SERIES 99
HIGH PERFORMANCE
3 PIECE FULL PORT BALL VALVES
SHARPE® HIGH PERFORMANCE VALVES

Sharpe® Series 99 Ball Valves offer as standard features, advantages that other valve manufacturers offer only as costly extras. This is the Sharpe® advantage.

<table>
<thead>
<tr>
<th>STANDARD FEATURES</th>
<th>ADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Piece Design</td>
<td>In-line serviceable swing-out center section allows easy access to internal valve components without disturbing alignment of pipe. Functions as both valve and union.</td>
</tr>
<tr>
<td>Bottom Entry Live Loaded Stem</td>
<td>Self adjusts with pressure and temperature fluctuations. Blow-out proof anti-static design helps prevent accidents and injuries.</td>
</tr>
<tr>
<td>High Cycle Stem Packing</td>
<td>PEEK and Nova* thrust bearings and stem seals extend valve cycle life over conventional ball valves and are the best choice for actuation.</td>
</tr>
<tr>
<td>Fully Encapsulated Body Seals</td>
<td>Allows valve ends to be welded in line without disassembly, saving costly labor time. Also prevents seal ruptures in high pressure or steam applications.</td>
</tr>
<tr>
<td>Integral Mounting Pad</td>
<td>Ideal for actuation. Centering lip feature assures precise alignment of bracket, stem and coupler. Actuators may be retrofitted on existing Series 99 without disruption of line integrity. Allows for secondary containment unit to be added when necessary.</td>
</tr>
<tr>
<td>Lockable Handle</td>
<td>All Sharpe® Series 99 Valves meet OSHA standards with locking device. Keeps valves from being opened or closed accidentally.</td>
</tr>
<tr>
<td>Slotted Seat Design</td>
<td>Relief slots help equalize body pressure, reduce torque and assure leak-tight sealing. Seats also provide a wiping action that cleans ball and seats each time valve is cycled.</td>
</tr>
<tr>
<td>Choice of Seats and Seals</td>
<td>A wide variety of seat and seal materials are readily available for the most demanding applications, including Buna, Delrin, Nova*, PEEK, EPDM, Viton®, TFE, RTFE, TFM, Grafoil, and UHMWPE.</td>
</tr>
<tr>
<td>Variety of End Combinations</td>
<td>A wide choice of optional end connections are available including, but not limited to threaded ends, socket weld ends, butt weld ends, flush bottom tank pads, and flanged ends.</td>
</tr>
<tr>
<td>Floating Ball Design</td>
<td>Precision engineered solid stainless steel ball with relief hole in stem slot prevents build up of cavity pressure while valve is in open position. Bi-directional floating ball seats downstream reduce torque and guarantee a bubble-tight shut off.</td>
</tr>
<tr>
<td>Encapsulated Body Bolts</td>
<td>Heavy duty stainless steel bolting is protected from outside environment assuring valve integrity.</td>
</tr>
<tr>
<td>Traceability</td>
<td>Heat numbers are provided on all valve bodies and ends. CMTR’s (certified mill test reports) are available upon request.</td>
</tr>
</tbody>
</table>

* Carbon and Graphite Filled TFE  
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SERIES 99
VALVE PARTS AND IDENTIFICATION

PART NO. PART QTY. MATERIAL
1  Body* 1 316 Stainless Steel
Alloy 20
Carbon Steel
Hastelloy C
Monel
Brass
ASTM A351 CF8M
ASTM A351 CN7M
ASTM A216 WCB
ASTM A494 Type CW-12MW
ASTM A494 Gr M35-1
ASTM B564 G3 R C 86500
2  Pipe Ends* 2 316L Stainless Steel
Alloy 20
Carbon Steel
Hastelloy C
Monel
Brass
ASTM A351 CF3M
ASTM A351 CN7M
ASTM A216 WCB
ASTM A494 Type CW-12MW
ASTM A494 Gr 35-1
ASTM B564 G3 R C 86500
3  Ball 1 316 Stainless Steel
Monel
Brass
ASTM A351 CF8M
ASTM A351 CN7M
ASTM A216 WCB
ASTM A494 Type CW-12MW
ASTM A494 Gr M35-1
ASTM B564 G3 R C 86500
4  Stem 1 316 Stainless Steel
Monel
Hastelloy C
17-4PH (Standard - Delrin & PEEK Seats)
Brass
ASTM A351 CF8M
ASTM A351 CN7M
ASTM A216 WCB
ASTM A494 Type CW-12MW
ASTM A494 Gr M35-1
ASTM B564 G3 R C 86500
5  Valve Seat 2 TFE
TFM (Super TFE)
UHMWPE
Reinforced TFE
Delrin
PEEK
6  Body Seal 2 TFE
Grafoil
Neprene
UHMWPE
Buna
EPR
7  Thrust Bearing 1 Nova (UHMWPE with UHMWPE Seats)
7A  Stem Location
Ring (3/4"
1 Stainless Steel
8  Thrust Bearing 1 PEEK (UHMWPE with UHMWPE Seats)
8A  Thrust Bearing 1 Nova (UHMWPE with UHMWPE Seats)
9  Stem Packing 2 Nova (UHMWPE with UHMWPE Seats)
9A  Stem Packing
(3/4"
3 Nova (UHMWPE with UHMWPE Seats)
10  Seal Protector 1 PEEK

PART NO. PART QTY. MATERIAL
11  Gland Packing 1 Stainless Steel
12  Belleville Washer 4 Stainless Steel
13  Packing Nut 1 Stainless Steel
14  Lock Tab 1 Stainless Steel
15  Lower Lock Latch 1 Stainless Steel
15B Upper Lock Latch Bolt 1 Stainless Steel
15C 1 Stainless Steel
16A Wrench (3" & 4") 1 Stainless Steel
16B Wrench Block 1 Stainless Steel
16C Hex Head Bolt 1 Stainless Steel
17  Lock Washer 1 Stainless Steel
18  Handle Nut (1/4"-2"
1 Stainless Steel
19  Body Bolts 4 Stainless Steel
19A Body Connector Nut 8 Stainless Steel
20  Nuts 4 Stainless Steel
21  Stop Pin (1/4"-1/2"
1 Stainless Steel
21A Stopper 1 Stainless Steel
22  Seat Retainer 1 Stainless Steel

Note 1: When specified, valves can be furnished in accordance with ASME B16.34 requirements.

* Valves furnished with Delrin or PEEK seats will use a tongue and groove joint design for the body end seal configuration.
## SERIES 99
### DIMENSIONS

<table>
<thead>
<tr>
<th>SIZE</th>
<th>A</th>
<th>A1(BW)</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>Q</th>
<th>R</th>
<th>T</th>
<th>U</th>
<th>V</th>
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</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>2.54</td>
<td>2.62</td>
<td>.813</td>
<td>1.25</td>
<td>.939</td>
<td>-</td>
<td>1.75</td>
<td>1.50</td>
<td>3/8&quot;-24 UNF</td>
<td>.22</td>
<td>1.76</td>
<td>-</td>
<td>1.90</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>2.54</td>
<td>2.62</td>
<td>.813</td>
<td>1.25</td>
<td>.939</td>
<td>-</td>
<td>1.75</td>
<td>1.50</td>
<td>3/8&quot;-24 UNF</td>
<td>.22</td>
<td>1.76</td>
<td>-</td>
<td>1.90</td>
<td>.28</td>
<td></td>
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</tr>
<tr>
<td>1/2&quot;</td>
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<td>2.87</td>
<td>.969</td>
<td>1.50</td>
<td>1.24</td>
<td>1.00</td>
<td>2.05</td>
<td>1.59</td>
<td>3/8&quot;-24 UNF</td>
<td>.22</td>
<td>1.87</td>
<td>1.00</td>
<td>4.50</td>
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<td>7/16&quot;-20 UNF</td>
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<td>2.40</td>
<td>1.18</td>
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<td>M5</td>
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<tr>
<td>1&quot;</td>
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<td>4.24</td>
<td>1.63</td>
<td>2.00</td>
<td>1.65</td>
<td>1.18</td>
<td>2.70</td>
<td>2.38</td>
<td>7/16&quot;-20 UNF</td>
<td>.30</td>
<td>2.70</td>
<td>1.18</td>
<td>5.75</td>
<td>M5</td>
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<td>1-1/2&quot;</td>
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<td>1.38</td>
<td>7.00</td>
<td>M6</td>
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The dimensions above are for information only, not for construction. For complete actuator mounting dimensions refer to Engineering Bulletin EB-2003.
**SERIES 99**

**VALVE PARTS AND IDENTIFICATION**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>A</th>
<th>A1(BW)</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>Q</th>
<th>R</th>
<th>T</th>
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</thead>
<tbody>
<tr>
<td>2-1/2&quot;</td>
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<td>6.66</td>
<td>3.28</td>
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<td>1.14</td>
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<td>8.40</td>
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<td>1.14</td>
<td>UNS</td>
<td>.745</td>
<td>8.18</td>
<td>1.72</td>
<td>22.00</td>
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</tbody>
</table>

The dimensions above are for information only, not for construction. For complete actuator mounting dimensions refer to Engineering Bulletin EB-2003.

**PERFORMANCE DATA**

<table>
<thead>
<tr>
<th>VALVE SIZE</th>
<th>FLOW COEFF. CV</th>
<th>EQUIVALENT LENGTH OF SCH. 40 PIPE FEET</th>
<th>APPROX. WEIGHT</th>
<th>PORT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8</td>
<td>.9</td>
<td>1.8</td>
<td>.44</td>
</tr>
<tr>
<td>3/8&quot;</td>
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<td>.9</td>
<td>1.8</td>
<td>.44</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>38</td>
<td>1.4</td>
<td>1.8</td>
<td>.56</td>
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<tr>
<td>3/4&quot;</td>
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<td>1.0</td>
<td>3.0</td>
<td>.81</td>
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<tr>
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<td>110</td>
<td>1.9</td>
<td>5.7</td>
<td>1.00</td>
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<tr>
<td>1-1/4&quot;</td>
<td>230</td>
<td>2.1</td>
<td>6.2</td>
<td>1.25</td>
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<td>1-1/2&quot;</td>
<td>350</td>
<td>2.1</td>
<td>7.5</td>
<td>1.50</td>
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<tr>
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<td>600</td>
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<tr>
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<td>32</td>
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</tr>
<tr>
<td>3&quot;</td>
<td>1200</td>
<td>3.0</td>
<td>50.3</td>
<td>3.25</td>
</tr>
</tbody>
</table>

Due to ongoing development of our product line, specifications subject to change without notice.

1. TFM seats are standard. Other seat materials are readily available.
2. Delrin and UHMWPE seats should not be used for steam service.
3. Delrin must not be used in Oxygen applications.
### HOW TO ORDER

<table>
<thead>
<tr>
<th>VALVE SIZE</th>
<th>VALVE SERIES</th>
<th>BODY &amp; ENDS</th>
<th>BALL &amp; STEM</th>
<th>SEAT</th>
<th>SEAL</th>
<th>ENDS</th>
<th>OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>99</td>
<td>4 = Carbon Steel</td>
<td>6 = Stainless Steel</td>
<td>T = TFE</td>
<td>B = Buna</td>
<td>TE = Threaded Ends (NPT)</td>
<td>X = Oxygen Service</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td></td>
<td>2 = Alloy 20</td>
<td></td>
<td>R = Reinforced TFE</td>
<td>N = Neoprene</td>
<td>TEB = Threaded Ends (BSPT)</td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td></td>
<td>3 = Monel</td>
<td>5 = Hastelloy C</td>
<td>D = Delrin</td>
<td>V = Viton®</td>
<td>BW = Butt Weld Sch. 5, 10, 40, &amp; 80</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td></td>
<td>1 = Brass</td>
<td></td>
<td>U = UHMWPE</td>
<td>T = TFE</td>
<td>SW = Socket Weld</td>
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</tr>
<tr>
<td>1-1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td>P = PEEK</td>
<td>U = UHMWPE</td>
<td>FBE = Flush Bottom Tank Flange</td>
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</tr>
<tr>
<td>1-1/2&quot;</td>
<td></td>
<td></td>
<td></td>
<td>M = TFM</td>
<td>G = Grafal</td>
<td>1 = 150RF Flange</td>
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<tr>
<td>2&quot;</td>
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<td></td>
<td>E = Ethylene Propylene Rubber (EPR)</td>
<td>3 = 300RF Flange</td>
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<td>2-1/2&quot;</td>
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<td></td>
<td></td>
<td></td>
<td>6 = 600RF Flange</td>
<td></td>
</tr>
</tbody>
</table>

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Toll-Free 1-877-7SHARPE  
(877) 774-2773  
Fax: (708) 562-9250  
E-Mail: info@sharpevalves.com  
www.sharpevalves.com  
1260 Garnet Drive  
Northlake, Illinois 60164 U.S.A.

Due to continuous development of our product range we reserve the right to change the dimensions and information contained in the leaflet as required.