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

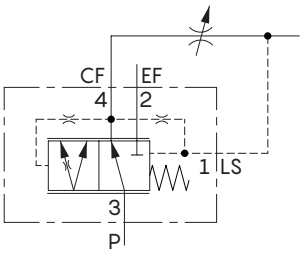
- Spool type
- Piloted acting by mechanical control
- Priority cartridges valves compensated with possibility of static and dynamic load sense
- External zinc-plated and corrosion-proof components
- Priority flow rate (port 4) not affected by changes in working conditions
- SAE10 to SAE16 cavities

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

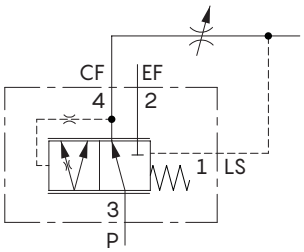
		PL10M	PL12M	PL16M
Nominal flow	on port 3	50 l/min *(13.2 US gpm)*	100 l/min *(26.4 US gpm)*	160 l/min *(42.2 US gpm)*
	max. on port 4	40 l/min *(10.5 US gpm)*	80 l/min *(21.1 US gpm)*	140 l/min *(36.9 US gpm)*
Max. pressure			350 bar *(5100 psi)*	
Stand-by	PL..M/..AB	5 bar *(72.5 psi)*	5 bar *(72.5 psi)*	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 sinthetic 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)*

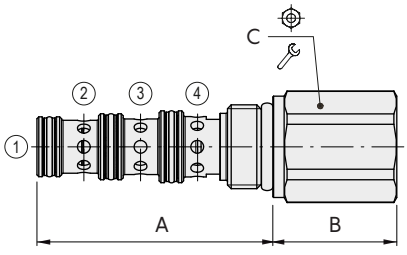
NOTE - For different conditions, please contact Walvoil Sales Dpt.

Dynamic circuit



Static circuit

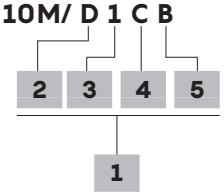


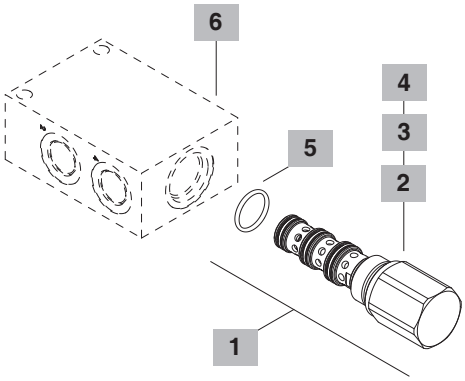


Valve type	A		B		C		
	mm	*in*	mm	*in*		Nm	*lbft*
PL10M	62.4	*2.46*	32.8	*1.29*	27	50	*37*
PL12M	81.9	*3.22*	35	*1.38*	32	80	*59*
PL16M	102.5	*4.04*	37.6	*1.48*	36	100	*74*

Ordering codes and description composition

PL10M/ D 1 C B





1 Cartridges

TYPE	CODE	DESCRIPTION
SAE cavity 10/4		
PL10M/S1AB	0PL10002000	Static circuit, 5 bar *(72.5 psi)* stand by
PL10M/S1CB	0PL10002002	Static circuit, 10 bar *(145 psi)* stand by
PL10M/D1AB	0PL10002003	Dynamic circuit, 5 bar *(72.5 psi)* stand by
PL10M/D1CB	0PL10002001	Dynamic circuit, 10 bar *(145 psi)* stand by
SAE cavity 12/4		
PL12M/S1AB	0PL12002004	Static circuit, 5 bar *(72.5 psi)* stand by
PL12M/S1BB	0PL12002005	Static circuit, 7.5 bar *(109 psi)* stand by
PL12M/S1CB	0PL12002003	Static circuit, 10.5 bar *(152 psi)* stand by
PL12M/D1AB	0PL12002000	Dynamic circuit, 5 bar *(72.5 psi)* stand by
PL12M/D1BB	0PL12002002	Dynamic circuit, 7.5 bar *(109 psi)* stand by
PL12M/D1CB	0PL12002001	Dynamic circuit, 10.5 bar *(152 psi)* stand by
SAE cavity 16/4		
PL16M/S1AB	0PL16002003	Static circuit, 5.5 bar *(79.7 psi)* stand by
PL16M/S1CB	0PL16002004	Static circuit, 11 bar *(159 psi)* stand by
PL16M/S1DB	0PL16002005	Static circuit, 22 bar *(319 psi)* stand by
PL16M/D1AB	0PL16002000	Dynamic circuit, 5.5 bar *(79.7 psi)* stand by
PL16M/D1CB	0PL16002001	Dynamic circuit, 11 bar *(159 psi)* stand by
PL16M/D1DB	0PL16002002	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)*	5.5 bar *(79.7 psi)*
B	-	7.5 bar *(109 psi)*	-
C	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

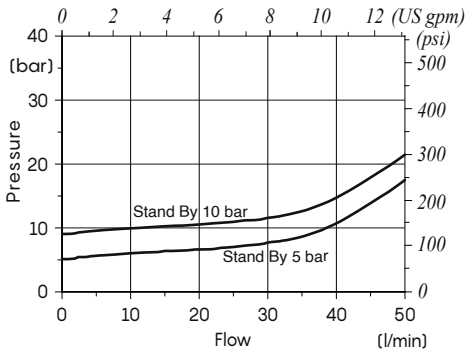
TYPE	CODE	DESCRIPTION
SAE10/4-SAE10	3CC1040L11	Aluminium body for cavity 10 valve, SAE10 std thread
SAE12/4-SAE10	3CC1240L11	Aluminium body for cavity 12 valve, SAE10 std thread
SAE16/4-SAE16	3CC1640N11	Aluminium body for cavity 16 valve, SAE16 std thread

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

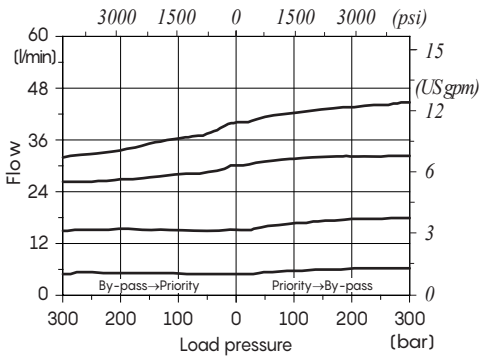
Rating diagrams

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

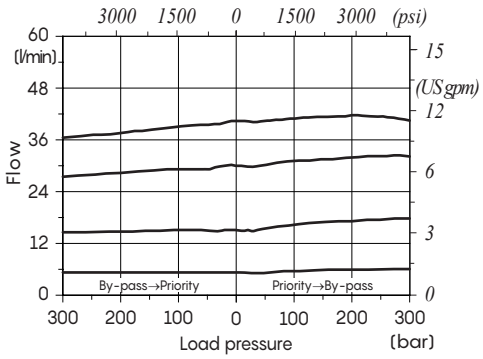
Pressure drop
from 3->2 (4 closed)



Priority flow vs. Load pressure
stand-by: 5 bar *(72.5 psi)*
inlet flow: 50 l/min *(13.2 US gpm)*

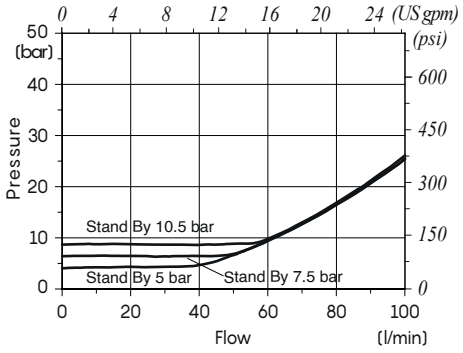


Priority flow vs. Load pressure
stand-by: 10 bar *(145 psi)*
inlet flow: 50 l/min *(13.2 US gpm)*

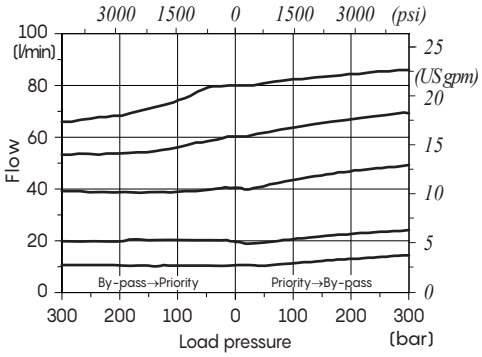


PL12M valve (valve body with G 1/2 ports)

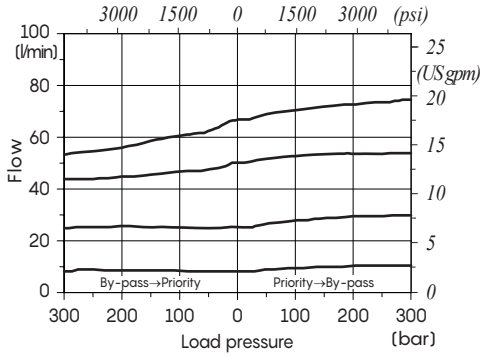
Pressure drop
from 3->2 (4 closed)



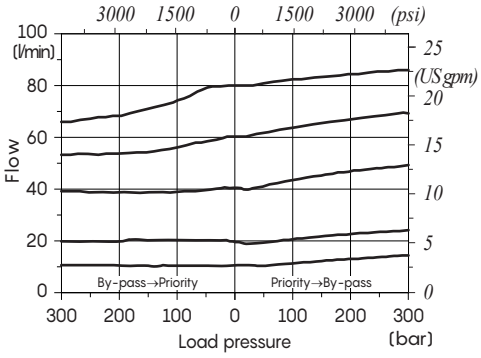
Priority flow vs. Load pressure
stand-by: 5 bar *(72.5 psi)*
inlet flow: 100 l/min *(26.4 US gpm)*



Priority flow vs. Load pressure
stand-by: 7.5 bar *(108 psi)*
inlet flow: 100 l/min *(26.4 US gpm)*



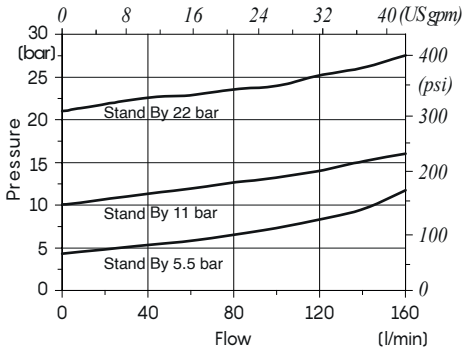
Priority flow vs. Load pressure
stand-by: 10.5 bar *(152 psi)*
inlet flow: 100 l/min *(26.4 US gpm)*



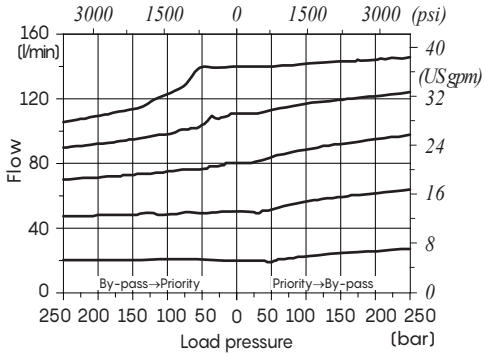
Rating diagrams

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

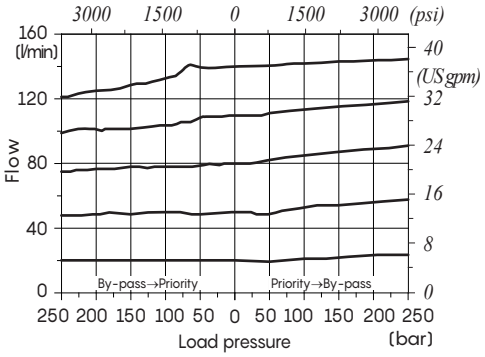
Pressure drop
from 3->2 (4 closed)



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)*