



ADVANCED PRESSURE TECHNOLOGY

PRESSURE REGULATORS FOR BIOTECH & PHARMACEUTICAL

Sanitary flange connection TECHNICAL BULLETIN 209A

TABLE 1. REGULATOR SELECTION MATRIX

Regulator Series	Inlet Pressure Sanitary*	Outlet Pressure	SF Fitting Size	Cv** Flow Capacity
AZ 1000	300 psig* (21 bar)	30, 100, 150 & 300 psig (2, 7, 10 & 21 bar)	3/8 inch	0.09** 30 slpm (0.15 Cv & 120 slpm HF opt)
AZ 1200/1300	300 psig* (21 bar)	30, 100 & 150 psig (2, 7 & 10 bar)	1/2, 3/4 & 1 inch	0.9** 800 slpm (1.1 Cv 1,000 slpm - 1200HF / 1300)
AP 9100	300 psig* (21 bar)	100 & 150 psig (7 & 10 bar)	3/4 & 1 inch	4.0** 5,000 slpm

* Pressure rating for sanitary fitting is dependent upon fitting and seal selection. The rated pressures are only a general guideline.
 ** Flow curves are the preferred means of regulator sizing as not all manufacturers calculate Cv in the same way which makes comparison impossible. Please refer to individual data sheets or the Tech Brief section of www.aptech-online.com to review flow curves.

TABLE 2. SANITARY FITTING DIMENSIONS

AZ 1000

Dimensions: $\phi 1.50$ [38.1mm], $\phi 2.25$ [57.2mm], $\phi 0.37$ [9.4mm], $\phi 2.00$ [50.8mm], $\phi 1.00$ [25.4mm], $4.13 \pm .08$ [104.9mm], 0.69 [17.5mm], 0.88 [22.4mm], 5.0 MAX. [127mm].

Threaded holes for surface installation M5x0.8-6H, 0.25(6.4mm) DEEP

AZ 1200 / 1300

Dimensions: $\phi 1.50$ [38.1mm], $\phi 2.62$ [66.5mm], $\phi 2.50$ [63.5mm], 5.6 MAX. [142mm], 0.69 [17.5mm], 0.88 [22.4mm].

Threaded holes for surface installation M5x0.8-6H, 0.25(6.4mm) DEEP

AP 9100

Dimensions: $\phi 4.00$ [101.6mm], $\phi 3.50$ [88.9mm], 1.125 [28.6mm], 1.50 [38.1mm], 3.00 [76.2mm] FLATS, ~ 11.4 [289mm], ~ 5.76 [146mm].

2X MOUNTING HOLES 1/4-20 UNC-2B, $\nabla .35$ MIN., 2X

Sanitary Ferrule Size	D1 in	D2 in	B	
			in[$\pm .08$]	mm*
SF8	0.50	1.0	4.57	116
SF12	0.75	1.0	4.51	115
SF16	0.75	2.0	4.51	115

Sanitary Ferrule Size	D1 in	D2 in	B	
			in[$\pm .08$]	mm*
SF12	0.75	1.0	5.53	140
SF16	1.0	2.0	5.45	138

*[mm] dimensions are for reference only

All specifications subject to change without notice.

TABLE 3. GENERAL COMMENTS

1. Product wetted materials of construction are FDA CFR 21.177 compliant with PCTFE seats (polyimide material is not from a certified source).
2. Though products are compliant in certain configurations, AP Tech and our products are not FDA or other agency certified.
3. Certificate of Conformance for products are provided with each shipment. The certificate notes FDA CFR 21.177 compliance.
4. Products are cleaned for Oxygen service per PN 436.
5. Many other product configurations are available, such a different porting, fittings, tube stubs, etc.
6. AP and AZ series products are assembled, tested and packaged in a double bag in a class 100 cleanroom.
7. Product specifications are per the data sheet for the basic model, such as AZ 1000, except as noted in this technical bulletin. The variances from the data sheet are fitting dimensions and pressure ratings relative to sanitary flanges.

TABLE 4. MATERIAL

Body and Nozzle	316L stainless steel
Diaphragm, AZ 1000	316L stainless steel
AZ 1200 / 1300	Ni-Cr-Mo alloy / UNS N06022
Bellows, AP 9100	Ni-Cr-Mo alloy / UNS N06022
Seat	PCTFE (Polyimide optional)
Surface Finish	10µin. (0.25 µm) Ra avg
Surface Treatment	Electropolished and passivated
Surface Cleaning	Cleaned for O ₂ service

TABLE 5. ORDERING INFORMATION

AZ 1010 Series	S Material	2PW Ports	SF6 SF6 Connections Inlet / Outle	VS Options
Series AZ 1010 AZ 1002 = 1 to 30 psig (.07 to 2 bar) AZ 1010 = 2 to 100 psig (.14 to 7 bar) AZ 1015 = 5 to 150 psig (.3 to 10 bar) AZ 1030 = 5 to 300 psig (.3 to 21 bar)	S = Stainless steel 316L	2PW = 2 ports	SF6 = Sanitary 3/8 in.	VS = Polyimide seat HF = High Flow WT = White knob
Series AZ 1210 AZ 1202 = 1 to 30 psig (.07 to 2 bar) AZ 1210 = 2 to 100 psig (.14 to 7 bar) AZ 1215 = 5 to 150 psig (.3 to 10 bar)	S = Stainless steel 316L	2PW = 2 ports	SF8 = Sanitary 1/2 in. SF12 = Sanitary 3/4 in. SF16 = Sanitary 3/4 in.	VS = Polyimide seat HF = High Flow WT = White knob
Series AZ 1310 AZ 1302 = 1 to 30 psig (.07 to 2 bar) AZ 1310 = 2 to 100 psig (.14 to 7 bar) AZ 1315 = 5 to 150 psig (.3 to 10 bar)	S = Stainless steel 316L	2PW = 2 ports	SF8 = Sanitary 1/2 in. SF12 = Sanitary 3/4 in. SF16 = Sanitary 3/4 in.	VS = Polyimide seat HF = High Flow WT = White knob
Series AP 9110 AP 9110 = 5 to 100 psig (.3 to 7 bar) AP 9115 = 5 to 150 psig (.3 to 10 bar)	S = Stainless steel 316L	2PW = 2 ports	SF12 = Sanitary 3/4 in. SF16 = Sanitary 1 in.	VS = Polyimide seat

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