Martonair

4/2 Piston Valves

M/649

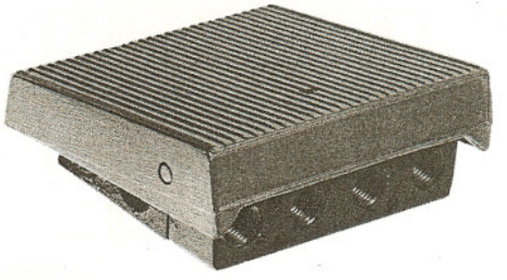
Foot operated

Port size $\frac{1}{4}$" B.S.P.

Operating pressure: 2-10 bar

Cv. factor: 0·52

Operating temperature: −20°C to +80°C.



M/649/99

These valves have been specifically designed for foot operation and incorporate various features particularly suited to this type of application. The low overall height, large pedal dimensions and reduced operating force and movement have all been incorporated to eliminate operator fatigue.

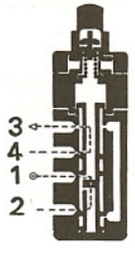
To minimise piping they have a common exhaust port and all ports face away from the operator to keep the piping out of the operator's way. In practical terms these features compare very well with those of electrical foot switches.

When the pedal of the M/649/99 is depressed the valve is actuated and returns to its original position to complete the cycle when released to achieve the same operation as our –/9 and –/109 versions in other ranges.

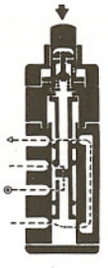
On the M/649/119 the mechanism remains in the operated condition whilst the pedal returns to its original position. When the pedal is depressed a second time the valve mechanism reverts to its original condition.

These valves can also be used as 3/2 valves by plugging one of the outlet ports.

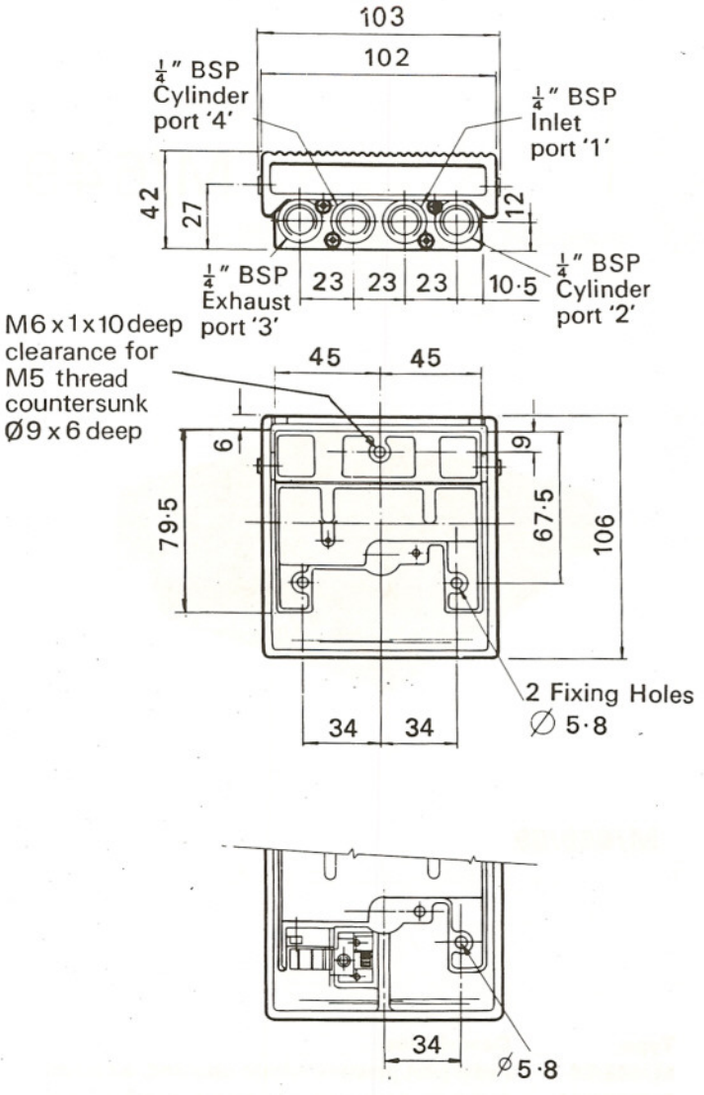
Type	Description
M/649/99	Pedal pilot pressure release operated, air return.
M/649/119	Pedal pilot pressure release set, pedal pilot air return reset.



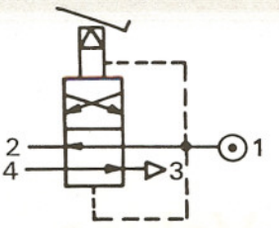
In this position a light spring keeps the bleed valve closed allowing the pressure on the differential piston head to overcome the pressure at the other end, connecting the inlet supply '1' to cylinder port '2'. Cylinder port '4' is connected to exhaust port '3'.



When the air on the large end is bled off the pressure at the small end switches the valve to connect the supply air to cylinder port '4', cylinder port '2' being connected to exhaust.



Recommended inlet pipe size is 8 mm O.D. or equivalent. If smaller inlet pipe is connected, consult Martonair Technical Sales.

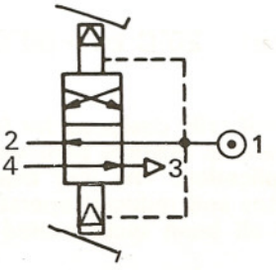


M/649/99

Pedal pilot pressure release operated, air return.

Operating force required on pedal:
13·5 N. at 2 bar
22 N. at 10 bar

Depression of the foot pedal operates a simple bleed valve which exhausts the air on the top of a differentially headed piston. A constant air pressure on the smaller end of the piston is then able to reverse the piston. When the pedal is released, the bleed is shut off and the pressure on the large end of the piston overcomes that on the small end to return it to its original position.

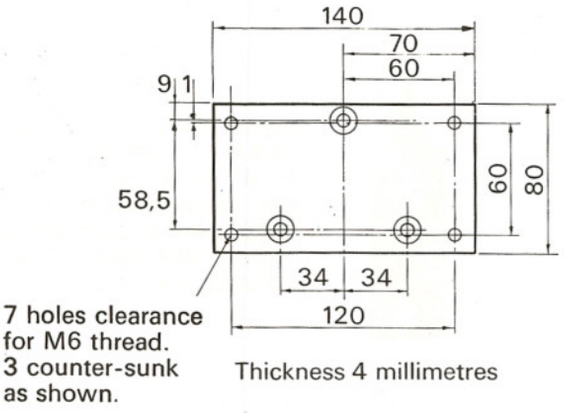


M/649/119

Pedal pilot pressure release set, pedal pilot air return set.

Operating force required on pedal:
35 N. at 10 bar

On the M/649/119 the bleed is alternately opened and closed by a rachet device when the foot pedal is actuated. Thus each operation requires a positive depression of the pedal.



Installation instructions

M/649/99

Remove the setscrew in the pedal, the pedal spindle and the pedal itself. Insert cap head fixing screws in the fixing holes and secure the valve to the fixing surface. Replace the pedal, pedal spindle and setscrew.

M/649/119

Disassemble as -/99. On re-assembly ensure that the pawl is correctly engaged with the ratchet and return spring correctly located.

To avoid accidental operation, these valves should be installed in protected positions.

Mounting plate

Mounting plate QM/1149 is available for mounting the valve in circumstances which prevent fixing in the normal manner. 3 Hexagonal socket head countersunk steel screws, M6 × 1 × 10 mm. long are supplied.

All dimensions in millimetres.