

SERIES AP 4440, 4457 & 4459

1/2 INCH SPRINGLESS DIAPHRAGM VALVE

Diaphragm linked design assures repeatable, full valve opening



Valves in photo have H2 option

- Diaphragm and seat assembly attached to actuating mechanism for positive retraction to open
- PFA seat with optional H2 temperature rating to 392°F (200°C)
- 316L VAR SS secondary remelt construction
- Operating pressure vacuum to 125 psig (9 bar)
- Flow capacity 1.1 C_v
- AP 4440 pneumatic NC
- AP 4457 & 4459 manual 1/4 turn, pull to open with integral LOTO
- Replaceable diaphragm seat assembly for ease of rebuilding – does not require extracting seat from body cavity.
- Installation and operating instructions available at www.aptech-online.com

Operating Parameters

Inlet pressure	vacuum to 125 psig (9 bar)
Outlet pressure	vacuum to inlet pressure
Proof pressure	150% of operating pressure
Burst pressure	300% of operating pressure

Other Parameters

Inlet/outlet connectors	1/4 and 1/2 inch face seal, or 3/8 and 1/2 inch tube stub
Flow coefficient (C _v)*	1.1, X _T = 0.7
Internal volume	0.41 in ³ (6.77 cm ³)
Operating temperature	-20° to +194°F (-29° to +90°C)**
Surface finish	15 μin. Ra max/10 μin. Ra (0.4/0.25 μm) standard 10 μin (0.25 μm) and 7 μin (0.18 μm) Ra max optional
Inboard leakage	2 x 10 ⁻¹⁰ sccs
Outboard leakage	2 x 10 ⁻⁹ sccs He
Leakage across seat	1 x 10 ⁻⁹ sccs He

*C_v based upon 1/2 inch fittings.

**Optional temperature range H2 available to 392°F (200°C) with PFA seat

Operating Parameters – pneumatic valve

Status AP 4440	normally closed (NC)
Actuation port	1/8 inch NPT (top port)
Actuation pressure	70 to 110 psig (4.8 to 7.6 bar)

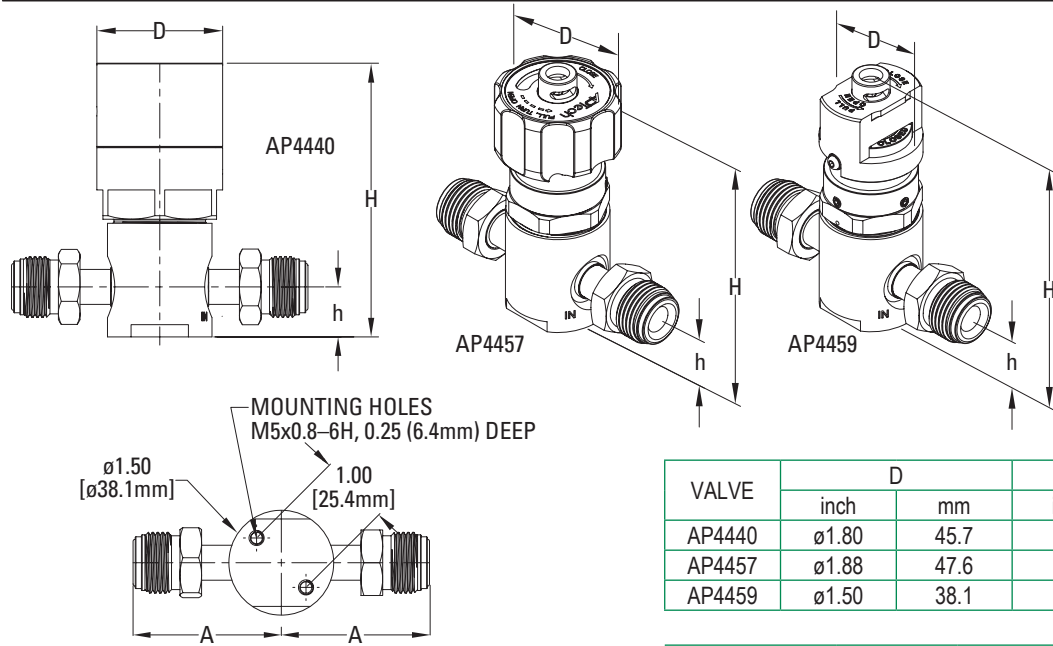
Materials

Wetted Parts	Series AP 4440, 4457 & 4459
Body	SS 316L secondary remelt
Finish	electropolished and passivated
Diaphragm	Co-Ni-Cr alloy / UNS R30003
Seat	PFA

All specifications subject to change without notice.

SERVICE AND SUPPORT BEYOND COMPARE

DIMENSIONAL INFORMATION

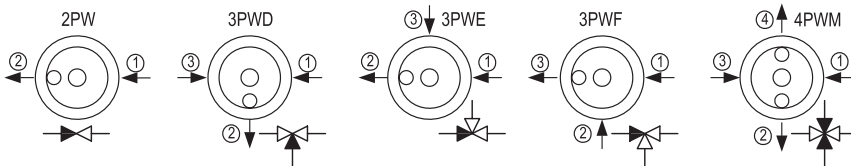


- Metric dimensions are for reference only.
- Height of the valve (H) is an approximate value.
- All specifications subject to change without notice.
- Manual valves are shown in closed position.

VALVE	D		H	
	inch	mm	inch	mm
AP4440	ø1.80	45.7	3.9	99.4
AP4457	ø1.88	47.6	4.0	101.9
AP4459	ø1.50	38.1	4.0	101.9

CONNECTION	A		h	
	inch	mm	inch	mm
FV4, MV4	1.59±.02	40.4	0.715	18.2
FV8, MV8	2.12±.02	53.8	0.715	18.2
TW6	1.49±.02	37.8	0.715	18.2
TW8	1.53±.02	38.9	0.715	18.2

PORTING CONFIGURATIONS



CAUTION: Product selection is the sole responsibility of the user, regardless of any recommendations or suggestions made by the factory. The user shall make selections based upon their own analysis and testing with regard to function, material compatibility and product ratings. Proper installation, operation and maintenance are also required to assure safe, trouble free performance.

ORDERING INFORMATION

Sample Order Number		AP 4440SM 2PW MV8 MV8 H2	
AP 4440	Series	AP 4440 AP 4457 AP 4459	MV8 MV8 Connections Inlet / Outlet FV4 = 1/4 inch face seal female MV4 = 1/4 inch face seal male TW6 = 3/8 inch tube weld stub FV8 = 1/2 inch face seal female MV8 = 1/2 inch face seal male TW8 = 1/2 inch tube weld stub
S	Material	S = Stainless steel (SS)	
M	Surface Finish Option	M = 10 µin. Ra max V = 7 µin. Ra max X = 5 µin. Ra max	H2 Options H2 = Optional temperature rating (+200°C PFA seat)
2PW	Ports	2PW = 2 ports 3PWD = 3 ports 3PWF = 3 ports 3PWE = 3 ports 4PWM = 4 ports	

AP Tech has product options and variations which are not documented in data sheets. If you have a model number that is not defined by the ordering information, please consult the factory or your local representative.