

VACUUM JACKETED & NON JACKETED CRYOGENIC GLOBE VALVE MANUAL OR AUTOMATIC

2000 TO 5000 SERIES

0 to 300 PSIG



APPLICATIONS

- Cryogenic Storage Tanks
- Cryogenic Transportation Trailers
- Cryogenic Vacuum Jacketed and Non-Jacketed Piping Systems



FEATURES

- Bellow Sealed Design
- Redundant Packing Seals
- Vacuum Jacketed or Non-Jacketed
- All Stainless Steel Construction
- Bubble Tight Shut-off
- Top Entry - Completely Extractable
- Bar Stock Body
- Low Maintenance - High Durability
- Long Bonnet Extension
- Axially Bolted Bonnet for High Seat Loading
- Stem & Packing Box Hermetically Standard (Overseat Purge)
- Fugitive Emissions-Compliant



OPTIONS

- Pipe or Tube Ends
- Packed or Bellow Seal
- Manual or Automatic with Controls
- Automatic Control or Remote On/Off Operation
- Quick Open, Linear, Equal %, Hyperbolic Flow Plugs
- Pneumatic or Electric Actuators
- Higher Rated Working Pressures on Request
- Micro-Electronics Grades (UHP)



Valve Size:

1/2" to 3" Pipe or
1/2" to 3" Tube



OPERATING RANGES

Temperature..... -456° F to +300° F
(-269° C to +149° C)

Max. Operating Pressure 300 PSIG

Heat Leak 4.5 BTU/Hr to 2,275 KPA



TECHNICAL DATA

Designed to ASME VIII D1, B16.34 & B31.3

Materials of Construction:

All Major Structural Components are 300 Series Stainless Steel

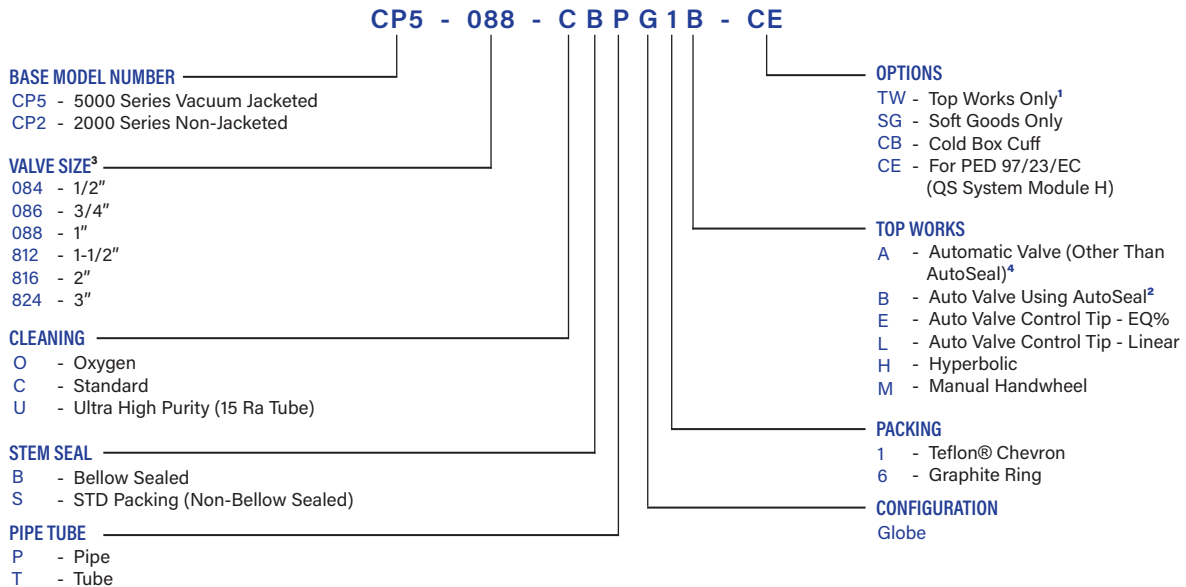
Body & Bonnet	Stainless Steel (316L)
Body Seat	PCTFE (M400H)
Packing	Teflon® or Graphite
Bonnet Gasket	Glass Filled Teflon®
Redundant Seal	Viton® or EPDM

Testing:

External Leakage	Helium Mass spec. to 1x10 ⁻⁹ scc GHe/sec
Seat Leakage	Bubble Tight

2000 TO 5000 SERIES

ORDERING GUIDE



PERFORMANCE CHARACTERISTICS

Valve Size	Cooldown Weight lb.	Conductive Heat Leak Total HT Rate (W)	Conductive Heat Leak Total HT Rate (BTU/HR)	Flow C _v Coefficient ⁵
1/2"	5.5	4.647 Watts	15.85	12.0
3/4"	5.5	4.647 Watts	15.85	12.0
1"	5.5	4.647 Watts	15.85	12.0
1.5"	12	8.066 Watts	27.52	21.0
2"	11	8.066 Watts	27.52	30.5
3"	40	11.207 Watts	38.23	75.0

¹ Includes Seat-Plug-Inner Cylinder Assembly and Top Works (Less Actuator)

² 1/2" - 1" Seated Valves Use FWAA602CASX AutoSeals Actuators (3-15 PSI)

1 1/2" Use FWAA602CASX AutoSeal Actuators (6-30 PSI)

2" Use FWAA602CCNX AutoSeal Actuators (20-60 PSI)

³ 1/2" Inlet-Outlet through 1" Inlet-Outlet Valves All Have 1" Size Valve Seats

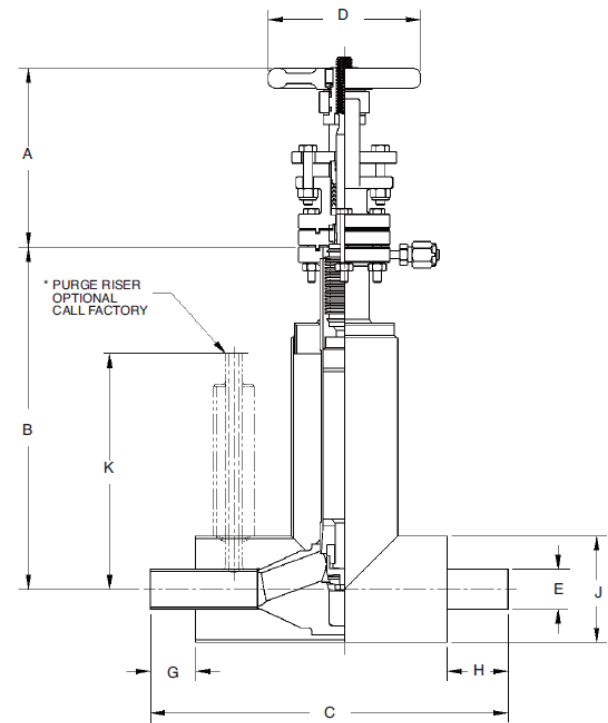
⁴ Customer to Specialty Actuator of Other Than AutoSeal

⁵ CFD H₂O Standard Conditions

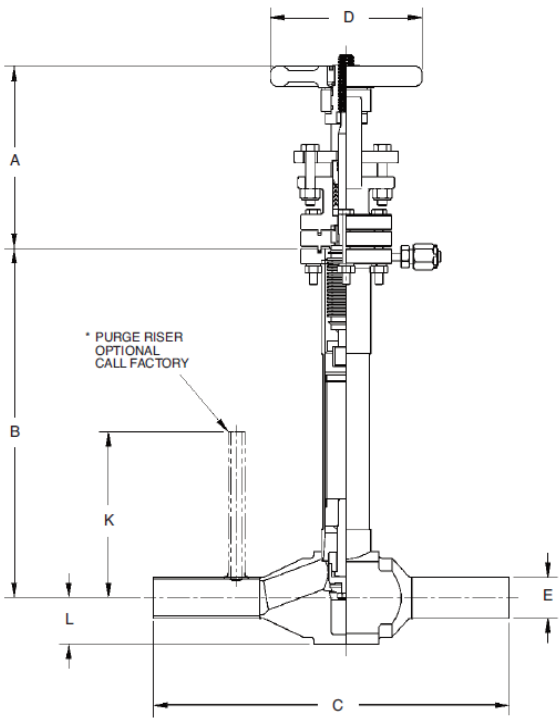
2000 TO 5000 SERIES



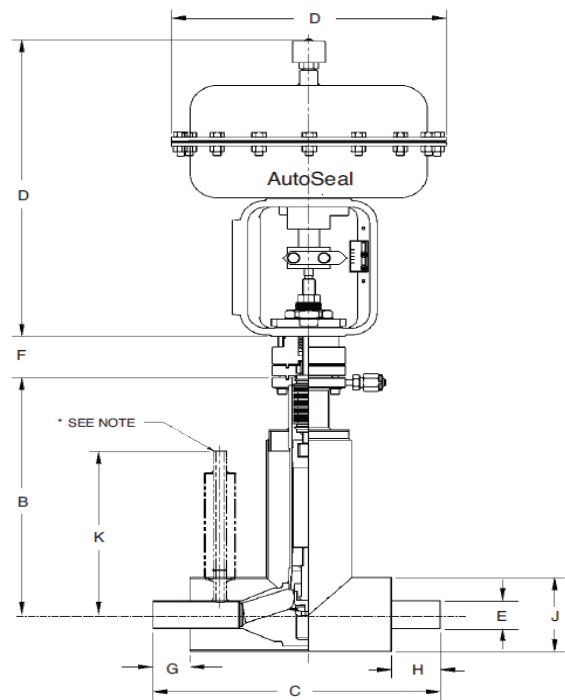
5000 SERIES
Manual Valve
Bellows Sealed



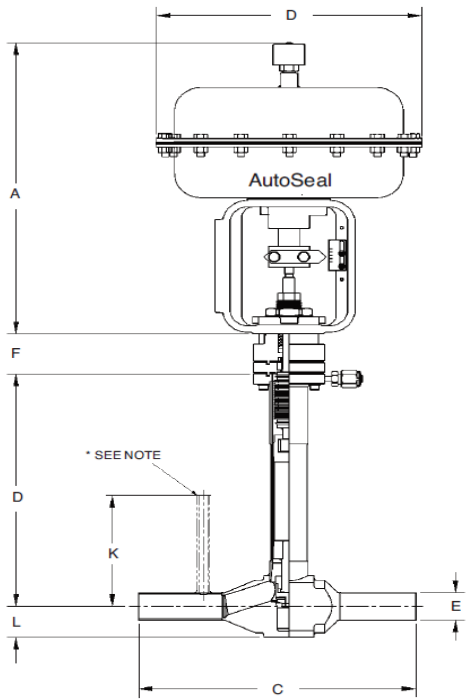
2000 SERIES
Manual Valve
Bellows Sealed



5000 SERIES
Automatic Valve
Bellows Sealed



2000 SERIES
Automatic Valve
Bellows Sealed



2000 TO 5000 SERIES

DIMENSION TABLES*

5000 SERIES MANUAL VALVE - DIMENSIONS (inches)										
SIZE	A-1 NON-BELLOW SEAL STEM	A-2 BELLOW SEAL STEM	B	C	D	E	G	H	J	K
0.5" PS	5.25	5.88	11.25	11.75	5.00	0.840	1.50	2.00	3.50	7.56
0.5" ODT	5.25	5.88	11.25	15.56	5.00	0.500	1.50	2.00	3.50	*
0.75" PS	5.25	5.88	11.25	11.75	5.00	1.050	1.50	2.00	3.50	7.75
0.75" ODT	5.25	5.88	11.25	15.56	5.00	0.750	1.50	2.00	3.50	*
1.0" PS	5.25	5.88	11.25	11.75	5.00	1.315	1.50	2.00	3.50	7.75
1.0" ODT	5.25	5.88	11.25	15.56	5.00	1.000	1.50	2.00	3.50	*
1.5" PS	5.25	5.88	14.00	12.25	7.00	1.900	2.00	2.00	4.50	9.06
1.5" ODT	5.25	5.88	14.00	15.56	7.00	1.500	2.00	2.00	4.50	*
2.0" PS	5.25	5.88	14.00	12.25	7.00	2.375	2.38	1.63	4.50	10.19
2.0" ODT	5.25	5.88	14.00	15.56	7.00	2.000	2.38	1.63	4.50	*

5000 SERIES AUTOMATIC VALVE - DIMENSIONS (inches)													
SIZE	A		B	C	D		E	F		G	H	J	K
	AUTOSEAL 36	AUTOSEAL 60			AUTOSEAL 36	AUTOSEAL 60		NON-BELLOW SEAL STEM	BELLOW SEAL STEM				
0.5" ODT	12.06	14.06	11.25	15.56	9.31	11.25	0.500	0.94	1.91	1.50	2.00	3.50	*
0.5" PS	12.06	14.06	11.25	11.75	9.31	11.25	0.840	0.94	1.91	1.50	2.00	3.50	7.56
0.75" ODT	12.06	14.06	11.25	15.56	9.31	11.25	0.750	0.94	1.91	1.50	2.00	3.50	*
0.75" PS	12.06	14.06	11.25	11.75	9.31	11.25	1.050	0.94	1.91	1.50	2.00	3.50	7.75
1.0" PS	12.06	14.06	11.25	15.56	9.31	11.25	1.000	0.94	1.91	1.50	2.00	3.50	*
1.0" ODT	12.06	14.06	11.25	11.75	9.31	11.25	1.315	0.94	1.91	1.50	2.00	3.50	7.75
1.5" PS	12.06	14.06	11.25	15.56	9.31	11.25	1.500	0.94	1.91	2.00	2.00	4.50	*
1.5" ODT	12.06	14.06	14.00	12.25	9.31	11.25	1.900	1.62	2.75	2.00	2.00	4.50	9.06
2.0" ODT	12.06	14.06	14.00	15.56	9.31	11.25	2.000	1.62	2.75	2.38	1.63	4.50	*
2.0" PS	12.06	14.06	14.00	12.25	9.31		2.375	1.62	2.75	2.38	1.63	4.50	10.19

2000 SERIES MANUAL VALVE - DIMENSIONS (inches)									
SIZE	A-1 NON-BELLOW SEAL STEM	A-2 BELLOW SEAL STEM	B	C	D	E	CONSULT FACTORY		L
0.5" PS	5.25	5.88	11.25	11.75	5.00	0.840			1.50
0.5" ODT	5.25	5.88	11.25	15.56	5.00	0.500			1.50
0.75" PS	5.25	5.88	11.25	11.75	5.00	1.050			1.50
0.75" ODT	5.25	5.88	11.25	15.56	5.00	0.750			1.50
1.0" PS	5.25	5.88	11.25	11.75	5.00	1.315			1.50
1.0" ODT	5.25	5.88	11.25	15.56	5.00	1.000			1.50
1.5" PS	5.25	5.88	14.00	12.25	7.00	1.900			1.88
1.5" ODT	5.25	5.88	14.00	15.56	7.00	1.500			1.88
2.0" PS	5.25	5.88	14.00	12.25	7.00	2.375			1.88
2.0" ODT	5.25	5.88	14.00	15.56	7.00	2.000			1.88

2000 SERIES AUTOMATIC VALVE - DIMENSIONS (inches)											
SIZE	A		B	C	D		E	F		K	L
	AUTOSEAL 36	AUTOSEAL 60			AUTOSEAL 36	AUTOSEAL 60		NON-BELLOWS SEAL STEM	BELLOW SEAL STEM		
0.5" ODT	12.06	14.06	11.25	15.56	9.31	11.25	0.500	0.94	1.91	*	1.50
0.5" PS	12.06	14.06	11.25	11.75	9.31	11.25	0.840	0.94	1.91	7.56	1.50
0.75" ODT	12.06	14.06	11.25	15.56	9.31	11.25	0.750	0.94	1.91	*	1.50
0.75" PS	12.06	14.06	11.25	11.75	9.31	11.25	1.050	0.94	1.91	7.75	1.50
1.0" ODT	12.06	14.06	11.25	15.56	9.31	11.25	1.000	0.94	1.91	*	1.50
1.0" PS	12.06	14.06	11.25	11.75	9.31	11.25	1.315	0.94	1.91	7.75	1.50
1.5" ODT	12.06	14.06	11.25	15.56	9.31	11.25	1.500	0.94	1.91	*	1.88
1.5" PS	12.06	14.06	14.00	12.25	9.31	11.25	1.900	1.62	2.75	9.06	1.88
2.0" ODT	12.06	14.06	14.00	15.56	9.31	11.25	2.000	1.62	2.75	*	1.88
2.0" PS	12.06	14.06	14.00	12.25	9.31	11.25	2.375	1.62	2.75	10.19	1.88

*Dimensions subject to change without notice