Tartarini™ Floating Ball Valve

Introduction

Tartarini™ Floating Ball Valve is a general-purpose valve. It is used for long range oil and gas pipelines, petrochemical, oil refining, gas, metallurgy, chemical, food, and other related industries. Its primary function is to cut the flow along the pipeline.

Features and Benefits

- **Advanced and Exclusive Seat Design**—The cone-shaped sealing surface feature of Tartarini Floating ball valve makes the sealing more reliable. Designs with various types of low friction seat materials are available.

- **Wrench with Valve Open/Close Indication**—The connection between the flat-head stem and indicator handle will never be stacked. The open-close indicator on the handle is always consistent with the valve’s position.

- **Locking Device**—The valve is equipped with locking holes at the fully-open and fully-closed position to avoid unintended adjustment of the opening and closing of the valve.

- **Blow-off Proof Stem Construction**—The lower part of the stem is terraced and is installed at the lower internal part of the valve. This construction can avoid the stem blowing off from the valve and can provide metal-to-metal sealing in case of fire. See Figure 2.

- **Anti-static Design**—During operation of the valve, static electricity may accumulate on the ball. The special anti-static device transmits the gained static energy out during the opening and closing of the valve. It also guarantees a uniform potential in all the valve parts preventing sparks. See Figure 3.

- **Secondary metal-to-metal seal**—Body and cap connections are sealed by gaskets. To prevent leakage in cases of fire, high temperature, and oscillations, metal-to-metal sealing is observed. See Figure 4.

- **Fire-proof Design**—Every possible leaking part between the ball and body, stem and body, and middle flanges is designed to have metal-to-metal sealing that conforms to the fire-proof requirements of API 6FA or API 607. Graphite is used for packing and gaskets to provide sealing in case of severe fire conditions. See Figure 5.
Specifications

**Body Sizes**
DN 25, 50, 80, 100, and 150 / 1, 2, 3, 4, and 6-inches

**End Connections**
CL150, CL300, and CL600(1)

**General Design Standard**
Meets API608 / API6D standards

**Flange Type and Dimensions**
Meet ASME B16.5 standards

**Construction Materials**
Refer to Tables 1 and 2

**Inspections and Tests**
Meet API598 / API6D standards

**Flow Coefficient (Cv value)**
Refer to Table 3

**Working Temperature**
-20° to 60°C / -4° to 140°F

**Face-to-Face Dimensions**
Meet ASME B16.10 standards

**Approximate Weights**
Refer to Table 4

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1. CL600 is available for DN 25 and 50 / 1 and 2-inch bodies only.

### Table 1. Construction Materials for Floating Ball Valve Forged Steel Body

<table>
<thead>
<tr>
<th>PART</th>
<th>CAST STEEL SERIES</th>
<th>NACE SERIES</th>
<th>STAINLESS STEEL SERIES</th>
<th>LF2 SERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>A105</td>
<td>A105N</td>
<td>A182-F304 / F304L</td>
<td>A182-F316 / F316L</td>
</tr>
<tr>
<td>Ball</td>
<td>A105</td>
<td>A105N</td>
<td>A182-F304 / F304L</td>
<td>A182-F316 / F316L</td>
</tr>
<tr>
<td>Ball</td>
<td>A105+HCr</td>
<td>A105N+ENP</td>
<td>A182-F304 / F304L</td>
<td>A182-F316 / F316L</td>
</tr>
<tr>
<td>Stem</td>
<td>F6A / F304</td>
<td>F304 / 316</td>
<td>A182-F304 / F304L</td>
<td>A182-F316 / F316L</td>
</tr>
<tr>
<td>Seat</td>
<td></td>
<td></td>
<td>RPTFE (standard) / NYLON (High-pressure) / PPL (High-temperature)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1. All materials conform to ASTM specifications.
2. Materials above are general valve design standards. Other materials not listed above may be provided. Please contact your local Sales Office for availability.

### Table 2. Construction Materials for Floating Ball Valve Cast Steel Body

<table>
<thead>
<tr>
<th>PART</th>
<th>CAST STEEL SERIES</th>
<th>NACE SERIES</th>
<th>STAINLESS STEEL SERIES</th>
<th>LCC, LCB SERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>WCB</td>
<td>WCB</td>
<td>CF8, CF3</td>
<td>CF8M, CF3M, LCC, LCB</td>
</tr>
<tr>
<td>Ball</td>
<td>A216-WCB</td>
<td>A216-WCB</td>
<td>A351-CF8 / CF3</td>
<td>A351-CF8M / CF3M, A352-LCB / LCC</td>
</tr>
<tr>
<td>Stem</td>
<td>A105-1025+HCr</td>
<td>A105N+ENP</td>
<td>F304 / F304L</td>
<td>F316 / F316L, F304</td>
</tr>
<tr>
<td>Seat</td>
<td>F6A / F304</td>
<td>F304 / 316</td>
<td>A183-F304 / F304L</td>
<td>A182-F316 / F316L, A182-F304</td>
</tr>
<tr>
<td>Packing</td>
<td></td>
<td></td>
<td>RPTFE / PTFE</td>
<td>PTFE / PPL</td>
</tr>
<tr>
<td>Gasket</td>
<td></td>
<td></td>
<td>PTFE / NYLON / PPL</td>
<td>PTFE / PPL</td>
</tr>
<tr>
<td>Bearing</td>
<td></td>
<td></td>
<td>PTFE / PPL</td>
<td>PTFE / PPL</td>
</tr>
</tbody>
</table>

**NOTES:**
1. All materials conform to ASTM specifications.
2. Materials above are general valve design standards. Other materials not listed above may be provided. Please contact your local Sales Office for availability.
### Table 3. $C_v$ Flow Coefficients

<table>
<thead>
<tr>
<th>BODY SIZE</th>
<th>REDUCED BORE</th>
<th>FULL BORE</th>
</tr>
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<tbody>
<tr>
<td>DN Inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 1</td>
<td>- - -</td>
<td>100</td>
</tr>
<tr>
<td>50 2</td>
<td>165</td>
<td>490</td>
</tr>
<tr>
<td>80 3</td>
<td>350</td>
<td>1160</td>
</tr>
<tr>
<td>100 4</td>
<td>550</td>
<td>2200</td>
</tr>
<tr>
<td>150 6</td>
<td>765</td>
<td>5100</td>
</tr>
</tbody>
</table>

**NOTE:** $C_v$ indicates the gallons of water at 16°C / 60°F flowing through the valve bore in 0.069 bar / 6.9 KPa differential pressure.

### Table 4. Approximate Weights

<table>
<thead>
<tr>
<th>BODY SIZE</th>
<th>APPROXIMATE WEIGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN Inch</td>
<td>CL150 Pounds</td>
</tr>
<tr>
<td>25 1</td>
<td>6.5</td>
</tr>
<tr>
<td>50 2</td>
<td>12</td>
</tr>
<tr>
<td>80 3</td>
<td>25</td>
</tr>
<tr>
<td>100 4</td>
<td>36</td>
</tr>
<tr>
<td>150 6</td>
<td>75</td>
</tr>
</tbody>
</table>

**Principle of Operation**

The main function of floating ball valve is to cut off or allow the flow passage along the pipeline. It is manually operated using a hand lever which drives the ball to cut off or allow the flow passage. The valve is open when the hand lever is parallel with the flow passage or the pipeline. The valve is closed when the hand lever is perpendicular with the pipeline.

Rotate hand lever 90 degrees clockwise to close the valve and cut off the flow. Turn the hand lever 90 degrees counterclockwise to open the valve and allow the flow. When using handwheel as driving device, use the same rotational direction.

**Installation**

Before installing the ball valve, thoroughly check the specifications stamped in the nameplate of the valve body and other documents that come with it. Make sure that it matches the specifications being ordered and is consistent with the installation requirements.

Inspect the valve chamber and the sealing surface for any shipment damage and make sure that it is free of any dirt or foreign material that may have collected during shipment. Use clean soft cloth to remove any dirt before installation.

Check if the operation of the valve’s driving device moves freely from the fully open to fully closed position. Make sure that it is not jammed and its bolts and nuts are tight.

The ball valve is in the fully open position at the time of delivery. When installing the valve in the pipeline, make sure it is in the fully open position.

When installing large-diameter ball valve, place the valve on a separate platform to serve as a support in order to allow horizontal movement of the valve during installation. Do not let the pipeline bear the entire weight of the valve to avoid deformation of the pipeline.

The ball valve may be installed either horizontally or vertically and in any location. However, make sure that the valve can be accessed easily during maintenance, repair, and operation.

The valve can be flanged or welded to the pipeline. The customer can choose whether to connect both or either ends with bolts (flanged) or with weld.
Figure 2. Stem Construction Assembly

Figure 3. Anti-static Design
Figure 4. No Leakage Design

Figure 5. Fire-proof Design
Figure 6. Dimensions
Table 5. Dimensions

<table>
<thead>
<tr>
<th>BODY SIZE</th>
<th>OPERATION</th>
<th>CL150</th>
<th>CL300</th>
<th>CL600</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN Inch</td>
<td>I A B C D$_{MAX}$</td>
<td>I A B C D$_{MAX}$</td>
<td>I A B C D$_{MAX}$</td>
<td></td>
</tr>
<tr>
<td>25 1 Lever</td>
<td>127 / 5.0 200 / 7.9</td>
<td>150 / 5.9</td>
<td>165 / 6.5 200 / 7.9</td>
<td>150 / 5.9 216 / 8.5 200 / 7.9</td>
</tr>
<tr>
<td>50 2 Lever</td>
<td>178 / 7.0 250 / 9.8</td>
<td>200 / 7.9</td>
<td>216 / 8.5 250 / 9.8</td>
<td>200 / 7.9 292 / 11.5 400 / 15.7</td>
</tr>
<tr>
<td>80 3 Gear</td>
<td>203 / 8.0 320 / 12.6 72 / 2.8 180 / 7.1 384 / 15.1</td>
<td>283 / 11.1 320 / 12.6 72 / 2.8 180 / 7.1 384 / 15.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 4 Gear</td>
<td>229 / 9.0 320 / 12.6 72 / 2.8 180 / 7.1 438 / 17.2</td>
<td>305 / 12.0 320 / 12.6 72 / 2.8 180 / 7.1 438 / 17.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150 6 Gear</td>
<td>394 / 15.5 400 / 15.7 91 / 3.6 218 / 8.6 563 / 22.2</td>
<td>403 / 15.9 400 / 15.7 91 / 3.6 218 / 8.6 563 / 22.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Information**
Refer to the Specifications section on page 2. Carefully review each specification and construction feature, then complete the Ordering Guide. Also, please complete the Specification Worksheet. For special requirements in the construction, please contact your Local Sales Office.

**Ordering Guide**

**Body Size (Select One)**
- □ DN 25 / 1-inch***
- □ DN 50 / 2-inch***
- □ DN 80 / 3-inch***
- □ DN 100 / 4-inch***
- □ DN 150 / 6-inch***

**End Connection Style (Select One)**
- □ CL150***
- □ CL300***
- □ CL600***
**Bulletin: Floating Ball Valve**

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**Specification Worksheet**

**Application:**
- Specific Use ________________________
- Line Size ________________________
- Gas Type and Specific Gravity ________________________
- Gas Temperature ________________________

**Pressure:**
- Maximum Inlet Pressure ($P_{1\text{max}}$) ________________________
- Minimum Inlet Pressure ($P_{1\text{min}}$) ________________________
- Downstream Pressure Setting(s) ($P_{2}$) ________________________
- Maximum Flow ($Q_{\text{max}}$) ________________________

**Performance Required:**
- Accuracy Requirements? ________________________
- Need for Extremely Fast Response? ________________________

**Other Requirements:** ________________________

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**Quick Order Guide**

* * Readily Available for Shipment
* ** Allow Additional Time for Shipment
* * Special Order, Constructed from Non-Stocked Parts. Consult your local Sales Office for Availability.

Availabilty of the product being ordered is determined by the component with the longest shipping time for the requested construction.

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**Industrial Regulators**

Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75069-1872, USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9000

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611

Middle East and Africa
Dubai, United Arab Emirates
Tel: +971 4811 8100

For further information visit www.tartarini-naturalgas.com

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**Natural Gas Technologies**

Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75069-1872, USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611

Gallardon 28320, France
Tel: +33 2 37 33 47 00

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**TESCOM**

Emerson Process Management Tescom Corporation

USA - Headquarters
Elk River, Minnesota 55330-2445, USA
Tels: +1 763 241 3238
+1 800 447 1250

Europe
Selmsdorf 23923, Germany
Tel: +49 38823 31 287

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9499

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