

Building connections that last™



# Sharpe® Series CL84/CL99

## Chlorine Ball Valve Datasheet



# Chlorine Ball Valve

## Sharpe® Series CL84/CL99



### Design and Features:

#### Body Material

Carbon Steel & Hastelloy C

#### Three-Piece Design

In-line serviceable swing-out center section allows easy access to internal valve components without disturbing alignment of pipe.

#### Stem Design

Live-loaded, bottom entry, blowout proof, anti-static stem featuring packing that extends valve cycle life over conventional ball valves and is best choice for actuation.

Stem seals are live-loaded using Belleville springs to provide consistent sealing forces, reducing or eliminating the need for frequent seal adjustment.

#### Tongue and Groove Design

Fully encapsulated body seals, allowing ends to be welded in-line, without time consuming and labor intensive disassembly.

Design compensates for bolt expansion and reduces the chance of external leakage.

Helps prevent seal ruptures in high pressure, cryogenic or steam applications.

#### Floating Ball Design

Precision engineered and machined solid stainless steel ball with relief hole in the stem slot prevents build-up of cavity pressure while the valve is open.

#### Encapsulated Body Bolts

Heavy duty stainless steel bolting is protected from outside environment assuring valve integrity.

Ideal for wash-downs.

#### Slotted Seat Design

Relief slots help equalize body pressure and assure leak-tight sealing.

Seats also provide a wiping action that cleans ball and seats each time valve is cycled.

#### Variety of End Combinations

A wide choice of end connections are available including, but not limited to; threaded, socket weld, butt weld and flanged ends.

#### ISO 5211 Integral Mounting Pad

Ideal for actuation.

Centering lip feature assures precise alignment of bracket, stem and coupler.

Actuators may be retrofitted on existing Sharpe® Series CL84/CL99 without disruption of line integrity.

Allows for secondary containment unit to be added when necessary.

#### Lockable Handle

All Sharpe® Series CL84/CL99 valves are supplied with lever or pipe handles and are designed to permit locking the valve in either the open or closed position.

#### Pressure Relief Hole

All Sharpe® Series CL84/CL99 valves are supplied with a relief hole in the side of the ball to vent pressure upstream.

#### Special Cleaning & Packing

All Sharpe® CL84 & CL99 valves are completely degreased and sealed in a bag for chlorine applications.

#### Traceability

Body and end piece castings are marked with heat codes providing traceability to the chemical analysis and material test reports performed at the foundry.

CMTR's (Certified Material Test Reports) are available upon request.



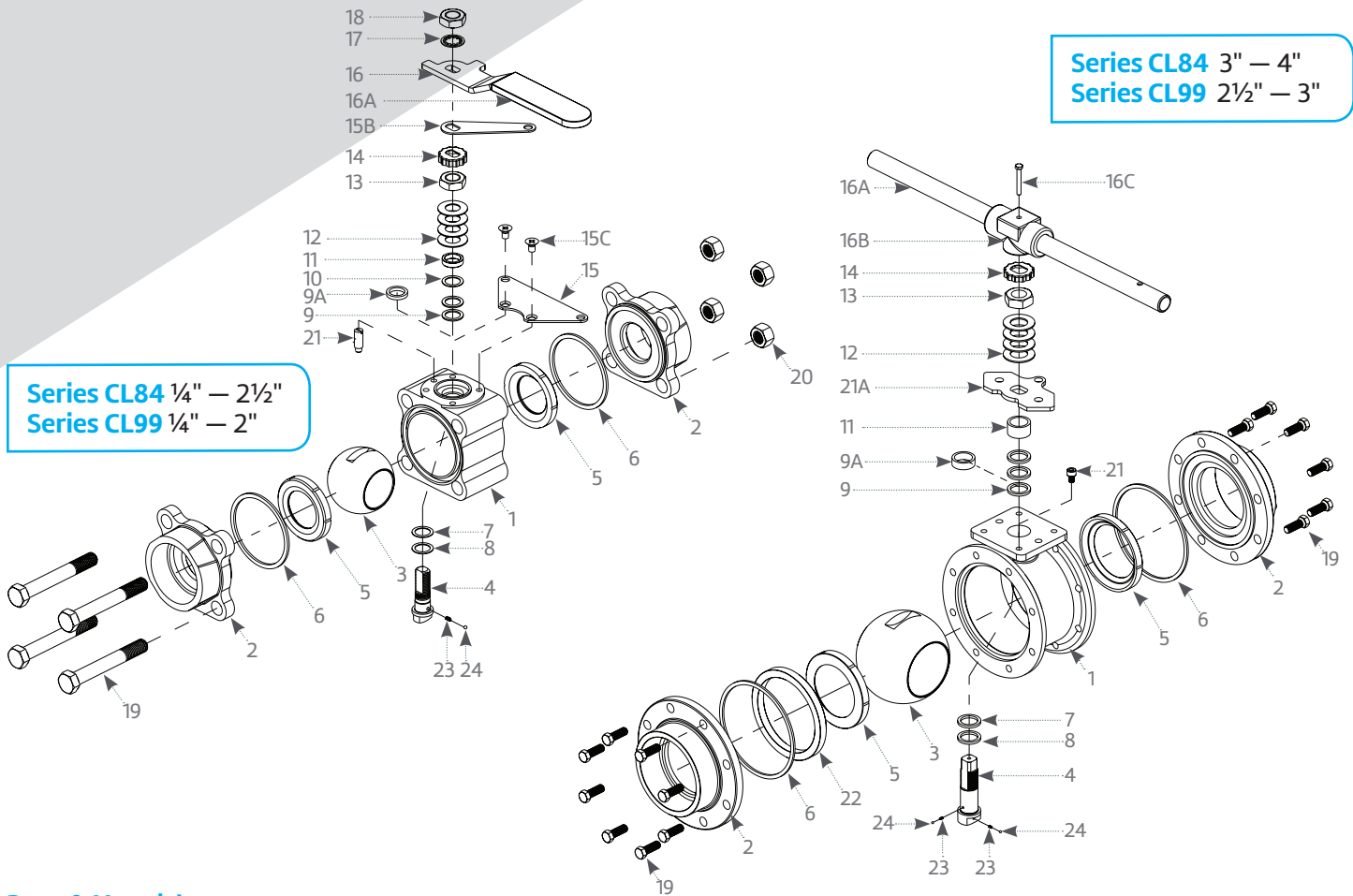
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# Chlorine Ball Valve

## Sharpe® Series CL84/CL99



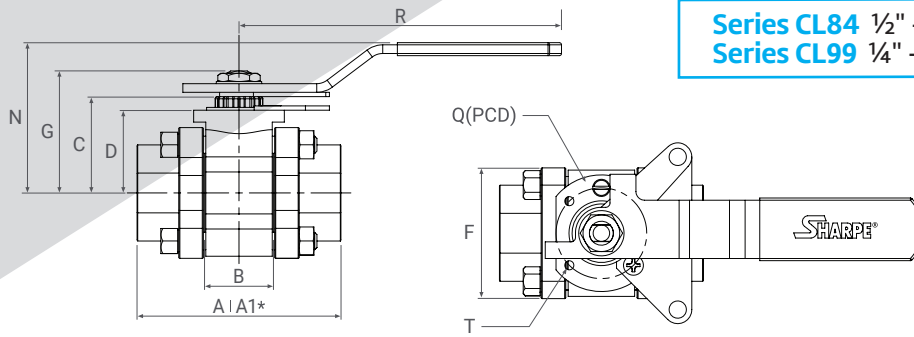
### Parts & Materials

No.	Part Name	Qty.	Material	No.	Part Name	Qty.	Material
1	Body	1	Carbon Steel: ASTM A216 WCB Hastelloy C*: ASTM A494 Gr. CW-12MW	15B	Upper Lock Latch	1	300 Series Stainless Steel
2	Ends	2	Carbon Steel: ASTM A216 WCB Hastelloy C*: ASTM A494 Gr. CW-12MW	15C	Latch Bolt	2	300 Series Stainless Steel
3	Ball with Upstream Vent	1	Hastelloy C, Monel	16	Handle (¼"-2")	1	300 Series Stainless Steel
4	Stem	1	Hastelloy C, Monel	16A	Wrench (3" & 4")	1	Galvanized
5	Seat	2	PTFE, RTFE, TFM™, NOVA	16B	Wrench Block	1	300 Series Stainless Steel
6	Body Seal	2	PTFE, Graphite	16C	Hex Head Bolt	1	300 Series Stainless Steel
7	Thrust Bearing	1	Nova	17	Lock Washer	1	300 Series Stainless Steel
8	Thrust Bearing	1	PEEK	18	Handle Nut (¼"-2")	1	300 Series Stainless Steel
9	Stem Packing	2	Nova	19	Body Bolts	4/16	304 Stainless Steel
9A	Stem Packing	1-2	Graphite	20	Nuts	4	300 Series Stainless Steel
10	Seal Protector	1	PEEK	21	Stop Pin	1	300 Series Stainless Steel
10A	Washer	10	300 Series Stainless Steel	21A	Stopper	1	300 Series Stainless Steel
11	Gland	1	300 Series Stainless Steel	22	Seat Retainer	1	300 Series Stainless Steel, Carbon Steel
12	Belleville Washer	4	300 Series Stainless Steel	23	Anti-Static Spring	1	Hard Drawn Stainless Steel
13	Packing Nut	1	300 Series Stainless Steel	24	Anti-Static Ball	1	300 Series Stainless Steel
14	Lock Tab	1	300 Series Stainless Steel				
15	Lower Lock Latch	1	300 Series Stainless Steel				

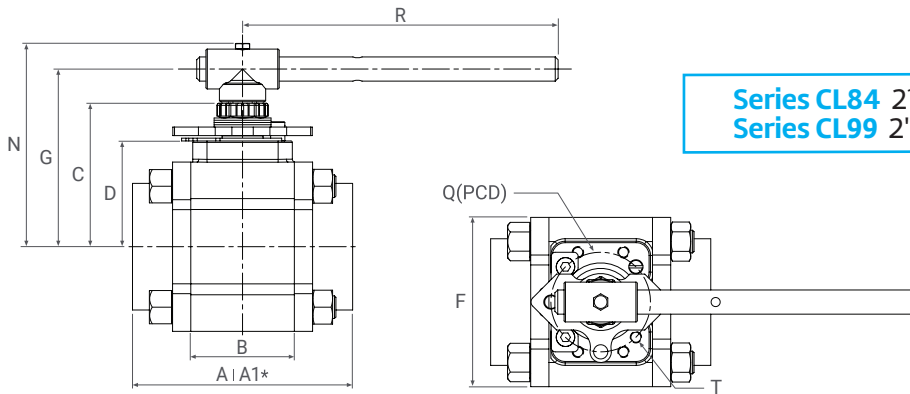
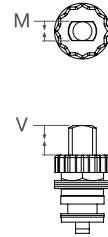
**Note:**  
\*POA.  
Series CL84 – 2½" uses wrench & wrench block. Series CL99 – 2" uses wrench & wrench block.

# Chlorine Ball Valve

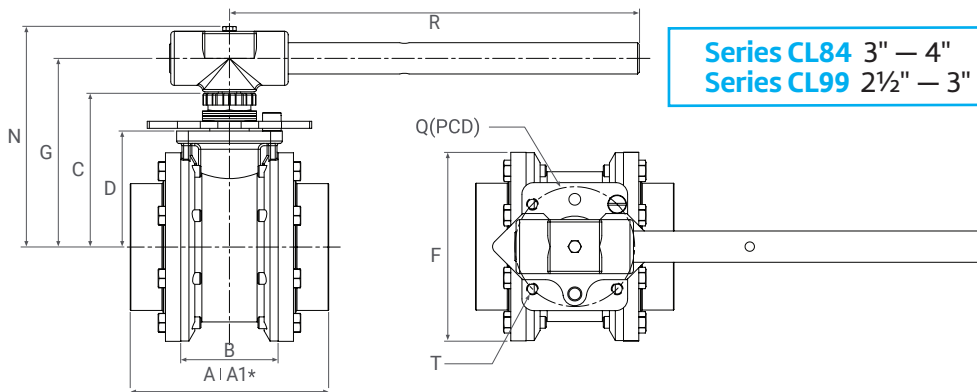
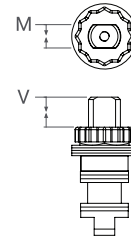
## Sharpe® Series CL84/CL99



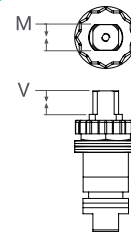
Series CL84 1/2" – 2"  
Series CL99 1/4" – 1 1/2"



Series CL84 2 1/2"  
Series CL99 2"



Series CL84 3" – 4"  
Series CL99 2 1/2" – 3"



### Dimensions

Standard Port CL84	Full Port CL99	A*	A1*	B	C	D	F	G	L	M	N	øQ (ISO)	R	T	V
1/4", 3/8", 1/2"	1/4", 3/8"	2.62	2.62	0.82	1.22	1.06	1.81	1.58	3/8"-24 UNF	0.220	2.15	1.42 (F03)	4.53	M5 x P0.8	0.34
3/4"	1/2"	2.87	2.87	0.97	1.27	1.13	1.94	1.65	3/8"-24 UNF	0.220	2.28	1.42 (F03)	4.53	M5 x P0.8	0.39
1"	3/4"	3.72	3.72	1.25	1.73	1.51	2.38	2.23	7/16"-20 UNF	0.295	2.70	1.65 (F04)	5.79	M5 x P0.8	0.52
1 1/4"	1"	4.25	4.25	1.61	1.90	1.70	2.78	2.43	7/16"-20 UNF	0.295	2.89	1.65 (F04)	5.79	M5 x P0.8	0.53
1 1/2"	1 1/4"	4.58	4.50	1.90	2.17	1.73	3.12	2.90	9/16"-18 UNF	0.342	3.15	1.97 (F05)	6.78	M6 x P1.0	0.73
2"	1 1/2"	5.03	5.06	2.21	2.39	1.90	3.60	3.09	9/16"-18 UNF	0.342	3.37	1.97 (F05)	6.78	M6 x P1.0	0.73
2 1/2"	2"	5.88	5.87	2.93	3.98	2.85	4.77	4.88	M20 x P2.5	0.551	5.61	2.75 (F07)	8.73	M8 x P1.25	0.74
3"	2 1/2"	6.65	6.65	3.27	5.01	3.89	6.46	6.14	1" - 14 UNS	0.748	6.14	4.02 (F10)	13.74	M10 x P1.5	0.69
4"	3"	8.43	8.43	4.29	5.60	4.48	8.00	6.73	1" - 14 UNS	0.748	7.81	4.02 (F10)	13.74	M10 x P1.5	0.69

**Note:**

\*A – CL84 Face to Face dimension for threaded, buttweld & socket weld ends.

\*A1 – CL99 Face to Face dimension for threaded, buttweld & socket weld ends.

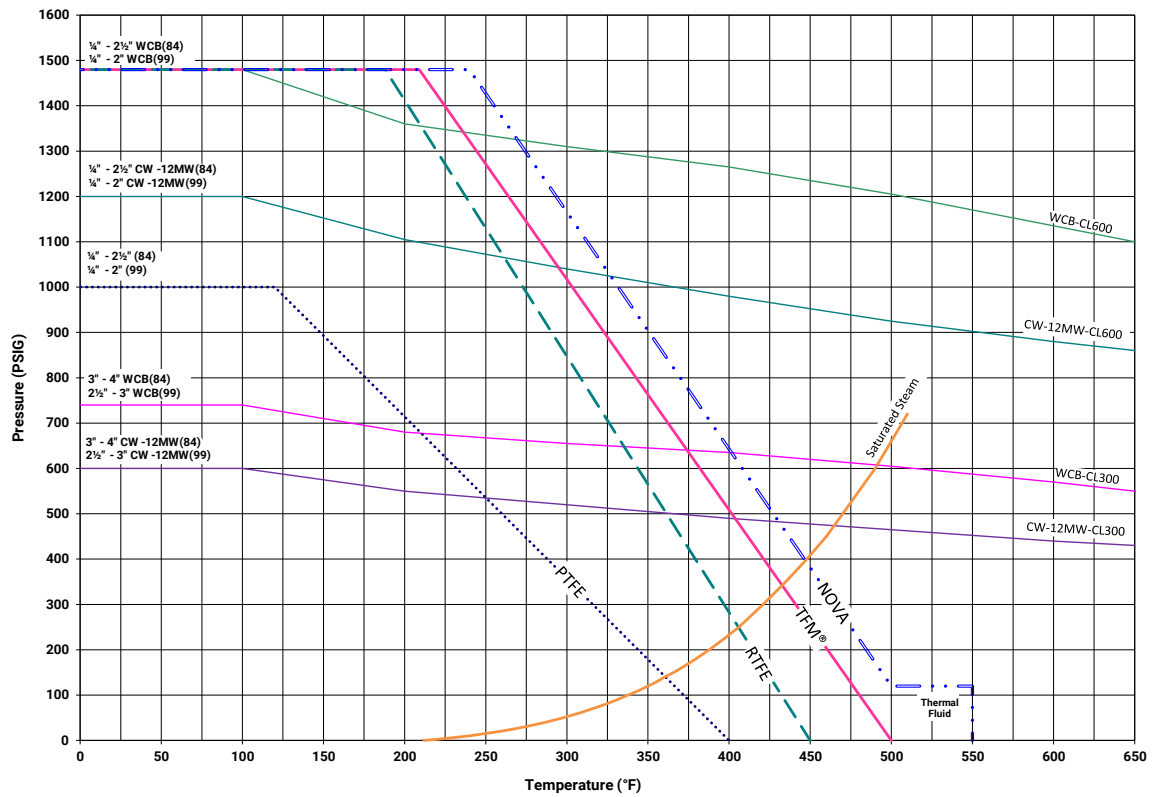
The dimensions above are for informational purpose only. Please refer to Sharpe® Valves if you need dimensions for construction.

# Chlorine Ball Valve

## Sharpe® Series CL84/CL99



Pressure -Temperature Ratings Series CL84/CL99



**Standard Port**  
**Class 600** 1/2" – 2 1/2"  
**Class 300** 3" – 4"

**Full Port**  
**Class 600** 1/4" – 2"  
**Class 300** 2 1/2" – 3"

### Material Recommendations

Environment	Service	Maximum Chlorine Conc., ppm of H2O	Recommendations for Ball & Stem Material
		20 ppm	Monel Ball & Stem
Clean - no chlorine in the external environment	In-line	50 ppm	Hastelloy C Ball, Monel Stem
		150 ppm	Hastelloy C Ball & Stem
Environment contains some chlorine	In-line	150 ppm	Hastelloy C Ball & Stem
Much chlorine in the environment	End of line	150 ppm	Hastelloy C Ball & Stem

### Performance Data

CL84	CL99	C <sub>v</sub> Flow Coefficient	Equivalent Length of Pipe (Feet)	Approx. Weight (Lbs.)	Port Size
1/4"	-	8	1.9	1.20	.44
3/8"	1/4"	8	1.9	1.20	.44
1/2"	3/8"	8	1.9	1.20	.44
3/4"	1/2"	12	6.3	1.70	.56
1"	3/4"	32	3.1	3.00	.81
1 1/4"	1"	46	6.3	4.00	1.00
1 1/2"	1 1/4"	80	4.3	6.00	1.25
2"	1 1/2"	120	7.5	8.00	1.50
2 1/2"	2"	240	5.00	25.00	2.00
3"	2 1/2"	350	8.3	30.00	2.50
4"	3"	720	10.4	50.20	3.25

### Applicable Standards

Body Wall Thickness	ASME B16.34
SW & Threaded Ends	ASME B16.11
Butt-weld Ends	ASME B16.25
Flange Dimensions	ASME B16.5
Basic Design	ASME B16.34*
Testing (Options)	ASME B16.34 API 598

**Note:**  
 \*When specified, valves can be furnished in accordance with ASME B16.34 requirements.

# Chlorine Ball Valve

## Sharpe® Series CL84/CL99



### How to order Series CL84/CL99

1"	CL84	-	2	2	R	G	-	TE	-	OH	
Size	Series		Body & Ends	Ball & Stem	Seat	Seal		Ends		Options	
1/4"	CL84	Standard Port		M	TFM™			TE	Threaded	OH	Oval Handle
3/8"	CL99	Full Port		N	Nova			SW	Socketweld	L	Lockable Stem Extension
1/2"	<b>Body &amp; Ends</b>			R	RTFE			BW10	Buttweld SCH 10*	Ball with upstream vent (standard)	
3/4"	4	Carbon Steel		T	PTFE			BW40	Buttweld SCH 40		
1"	5	Hastelloy C*		<b>Body Seal</b>				BW80	Buttweld SCH 80		
1 1/4"	<b>Ball &amp; Stem</b>			G	Graphite			1	150# Flanged RF*		
1 1/2"	3	Monel		T	PTFE			3	300# Flanged RF*		
2"	5	Hastelloy C						6	600# Flanged RF*		
2 1/2"											
3"											
4"											

**Note:**

\*POA

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### **About ASC Engineered Solutions**

ASC Engineered Solutions is defined by quality—in its products, services and support. With more than 1,400 employees, the company's portfolio of precision-engineered piping support, valves and connections provides products to more than 4,000 customers across industries, such as mechanical, industrial, fire protection, oil and gas, and commercial and residential construction. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Anvil Services, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Grevlok®, J.B. Smith, Merit®, North Alabama Pipe, Quadrant®, SCI®, Sharpe®, SlideLOK®, SPF® and SprinkFLEX®. With headquarters in Commerce, CA, and Exeter, NH, ASC also has ISO 9001:2015 certified production facilities in PA, TN, IL, TX, AL, LA, KS, and RI.



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