



PL..M type flow control pressure compensated valves - 4 way

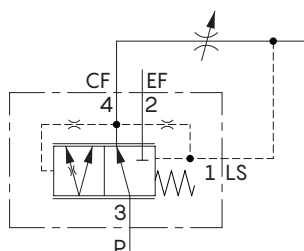
- Spool type
- Piloted acting by mechanical control
- Priority cartridges valves compensated with possibility of static and dynamic load sense
- External zinc-plated and corrosion-proof components
- Priority flow rate (port 4) not affected by changes in working conditions
- SAE10 to SAE16 cavities

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

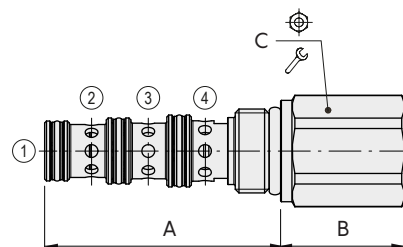
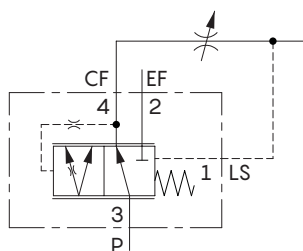
		PL10M	PL12M	PL16M
Nominal flow	on port 3	50 l/min (13.2 US gpm)	100 l/min (26.4 US gpm)	160 l/min (42.2 US gpm)
	max. on port 4	40 l/min (10.5 US gpm)	80 l/min (21.1 US gpm)	140 l/min (36.9 US gpm)
Max. pressure		350 bar (5100 psi)		
Stand-by	PL..M/..AB	5 bar (72.5 psi)	5 bar (72.5 psi)	5.5 bar (79.7 psi)
	PL..M/..BB	-	7.5 bar (108 psi)	-
	PL..M/..CB	10 bar (145 psi)	10.5 bar (152 psi)	11 bar (159 psi)
	PL..M/..DB	-	-	22 bar (319 psi)
Fluid		mineral based or synthetic hydraulic fluid with lubricating properties		
Viscosity		10-200 cSt		
Max level of contamination		18/16/13 ISO4406		
Fluid temperature	with NBR seals+Polyurethane with FPM seals	from -25°C (-13°F) to 90°C (194°F) from -20°C (-4°F) to 110°C (230°F)		
Environmental temp. for working conditions		from -20°C (-4°F) to 60°C (140°F)		
Cavity		SAE 10/4	SAE 12/4	SAE 16/4
Weight		0.224 kg (0.494 lb)	0.378 kg (0.833 lb)	0.800 kg (1.76 lb)

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

Dynamic circuit



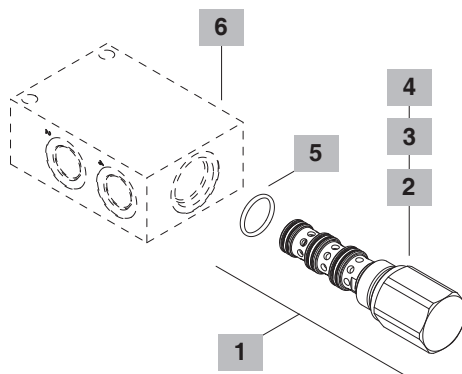
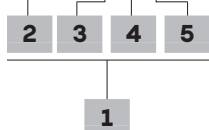
Static circuit



Valve type	A		B		C		
	mm	in	mm	in	Nm lbft		
PL10M	62.4	2.46	32.8	1.29	27	50	37
PL12M	81.9	3.22	35	1.38	32	80	59
PL16M	102.5	4.04	37.6	1.48	36	100	74

Ordering codes and description composition

PL10M/ D 1 C B



1 Cartridges

TYPE	CODE	DESCRIPTION
SAE cavity 10/4		
PL10M/S1AB	OPL10002000	Static circuit, 5 bar (72.5 psi) stand by
PL10M/S1CB	OPL10002002	Static circuit, 10 bar (145 psi) stand by
PL10M/D1AB	OPL10002003	Dynamic circuit, 5 bar (72.5 psi) stand by
PL10M/D1CB	OPL10002001	Dynamic circuit, 10 bar (145 psi) stand by
SAE cavity 12/4		
PL12M/S1AB	OPL12002004	Static circuit, 5 bar (72.5 psi) stand by
PL12M/S1BB	OPL12002005	Static circuit, 7.5 bar (109 psi) stand by
PL12M/S1CB	OPL12002003	Static circuit, 10.5 bar (152 psi) stand by
PL12M/D1AB	OPL12002000	Dynamic circuit, 5 bar (72.5 psi) stand by
PL12M/D1BB	OPL12002002	Dynamic circuit, 7.5 bar (109 psi) stand by
PL12M/D1CB	OPL12002001	Dynamic circuit, 10.5 bar (152 psi) stand by
SAE cavity 16/4		
PL16M/S1AB	OPL16002003	Static circuit, 5.5 bar (79.7 psi) stand by
PL16M/S1CB	OPL16002004	Static circuit, 11 bar (159 psi) stand by
PL16M/S1DB	OPL16002005	Static circuit, 22 bar (319 psi) stand by
PL16M/D1AB	OPL16002000	Dynamic circuit, 5.5 bar (79.7 psi) stand by
PL16M/D1CB	OPL16002001	Dynamic circuit, 11 bar (159 psi) stand by
PL16M/D1DB	OPL16002002	Dynamic circuit, 22 bar (319 psi) stand by

2 Circuit type

TYPE	DESCRIPTION
S	Static circuit
D	Dynamic circuit

3 Metering hole

TYPE	DESCRIPTION
1	Static circuit: Ø 0.5 mm (0.0197 in) Dynamic circuit: Ø 0.5 mm (0.0197 in)

4 Stand-by setting

TYPE	DESCRIPTION	PL10M	PL12M	PL16M
A	5 bar (72.5 psi)	5 bar (72.5 psi)	5 bar (72.5 psi)	5.5 bar (79.7 psi)
B	-	-	7.5 bar (109 psi)	-
C	10 bar (145 psi)	10 bar (145 psi)	10 bar (145 psi)	11 bar (159 psi)
D	-	-	-	22 bar (319 psi)

5 Seals

TYPE	DESCRIPTION
B	NBR (Buna)+Polyurethane o-ring seals, std configuration
V	FPM (Viton) o-ring seals, contact Sales Dept

6 Valve body

TYPE	CODE	DESCRIPTION
SAE10/4-G 1/2	3CC1040D11	Aluminium body for cavity 10 valve, G 1/2 std thread
SAE12/4-G 1/2	3CC1240D11	Aluminium body for cavity 12 valve, G 1/2 std thread
SAE16/4-G 3/4	3CC1640E11	Aluminium body for cavity 16 valve, G 3/4 std thread

Note: aluminium body can stand up to 210 bar (3050 psi)
For steel bodies or different threading see from page 212

Flow control valves

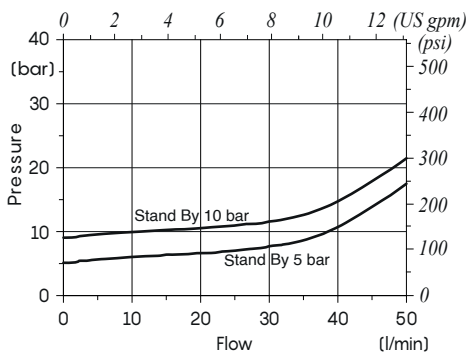
Flow control pressure compensated valves - 4 way

PL..M type

Rating diagrams

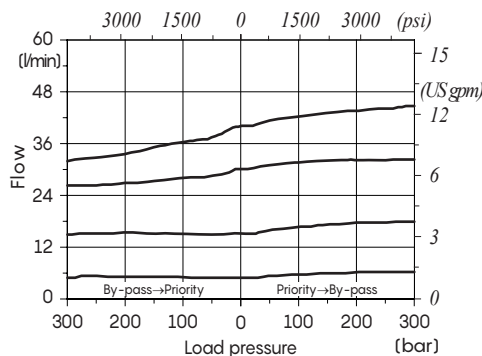
PL10M valve (valve body with G 1/2 ports)

Pressure drop
from 3→2 (4 closed)



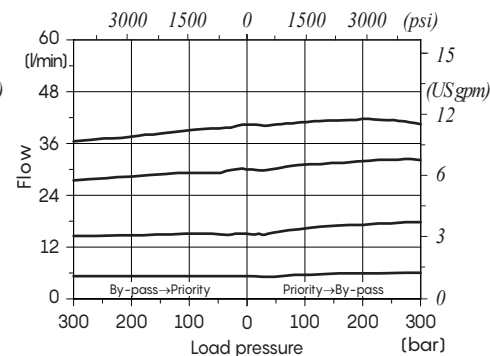
Priority flow vs. Load pressure

stand-by: 5 bar (72.5 psi)
inlet flow: 50 l/min (13.2 US gpm)



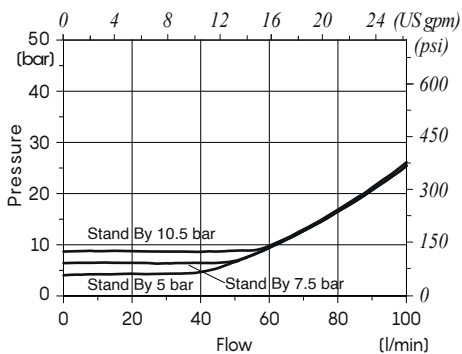
Priority flow vs. Load pressure

stand-by: 10 bar (145 psi)
inlet flow: 50 l/min (13.2 US gpm)



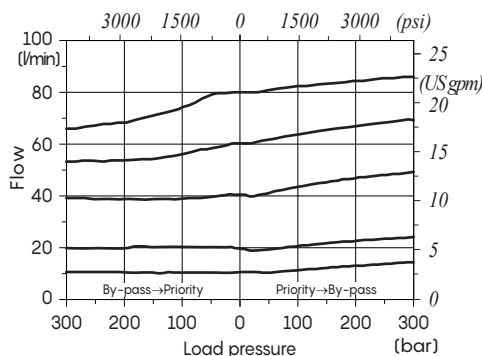
PL12M valve (valve body with G 1/2 ports)

Pressure drop
from 3→2 (4 closed)



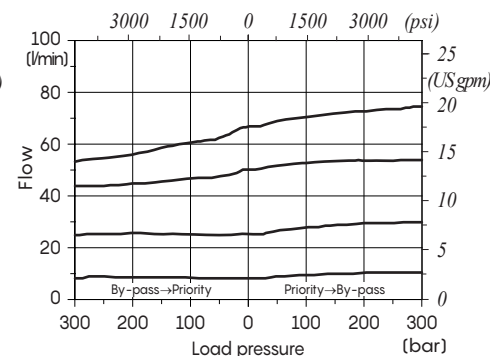
Priority flow vs. Load pressure

stand-by: 5 bar (72.5 psi)
inlet flow: 100 l/min (26.4 US gpm)



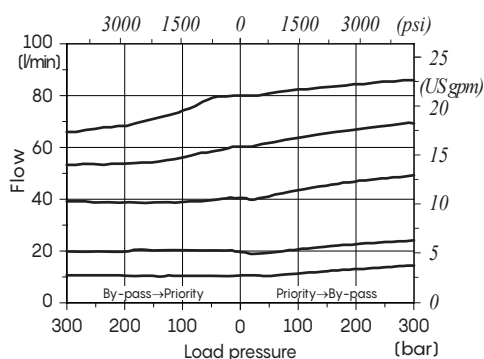
Priority flow vs. Load pressure

stand-by: 7.5 bar (108 psi)
inlet flow: 100 l/min (26.4 US gpm)



Priority flow vs. Load pressure

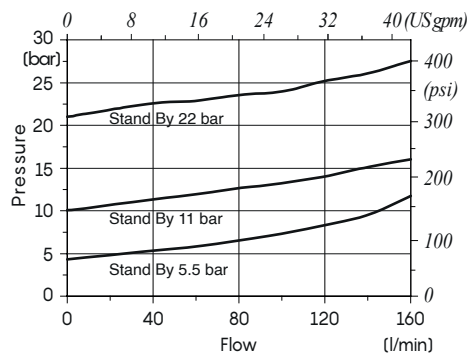
stand-by: 10.5 bar (152 psi)
inlet flow: 100 l/min (26.4 US gpm)



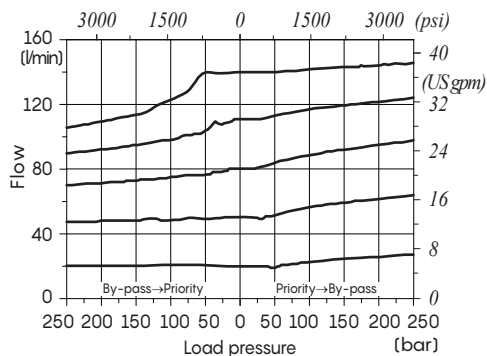
Rating diagrams

PL16M valve (valve body with G 3/4 ports)

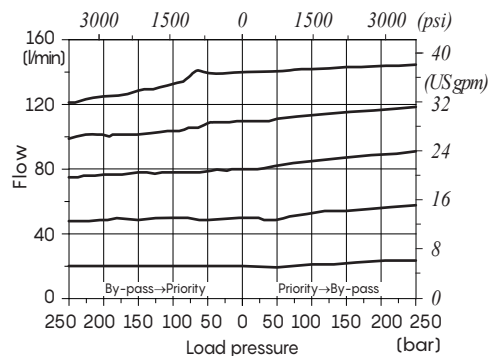
Pressure drop
from 3->2 (4 closed)



Priority flow vs. Load pressure
stand-by: 5.5 bar (79.7 psi)
inlet flow: 160 l/min (42.2 US gpm)



Priority flow vs. Load pressure
stand-by: 11 bar (159 psi)
inlet flow: 160 l/min (42.2 US gpm)



Priority flow vs. Load pressure
stand-by: 22 bar (319 psi)
inlet flow: 160 l/min (42.2 US gpm)

