

# SERIES AP 74

## VERTICAL FLOW SWITCH

Ultraclean safety device for gases

- Selection and sizing application program online at [www.aptech-online.com](http://www.aptech-online.com)
- Flow thru design free of deadlegs or unswept zones
- SS 316L VAR secondary remelt material
- 15 or 10  $\mu$ m. Ra max electropolished finish
- Vacuum to 3,500 psig (241 bar)
- Particle free operation
- Six flow reference trip points: 2, 5, 10, 25, 50 & 100 slpm at 100 psig of N<sub>2</sub>
- DI cleaned and baked dry
- Manufactured to meet UHP requirements

### Operating Parameters

Source pressure	vacuum to 3,500 psig (241 bar)
Flow trip reference points	2, 5, 10, 25, 50 & 100 slpm N <sub>2</sub> at 100 psig
Accuracy	$\pm$ 10% of trip point or 1/2 slpm, whichever is greater
Installation orientation	Vertical within 8° and inlet port at the bottom
Pressure drop at trip point	1/2 psi (0.034 bar) differential
Proof pressure	5,000 psig (345 bar)
Burst pressure	10,000 psig (690 bar)

### Other Parameters

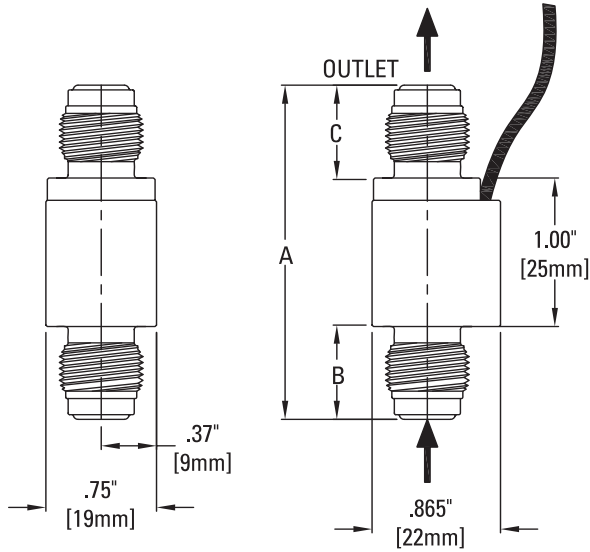
Inlet and outlet connectors	1/4 in. face seal or tube weld
Internal volume	0.12 in <sup>3</sup> (1.9 cm <sup>3</sup> )
Operating temperature*	-10° to +175° F (-23° to +80°C)
Surface finish	15 $\mu$ m. (0.4 $\mu$ m) Ra max standard; 10 $\mu$ m. (0.25 $\mu$ m) Ra max optional
Inboard leakage	2 x 10 <sup>-10</sup> sccs
Outboard leakage	2 x 10 <sup>-10</sup> sccs at 500 psig

\* Trip point varies slightly with temperature change,  $\pm$ 2% over the specified operating range.

### Materials

<b>Wetted Parts</b>	
Body	316L SS secondary remelt
Float	316L SS
Finish	electropolished and passivated
<b>Reed Switch</b>	
Type	SPDT, 3 wire / 2 position
Power	30 VDC / 3 W max
Switching current	0.2 A max
Carrying current	0.5 A max
Initial contact resistance	0.1 Ohm max
<b>Cable</b>	
Wire gauge	Stranded #24 awg, PVC jacket
Cable length	10 ft (3 meters)
Lead color	Blue: common Brown: normally closed Black: normally open

All specifications subject to change without notice.



## DIMENSION CHART

Connectors (inlet x outlet)	A		B		C	
	in[±.03]	mm	in[±.01]	mm	in[±.01]	mm
MV4 x MV4	2.25"	57	.625	16	.625	16
FV4 x FV4	3.99"	101	1.495	38	1.495	38
TW4 x TW4	2.25"	57	.625	16	.625	16
MV4 x FV4	3.12"	79	.625	16	1.495	38
MV4 x TW4	2.25"	57	.625	16	.625	16
FV4 x MV4	3.12"	79	1.495	38	.625	16
FV4 x TW4	3.12"	79	1.495	38	.625	16
TW4 x MV4	2.25"	57	.625	16	.625	16
TW4 x FV4	3.12"	79	.625	16	1.495	38

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

- The actual trip point varies as the pressure changes, decreasing pressure lowers the trip point. It is recommended to select an actual trip point for the lowest system pressure of switch operation.
- The switch contains a strong magnet which may affect the function of other devices sensitive to such if they are located too closely.
- Do not locate ferrous metals or other magnets within 1 inch of the switch.
- Switch performance is attitude sensitive. It must be mounted within 8 degrees of vertical with the inlet at the bottom.
- The flow switch is strictly intended for gas applications.
- Switch must be properly installed and connected for proper function.

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

Sample Order Number		AP 74100SM MV4 FV4	
<b>AP 74</b>   Series	AP 74		
<b>100</b>   Switch Size	002 = 2 slpm 005 = 5 slpm 010 = 10 slpm 025 = 25 slpm 050 = 50 slpm 100 = 100 slpm  Switch size equals trip point in slpm of nitrogen at 100 psig		
<b>S</b>   Material	S = 316L SS VAR		
<b>M</b>   Surface Finish Option	M = 10 µin. Ra max		
<b>MV4 FV4</b>   Connections Inlet / Outlet	FV4 = 1/4 inch face seal female MV4 = 1/4 inch face seal male TW4 = 1/4 inch tube stub weld  optional connections available		