

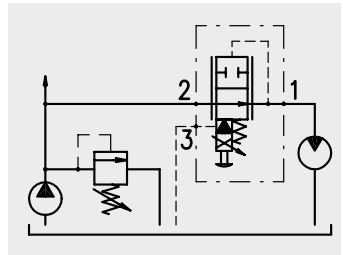
# Pressure reducing valves

**Index**

Hydraulic diagram	Type	Description	Maximum flow up to		Maximum pressure		Page
			l/min	US gpm	bar	psi	
	RM..W	Proportional pressure control valve, reducing/relieving, pilot operated, spool type	150	40	350	5100	23

**Operation**

The RM...W permits free oil flow from 2 to 1 while port 3 is always connected to tank. When pressure in 1 is the same as the valve set pressure, the spool restricts the passage between 2 and 1 so that pressure in 1 remains constant. Push-button operation allowed. (if used with energized magnet, the valve will change the actual pressure setting).



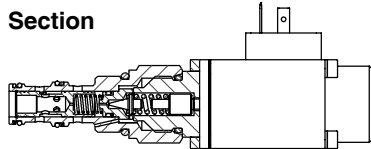
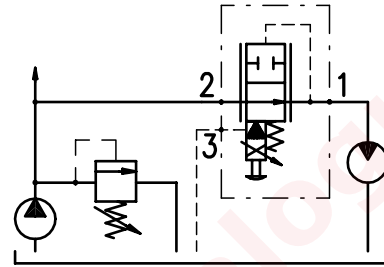
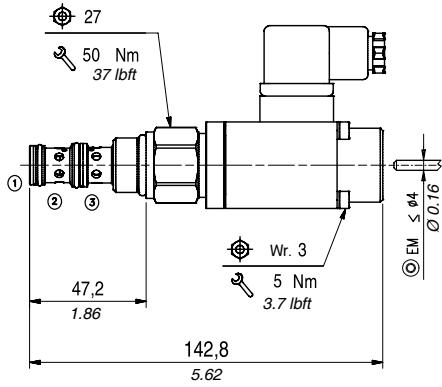
**Performance**

**Cartridges**

Type RM..W	Maximum flow		Maximum pressure		Nominal and maximum current settings*	Current Dither frequency (Hz)	Hysteresis with 150 Hz current Dither frequency	Relieving pressure range from threshold to maximum control current	Cavities and tools	Weight	
	l/min	US gpm	bar	psi						kg	lb
RM10W	50	13	350	5100	1,25Amp for solenoid 12V 0,68A for solenoid 24V	150	3-4%	1) 5÷50 bar (72.5÷725 psi) 2) 50÷200 bar (725÷2900 psi) 3) 80÷350 bar (1160÷5100 psi) 4) 20÷100 bar (290÷1450 psi)	see cavity SAE 10-3 page 66	0,68	1.50
RM16W	150	40							see cavity SAE 16-3 page 66	0,93	2.05

\*For further information see page 57 M.P.35X35

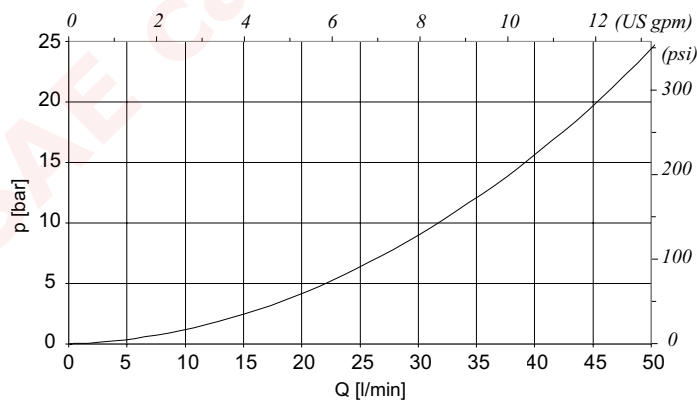
## Dimensions and hydraulic circuit



## Rating diagrams

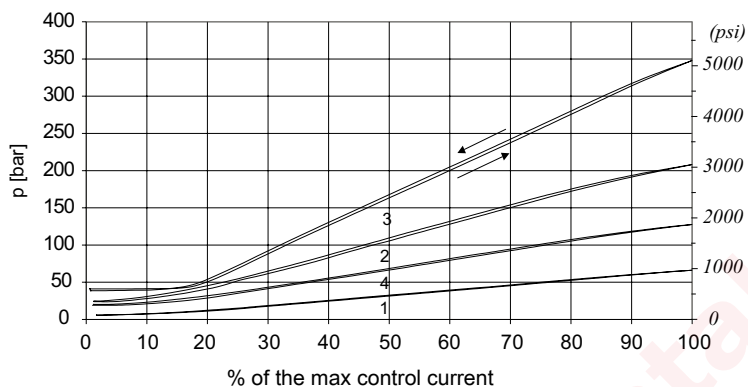
### Typical Pressure drop vs. Flow characteristic 2 → 1

Oil viscosity 46<sub>i</sub> cSt at 40<sub>i</sub> C



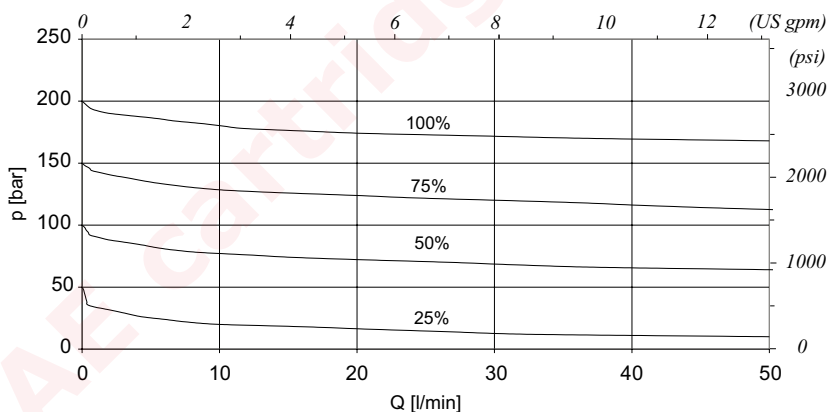
## Pressure setting diagram - % of the max control current

Power supply 12/24 Volt  
Oil viscosity 46 cSt at 40°C



## Pressure adjustment diagram pressure/flow

at change in % of the max control current  
Pressure setting 2 (50-200 bar) - Power supply 12/24 Volt  
Pressure adjustment 2 → 1



Order code

## RM10W / 1 -□ -□ -□

Power supply (Volt)

- 2) 12 Vcc
- 4) 24 Vcc

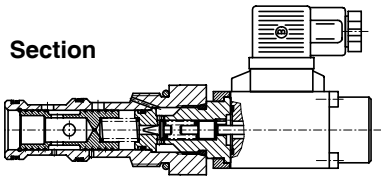
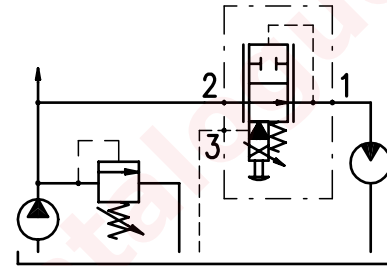
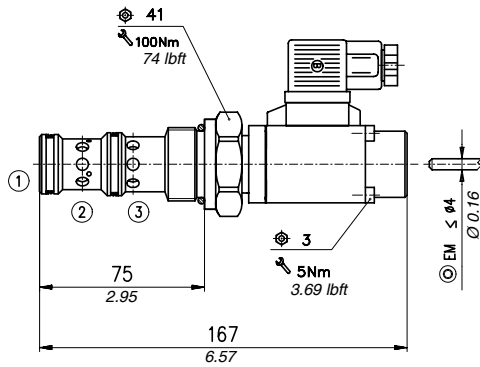
Pressure settings

- 1) 5÷50 bar (72.5÷725 psi)
- 2) 50÷200 bar (725÷2900 psi)
- 3) 80÷350 bar (1160÷5100 psi)
- 4) 20÷100 bar (290÷1450 psi)

Seals

- B) Buna
- V) Viton

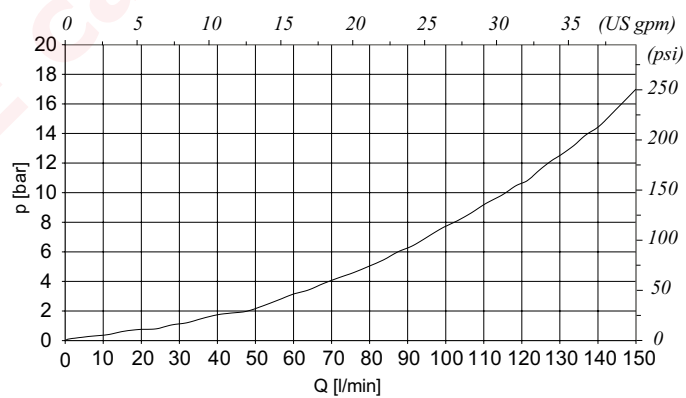
## Dimensions and hydraulic circuit



## Rating diagrams

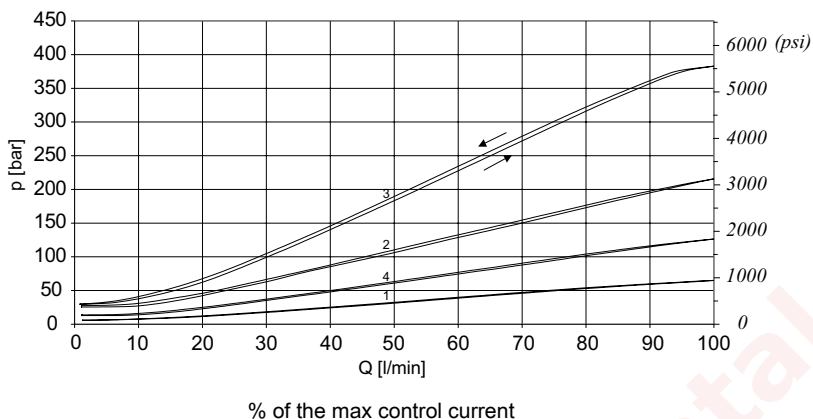
### Typical Pressure drop vs. Flow characteristic 2 → 1

Oil viscosity  $46\text{ cSt}$  at  $40\text{ }^\circ\text{C}$



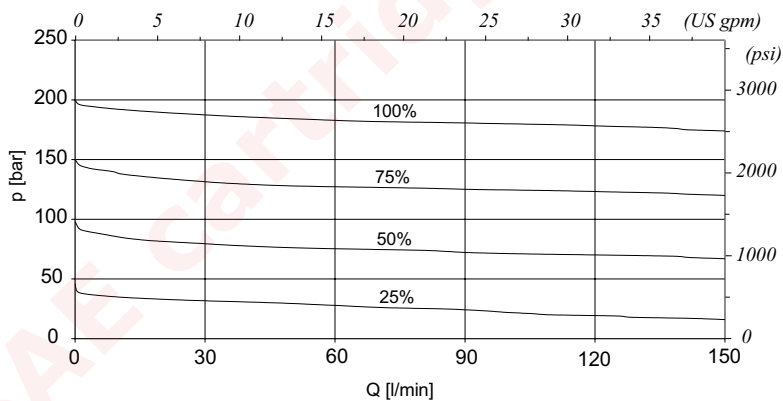
**Pressure setting diagram - % of the max control current**

Power supply 12/24 Volt  
Oil viscosity 46 cSt at 40°C



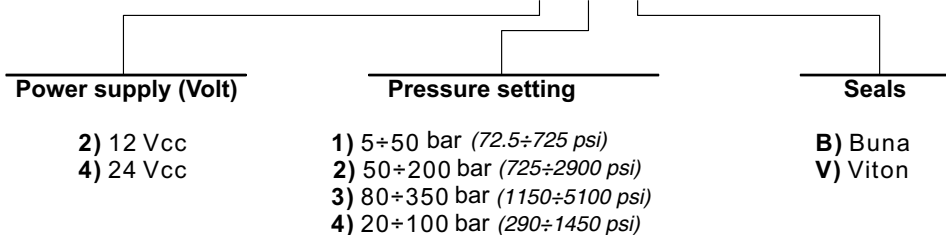
**Pressure adjustment diagram pressure/flow**

at changeament in % of the max control current  
Pressure setting 2 (50-200 bar) - Power supply 12/24 Volt  
Oil viscosity 46 cSt at 40°C  
Pressure adjustment 2 → 1



Order code

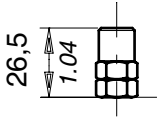
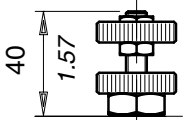
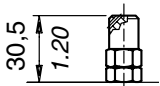
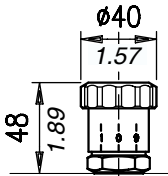
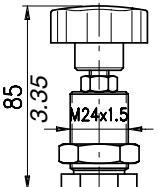
**RM16W / 0 - □ - □ - □**



## 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.

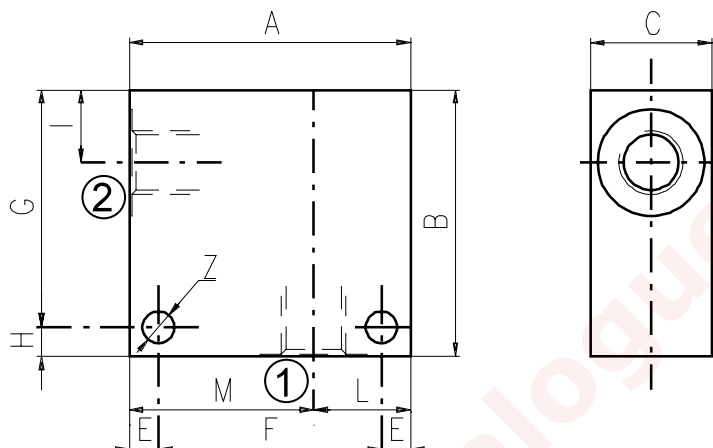
## Performance

	<p><b>Screw "S"</b></p>		<p><b>Handknob "V"</b></p>
	<p><b>Copped adjustment "W"</b></p>		<p><b>Handknob "MG"</b></p>
	<p><b>Handknob "PV"</b></p>		



### Dimensions

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

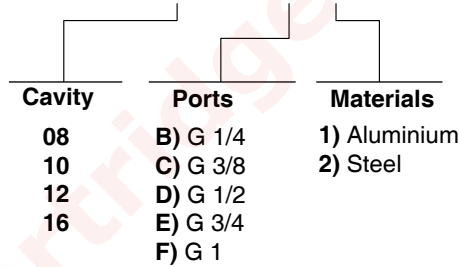


Cavità	Attacchi	A	B	C	E	F	G	H	I	L	M	Z	
SAE 8/2	G 1/2	mm	70	65	35	7	56	53	12	14,5	35	35	6,5
		in	2.75	2.56	1.38	0.27	2.20	2.09	0.47	0.57	1.38	1.38	0.25
	G 1/4	mm	50	50	30	6	38	44	6	14,8	20	30	6,5
		in	1.97	1.97	1.18	0.24	1.50	1.73	0.24	0.58	0.79	1.18	0.25
	G 3/8	mm	50	50	30	6	38	44	6	14,8	20	30	6,5
		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

Cavità	Attacchi	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

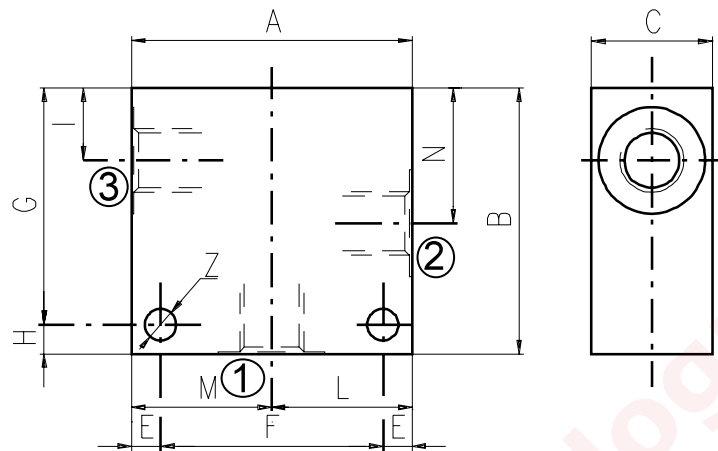
Order code

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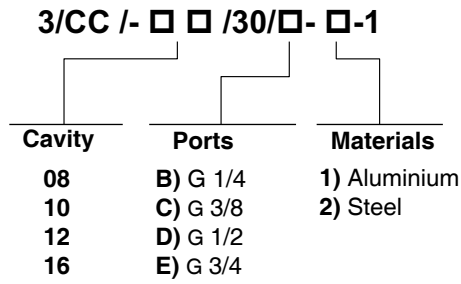


### Dimensions

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



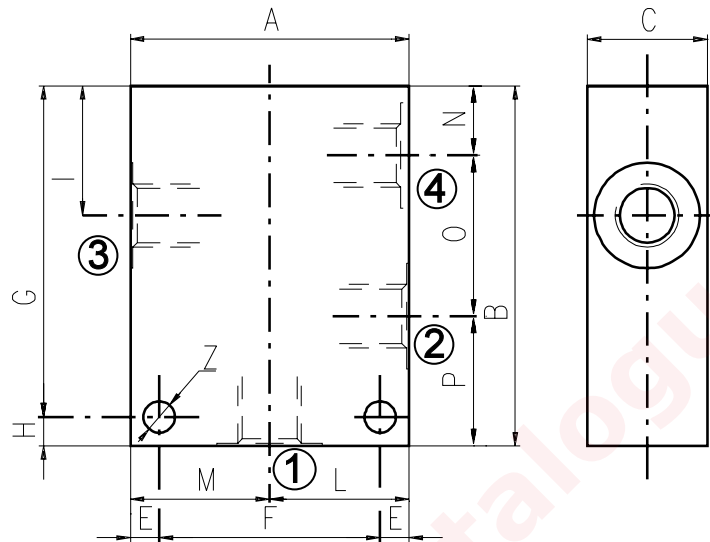
Cavity	Ports		A	B	C	E	F	G	H	I	L	M	N	Z
SAE 8/3	G 1/4	mm	60	60	30	7	46	48	12	14,8	30	30	29,1	6,5
		in	2.36	2.36	1.18	0.27	1.81	1.89	0.47	0.58	1.18	1.18	1.14	0.25
	G 3/8	mm	60	60	30	7	46	48	12	14,5	30	30	29,1	6,5
		in	2.36	2.36	1.18	0.27	1.81	1.89	0.47	0.57	1.18	1.18	1.14	0.25
	G 1/2	mm	70	65	35	7	56	53	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

### Dimensions

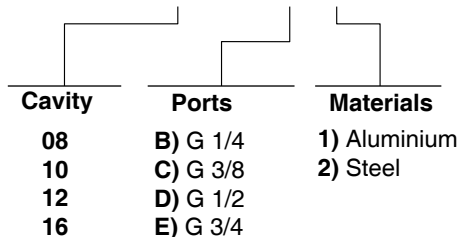
Material	Max. pressure bar	
	bar	psi
Alluminium	210	3050
Steel	350	5100



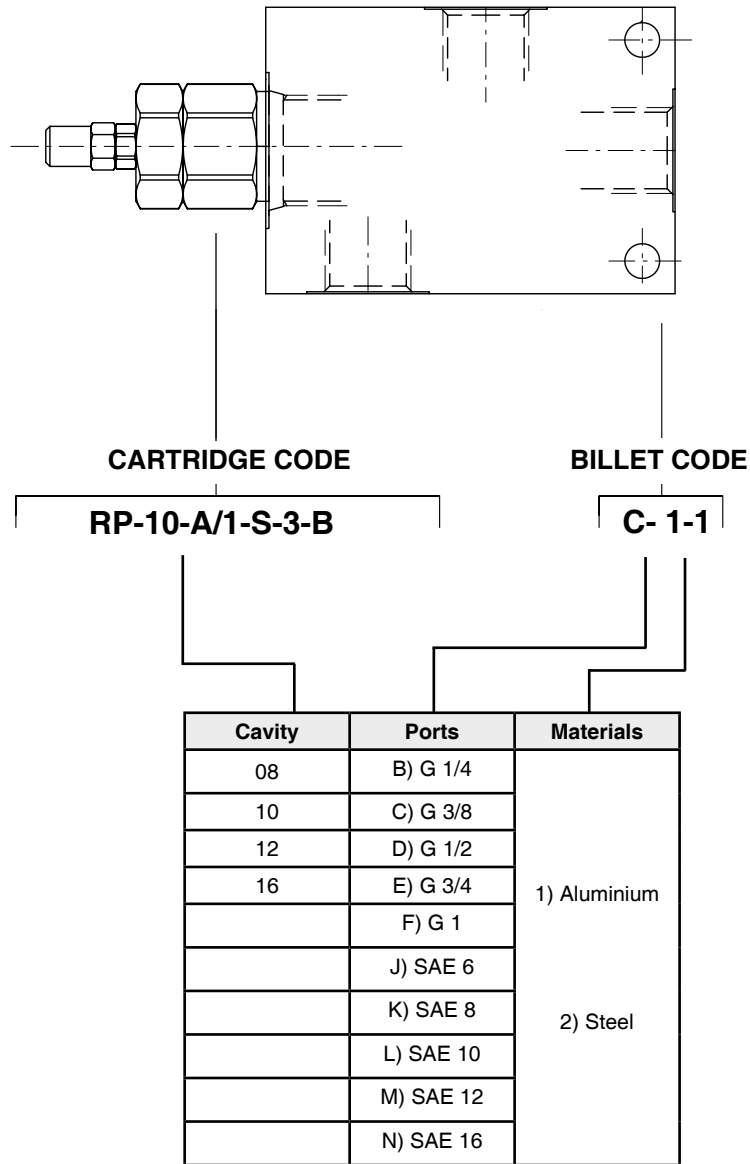
Cavity	Ports	A	B	C	E	F	G	H	I	L	M	N	O	P	Z	
SAE 8/4	G 1/4	mm	60	75	30	7	46	63	12	29,1	30	30	14,8	29,1	31,1	6,5
		in	2.36	2.95	1.18	0.27	1.81	2.48	0.47	1.14	1.18	1.18	0.58	1.14	1.22	0.25
	SAE6	mm	60	75	30	7	46	63	12	29,1	30	30	14,8	29,1	31,1	6,5
		in	2.36	2.95	1.18	0.27	1.81	2.48	0.47	1.14	1.18	1.18	0.58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

### Order code

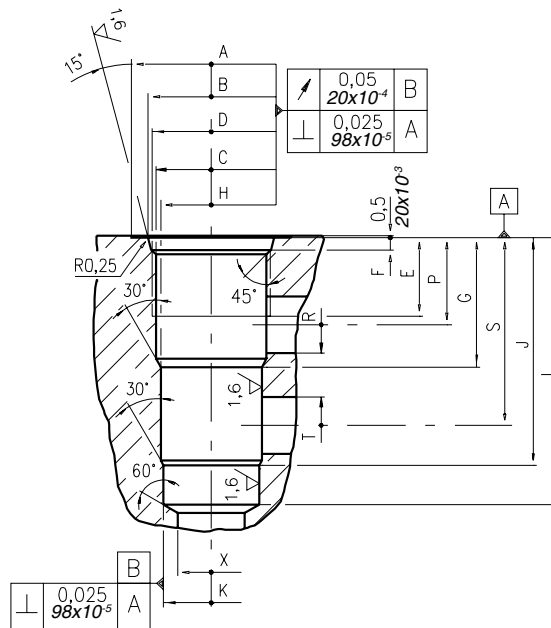
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## How to order valves with body

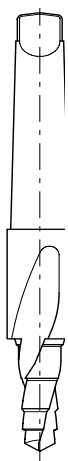


### Dimensions



\	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	
08/3	mm	27	20,66	17,42	3/4-16 UNF	12,50	2,5	19,10	15,90	33,30	14,30	43,30	-	-	14,30	5,50	28,60	5,50	-	-	12,50	-	-
	in	1.06	0.81	0.68		0.49	0.10	0.75	0.62	1.31	0.56	1.70	-	-	0.56	0.22	1.12	0.22	-	-	0.49	-	-
10/3	mm	30	24,00	20,62	7/8-14 UNF	16,00	2,80	23,10	17,50	39,60	15,90	47,60	-	-	18,30	6,50	34,00	6,50	-	-	14,00	-	-
	in	1.18	0.94	0.81		0.63	0.11	0.94	0.69	1.56	0.62	1.87	-	-	0.72	0.25	1.34	0.25	-	-	0.55	-	-
12/3	mm	38	29,23	24,73	1 1/16-12 UNF	19,00	3,56	36,60	23,82	63,50	22,25	75,40	-	-	24,50	16,00	53,00	16,00	-	-	19,00	-	-
	in	1.50	1.15	0.97		0.75	0.14	1.44	0.94	2.5	0.88	2.97	-	-	0.96	0.63	2.09	0.63	-	-	0.75	-	-
16/3	mm	45	35,6	31,34	1 5/16-12 UNF	22,00	3,5	36,50	28,62	64,30	27,02	75,38	-	-	24,60	16,00	53,00	16,00	-	-	19,00	-	-
	in	1.77	1.40	1.23		0.87	0.14	1.44	1.13	2.53	1.06	2.97	-	-	0.97	0.63	2.09	0.63	-	-	0.75	-	-

### Rougher tool



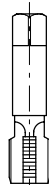
Cavity	Code number
08/3	3UT00052190
10/3	3UT00054170
12/3	3UT00054290
16/3	3UT00054470

### Finisher tool



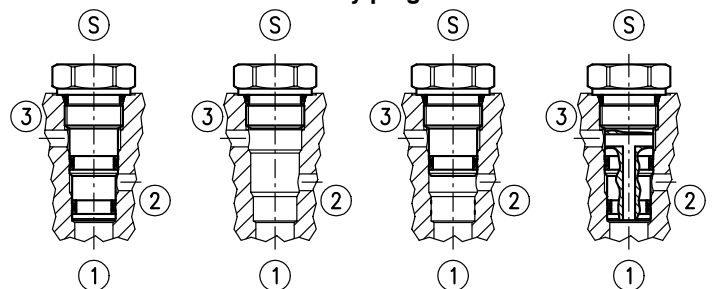
Cavity	Code number
08/3	3UT00052740
10/3	3UT00054180
12/3	3UT00054300
16/3	3UT00054480

### Tap



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

### Cavity plugs



Cavity	Code number	①	②	③	Ⓢ
08/3	3XTP3535100	X	X	X	X
	4TP5531500	0	0	0	X
	3XTP3534000	0	0	X	X
	3XTP3534800	0	X	0	X
10/3	3XTP3545700	X	X	X	X
	3XTP1542300	0	0	0	X
	3XTP3545701	0	X	0	X
12/3	3XTP3558200	X	X	X	X
	3XTP1552900	0	0	0	X
	3XTP35558201	0	X	0	X
16/3	3XTP3578400	X	X	X	X
	3XTP1572900	0	0	0	X

X=Closed 0=Open