

# SERIES AP 500

## MINI REGULATOR

Ultra Compact / Ultra Clean



- Single stage
- Surface mount (IGS)  
1-1/8 inch C and W seal
- Stainless steel 316L  
VAR secondary remelt  
construction
- Compact size with low  
internal volume
- High performance with  
low hysteresis
- Vacuum to 3,000 psig  
(207 bar) inlet
- 15 slpm flow capacity  
HF option to 30 slpm
- Sub-atmospheric to low  
positive pressure delivery<sup>‡</sup>
- Installation and operating  
instructions available at  
[www.aptech-online.com](http://www.aptech-online.com)  
in the Tech Briefs section

### Operating Parameters

Source pressure	AP 500	vacuum to 150 psig (10 bar)
	AP 500 HR	vacuum to 3,000 psig (207 bar)
Delivery pressure	AP 501A	100 mm Hg absolute to 10 psig (0.7 bar)*
	AP 502	0.5 to 30 psig (0.034 to 2 bar)
	AP 506	1 to 60 psig (0.07 to 4 bar)
	AP 510	1 to 100 psig (0.07 to 7 bar)
	AP 515	2 to 150 psig (0.14 to 10 bar)*
Proof pressure		150% of operating pressures
Burst pressure		300% of operating pressures

\*501A not available with HR option, 515 only available with HR option.

### Other Parameters

Inlet/outlet connectors	1/4 or 3/8 inch face seal or tube weld 1-1/8 inch C and W seal
Flow coefficient (Cv) <sup>‡‡</sup>	0.06 (0.1 HF option)
Internal volume	0.15 in <sup>3</sup> (2.4 cm <sup>3</sup> )
Operating temperature	-40° to +160°F (-40° to +71°C)**
Surface finish	15 µin Ra max / 10 µin. Ra avg. (0.4/0.25 µm) standard; 10 µin (0.25 µm); 7 µin (0.18 µm); and 5 µin (0.13 µm) Ra max optional Optional surface finishes meet or exceed 5 µin Ra average
Inboard leakage	2 x 10 <sup>-10</sup> sccs
Outboard leakage	2 x 10 <sup>-9</sup> sccs He at 100 psig inlet pressure
Leakage across seat	4 x 10 <sup>-8</sup> sccs He at 100 psig inlet pressure
Supply pressure effect	0.20 psig per 20 psig source pressure change (0.4 psig per 20 psig source pressure change HF option)
Installation	Surface

\*\*HR option limited to -20° to 120°F (-28° to 48°C). VS option 14° to 194°F (-10° to +90°C).

‡‡A pressure regulator Cv is a nominal value which indicates the point of choked flow. Please refer to a flow curve or a recommendation guide for usable flow range.

### Materials

	Series AP 500 S Noncorrosive	Series AP 500 SH Corrosive
Type of Service		
Wetted Parts		
Body	SS 316L secondary remelt	SS 316L secondary remelt
Poppet/diaphragm	SS 316L / Ni-Co alloy / UNS R30003	Ni-Cr-Mo alloy / UNS N06022 / Ni-Co alloy / UNS R30003
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Polyimide*** and PTFE optional)	PCTFE (PTFE optional)

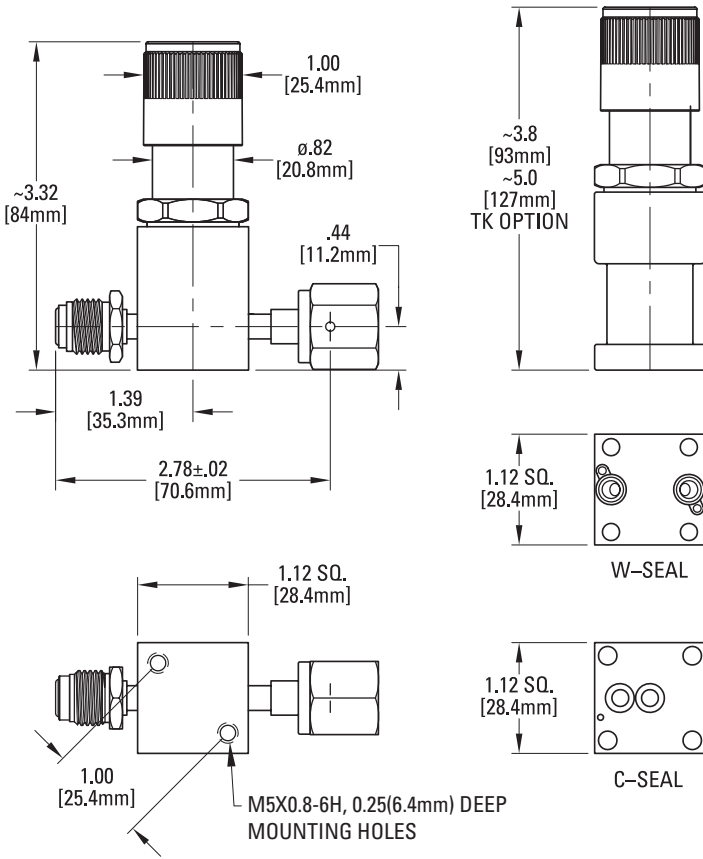
‡Absolute pressure not available with HF option.

\*\*\*Polyimide not available with HF option.

All specifications subject to change without notice.

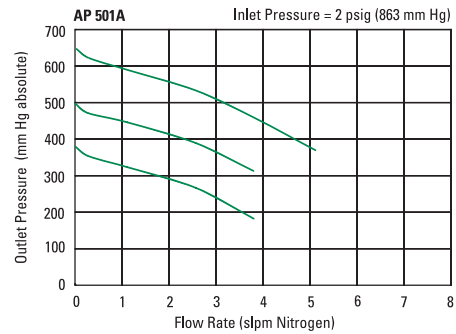
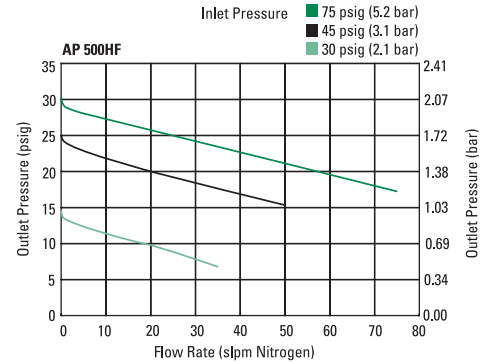
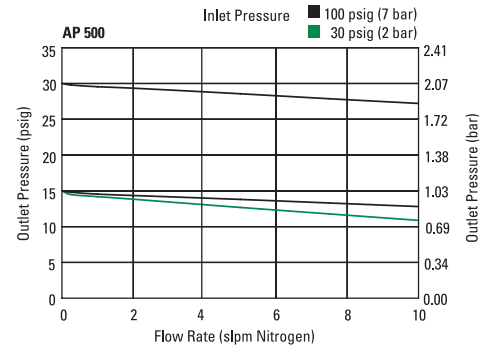
# SERVICE AND SUPPORT BEYOND COMPARE

## DIMENSIONAL INFORMATION



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

## 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 502SM 2PW FV4 FV4

AP 502 | Series

AP 501 = 0.5-10 psig (0.034 to 0.7 bar)  
 AP 502 = 0.5-30 psig (0.034 to 2 bar)  
 AP 506 = 1-60 psig (0.07 to 4 bar)  
 AP 510 = 1-100 psig (0.07 to 7 bar)  
 AP 515 = 2-150 psig (0.14 to 10 bar)\*\*\*

S | Material

S = Stainless steel (SS)  
 SH = SS / Ni-Cr-Mo alloy internals

M | Surface Finish Options

M = 10  $\mu$ m. Ra max  
 V = 7  $\mu$ m. Ra max  
 X = 5  $\mu$ m. Ra max

Range Options

A = 100 mm Hg absolute to 10 psig (AP 501 only, not available HR)

2PW | Ports

2PW = 2 ports welded  
 2P = 2 ports IGS (W or C seal only)

Consult factory for other porting options.

FV4 FV4 | Connections Inlet / Outlet

FV4 = 1/4 inch face seal female  
 MV4 = 1/4 inch face seal male  
 FUJ/7\* = W seal 1-1/8 inch  
 FA\* = C seal 1-1/8 inch

3/8" connections or tube weld available.  
 \*FUJ and FA are only listed once in model number, not twice like a fitting.

Options

VS = Polyimide seat\*\*  
 HF = High flow\*\*  
 TF = PTFE seat  
 FI = Friction dampener, non-wetted  
 TK = Tall knob  
 HR = High inlet pressure option\*\*\*

\*\*HF option not available with VS option or for absolute (A).

\*\*\*HR not available with HF or TF options. 515 only available with HR option.

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.