

**GAS DELIVERY COMPONENTS  
CONDENSED CATALOG**

MAY 2023



## SINGLE STAGE REGULATORS

Series	Model	Material	Hastelloy Internal	Tied Diaphragm	Inlet PSI / BAR	Outlet Max PSI / BAR	Absolute	C <sub>v</sub> STD / OPT	Flow SLPM STD / OPT	Connection Size Inch	Connection Type
AK	100	S			3000 / 207	150 / 10		0.04	30	1/8, 1/4	N
AP		S VAR	○			150 / 10					W
AZ	1000	S	○		3500 / 241	150 / 10		0.09 / 0.15	30 / 100	1/4, 3/8	W
AK		S, B	○			500 / 35					N
AK	1000T	S			3500 / 241	150 / 10		0.15	100	1/4	N
AP	1100	S VAR	○		300 / 21	100mm Hg to 10 psig	●	0.05	1	1/4, 3/8	W
AZ		S	○				●				W
AP		S VAR	○	●	3500 / 241	150 / 10		0.09 / 0.15	30	1/4, 3/8	W
AZ	1500	S	○	●	4500 / 310 opt	150 / 10					W
AK		S, B	○	●							N
AP		S VAR	●	●	2300 / 159	150 / 10	○				W
AZ	1400T	S	●	●	3000 / 207 opt	100mm Hg to 30 psig	○	0.5	400	1/4, 3/8, 1/2	W
AK		S, B	●	●			○				N
AP		S VAR	○	●	1700 / 117	150 / 10		0.9 / 1.1	800 / 1500	1/4, 3/8, 1/2, 3/4	W
AZ	1200	S	○	●	3000 / 207 opt						W
AK		S, B	○	●							N
AP		S VAR	○								W
AZ	1300	S	○		300 / 21	150 / 10		1.1	1100	1/4, 3/8, 1/2, 3/4	W
AK		S	○								N
AZ	9200	S		●	300 / 21	150 / 10		1.6	2000	3/4, 1	W
AK		S		●							N
AP	9000	S	●	●	1700 / 117	300 / 21		3	2000	1/2, 3/4, 1	W
					3000 / 207 opt						
AP	9100	S	●	●	800 / 55	150 / 10		4	5000	1/2, 3/4, 1	W

## MINI REGULATORS

Series	Model	Material	Hastelloy Internal	Tied Diaphragm	Inlet PSI / BAR	Outlet Max PSI / BAR	Absolute	C <sub>v</sub> STD / OPT	Flow SLPM STD / OPT	Connection Size Inch	Connection Type
AP	20	S VAR	○		150 / 10	100 / 7	○	0.0 / 0.035	5	1/4	W, IGS
AP	500	S VAR	○		150 / 10	100 / 7	○	0.06 / 0.1	15 / 30	1/4, 3/8	W, IGS
SL	5200	S VAR	○	●	150 / 10	100 / 7	○	0.07 / 0.15	30 / 100	1/4, 3/8	W, IGS

## TWO STAGE REGULATORS

Series	Model	Material	Hastelloy Internal	Tied Diaphragm	Inlet PSI / BAR	Outlet Max PSI / BAR	Absolute	C <sub>v</sub> STD / OPT	Flow SLPM STD / OPT	Connection Size Inch	Connection Type
AP	1700	S VAR	○	●	3500 / 241	100 / 7		0.05 / 0.07	15	1/4, 3/8	W
AK		S, B	○	●	4500 / 310 opt	200 / 14					N
AP	2700	S VAR	○	●	3500 / 241	120 / 8		0.1	250	1/4, 3/8	W

Please review applicable data sheets prior to making final product selection. All specifications subject to change without notice.

○ : Optional    ● : Standard    W : Welded    N : Threaded or Compression    IGS : Surface mount (C & W seal)

## PNEUMATICALLY ACTUATED REGULATORS

Series	Model	Material	Hastelloy Internal	Tied Diaphragm	Inlet PSI / BAR	Outlet Max PSI / BAR	C <sub>v</sub> STD / OPT	Flow SLPM STD / OPT	Connection Size Inch	Connection Type
AP AZ AK	10PA	S VAR S S, B	○ ○ ○		3500 / 241	150 / 10	0.09 / 0.15	30 / 100	1/4, 3/8	W W N
AP AZ AK	15PA	S VAR S S, B	○ ○ ○	● ● ●	3500 / 241	150 / 10	0.09 / 0.15	30	1/4, 3/8	W W N
AP AZ AK	14PA	S VAR S S, B	○ ○ ○	● ● ●	2300 / 159 3000 / 207 opt 300 / 17 opt	150 / 10 100mm Hg to 30 psig	0.45	400	1/4, 3/8, 1/2	W W N
AP AZ AK	12PA	S VAR S S, B	○ ○ ○	● ● ●	1700 / 117 3000 / 207 opt	150 / 10	0.9 / 1.1	1200	1/4, 3/8, 1/2	W W N
AP	90 PA	S	●	●	1700 / 117	150 / 10	3	3000	1/2, 3/4, 1	
AP	91 PA	S	●	●	800 / 55	150 / 10	4	7000	1/2, 3/4, 1	

## CROSSOVER MANIFOLDS

Series	Model	Material	Hastelloy Internal	Tied Diaphragm	Inlet PSI / BAR	Outlet Max PSI / BAR	C <sub>v</sub> STD / OPT	Gauge	Connection Size Inch	Connection Type
AP AK	M6	S VAR S, B	○ ○	○ ○	3500 / 241	275 / 19	0.09	○ ○	1/4, 3/8 1/4	W N
AK	M8	S, B	○	○	3500 / 241	250 / 17	0.05	●	1/4	N

## HIGH PRESSURE REGULATORS

Series	Material	Inlet PSI / BAR	Outlet Max PSI / BAR	Pneumatically Actuated	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type
KT8	S - 316L SS	6000 / 414 4500 / 310*	1500 / 100	○	0.15	1/4	N W
KT9	S - 316L SS	6000 / 414 4500 / 310*	2500 / 172		0.09 / 0.15	1/4	N W
KT10	S - 316L SS, C - 300 SS S - 316L SS B - Brass	10,000 / 690 4500 / 310* 6000 / 414	10,000 / 690 4500 / 310 6000 / 414	○	0.06 / 0.12	1/4	N W* N
KT12	C - 300 SS B - Brass	6000 / 414 5000 / 345	2500 / 172	○	0.8 / 2.0	1/2, 3/4	N

## BACK PRESSURE REGULATORS

Series	Model	Material	Operating Pressure Max PSI / BAR	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type
BP	1000	S VAR S, B	300 / 21	0.3	1/4, 3/8 1/4	W* N

S VAR : 316L SS VAR      S : 316L SS      B : Brass

\*KT Welded

\*BP1000 Welded

## PNEUMATIC VALVES

Series	Model	Material	Pressure Rating PSI / BAR	Type* Actuation	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type	Two Step Metered and Full Flow	LOTO
AP AZ AK	3540	S VAR S S	145 / 10	NC	0.29	1/4, 3/8	W, IGS W N		○
AP AZ AK	3542	S VAR S S	125 / 9	NC	0.29	1/4, 3/8	W W N		
AP AZ AK	3550	S VAR S S	300 / 21	NC	0.29	1/4, 3/8	W W N		
AP AZ AK	3571	S VAR S S	125 / 9	NC	0.29	1/4, 3/8	W, IGS W N	●	○
AP AZ AK	3580	S VAR S S	250 / 17	NO	0.29	1/4, 3/8	W, IGS W N		○
AP AZ AK	3000	S VAR S S	3000 / 207	NC	0.23 / 0.28	1/4, 3/8	W W N		○
AP AZ AK	3080	S VAR S S	3000 / 207	NO	0.23	1/4, 3/8	W W N		○
AP AZ AK	3004	S VAR S S	3700 / 255	NC	0.23	1/4, 3/8	W W N		○
AP AZ AK	3007	S VAR S S	4500 / 310	NC	0.23	1/4	W W N		○
AP AZ AK	4540	S VAR S S	125 / 9	NC	0.5	1/4, 3/8, 1/2	W W N		○
AP AZ AK	4542	S VAR S S	125 / 9	NC	0.5	1/4, 3/8	W W N		
AP AZ AK	4550	S VAR S S	300 / 21	NC	0.5	1/4, 3/8, 1/2	W W N		
AP AZ AK	4571	S VAR S S	125 / 9	NC	0.5	1/4, 3/8, 1/2	W W N	●	○
AP AZ AK	4580	S VAR S S	250 / 17	NO	0.5	1/4, 3/8, 1/2	W W N		○
AP AZ AK	4000	S VAR S S	3000 / 207	NC	0.35	1/4, 3/8, 1/2	W W N		○
AP AZ	4141	S VAR S	250 / 17	NC	0.8	1/2	W		

CONTINUED

\*NC = Normally closed, NO = Normally open

○ : Optional   ● : Standard   W : Welded   N : Threaded or Compression   IGS : Surface mount (C seal)   LOTO : Lockout / tagout



## PNEUMATIC VALVES — CONTINUED

Series	Model	Material	Pressure Rating PSI / BAR	Type* Actuation	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type	Two Step Metered and Full Flow	LOTO
AP	3113	S VAR	1300 / 90	NC	1.0	1/2	W		○
AP	3130	S VAR	3000 / 207	NC	0.7	1/2	W		○
AP AZ	3700	S VAR S	250 / 17	NC	2.8	3/8, 1/2, 3/4	W		
AP AZ	3708	S VAR S	250 / 17	NO	2.8	3/8, 1/2, 3/4	W		

## MANUAL VALVES

Series	Model	Material	Pressure Rating PSI / BAR	Type Actuation	Open / Closed Indication	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type	LOTO
AP AZ AK	3600	S VAR S S	3000 / 207	Knob, multi turn		0.29	1/4, 3/8	W W N	
AP AZ AK	3604	S VAR S S	3700 / 255	Knob, multi turn		0.29	1/4, 3/8	W W N	
AP AZ AK	3625	S VAR S S	3000 / 207	Lever, 1/4 turn	●	0.29	1/4, 3/8	W, IGS W N	○
AP AZ AK	3624	S VAR S S	3700 / 255	Lever, 1/4 turn	●	0.29	1/4, 3/8	W W N	
AP AZ AK	3627	S VAR S S	4500 / 310	T Handle, 1/4 turn	●	0.29	1/4	W W N	
AP AZ AK	3650	S VAR S S	3000 / 207	Knob, 1/4 turn	●	0.29	1/4, 3/8	W W N	
AP AZ AK	3652	S VAR S S	250 / 17	Knob, 1/4 turn	●	0.29	1/4, 3/8	W W N	
AP AZ AK	3657	S VAR S S	3000 / 207	Knob, pull turn	●	0.29	1/4, 3/8	W W N	●
AP AZ AK	4600	S VAR S S	300 / 21 3000 / 207 opt	Knob, multi turn		0.5	1/4, 3/8, 1/2	W W N	
AP AZ AK	4625	S VAR S S	300 / 21 3000 / 207 opt	Lever, 1/4 turn	●	0.5	1/4, 3/8, 1/2	W W N	○
AP AZ AK	4650	S VAR S S	300 / 21 3000 / 207 opt	Knob, 1/4 turn	●	0.5	1/4, 3/8, 1/2	W W N	

CONTINUED

\*NC = Normally closed, NO = Normally open

○ : Optional   ● : Standard   W : Welded   N : Threaded or Compression   IGS : Surface mount (C seal)   LOTO : Lockout / tagout

## MANUAL VALVES — CONTINUED

Series	Model	Material	Pressure Rating PSI / BAR	Type Actuation	Open / Closed Indication	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type	LOTO
AP AZ AK	4652	S VAR S S	250 / 17	Knob, 1/4 turn	●	0.5	1/4, 3/8	W W N	
AP AZ AK	4657	S VAR S S	300 / 21 3000 / 207 opt	Knob, pull turn	●	0.5	1/4, 3/8, 1/2	W W N	●
AP AZ	4150	S VAR S	250 / 17	Knob, 1/4 turn	●	0.8	1/2	W	
AP AZ	4157	S VAR S	250 / 17	Knob, pull turn	●	0.8	1/2	W	●
AP	3100	S VAR	3000 / 207	Knob, multi turn		0.7 / 1.3	1/2	W	
AP	3125	S VAR	3000 / 207	Lever, 1/4 turn	●	1.0	1/2	W	○
AP	3150	S VAR	1300 / 90	Knob, 1/4 turn	●	1.0	1/2	W	
AP	3157	S VAR	1300 / 90	Knob, pull turn	●	1.0	1/2	W	●
AP AZ	3800	S VAR S	250 / 17	Knob	●	2.8	3/8, 1/2, 3/4	W	
AP AZ	3900	S VAR S	250 / 17	Knob, pull turn	●	2.8	3/8, 1/2, 3/4	W	●
AZ	9600	S	250 / 17	Knob		10	3/4, 1	W	
BZ	91T	S	250 / 17	Knob, multi turn		20	3/4, 1, 1-1/2	W	
BZ	91U	S	1700 / 117	Knob, multi turn		12	3/4, 1	W	

Note: AZ 9600 no open closed indicator.

## METAL SEATED VALVES

Model	Material	Pressure Rating PSI / BAR	Type Actuation	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type
AP 3200	S VAR	125 / 9 500 / 34 opt	Pneumatic, NC	0.27	1/4, 3/8	W
AP 3260	S VAR	125 / 9 500 / 34 opt	Knob, multi turn	0.27	1/4, 3/8	W

## METERING VALVES

Model	Material	Pressure Rating PSI / BAR	Type Actuation	C <sub>v</sub> STD / OPT	Connection Size Inch	Connection Type
AP AZ AK	S VAR S S	145 / 10	Knob, multi turn	0.02 / 0.08 / 0.15	1/4, 3/8 1/4, 3/8 1/4, 3/8	W W N

○ : Optional   ● : Standard   W : Welded   N : Threaded or Compression   IGS : Surface mount (C seal)   LOTO : Lockout / tagout

## CHECK VALVE

Model	Material	Pressure Max PSI / BAR	C <sub>v</sub>	Cracking Pressure PSI / BAR	Connection Size Inch	Connection Type
AP 64	S VAR	3500 / 241	0.4 max	3 / 0.23	1/4	W

## VACUUM GENERATORS

Model	Material	Vacuum Efficiency In Hg / Torr	Modules**	Connection Size Inch	Connection Type
AP 7	S VAR	26 / 100		1/4, 3/8	W
AP 70	S VAR	26 / 100		1/4, 3/8	W
AP 71	S VAR	26 / 100	●	1/4, 3/8	W
AP 72	S VAR	26 / 100	●	1/4, 3/8	W

\*\*Monoblock vacuum generator, N<sub>2</sub> supply valve and check valve

## FLOW SWITCHES

Model	Material	Pressure Max PSI / BAR	Trip Points SLPM @ 100 psi N <sub>2</sub>	Connection Size Inch	Connection Type
AP 74	S VAR	3500 / 267	2, 5, 10, 25, 50, 100	1/4	W
AP 74B	S VAR	3500 / 241	225, 350, 500, 950	1/2	W
		2400 / 163	1100, 1650, 2600	3/4	W
		2200 / 152	3000, 4000	1	W
		1300 / 90	5000, 6000	1-1/2	W

## SERIES FEATURES

Series	Cleanroom Assembly	N <sub>2</sub> Testing	Helium Testing	Connection Type				Material	EP	Surface Finish STD / OPT in μ inches
				W		N				
				Face Seal	Tube Stub	NPT	Compression			
AP	●	●	●	●	○			SVAR	●	15 / 10, 7, 5 Ra max
AZ	●	●	●	●	○			S	●	10 Ra avg
AK		●				●	○	S, B		63 Ra avg
KT		●		○		●		S, B	○	63 Ra avg

○ : Optional    ● : Standard    W : Welded    N : Threaded



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CL35315/May2023