

# AEGIS®

## HPCV Series



High Performance Chlorine Service Ball  
Valves Engineered for Environmentally  
Safe, Zero Leakage Performance



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**AEGIS FLOW TECHNOLOGIES**



**WWW.AEGISVALVES.COM**

BIO-TECHNOLOGY - CHEMICAL - CHLOR ALKALI - PETROCHEMICAL - PHARMACEUTICAL - PULP & PAPER - SEMICONDUCTOR  
PHARMACEUTICAL - PULP & PAPER - SEMICONDUCTOR - BIO-TECHNOLOGY - CHEMICAL - CHLOR ALKALI - PETROCHEMICAL

HPCV Valve	Standard Features	Optional Features
Application	Reliable Isolation & Control of Extremely Corrosive Liquids and Gas	
Conforming Standards	ASME B16.5, B16.10, B16.34, API 598, Chlorine Pamphlet #6	
Size	1/2"-10"	
Body	A-352 LCC	A494 M35-1, A494 CW12MW, A351 CF8M
Ball/Stem	Hastelloy C276	316SS, M400
External Coating	3 Component Epoxy Paint	
ANSI Class Rating	150#, 300#	
Process Sealing	Gas Tested, Bubble Tight per API598/EN12266-1-P12 Leakage Rate A	
Stem Sealing	Mechanical Shaft Sealing System with Leak Detection Port	
Face to Face Dimensions	150# & 300# Ball Valve	300# Globe Valve
Temperature Rating	-50° F to 400°F	
Control Characteristics	Equal Percentage	
Flow Direction	Bi-directional	Uni-directional (Vented Ball)

## Design Features

- One Piece Body Design
- Extended Welded Body/Bonnet Construction
- TA Luft VDI 2440 Section 5.2.6.4 Certified
- Bi-directional Paraflon® Self Relieving Seats
- Fugitive Emissions Monitoring Port
- Chlorine Institute Pamphlet 6 and 57 Conformance
- Blow-out Proof Stem
- Lockable Lever Handles
- ISO 5211 Actuator Mounting
- Double-D Stem Profile
- Low Torque
- GVF (ANSI 300# Globe Valve Face-To-Face)

## Chlorine and HCL Valves

**AEGIS' HPCV Series** high integrity ball valves feature the most advanced technology available for isolating and controlling industries' most hazardous process liquids and gases. Engineered to exceed industry's pertinent standards and Method 21 requirements of the Clean Air Act, the HPCV valves incorporate design and sealing technologies that are essential in assuring reliable long term performance and environmental protection. **AEGIS' HPCV Series** are routinely specified to satisfy the stringent safety requirements associated with processing and handling Dry Liquid Chlorine and Anhydrous HCL. Paraflon®, Aegis' fully fluorinated molecular enhanced PTFE polymer provides superior permeation and cold flow resistance.

## Safety Stem Seal

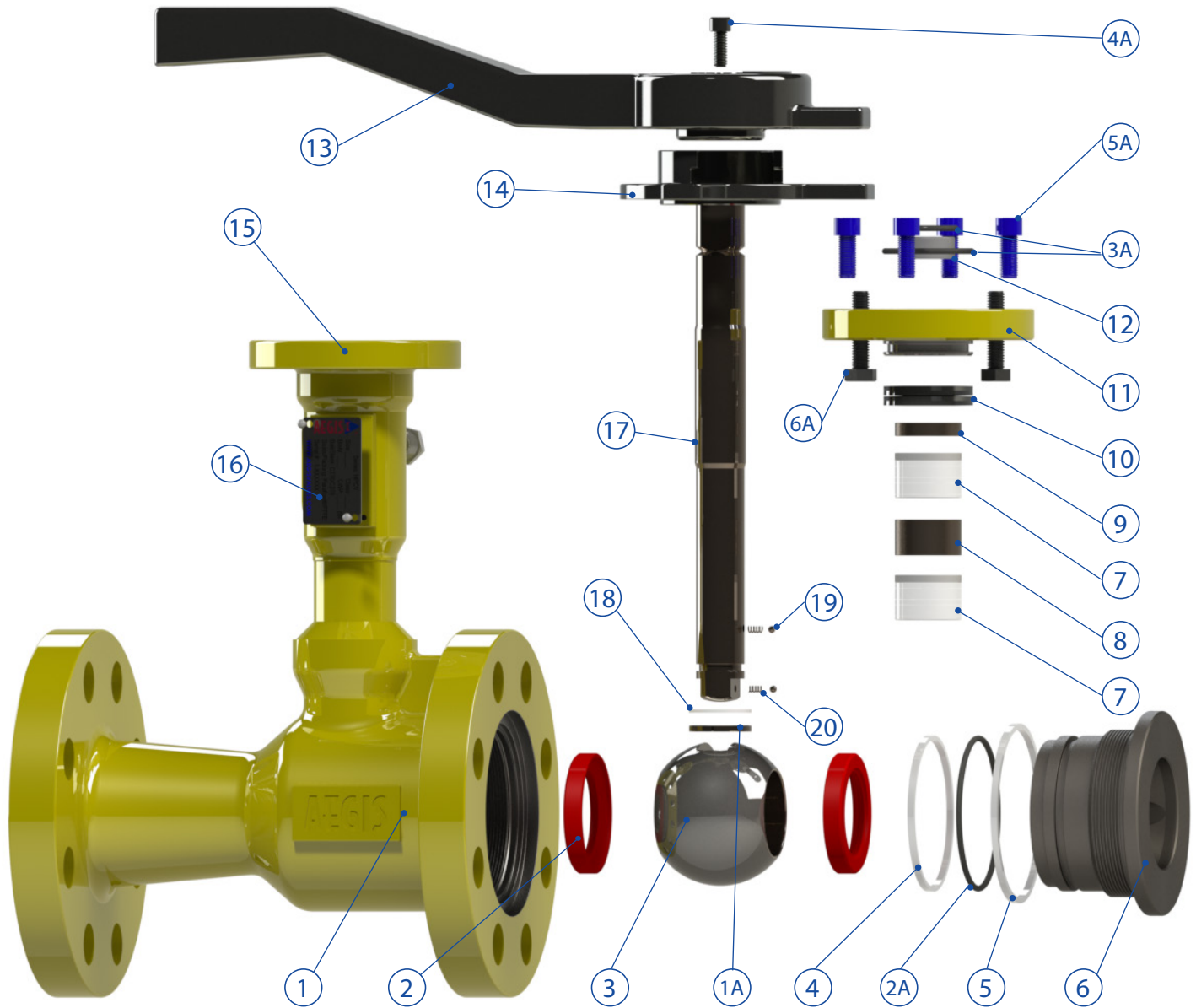
**AEGIS' HPCV Series** valves are designed to offer long-term maintenance-free security against the harmful effects of fugitive emissions. The stem seal incorporates a double set of live loaded virgin PTFE packing system with environmental o-ring seals for the bonnet and shaft.

## Applications

**AEGIS' HPCV Series** valves are routinely specified for hazardous services such as:

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





Item #	Decription	Std. Material
1	Body	LCC*
2	Seat	Paraflon®
3	Ball	C276**
4	2 <sup>nd</sup> Body Seal	Virgin PTFE
5	3 <sup>rd</sup> Body Seal	Virgin PTFE
6	Body Insert	2205 Duplex**
7	Packing Set	Virgin PTFE
8	Lantern Ring	M400
9	Packing Pusher	M400
10	Belleville Washers	AISI 6150 - Ni - Plated
11	Top Cover Flange	316SS
12	Stem Bushing	Technopolymer
13	Hand Lever (HL)	CF8

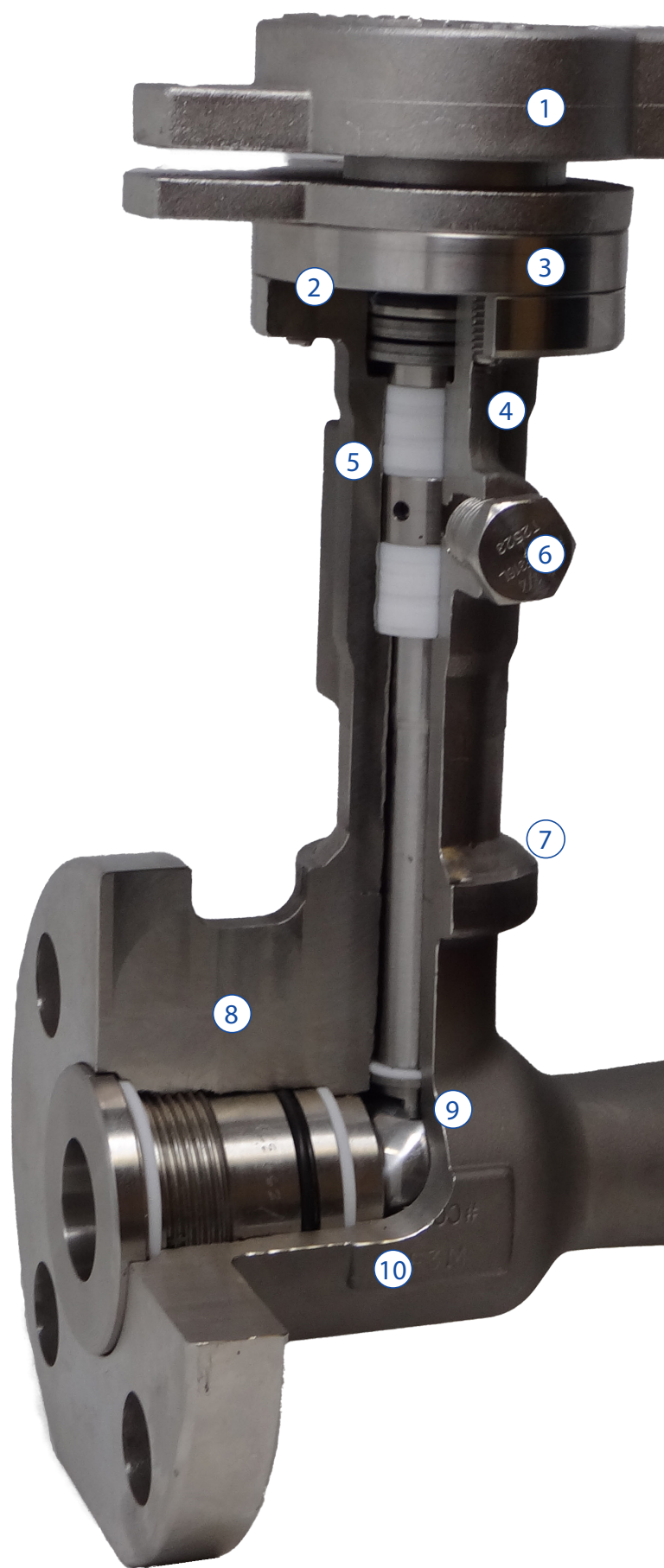
Item #	Decription	Std. Material
14	HL Lockout Flange	CF8
15	Bonnet	LCC*
16	Serial Nameplate	316SS
17	Stem	C276**
18	Axial Thrust Washer	Virgin PTFE
19	Ground Ball	Hastelloy-X
20	Ground Spring	Inconel X750
1A	Split Retaining Rings	C276
2A	Body O-Ring	Viton®
3A	Top Cover O-Ring	Viton®
4A	Socket Head Capscrew	316 SS
5A	Socket Head Capscrew	A193 B7 TFE
6A	Hex Head Screw	18-8SS

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

Available Options: \*:CF8M,M35-1,CW12MW, \*\*:316SS,M400



- 1 Heavy Duty SS Lockable Handle**  
Designed to withstand aggressive environments and provides a safe, accurate and reliable means of operating and locking out the valve
- 2 Atmospheric Seals**  
Radially loaded Viton O-rings isolates the mechanical shaft seals from external contaminants
- 3 ISO 5211 Mounting Flange**  
Facilitates ease of mounting Manual Gear Operators & Actuators with Stainless Steel Bracket and Coupling
- 4 Extended Bonnet**  
Isolates the stem seals from the effects of large process temperature differentials and facilitates operation when valves are mounted in insulated piping
- 5 Dynamically Loaded Stem Seal**  
Environmentally secure design featuring live loaded PTFE Cup & Cone Packing
- 6 Monitoring Port**  
Facilitates monitoring the stem sealing system
- 7 High Integrity CNC Welded Connection**  
Certified GTAW welding processes performed by computer equipment
- 8 High Integrity Level Two Casting**  
Domestically sourced, minimum level two quality
- 9 Blowout Proof Stem**  
Stem is secured in place by heavy duty retaining rings
- 10 Chambered Self Relieving Seats**  
Made of Paraflon® and securely anchored and energized onto the sealing surface of the ball







# AEGIS HPCV Series

Engineered for Performance and Reliability in Industries Most Hazardous Processes

- **ISO 9001:2008 Certified**

Aegis Flow Technologies is ISO 9001:2015 certified

- **Chlorine Cleaned**

All HPCV 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 in accordance with API 598
- Ultraviolet Black light test to assure chlorine cleaning
- Torque testing
- Seat Test according to API 598 - Bubble tight

- **Fugitive Emissions Testing**

Valves have been subjected to rigorous cycle testing with helium to ensure compliance with demanding industrial standards such as TA-Luft and the Clean Air Act.

- **Traceability**

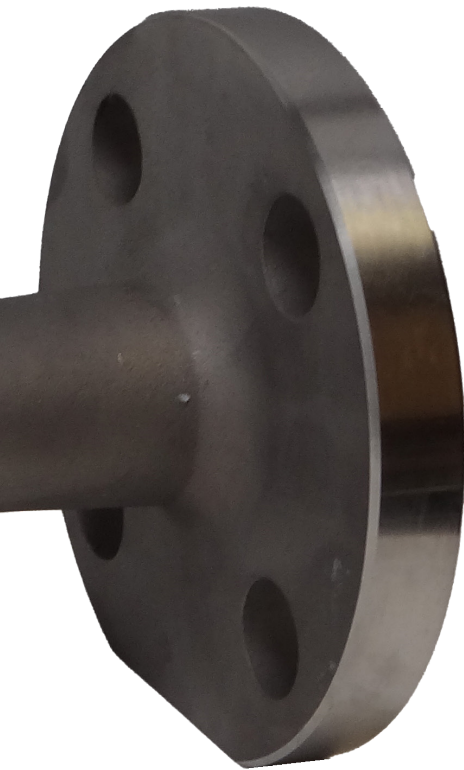
Every valve is assigned an individual serial numbered stainless steel tag after successfully completing all testing requirements. This unique serial number enables total traceability to Mill and Test Certification for the life of the valve.

- **Positive Material Identification**

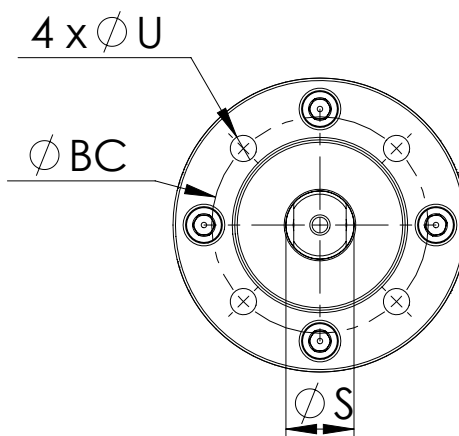
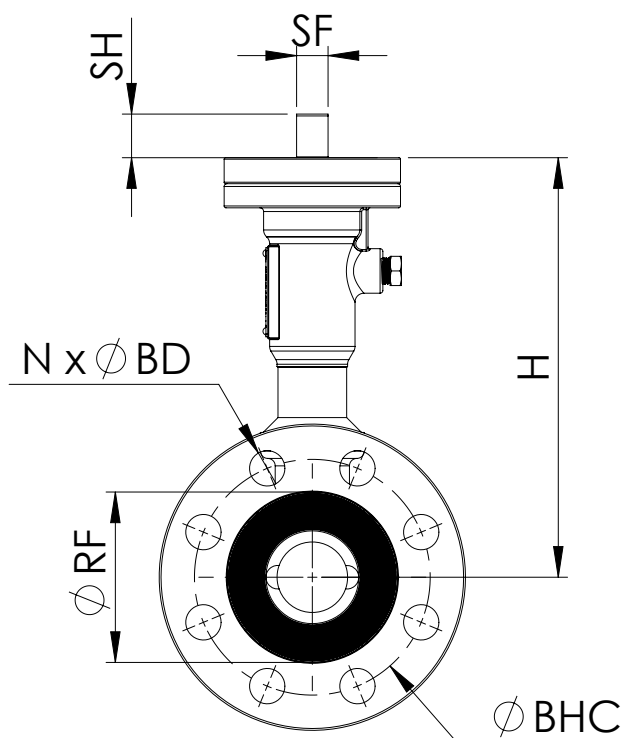
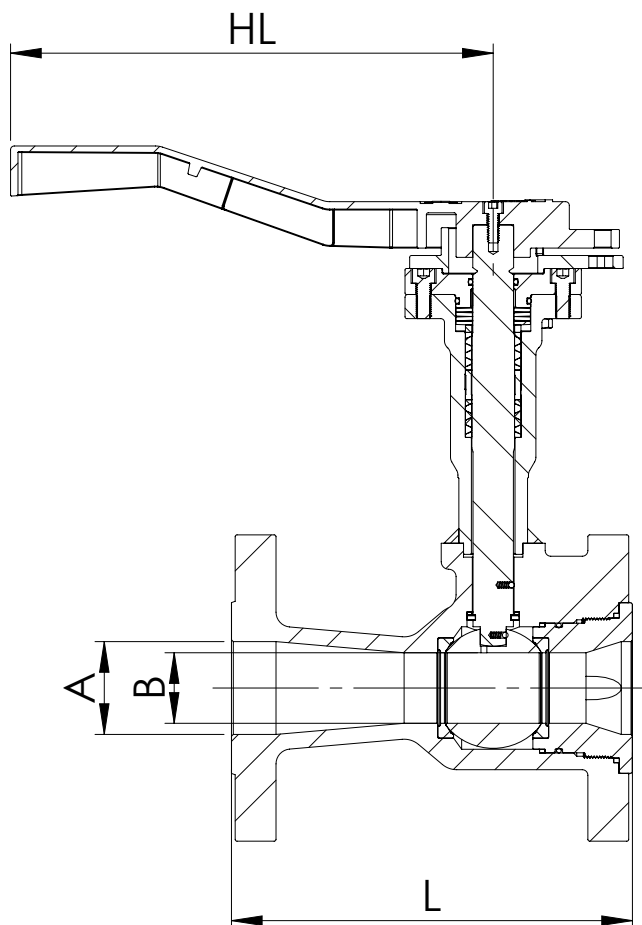
Is performed on critical components and allows complete traceability

- **External Corrosion Protection**

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



# Dimensions



Valve Size	CV	Break Torque (in-lb)	Run Torque (in-lb)
1/2"	10	82	34
3/4"	19	87	37
1"	45	124	62
1-1/2"	125	223	112
2"	175	310	149
3"	370	750	372
4"	800	1260	632
6"	1050	1970	979
8"	3200	4436	2218
10"	3900	8364	4188

Valve Size	A	B	150# Class			300# Class			300# GV	H	HL	øS	SF	SH	RF	øBC	4xøU
			L	BHC	NxøBD	L	BHC	NxøBD	L								
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	7.87	0.56	0.431	0.75	1.38	1.97	0.28
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	7.87	0.56	0.431	0.75	1.70	1.97	0.28
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	7.87	0.56	0.431	0.75	2.00	1.97	0.28
1-1/2"	1.50	1.18	6.50	3.88	4 x 5/8"	7.50	4.25	4 x 7/8"	9.00	9.29	10.23	0.87	0.667	0.93	3.00	2.75	0.34
2"	2.00	1.50	7.00	4.75	4 x 3/4"	8.50	5.00	8 x 7/8"	11.50	8.90	10.23	0.87	0.667	0.93	3.62	2.75	0.34
3"	3.00	2.45	8.00	6.00	4 x 3/4"	11.22	6.63	8 x 7/8"	14.00	10.75	13.38	1.11	0.866	1.23	5.00	4.01	0.44
4"	4.00	3.00	9.00	7.50	8 x 3/4"	12.00	7.88	8 x 7/8"	17.00	11.25	13.38	1.11	0.866	1.23	6.25	4.01	0.44
6"	6.00	3.70	10.50	9.50	8 x 7/8"	15.88	10.63	12 x 7/8"	22.00	11.89	13.38	1.11	0.866	1.23	8.50	4.01	0.44
8"	8.00	5.70	11.50	11.75	8 x 7/8"	16.50	13.00	12 x 1"	26.00	14.25	MG	1.67	1.179	1.96	10.62	5.51	0.70
10"	10.00	7.00	13.00	14.25	12 x 1"	18.00	15.25	12 x 1"	31.00	15.27	MG	1.67	1.179	1.96	12.75	5.51	0.70

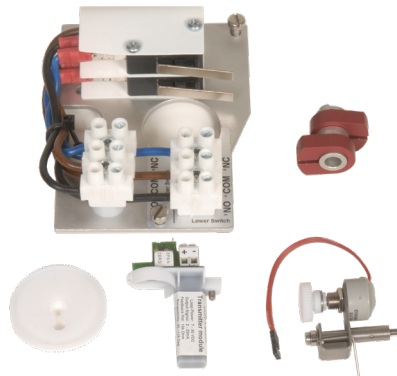




**ELECTRO-PNEUMATIC  
POSITIONER**

**PNEUMATIC  
POSITIONER**

**DIGITAL  
POSITIONER**



**PRESSURE REGULATOR**

**FEEDBACK MODULE**

**POSITION INDICATOR**



# HPCF Aegis® Full Port High Performance Chlorine Service Ball Valve

## High Flow Chlorine and HCL Valves

**AEGIS' HPCF Series** high integrity Full Port ball valves feature the same advanced technology as the HPCV with the added benefit of a higher CV. This valve line still features a Hastelloy Ball and Stem with self relieving seats made of Paraflon®, Aegis' fully fluorinated molecular enhanced PTFE polymer provides superior permeation and cold flow resistance. Manufactured with the same Chlorine Institute Pamphlet 6 materials as the standard port version, for use in Dry Liquid Chlorine and Anhydrous HCL service.

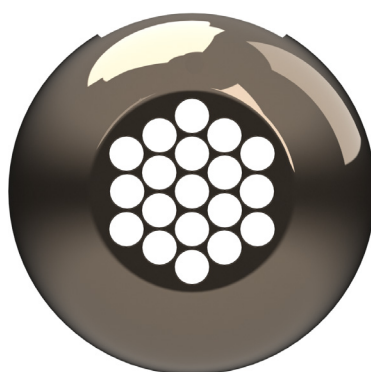
Valve Size	CV Class 150	CV Class 300	Break Torque (in.-lb.)	Run Torque (in.-lb.)
3/4"	59	44	180	120
1"	94	87	240	144
1.5"	290	221	360	240
2"	468	435	600	360
3"	1,329	1,102	1,020	720
4"	2,501	2,194	2,100	1,380
6"	5,173	5,380	5,280	3,300
8"	10,579	9,709	10,200	6,600



## High Performance Chlorine Service Characterized Ball Control Valves

### V-Ball, Drill, or Slotted Flow Control Ball options

Aegis can design a characterized ball to meet the desired CV of its customers.





# ORDERING INFORMATION



1	Size
	1/2"
	3/4"
	1"
	1-1/2"
	2"
	3"
	4"
	6"
	8"
	10"

2	Class
V1	150#
V2	300#
V4	300# GVF
V5	HPCF 150#
V6	HPCF 300#

3	Body
B2	A351 CF8M
B3	A216 WCB
B4	A352 LCC*
B7	M35-1(Cast M400)
B8	CW12MW(Cast C276)

4	Stem
M1	Hastelloy C276*
M4	Monel M400
M7	316SS

5	Ball
K1	Hastelloy C276*
K4	Monel M400
K7	316SS

6	Seats
S1	Paraflon®*
S2	PTFE
S6	25% CFPTFE

7	Packing
P1	PTFE*
P2	Graphoil

8	Cleaning
CL	Chlorine

9	Operator
BS	Bare Shaft
H	Hand Lever
MG	Manual Gear
DA	Double Acting Acuator
FC	Fail Closed Acuator
FO	Fail Open Actuator

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

## NOTES:

Other Size, Material, and Class options may be available upon request.

\*Denotes Standard

**Paraflon®:** Aegis' fully fluorinated molecular enhanced PTFE polymer is engineered to significantly improve valve performance by offering enhanced physical properties, improved temperature ratings and resistance to permeation and cold flow.

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