

HYDROGEN VACUUM JACKETED SHUT-OFF/CONTROL VALVES

CV8BS BELLOW SEAL

0 to 300 PSIG



Valve Size:

Standard: 1/2" to 4"

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



APPLICATIONS

- Hydrogen Storage Tanks
- Hydrogen Transportation Trailers
- Hydrogen Vacuum Jacketed Piping Systems
- Rocket Launch Fueling System
- Stationary Hydrogen Bulk Storage Vessels
- Vacuum Insulated Piping Systems
- Hydrogen Over-Road Trailers
- Cryogenic ISO Containers
- Hydrogen Plants



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



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) |



OPERATING RANGES

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

Max. Operating Pressure 300 PSIG

CV8BS BELLOW SEAL

ORDERING GUIDE

CV8BS - 812 - O WPG 1 M - PB - PRUS

BASE MODEL NUMBER

CVBS Bellow Seal

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 - SS Jacket
PB - 1/4" MCVR
PBS - 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: CV8BS-812-OWPG1M-PB-PRUS

* Multiple Special Add Ons can be added to the part number



PERFORMANCE CHARACTERISTICS

| Valve Size | Conductive Heat Leak (BTU/HR to 20°K) | Cooldown 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 | - | - | - |