MPS-450 Series

High-Purity PFA Pressure Sensor



PSG a DOVER company

MALEMA

Where Innovation Flows



The Malema MPS-450 Series Pressure Sensor is engineered to ensure safe, reliable, and efficient flow control for high-purity applications in the semiconductor industry. The internal flow path is designed to minimize hold up volume, while wetted components of these nonmetallic transducers are constructed using PTFE, PFA, or other similar high-purity inert materials.

Key Features

- Economical and accurate fluid pressure sensing
- Wetted materials made from PFA and FFKM for compatibility with high-purity applications
- Suitable for single-phase fluids from 0°C to 70°C
- Available in both single port and flow-through designs

Applications

- Wet Etch
- Wet Clean
- CMP
- ECD
- Electroless Deposition
- Wet Process / Chemical Distribution Systems
- Chemical Blend Systems
- Ultra-Pure Water

Available Sizes

Sizes	1/4″	3/8″	1/2″	3/4″	1″
Single Port	✓	✓	✓		
Flow-Through	✓	✓	✓	✓	✓

Fluid Connections: Tube, Pillar, and Flare

Performance Specifications

Accuracy	±1% FS
Repeatability	±0.5% FS
Ambient Temperature	0-50°C
Media Operating Temperature	10°C–70°C
Measurable Fluids	Gases or non-phase changing liquids*
Maximum Operating Pressure	Depends on pressure range; typically, 2 bar over max pressure
Ingress Protection Class	IP64

*Not suitable for HF application.

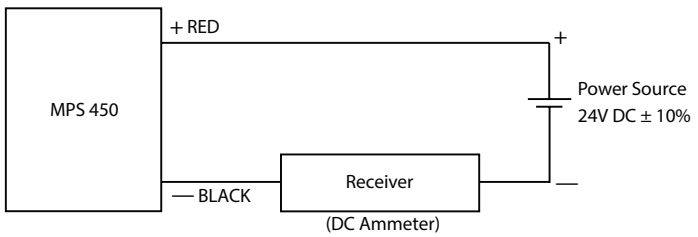
Electrical Specifications

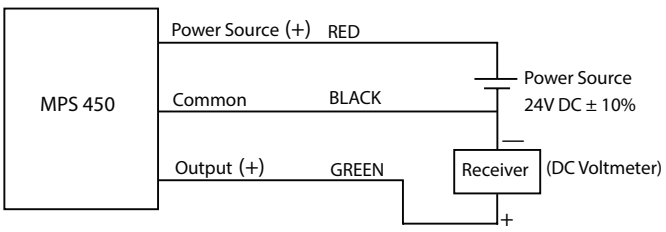
Output Options	Analog Output	Passive 4-20 mA current loop, or 0-10 V DC
Power Supply	24 V DC ±10%	
Power Consumption	Max 30 mA @ 24 V DC	
Cable	1 meter, 2 meter, 3 meter, or custom length six-conductor cable available	

Electrical Connections

Option I (Passive 4-20 mA)	
Color	**Description**
Red	24 V DC
Black	4-20 mA Loop/Ground

Option J (0-10 V DC)	
Color	**Description**
Red	24 V DC
Black	Ground
Green	+Analog (0-10 V DC) PRESS, Active

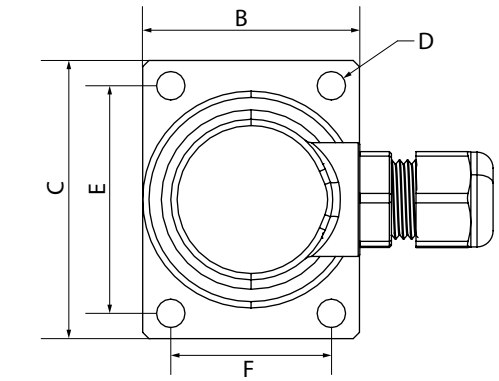


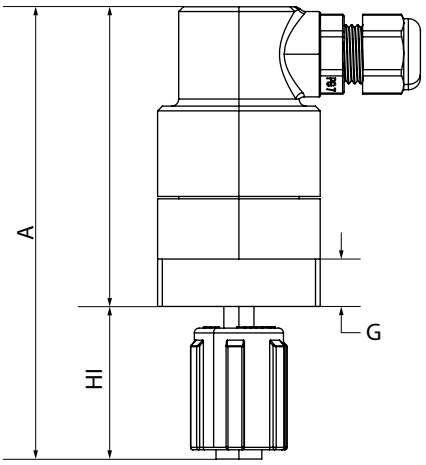


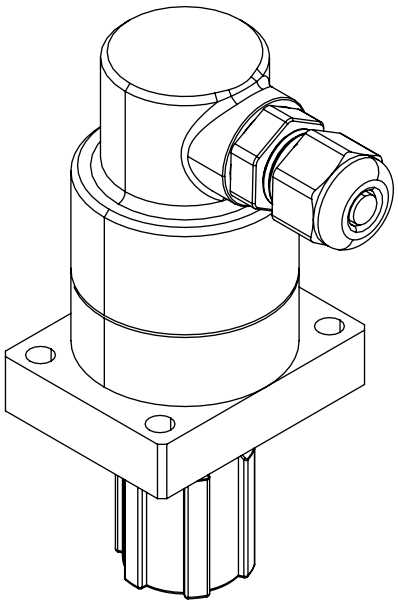
Dimensional Drawings

For Reference Only

Single Port

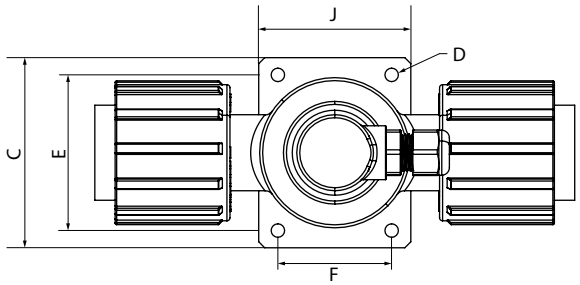


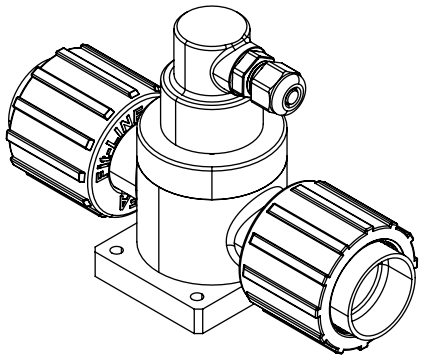


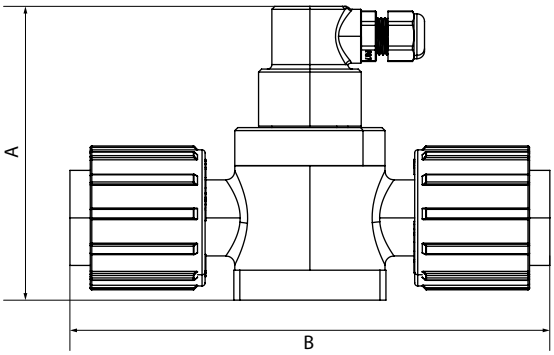


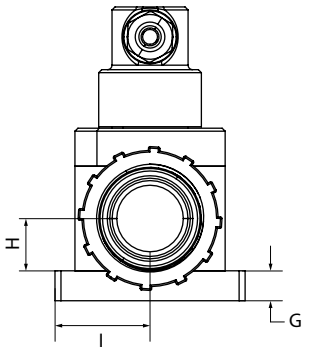
Model	A	B	C	D	E	F	G	H	I
1/4" Female Flare, Single Port	95.4 mm	34.3 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	2.2 mm	63.2 mm
1/4" Pillar S300, Single Port	84.7 mm	34.3 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	21.5 mm	63.2 mm
3/8" Female Flare, Single Port	96.6 mm	34.3 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	33.4 mm	63.2 mm
3/8" Pillar S300, Single Port	90.3 mm	34.3 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	27.1 mm	63.2 mm
1/2" Female Flare, Single Port	98.6 mm	34.3 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	35.4 mm	63.2 mm
1/2" Pillar S300, Single Port	94.5 mm	34.3 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	31.3 mm	63.2 mm

Flow-Through









Model	A	B	C	D	E	F	G	H	I
1/4" Female Flare, Flow Through	63.2 mm	101.7 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	6.4 mm	22 mm
1/4" Pillar S300, Flow Through	63.2 mm	81.8 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	6.4 mm	22 mm
3/8" Female Flare, Flow Through	69.6 mm	106.9 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	9.5 mm	22 mm
3/8" Pillar S300, Flow Through	69.6 mm	92.2 mm	44 mm	4.5 mm	36 mm	25.4 mm	10 mm	9.5 mm	22 mm
1/2" Female Flare, Flow Through	83.2 mm	127 mm	63.5 mm	4.5 mm	52 mm	38 mm	10 mm	10 mm	31.8 mm
1/2" Pillar S300, Flow Through	83.2 mm	117.4 mm	63.5 mm	4.5 mm	52 mm	38 mm	10 mm	10 mm	31.8 mm
3/4" Female Flare, Flow Through	91.2 mm	143.1 mm	63.5 mm	4.5 mm	52 mm	38 mm	10 mm	14 mm	31.8 mm
3/4" Pillar S300, Flow Through	91.2 mm	133.9 mm	63.5 mm	4.5 mm	52 mm	38 mm	10 mm	14 mm	31.8 mm
1" Female Flare, Flow Through	98.1 mm	160.3 mm	63.5 mm	4.5 mm	52 mm	38 mm	10 mm	17.5 mm	31.8 mm
1" Pillar S300, Flow Through	98.1 mm	146.2 mm	63.5 mm	4.5 mm	52 mm	38 mm	10 mm	17.5 mm	31.8 mm

Ordering Information

Model Code								Description
MPS-450	-030	F	2	2	H	03	-S01	
Process Parameters Measured								Pressure sensing only
Pressure Range	-007							0-7.5 psig
	-030							0-30 psig
	-100							0-100 psig
	-ZZZ							Custom range
Configuration		S						Single port
		F						Flow through
Size			2					1/4"
			3					3/8"
			4					1/2"
			6					3/4" (not available in single port design)
			8					1" (not available in single port design)
Fluid Connection				0				20 mm length tube stub
				1				Female flare
				2				Female pillar
Input/Output					I			2-wire cable (power, 1 x analog 4-20mA DC o/p)
					J			3-wire cable (power, 1 x analog 0-10 V DC o/p)
Cable Length						01		1 meter
						2		2 meter
						03		3 meter
						ZZ		Custom length
Ordering Extention (Standard and Custom Options)							-S01	Standard version
							-XXX	For any custom options, factory will assign 3 digit unique ID in place of XXX

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