

CRYOGENIC VACUUM JACKETED SHUT-OFF VALVES

CV8 SERIES

0 to 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



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



OPERATING RANGES

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

Max. Operating Pressure 300 PSIG



Valve Size:

Standard: 1/2" to 4"

Special Build Order: 6", 8", 10", 12", 14"



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



TECHNICAL DATA

Materials of Construction:

All Major Structural Components are 300 Series Stainless Steel

Seat Seal	PCTFE
Packing	PTFE or Graphite
Gasket	Glass Filled PTFE

Testing:

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

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



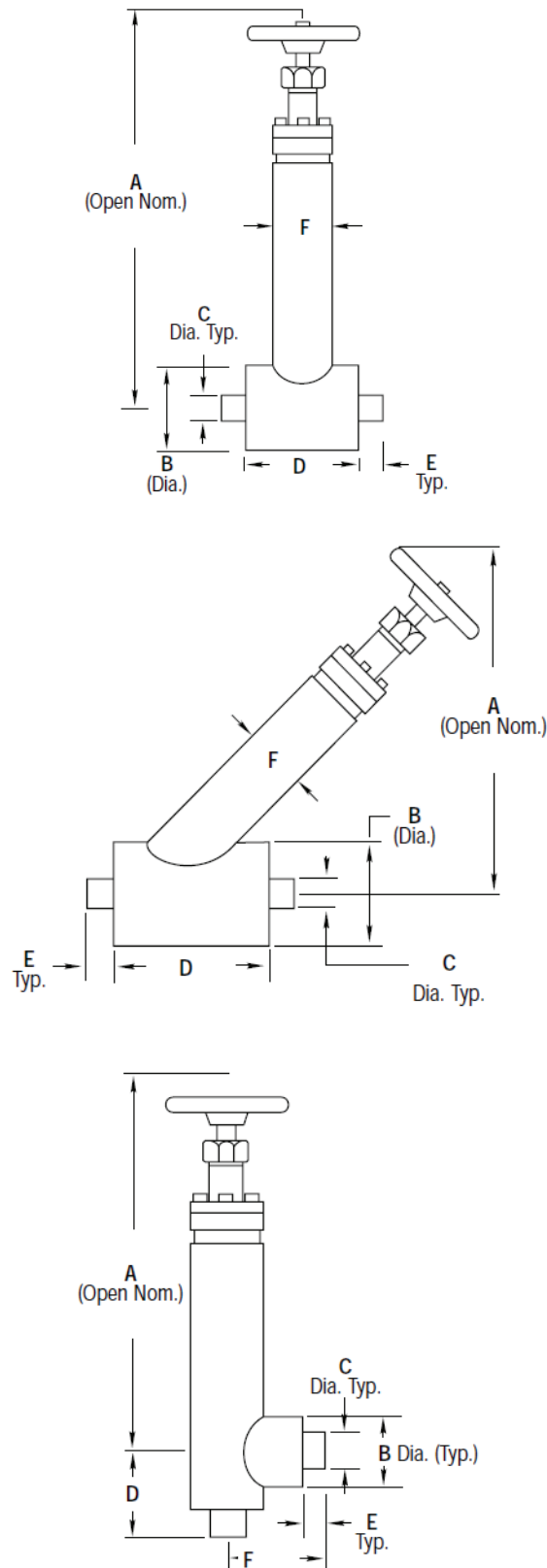
PERFORMANCE CHARACTERISTICS

Valve Size	Conductive Heat Leak (BTU/HR to 20°K)	Cool-down Weight (#)	Flow Coefficient (C _v)		
			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



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

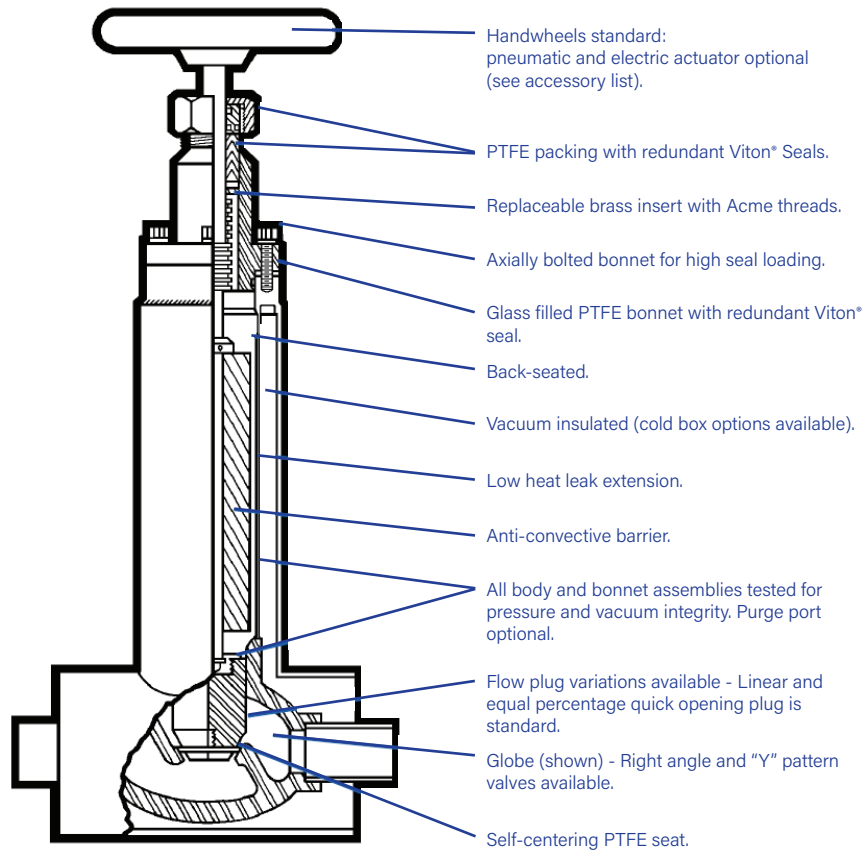
Size	Assembly Part No.	A	B	C	D	E	F
1/2" Tube	CV8-084-CWTR	16.5	2.38	.50	3.50	1.0	3.50
1/2" Pipe	CV8-084-CWPR	16.5	2.38	.84	3.50	1.0	3.50
3/4" Tube	CV8-086-CWTR	16.5	2.88	.75	3.50	1.0	3.50
3/4" Pipe	CV8-086-CWPR	16.5	2.88	1.05	3.50	1.0	3.50
1" Tube	CV8-088-CWTR	16.5	2.88	1.00	3.50	1.0	3.50
1" Pipe	CV8-088-CWPR	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.

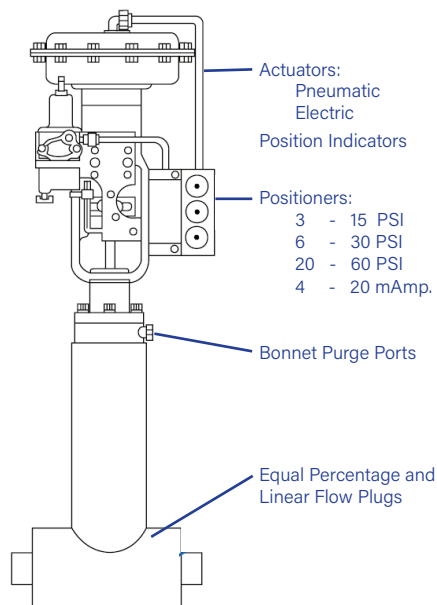
CV8 SERIES



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