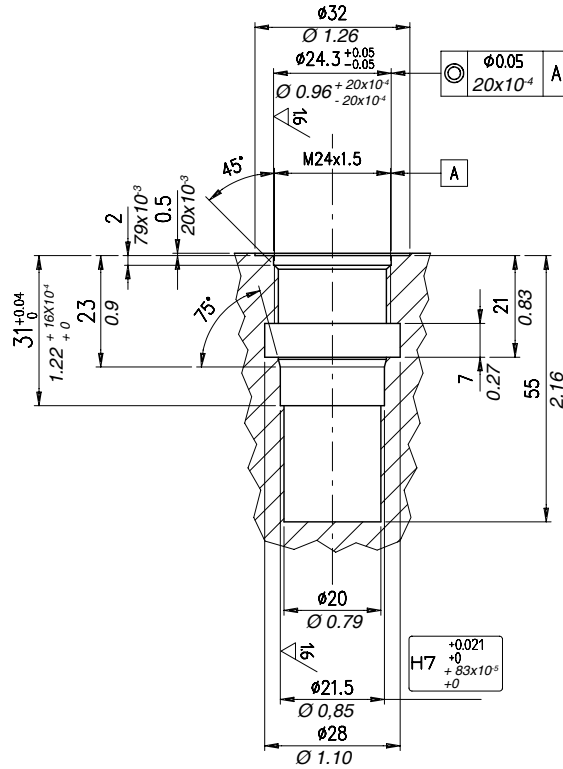


Finisher tool
Code 3UT00055530



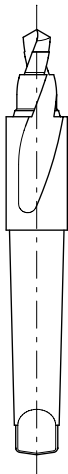
Tap
Code 3UT08A22F150





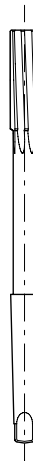
Rougher tool

Code 3UT00052210



Finisher tool

Code 3UT00055030

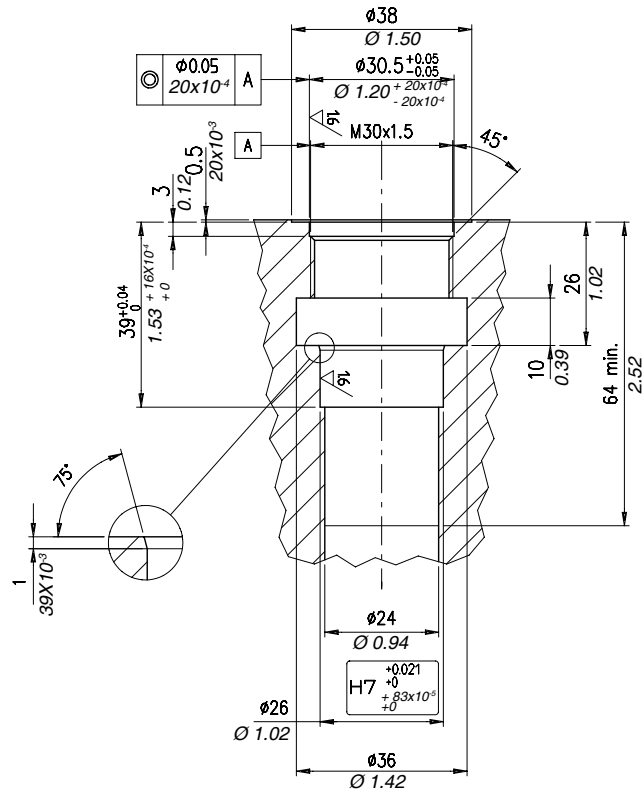


Tap

Code 3UT08A24F150



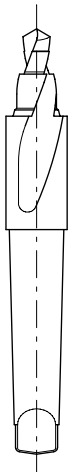
Dimensions

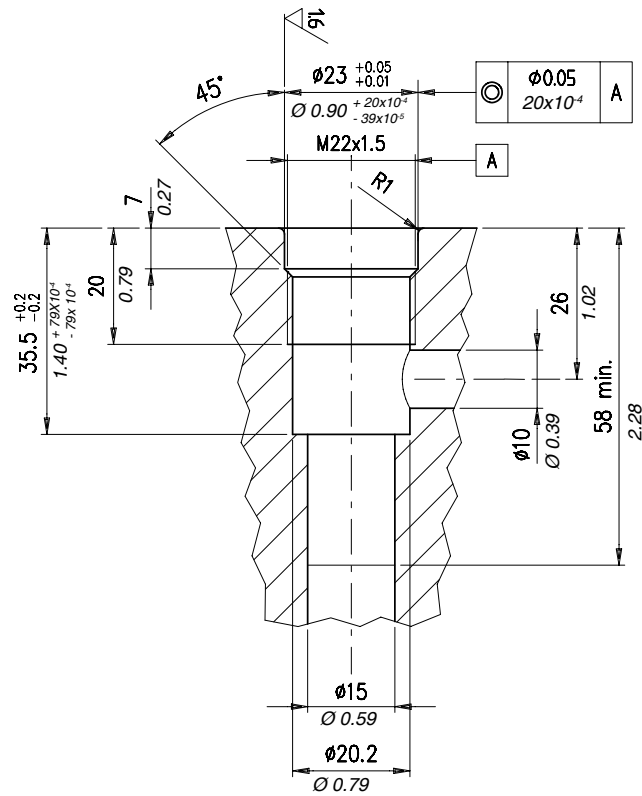


Rougher tool
Code 3UT00052200

Finisher tool
Code 3UT06A2600P

Tap
Code 3UT08A30F150

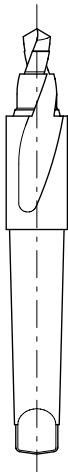




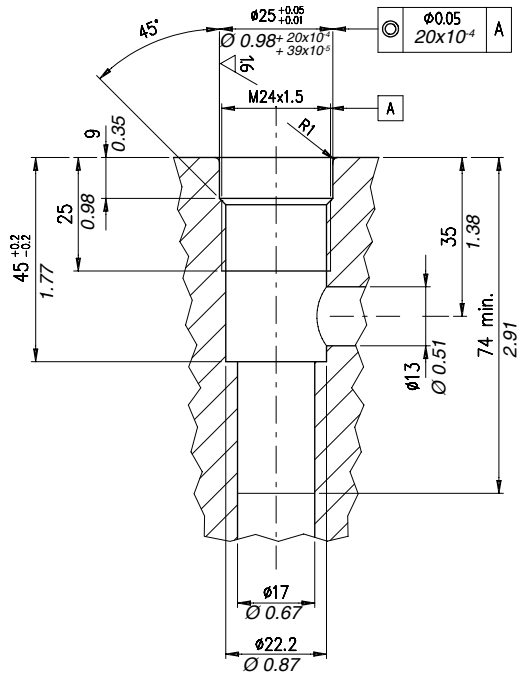
Rougher tool
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Finisher tool
Code 3UT06A2300N

Tap
Code 3UT08A22F150

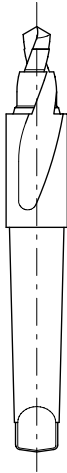


Dimensions



Rougher tool

Code 3UT00055550



Finisher tool

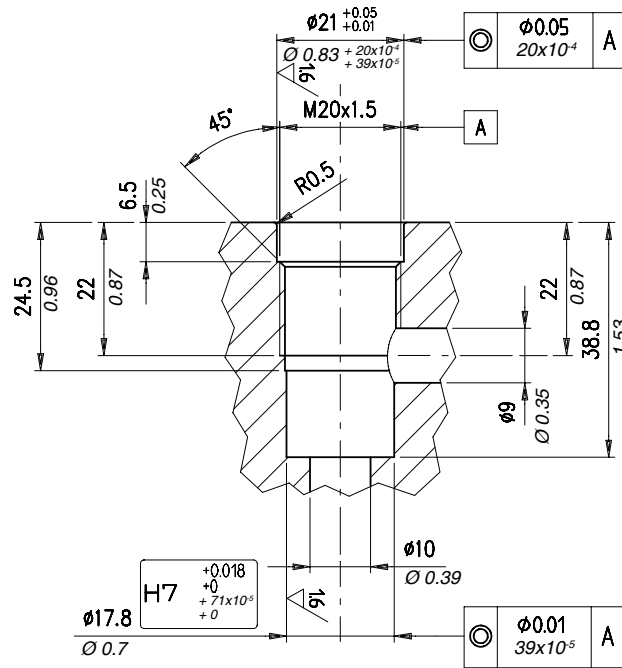
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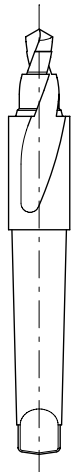
Tap

Code 3UT08A24F150





Rougher tool
Code 3UT00050050



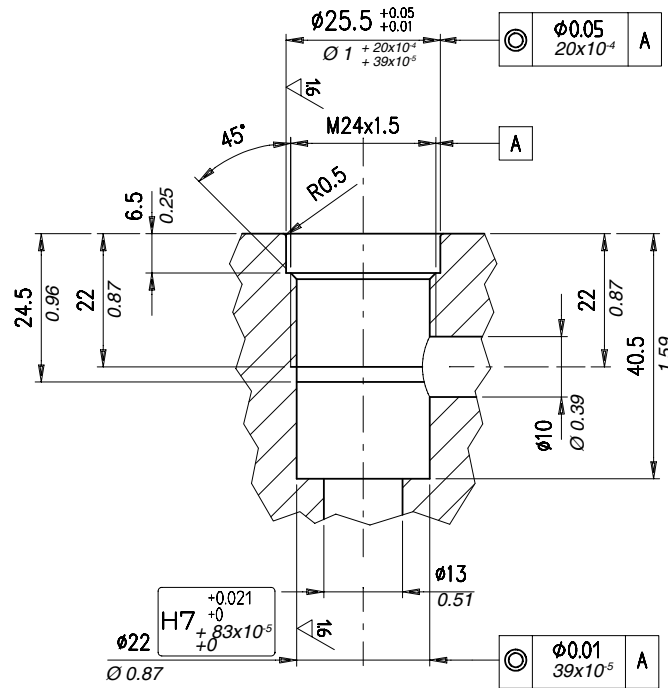
Finisher tool
Code 3UT00055040



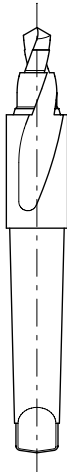
Tap
Code 3UT08A20F150



Dimensions



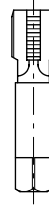
Rougher tool
Code 3UT00050070

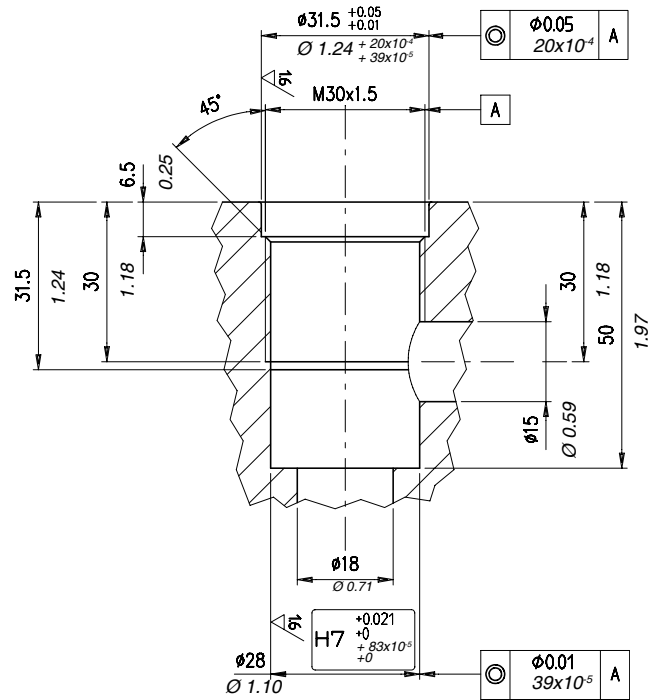


Finisher tool
Code 3UT06A22000P

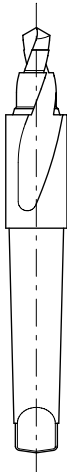


Tap
Code 3UT08A24F150





Rougher tool
Code 3UT00050070



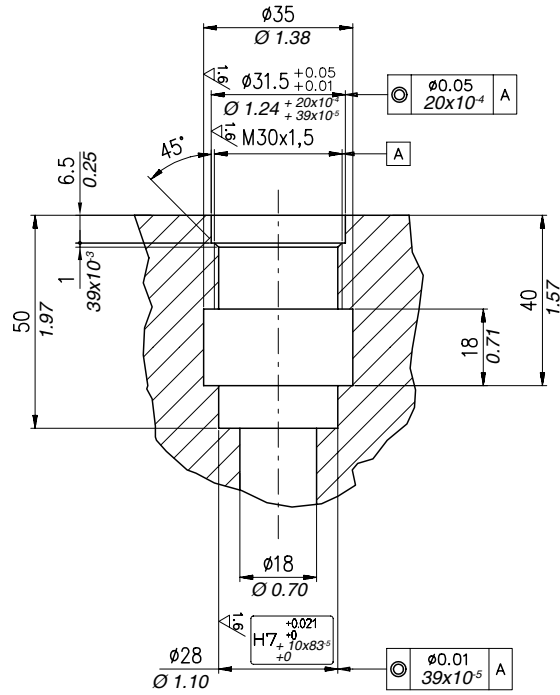
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Tap
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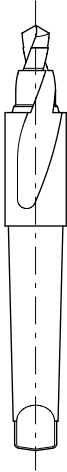


Dimensions



Rougher tool

Code 3UT00050070



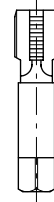
Finisher tool

Code 3UT06A22000P



Tap

Code 3UT08A24F150



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