

# SERIES AP 3540, 3550 & 3580 SERIES AP 4540, 4550 & 4580

## 1/4 & 3/8 INCH SPRINGLESS DIAPHRAGM VALVES

Air actuated, low pressure



- Stainless steel 316L VAR secondary remelt or Hastelloy® alloy C-22® construction
- 15 µin. surface finish (10, 7 and 5 µin. optional)
- Metal to metal seal to atmosphere
- LOTO, PL 210, compatible (AP 3540 and AP 4540)
- Replaceable PCTFE seat (Vespel® optional)
- Pneumatically actuated normally closed or normally open
- Surface mount, multiport or block valve (optional)
- Cleaned, assembled and packaged for high purity semiconductor applications

### Operating Parameters – all valves

Inlet pressure	AP 3540, 4540 AP 3550, 4550 AP 3580, 4580	vacuum to 125 psig (9 bar) vacuum to 250 psig (17 bar) vacuum to 250 psig (17 bar)
Outlet pressure		vacuum to inlet pressure
Proof pressure		1,000 psig (69 bar)
Burst pressure		8,000 psig (552 bar)
Actuation pressure		70 to 110 psig (4.8 to 7.6 bar)

### Other Parameters – all valves

Status	AP 3540, 4540 AP 3550, 4550 AP 3580, 4580	normally closed normally closed normally open
Inlet /outlet connectors		1/4 or 3/8 inch face seal or tube weld
Actuation port	AP 3550, 4550 AP 3540, 4540 AP 3580, 4580	#10–32 thread, side port 1/8 inch NPT, top port 1/8 inch NPT, top port
Flow coefficient	AP 3540, 3550 AP 3580 AP 4540, 4550 AP 4580	0.29, X <sub>T</sub> = 0.6 0.29, X <sub>T</sub> = 0.6 0.5, X <sub>T</sub> = 0.6 0.5, X <sub>T</sub> = 0.6
Internal volume		0.06 in <sup>3</sup> (1.07 cm <sup>3</sup> )
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 <sup>-10</sup> sccs
Outboard leakage		2 x 10 <sup>-9</sup> sccs He at 125 psig
Leakage across seat		4 x 10 <sup>-8</sup> sccs He at 125 psig inlet pressure

### Materials

	Series AP 3540, 3550 and 3580 AP 4540, 4550 and 4580	Series AP 3540, 3550 and 3580 H AP 4540, 4550 and 4580 H
Type of Service	Noncorrosive	Corrosive
Wetted Parts		
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

ENGINEERING DATA — SERIES AP 3540 THRU 4580 SPRINGLESS DIAPHRAGM VALVES

# DEFINING NEW LEVELS OF ULTRACLEAN

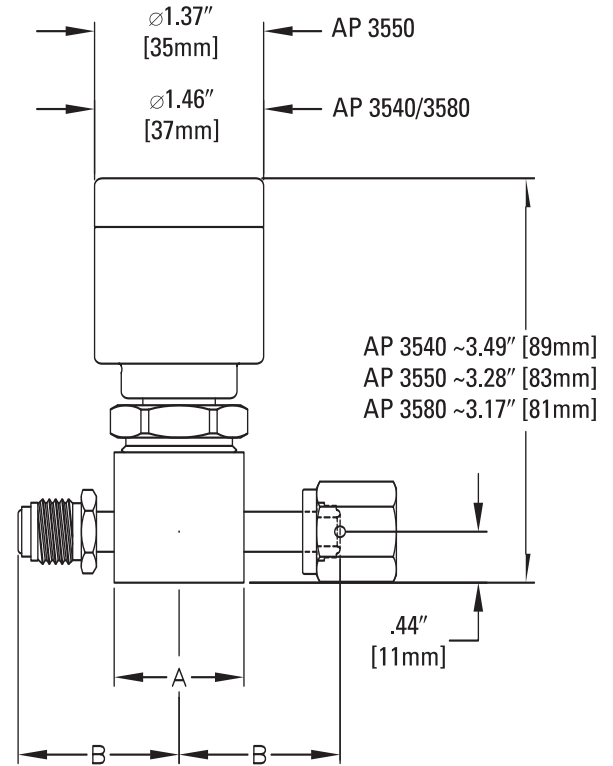
## PLEASE NOTE

Hastelloy design may vary. Please consult factory for current specifications.

DIMENSIONAL INFORMATION

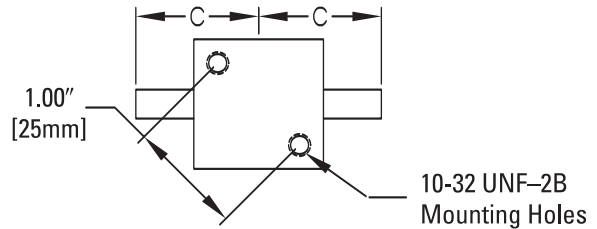
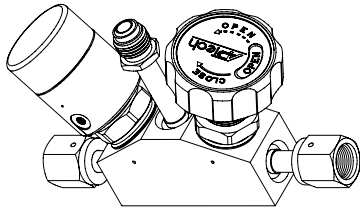
MATERIAL	CONNECTION	A		B		C	
		in.	mm	in. [ $\pm 0.01$ ]	mm	in. [ $\pm 0.01$ ]	mm
S	FV4, MV4	1.12 sq.	28	1.39	35	-	-
	TW4	1.12 sq.	28	-	-	1.06	27
	FV6, MV6	1.12 sq.	28	1.93	49	-	-
	TW6	1.12 sq.	28	-	-	1.33	34
H	FV4, MV4	1.25 dia.	32	1.45	37	-	-
	TW4	1.25 dia.	32	-	-	1.08	27
	FV6, MV6	1.25 dia.	32	1.93	49	-	-
	TW6	1.25 dia.	32	-	-	1.33	34

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



PORTING CONFIGURATIONS

Please refer to Technical Bulletin 203 for valve porting configurations.



**BOTTOM VIEW**

Multiport, monoblock, IGS and custom configurations available.

ORDERING INFORMATION

Sample Order Number		AP 3540SM 2PW MV4 MV4	
<b>AP 3540</b>	<b>Series</b>	AP 3540, 3550, 3580 AP 4540, 4550, 4580	
<b>S</b>	<b>Material</b>	S = Stainless steel (SS) H = Hastelloy alloy C-22	
<b>M</b>	<b>Surface Finish Options</b>	M = 10 $\mu$ m. Ra max V = 7 $\mu$ m. Ra max X = 5 $\mu$ m. Ra max	
<b>2PW</b>	<b>Ports</b>	2PW = 2 ports 3PW = 3 ports 4PW = 4 ports 5PW = 5 ports	
		Refer to valve porting guide for selection. Please refer to technical bulletin 206 for surface mount (IGS) options.	
<b>MV4 MV4</b>	<b>Connections Inlet / Outlet</b>	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	
	<b>Options</b>	1.75 = 1.75" face to face TW4 VS = Vespel seat ISC = Indicator Switch, NC (AP 3550 & AP 4550 only) ISO = Indicator Switch, NO (AP 3550 & AP 4550 only)	