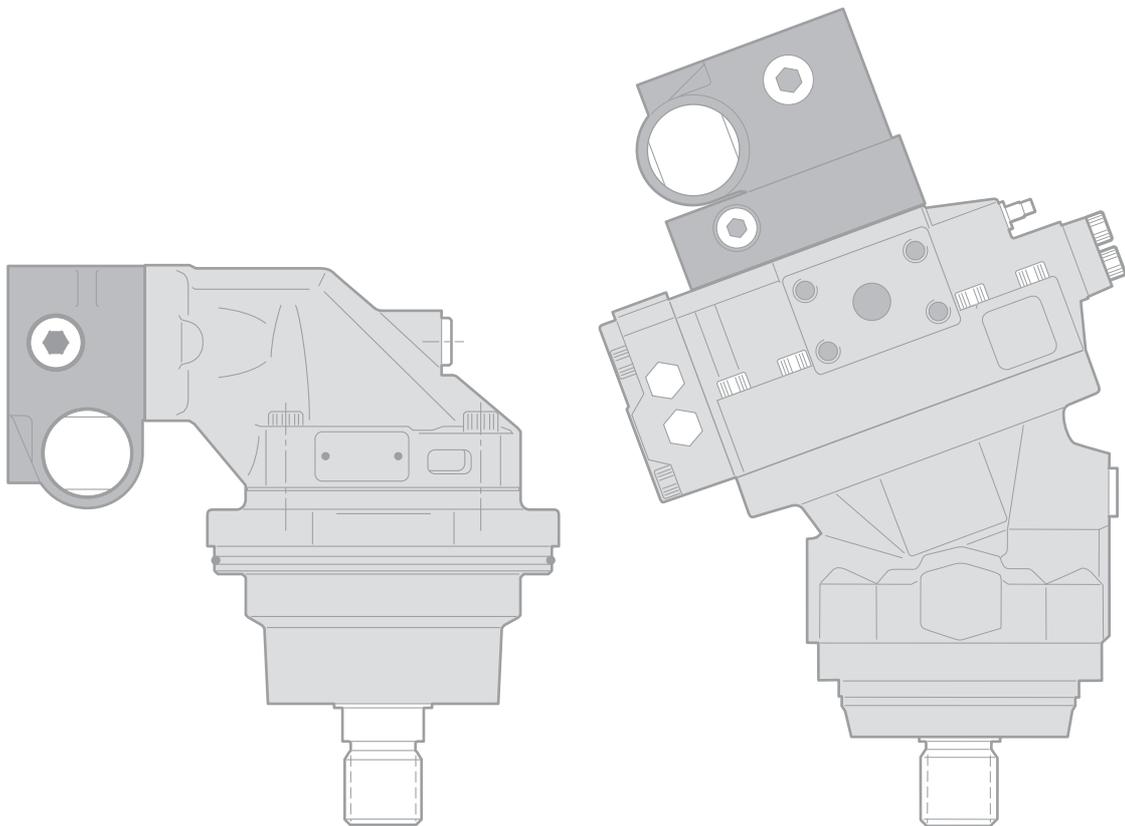




# **Mobile motor/pump accessories**

*Catalogue HY17- 8258/UK  
November 2004*



The SP, super shockless, pressure relief/make-up valve block for series F12 motors is designed mainly for protection of the swing function of an excavator. It features a very 'soft' relief characteristic with very little overshoot and an excellent make-up function.

The pressure/time diagram to the right is a recording of an actual start-brake sequence of an excavator swing function. In the left part ('Start'), port A is pressurized and the swing is accelerating; the pump pressure is limited by the relief valve setting.

In the right part ('Brake'), port B is pressurized (as determined by the relief valve setting), and the swing movement stops.

The valve block installes directly on the motor port flange, and is available in three sizes:

- SP11 3/4" for F12-30/-40/-60
- SP12 1" for F12-80
- SP13 1 1/4" for F12-110

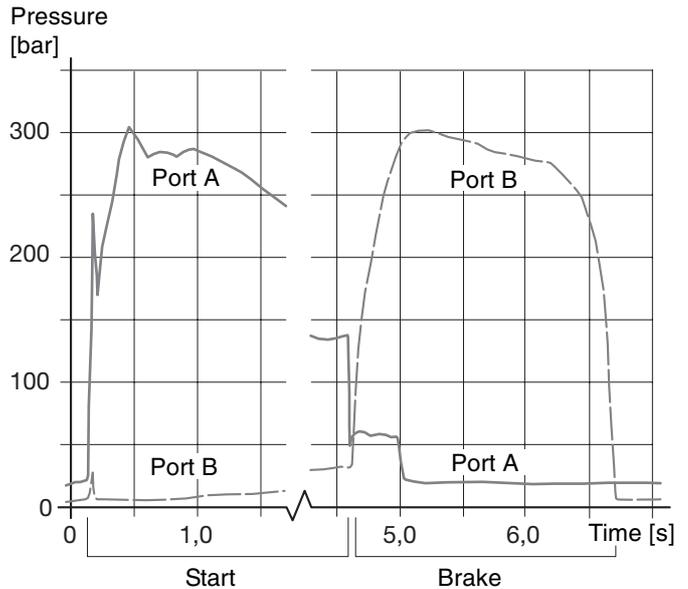
The SP valve consists of a valve block containing two high pressure relief cartridges and two separate check valves for make-up; refer to the split view below.

Cartridges are available in five non-adjustable pressure settings between 190 and 315 bar.

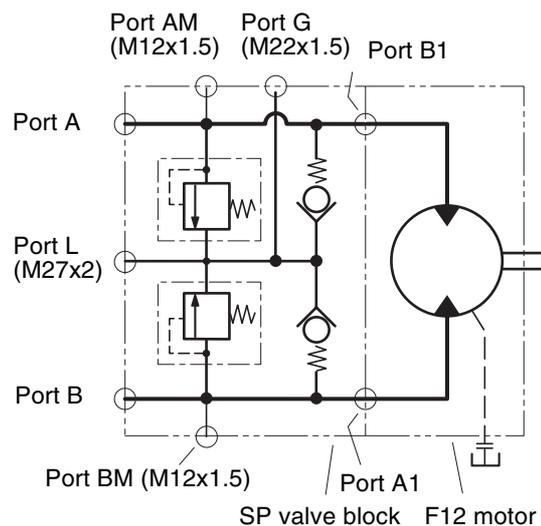
A make-up port (G) is also provided. In certain operating conditions, the motor (when operating as a pump) may cavitate because of insufficient inlet pressure. To prevent this, the G port should be pressurized.

Contact Parker Hannifin, Mobile Controls Division for further information.

**NOTE:** The valve block includes main port O-rings (facing the motor) but no mounting screws.



Pressure/time diagram (example).



SP/F12 schematic.

**Ordering code**

Example: **SP12 - 250/250 - 00 - H F - A**

Version **1** Factory assigned

Port size (SAE 6000 psi) **1** 3/4" (F12-30, -40, -60)  
**2** 1" (F12-80)  
**3** 1 1/4" (F12-110)

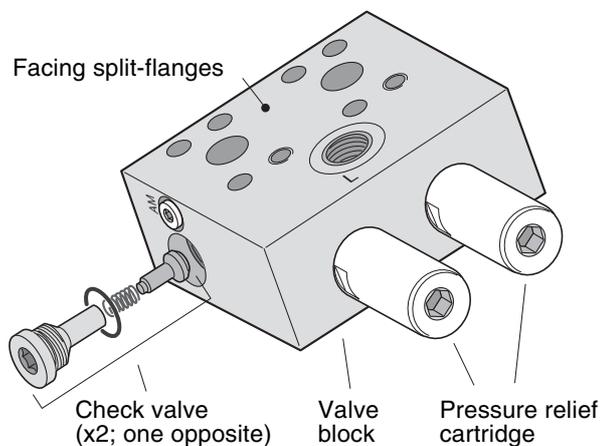
Pressure setting (A and B ports) [bar] **190, 220, 250, 285 or 315**

Serial number **00** Factory assigned

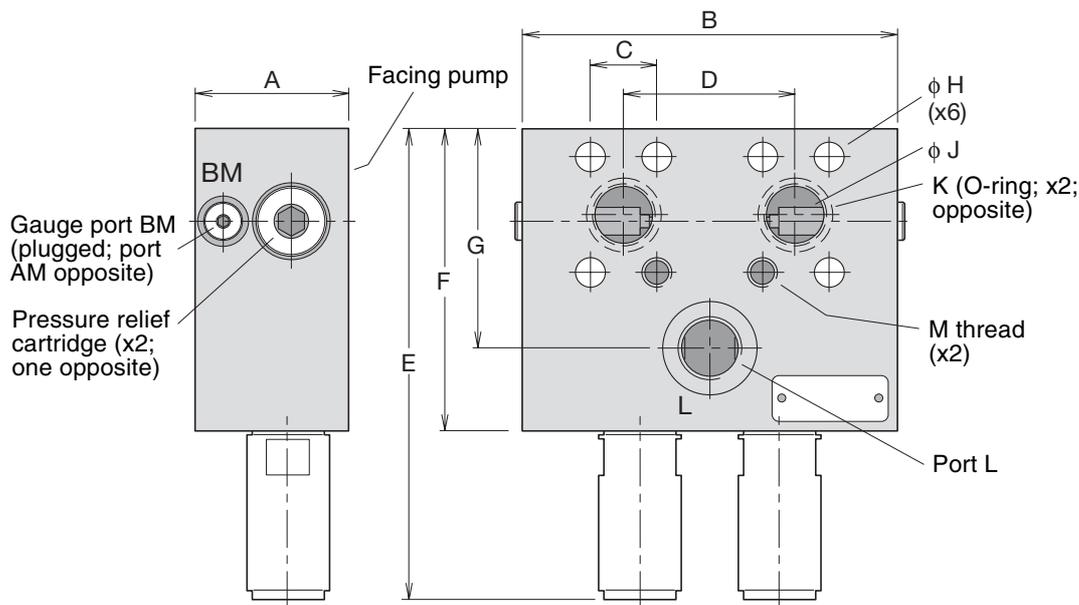
Seals **H** Nitrile rubber

Threads (port G) **F** Metric

Techn. status **A** Factory assigned



SP valve components.



**Installation dimensions** (refer to the illustration)

Valve type	For F12-60	For F12-80	For F12-110
A	63	66	70
B	156	160	160
C	23.8	27.8	31.8
D	66	75	83
E	207	207	225
F	133	133	151
G	97	97	115
H	11	13	15
J	3/4"	12	1 1/4"
K	24.99x3.53 0686 371 810*	32.93x3.53 0663 918 801*	37.69x3.53 0663 919 101*
M	M10 (20 deep)	M12 (20 deep)	M14 (26 deep)

\* Spare part number

**Valve assembly part numbers**

For pump type	Pressure setting [bar] at 20 l/min <sup>1)</sup>				
	190	220	250	285	315
F12-60	376 6320	376 4631	376 3674		
	376 7157		376 3675		
F12-80	376 7161	376 6924	376 3677		
	376 7158		376 3678		
F12-110	376 7162	376 7163	376 3679		
	376 7159		376 7164		

1) Setting within ±10 bar

**Pressure relief cartridges**

Cartridge type	Pressure setting [bar] at 20 l/min <sup>1)</sup>				
	190	220	250	285	315
Spare part number	376 4610	376 4632	376 3825		
	376 7156		376 3824		