

# Classic Tiger Series Power Valves

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

**FESTO**

## Single Solenoid Valve

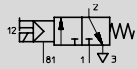
Spring Return and Manual Override

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

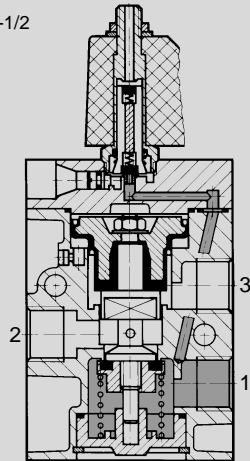


With External Pilot Supply

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<sub>Z</sub>. 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 <sub>1</sub> ), 3 (R <sub>1</sub> )	MCH-3-1/2
2	Normally Open	11 (P <sub>2</sub> ), 33 (R <sub>2</sub> )	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 <sub>v</sub> Factor (1 → 2)		3.7 C <sub>v</sub> / 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.

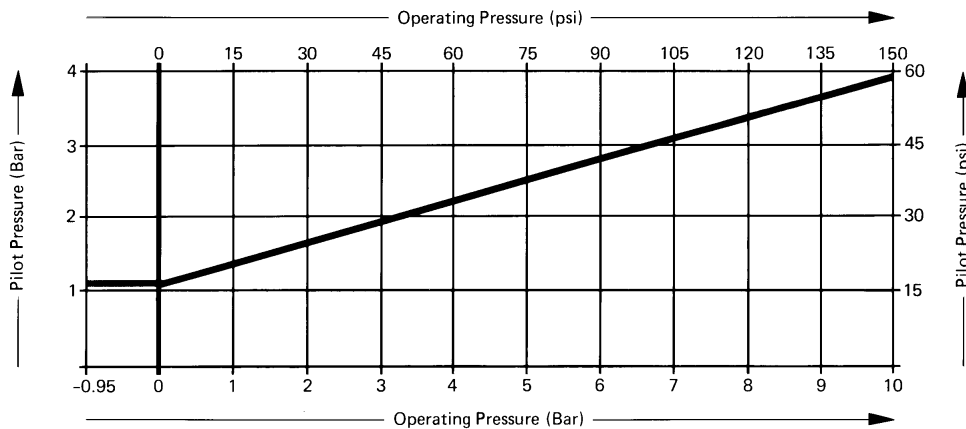
\* 23 to 104°F / -5 to +40°C ambient temperature range

† 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

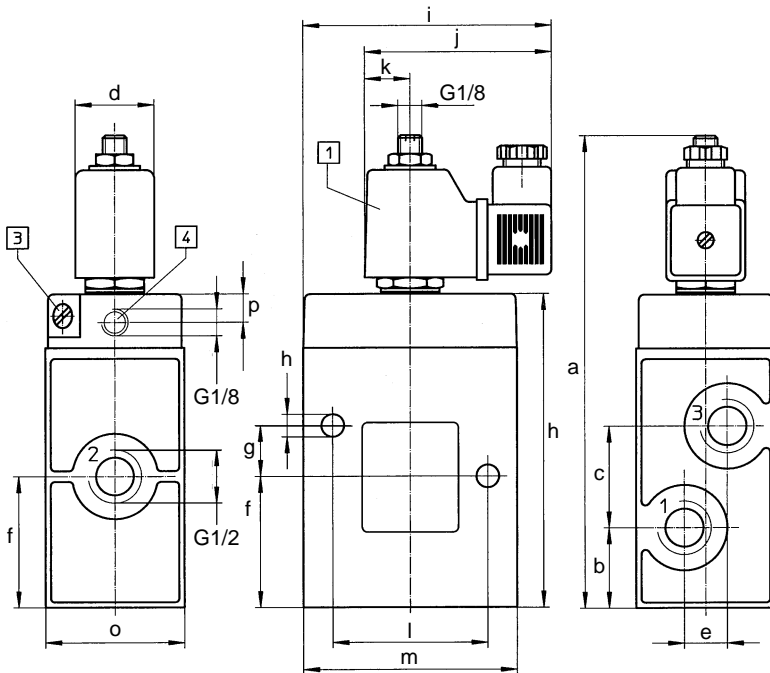
**Sockets with cable, Type KMC-...**  
see page 460

**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

- 1, 11 (P) = Supply
- 2 (A) = Operating or Outlet
- 3, 33 (R) = Exhaust
- 81 (Pz) = Pilot Supply  
(MCH-3-1/2-S only)

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