

ADREM™

CBV Series



ADREM™ High Performance Chlorine Service Ball Valves



BUREAU
VERITAS
ISO 9001:2015



CBV Series	Standard Features	Optional Features
Temperature	-150°F to 500°F	
Body	A 352 LCC	A 351 CF8M, A 494 M35-1
Ball/Stem	Hastelloy C276	316SS, Inconel 600, M400
Size	1/2" - 10"	
Application	Reliable Isolation & Control of Chlorine, Phosgene, Anhydrous HCL, etc.	
Conforming Standards	ASME B16.5, B16.10, B16.34, API 598, Chlorine Institute Pamphlet #6	
Stem Sealing	Dynamically Loaded Shaft Sealing System	Leak Detection Port
Process Sealing	Gas Tested Bubble Tight per API 598/EN 12266-1/P12 Leakage Rate A	
External Coating	Corrosion Resistant 3 Component Epoxy Paint	
Flow Direction	Bi-directional	Uni-directional (Vented Ball)
ANSI Class Rating	150#, 300#	600#
Control Characteristics	Equal Percentage	
Cleaning Preparation	Chlorine Cleaned	Oxygen Cleaned
Face to Face Dimension	150# & 300# Ball Valve	300# Globe Valve

Design Features:

- ◆ Blow-out Proof Stem
- ◆ Lockable 304 SS Lever Handles
- ◆ ISO 5211 Actuator Mounting Flange
- ◆ Double-D Stem Profile
- ◆ Low Torque
- ◆ GVF (ANSI 300# Globe Valve)
- ◆ High Integrity One Piece Body Design
- ◆ Extended Welded Body/Bonnet Construction
- ◆ ISO 15848 AH Certified (He Fugitive Emissions Testing)
- ◆ Self Relieving MPTFE Seats
- ◆ Optional Fugitive Emissions Monitoring Port
- ◆ Chlorine Institute Pamphlet 6 and 57 Conformance

Dry Liquid/Gas Chlorine and AHCL Valves:

Featuring comprehensive material knowledge, a thorough understanding of chlorine, as well as innovative valve design, **ADREM CBV series valves** are specifically engineered for isolating and controlling hazardous liquids and gases. Earning a reputation for reliability, security and environmental protection, **CBV valves** are consistently specified for the demanding requirements associated with **Dry Liquid/Gaseous Chlorine** and **Anhydrous HCL**.

Environmentally Validated Mechanical Shaft Seal:

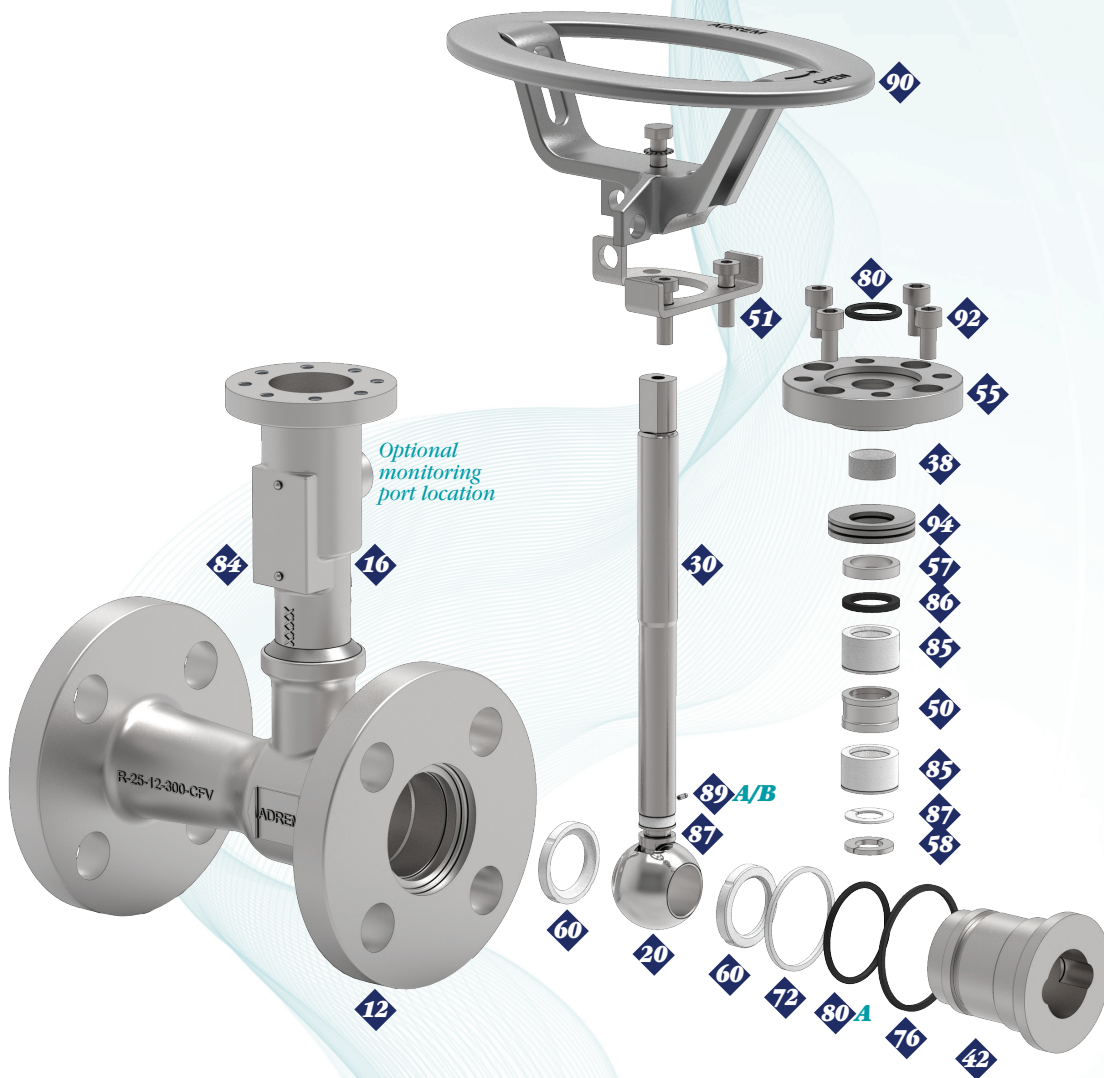
Engineered to exceed our customer's most rigorous environmental and fugitive emission mandates, the CBV stem seal design incorporates industry popular, Belleville Springs that dynamically energizes two sets of PTFE Chevron style packing. A lantern ring, placed in-between the packing sets, facilitates the use of our optional leak detection port. Our extended bonnet design elevates the packing from the process media and isolates it from the damaging effects associated with temperature cycling, ice crystals and process impurities. Radially energized static seals isolate the internals of the bonnet and shaft from the ingress of atmospheric contaminants.

Hazardous Services:

ADREM CBV series valves are routinely specified for hazardous services such as:

- ◆ Ammonia
- ◆ Anhydrous HCL
- ◆ Anhydrous HF
- ◆ Bromine
- ◆ Dry Liquid / Gaseous Chlorine
- ◆ Chlorine TriFluoride
- ◆ Chlorinated Solvents
- ◆ Ethylene Dichloride
- ◆ Ethylene Oxide
- ◆ Fluorine
- ◆ Isocyanates
- ◆ Metal Alkyls
- ◆ Nitric Acid
- ◆ Sulfur Chloride
- ◆ Phosgene
- ◆ Vinyl Chloride Monomer

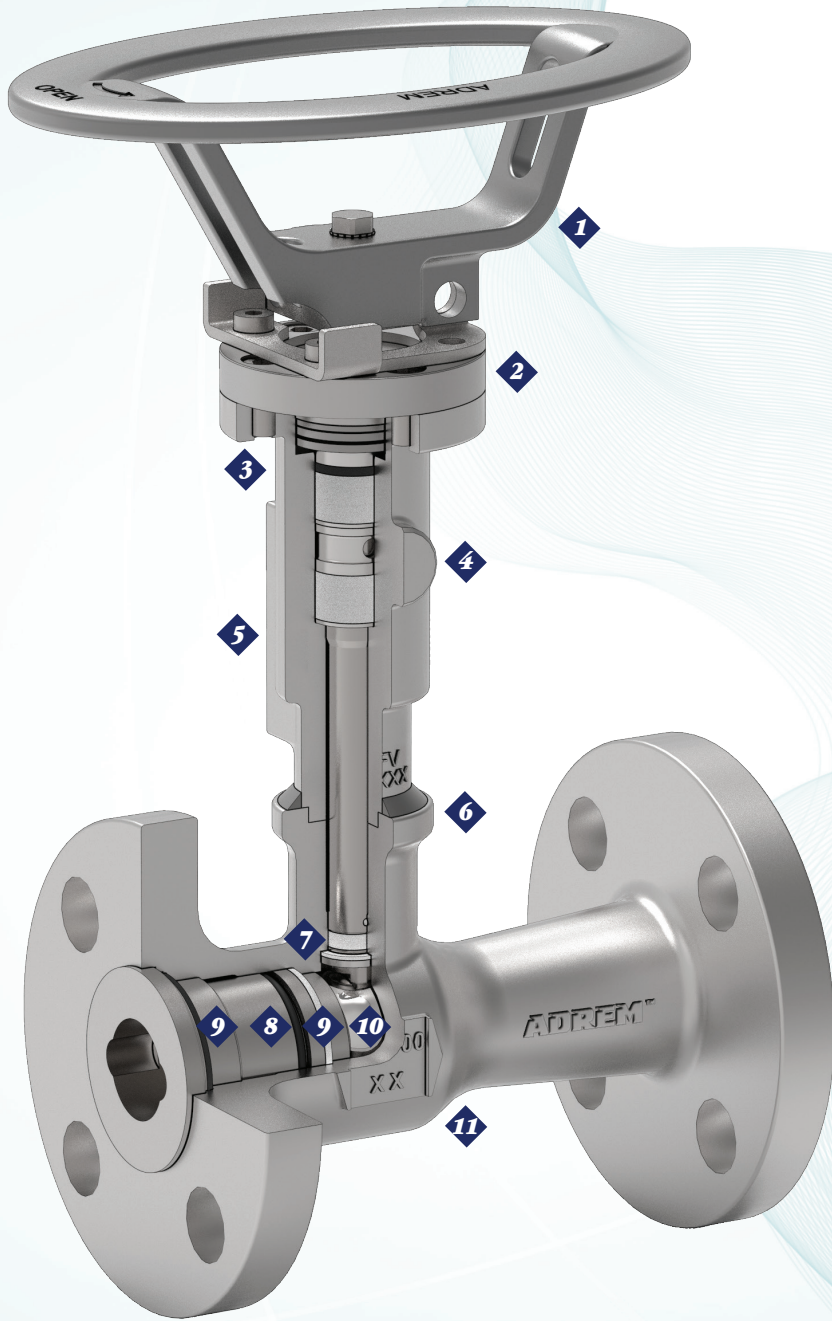
Assembly



Pos #	Part Description	Qty	CS Body	Monel Body	Spare Parts
94	Belleville Springs	·	Nickel Plated Spring Steel	Nickel Plated Spring Steel	
92	Top Cover Flange Bolts	4	ISO 3506 A4-70	ISO 3506 A4-70	
90	Handle	1	ASTM A479 304	ASTM A479 304	
89B	Antistatic Spring	2	Inconel 718	Inconel 718	
89A	Antistatic Ball	2	Inconel 718	Inconel 718	
87	Axial Washer	1	PTFE	PTFE	✓
86	Stem Seal	1	PTFE	PTFE	✓
85	Packing Set	2	PTFE	PTFE	✓
84	Identification Plate	1	ASTM A240 316	ASTM A240 316	
80A	Insert O-Ring	1	Viton B 90	Viton B 90	✓
80	Top Cover O-Ring	1	Viton B 90	Viton B 90	✓
76	Body Seal	1	PTFE	PTFE	✓
72	Body Seal	1	PTFE	PTFE	✓
60	Seat	2	MPTFE	MPTFE	✓
58	Split Retaining Ring	1	ASTM B574 UNS 10276	ASTM B574 UNS 10276	
57	Gland Follower	1	ASTM A479 316	ASTM B574 UNS 10276	
55	Top Cover Flange	1	ASTM A479 316	ASTM A479 316	
51	Stop Plate	1	ASTM A240 304	ASTM A240 304	
50	Lantern Ring	1	ASTM A479 316	ASTM B574 UNS 10276	
42	Body Insert	1	ASTM B164 N04400 ASTM A494 M-35-1	ASTM B164 N04400 ASTM A494 M-35-1	
38	Stem Bearing	1	PTFE	PTFE	✓
30	Stem	1	ASTM B574 UNS 10276	ASTM B574 UNS 10276	
20	Ball	1	ASTM B574 UNS 10276 ASTM A494 CW12MW	ASTM B574 UNS 10276 ASTM A494 CW12MW	
16	Extended Bonnet	1	ASTM A 352 LCC	ASTM A494 M-35-1	
12	Body	1	ASTM A 352 LCC	ASTM A494 M-35-1	

Low temperature carbon steel bodies should only be used if the process media contains < 30 ppm moisture.

Features & Benefits



- 1 Heavy Duty 304 SS Lockable Handle
- 2 ISO 5211 Actuator Mounting Flange
- 3 Radially Engineered Atmospheric Seals
- 4 Optional Monitoring Port
- 5 Extended Bonnet Facilitates Piping Insulation
- 6 High Integrity Computerized Welded Connection
- 7 Internally Secured Blowout Proof Stem
- 8 Oversized Viton Static Seal
- 9 Contained PTFE Face Seals
- 10 Pocketed Self Relieving Seats
- 11 Certified Industrial Grade Level Two Casting

Quality Assurance

◆ ISO 9001:2015 Certified

CBV series valves are ISO 9001:2015 certified.

◆ Chlorine Cleaned

All CBV Chlorine service valves are cleaned, tested, dried and packaged in accordance with Chlorine Institute Pamphlet #6 specifications.

◆ Comprehensive Manufacturing and Testing

All components are manufactured using modern computer-aided design software as well as CNC machining centers. Each valve is subject to the following tests prior to assigning its serial numbered identification tag:

Shell Test in accordance with ASTM B16.34

Seat Test according to API 598 - Bubble Tight

Torque testing

Ultraviolet Black light test to assure chlorine cleaning

◆ ISO 15848 AH Fugitive Emissions Testing

CBV series valves are tested and certified in accordance with ISO 15848 AH helium testing.

◆ Traceability

Every valve is assigned an individual serial numbered stainless steel tag after successfully completing all testing requirements. This unique serial number enables total traceability to Mill & Test Certification for the life of the valve.

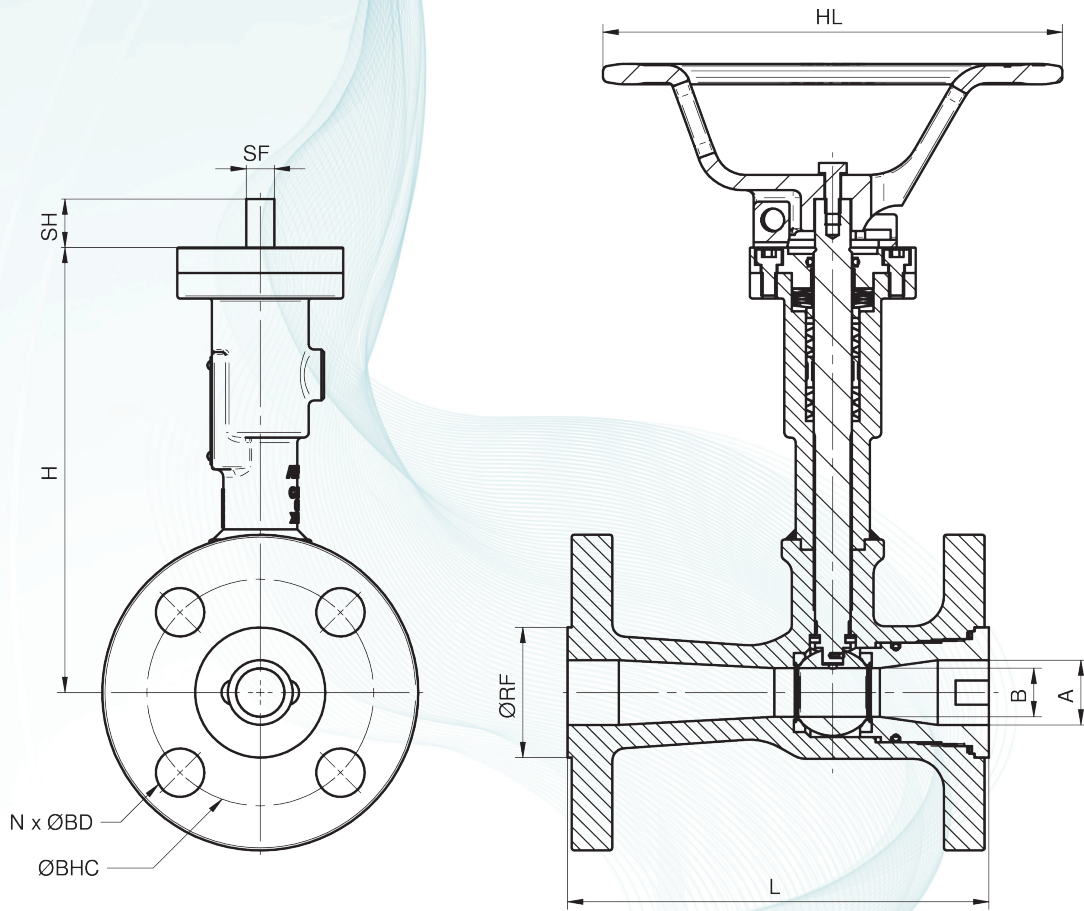
◆ Positive Material Identification

Positive Material Identification is performed on critical components and allows complete traceability.

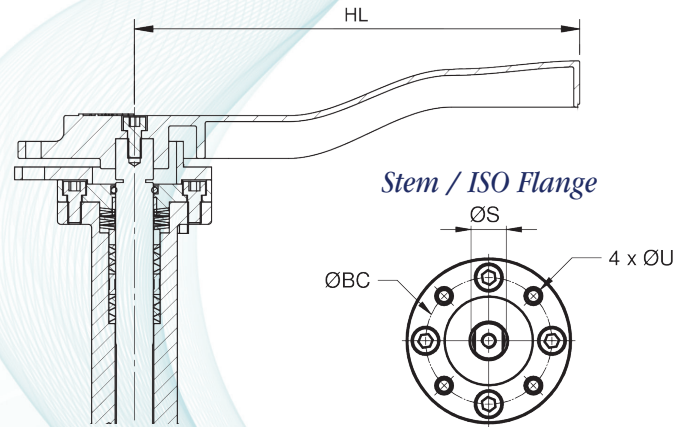
◆ External Corrosion Protection

All carbon steel body valves are protected by a 3 part highly corrosion resistant epoxy paint.

Dimensions



Valve Size	CV	Valve Torque (In/Lbs)	
		150 lb.	300 lb.
1/2"	10	35	45
3/4"	18	45	45
1"	46	72	97
1-1/2"	123	165	200
2"	178	260	315
3"	372	465	620
4"	804	696	1004
6"	1056	1415	2430
8"	3231	3340	4665
10"	3952	5770	10360



Valve Size	A	B	Class 150 #			Class 300 #			300 # GVF		H	HL	ØS	SF	SH	RF	ØBC	4 x ØU	ISO 5211	OPERATOR
			L	BHC	N x ØBD	L	BHC	N x ØBD	L	H										
1/2"	0.50	0.50	4.25	2.38	4 x 5/8"	5.50	2.63	4 x 5/8"	6.00	6.28	7.08	0.56	0.43	0.75	1.38	1.97	0.28	F 05	Oval Hand-wheel	
3/4"	0.75	0.50	4.62	2.75	4 x 5/8"	6.00	3.25	4 x 3/4"	7.00	6.28	7.08	0.56	0.43	0.75	1.70	1.97	0.28	F 05	Oval Hand-wheel	
1"	1.00	0.75	5.00	3.13	4 x 5/8"	6.50	3.50	4 x 3/4"	8.00	6.87	7.08	0.56	0.43	0.75	2.00	1.97	0.28	F 05	Oval Hand-wheel	
1-1/2"	1.50	1.20	6.50	3.87	4 x 5/8"	7.50	4.50	4 x 7/8"	9.00	8.70	10.25	0.87	0.67	0.94	2.87	2.75	0.35	F 07	Lever Handle	
2"	2.00	1.50	7.00	4.75	4 x 3/4"	8.50	5.00	8 x 3/4"	10.50	8.90	10.25	0.87	0.67	0.94	3.63	2.75	0.35	F 07	Lever Handle	
3"	3.00	2.45	8.00	6.00	4 x 3/4"	11.12	6.63	8 x 7/8"	12.50	10.75	13.74	1.10	0.87	1.24	5.00	4.02	0.44	F 10	Lever Handle	
4"	4.00	3.00	9.00	7.50	8 x 3/4"	12.00	7.87	8 x 7/8"	14.00	11.26	13.74	1.10	0.87	1.24	6.19	4.02	0.44	F 10	Lever Handle	
6"	6.00	3.95	10.50	9.46	8 x 7/8"	15.88	10.63	12 x 7/8"	17.50	11.89	-	1.10	0.87	1.24	8.50	4.02	0.44	F 10	Manual Gear	
8"	8.00	5.95	11.50	11.75	8 x 7/8"	16.50	13.00	12 x 1"	22.00	14.25	-	1.65	1.22	1.96	10.62	5.51	0.70	F 14	Manual Gear	
10"	10.00	7.70	13.00	14.25	12 x 1"	18.00	15.25	16 x 1 1/8"	24.50	14.50	-	1.65	1.22	1.96	12.75	5.51	0.70	F 14	Manual Gear	

* 300 lb. GVF = ANSI 300 lb. Globe Valve Dimensions

Control Valve Accessories



*Electro-Pneumatic
Positioner with Gauges*



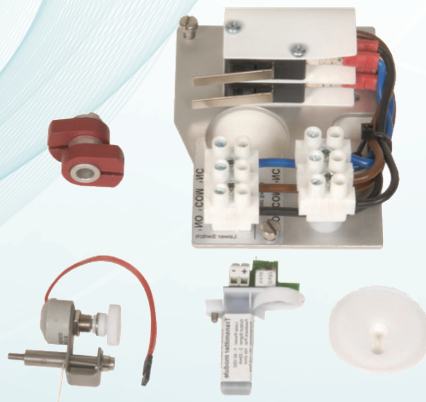
*Pneumatic
Positioner*



*Digital Positioner
with Gauges*



*Position Indicator with
Beacon Indicator*



*Feedback
Module*



*Pressure Regulator
with Gauge*

Ordering information

1-Size

1/2" - 10"

2-Body Material

H1 - A350 LF2
 H2 - A351 CF8M
 H3 - A216 WCB
 H4 - A352 LCC*
 H5 - A352 LC3
 H6 - A744 CN7M
 H7 - A494 M35-1
 H8 - A494 CW12MW

3-Class

B1 - 150#
 B2 - 300#
 B3 - 600#
 B4 - 300# GVF

4-Ball

L1 - Hastelloy C276*
 L2 - Hastelloy C22
 L3 - Hastelloy C4
 L4 - Monel K500
 L5 - Inconel 600
 L6 - 316 SS
 L7 - 2205 Duplex
 L8 - Other

5-Stem

T1 - Hastelloy C276*
 T2 - Hastelloy C22
 T3 - Hastelloy C4
 T4 - Monel K500
 T5 - Inconel 600
 T6 - 316 SS
 T7 - 2205 Duplex
 T8 - Other

6-Packing

P1 - PTFE*
 P2 - Graphoil
 P3 - Other

7-Seats

S1 - MPTFE*
 S2 - PTFE
 S3 - RPTFE
 S4 - PEEK
 S5 - UHMPE
 S6 - 25% CFPTFE

8-Operator

BS - Bare Shaft
 LH - Hand Lever*
 MG - Manual Gear
 DA - Double Actuator
 FC - Fail Closed Actuator
 FO - Fail Open Actuator

9-Cleaning

C1 - Chlorine*
 C2 - Peroxide
 C3 - Oxygen

10-Options

00 - No Options
 01 - Leak Detection Port

11-Accessories

PS - Proximity Switch
 MS - Micro Switch
 PP - Pneumatic Positioner
 EP - Electro Pneumatic
 Positioner
 PD - Digital Positioner
 PR - Pressure Regulator
 SV - Solenoid Valve

* Denotes standard

ADREM™

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