

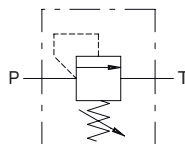
Type VMD..20 pressure relief valves

- Direct acting

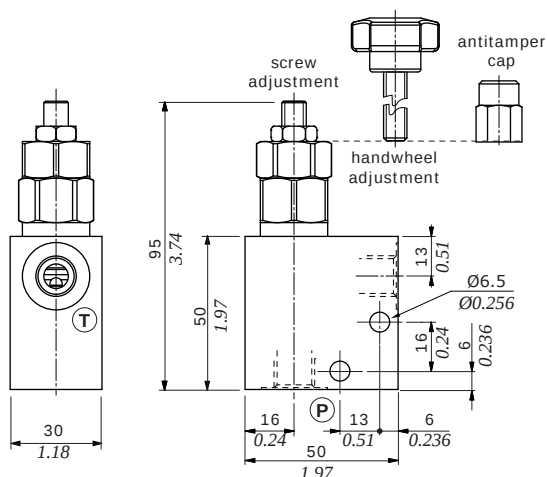
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

VMD..2001		VMD..2002	
Nominal flow	20 l/min (5.3 US gpm)	20 l/min (5.3 US gpm)	
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)		
Fluid	mineral based oil		
Viscosity	from 10 to 200 cSt		
Max. level of contamination	18/16/13 ISO4406		
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)		
Environmental temp.for working conditions	from -40°C (-40°F) to 100°C (212°F)		
Weight	aluminium	0.30 kg (0.66 lb)	0.28 kg (0.62 lb)
	steel	0.61 kg (1.34 lb)	0.59 kg (1.30 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions



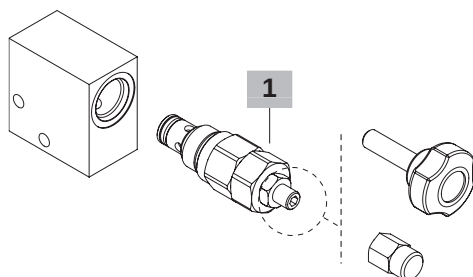
Dimensions are in mm-in

Valve type	All ports
VMD..20 01	G1/4
VMD..20 02	G3/8

Ordering codes and description composition

Port size: **VMD..20 01**
- aluminium
S = steel

Setting range: **B 1**
Adjustment option:
1 = screw type
2 = handwheel type
3 = antitamper cap



Spring type	Setting range bar (psi)	Std. setting bar (psi)
A	5-60 (72.5-870)	30 (432)
B	50-240 (725-3500)	150 (2200)
C	90-350 (130-5100)	250 (3600)
D	20-130 (290-1900)	70 (1000)

VMD..20 complete valves

TYPE CODE DESCRIPTION

Configuration with G1/4 standard thread

VMD2001B1 1110611100 Aluminium body, setting range from 50 to 240 bar (725-3500 psi), std setting 150 bar @ 5 l/min (2200 psi @ 1.32 US gpm)

VMDS2001B1 1110612100 Steel body, as previous

Configuration with G3/8 standard thread

VMD2002B1 1110621100 Aluminium body, setting range from 50 to 240 bar (725-3500 psi), std setting 150 bar @ 5 l/min (2200 psi @ 1.32 US gpm)

VMDS2002B1 1110622100 Steel body, as previous

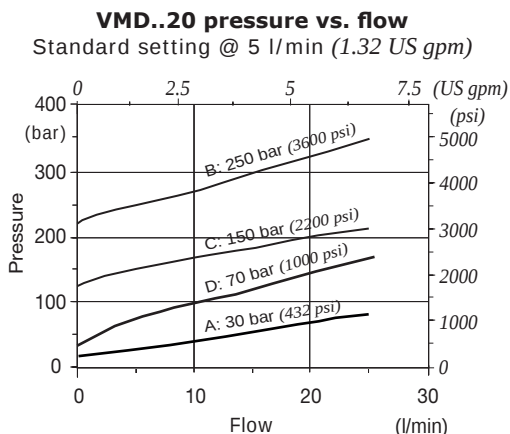
For different configurations and SAE thread please contact our Sales Dpt.

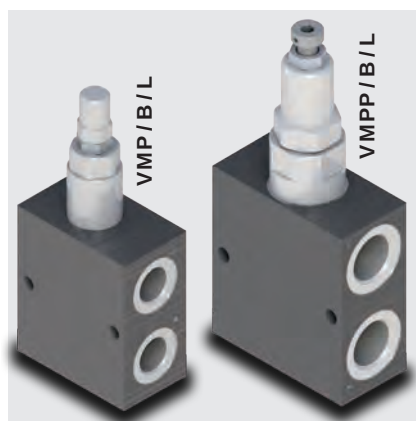
1 Direct acting pressure relief valves

TYPE CODE DESCRIPTION

MC08F/0G2B 0MC08002069 Screw adjustment, setting range from 50 to 240 bar (725-3500 psi)

Rating diagrams





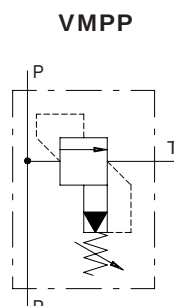
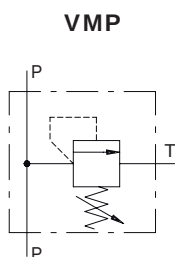
Type VMP/B/L - VMPP/B/L pressure relief valves

- Direct acting
- Piloted operated

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

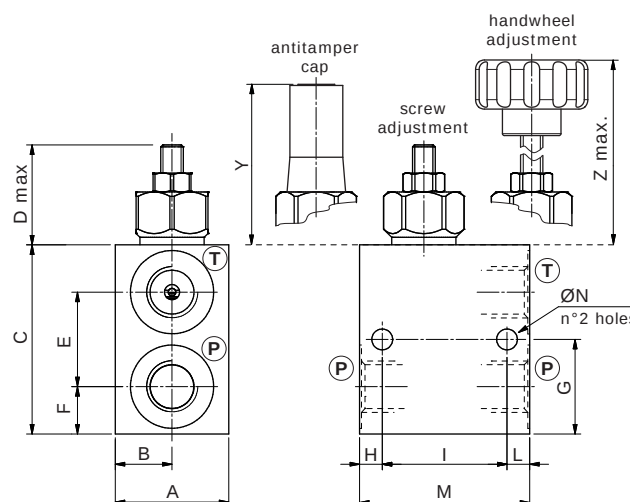
	VMP / B / L						VMPP / B / L			
	02-14	03-14	5-38 5-12	5Y-38	10-12 10-34	20-34 20-100	10-12	20-34 20-100	45-114	
Nominal flow	5 l/min (1.3 US gpm)	10 l/min (2.6 US gpm)	35 l/min (9.2 US gpm)	35 l/min (9.2 US gpm)	60 l/min (16 US gpm)	100 l/min (26.4 US gpm)	70 l/min (18.5 US gpm)	120 l/min (31.7 US gpm)	250 l/min (66 US gpm)	
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)									
Oil leakage at 80% of max. setting	5 cm³/min (0.30 in³/min)	5 cm³/min (0.30 in³/min)	3 cm³/min (0.18 in³/min)	1 cm³/min (0.06 in³/min)	3 cm³/min (0.18 in³/min)	3 cm³/min (0.18 in³/min)	20 cm³/min (1.22 in³/min)	25 cm³/min (1.52 in³/min)	40 cm³/min (2.44 in³/min)	
Fluid	mineral based oil									
Viscosity	from 10 to 200 cSt									
Max. level of contamination	18/16/13 ISO4406									
Fluid temp.	with NBR seals from -20°C (-4°F) to 80°C (176°F)									
Environmental temp. for wor- king conditions	from -40°C (-40°F) to 100°C (212°F)									
Weight	alum.	0.21 kg (0.46 lb)	0.40 kg (0.88 lb)	38: 0.48 kg (1.06 lb)	0.47 kg (1.04lb)	12: 0.66kg (1.46 lb)	34: 1.18 kg (2.60 lb)	0.66 kg (1.46 lb)	34: 1.27 kg (2.80 lb)	2.73 kg (6.02 lb)
				12: 0.46 kg (1.01 lb)		34: 0.76 kg (1.68 lb)	100: 1.77 kg (3.90 lb)		100: 1.85 kg (4.08 lb)	
	steel	0.99 kg (2.18 lb)	0.85 kg (1.87 lb)	38: 1.08 kg (2.38 lb)	12: 0.99 kg (2.18 lb)	12: 1.40 kg (3.09lb)	34: 2.52 kg (5.56 lb)	1.39 kg (3.06 lb)	34: 2.60 kg (5.73 lb)	6.12 kg (13.49 lb)
				12: 0.99 kg (2.18 lb)		34: 1.67 kg (3.68 lb)	100: 4.08 kg (8.99 lb)		100: 4.16 kg (9.17 lb)	

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions

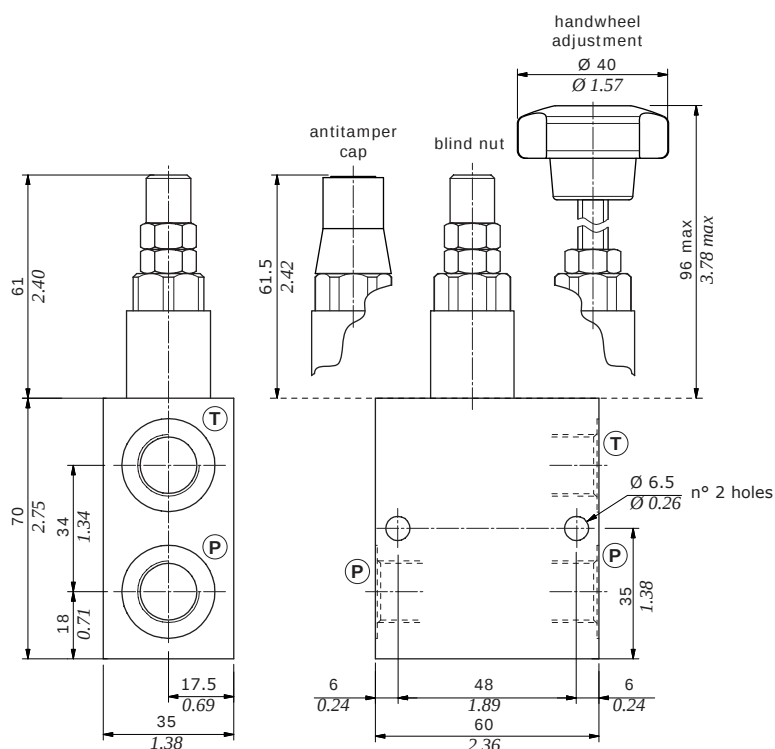
Valve type	All ports
VMP/B/L 02-14	G1/4
VMP/B/L 03-14	G1/4
Valve type	All ports
VMP/B/L 02-14/SAE	SAE6
VMP/B/L 03-14/SAE	SAE6



Dimensions are in mm-in

Valve type	A	B	C	D max	E	F	G	H-L	I	M	ØN	Y	ØK	Z max
VMP/B/L 02-14	30-1.18	15-0.59	50-1.97	29-1.14	25-0.98	12.5-0.49	25-0.98	6-0.24	33-1.30	45-1.77	5.5-0.22	42.5-1.67	30-1.18	49-1.93
VMP/B/L 02-14/SAE	30-1.18	15-0.59	50-1.97	29-1.14	25-0.98	12.5-0.49	25-0.98	6-0.24	33-1.30	45-1.77	5.5-0.22	42.5-1.67	30-1.18	49-1.93
VMP/B/L 03-14	30-1.18	15-0.59	60-2.36	53-2.09	32-1.26	14-0.55	30-1.18	6-0.24	48-1.89	60-2.98	6.5-0.25	52-2.05	40-1.57	86.5-3.41
VMP/B/L 03-14/SAE	30-1.18	15-0.59	60-2.36	53-2.09	32-1.26	14-0.55	30-1.18	6-0.24	48-1.89	60-2.98	6.5-0.25	52-2.05	40-1.57	86.5-3.41

Valve type	All ports
VMP/B/L 5-38	G3/8
VMP/B/L 5-12	G1/2
VMP/B/L 5Y-38	G3/8
VMP/B/L 5Y-12	G1/2
Valve type	All ports
VMP/B/L 5-38/SAE	SAE8
VMP/B/L 5-12/SAE	SAE10
VMP/B/L 5Y-38/SAE	SAE8
VMP/B/L 5Y-12/SAE	SAE10



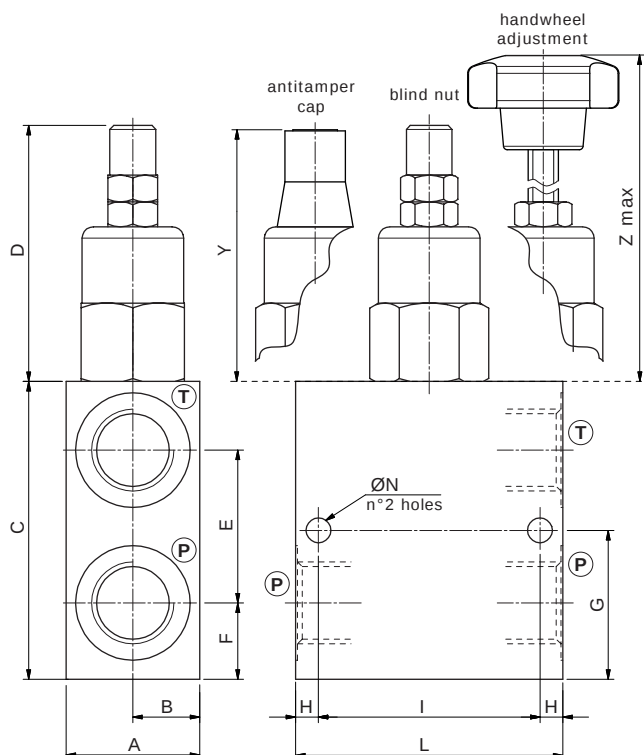
Ordering codes

Valve type	All ports	Valve type	All ports
VMP/B/L 10-12	G1/2	VMP/B/L 10-12/SAE	SAE10
VMP/B/L 10-34	G3/4	VMP/B/L 10-34/SAE	SAE12
VMP/B/L 20-34	G3/4	VMP/B/L 20-34/SAE	SAE12
VMP/B/L 20-100	G1"	VMP/B/L 20-100/SAE	SAE16

Dimensions are in mm-in

Valve type	A	B	C	D	E	E
VMP/B/L 10-12	35-1.38	17.5-0.69	78-3.07	67-2.64	40-2.28	40-2.28
VMP/B/L 10-12/SAE						
VMP/B/L 10-34	40-1.57	20-0.79	90-3.54	67-2.64	50-1.97	50-1.97
VMP/B/L 10-34/SAE						
VMP/B/L 20-34	50-1.97	25-0.98	100-3.94	76.5-3.01	57-2.24	57-2.24
VMP/B/L 20-34/SAE						
VMP/B/L 20-100	60-3.34	30-1.18	120-4.72	76.5-3.01	65-2.56	65-2.56
VMP/B/L 20-100/SAE						

F	G	H	I	L	ØN	ØK	Y	Z max
20-0.79	39-1.53	6-0.24	70-2.75	58-2.28	6.5-0.25	40-1.57	64.7-2.55	98-3.59
20-0.79	45-1.77	8-0.31	70-2.75	54-2.12	8.5-0.33	40-1.57	64.7-2.55	98-3.59
22-0.87	50-1.97	8-0.31	70-2.75	54-2.12	8.5-0.33	40-1.57	74-2.91	89.5-3.52
30-1.18	63-2.48	10-0.39	85-3.34	65-2.56	8.5-0.33	40-1.57	74-2.91	89.5-3.52

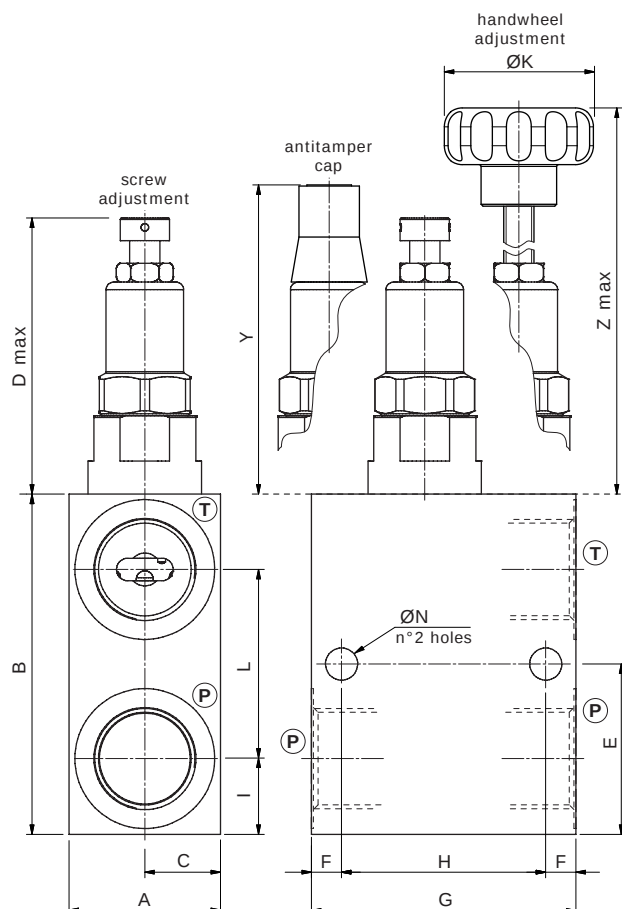


Valve type	All ports	Valve type	All ports
VMPP/B/L 10-12	G1/2	VMPP/B/L 10-12/SAE	SAE10
VMPP/B/L 20-34	G3/4	VMPP/B/L 20-34/SAE	SAE12
VMPP/B/L 20-100	G1"	VMPP/B/L 20-100/SAE	SAE16
VMPP/B/L 45-114	G1 1/4	VMPP/B/L 45-114/SAE	SAE20

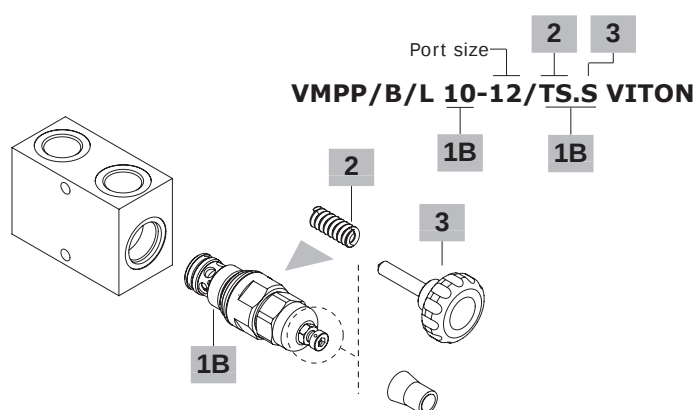
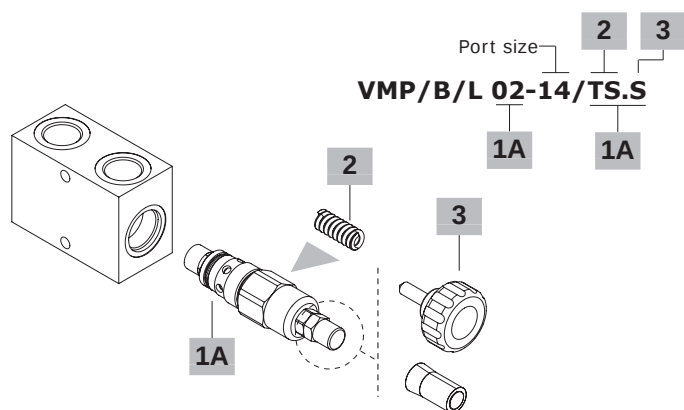
Dimensions are in mm-in

Valve type	A	B	C	D max	E	F
VMPP/B/L 10-12	35-1.38	78-3.07	17.5-0.69	74.3-2.96	39-1.53	6-0.24
VMPP/B/L 10-12/SAE						
VMPP/B/L 20-34	50-1.97	100-3.94	25-0.98	77.5-3.05	50-1.97	8-0.31
VMPP/B/L 20-34/SAE						
VMPP/B/L 20-100	60-2.36	120-4.72	30-1.18	77.5-3.05	63-2.48	10-0.39
VMPP/B/L 20-100/SAE						
VMPP/B/L 45-114	70-2.75	135-5.31	35-1.38	94.5-3.72	70-2.75	10-0.39
VMPP/B/L 45-114/SAE						

G	H	I	L	ØN	Y	ØK	Z max
70-2.75	58-2.28	20-0.79	40-1.57	6.5-0.25	25.5-1	40-1.57	56-2.2
70-2.75	54-2.12	22-0.87	57-2.44	8.5-0.33	25.5-1	40-1.57	56-2.2
85-3.34	65-2.56	30-1.18	65-2.56	8.5-0.33	25.5-1	40-1.57	56-2.2
100-3.94	80-3.15	35-1.38	68-2.68	10.5-0.41	28-1.10	40-1.57	56-2.20



Ordering codes and description composition



VMP/B/L complete direct acting valves

TYPE	CODE	DESCRIPTION
Configuration with G1/4 standard thread		
<i>Standard setting 150 bar @ 3 l/min (2175 psi @ 0.79 US gpm)</i>		
VMP/B/L 02-14/TS.G	1111001104	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 02-14/TS.G/ac	1111002103	Steel body, as previous one
VMP/B/L 03-14/TS.S	1111011104	Aluminium body, range 50-200 bar (725-3200 psi)
VMP/B/L 03-14/TS.S/ac	1111012101	Steel body, as previous one
Configuration with G3/8 standard thread		
<i>Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)</i>		
VMP/B/L 5-38/TS.S	1111021104	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 5-38/TS.S/ac	1111022101	Steel body, as previous one
VMP/B/L 5Y-38/TS.S	1111021116	Aluminium body, range 50-220 bar (725-3200 psi)
Configuration with G1/2 standard thread		
<i>Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)</i>		
VMP/B/L 5-12/TS.S	1111021154	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 5-12/TS.S/ac	1111022150	Steel body, as previous one
VMP/B/L 10-12/TS.S	1111031104	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 10-12/TS.S/ac	1111032100	Steel body, as previous one
Configuration with G3/4 standard thread		
<i>Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)</i>		
VMP/B/L 10-34/TS.S	1111031154	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 10-34/TS.S/ac	1111032151	Steel body, as previous one
VMP/B/L 20-34/TS.S	1111041104	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 20-34/TS.S/ac	1111042102	Steel body, as previous one
Configuration with G1" standard thread		
<i>Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)</i>		
VMP/B/L 20-100/TS.S	1111041154	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 20-100/TS.S/ac	1111042150	Steel body, as previous one
Configuration with SAE6 standard thread		
<i>Standard setting 150 bar @ 3 l/min (2175 psi @ 0.79 US gpm)</i>		
VMP/B/L 02-14/TS.G/SAE	1111001201	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 03-14/TS.S/SAE	1111011200	Aluminium body, range 50-200 bar (725-3200 psi)
Configuration with SAE8 standard thread		
<i>Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)</i>		
VMP/B/L 5-38/TS.S/SAE	1111021200	Aluminium body, range 50-220 bar (725-3200 psi)
Configuration with SAE10 standard thread		
<i>Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)</i>		
VMP/B/L 5-12/TS.S/SAE	1111021250	Aluminium body, range 50-220 bar (725-3200 psi)
VMP/B/L 10-12/TS.S/SAE	1111031200	Aluminium body, range 50-220 bar (725-3200 psi)

VMP/B/L complete direct acting valves (cont.)

Configuration with SAE12 standard thread

Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)

VMP/B/L 10-34/TS.S/SAE 1111031250 Aluminium body, range 50-220 bar (725-3200 psi)

VMP/B/L 20-34/TS.S/SAE 1111041200 Aluminium body, range 50-220 bar (725-3200 psi)

Configuration with SAE16 standard thread

Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)

VMP/B/L 20-100/TS.S/SAE 1111041250 Aluminium body, range 50-220 bar (725-3200 psi)

VMPP/B/L complete pilot operated valves

Configuration with G1/2 standard thread

Standard setting 120 bar @ 10 l/min (1740 psi @ 2.64 US gpm)

TYPE: VMPP/B/L 10-12/TS.W VITON CODE: 1132031100

DESCRIPTION: Aluminium body, range 20-400 bar (290-5800 psi)

TYPE: VMPP/B/L 10-12/TS.W/ac VITON CODE: 1132032100

DESCRIPTION: Steel body, as previous one

Configuration with G3/4 standard thread

Standard setting 120 bar @ 10 l/min (1740 psi @ 2.64 US gpm)

TYPE: VMPP/B/L 20-34/TS.W VITON CODE: 1132041100

DESCRIPTION: Aluminium body, range 20-400 bar (290-5800 psi)

TYPE: VMPP/B/L 20-34/TS.W/ac VITON CODE: 1132042100

DESCRIPTION: Steel body, as previous one

Configuration with G1" standard thread

Standard setting 120 bar @ 10 l/min (1740 psi @ 2.64 US gpm)

TYPE: VMPP/B/L 20-100/TS.W VITON CODE: 1132041150

DESCRIPTION: Aluminium body, range 20-400 bar (290-5800 psi)

TYPE: VMPP/B/L 20-100/TS.W/ac VITON CODE: 1132042151

DESCRIPTION: Steel body, as previous one

Configuration with G1 1/4 standard thread

Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)

TYPE: VMPP/B/L 45-114/TS.S CODE: 1132061104

DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi)

TYPE: VMPP/B/L 45-114/TS.S/ac CODE: 1132062101

DESCRIPTION: Steel body, as previous one

Configuration with SAE10 standard thread

Standard setting 120 bar @ 10 l/min (1740 psi @ 2.64 US gpm)

TYPE: VMPP/B/L 10-12/TS.W SAE VITON CODE: 1132031200

DESCRIPTION: Aluminium body, range 20-400 bar (290-5800 psi)

Configuration with SAE12 standard thread

Standard setting 120 bar @ 10 l/min (1740 psi @ 2.64 US gpm)

TYPE: VMPP/B/L 20-34/TS.W SAE VITON CODE: 1132041200

DESCRIPTION: Aluminium body, range 20-400 bar (290-5800 psi)

Configuration with SAE20 standard thread

Standard setting 160 bar @ 5 l/min (2320 psi @ 1.32 US gpm)

TYPE: VMPP/B/L 45-114/TS.S/SAE CODE: 1132061200

DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi)

For other steel body configurations, SAE thread and configurations with FPM (Viton) seals, please contact our Sales Dept.

Ordering codes and description composition

1A Direct acting pressure relief valves

TYPE	CODE	DESCRIPTION
For G1/4 ports configuration		
VMP 02/TS.G	1100000101	Range 50-220 bar (725-3200 psi)
For VMP/B/L 03-14 valve		
MC08A/0S2B	0MC08002000	Range 50-200 bar (725-2900 psi)
MC08R/0Y2B	0MC08002051	Range 40-200 bar (580-2900 psi)
For G3/8 and G1/2 ports configuration		
VMP 5/TS.S	1100520400	Range 50-220 bar (725-3200 psi)
VMP 5Y/TS.S	1100520406	Range 140-190 bar (2030-2755 psi)
VMP 5J/TS.S	1100520432	Range 63-200 bar (913-2900 psi)
For G1/2 and G3/4 ports configuration		
VMP 10/TS.S	1100530400	Range 50-220 bar (725-3200 psi)
VMP 10Y/TS.S	1100530407	Range 125-250 bar (1810-3600 psi)
For G3/4 and G1" ports configuration		
VMP 20/TS.S	1100540400	Range 50-220 bar (725-3200 psi)
VMP 20Y/TS.S	1100540407	Range 125-250 bar (1810-3600 psi)

1B Pilot operated pressure relief valves

TYPE	CODE	DESCRIPTION
For G1/2 ports configuration		
VMPX 10/1(XG)	XCAR110313	Range 20-400 bar (290-5800 psi)
For G3/4 and G1" ports configuration		
VMPX 20/1(XG)	X007211120	Range 20-400 bar (290-5800 psi)
For G1"1/4 ports configuration		
VMPP 45/TS.S	1130060404	Range 50-250 bar (725-3600 psi)

2 Pressure setting spring

TYPE	CODE	DESCRIPTION
For VMP 02 valve		
TV	3ML1081400	Range 5-80 bar (72.5-1160 psi)
TS	3ML1081401	Range 50-220 bar (725-3200 psi)
TR	3ML1081402	Range 180-350 bar (2600-5100 psi)
For MC08 valve		
TB	3ML1092500	Range 5-50 bar (72.5-725 psi)
TS	3ML1092501	Range 50-200 bar (725-2900 psi)
TR	3ML1092502	Range 180-350 bar (2600-5100 psi)
For VMP 5, VMP 5J and VMPP 45 valves		
TB	3MOL314311	Range 5-40 bar (72.5-580 psi)
TV	3MOL314330	Range 20-80 bar (290-1160 psi)
TS	3MOL315330	Range 50-220 bar (725-3200 psi)
TR	3ML1143600	Range 180-350 bar (2600-5100 psi)

2 Pressure setting spring (continue)

For VMP 5Y valve		
TB	3MOL314311	Range 5-80 bar (72.5-1160 psi)
TV	3MOL314330	Range 40-150 bar (580-2200 psi)
TS	3ML1143400	Range 140-190 bar (2600-5100 psi)
TR	3MOL315330	Range 180-350 bar (2600-5100 psi)
For VMP 10 valve		
TB	3MOL316410	Range 5-40 bar (72.5-580 psi)
TV	3ML1154300	Range 20-80 bar (290-1160 psi)
TS	3MOL317420	Range 50-220 bar (725-3200 psi)
TR	3MOL317440	Range 180-350 bar (2600-5100 psi)
For VMP 10Y valve		
TV	3MOL316580	Range 100-160 bar (1450-3220 psi)
TS	3MOL317560	Range 125-250 bar (1800-3600 psi)
TR	3MOL317570	Range 200-315 bar (2900-4600 psi)
For VMP 20 valve		
TB	3ML1184300	Range 5-40 bar (72.5-580 psi)
TV	3ML1174500	Range 20-80 bar (290-1160 psi)
TS	3ML1204200	Range 50-220 bar (725-3200 psi)
TR	3ML1214500	Range 180-350 bar (2600-5100 psi)
For VMP 20Y valve		
TV	3MOL318690	Range 100-160 bar (1450-3220 psi)
TS	3MOL321621	Range 125-250 bar (1800-3600 psi)
TR	3MOL321620	Range 200-315 bar (2900-4600 psi)

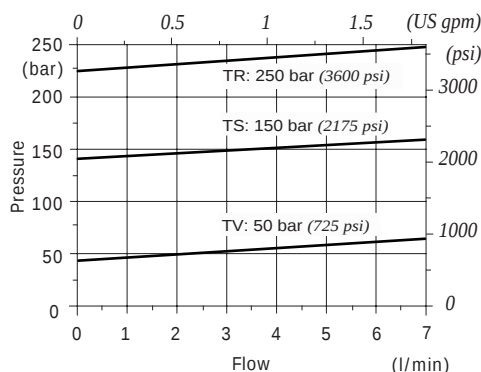
3 Adjusting options

TYPE	CODE	DESCRIPTION
For VMP 02		
G	-	Standard, screw type
V	4VL2307000	Handwheel
X	4COP116420	Antitamper cap
For MC08, VMP 5, VMP 10 and VMPP 45 valves		
S	-	Standard with blind nut
V	4VL2407100	Handwheel
X	4COP120420	Antitamper cap
For VMP 20 valve		
S	-	Standard with blind nut
V	4VL2407101	Handwheel
X	4AC6102800	Antitampering cap
For VMPP 10 and VMPP 20 valves		
W	-	Standard, screw type
V	XVOL105140	Handwheel
Z	5COP120420	Antitamper kit

Rating diagrams

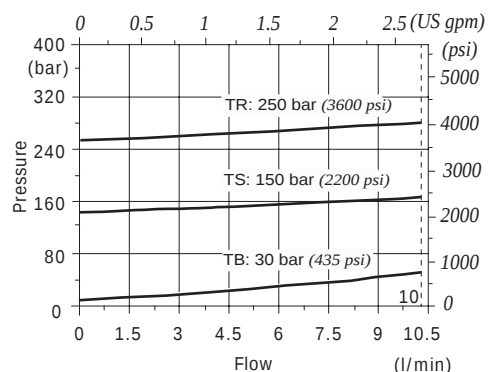
VMP/B/L 02-14 pressure vs. flow

Std. setting @ 3 l/min (0.79 US gpm)



VMP/B/L 03-14 pressure vs. flow

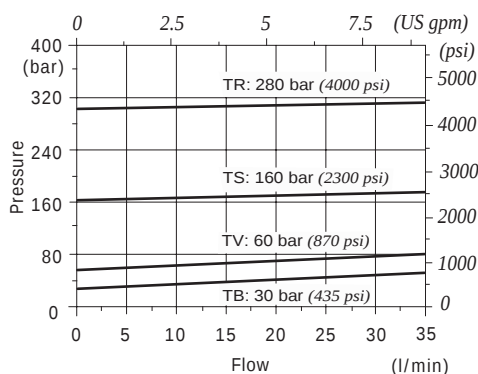
Std. setting @ 5 l/min (1.32 US gpm)



Rating diagrams

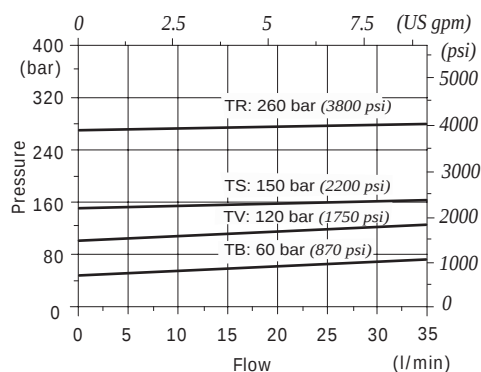
VMP/B/L 5 38-12 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)



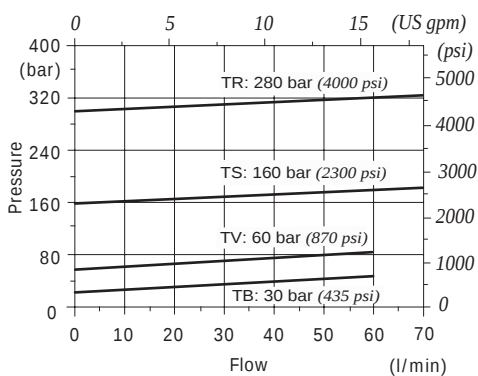
VMP/B/L 5Y 38-12 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)



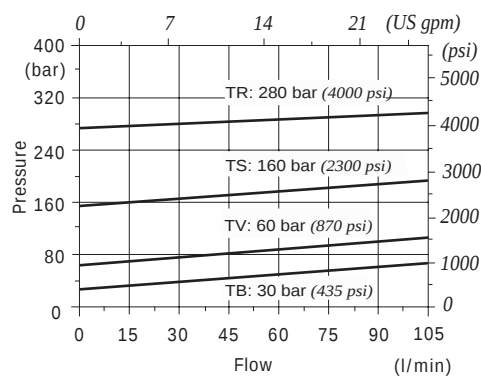
VMP/B/L 10 12-34 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)



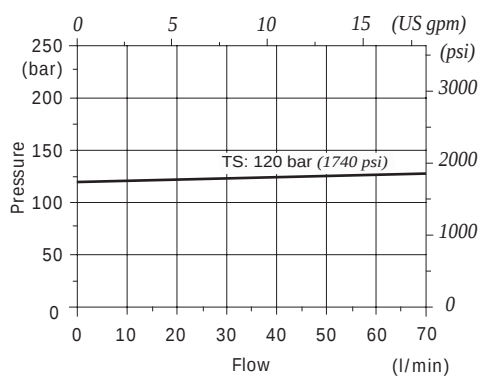
VMP/B/L 20 34-100 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)



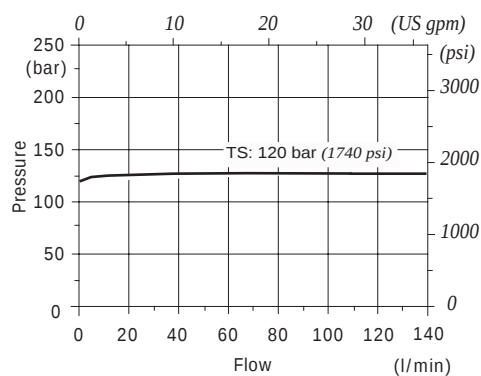
VMPP/B/L 10-12 pressure vs. flow

Std. setting @ 10 l/min (2.64 US gpm)



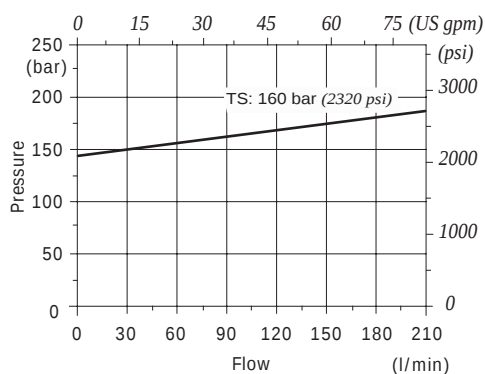
VMPP/B/L 20 34-100 pressure vs. flow

Std. setting @ 10 l/min (2.64 US gpm)



VMPP/B/L 45-114 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)





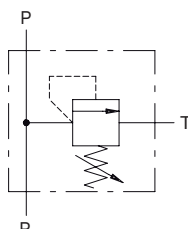
Type VMDL..20 - VMD..35 - VMD..80 pressure relief valves

- Direct acting

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

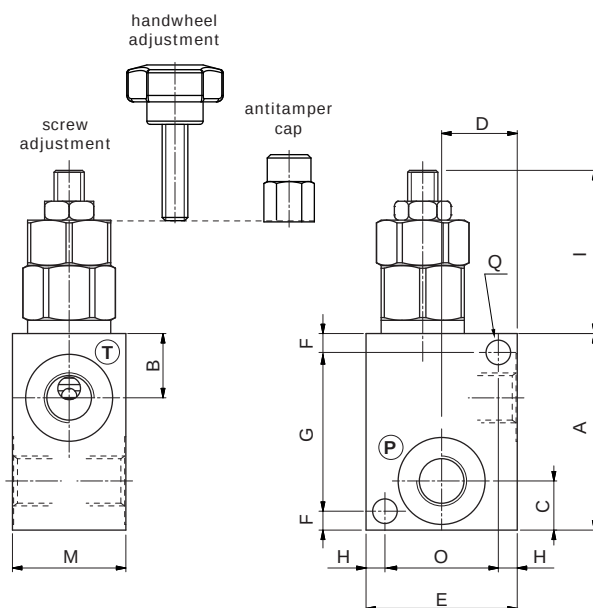
		VMDL..2001	VMDL..2002	VMD..3502	VMD..3503	VMD..8003	VMD..8004
Nominal flow		20 l/min (5.3 US gpm)		35 l/min (9.2 US gpm)		80 l/min (21.1 US gpm)	
Max. pressure		Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)					
Fluid		mineral based oil					
Viscosity		from 10 to 200 cSt					
Max. level of contamination		18/16/13 ISO4406					
Fluid temperature		with NBR seals from -20°C (-4°F) to 80°C (176°F)					
Environmental temp. for working conditions		from -40°C (-40°F) to 100°C (212°F)					
Weight	aluminium	0.24 kg (0.53 lb)	0.24 kg (0.53 lb)	0.40 kg (0.88 lb)	0.39 kg (0.86 lb)	0.72 kg (1.59 lb)	0.72 kg (1.59 lb)
	steel	-	-	0.85 kg (1.87 lb)	0.78 kg (1.72 lb)	1.45 kg (3.20 lb)	1.35 kg (2.98 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.

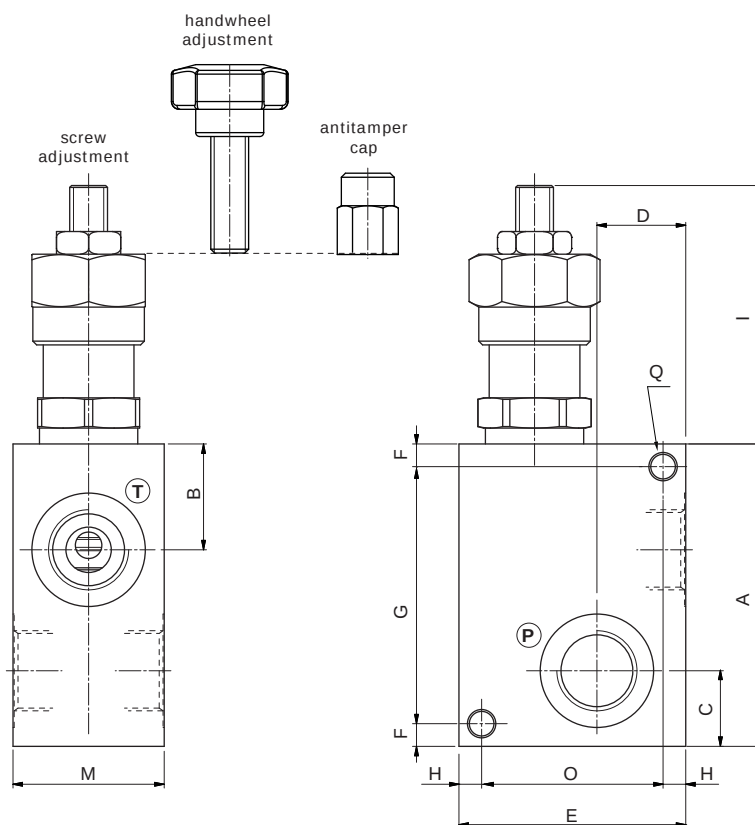


Dimensions

VMDL..20



VMD..35 - VMD..80



Valve type All ports

VMDL..2001	G1/4
VMDL..2002	G3/8
VMD..3502	G3/8
VMD..3503	G1/2
VMD..8003	G1/2
VMD..8004	G3/4

Dimensions are in mm-in

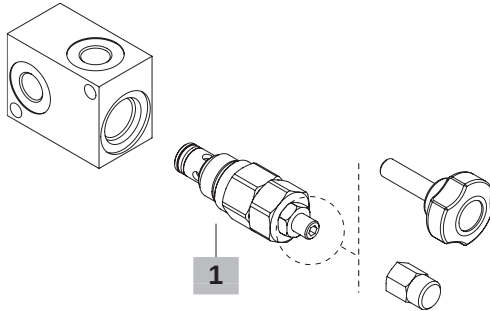
Valve type	A	B	C	D	E	F	G	H	I	M	O	ØQ
VMDL..20	45-1.77	17-0.67	13-0.51	20-0.79	40-1.57	5-0.197	42-1.65	5-0.197	44-1.73	30-1.18	30-1.18	6.5-0.256
VMD..35	65-2.56	24-0.95	17-0.67	20-0.79	50-1.97	5-0.197	53-2.09	6-0.236	64-2.52	35-1.38	34-1.34	6.5-0.256
VMD..80	80-3.15	28-1.10	20-0.79	23.5-0.93	60-2.36	6-0.236	68-2.68	6-0.236	77-3.03	40-1.57	48-1.89	6.5-0.256

Ordering codes and description composition

Port size: 01
- aluminium
S = steel

setting range: B
Adjustment option:
1 = screw type
2 = handwheel type
3 = antitamper cap

1



Type		Setting range bar (psi)	Std. setting bar (psi)
VMDL..20	A	5-60 (72.5-870)	30 (435)
	B	50-240 (725-3500)	150 (2200)
	C	90-350 (130-5100)	250 (3600)
	D	20-130 (290-1900)	70 (1000)
VMD..35	A	5-50 (72.5-725)	30 (4.35)
	B	40-210 (580-3050)	150 (2200)
	C	100-350 (1450-5100)	210 (3050)
VMD..80	A	5-50 (72.5-725)	30 (580)
	B	40-260 (580-3770)	150 (2200)
	C	120-350 (1750-5100)	210 (3050)

VMD complete valves

Standard setting 150 bar @ 5 l/min (2200 psi @ 1.32 US gpm)

TYPE	CODE	DESCRIPTION
------	------	-------------

Configuration with G1/4 standard thread

VMDL2001B1	1110711100	Aluminium body, setting range from 50 to 240 bar (725-3500 psi)
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Configuration with G3/8 standard thread

VMDL2002B1	1110721100	Aluminium body, setting range from 50 to 240 bar (725-3500 psi)
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VMD3502B1	1110821100	Aluminium body, setting range from 40 to 210 bar (580-3050 psi)
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VMDS3502B1	1110822100	Steel body, setting range from 40 to 210 bar (580-3050 psi)
------------	------------	---

Configuration with G1/2 standard thread

VMD3503B1	1110821101	Aluminium body, setting range from 40 to 210 bar (580-3050 psi)
-----------	------------	---

VMD8003B1	1110831100	Aluminium body, setting range from 40 to 260 bar (580-3770 psi)
-----------	------------	---

VMDS3503B1	1110822101	Steel body, setting range from 40 to 210 bar (580-3050 psi)
------------	------------	---

VMDS8003B1	1110832100	Steel body, setting range from 40 to 260 bar (580-3770 psi)
------------	------------	---

Configuration with G3/4 standard thread

VMD8004B1	1110831101	Aluminium body, setting range from 40 to 260 bar (580-3770 psi)
-----------	------------	---

VMDS8004B1	1110832101	Steel body, setting range from 40 to 260 bar (580-3770 psi)
------------	------------	---

For different configurations and SAE thread please contact our Sales Dpt.

1 Direct acting pressure relief valves

Standard setting 150 bar @ 5 l/min (2200 psi @ 1.32 US gpm)

TYPE	CODE	DESCRIPTION
------	------	-------------

For VMDL..20 valve

MC08F/0G2B	OMC08002069	Screw adjustment from 50 to 240 bar (725-3500 psi)
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For VMD..35 valve

VMDC35B1(M20X1,5)	1100220400	Screw adjustment from 40 to 210 bar (580-3050 psi)
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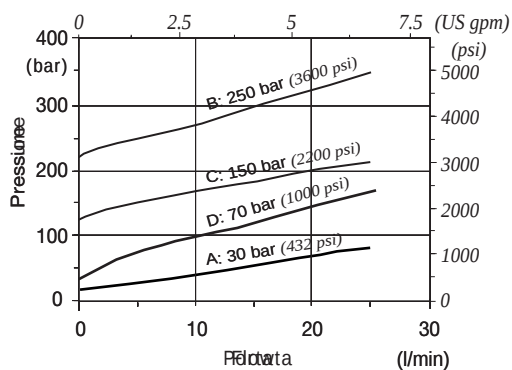
For VMD..80 valve

VMDC80B1(M26X1,5)	1100230400	Screw adjustment from 20 to 260 bar (290-3770 psi)
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Rating diagrams

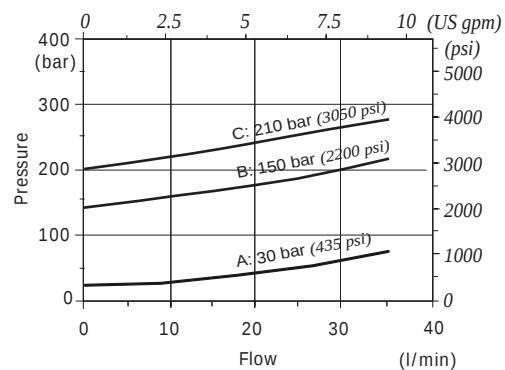
VMDL..20 pressure vs. flow

standard setting @ 5 l/min (1.32 US gpm)



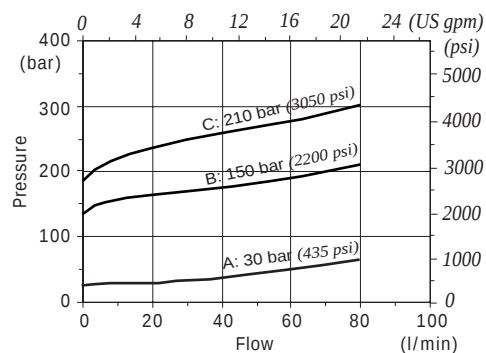
VMD..35 pressure vs. flow

standard setting @ 5 l/min (1.32 US gpm)



VMD..80 pressure vs. flow

standard setting @ 5 l/min (1.32 US gpm)





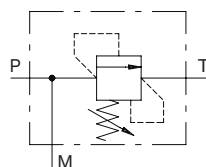
Type VMPD / B pressure relief valves

- Differential pressure relief valve
- Poppet type

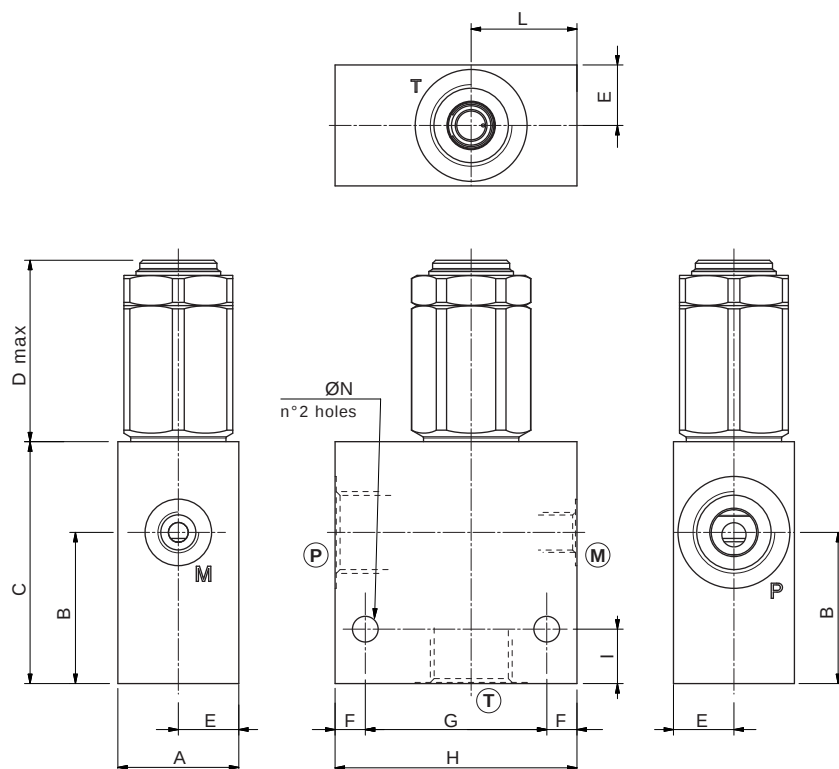
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

		VMPD / B 38	VMPD / B 12	VMPD / B 34	VMPD / B 100
Nominal flow		35 l/min (9.2 US gpm)	60 l/min (16 US gpm)	100 l/min (26.4 US gpm)	180 l/min (47.6 US gpm)
Max. pressure		Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)			
Oil leakage at 80% of max. setting		0.25 cm³/min (0.01 in³/min)			
Fluid		mineral based oil			
Viscosity		from 10 to 200 cSt			
Max. level of contamination		18/16/13 ISO4406			
Fluid temperature		with NBR seals from -20°C (-4°F) to 80°C (176°F)			
Environmental temp. for working conditions		from -40°C (-40°F) to 100°C (212°F)			
Weight	alum.	0.50 kg (1.10 lb)	0.68 kg (1.50 lb)	1.12 kg (2.47 lb)	1.42 kg (3.13 lb)
	steel	0.92 kg (2.03 lb)	1.28 kg (2.82 lb)	2.04 kg (4.50 lb)	2.72 kg (6.65 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions

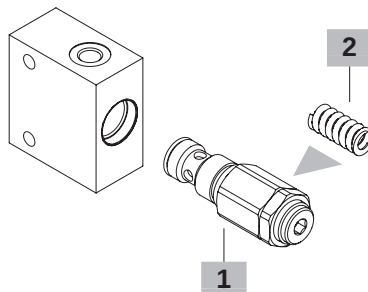
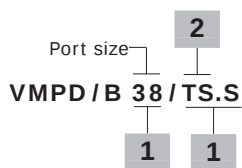


Valve type	T	P	M
VMPD/B 38	G3/8	G3/8	G1/4
VMPD/B 12	G1/2	G1/2	G1/4
VMPD/B 34	G3/4	G3/4	G1/4
VMPD/B 100	G1"	G1"	G1/4

Dimensions are in mm-in

Valve type	A	B	C	D max	E	F	G	H	I	L	ØN
VMPD/B 38	30-1.18	38-1.50	60-2.36	57.7-2.27	15-0.59	10-0.39	40-1.57	60-2.36	15-0.59	30-1.18	6.5-0.25
VMPD/B 12	35-1.38	43-1.69	65-2.55	56.2-2.21	17.5-0.69	10-0.39	50-1.97	70-2.75	15-0.59	33-1.30	8.5-0.33
VMPD/B 34	40-1.57	50-1.97	80-3.15	68.8-2.71	20-0.79	10-0.39	60-2.36	80-3.15	18-0.71	35-1.38	8.5-0.33
VMPD/B 100	50-1.97	59-2.32	90-3.54	68.8-2.71	25-0.98	10-0.39	70-2.75	90-3.54	20-0.79	42-1.65	10.5-0.41

Ordering codes and description composition



VMPD / B complete valves

TYPE	CODE	DESCRIPTION
Configuration with G3/8 standard thread		
VMPD / B 38 / TS.S	1121021102	Aluminium body, setting range 5-210 bar (72.5-3045 psi), std. setting 150 bar @ 5 l/min (2175 psi at 1.32 US gpm)
VMPD / B 38 / TS.S / ac	1121022102	Steel body, as previous one
Configuration with G1/2 standard thread		
VMPD / B 12 / TS.S	1121031102	Aluminium body, setting range 5-210 bar (72.5-3045 psi), std. setting 150 bar @ 5 l/min (2175 psi at 1.32 US gpm)
VMPD / B 12 / TS.S / ac	1121032100	Steel body, as previous one)
Configuration with G3/4 standard thread		
VMPD / B 34 / TS.S	1121041102	Aluminium body, setting range 5-210 bar (72.5-3045 psi), std. setting 150 bar @ 5 l/min (2175 psi at 1.32 US gpm)
VMPD / B 34 / TS.S / ac	1121042100	Steel body, as previous one
Configuration with G1" standard thread		
VMPD / B 100 / TS.S	1121051102	Aluminium body, setting range 5-210 bar (72.5-3045 psi), std. setting 150 bar @ 5 l/min (2175 psi at 1.32 US gpm)
VMPD / B 100 / TR.S / ac	1121052100	Steel body, setting range 50-350 bar (725-5100 psi), std. setting 250 bar @ 5 l/min (3600 psi at 1.32 US gpm)

For other steel body configurations, SAE thread and configurations with FPM (Viton) seals please contact our Sales Dpt.

1 Direct acting pressure relief valves

Standard setting 150 bar at 5 l/min (2175 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
For G3/8 ports configuration		
VMPD 38 / TS.S	1120020402	Setting range 5-210 bar (72.5-3050 psi)
For G1/2 ports configuration		
VMPD 12 / TS.S	1120030402	Setting range 5-210 bar (72.5-3050 psi)
For G3/4 and G1" ports configuration		
VMPD 34 / TS.S	1120040402	Setting range 5-210 bar (72.5-3050 psi)

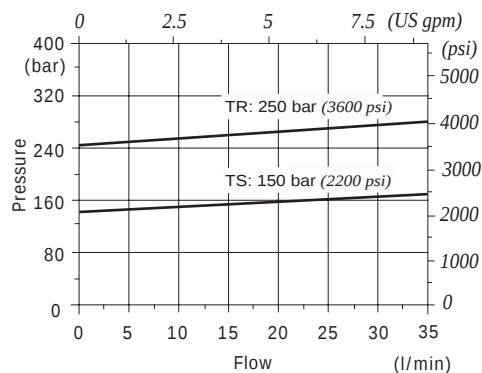
2 Pressure setting spring

TYPE	CODE	DESCRIPTION
For VMPD / B38 valve		
TS	3ML1144000	Setting range 5-210 bar (72.5-3050 psi)
TR	3ML1144001	Setting range 50-350 bar (725-5100 psi)
For VMPD / B12 valve		
TS	3ML1164000	Setting range 5-210 bar (72.5-3050 psi)
TR	3ML1164001	Setting range 50-350 bar (725-5100 psi)
For VMPD / B34 and VMPD / B100 valves		
TS	3ML1194500	Setting range 5-210 bar (72.5-3050 psi)
TR	3ML1194501	Setting range 50-350 bar (725-5100 psi)

Rating diagrams

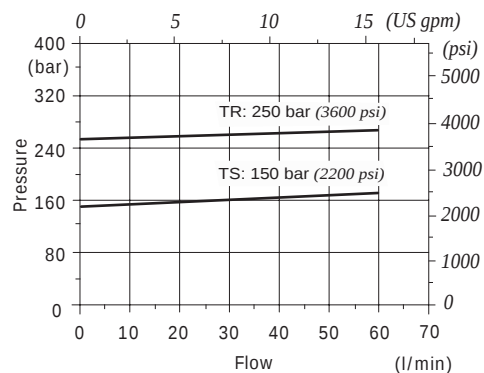
VMPD/B 38 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)



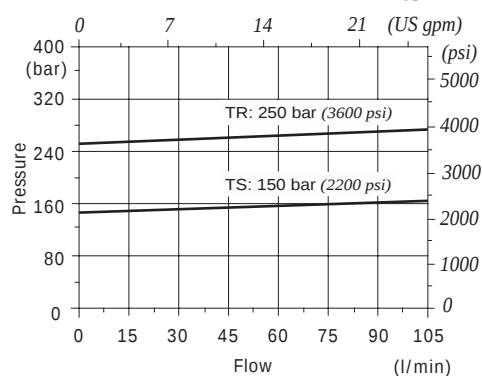
VMPD/B 12 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)



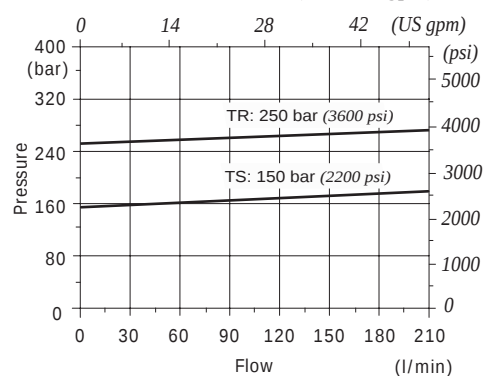
VMPD/B 34 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)



VMPD/B 100 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)





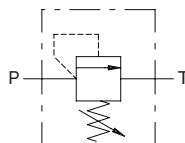
Type VMD150 pressure relief valves

- Differential acting

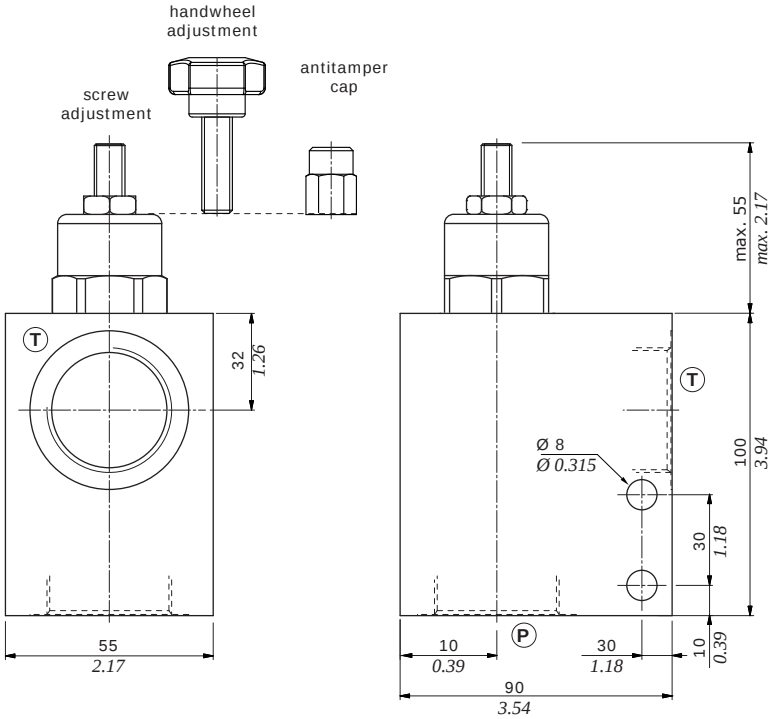
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

VMD15005		VMD15006
Nominal flow	150 l/min (39.6 US gpm)	
Max. pressure	Aluminium body = 210 bar (3050 psi)	
Fluid	mineral based oil	
Viscosity	from 10 to 200 cSt	
Max. level of contamination	18/16/13 ISO4406	
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)	
Environmental temperature for working conditions	from -40°C (-40°F) to 100°C (212°F)	
Weight	aluminium	
	1.49 kg (3.28 lb)	1.41 kg (3.11 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.

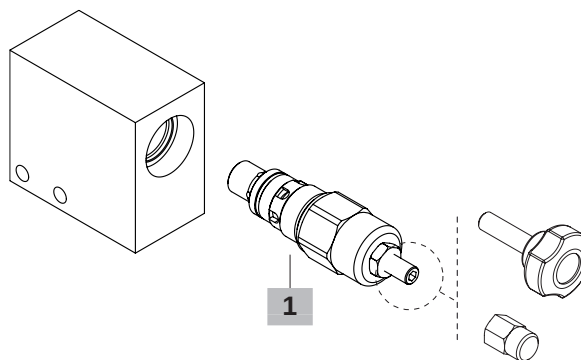
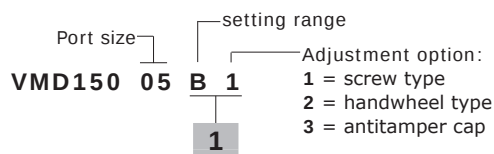


Dimensions



Valve type	All ports
VMD15005	G1"
VMD15006	G1" 1/4

Ordering codes and description composition



VMD150 complete valves

Standard setting 250 bar @ 5 l/min (3600 psi @ 1.32 US gpm)

TYPE	CODE	DESCRIPTION
------	------	-------------

Configuration with G1 standard thread

VMD15005B1	1121251100	Aluminium body, setting range 30-350 bar (435-5100 psi)
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Configuration with G1 1/4 standard thread

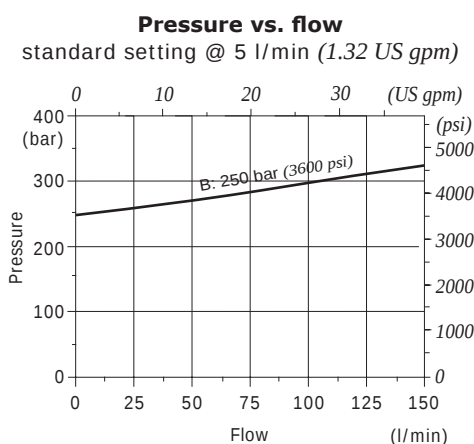
VMD15006B1	1121261100	Aluminium body, setting range 30-350 bar (435-5100 psi)
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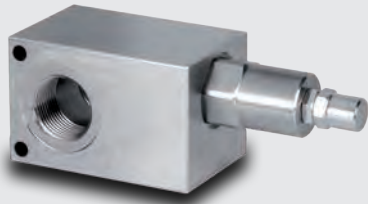
For different configurations and SAE thread please contact our Sales Dpt.

1 Direct acting pressure relief valves

TYPE	CODE	DESCRIPTION
VMDC150B1	1120250400	Screw adjustment, setting range 30-350 bar (435-5100 psi), std setting 250 bar @ 5 l/min (3600 psi @ 1.32 US gpm)

Rating diagrams





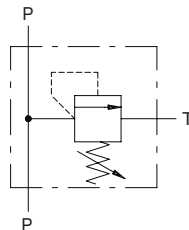
Type VMDS150 pressure relief valves

- Differential acting

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

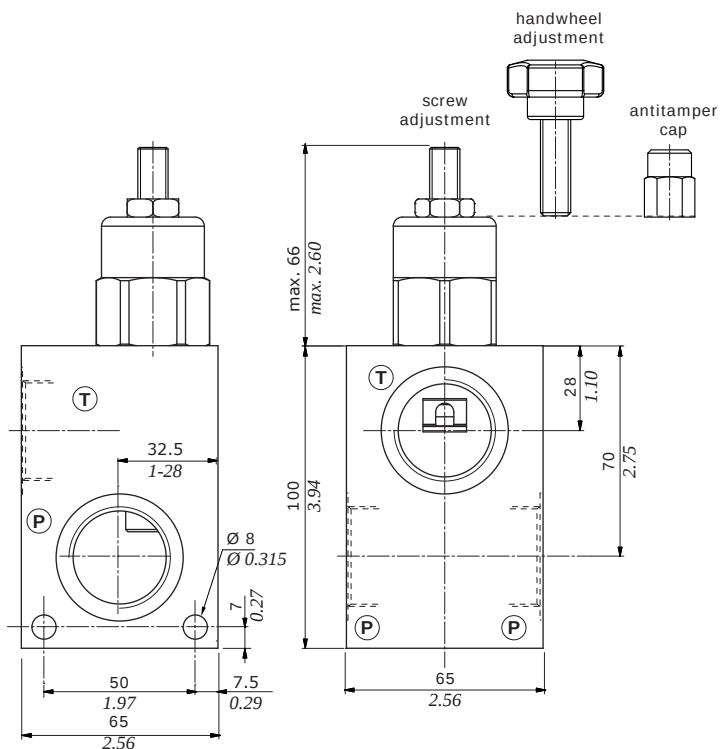
VMDS15005		VMDS15006
Nominal flow	150 l/min (39.6 US gpm)	
Max. pressure	Steel body = 350 bar (5100 psi)	
Fluid	mineral based oil	
Viscosity	from 10 to 200 cSt	
Max. level of contamination	18/16/13 ISO4406	
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)	
Environmental temperature for working conditions	from -40°C (-40°F) to 100°C (212°F)	
Weight	steel	2.76 kg (6.08 lb)
		2.43 kg (5.42 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.

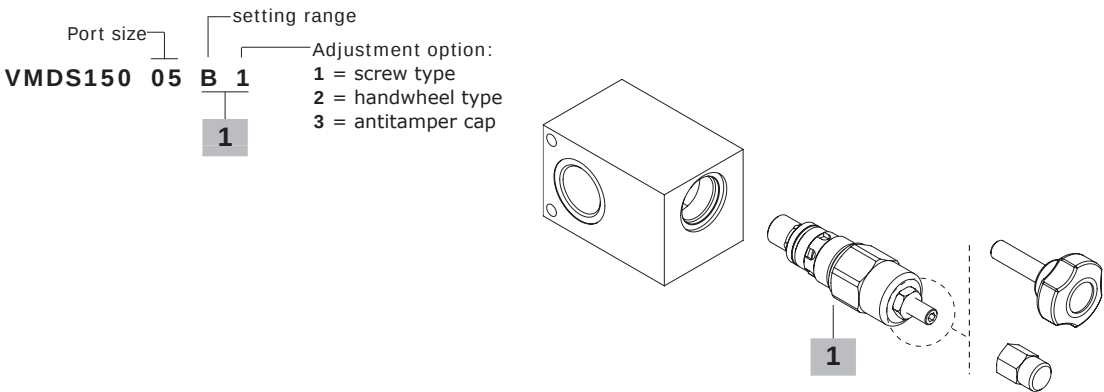


Dimensions

Valve type	All ports
VMDS15005	G1"
VMDS150 06	G1" 1/4



Ordering codes and description composition



VMDS150 complete valves

Standard setting 250 bar @ 5 l/min (3600 psi @ 1.32 US gpm) TYPE

CODE DESCRIPTION

Configuration with G1 standard thread

VMDS15005B1 1121352100 Steel body, setting range
(3 ATTACCHI) 30-350 bar (435-5100 psi)

Configuration with G1 1/4 standard thread

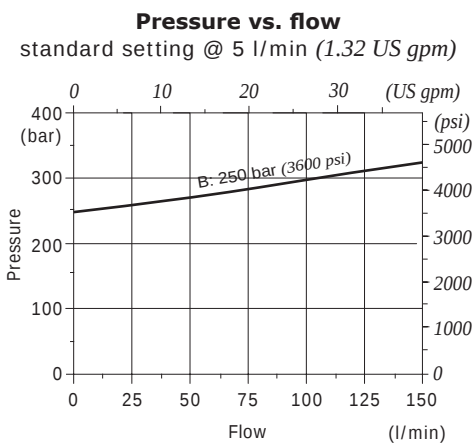
VMDS15006B1 1121362100 Steel body, setting range
(3 ATTACCHI) 30-350 bar (435-5100 psi)

For different configurations and SAE thread please contact our Sales
Dpt.

1 Direct acting pressure relief valves

TYPE	CODE	DESCRIPTION
VMDC150B1	1120250400	Screw adjustment, setting range 30-350 bar (435-5100 psi), std setting 250 bar @ 5 l/min (3600 psi @ 1.32 US gpm)

Rating diagrams





Type VMP / VE pressure relief valves

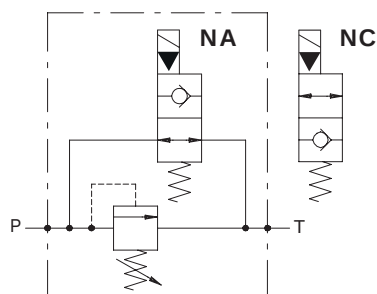
- Piloted operated
- With electric venting

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

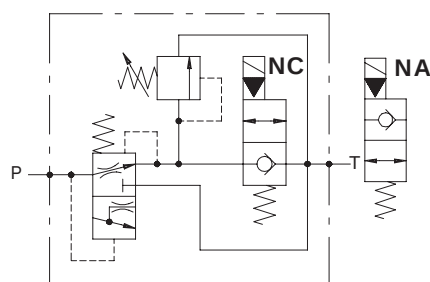
	VMP/VE 14	VMP/VE 38	VMP/VE 12	VMP/VE 34	VMP/VE 100	VMP/VE 114	
Nominal flow	20 l/min (5.3 US gpm)	35 l/min (9.2 US gpm)	90 l/min (23.8 US gpm)	90 l/min (23.8 US gpm)	150 l/min (39.6 US gpm)	250 l/min (66 US gpm)	
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)						
Oil leakage at 80% of max. setting	3 cm³/min (0.18 in³/min)	3 cm³/min (0.18 in³/min)	200 cm³/min (12.20 in³/min)	200 cm³/min (12.20 in³/min)	200 cm³/min (12.20 in³/min)	200 cm³/min (12.20 in³/min)	
Fluid	mineral based oil						
Viscosity	from 10 to 200 cSt						
Max. level of contamination	18/16/13 ISO4406						
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)						
Environmental temp. for working conditions	from -40°C (-40°F) to 100°C (212°F)						
Weight	aluminium	0.67 kg (1.48 lb)	0.66 kg (1.46 lb)	1.42 kg (3.13 lb)	1.26 kg (2.78 lb)	1.92 kg (4.23 lb)	3.77 kg (8.31 lb)
	steel	1.13 kg (2.49 lb)	1.27 kg (2.80 lb)	2.58 kg (5.69 lb)	2.57 kg (5.67 lb)	3.95 kg (8.71 lb)	7.73 kg (17.04 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.

VMP/VE 14-38



VMP/VE 12-34-100-114



Dimensions

Valve type	All ports
------------	-----------

VMP/VE 14 G1/4

VMP/VE 38 G3/8

Valve type	All ports
------------	-----------

VMP/VE 38/SAE SAE8

Dimensions are in mm-in

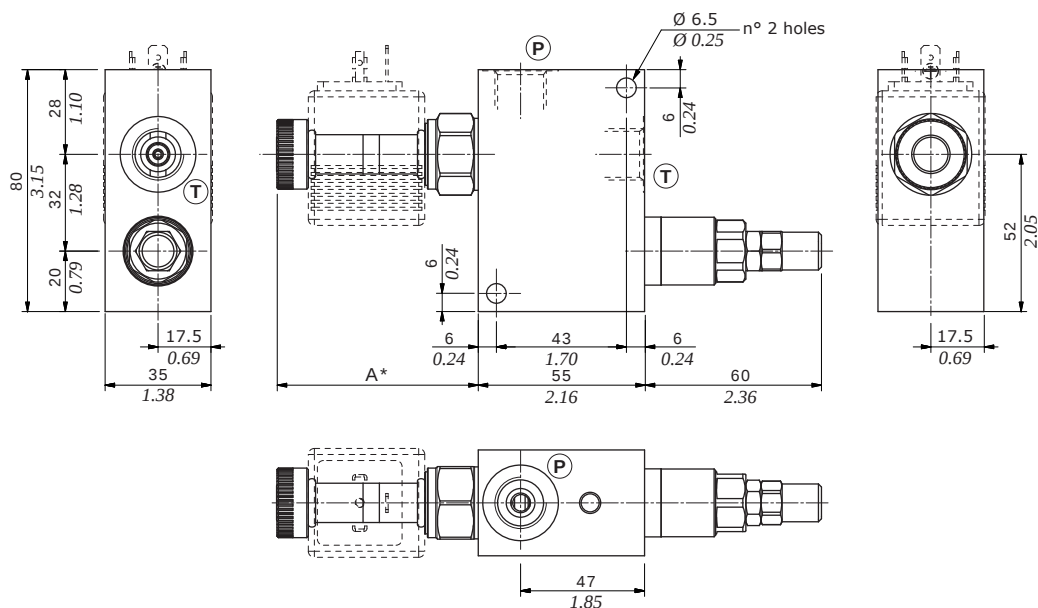
Valve type	A*
------------	----

VMP/VE 14 66.5-2.62

VMP/VE 38 66.5-2.62

VMP/VE 38/SAE 66.5-2.62

(*) With normally open valve



Valve type	All ports
------------	-----------

VMP/VE 12 G1/2

VMP/VE 34 G3/4

VMP/VE 100 G1"

VMP/VE 114 G1 1/4

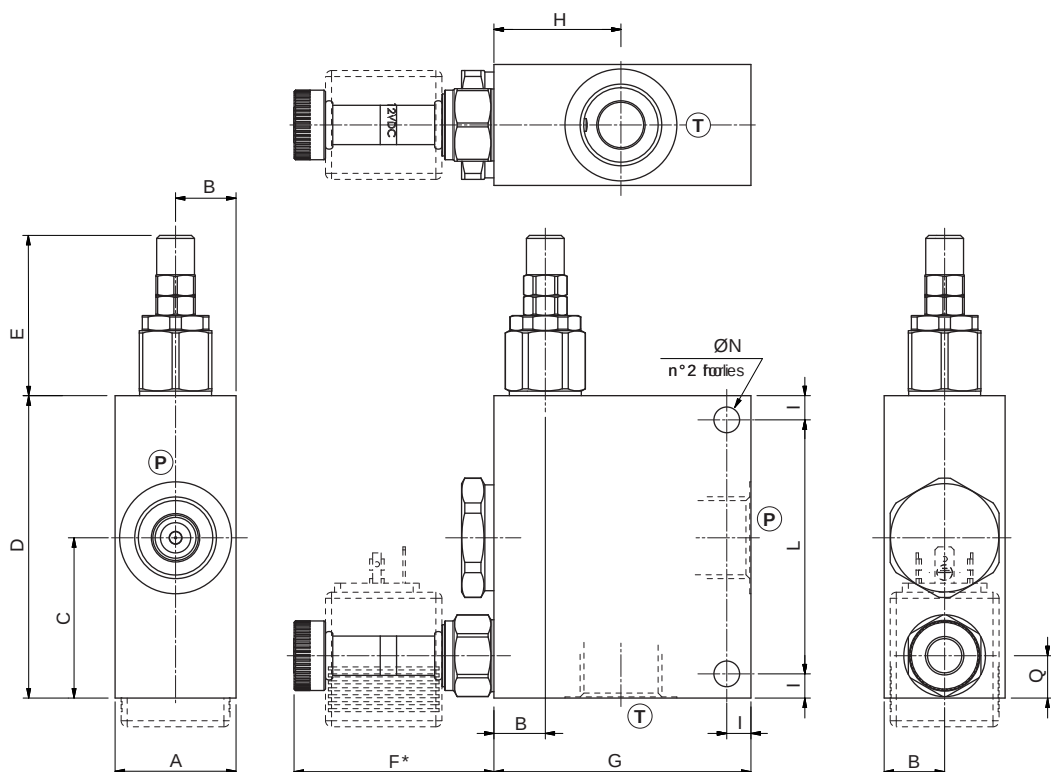
Valve type	All ports
------------	-----------

VMP/VE 12/SAE SAE10

VMP/VE 34/SAE SAE12

VMP/VE 100/SAE SAE16

Dimensions are in mm-in



Valve type	A	B	C	D	E	F*	G	H	I	L	ØN	Q
VMP/VE 12	40-1.57	20-0.70	53-2.09	100-3.93	51.5-2.03	66.5-2.62	85-3.35	42-1.65	8-0.31	84-3.31	8.5-0.33	14-0.55
VMP/VE 12/SAE	40-1.57	20-0.70	53-2.09	100-3.93	51.5-2.03	66.5-2.62	85-3.35	42-1.65	8-0.31	84-3.31	8.5-0.33	14-0.55
VMP/VE 34	40-1.57	20-0.70	53-2.09	100-3.93	51.5-2.03	66.5-2.62	85-3.35	42-1.65	8-0.31	84-3.31	8.5-0.33	14-0.55
VMP/VE 34/SAE	40-1.57	20-0.70	53-2.09	100-3.93	51.5-2.03	66.5-2.62	85-3.35	42-1.65	8-0.31	84-3.31	8.5-0.33	14-0.55
VMP/VE 100	50-1.97	25-0.98	60-2.36	110-4.33	53-2.09	66.5-2.62	100-3.94	50-1.97	10-0.40	90-3.54	10.5-0.41	17-0.67
VMP/VE 100/SAE	50-1.97	25-0.98	60-2.36	110-4.33	53-2.09	66.5-2.62	100-3.94	50-1.97	10-0.40	90-3.54	10.5-0.41	17-0.67
VMP/VE 114	70-2.75	35-2.75	72-2.83	130-5.12	53-2.09	66.5-2.62	130-5.12	62-2.44	12-0.47	106-4.17	12.5-0.49	18-0.71

(*) With normally open valve

Ordering codes and description composition

VMP / VE complete valves

With direct acting valves: standard setting is referred to 5 l/min (1.32 US gpm)

Configuration with G1/4 standard thread

TYPE: **VMP/VE 14/NA/5.TS.S/EC08M** CODE: 1116011104
DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi).
Std setting 160 bar (2300 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 14/NC/5.TS.S/EC08M** CODE: 1116011105
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve

Configuration with G3/8 standard thread

TYPE: **VMP/VE 38/NA/5.TS.S/EC08M** CODE: 1116021104
DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi).
Std setting 160 bar (2300 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 38/NC/5.TS.S/EC08M** CODE: 1116021105
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve
TYPE: **VMP/VE 38/NA/5.TR.S/EC08M/ac** CODE: 1116022101
DESCRIPTION: Steel body, range 180-350 bar (2600-5100 psi).
Std setting 280 bar (4050 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 38/NC/5.TR.S/EC08M/ac** CODE: 1116022100
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve

Configuration with G1/2 standard thread

TYPE: **VMP/VE 12/NA/03.TS.S/EC08M** CODE: 1116031102
DESCRIPTION: Aluminium body, range 50-200 bar (725-2900 psi).
Std setting 150 bar (2200 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 12/NC/03.TS.S/EC08M** CODE: 1116031103
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve
TYPE: **VMP/VE 12/NA/03.TR.S/EC08M/ac** CODE: 1116032100
DESCRIPTION: Steel body, range 180-350 bar (2600-5100 psi).
Std setting 250 bar (3600 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 12/NC/03.TR.S/EC08M/ac** CODE: 1116032103
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve

Configuration with G3/4 standard thread

TYPE: **VMP/VE 34/NA/03.TS.S/EC08M** CODE: 1116041102
DESCRIPTION: Aluminium body, range 50-200 bar (725-2900 psi).
Std setting 150 bar (2200 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 34/NC/03.TS.S/EC08M** CODE: 1116041103
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve
TYPE: **VMP/VE 34/NA/03.TR.S/EC08M/ac** CODE: 1116042100
DESCRIPTION: Steel body, range 150-350 bar (2175-5100 psi).
Std setting 250 bar (3600 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 34/NC/03.TR.S/EC08M/ac** CODE: 1116042101
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve

Configuration with G1" standard thread

TYPE: **VMP/VE 100/NA/03.TS.S/EC08M** CODE: 1116051102
DESCRIPTION: Aluminium body, range 50-200 bar (725-2900 psi).
Std setting 150 bar (2200 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 100/NC/03.TS.S/EC08M** CODE: 1116051103
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve
TYPE: **VMP/VE 100/NA/03.TR.S/EC08M/ac** CODE: 1116052100
DESCRIPTION: Steel body, range 150-350 bar (2175-5100 psi).
Std setting 250 bar (3600 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 100/NC/03.TR.S/EC08M/ac** CODE: 1116052101
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve

Configuration with G1"1/4 standard thread

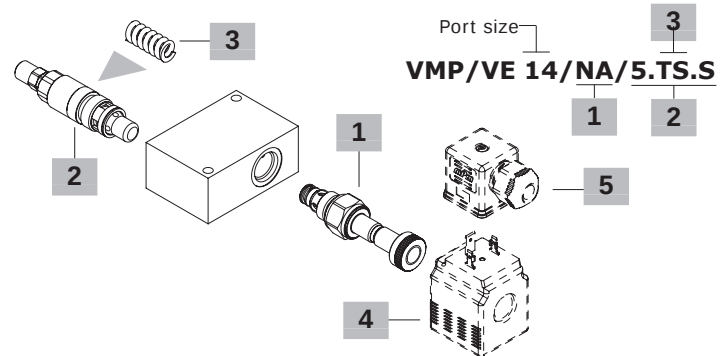
TYPE: **VMP/VE 114/NA/03.TS.S/EC08M** CODE: 1116061102
DESCRIPTION: Aluminium body, range 50-200 bar (725-2900 psi).
Std setting 150 bar (2200 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 114/NC/03.TS.S/EC08M** CODE: 1116061103
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve
TYPE: **VMP/VE 114/NA/03.TR.S/EC08M/ac** CODE: 1116062100
DESCRIPTION: Steel body, range 150-350 bar (2175-5100 psi).
Std setting 250 bar (3600 psi), with (NA) normally open solenoid valve
TYPE: **VMP/VE 114/NC/03.TR.S/EC08M/ac** CODE: 1116062101
DESCRIPTION: As previous one, with (NC) normally closed solenoid valve

Configuration with SAE8 standard thread

TYPE: **VMP/VE 38/NA/5.TS.S/EC08M/SAE** CODE: 1116021200
DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi).
Std setting 160 bar (2300 psi), with (NA) normally open solenoid valve

Configuration with SAE10 standard thread

TYPE: **VMP/VE 12/NA/03.TS.S/EC08M** CODE: 1116031200
DESCRIPTION: Aluminium body, range 50-200 bar (725-2900 psi).
Std setting 150 bar (2200 psi), with (NA) normally open solenoid valve



VMP / VE complete valves

Configuration with SAE12 standard thread

TYPE: **VMP/VE 34/NA/03.TS.S/EC08M/SAE** CODE: 1116041201
DESCRIPTION: Aluminium body, range 50-200 bar (725-2900 psi).
Std setting 150 bar (2200 psi), with (NA) normally open solenoid valve

Configuration with SAE16 standard thread

TYPE: **VMP/VE 100/NA/03.TS.S/EC08M/SAE** CODE: 1116051200
DESCRIPTION: Aluminium body, range 50-200 bar (725-2900 psi).
Std setting 150 bar (2200 psi), with (NA) normally open solenoid valve

1 Solenoid valves

TYPE	CODE	DESCRIPTION
EC08M/10NB	0EC08002031	(NA) normally open, electric venting
EC08M/20NB	0EC08002032	(NC) normally closed, electric venting

Note: BER coils are required

2 Direct acting pressure relief valves

Standard setting is referred to 5 l/min (1.32 US gpm)

TYPE	CODE	DESCRIPTION
For G3/8, G1/4 and SAE8 ports configuration		
VMP 5/TS.S	1100520400	Setting range 50-220 bar (725-3200 psi) Standard setting 160 bar (2300 psi)
VMP 5/TR.S	1100520401	Setting range 180-350 bar (2600-5100 psi) Standard setting 280 bar (4050 psi)
For G1/2, G3/4, G1" and G1"1/4 ports configuration		
MC08A/0S2B	0MC08002000	Setting range 50-200 bar (725-2900 psi) Standard setting 150 bar (2200 psi)
MC08A/0S3B	0MC08002002	Setting range 150-350 bar (2200-5100 psi) Standard setting 250 bar (3600 psi)

3 Pressure setting springs

TYPE	CODE	DESCRIPTION
For VMP 5 valves		
TB	3MOL314311	Setting range 5-40 bar (72.5-580 psi)
TV	3MOL314330	Setting range 20-80 bar (290-1160 psi)
TS	3MOL315330	Setting range 50-220 bar (725-3200 psi)
TR	3ML1143600	Setting range 180-350 bar (2600-5100 psi)
For MC08A valves		
TB	3ML1092500	Setting range 5-50 bar (72.5-725 psi)
TS	3ML1092501	Setting range 50-200 bar (725-2900 psi)
TR	3ML1092502	Setting range 180-350 bar (2600-5100 psi)

4 Coils

TYPE	CODE	DESCRIPTION
BER 12VDC	4SLE001200A	12VDC-ISO4400, BER type coil

For complete coil list see from page 437

5 Connector

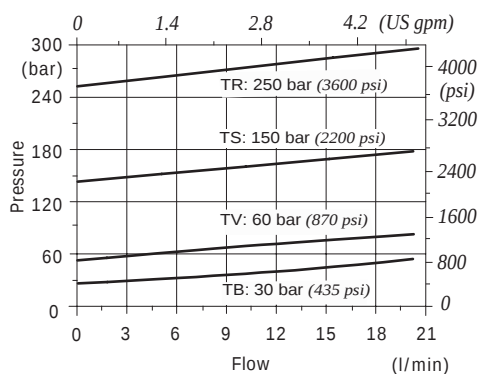
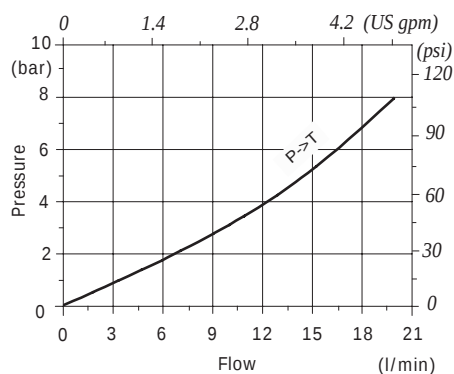
TYPE	CODE	DESCRIPTION
ISO4400	4CN1009995	Connector

For complete connectors list see from page 437
For other steel body configurations, other port sizes and configurations with FPM (Viton) seals please contact our Sales Dpt.

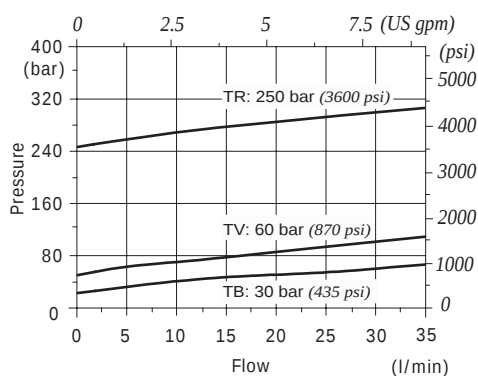
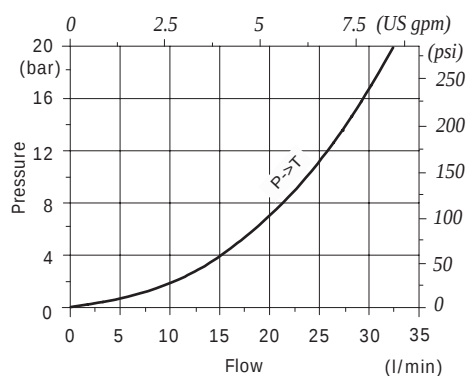
Rating diagrams

VMP/VE 14 pressure vs. flow

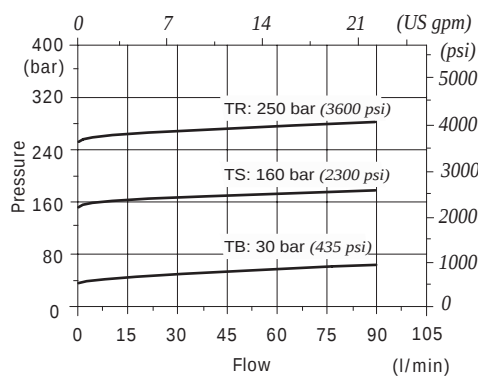
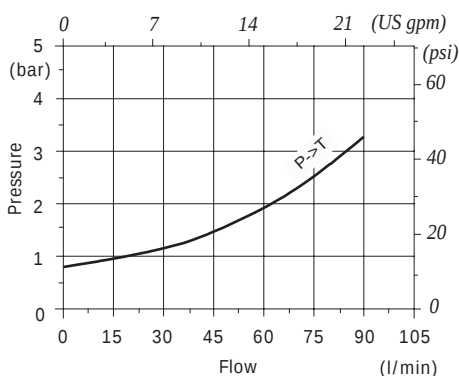
Std. setting @ 5 l/min (1.32 US gpm)

**VMP/VE 14
pressure drop diagram****VMP/VE 38 pressure vs. flow**

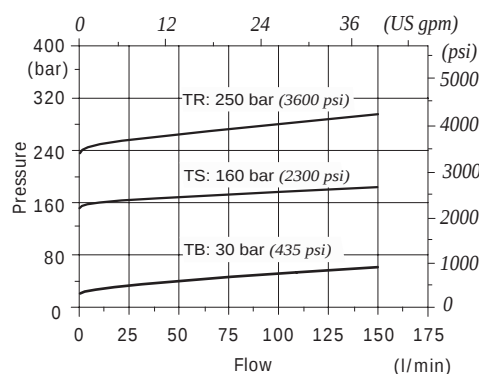
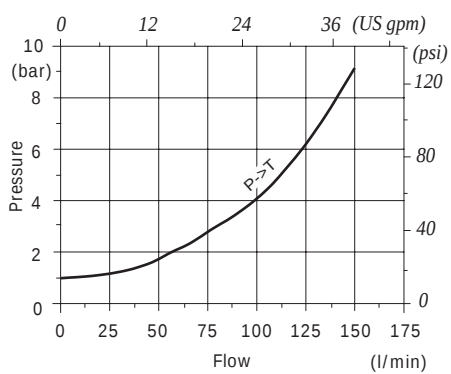
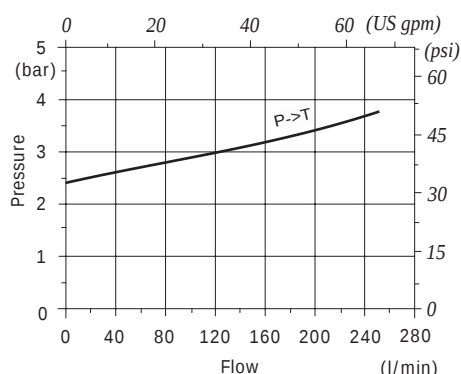
Std. setting @ 5 l/min (1.32 US gpm)

**VMP/VE 38
pressure drop diagram****VMP/VE 12-34 pressure vs. flow**

Std. setting @ 5 l/min (1.32 US gpm)

**VMP/VE 12-34
pressure drop diagram****VMP/VE 100-114 pressure vs. flow**

Std. setting @ 5 l/min (1.32 US gpm)

**VMP/VE 100
pressure drop diagram****VMP/VE 114
pressure drop diagram**



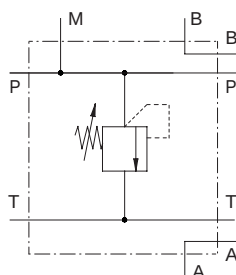
Type PBL pressure relief valves

- Subplates with pressure relief valve face mounting cetop 3 (6-38) or 5 (10-12)

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

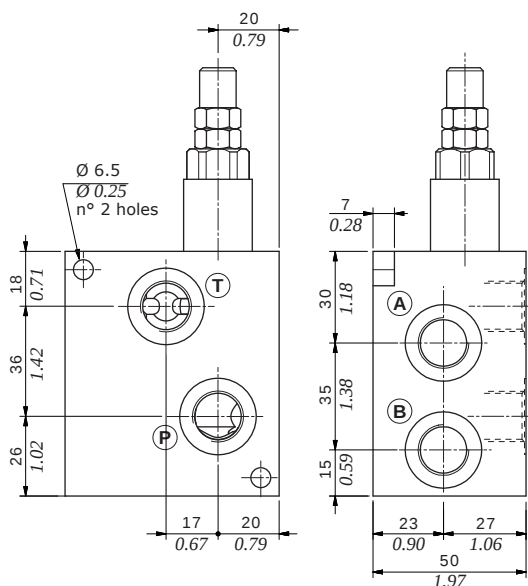
	PBL 6 / VMP 38	PBL 6 / VMP 38 / 5Y	PBL 10 / VMP 12
Nominal flow	35 l/min (9.2 US gpm)	35 l/min (9.2 US gpm)	60 l/min (16 US gpm)
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)		
Oil leakage at 80% of max. setting	3 cm ³ /min (0.18 in ³ /min)	1 cm ³ /min (0.06 in ³ /min)	5 cm ³ /min (0.30 in ³ /min)
Fluid	mineral based oil		
Viscosity	from 10 to 200 cSt		
Max. level of contamination	18/16/13 ISO4406		
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)		
Environmental temp. for working conditions	from -40°C (-40°F) to 100°C (212°F)		
Weight	aluminium	0.80 kg (1.76 lb)	1.70 kg (3.75 lb)
	steel	1.98 kg (4.36 lb)	4.29 kg (9.46 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.

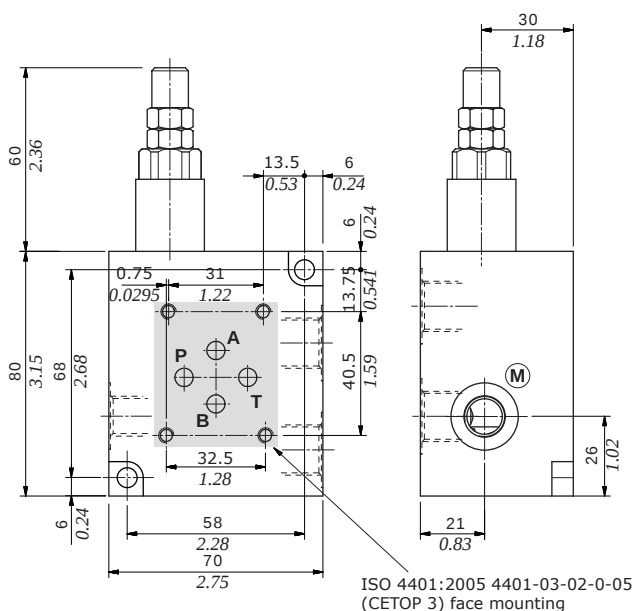


Dimensions

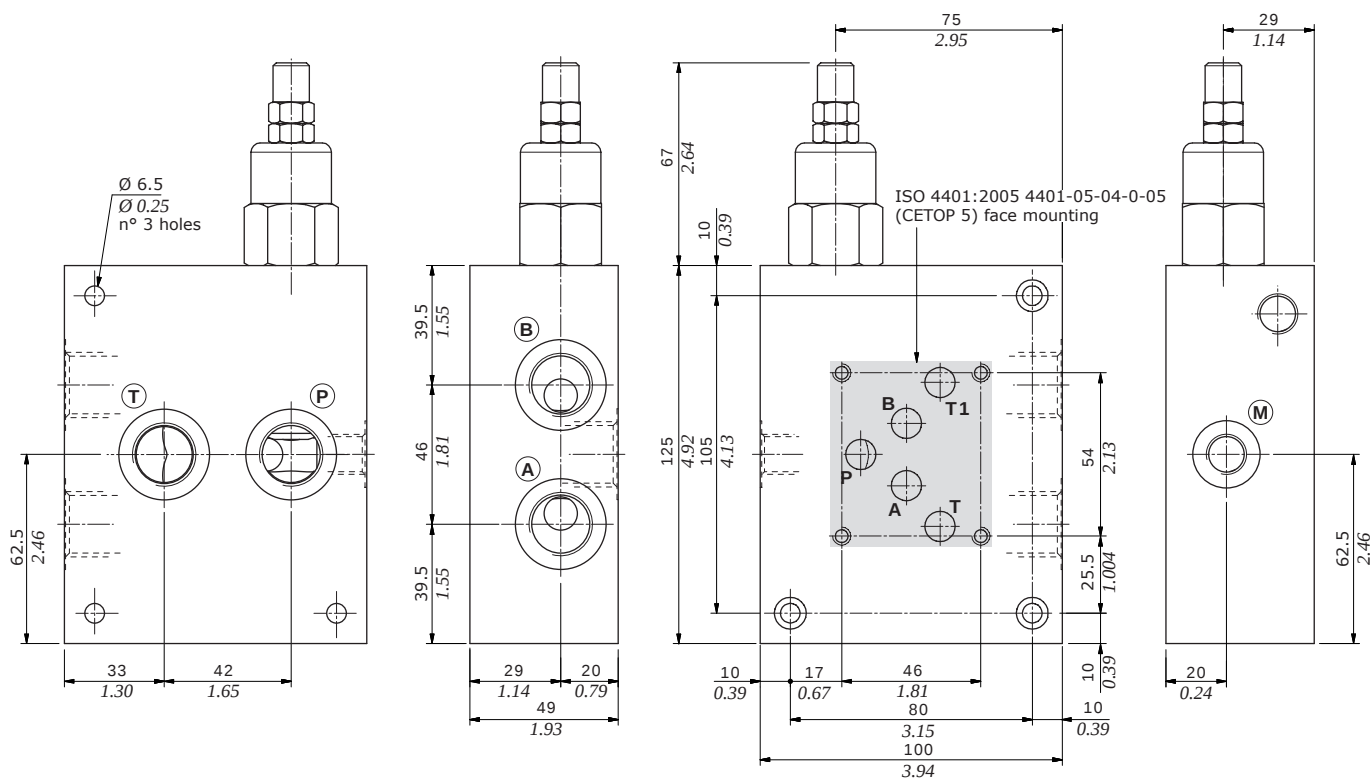
Valve type	(P) (T) (A) (B) (M)
PBL 6 / VMP 38	G3/8 G1/4
PBL 6 / VMP 38 / 5Y	G3/8 G1/4



Valve type	(P) (T) (A) (B) (M)
PBL 6 / VMP 38 / SAE	SAE8 SAE6



Valve type	(P) (T) (A) (B) (M)
PBL 10 / VMP 12	G1/2 G1/4



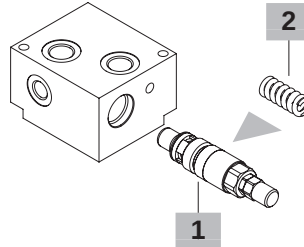
Ordering codes and description composition

Port size

2

1

PBL 6 / VMP 38 / 5.TS.S



PBL complete valves

With direct acting valves; standard setting is referred to 5 l/min (1.32 US gpm)

Configuration with G3/8 standard thread and ISO 4401:2005 4401-03-02-0-05 (CETOP 3) face mounting

TYPE: PBL 6 / VMP 38 / 5.TS.S CODE: 1114021102
DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi).
Standard setting 160 bar (2300 psi)

TYPE: PBL 6 / VMP 38 / 5.TS.S / ac CODE: 1114022101
DESCRIPTION: Steel body, as previous one
TYPE: PBL 6 / VMP 38 / 5Y.TS.S CODE: 1114021123
DESCRIPTION: Aluminium body, range 140-190 bar (2030-2750 psi).
Standard setting 150 bar (2200 psi)

Configuration with G1/2 standard thread and ISO 4401:2005 4401-05-04-0-05 (CETOP 5) face mounting

TYPE: PBL 10 / VMP 12 / 10.TS.S CODE: 1114031102
DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi).
Standard setting 160 bar (2300 psi)
TYPE: PBL 10 / VMP 12 / 10.TS.S / ac CODE: 1114032101
DESCRIPTION: Steel body, as previous one

Configuration with SAE8 standard thread and ISO 4401:2005 4401-03-02-0-05 (CETOP 3) face mounting

TYPE: PBL 6 / VMP 38 / 5.TS.S / SAE CODE: 1114021200
DESCRIPTION: Aluminium body, range 50-220 bar (725-3200 psi).
Standard setting 160 bar (2300 psi)
For other steel body configurations, SAE thread and configurations with FPM (Viton) seals please contact our Sales Dpt.

1 Direct acting pressure relief valves

Standard setting is referred to 5 l/min (1.32 US gpm)

TYPE	CODE	DESCRIPTION
For G3/8 and SAE8 ports configuration		
VMP 5 / TS.S	1100520400	Setting range 50-220 bar (725-3200 psi) Standard setting 160 bar (2300 psi)
VMP 5Y / TS.S	1100520406	Setting range 140-190 bar (2030-2750 psi) Standard setting 150 bar (2200 psi)

For G1/2 ports configuration

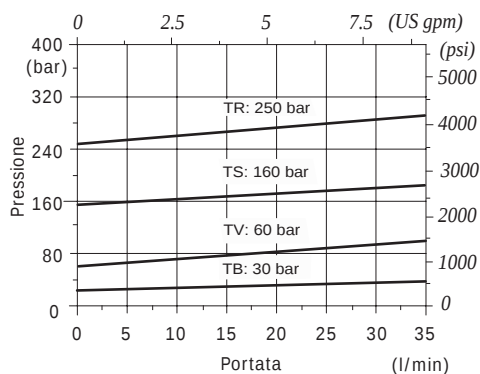
VMP 10 / TS.S	1100530400	Setting range 50-220 bar (725-3200 psi)
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2 Pressure setting spring

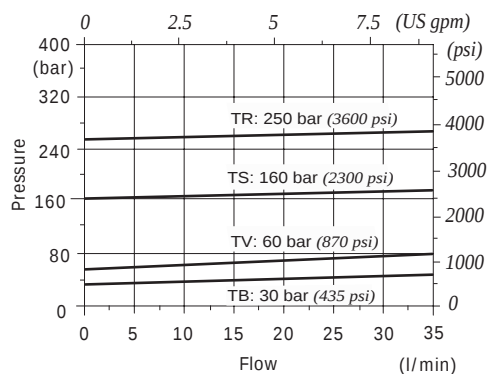
TYPE	CODE	DESCRIPTION
For VMP 5 valve		
TB	3MOL314311	Setting range 5-40 bar (72.5-580 psi)
TV	3MOL314330	Setting range 20-80 bar (290-1160 psi)
TS	3MOL315330	Setting range 50-220 bar (725-3200 psi)
TR	3ML1143600	Setting range 180-350 bar (2600-5100 psi)
For VMP 5Y valve		
TB	3MOL314311	Setting range 5-80 bar (72.5-1160 psi)
TV	3MOL314330	Setting range 40-150 bar (580-2200 psi)
TS	3ML1143400	Setting range 140-190 bar (2600-5100 psi)
TR	3MOL315330	Setting range 180-350 bar (2600-5100 psi)
For VMP 10 valve		
TB	3MOL316410	Setting range 5-40 bar (72.5-580 psi)
TV	3ML1154300	Setting range 20-80 bar (290-1160 psi)
TS	3MOL317420	Setting range 50-220 bar (725-3200 psi)
TR	3MOL317440	Setting range 180-350 bar (2600-5100 psi)

Rating diagrams

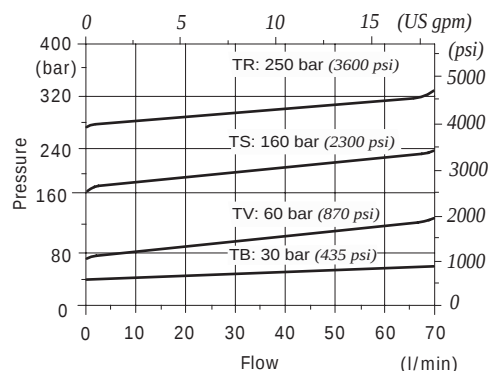
PBL 6/VMP 38 pressure vs. flow
Std. setting @ 5 l/min (1.32 US gpm)



PBL 6/VMP 38/5Y pressure vs. flow
Std. setting @ 5 l/min (1.32 US gpm)



PBL 10/VMP 12 pressure vs. flow
Std. setting @ 5 l/min (1.32 US gpm)





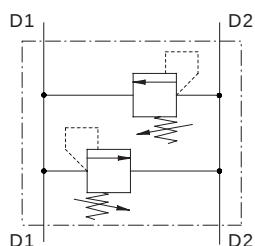
Type VAIL pressure relief valves

- Double antishock direct acting relief valve

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

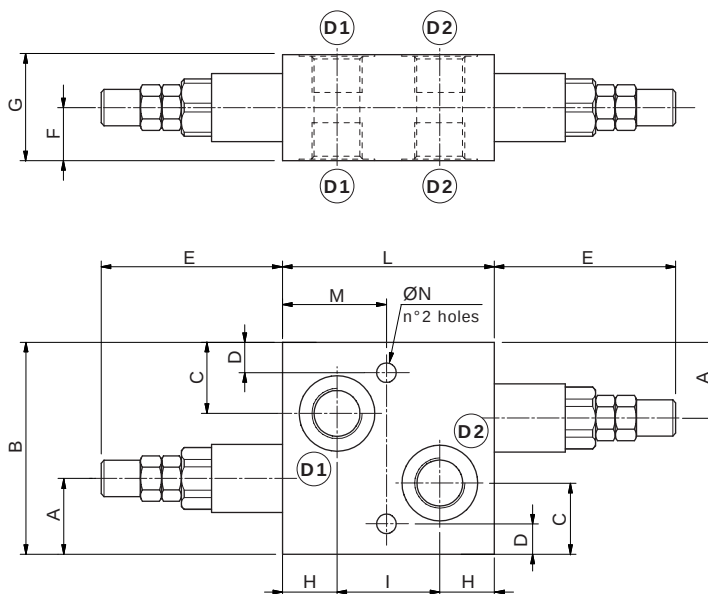
	VAIL 5-38	VAIL 5-12	VAIL 10-12	VAIL 10-34	VAIL 20-34	VAIL 20-100	
Nominal flow	25 l/min (6.6 US gpm)	35 l/min (9.2 US gpm)	70 l/min (18.4 US gpm)	70 l/min (18.4 US gpm)	100 l/min (26.4 US gpm)	120 l/min (31.7 US gpm)	
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)						
Oil leakage at 80% of max. setting	3 cm³/min (0.18 in³/min)						
Fluid	mineral based oil						
Viscosity	from 10 to 200 cSt						
Max. level of contamination	18/16/13 ISO4406						
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)						
Environmental temp. for working conditions	from -40°C (-40°F) to 100°C (212°F)						
Weight	aluminium	0.67 kg (1.48 lb)	0.69 kg (1.52 lb)	1.12 kg (2.47 lb)	1.10 kg (2.43 lb)	1.87 kg (4.12 lb)	1.85 kg (4.08 lb)
	steel	1.31 kg (2.89 lb)	1.35 kg (2.98 lb)	2.20 kg (4.85 lb)	2.11 kg (4.65 lb)	3.55 kg (7.83 lb)	3.93 kg (8.66 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions

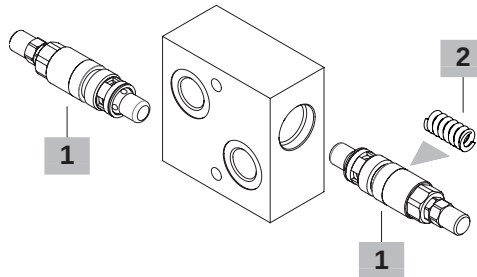
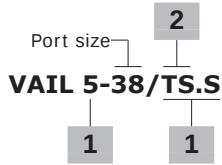
Valve type	All ports
VAIL 5-38	G3/8
VAIL 5-12	G1/2
VAIL 10-12	G1/2
VAIL 10-34	G3/4
VAIL 20-34	G3/4
VAIL 20-100	G1
Valve type	All ports
VAIL 5-38/SAE	SAE8
VAIL 5-12/SAE	SAE10
VAIL 10-12/SAE	SAE10
VAIL 10-34/SAE	SAE12
VAIL 20-34/SAE	SAE12
VAIL 20-100/SAE	SAE16



Dimensions are in mm-in

Valve type	A	B	C	D	E	F	G	H	I	L	M	ØN
VAIL 5-38 VAIL 5-38/SAE	25-0.98	70-2.75	23.5-0.92	10-0.39	60-4.92	17.5-0.69	35-1.38	18-0.70	34-1.34	70-2.75	35-1.38	6.5-0.25
VAIL 5-12 VAIL 5-12/SAE	25-0.98	70-2.75	23.5-0.92	10-0.39	60-4.92	17.5-0.69	35-1.38	18-0.70	39-1.53	75-2.95	37.5-1.48	6.5-0.25
VAIL 10-12 VAIL 10-12/SAE	29-1.41	82-3.23	25-0.98	8.5-0.33	67-2.64	20-0.79	40-1.57	20-0.79	50-1.97	90-3.54	45-1.77	8.5-0.33
VAIL 10-34 VAIL 10-34/SAE	29-1.41	82-3.23	25-0.98	8.5-0.33	67-2.64	20-0.79	40-1.57	20-0.79	50-1.97	90-3.54	45-1.77	8.5-0.33
VAIL 20-34 VAIL 20-34/SAE	31.5-1.84	95-3.74	30.5-1.2	10-0.39	76.5-3.01	25-0.98	50-1.97	22-0.87	56-2.20	100-3.93	50-1.97	8.5-0.33
VAIL 20-100 VAIL 20-100/SAE	31.5-1.84	95-3.74	30.5-1.2	10-0.39	76.5-3.01	25-0.98	50-1.97	32-1.26	56-2.20	120-4.72	60-2.36	8.5-0.33

Ordering codes and description composition



VAIL complete valves

With direct acting valves: standard setting 160 bar @ 5 l/min (2300 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
Configuration with G3/8 standard thread		
VAIL 5-38/TS.S	1140021102	Aluminium body, range 50-220 bar (725-3200 psi)
VAIL 5-38/TS.S/ac	1140022100	Steel body, as previous one
Configuration with G1/2 standard thread		
VAIL 5-12/TS.S	1140021152	Aluminium body, setting range 50-220 bar (725-3200 psi)
VAIL 5-12/TS.S/ac	1140022150	Steel body, as previous one
VAIL 10-12/TS.S	1140031102	Aluminium body, setting range 50-220 bar (725-3200 psi)
VAIL 10-12/TS.S/ac	1140032101	Steel body, as previous one
Configuration with G3/4 standard thread		
VAIL 10-34/TS.S	1140031152	Aluminium body, setting range 50-220 bar (725-3200 psi)
VAIL 10-34/TS.S/ac	1140032150	Steel body, as previous one
VAIL 20-34/TS.S	1140041102	Aluminium body, setting range 50-220 bar (725-3200 psi)
VAIL 20-34/TS.S/ac	1140042101	Steel body, as previous one
Configuration with G1" standard thread		
VAIL 20-100/TS.S	1140041152	Aluminium body, setting range 50-220 bar (725-3200 psi)
VAIL 20-100/TS.S/ac	1140042151	Steel body, as previous one
Configuration with SAE8 standard thread		
VAIL 5-38/TS.S/SAE	1140021200	Aluminium body, range 50-220 bar (725-3200 psi)
Configuration with SAE10 standard thread		
VAIL 5-12/TS.S/SAE	1140021250	Aluminium body, setting range 50-220 bar (725-3200 psi)
VAIL 10-12/TS.S	1140031200	Aluminium body, setting range 50-220 bar (725-3200 psi)
Configuration with SAE12 standard thread		
VAIL 10-34/TS.S/SAE	1140031250	Aluminium body, setting range 50-220 bar (725-3200 psi)
VAIL 20-34/TS.S/SAE	1140041200	Aluminium body, setting range 50-220 bar (725-3200 psi)
Configuration with SAE16 standard thread		
VAIL 20-100/TS.S/SAE	1140041250	Aluminium body, setting range 50-220 bar (725-3200 psi)

For other steel body configurations, SAE thread and configurations with FPM (Viton) seals please contact our Sales Dpt.

1 Direct acting pressure relief valves

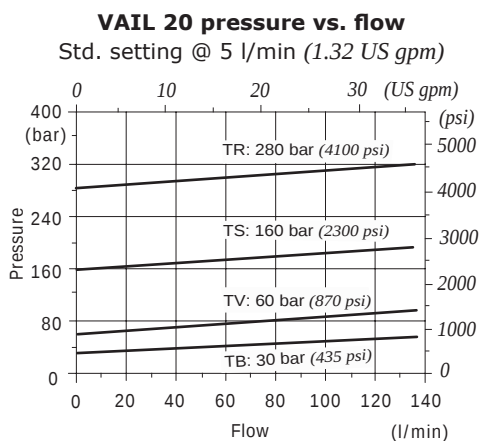
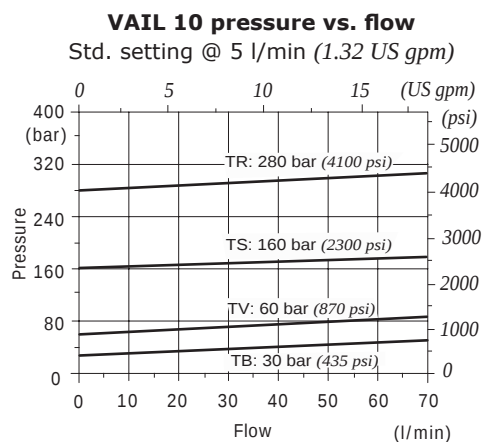
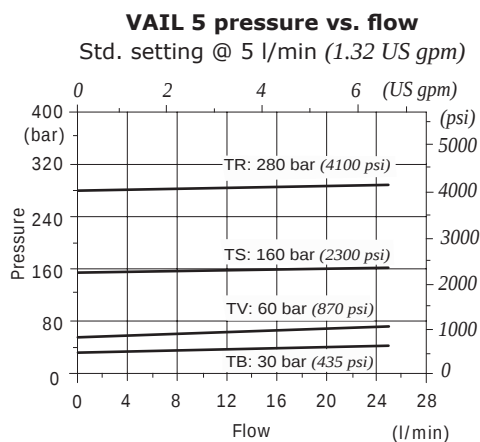
Standard setting 160 bar @ 5 l/min (2300 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
For G1/2 and G3/4 ports configuration		
VMP 5/TS.S	1100520400	Setting range 50-220 bar (725-3200 psi)
VMP 10/TS.S	1100530400	Setting range 50-220 bar (725-3200 psi)
For G3/4 and G1" ports configuration		
VMP 20/TS.S	1100540400	Setting range 50-220 bar (725-3200 psi)

2 Pressure setting spring

CODE	TYPE	DESCRIPTION
For VMP 5 valve		
TB	3MOL314311	Setting range 5-40 bar (72.5-580 psi)
TV	3MOL314330	Setting range 20-80 bar (290-1160 psi)
TS	3MOL315330	Setting range 50-220 bar (725-3200 psi)
TR	3ML1143600	Setting range 180-350 bar (2600-5100 psi)
For VMP 10 valve		
TB	3ML1154100	Setting range 5-40 bar (72.5-580 psi)
TV	3ML1154300	Setting range 20-80 bar (290-1160 psi)
TS	3ML1164200	Setting range 50-220 bar (725-3200 psi)
TR	3ML1164400	Setting range 180-350 bar (2600-5100 psi)
For VMP 20 valve		
TB	3MOL316410	Setting range 5-40 bar (72.5-580 psi)
TV	3ML1154300	Setting range 20-80 bar (290-1160 psi)
TS	3MOL317420	Setting range 50-220 bar (725-3200 psi)
TR	3MOL317440	Setting range 180-350 bar (2600-5100 psi)

Rating diagrams





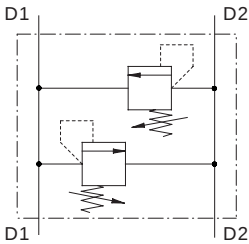
Type VADDL pressure relief valves

- Double antishock differential acting relief valve

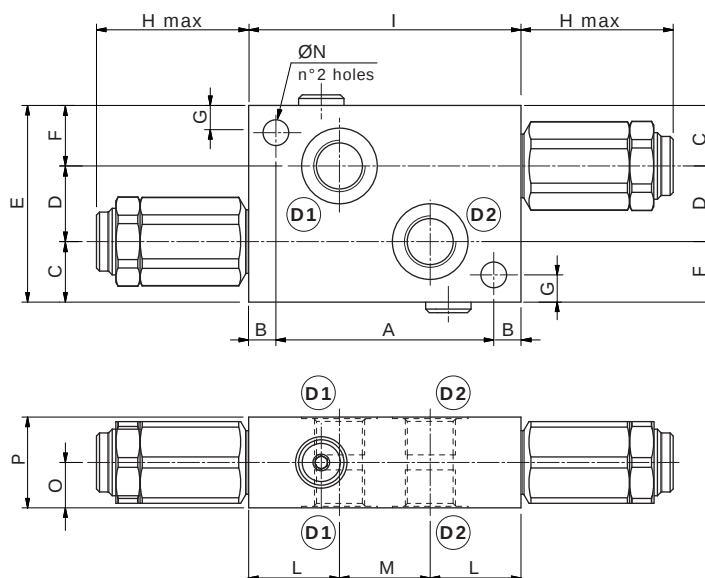
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

		VADDL 38	VADDL 12	VADDL 34	VADDL 100
Nominal flow		35 l/min (9.2 US gpm)	60 l/min (16 US gpm)	120 l/min (31.7 US gpm)	180 l/min (47.6 US gpm)
Max. pressure		Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)			
Oil leakage at 80% of max. setting		0.5 cm³/min (0.03 in³/min)			
Fluid		mineral based oil			
Viscosity		from 10 to 200 cSt			
Max. level of contamination		18/16/13 ISO4406			
Fluid temperature		with NBR seals from -20°C (-4°F) to 80°C (176°F) with FPM seals from -20°C (-4°F) to 100°C (212°F)			
Environmental temp. for working conditions		from -40°C (-40°F) to 100°C (212°F)			
Weight	aluminium	0.88 kg (1.94 lb)	1.17 kg (2.58 lb)	1.93 kg (4.25 lb)	2.29 kg (5.05 lb)
	steel	1.53 kg (3.37 lb)	2.04 kg (4.50 lb)	4.77 kg (7.30 lb)	4.16 kg (9.17 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions



Valve type	All ports
VADDL 38	G3/8
VADDL 12	G1/2
VADDL 34	G3/4
VADDL 100	G1

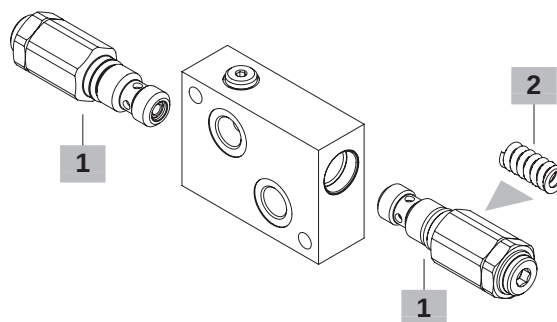
Valve type	All ports
VADDL 38/SAE	SAE8
VADDL 12/SAE	SAE10
VADDL 34/SAE	SAE12
VADDL 100/SAE	SAE16

Dimensions are in mm-in

Valve type	A	B	C	D	E	F	G	H max	I	L	M	ØN	O	P
VADDL 38 VADDL 38/SAE	72-2.83	9-0.35	20-0.79	25-0.98	65-2.56	20-0.79	9-0.35	57.7-2.27	90-3.54	30-1.18	30-1.18	8.5-0.33	15-0.59	30-1.18
VADDL 12 VADDL 12/SAE	80-3.15	10-0.39	21-0.82	27-1.06	70-2.75	22-0.87	10-0.39	56.2-2.21	100-3.94	31-1.22	38-1.50	8.5-0.33	17.5-0.69	35-1.38
VADDL 34 VADDL 34/SAE	90-3.54	10-0.39	31-1.22	32-1.26	90-3.54	27-1.06	10-0.39	68.8-2.71	110-4.33	36-1.42	38-1.50	8.5-0.33	20-0.79	40-1.57
VADDL 100 VADDL 100/SAE	90-3.54	10-0.39	34-1.34	38-1.50	100-3.94	28-1.10	10-0.39	68.8-2.71	110-4.33	30-1.18	50-1.97	8.5-0.33	25-0.98	50-1.97

Ordering codes and description composition

Port size **2**
VADDL 38 / TS.S
1



VADDL complete valves

Differential type valve configuration

Standard setting 150 bar @ 5 l/min (2100 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
------	------	-------------

Configuration with G3/8 standard thread

VADDL 38 / TS.S	1150021102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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VADDL 38 / TS.S / ac	1150022100	Steel body, as previous one
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Configuration with G1/2 standard thread

VADDL 12 / TS.S	1150031102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
-----------------	------------	---

VADDL 12 / TS.S / ac	1150032100	Steel body, as previous one
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Configuration with G3/4 standard thread

VADDL 34 / TS.S	1150041102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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VADDL 34 / TS.S / ac	1150042101	Steel body, as previous one
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Configuration with G1" standard thread

VADDL 100 / TS.S	1150051102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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VADDL 100 / TS.S / ac	1150052100	Steel body, as previous one
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Configuration with SAE8 standard thread

VADDL 38 / TS.S / SAE	1150021200	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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Configuration with SAE10 standard thread

VADDL 12 / TS.S / SAE	1150031201	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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Configuration with SAE12 standard thread

VADDL 34 / TS.S / SAE	1150041200	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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Configuration with SAE16 standard thread

VADDL 100 / TS.S / SAE	1150051200	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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For other steel body configurations, SAE thread and configurations with FPM (Viton) seals, please contact our Sales Dpt.

1 Direct acting pressure relief valves

Standard setting 150 bar @ 5 l/min (2100 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
------	------	-------------

For G3/8 ports configuration

VMPD 38 / TS.S	1120020402	Setting range 5-210 bar (72.5-3050 psi)
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For G1/2 ports configuration

VMPD 12 / TS.S	1120030402	Setting range 5-210 bar (72.5-3050 psi)
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For G3/4 and G1" ports configuration

VMPD 34 / TS.S	1120040402	Setting range 5-210 bar (72.5-3050 psi)
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2 Pressure setting spring

TYPE	CODE	DESCRIPTION
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For VMPD 38 valve

TS	3ML1144000	Setting range 5-210 bar (72.5-3050 psi)
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TR	3ML1144001	Setting range 50-350 bar (725-5100 psi)
----	------------	---

For VMPD 12 valve

TS	3ML1164000	Setting range 5-210 bar (72.5-3050 psi)
----	------------	---

TR	3ML1164001	Setting range 50-350 bar (725-5100 psi)
----	------------	---

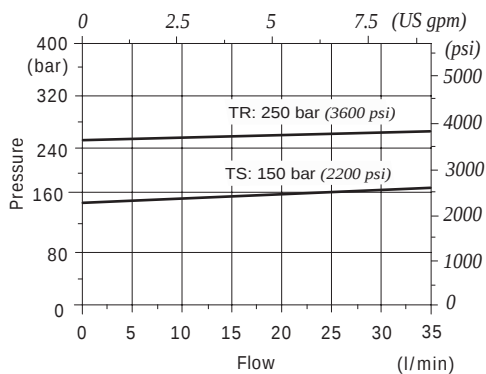
For VMPD 34 valve

TS	3ML1194500	Setting range 5-210 bar (72.5-3050 psi)
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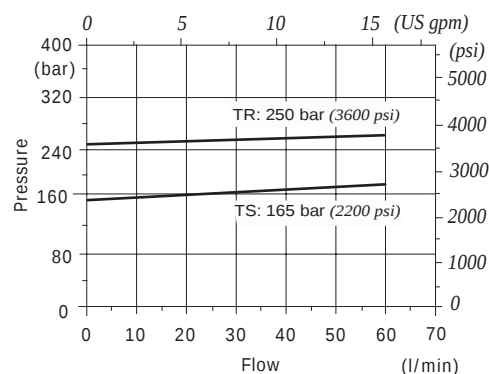
TR	3ML1194501	Setting range 50-350 bar (725-5100 psi)
----	------------	---

Rating diagrams

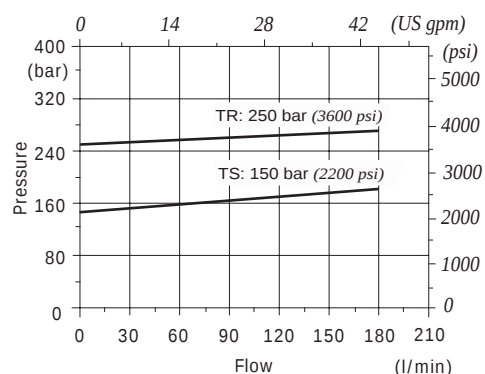
VADDL 38 pressure drop vs. flow
Std. setting @ 5 l/min (1.32 US gpm)



VADDL 12 pressure drop vs. flow
Std. setting @ 5 l/min (1.32 US gpm)



VADDL 34-100 pressure drop vs. flow
Std. setting @ 5 l/min (1.32 US gpm)





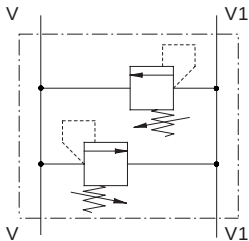
Type VBDC..35 - VBDC..80 pressure relief valves

- Dual cross relief valve

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

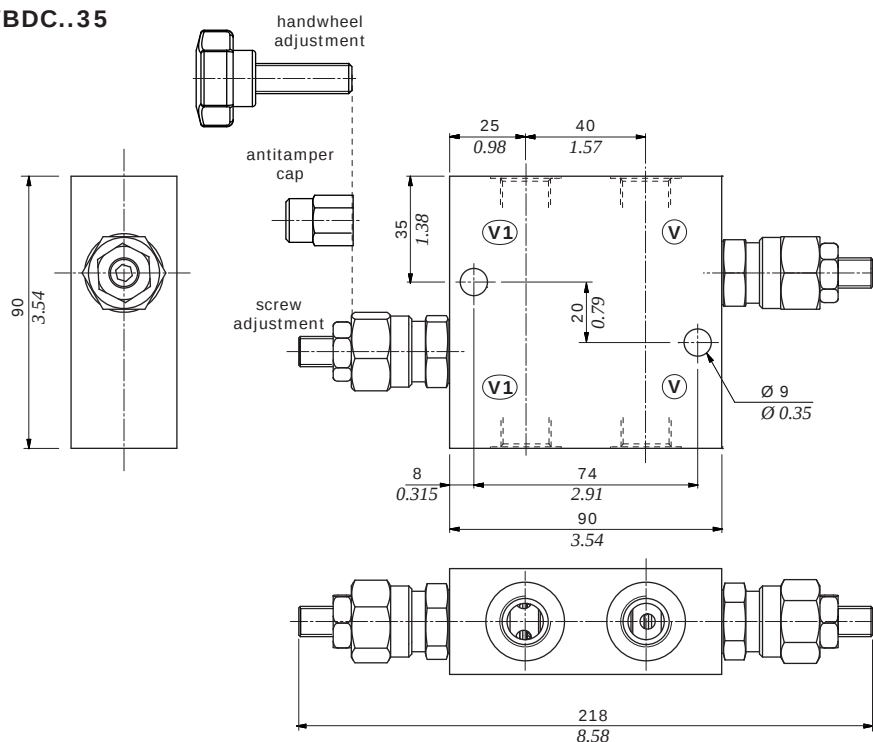
	VBDC..3502	VBDC..3503	VBDC..8003	VBDC..8004
Nominal flow	35 l/min (9.2 US gpm)	35 l/min (9.2 US gpm)	80 l/min (21 US gpm)	80 l/min (21 US gpm)
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)			
Fluid	mineral based oil			
Viscosity	from 10 to 200 cSt			
Max. level of contamination	18/16/13 ISO4406			
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)			
Environmental temp. for working conditions	from -40°C (-40°F) to 100°C (212°F)			
Weight	alum.	0.80 kg (1.76 lb)	0.80 kg (1.76 lb)	1.65 kg (3.64 lb)
	steel	2.10 kg (4.63 lb)	2 kg (4.41 lb)	3.40 kg (7.49 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions

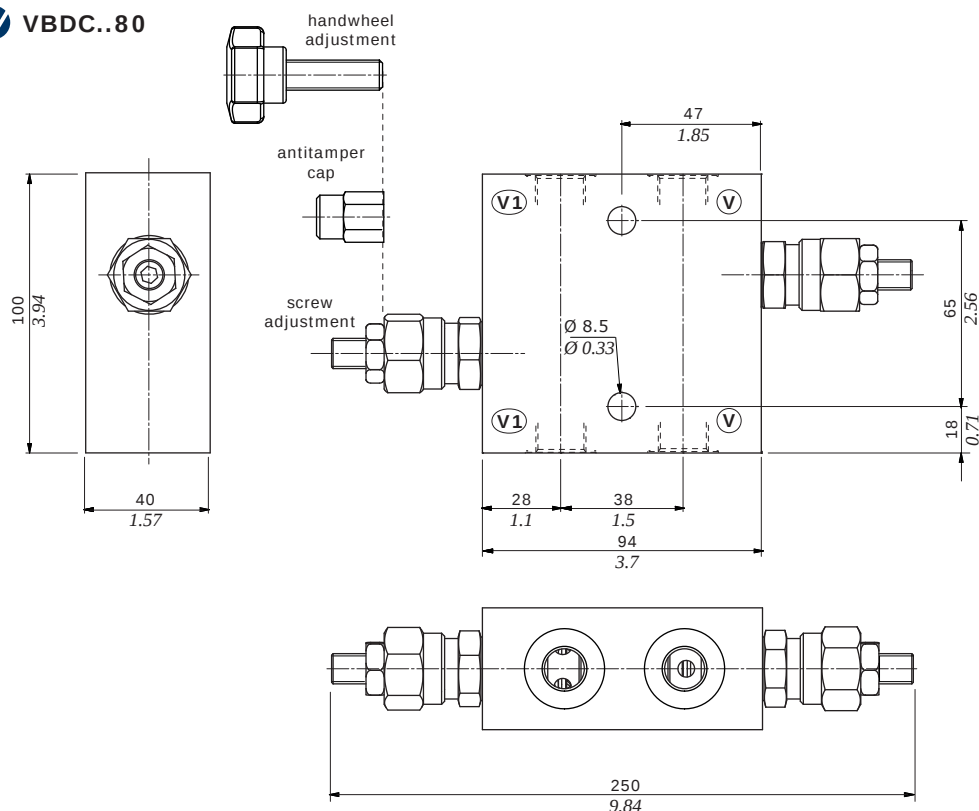
VBDC..35



Valve type	All ports
VBDC..3502	G3/8
VBDC..3503	G1/2

Dimensions are in mm-in

VBDC..80



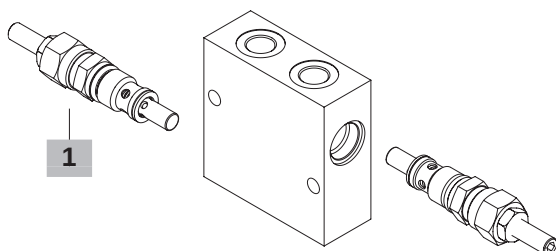
Valve type	All ports
VBDC..8003	G1/2
VBDC..8004	G3/4

Dimensions are in mm-in

Ordering codes and description composition

Port size: VBDC..80 02
- aluminium
S = steel

setting range: B 1
Adjustment option:
1 = screw type
2 = handwheel type
3 = antitamper cap



Type		Setting range bar (psi)	Std. setting bar (psi)
VMD..35	A	5-50 (72.5-725)	30 (435)
	B	40-210 (580-3050)	150 (2200)
	C	100-350 (1450-5100)	210 (3050)
VMD..80	A	5-50 (72.5-725)	30 (435)
	B	20-260 (290-3770)	150 (2200)
	C	120-350 (1750-5100)	210 (3050)

VBDC..35 - VBDC..80 complete valves

Standard setting 100 bar @ 3 l/min (1450 psi @ 0.79 US gpm)

TYPE	CODE	DESCRIPTION
VBDC3502B1	1145221100	Aluminium body, setting range 40-210 bar (580-3045 psi)
VBDCS3502B1	1145222100	Steel body, setting range 40-210 bar (580-3045 psi)

Configuration with G1/2 standard thread

VBDC3503B1	1145221101	Aluminium body, setting range 40-210 bar (580-3045 psi)
VBDCS3503B1	1145222101	Steel body, setting range 40-210 bar (580-3045 psi)

Configuration with G3/4 standard thread

VBDC8004B1	1145231100	Aluminium body, setting range 20-260 bar (290-3770 psi)
VBDCS8004C1	1145232100	Steel body, setting range 120-350 bar (1740-5070 psi)

For different configurations and SAE thread please contact our Sales Dpt.

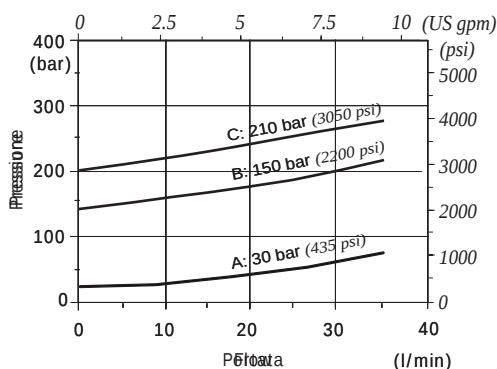
1 Direct acting pressure relief valves

Standard setting 100 bar @ 3 l/min (1450 psi @ 0.79 US gpm)

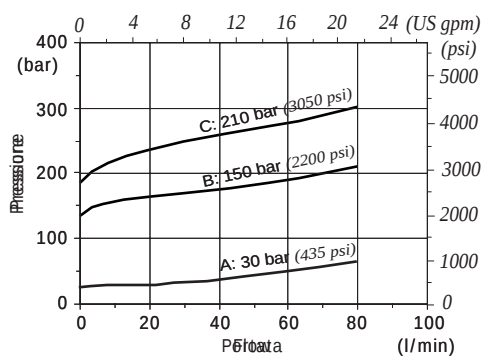
TYPE	CODE	DESCRIPTION
For VBDC..35 valve		
VMD35B1(M20X1,5)	1100220400	Screw adjustment from 40 to 210 bar (580-3050 psi)
For VBDC..80 valve		
VMD80B1(M26X1,5)	1100230400	Screw adjustment from 20 to 260 bar (290-3770 psi)

Rating diagrams

VBDC..35 pressure vs. flow
Std. setting @ 5 l/min (1.32 US gpm)



VBDC..80 pressure vs. flow
Std. setting @ 5 l/min (1.32 US gpm)





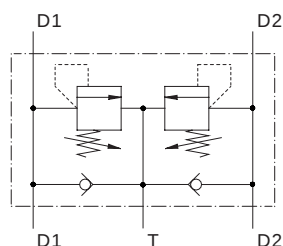
Type VAIL/VA pressure relief valves

- Double antishock direct acting relief valve with anticavitation

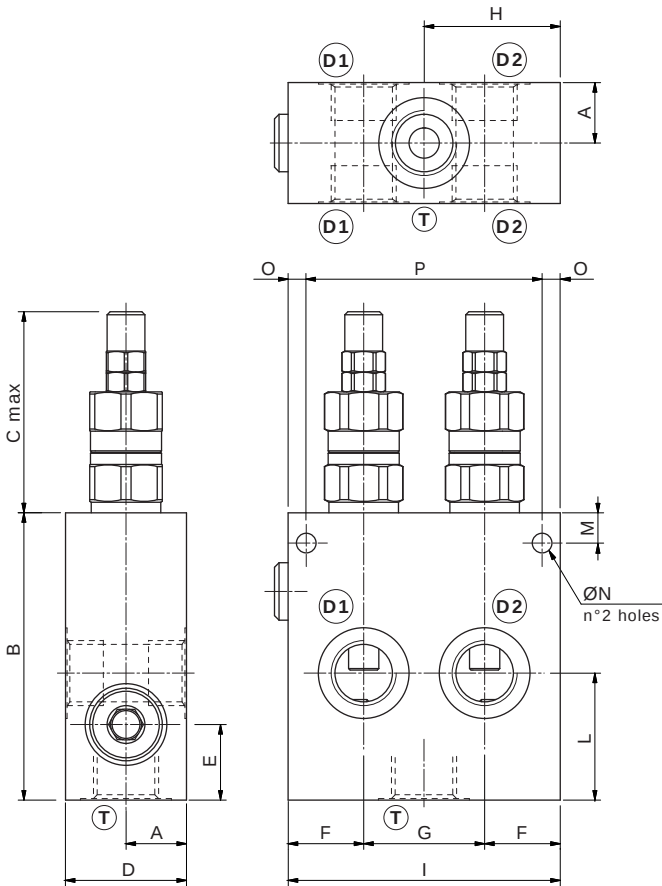
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

VAIL / VA 12		VAIL/VA 34			
Nominal flow		35 l/min (9.2 US gpm)		80 l/min (21 US gpm)	
Max. pressure		Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)			
Oil leakage at 80% of max. setting		6 cm³/min (0.37 in³/min)			
Fluid		mineral based oil			
Viscosity		from 10 to 200 cSt			
Max. level of contamination		18/16/13 ISO4406			
Fluid temperature		with NBR seals from -20°C (-4°F) to 80°C (176°F) with FPM seals from -20°C (-4°F) to 100°C (212°F)			
Environmental temp. for working conditions		from -40°C (-40°F) to 100°C (212°F)			
Weight	aluminium	2.48 kg (5.47 lb)		2.23 kg (4.92 lb)	
	steel	3.49 kg (7.69 lb)		4.47 kg (9.85 lb)	

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions



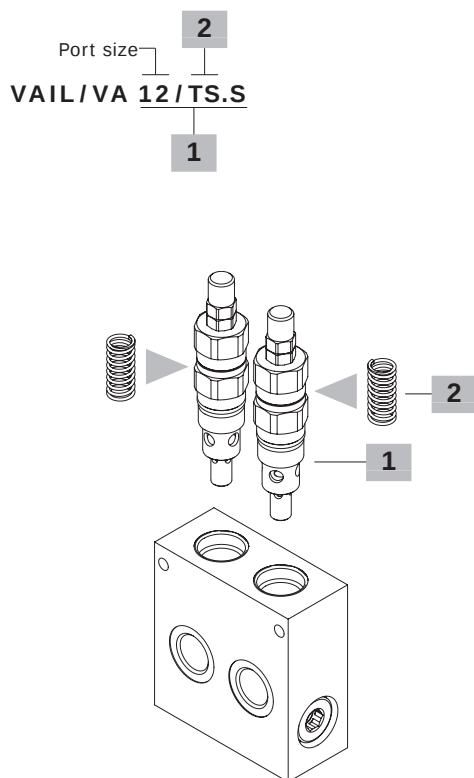
Valve type	All ports
VAIL/VA 12	G1/2
VAIL/VA 34	G3/4

Valve type	All ports
VAIL/VA 12/SAE	SAE10
VAIL/VA 34/SAE	SAE12

Dimensions are in mm-in

Valve type	A	B	C	D	E	F	G	H	I	L	M	ØN	O	P
VAIL/VA 12	20-0.79	95-3.74	68-2.68	40-1.57	25-0.98	25-0.98	40-1.57	45-1.77	90-3.54	42-1.65	10-0.39	6.5-0.25	6-0.24	78-3.07
VAIL/VA 12/SAE														
VAIL/VA 34	25-0.98	110-4.33	82.5-3.25	50-1.97	24-0.94	29-1.14	52-2.05	55-2.05	110-4.33	47-1.85	10-0.39	8.5-0.33	8-0.31	94-3.70
VAIL/VA 34/SAE														

Ordering codes and description composition



VAIL/VA complete valves

Aluminium body configuration, with direct acting valves; standard setting 140 bar @ 5 l/min (2030 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
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Configuration with G1/2 standard thread

VAIL/VA 12/TS.S	1142031102	Range 50-200 bar (725-2900 psi)
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VAIL/VA 12/TS.S/ac	1142032101	Range 50-200 bar (725-2900 psi)
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Configuration with G3/4 standard thread

VAIL/VA 34/TS.S	1142041102	Range 50-200 bar (725-2900 psi)
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VAIL/VA 34/TS.S/ac	1142042100	Range 50-200 bar (725-2900 psi)
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Configuration with SAE10 standard thread

VAIL/VA 12/TS.S/SAE	1142031200	Range 50-200 bar (725-2900 psi)
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Configuration with SAE12 standard thread

VAIL/VA 34/TS.S/SAE	1142041200	Range 50-200 bar (725-2900 psi)
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1 Direct acting pressure relief valves

TYPE	CODE	DESCRIPTION
------	------	-------------

For G1/2 and SAE10 ports configuration

VMP 12/TS.S	1100030406	Setting range 50-200 bar (725-2900 psi)
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For G3/4 and SAE12 ports configuration

VMP 34/TS.S	1100040406	Setting range 50-200 bar (725-2900 psi)
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2 Pressure setting spring

TYPE	CODE	DESCRIPTION
------	------	-------------

For VAIL/VA 12 valve

TB	3ML1144600	Setting range 5-30 bar (72.5-435 psi)
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TV	3ML1144601	Setting range 20-100 bar (290-1450 psi)
----	------------	---

TS	3ML1144602	Setting range 50-200 bar (725-2900 psi)
----	------------	---

TR	3ML1144603	Setting range 100-300 bar (1450-4350 psi)
----	------------	---

For VAIL/VA 34 valve

TV	3ML1166804	Setting range 5-100 bar (72.5- 1450 psi)
----	------------	--

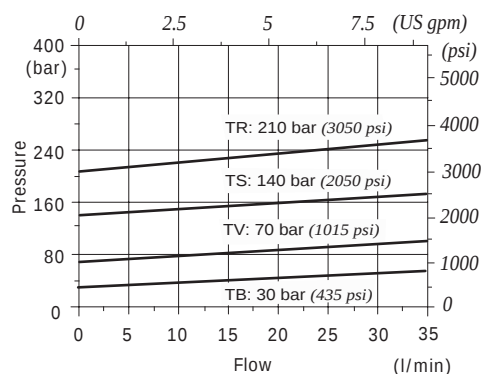
TS	3ML1146800	Setting range 50-200 bar (725-2900 psi)
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TR	3ML1166805	Setting range 100-300 bar (1450-4350 psi)
----	------------	---

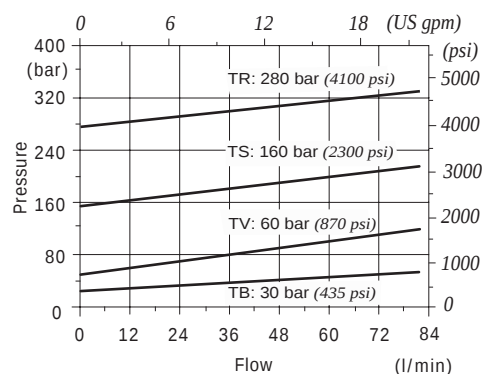
For other steel body configurations, SAE thread and configurations with FPM (Viton) seals, please contact our Sales Dpt.

Rating diagrams

VAIL/VA 12 pressure drop vs. flow
Std. setting @ 5 l/min (1.32 US gpm)



VAIL/VA 34 pressure drop vs. flow
Std. setting @ 5 l/min (1.32 US gpm)





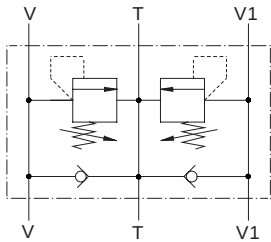
Type VMDACSV pressure relief valves

- Double antishock differential relief valve with anticavitation

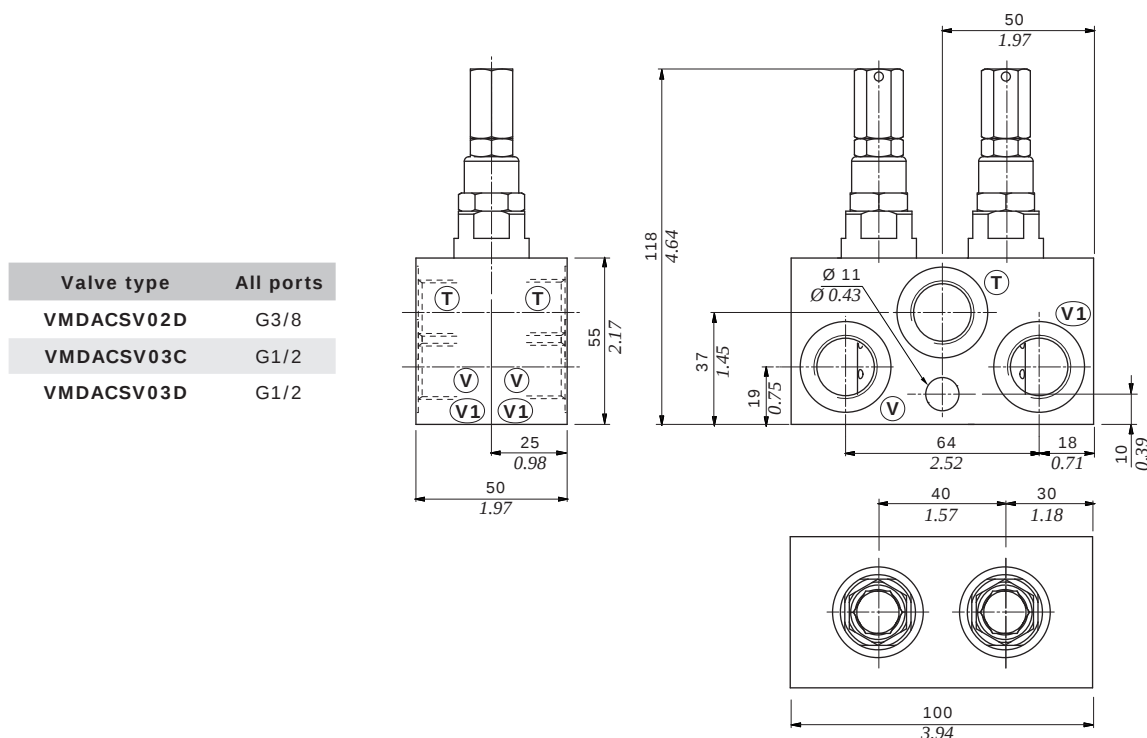
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

	VMDACSV 02	VMDACSV 03
Nominal flow	45 l/min (11.9 US gpm)	70 l/min (18.5 US gpm)
Max. pressure	Steel body = 350 bar (5100 psi)	
Fluid	mineral based oil	
Viscosity	from 10 to 200 cSt	
Max. level of contamination	18/16/13 ISO4406	
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)	
Environmental temperature for working conditions	from -40°C (-40°F) to 100°C (212°F)	
Weight	steel 1.96 kg (4.31 lb)	1.85 kg (4.08 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.

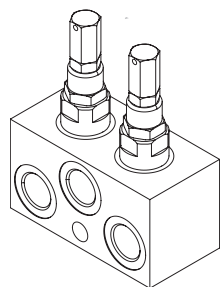


Dimensions



Ordering codes and description composition

Port size | Setting range
VMDACSV 03 C



Spring type	Setting range bar (psi)	Std. setting bar (psi)
C	95-125 (1370-1800)	110 (1600)
D	125-160 (1800-2300)	140 (2030)

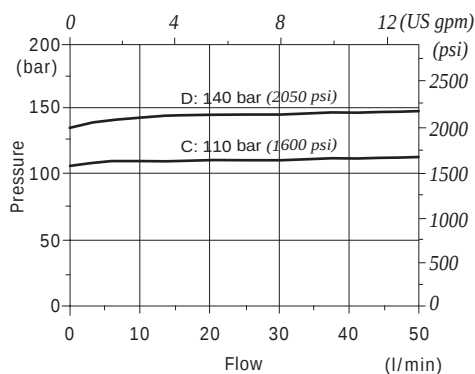
VMDACSV complete valves

TYPE	CODE	DESCRIPTION
Configuration with G3/8 standard thread		
VMDACSV02D	1152521100	Steel body, setting range 125-160 bar (1800-2300 psi), std setting 140 bar @ 5 l/min (2030 psi @ 1.32 US gpm)
Configuration with G1/2 standard thread		
VMDACSV03C	1152531100	Steel body, setting range 95-125 bar (1370-1800 psi), std setting 110 bar @ 5 l/min (1600 psi @ 1.32 US gpm)
VMDACSV03D	1152531101	Steel body, setting range 125-160 bar (1800-2300 psi), std setting 140 bar @ 5 l/min (2030 psi @ 1.32 US gpm)

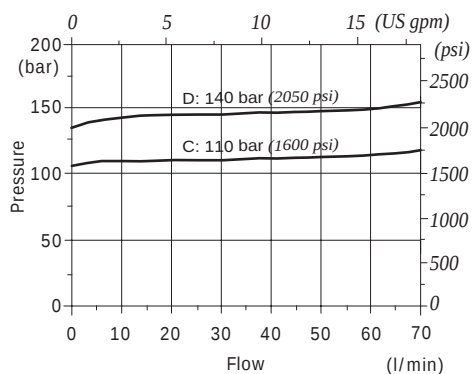
For different configurations and SAE thread please contact our Sales Dpt.

Rating diagrams

VMDACSV02C pressure vs. flow
Std. setting @ 5 l/min (1.32 US gpm)



VMDACSV03C pressure vs. flow
Std. setting @ 5 l/min (1.32 US gpm)





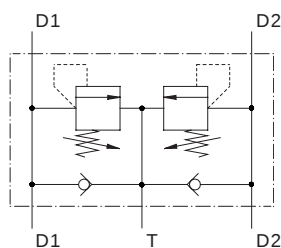
Type VADDL / VA pressure relief valves

- Double antishock differential acting relief valve with anticavitation

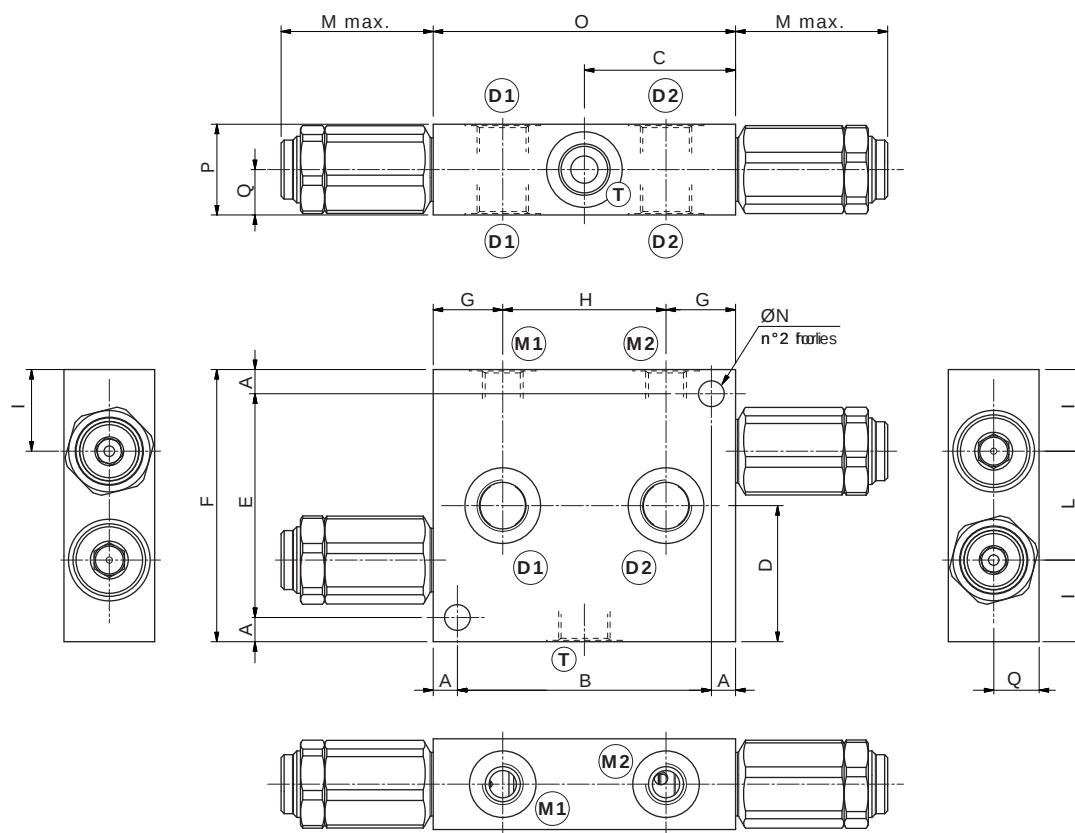
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

	VADDL / VA 38	VADDL / VA 12	VADDL/VA 34	VADDL / VA 100	
Nominal flow	35 l/min (9.2 US gpm)	60 l/min (16 US gpm)	120 l/min (31.7 US gpm)	180 l/min (47.6 US gpm)	
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)				
Oil leakage at 80% of max. setting	0.50 cm³/min (0.03 in³/min)				
Fluid	mineral based oil				
Viscosity	from 10 to 200 cSt				
Max. level of contamination	18/16/13 ISO4406				
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)				
Environmental temperature for working conditions	from -40°C (-40°F) to 100°C (212°F)				
Weight	aluminium	1.14 kg (2.51 lb)	1.58 kg (3.48 lb)	3.25 kg (7.16 lb)	3.57 kg (7.87 lb)
	steel	2.10 kg (4.63 lb)	3.10 kg (6.83 lb)	6.50 kg (14.33 lb)	7.78 kg (17.15 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions



Valve type	D1	D2	T	M1	M2
VADDL/VA 38	G3/8		G1/4		
VADDL/VA 12	G1/2		G1/4		
VADDL/VA 34	G3/4		G1/4		
VADDL/VA 100	G1"		G1/4		

Valve type	D1	D2	T	M1	M2
VADDL/VA 38/SAE	SAE8		SAE6		
VADDL/VA 12/SAE	SAE10		SAE6		
VADDL/VA 34/SAE	SAE12		SAE6		
VADDL/VA 100/SAE	SAE16		SAE6		

Dimensions are in mm-in

Valve type	A	B	C	D max	E	F	G	H	I	L	M	ØN	O	P	Q
VADDL/VA 38 VADDL/VA 38/SAE	8-0.31	84-3.31	50-1.97	57.7-2.27	74-2.91	90-3.54	23-0.90	54-2.12	27-1.06	36-1.42	52-2.05	8.5-0.33	100-3.94	30-1.18	15-0.59
VADDL/VA 12 VADDL/VA 12/SAE	8-0.31	84-3.31	46-1.81	56.2-2.21	84-3.30	100-3.94	23-0.90	54-2.12	30-1.18	40-1.57	57-2.24	8.5-0.33	100-3.94	40-1.57	20-0.79
VADDL/VA 34 VADDL/VA 34/SAE	10-0.39	110-4.33	55-1.97	68.8-2.71	100-3.94	120-4.72	28-1.10	64-2.52	37-1.46	46-1.81	66-2.60	10.5-0.41	120-4.72	60-3.15	30-1.18
VADDL/VA 100 VADDL/VA 100/SAE	10-0.39	110-4.33	70-2.75	68.8-2.71	110-4.33	130-5.11	30-1.18	70-2.75	37-1.46	56-2.20	66-2.60	10.5-0.41	130-5.11	70-2.75	35-1.38

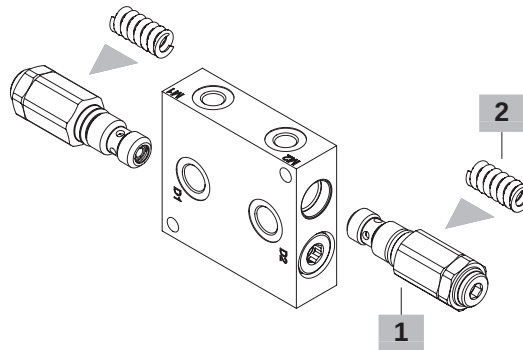
Ordering codes and description composition

Port size

2

VADDL/VA 38/TS.S

1



VADDL/VA complete valves

Differential type valve configuration

Standard setting 150 bar @ 5 l/min (2100 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
Configuration with G3/8 standard thread		
VADDL/VA 38/TS.S	1152021102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
VADDL/VA 38/TS.S/ac	1152022100	Steel body, as previous one

Configuration with G1/2 standard thread

VADDL/VA 12/TS.S	1152031102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
VADDL/VA 12/TS.S/ac	1152032100	Steel body, as previous one

Configuration with G3/4 standard thread

VADDL/VA 34/TS.S	1152041102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
VADDL/VA 34/TS.S/ac	1152042100	Steel body, as previous one

Configuration with G1" standard thread

VADDL/VA 100/TS.S	1152051102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
VADDL/VA 100/TS.S/ac	1152052100	Steel body, as previous one

Configuration with SAE8 standard thread

VADDL/VA 38/TS.S/SAE	1152021200	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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Configuration with SAE10 standard thread

VADDL/VA 12/TS.S/SAE	1152031200	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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Configuration with SAE12 standard thread

VADDL/VA 34/TS.S/SAE	1152041200	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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Configuration with SAE16 standard thread

VADDL/VA 100/TS.S/SAE	1152051200	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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For other steel body configurations, SAE thread and configurations with FPM (Viton) seals, please contact our Sales Dpt.

1 Direct acting pressure relief valves

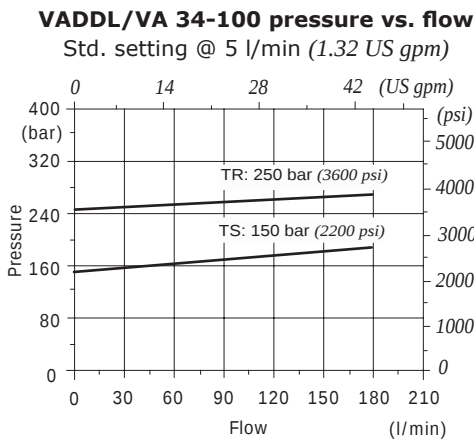
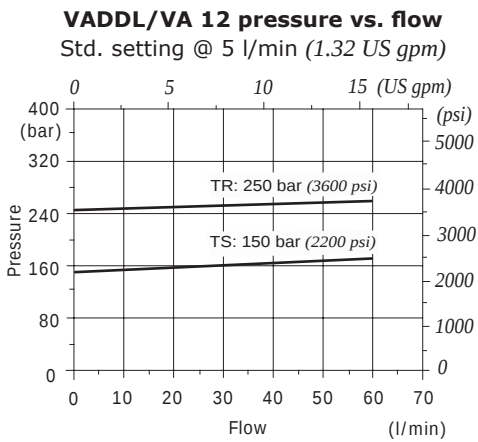
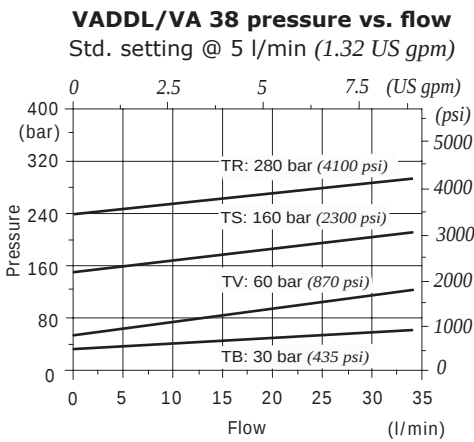
Standard setting 150 bar @ 5 l/min (2100 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
For G3/8 and SAE8 ports configuration		
VMPD 38/TS.S	1120020402	Setting range 5-210 bar (72.5-3050 psi)
For G1/2 and SAE10 ports configuration		
VMPD 12/TS.S	1120030402	Setting range 5-210 bar (72.5-3050 psi)
For G3/4, G1", SAE12 and SAE16 ports configuration		
VMPD 34/TS.S	1120040402	Setting range 5-210 bar (72.5-3050 psi)

2 Pressure setting spring

TYPE	CODE	DESCRIPTION
For VMPD 38 valve		
TS	3ML1144000	Spring for range 5-210 bar (72.5-3050 psi)
TR	3ML1144001	Spring for range 50-350 bar (725-5100 psi)
For VMPD 12 valve		
TS	3ML1164000	Spring for range 5-210 bar (72.5-3050 psi)
TR	3ML1164001	Spring for range 50-350 bar (725-5100 psi)
For VMPD 34 valve		
TS	3ML1194500	Spring for range 5-210 bar (72.5-3050 psi)
TR	3ML1194501	Spring for range 50-350 bar (725-5100 psi)

Rating diagrams





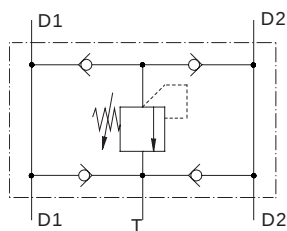
Type VAA/RU/DL pressure relief valves

- Antishock direct acting relief valve with anticavitation, with single adjustment

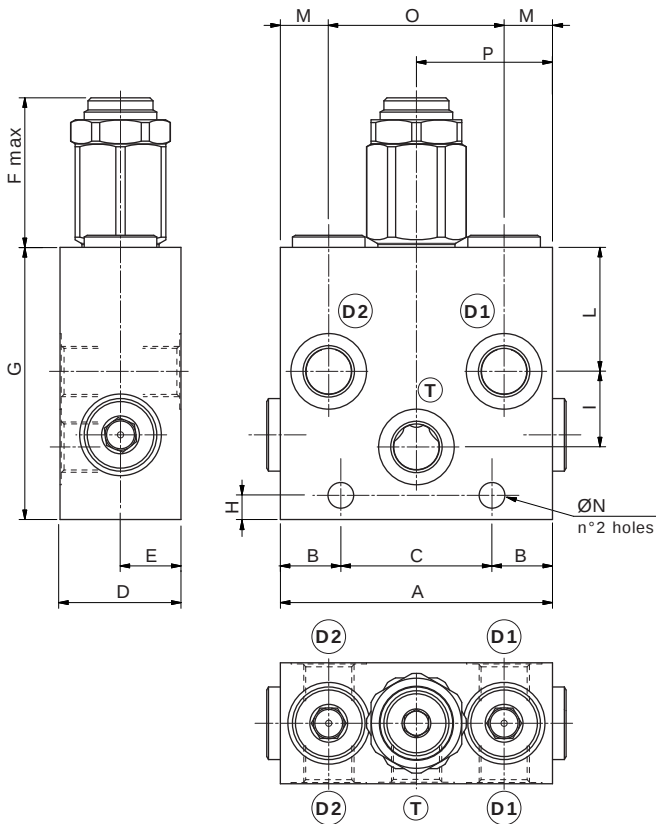
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

	VAA / RU / DL 38	VAA / RU / DL 12	VAA / RU / DL 34	VAA / RU / DL 100	
Nominal flow	35 l/min (9.2 US gpm)	60 l/min (16 US gpm)	120 l/min (31.7 US gpm)	180 l/min (47.6 US gpm)	
Max. pressure	Aluminium body = 210 bar (3050 psi) Steel body = 350 bar (5100 psi)				
Oil leakage at 80% of max. setting	0.75 cm³/min (0.04 in³/min)				
Fluid	mineral based oil				
Viscosity	from 10 to 200 cSt				
Max. level of contamination	18/16/13 ISO4406				
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)				
Environmental temperature for working conditions	from -40°C (-40°F) to 100°C (212°F)				
Weight	aluminium	1.18 kg (2.60 lb)	1.15 kg (2.53 lb)	2.32 kg (5.11 lb)	3.95 kg (8.71 lb)
	steel	2.44 kg (5.38 lb)	2.38 kg (5.25 lb)	4.73 kg (10.43 lb)	8.12 kg (17.90 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Dimensions

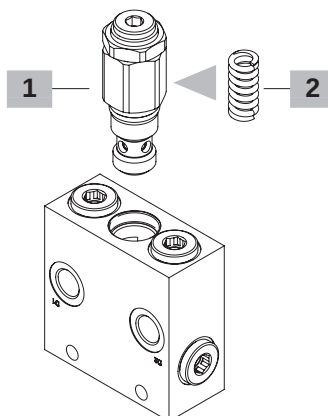
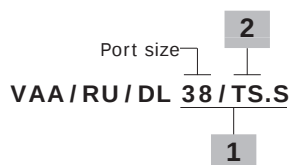


Valve type	All ports
VAA / RU / DL 38	G3/8
VAA / RU / DL 12	G1/2
VAA / RU / DL 34	G3/4
VAA / RU / DL 100	G1"

Dimensions are in mm-in

Valve type	A	B	C	D	E	F	G	H	I	L	M	ØN	O	P
VAA / RU / DL 38	90-3.54	20-0.79	50-1.97	40-1.57	20-0.79	57.7-2.27	90-3.54	8-0.31	25-0.98	41-1.61	16-0.39	8.5-0.33	58-2.28	45-1.77
VAA / RU / DL 12	90-3.54	20-0.79	50-1.97	40-1.57	20-0.79	56.2-2.21	90-3.54	8-0.31	25-0.98	41-1.61	16-0.39	8.5-0.33	58-2.28	45-1.77
VAA / RU / DL 34	110-4.33	24-0.94	62-2.44	55-2.16	27.5-1.08	68.8-2.71	110-4.33	8-0.31	31-1.22	53-2.08	24-0.94	8.5-0.33	62-2.44	56-2.20
VAA / RU / DL 100	140-5.51	32-1.26	76-2.99	60-2.36	30-1.18	68.8-2.72	140-5.51	11-0.43	37-1.46	65-2.56	27-1.06	10.5-0.41	86-3.38	70-2.75

Ordering codes and description composition



VAA / RU / DL complete valves

Direct acting valve configuration

Standard setting 150 bar @ 5 l/min (2100 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
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Configuration with G3/8 standard thread

VAA / RU / DL 38 / TS.S	1160021102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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VAA / RU / DL 38 / TS.S / ac	1160022100	Steel body, as previous one
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Configuration with G1/2 standard thread

VAA / RU / DL 12 / TS.S	1160031102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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VAA / RU / DL 12 / TS.S / ac	1160032100	Steel body, as previous one
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Configuration with G3/4 standard thread

VAA / RU / DL 34 / TS.S	1160041102	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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VAA / RU / DL 34 / TS.S / ac	1160042100	Steel body, as previous one
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Configuration with G1" standard thread

VAA / RU / DL 100 / TS.S	1160051100	Aluminium body, setting range 5-210 bar (72.5-3045 psi)
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VAA / RU / DL 100 / TS.S / ac	1160052101	Steel body, as previous one
-------------------------------	------------	-----------------------------

For other steel body configurations, SAE thread and configurations with FPM (Viton) seals, please contact our Sales Dpt.

1 Direct acting pressure relief valves

Standard setting 150 bar @ 5 l/min (2100 psi at 1.32 US gpm)

TYPE	CODE	DESCRIPTION
------	------	-------------

For G3/8 and G1/2 ports configuration

VMPD 12 / TS.S	1120030402	Setting range 5-210 bar (72.5-3050 psi)
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For G3/4 ports configuration

VMPD 34 / TS.S	1120040402	Setting range 5-210 bar (72.5-3050 psi)
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For G1" ports configuration

VMPD 100 / TS.S	1120050402	Setting range 5-210 bar (72.5-3050 psi)
-----------------	------------	---

2 Pressure setting spring

TYPE	CODE	DESCRIPTION
------	------	-------------

For VAA / RU / DL 38, 12 and 100 valves

TS	3ML1164000	Spring for range 5-210 bar (72.5-3050 psi)
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TR	3ML1164001	Spring for range 50-350 bar (725-5100 psi)
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For VAA / RU / DL 34 valve

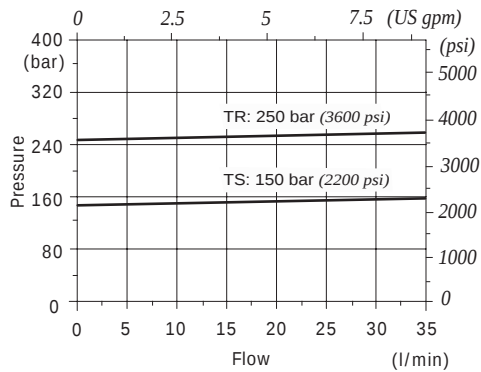
TS	3ML1194500	Spring for range 5-210 bar (72.5-3050 psi)
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TR	3ML1194501	Spring for range 50-350 bar (725-5100 psi)
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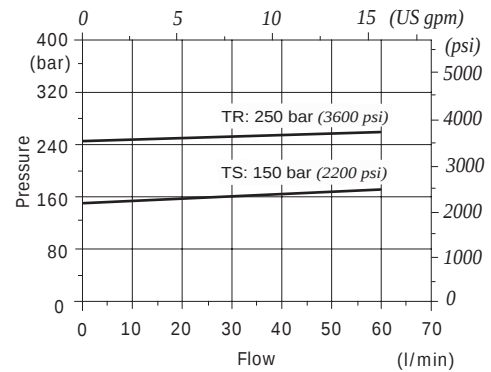
Rating diagrams

VAA/RU/DL 38 pressure vs. flow

Std. setting @ 5 l/min (1.32 US gpm)

**VAA/RU/DL 12 pressure dop vs. flow**

Std. setting @ 5 l/min (1.32 US gpm)

**VAA/RU/DL 34-100 pressure vs. flow**

Std. setting @ 5 l/min (1.32 US gpm)

