



CPC 2000 Series  
PED & CRN Approved

# 2000 SERIES Bellow Sealed 5000 SERIES 300 PSIG



## VACUUM JACKETED AND NON JACKETED CRYOGENIC GLOBE VALVE MANUAL OR AUTOMATIC

### 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 Sealed
- Easy Inline Maintenance
- Purged Bonnet Connection Standard (Over Seat Purge)
- Fugitive Emissions-Compliant

### Technical Data

#### 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

#### Materials of Construction

All Major Structural Components are 300 Series Stainless Steel.

Body and Bonnet .....Stainless Steel (316L)

Body Seat .....PCTFE (M400H)

Packing .....Teflon® or Graphite\*

Bonnet Gasket .....Glass Filled Teflon®

Redundant Seal .....Viton or EPDM

#### Tests

External Leakage .....Helium Mass  
Spectrometer to  
1x10<sup>-9</sup>scc GHe/sec

Seat Leakage .....Bubble Tight

#### Valve Size

1/2" to 3" Pipe (Sch 5 Butt Weld Standard), or 1/2"  
to 3" Tube ODT (For Orbital Welding)

### Applications

- Cryogenic Storage Tanks
- Cryogenic Transportation Trailers
- Cryogenic Vacuum Jacketed and Non-Jacketed Piping Systems
- Acceptable for use in flammable applications  
*(i.e. Liquid & Gaseous Hydrogen & LNG)*

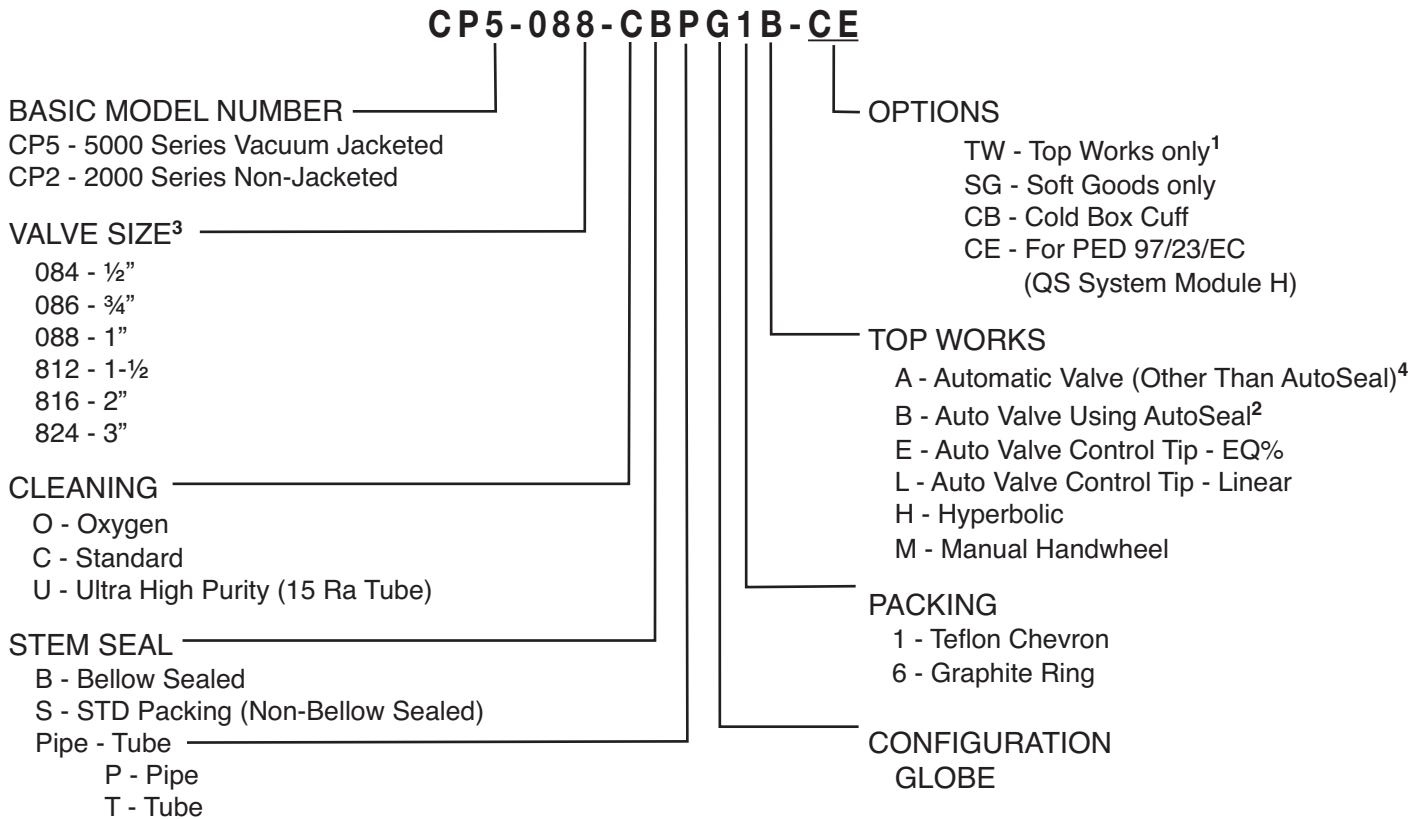
### Options

- 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)

**CE** (PED Approved)  
CRN (Canadian Registered)

# 5000 SERIES 2000 SERIES 300 PSIG

## How To Order



## Performance Characteristics

Valve Pipe Size	Cooldown Weight Lb.	Conductive Heat Leak Total HT Rate (W)	Conductive Heat Leak Total HT Rate (BTU/HR)	Flow Cv Coefficient <sup>5</sup>
½"	5.5	4.647 Watts	15.85	12.0
¾"	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

<sup>1</sup> Includes Seat-Plug-Inner Cylinder Assembly and Top Works (Less Actuator)

<sup>2</sup> ½" - 1" Seated Valves Use FWAA602CASX AutoSeals Actuators (3-15 PSI)

1½" Use FWAA602CBSX AutoSeal Actuators (6-30 PSI)

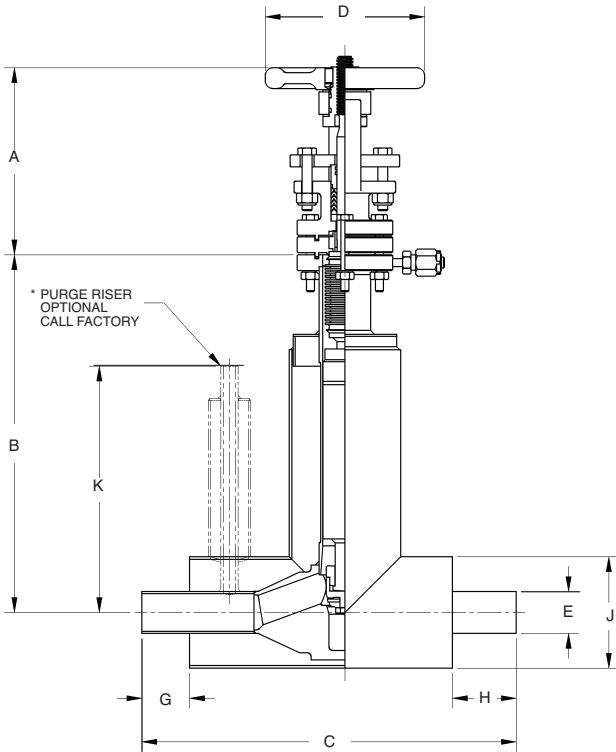
2" Use FWAA602CCNX AutoSeal Actuators (20-60 PSI)

<sup>3</sup> ½" Inlet-Outlet through 1" Inlet-Outlet Valves All Have 1" Size Valve Seats

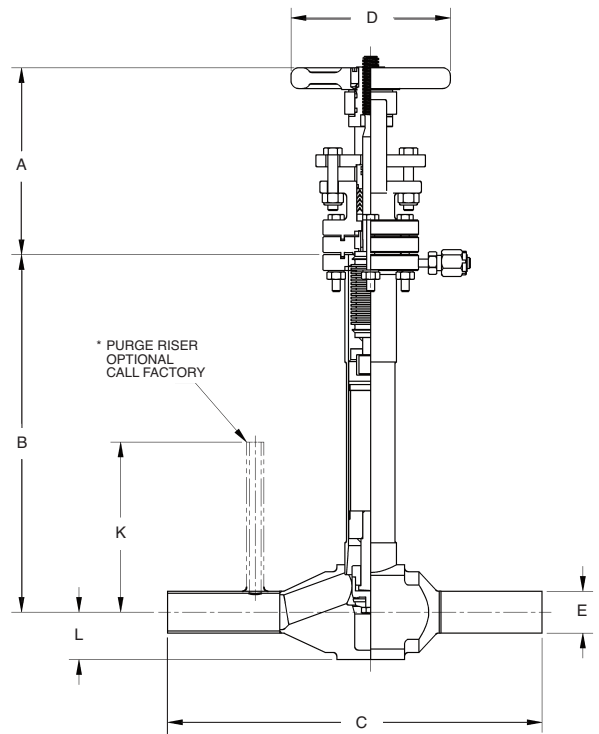
<sup>4</sup> Customer to Specialty Actuator of Other Than AutoSeal

<sup>5</sup> CFD H<sub>2</sub>O Standard Conditions

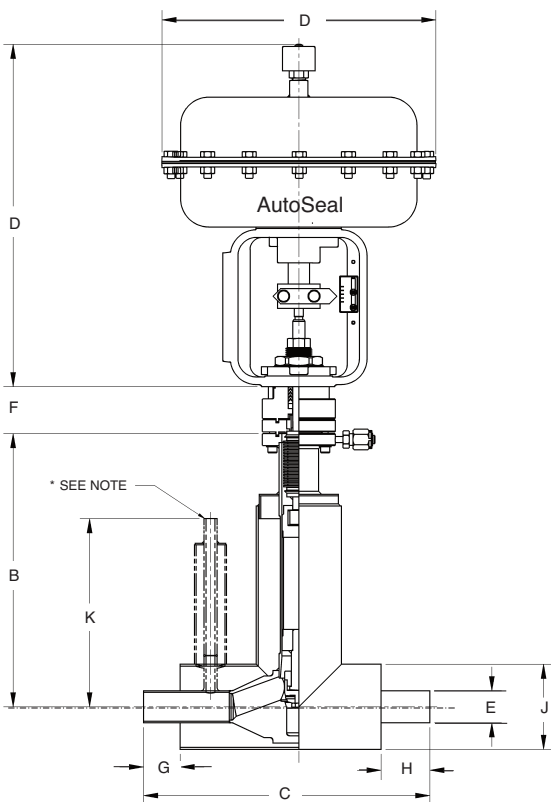
**5000 SERIES**  
**Manual Valve**  
*Bellow Sealed*



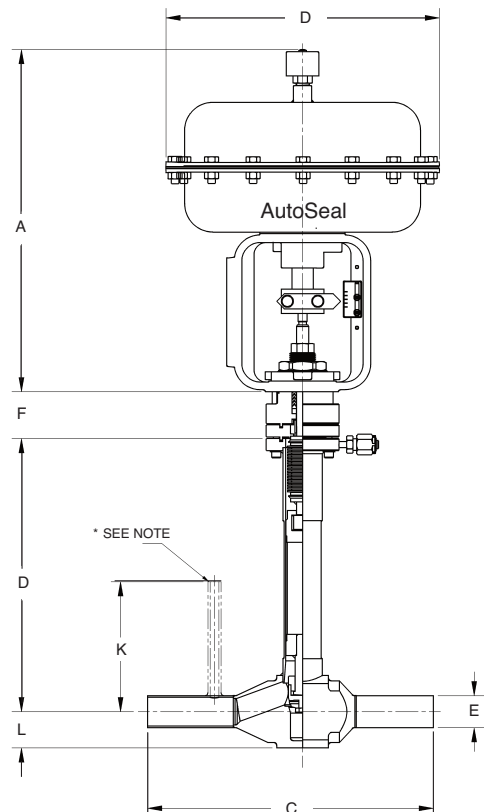
**2000 SERIES**  
**Manual Valve**  
*Bellow Sealed*



**5000 SERIES**  
**Automatic Valve**  
*Bellow Sealed*



**2000 SERIES**  
**Automatic Valve**  
*Bellow Sealed*



## 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" ODT	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" PS	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" ODT	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" PS	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	11.25	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	K		L	
0.5" PS	5.25	5.88	11.25	11.75	5.00	0.840	<b>C F O N S T R U C T U R E</b>	<b>T O L E R A N C E</b>	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- 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
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.