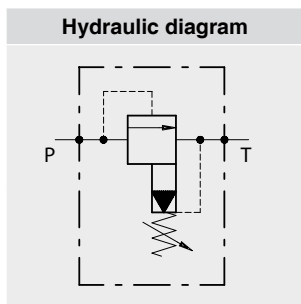




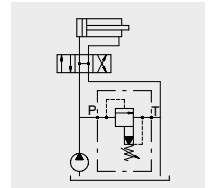
Pressure relief valves



Type	Description	Maximum flow up to		Maximum pressure		Page
		l/min	US gpm	bar	psi	
VMPP	Pilot-operated valves, spool type	120	32	350	5100	57
MP..A		180	48			

Operation

Allows oil flow from P to T when pressure in P reaches the setting of the spring.



Performance

Body Valves

Type VMPP	Flow max.		Pressure max.		Application range with standard spring *	Hysteresis	Oil leaks from P to T	Cavities and tool	Weight	
	l/min	US gpm	bar	psi					kg	lb
VMPP 10	70	18	350	5100	TB) 5÷40 bar - 72.5÷580 psi (test setting 20 bar - 290 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 8 bar - 116 psi per screw turn TS) 20÷400 bar - 290÷5800 psi (test setting 150 bar - 2200 psi at 5 l/min. - 1.32 gpm) pressure increase by steps 120 bar - 1750 psi per screw turn	95% of the setting value for flow capacity 1 l/min. - 0.26 US gpm-	20 cm ³ /min. - 1.22 in ³ /mm at 100 bar - 1450 psi-	VMP 10	0,26	0.57
VMPP 20	120	32			TB) 5÷40 bar - 72.5÷580 psi (test setting 20 bar - 290 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 15 bar - 217.5 psi per screw turn TS) 20÷400 bar - 290÷5800 psi (test setting 150 bar - 2200 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 115 bar - 1700 psi per screw turn					

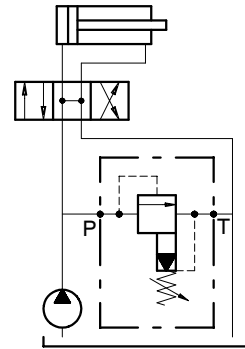
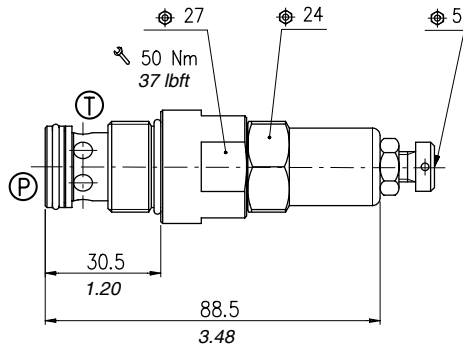
Cartridges

Type MP..A	Max. flow		Max. pres.		Application range with standard spring *	Hysteresis	Oil leaks from 1 to 2	Cavities and tool	Weight					
	l/min	US gpm	bar	psi					kg	lb				
MP10A	60	16	350	5100	5÷50 bar - 72.5÷725 psi (test setting 20 bar - 290 psi at 5 l/min. - 1.32 gpm) pressure increase by steps 10 bar - 145 psi per screw turn 50÷220 bar - 725÷3200 psi (test setting 150 bar - 2200 psi at 5 l/min. - 1.32 gpm) pressure increase by steps 42 bar - 609 psi per screw turn 150÷350 bar - 2200÷5100 psi (test setting 250 bar - 3600 psi at 5 l/min. - 1.32 gpm) pressure increase by steps 104 bar - 1508 psi per screw turn	80% of the setting value for flow capacity 1 l/min. - 0.26 US gpm-	25 cm ³ /min. - 1.52 in ³ /mm at 100 bar - 1450 psi-	<ul style="list-style-type: none"> • Cavity SAE 10-2 see page 112 	0,19	0.42				
MP12A	100	26			10÷50 bar - 145÷725 psi (test setting 20 bar - 290 psi at 5 l/min. - 1.32 US gpm) pressure increase by steps 10 bar - 145 psi per screw turn 50÷220 bar - 725÷3200 psi (test setting 150 bar - 2200 psi at 5 l/min. - 1.32 US gpm) pressure increase 37 bar - 536.5 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 92 bar - 1334 psi per screw turn						95% of the setting value for flow capacity 1 l/min. - 0.26 US gpm-	<ul style="list-style-type: none"> • Cavity SAE 12-2 see page 112 	0,30	0.66
MP16A	180	47.55			see setting MP10A									

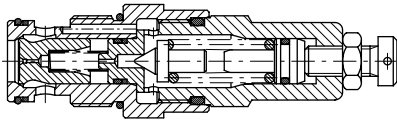
• the cavity have to report also the features of variation "A" see page 112

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

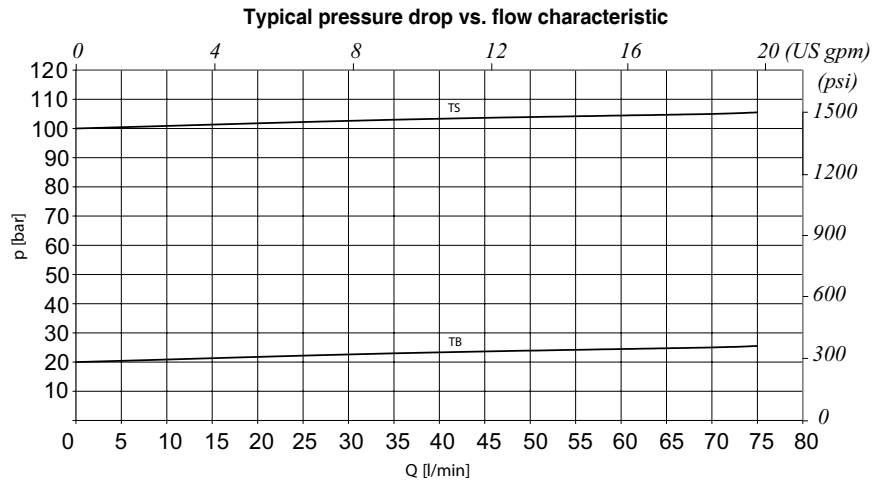
Dimensions and hydraulic circuit



Cross section



Rating diagrams



Order code

VMPP 10 / □ . □

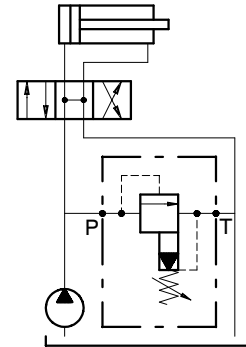
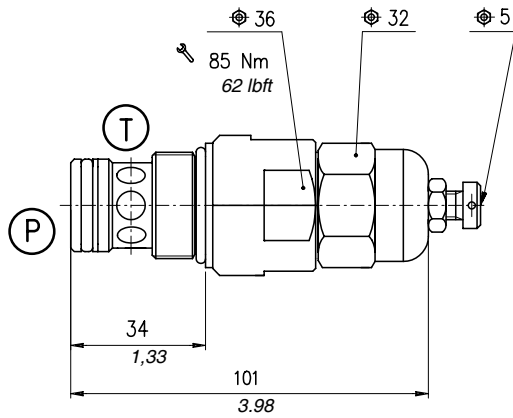
Pressure settings

TB) 5÷40 bar (72.5÷580 psi)
TS) 20÷400 bar (290 ÷5800 psi)

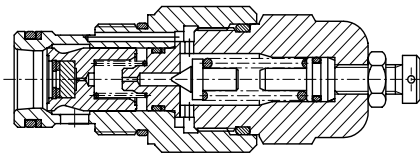
Adjustment

(see pag.105)
V (handknob)
W (capped adjustment)

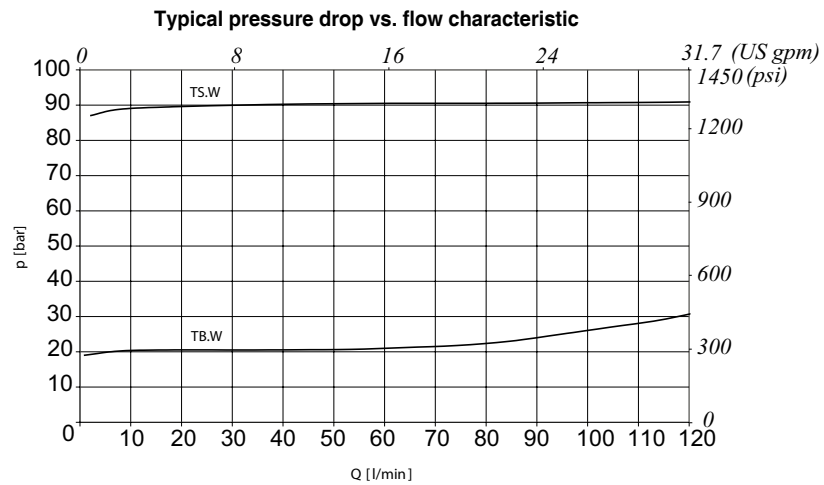
Dimensions and hydraulic circuit



Cross section



Rating diagrams



Order code

VMPP 20 / □ . □

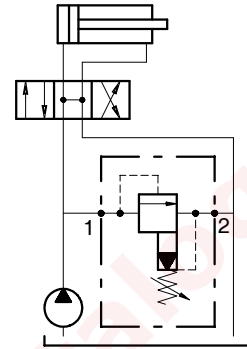
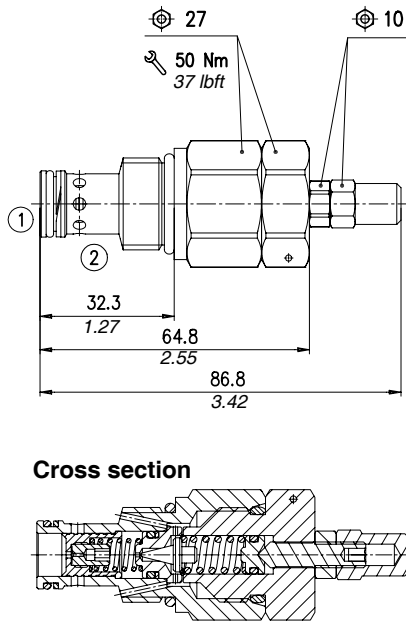
Pressure settings

TB) 5÷40 bar (72.5÷580 psi)
TS) 20÷400 bar (290 ÷5800 psi)

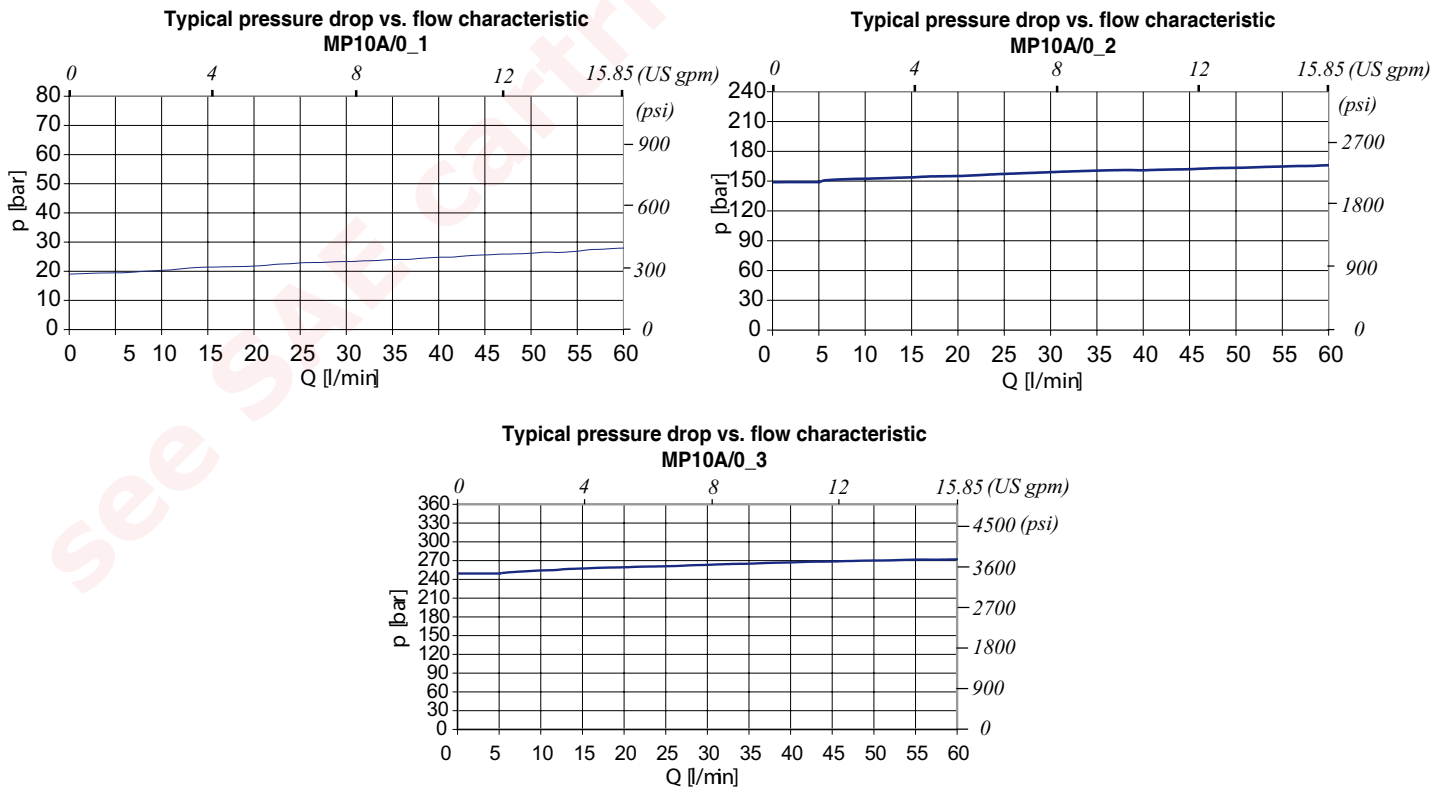
Adjustment

(see pag.105)
V (handknob)
W (capped adjustment)

Dimensions and hydraulic circuit



Rating diagrams



MP10A / 0 - □ - □ - □

Adjustments
(see pag. 105)

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

Pressure settings

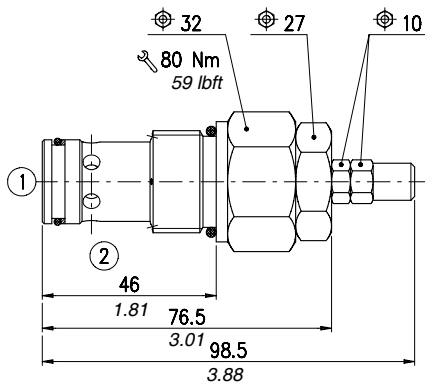
- 1)** 5÷50 bar (72.5÷725 psi)
- 2)** 50÷220 bar (725 ÷3200 psi)
- 3)** 150÷350 bar (2200 ÷5100 psi)

Seals

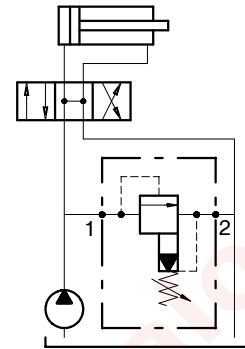
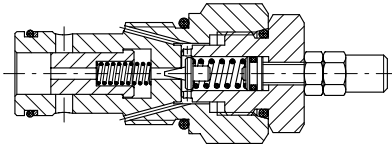
- B)** Buna
- V)** Viton

see SAE cartridges catalogue

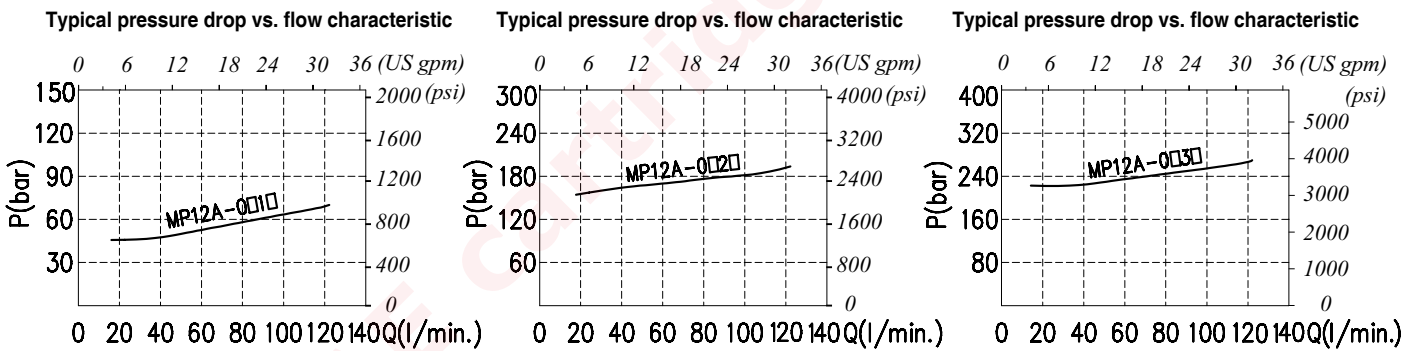
Dimensions and hydraulic circuit



Cross section



Rating diagrams



Order code

MP12A / 0 - □ - □ - □

Adjustments
(see page 101)

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

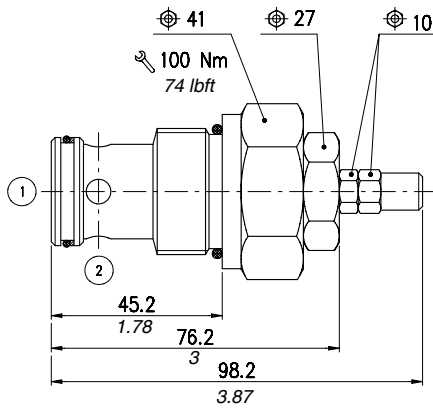
Pressure settings

- 1) 10÷50 bar (145÷725 psi)
- 2) 50÷200 bar (725÷2900 psi)
- 3) 150÷350 bar (2200÷5100 psi)

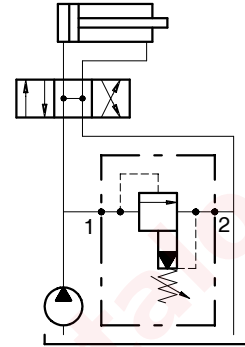
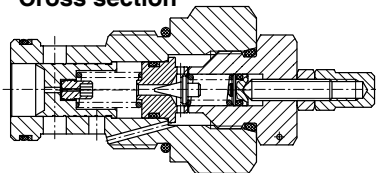
Seals

- B) Buna
- V) Viton

Dimensions and hydraulic circuit

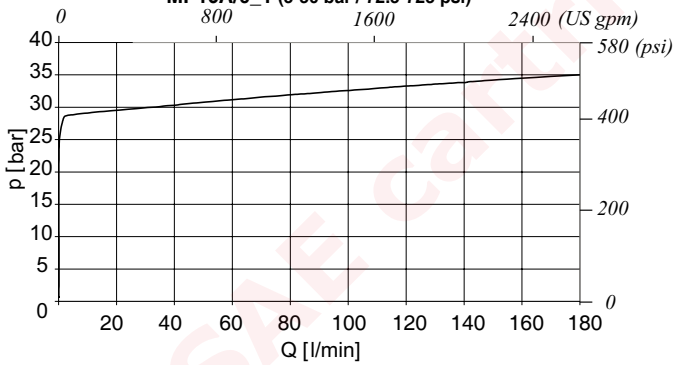


Cross section

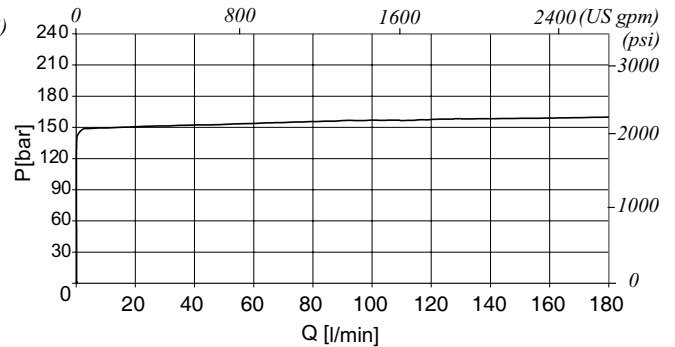


Rating diagrams

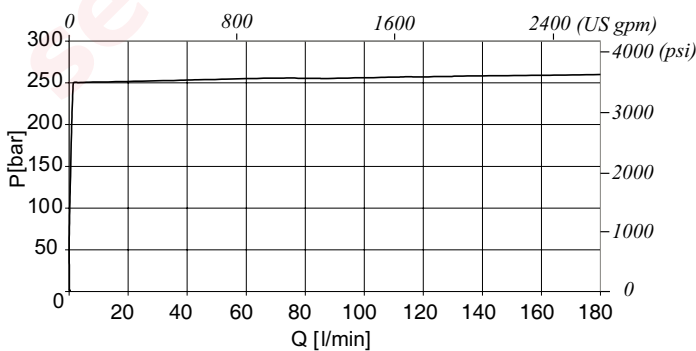
**Typical pressure drop vs. flow characteristic
MP16A/O_1 (5-50 bar / 72.5-725 psi)**



**Typical pressure drop vs. flow characteristic
MP16A/O_2 (50-220 bar / 725-3190 psi)**



**Typical pressure drop vs. flow characteristic
MP16A/O_3 (150-350 bar / 2175-5075 psi)**



Type MP16A

Order code _____

MP16A / 0 - □ - □ - □

Adjustments

(see page 105)

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

Pressure settings

- 1)** 5÷50 bar (72.5÷725 psi)
- 2)** 50÷220 bar (725÷3200 psi)
- 3)** 150÷350 bar (2200÷5100 psi)

Seals

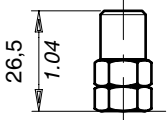
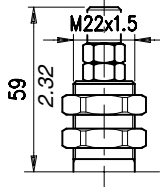
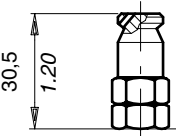
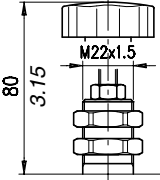
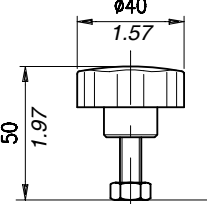
- B)** Buna
- V)** Viton

see SAE cartridges catalogue

Description and operation

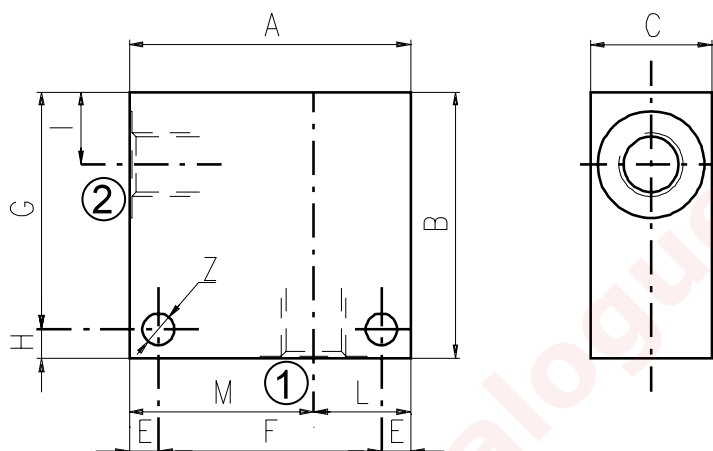
This chapter show main adjusting devices for the valves listed in this catalog.
These regulations are used to adjust flow rate between inlet and working ports.

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

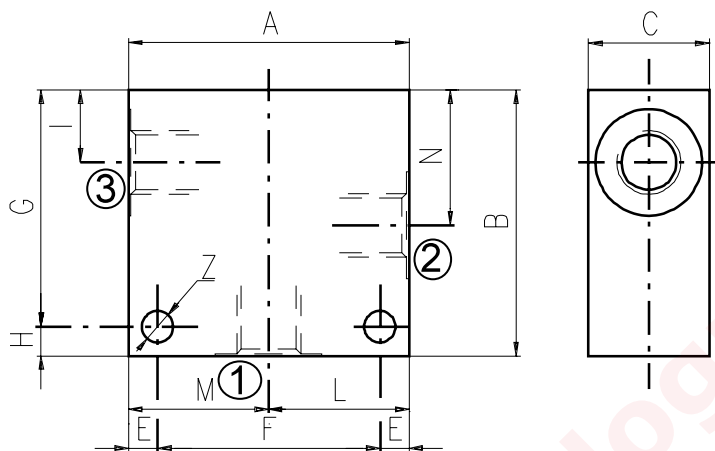
Cavity	Ports	Materials
08	B) G 1/4	1) Aluminium
10	C) G 3/8	2) Steel
12	D) G 1/2	
16	E) G 3/4	
	F) G 1	

2, 3 and 4 way Valves Bodies

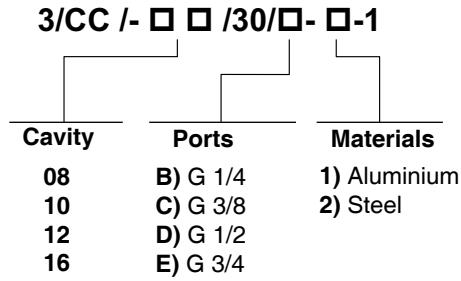
3 WAY BODIES

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



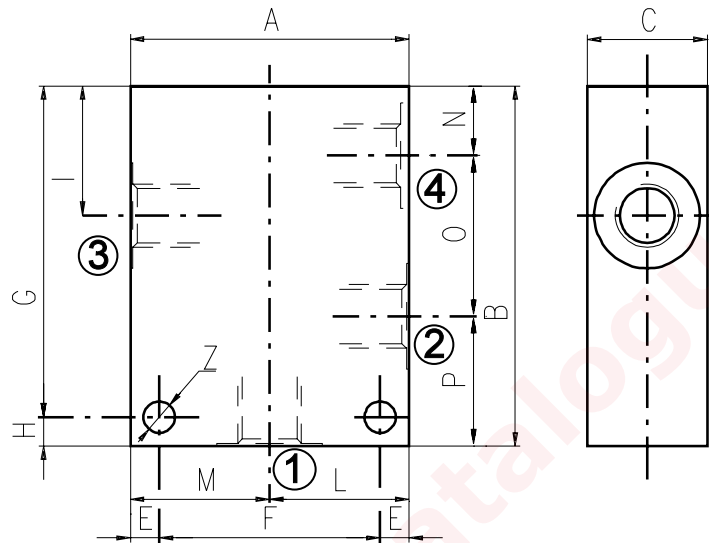
see SAE cartridges catalogue

2, 3 and 4 way Valves Bodies

4 WAY BODIES

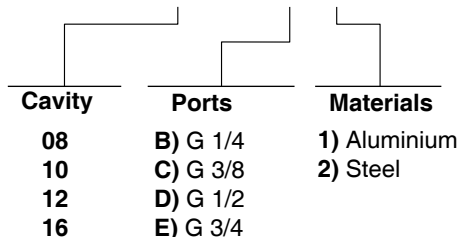
Dimensions

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

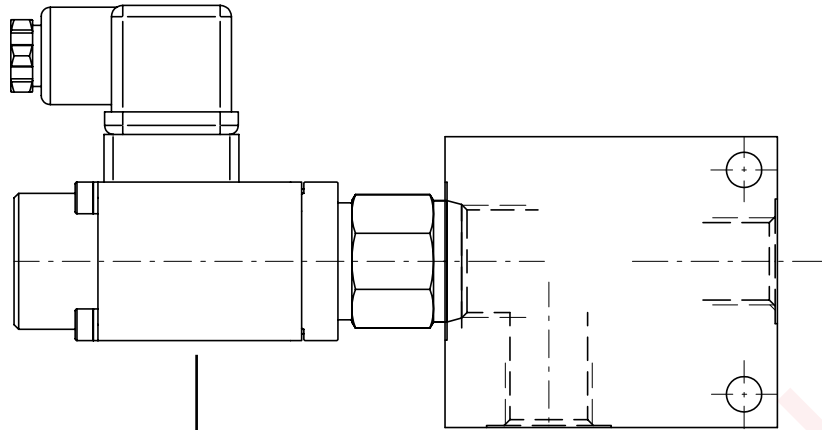


Cavity	Ports	A	B	C	E	F	G	H	I	L	M	N	O	P	Z	
SAE 8/4	G 1/4	mm	60	75	30	7	46	63	12	29,1	30	30	14,8	29,1	31,1	6,5
		in	2.36	2.95	1.18	0.27	1.81	2.48	0.47	1.14	1.18	1.18	0.58	1.14	1.22	0.25
	SAE6	mm	60	75	30	7	46	63	12	29,1	30	30	14,8	29,1	31,1	6,5
		in	2.36	2.95	1.18	0.27	1.81	2.48	0.47	1.14	1.18	1.18	0.58	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/

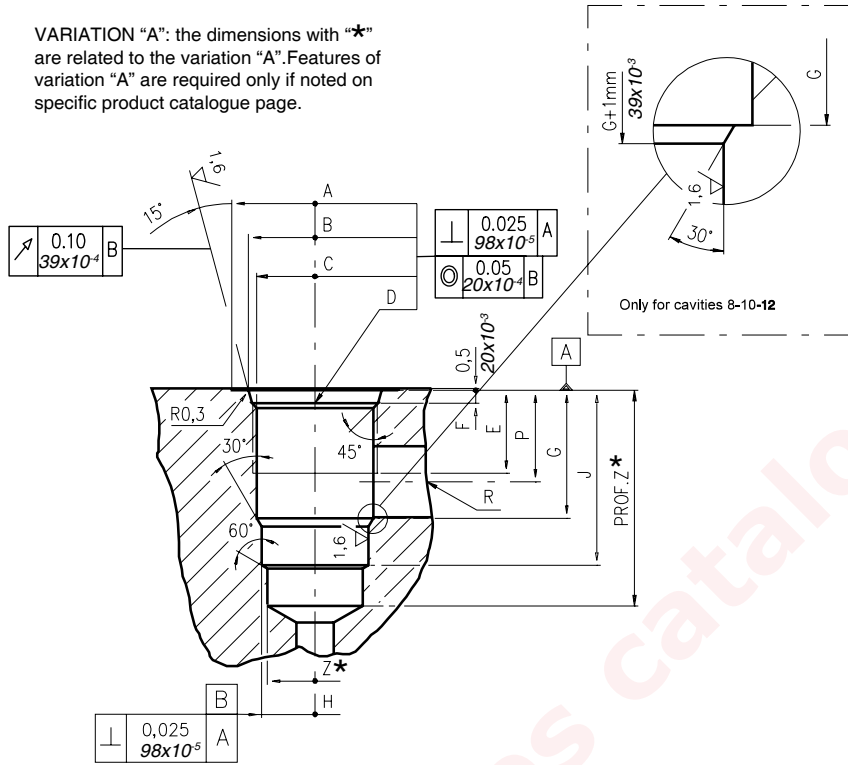
BILLET CODE

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	

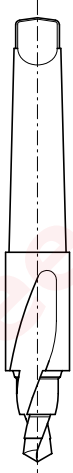
Dimensions

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.



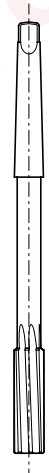
\		A	B ±0,05	C ±0,05	D	E	F	G	H ±0,02	J	K ±0,02	L	M ±0,02	N	P	R øMAX	S øMAX	T øMAX	U	V øMAX	X øMAX	Z ★ øMIN	Prof.Z MIN★
		08/2	mm	27	20,66	17,42	3/4-16 UNF	12,50	2,50	18,20	12,72	29,50	-	-	-	-	14,00	8,00	-	-	-	-	-
	in	1.06	0.81	0.68	UNF	0.49	0.10	0.72	0.50	1.16					0.55	0.31						0.47	1.53
10/2	mm	30	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



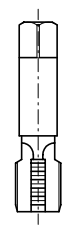
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10/2	3UT00056610
12/2	3UT00054090
16/2	3UT00054510

Finisher tool



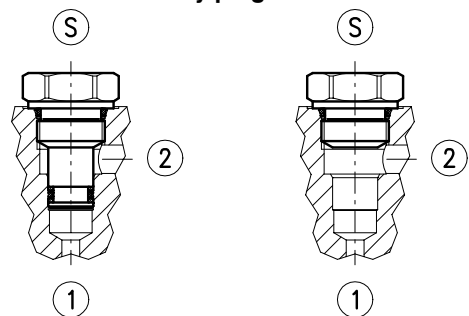
Cavity	Code number
08/2	3UT06A1270N
10/2	3UT00054580
12/2	3UT00054670
16/2	3UT00054520

Tap



Cavity	Code number
08/2	3UT03416UNF
10/2	3UT07814UNF
12/2	3UT0111612UN
16/2	3UT0151612UN

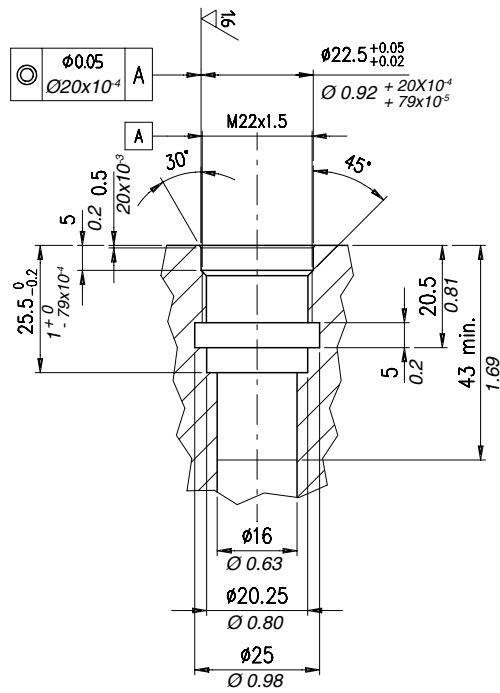
Cavity plugs



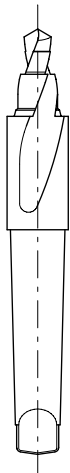
Cavity	Code number	①	②	Ⓢ
08/2	3XTP3533700	X	X	X
	4TP5531500	0	0	X
10/2	3XTP3544200	X	X	X
	3XTP1542300	0	0	X
12/2	3XTP3555400	X	X	X
	3XTP1552900	0	0	X
16/2	3XTP3575500	X	X	X
	3XTP1572900	0	0	X

X=Closed 0=Open

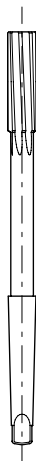
Dimensions



Rougher tool
Code 3UT00054660

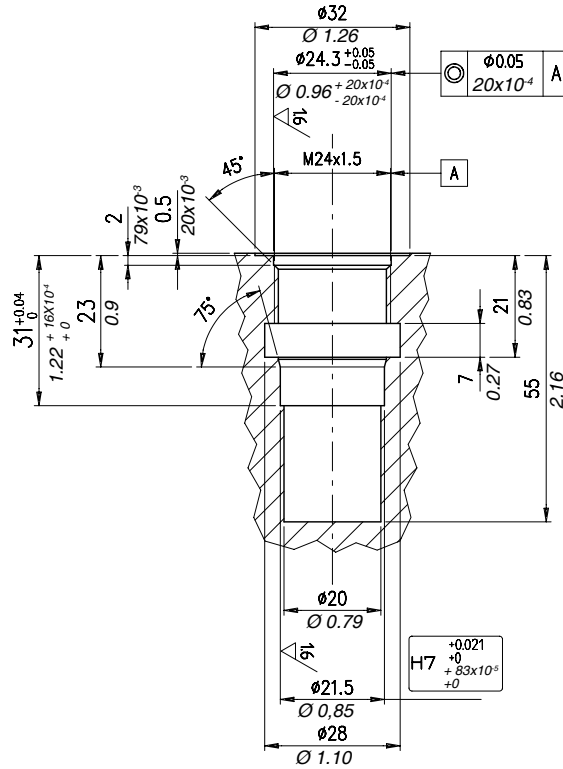


Finisher tool
Code 3UT00055530



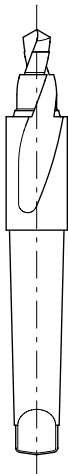
Tap
Code 3UT08A22F150





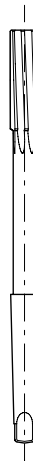
Rougher tool

Code 3UT00052210



Finisher tool

Code 3UT00055030

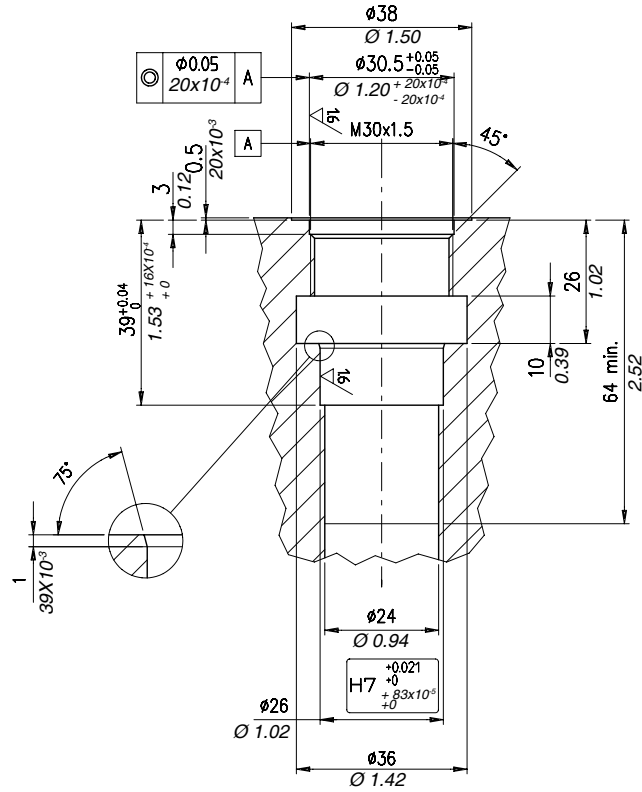


Tap

Code 3UT08A24F150



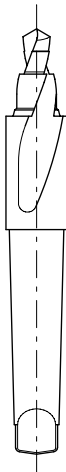
Dimensions

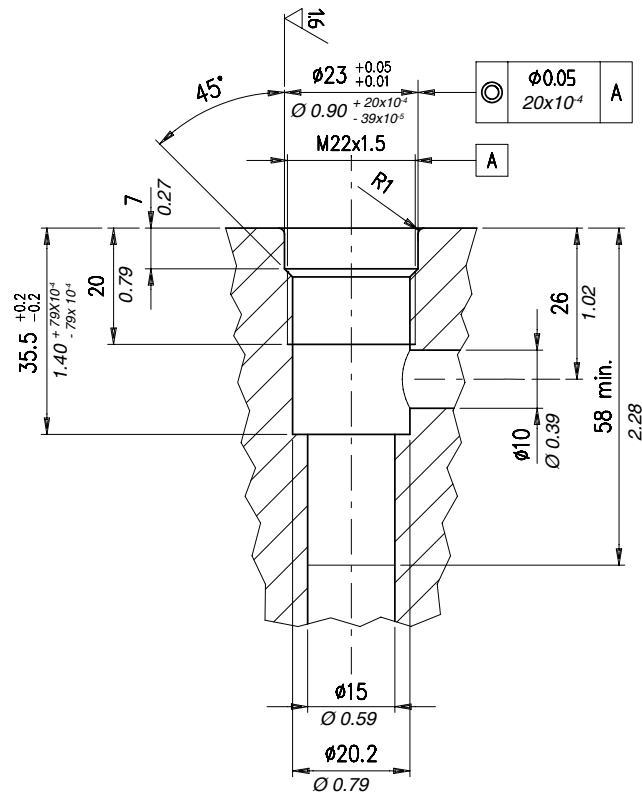


Rougher tool
Code 3UT00052200

Finisher tool
Code 3UT06A2600P

Tap
Code 3UT08A30F150

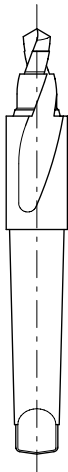




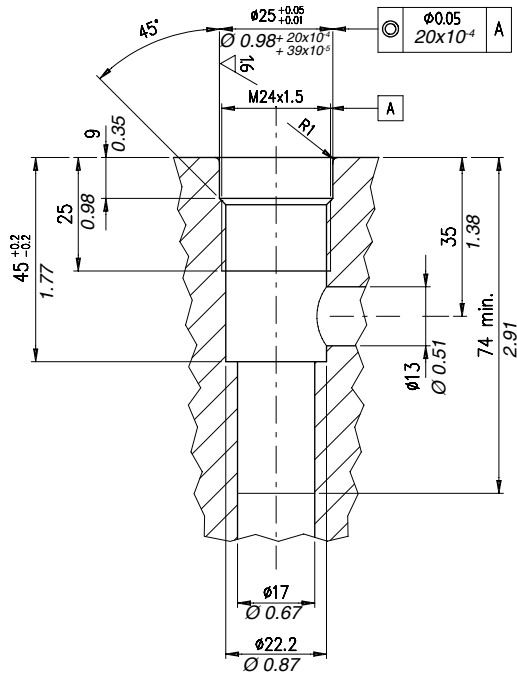
Rougher tool
Code 3UT00055540

Finisher tool
Code 3UT06A2300N

Tap
Code 3UT08A22F150

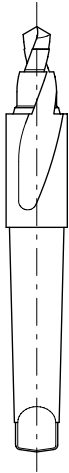


Dimensions



Rougher tool

Code 3UT00055550



Finisher tool

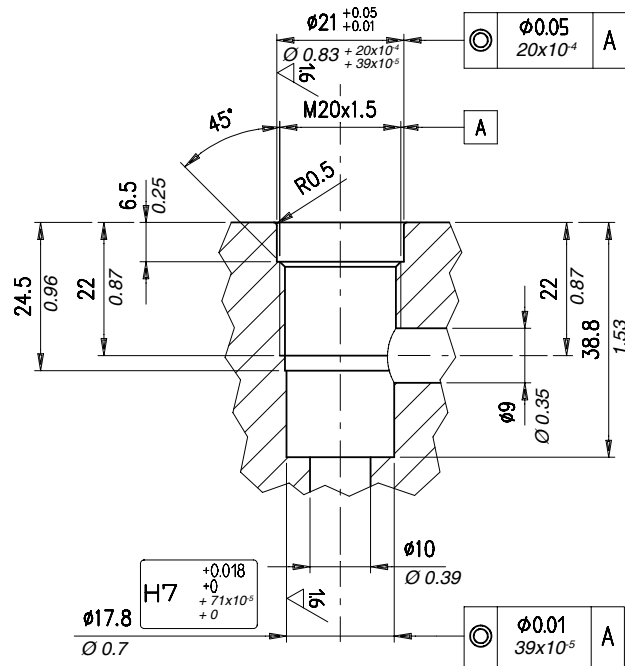
Code 3UT06A2500N



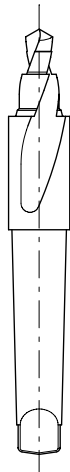
Tap

Code 3UT08A24F150





Rougher tool
Code 3UT00050050

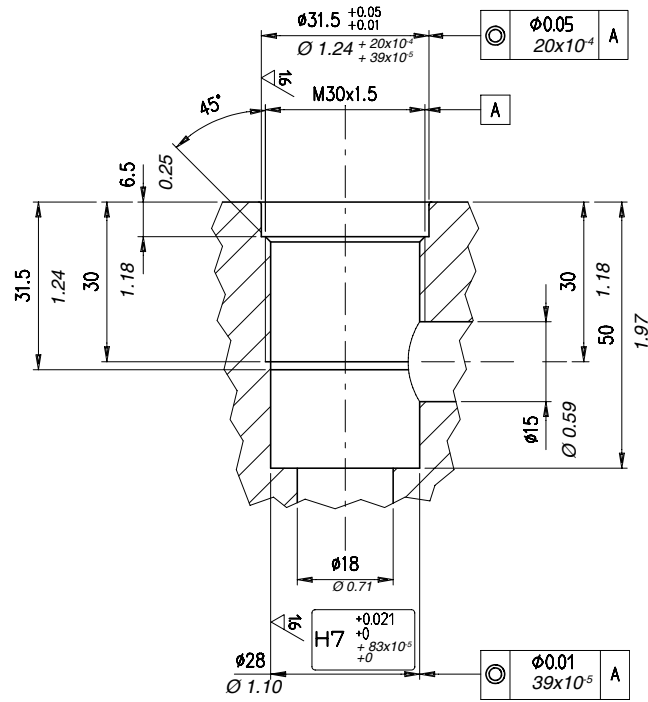


Finisher tool
Code 3UT00055040

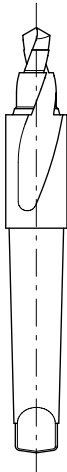


Tap
Code 3UT08A20F150





Rougher tool
Code 3UT00050070



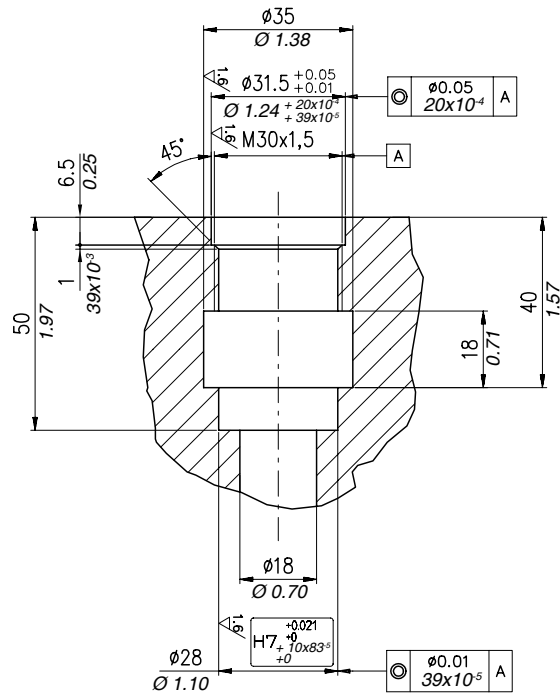
Finisher tool
Code 3UT06A22000P



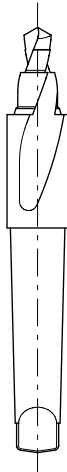
Tap
Code 3UT08A24F150



Dimensions



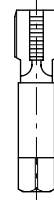
Rougher tool
Code 3UT00050070



Finisher tool
Code 3UT06A22000P



Tap
Code 3UT08A24F150



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