

**CRYOGENIC VACUUM JACKETED  
SHUT-OFF VALVES**

**CV8 SERIES**

0 - 300 PSIG



**APPLICATIONS**

- Cryogenic Storage Tanks
- Cryogenic Transportation Trailers
- Cryogenic Vacuum Jacketed Piping Systems
- Stationary Cryogenics Bulk Storage Vessels
- Vacuum Insulated Piping Systems
- Cryogenic Over-Road Trailers
- Cryogenic ISO Containers

**OPTIONS**

- Cold Box Cuff
- Ported Bonnet (Overseat Purge)
- Pneumatic and Electric Actuators
- Positioners & Position Indicators
- Limit Switches
- Linear & Equal % Flow Plugs
- Special extended length for Helium Service
- Higher rated working pressures



**FEATURES**

- Vacuum Jacketed or Non-Jacketed
- Bubble Tight Shut Off
- Redundant Packing Seals
- Axially Bolted Bonnet or High Seat Loading
- Low Heat Leak Extension
- Self-Centering Plug Seal
- Quality Investment Cast Body for High Flow Values
- Easy In-line Maintenance
- Globe, "Y" Pattern and Right Angle Pattern Designs

**Valve Size:**

Standard: 1/2" to 4"  
Special Build Order: 6", 8", 10", 12", 14"



**TECHNICAL DATA**

**Operating Ranges:**

Temperature..... -456° F to +300° F  
(-273° C to +149° C)

Max. Operating Pressure 300 PSIG

**Materials of Construction:**

All Major Structural Components are 300 Series Stainless Steel

Seat Seal ..... PCTFE  
Packing ..... Graphite  
Gasket ..... Glass Filled PTFE

**Testing:**

External Leakage ..... Mass spec. to  
1x10<sup>-9</sup>scc GHe/sec  
Seat Leakage ..... Bubble Tight to 150 PSIG  
Proof Pressure ..... 330 PSIG (ambient)

# CV8 SERIES 0 to 300 PSIG

## ORDERING GUIDE

CV8 - 088 - C WPG 1 M E - PB

### BASE MODEL NUMBER

CV8 Series

### VALVE SIZE

084 - 1/2"  
 086 - 3/4"  
 088 - 1"  
 812 - 1-1/2"  
 816 - 2"  
 824 - 3"  
 832 - 4"  
 848 - 6"  
 864 - 8"  
 880 - 10"  
 896 - 12"

### CLEANING

O - Oxygen (CGA G-4.1)  
 C - Standard

### CONFIGURATION

WPG - Pipe Size, Globe  
 WTG - Tube Size, Globe  
 WPY - Pipe Size, 45° "Y" Pattern  
 WTY - Tube Size, 45° "Y" Pattern  
 WPR - Pipe Size, 90° Angle Pattern  
 WTR - Tube Size, 90° Angle Pattern

### PACKING

1 - PTFE  
 6 - Graphite

### SPECIAL ADD ON

S10 - Schedule 10  
 316 - 316 SS Jacket  
 PB - 1/4" MCVR  
 PB5 - 1/4" FNPT  
 PB7 - 1/8" FNPT  
 NJ - Non-Jacketed  
 LJ - Loose Jacket  
 CB - Cold Box  
 PROS - Purge Rise Over Seat  
 PRUS - Purge Rise Under Seat  
 CE - PED  
 TPED  
 KGS  
 TR - Material Traceability

### FLOW CONTROL

- Standard Quick Open  
 E - EQ%  
 L - Linear  
 H - Hyperbolic

### ACTUATOR

M - Manual  
 A - Automatic Valve without Actuator  
 B - Automatic Valve with Autoseal

All vacuum jacketed valves are insulated with four layers of radiation shielding.

Example: CV8-088-CWPG1E-PB

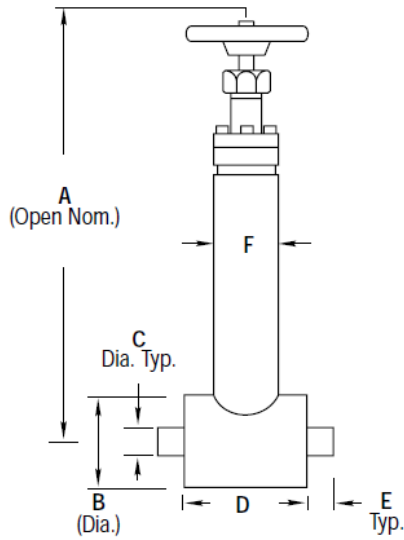


## PERFORMANCE CHARACTERISTICS

Valve Size	Conductive Heat Leak (BTU/HR to 20°K)	Cooldown Weight (#)	Flow Coefficient (C <sub>v</sub> )		
			Globe	Y	Angle
1/2"	5.9	2.7	6.6	9	8
3/4"	6.6	3.3	8	12	10
1"	10.4	3.8	14	22	17
1-1/2"	21.8	7.0	34	47	41
2"	27.3	10.2	50	96	60
3"	68.1	30.8	139	162	145
4"	79.9	51.2	182	288	248
6"	Call Factory	Call Factory	-	-	-
8"	Call Factory	Call Factory	-	-	-
10"	Call Factory	Call Factory	-	-	-
12"	Call Factory	Call Factory	-	-	-
14"	Call Factory	Call Factory	-	-	-

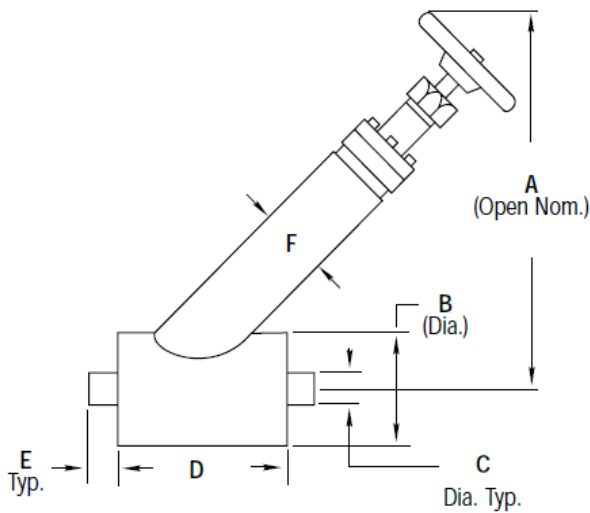
# CV8 SERIES 0 to 300 PSIG

## DIMENSIONS



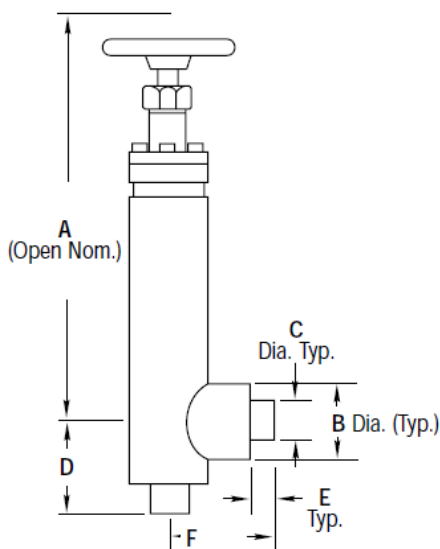
Globe Pattern

Size	Assembly Part No.	A	B	C	D	E	F
1/2" Tube	CV8-084-CWTG	16.5	2.88	.50	3.88	1.0	2.38
1/2" Pipe	CV8-084-CWPG	16.5	2.88	.84	3.88	1.0	2.38
3/4" Tube	CV8-086-CWTG	16.5	2.88	.75	3.88	1.0	2.38
3/4" Pipe	CV8-086-CWPG	16.5	2.88	1.05	3.88	1.0	2.38
1" Tube	CV8-088-CWTG	16.5	3.50	1.00	5.00	1.0	2.38
1" Pipe	CV8-088-CWPG	16.5	3.50	1.32	5.00	1.0	2.38
1-1/2" Tube	CV8-812-CWTG	19.5	4.00	1.50	6.00	1.0	3.5
1-1/2" Pipe	CV8-812-CWPG	19.5	4.00	1.90	6.00	1.0	3.5
2" Tube	CV8-816-CWTG	22.5	4.50	2.00	6.00	1.0	4.0
2" Pipe	CV8-816-CWPG	22.5	4.50	2.38	6.00	1.0	4.0
3" Pipe	CV8-824-CWPG	28.0	8.62	3.50	12.00	1.0	5.5
4" Pipe	CV8-832-CWPG	36.0	10.75	4.50	14.00	1.0	8.62



"Y" Pattern

Size	Assembly Part No.	A	B	C	D	E	F
1/2" Tube	CV80-084-CWTY	12.6	2.88	.50	5.00	1.0	2.38
1/2" Pipe	CV8-084-CWPY	12.6	2.88	.84	5.88	1.0	2.38
3/4" Tube	CV8-086-CWTY	12.6	2.88	.75	5.88	1.0	2.38
3/4" Pipe	CV8-086-CWPY	12.6	2.88	1.05	5.88	1.0	2.38
1" Tube	CV8-088-CWTY	12.6	2.88	1.00	6.00	1.0	2.38
1" Pipe	CV8-088-CWPY	12.6	2.88	1.32	6.00	1.0	2.62
1-1/2" Tube	CV8-812-CWTY	14.7	4.50	1.50	10.00	1.0	3.5
1-1/2" Pipe	CV8-812-CWPY	14.7	4.50	1.90	10.00	1.0	3.5
2" Tube	CV8-816-CWTY	14.7	4.50	2.00	10.00	1.0	4.0
2" Pipe	CV8-816-CWPY	14.7	4.50	2.38	10.00	1.0	4.0
3" Pipe	CV8-824-CWPY	22.0	8.62	3.50	16.00	1.0	5.5
4" Pipe	CV8-832-CWPY	34.0	10.75	4.50	18.00	1.0	8.62



Angle Pattern

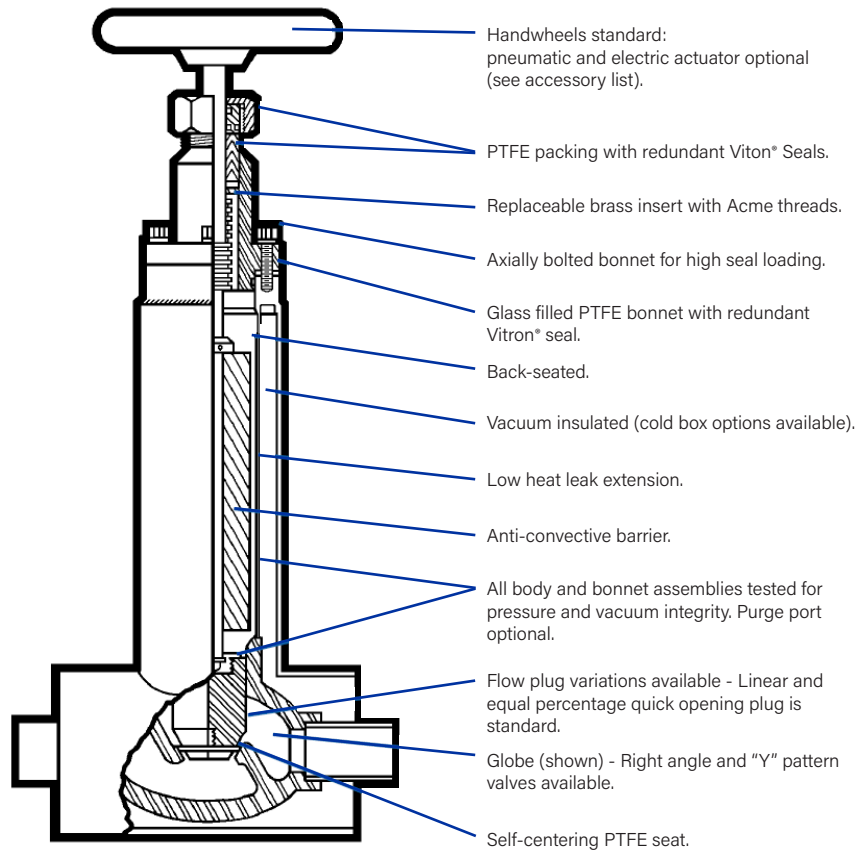
Size	Assembly Part No.	A	B	C	D	E	F
1/2" Tube	CV8-084-CWTR	16.5	2.38	.50	3.50	1.0	3.50
1/2" Pipe	CV8-084-CWPR	16.5	2.38	.84	3.50	1.0	3.50
3/4" Tube	CV8-086-CWTR	16.5	2.88	.75	3.50	1.0	3.50
3/4" Pipe	CV8-086-CWPR	16.5	2.88	1.05	3.50	1.0	3.50
1" Tube	CV8-088-CWTR	16.5	2.88	1.00	3.50	1.0	3.50
1" Pipe	CV8-088-CWPR	16.5	2.88	1.32	3.50	1.0	3.50
1-1/2" Tube	CV8-812-CWPR	19.5	3.50	1.50	3.75	1.0	3.75
1-1/2" Pipe	CV8-812-CWPR	19.5	3.50	1.90	3.75	1.0	3.75
2" Tube	CV8-816-CWTR	19.5	4.00	2.00	4.00	1.0	4.00
2" Pipe	CV8-816-CWPR	19.5	4.00	2.38	4.00	1.0	4.00
3" Pipe	CV8-824-CWPR	28.0	5.56	3.50	5.00	1.0	5.00
4" Pipe	CV8-832-CWPR	36.0	8.62	4.50	8.00	1.0	8.00

Please consult factory for larger sizes.

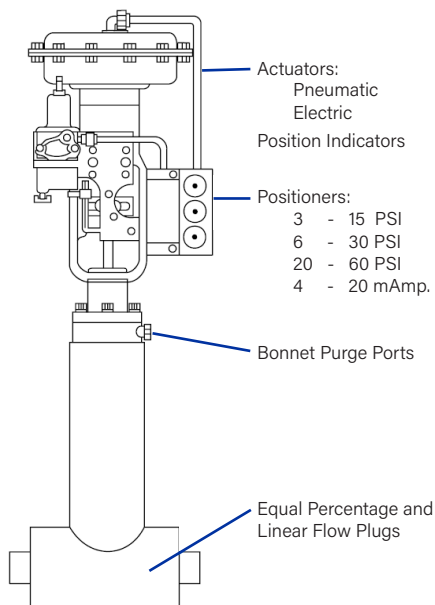
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## FEATURES



## OPTIONAL ACCESSORIES AND TRIM



Actuators, Accessories, and Trim Hardware must be specified when an automatic valve is ordered.

- General Information needed:
- Maximum Working Pressure
  - Available Air Supply Pressure
  - Signal Input to Valve
    - 3 - 15 PSI
    - 6 - 30 PSI
    - 20 - 60 PSI
    - 4 - 20 mAmp.
  - Flow Rate in SCFM or GPM
  - Fluid Media
  - Working Temperature
  - Air to Open or Air to Close