

Classic Tiger Series Power Valves

3/2 - 3 Way, 2 Position Valves, Piloted, G 1/2

FESTO

Single Solenoid Valve

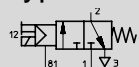
Spring Return and Manual Override

Type MCH-3-1/2 MOCH-3-1/2

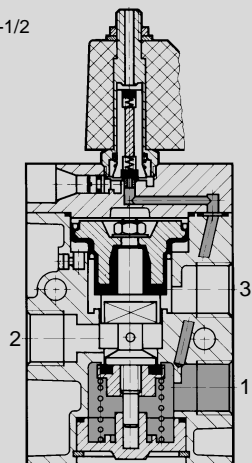


With External Pilot Supply

Type MCH-3-1/2-S



Example: Type MCH-3-1/2



- 1, 11 (P) = Supply
- 2 (A) = Outlet
- 3, 33 (R) = Exhaust
- 81 (Pz) = Pilot Supply

When the solenoid is energized, the valve shifts and remains shifted until the solenoid is deenergized.

Common supply manifold Type PAL- . . . for manifold mounting with common P port, see page 451.

Type MCH-3-1/2, MOCH-3-1/2:

These are piloted valves with the solenoid controlling the pilot air. Pilot air is supplied via pressure port P. A number 1 or 2 on the gasket tab, visible in a slot under the solenoid cover, indicates the valve function (type). By rotating the gasket, the valve function will be reversed. (See Gasket Tab Table.)

Type MCH-3-1/2-S:

An external pilot pressure must be supplied to port P_Z. This valve can be used to control vacuum, pressure to 150 psi / 10 bar and used in applications where the A port is blowing unrestricted to atmosphere (i.e., part ejection, chip removal, etc.).



Valve shown with solenoid and socket accessories, ordered separately.

Accessories, see page 420.

Gasket Tab No.	Valve Function	Pressure Port Connections	Standard Type
1	Normally Closed	1 (P ₁), 3 (R ₁)	MCH-3-1/2
2	Normally Open	11 (P ₂), 33 (R ₂)	MOCH-3-1/2

Order Number	Part No./Type	9981 MCH-3-1/2	7885 MOCH-3-1/2	7983 MCH-3-1/2-S
Medium		Compressed air (filtered, lubricated or unlubricated)†		
Design		Poppet valve, piloted, with spring return		
Mounting		Through holes in housing		
Connection		G 1/2 ISO		G 1/2 ISO; 81: G 1/8 ISO
Orifice Size		0.55 in / 14 mm		
C _v Factor (1 → 2)		3.7 C _v / 3700 l/min		
Operating Pressure Range		22.5 to 150 psi / 1.5 to 10 bar		28.4 in Hg to 150 psi / -0.95 to 10 bar
Pilot Pressure Range		—		15 to 120 psi / 1 to 8 bar (see graph on page 420)
Response Time at 90 psi / 6 bar		On: 22 ms, Off: 54 ms		
Medium Temperature*		14 to 140°F / -10 to +60°C		
Materials		Housing: Diecast Al, anodized. Seals: Buna N.		
Weight		2.425 lb / 1.100 kg		
Direct Current	Standard Voltage	12, 24V		
	Available Voltage	12 to 240V		
Alternating Current	Standard Voltage	24, 42, 110, 220V / 50 Hz		
	Available Voltage	24 to 240V / 50 or 60 Hz		
Power Consumption	DC	12 W		
	AC	Holding 22 VA, Inrush 30 VA		
Duty Cycle		100%		
Type of Protection		IP 65 (DIN 40050)		

} For solenoids, see pages 457-458.

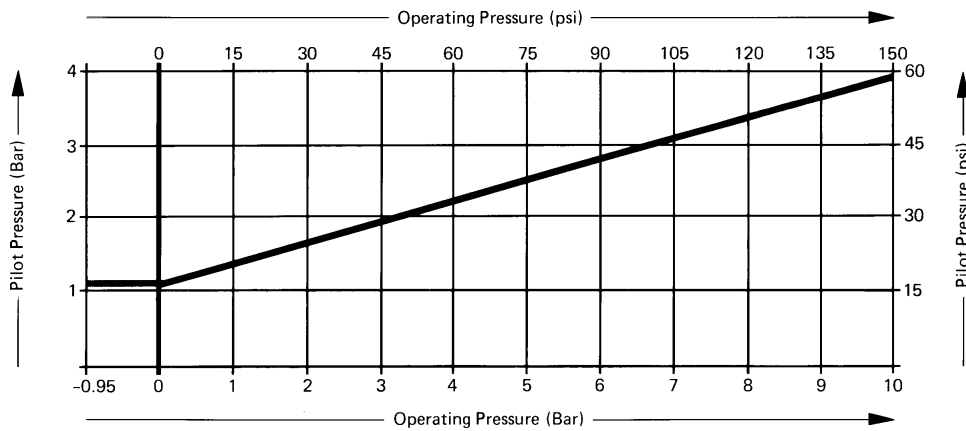
* 23 to 104°F / -5 to +40°C ambient temperature range

† Type MCH-3-1/2-S is suitable for vacuum operation (vacuum connected to 1)

Classic Tiger Series Power Valves

Dimensions

Minimum pilot pressure versus operating pressure, with Type MCH-3-1/2-S.



Accessories:
(Order Separately)

Solenoid C-coils
with socket, see page 457
without socket, see page 458

Standard Sockets, Type MSSD-C
see page 459

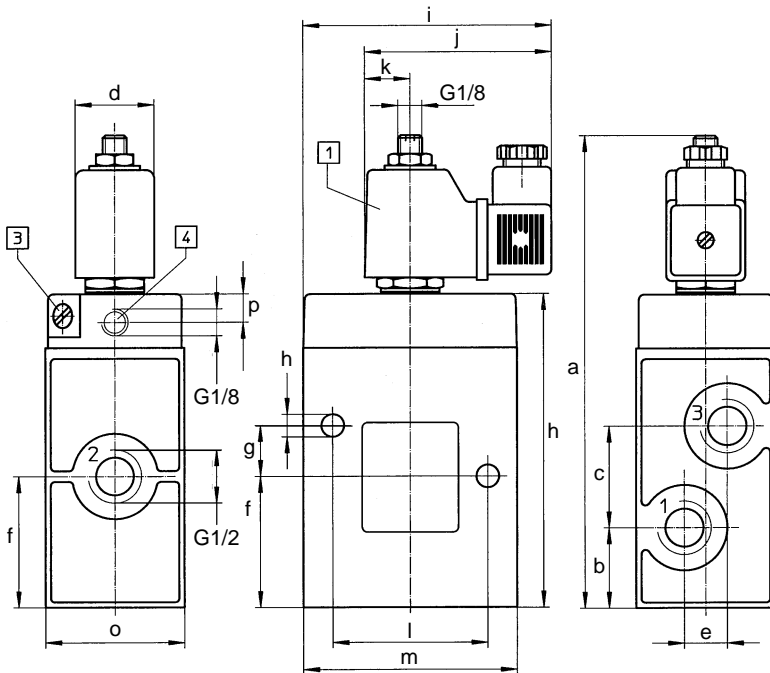
Sockets with cable, Type KMC-...
see page 460

LED Gaskets, Type MC-LD-...
see pages 462-463

Indicator Inserts, Type MCL-...
see page 464

Solenoid Inserts, Type MCZ-...
see page 465

Type MCH-3-1/2
MOCH-3-1/2
MCH-3-1/2-S



Dimensions

a 6.93 in / 176 mm	i 3.66 in / 93 mm
b 1.18 in / 30 mm	j 2.76 in / 70 mm
c 1.50 in / 38 mm	k 0.67 in / 17 mm
d 1.16 in / 29.5 mm	l 2.28 in / 58 mm
e 0.63 in / 16 mm	m 3.15 in / 80 mm
f 1.93 in / 49 mm	n 4.61 in / 117 mm
g 0.75 in / 19 mm	o 2.05 in / 52 mm
h 0.33 in / 8.5 mm	p 0.41 in / 10.5 mm

- ① Solenoid can be rotated
- ③ Manual override
- ④ External pilot supply connection
MCH-3-1/2-S only

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- 2 (A) = Operating or Outlet
- 3, 33 (R) = Exhaust
- 81 (Pz) = Pilot Supply
(MCH-3-1/2-S only)