

SERIES AP 3650 & AP 4650

MANUAL 1/4" & 3/8" SPRINGLESS DIAPHRAGM VALVE

Round knob with visual open / closed indication



- Stainless steel 316L VAR secondary remelt or Hastelloy® alloy C-22® construction
- 1/4 turn actuation
- 15µ in. surface finish; (10, 7 and 5µ in. optional)
- Indicating switch option for remote status monitoring
- Metal to metal seal to atmosphere
- Multi port, and monoblock configurations
- Replaceable PCTFE seat (Vespel® optional)
- Vacuum to 3,000 psig (207 bar) AP 3650
Vacuum to 250 psig (17 bar) AP 4650

Operating Parameters

Inlet pressure	AP 3650	vacuum to 3,000 psig (207 bar)
	AP 4650	vacuum to 250 psig (17 bar)
Outlet pressure	AP 3650	vacuum to inlet pressure
	AP 4650	vacuum to inlet pressure
Proof pressure	AP 3650	4,000 psig (276 bar)
	AP 4650	1,000 psig (69 bar)
Burst pressure	AP 3650	8,000 psig (552 bar)
	AP 4650	8,000 psig (552 bar)

Other Parameters

Inlet/outlet connectors	1/4 or 3/8 inch face seal or tube weld
Flow coefficient (Cv)	AP 3650 0.29, X _T = 0.6
	AP 4650 0.5, X _T = 0.6
Internal volume	0.06 in ³ (1.07 cm ³)
Operating temperature	-40° to +160°F (-40° to +71°C)
Surface finish	15 µin. (0.4 µm) Ra max standard; 10 µin (0.25 µm); 7 µin (0.18 µm); and 5 µin (0.13 µm) optional
Inboard leakage	2 x 10 ⁻¹⁰ sccs
Outboard leakage	2 x 10 ⁻⁹ sccs He at 250 psig inlet pressure
Leakage across seat	4 x 10 ⁻⁸ sccs He at 250 psig inlet pressure

Materials

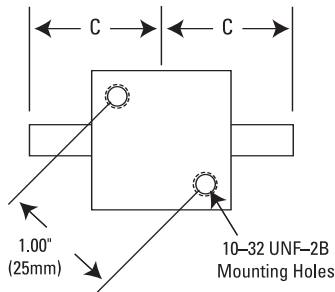
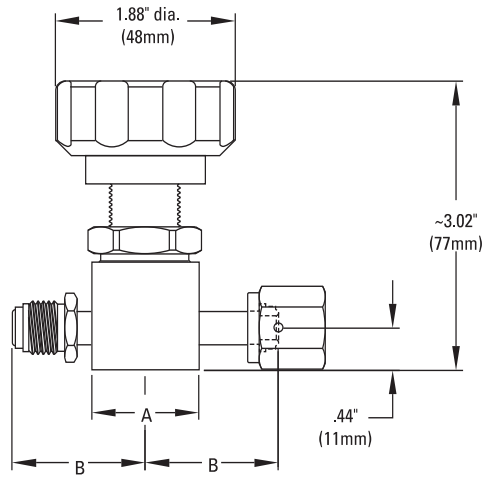
Type of Service Wetted Parts	Series AP 3650 S & AP 4650 S Noncorrosive	Series AP 3650 H & AP 4650 H Corrosive
Body	SS 316L secondary remelt	Hastelloy alloy C-22
Finish	electropolished and passivated	electropolished
Diaphragm	Elgiloy®	Elgiloy
Seat	PCTFE (Vespel® optional)	PCTFE

All specifications subject to change without notice.

Hastelloy® C-22® Haynes Corporation Vespel® DuPont Elgiloy® Elgiloy Corporation

SERVICE AND SUPPORT BEYOND COMPARE

DIMENSIONAL INFORMATION

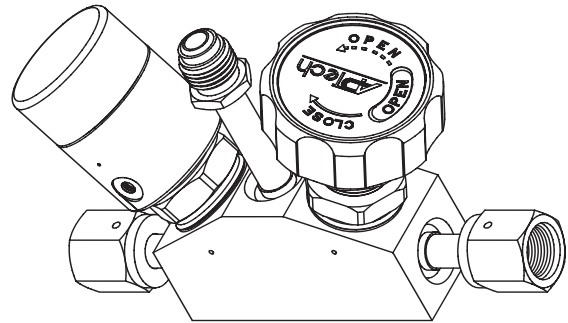


PORTING CONFIGURATIONS

Please refer to Technical Bulletin 203 for valve porting configurations.

MATERIAL	CONNECTION	A		B		C	
		in.	mm	in. [±.01]	mm	in. [±.01]	mm
S	FV4, MV4	1.12 sq.	28	1.39	35	-	-
	TW4	1.12 sq.	28	-	-	1.06	27
	FV6, MV6	1.12 sq.	28	1.93	49	-	-
	TW6	1.12 sq.	28	-	-	1.33	34
H	FV4, MV4	1.25 dia.	32	1.45	37	-	-
	TW4	1.25 dia.	32	-	-	1.08	27
	FV6, MV6	1.25 dia.	32	1.93	49	-	-
	TW6	1.25 dia.	32	-	-	1.33	34

All dimensions in inches (mm). Metric dimensions are for reference only.



Multiport, monoblock, IGS and custom configurations available.

ORDERING INFORMATION

Sample Order Number

AP 3650SM 2PW MV4 MV4 ISH

AP 3650 | Series

AP 3650
AP 4650

S | Material

S = Stainless steel (SS)
H = Hastelloy alloy C-22

M | Surface Finish Options

M = 10 µin. Ra
V = 7 µin. Ra
X = 5 µin. Ra

2PW | Ports

2PW = 2 ports
3PW = 3 ports
4PW = 4 ports
5PW = 5 ports

(Refer to valve porting guide for selection)

MV4 MV4 | Connections Inlet / Outlet

FV4 = 1/4 inch face seal female
MV4 = 1/4 inch face seal male
TW4 = 1/4 inch tube stub weld
FV6 = 3/8 inch face seal female
MV6 = 3/8 inch face seal male
TW6 = 3/8 inch tube stub weld

ISH | Options

1.75 = 1.75 inch face to face TW4
VS = Vespel seat
P = Panel mount*
ISH = Indicating switch

* Panel hole 0.78" diameter.