

HYDROGEN VACUUM JACKETED SHUT-OFF/CONTROL VALVES

CV8BS BELLOW SEAL

0 to 300 PSIG



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



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"



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)

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	-	-	-