Dual-Seal Ball Valve
Model 30

Invention, Unique Design & Extraordinary Craftsmanship
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How It Works

- The Dual-Seal is the only trunnion mounted ball valve in the industry with two INDEPENDENT seats on each side of the ball.

- The Primary seat takes the normal wear and tear when the valve is cycled. Only if it gets damaged does the Secondary Seat become energized by the pressure.

- Redundant sealing technology enables the Dual-Seal valve to give longer service life than any other valve on the market.

Shown here the Primary seat (blue) and the Secondary Seat (red).
(Figure 1)
The inner ring, the Primary Seal, takes all of the wear and tear during normal operation.

(Figure 2)
If the Primary Seal is damaged, the pressure bleed past it and energizes the outer ring, the Secondary Seal. This gives the valve a new seal and a new area of the ball to seal against, producing another positive upstream seal. Even if it is damaged, the Primary Seal acts as a wiper ring to keep line debris away from the Secondary Seal.
(Figure 3)
Optional 3rd Seal
The Optional 3rd Seal is achieved by simply moving the Elastomeric Seal from the outside diameter to the inside diameter of a standard Secondary Seal on the downstream side of the valve. This seal also assures that any overpressure from thermal expansion will always vent back upstream rather than downstream as with conventional ball valves. The Dual-Seal Ball Valve is still bidirectional, even with the addition of the 3rd Seal.

(Figure 4)
Individually Check Each Seat
With the Dual-Seal Ball Valve you can check which seal, the Primary or Secondary, is sealing by relieving pressure through one of the seat sealant injection fittings. This is the only valve in the industry that allows you to monitor seal integrity while the valve is still in service.
(Figure 5)
**Double Block & Bleed Open Position**
Valve is in the full open position, the through bore being pressurized and the body cavity having been vented.

By venting the body cavity to “O” psi, this proves the integrity of the up and down stream seals.

(Figure 5a)
**Double Block & Bleed Closed Position**
Valve is in the full closed position with equal pressure on both sides of the ball and the body cavity vented to the atmosphere.

By venting the body cavity to “O” psi, this proves the integrity of the up and down stream seals.
WOM introduces
The World’s Only Dual-Seal Ball Valve to the pipeline, petrochemical, and process industries. The Dual-Seal Ball Valve will outperform a through conduit gate valve at the price of a ball valve.

Features:
• Rugged 3 piece valve design for maximum versatility
• 4 individual stem seals / Passed fugitive emissions standards
• U.S. Patent Numbers: 5338003, 5494256
• Available in sizes 2” thru 36” in all standard ANSI pressure classes
• Maintenance-free stem packing
# Model 30 Trim Chart

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<th>PART NAME</th>
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<th>STAINLESS STEEL NACE</th>
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<td>ASTM A216 GR WCC</td>
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## Dimensional Data - Model 30
### 150 CLASS

**Note:** 2.0" & 3.0" are on centerline. 2.0" & 3.0" (D) dimension holes are blind tapped to 3/4" deep.

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Dimensional data is to be used as general guidelines only; Not to be used for design work and is subject to change without notice.
### Dimensional Data - Model 30

**300 CLASS**

#### Diagram

- **Dimensions:**
  - 2.0” - 3.0”
  - 4.0” - 6.0”
  - 8.0” - 24.0”

- **Key Features:**
  - AØ B
  - C DØ
  - (Square Key)
  - (Bolt Circle)
  - (drill thru)

#### Table

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Dimensional data is to be used as general guidelines only;
Not to be used for design work and is subject to change without notice.
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The Steel Shaping Process

Unlike other manufacturers, WOM handles the complete manufacturing process.

Vertical Integration. We cast the steel, we machine the steel, and we assemble and test. We have full control of the manufacturing process, unlike nearly every other valve manufacturer.

Special Options Can Be Your Standard

1. Optional Metal to Metal Primary Seal.
2. Optional Corrosive Resistant Alloy (CRA) Welded Inlay in Seat Pockets or other Sealing Areas.
3. Optional Delta Shaped Elastomeric Seal used for ultra low working pressures.
### API Specifications

- **API 6A**: Specification for Wellhead and Christmas tree equipment
- **API 6D**: Specification for Pipeline valves
- **API 6FA**: Specification for fire testing of valves
- **API 598**: Valve inspection and testing
- **API 607**: Fire test for soft seated quarter turn valves

### ANSI/ASME Standards

- **B16.5**: Steel pipe flanges & flanged fittings
- **B16.10**: Face to face & end to end dimensions of ferrous valves
- **B16.25**: Butt welding ends
- **B31.3**: Chemical plant and petroleum refinery piping
- **B31.4**: Liquid petroleum transportation piping systems
- **B31.8**: Gas transmission and distribution piping systems
- **B46.1**: Surface texture
- **BPV Sec. VIII Div. 1**: Rules for construction of Pressure Vessels
- **BPV Sec. VIII Div. 2**: Alternative Rules for construction of Pressure Vessels
- **BPV Sec. IX**: Qualification Standard for Welding and Brazing Procedures, Welders, Brazers and welding & brazing operators

### ASTM Standards

- **ASTM A193**: Alloy steel & SS bolting Materials for High Temperature service
- **ASTM A194**: Carbon & alloy steel Nuts for High Pressure and High Temperature service

### MSS Standards

- **SP-6**: Standard finishes for contact faces of pipe flanges and connection — end flanges of valves & fittings
- **SP-25**: Standard Marking System for valves
- **SP-44**: Steel Pipeline Flanges
- **SP-45**: By-pass and drain connection
- **SP-55**: Quality Standard for Steel castings visual Method
- **SP-61**: Hydro-testing of Steel valves

### CSA Standards- Canada

- **Z45.15**: Steel Valves

### ISO Standards

- **ISO 5211**: Top Woks – Industrial Valves, Part Turn Actuator attachments
- **ISO 15156**: Petroleum & Natural gas industries, material for use in H2S containing environments in Oil & gas production
- **ISO 15848**: Fugitive Emission Qualification Testing

### Operating Pressures - ASME B 16.34

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Typical Operating PSI for Carbon Steel @ -20 to 100 degrees F

Temperatures Higher or Lower, Please Consult Factory
Fire Test Report
(R2008)
Performed for
W.O.M.

www.womusa.com

2” 600 Class Dual-Seal Ball Valve
Project Number: 214067
Test Date: May 5, 2014

Performed by
YARMOUTH RESEARCH AND TECHNOLOGY, LLC

434 Walnut Hill Road
North Yarmouth, ME 04097 USA
(207) 829-5359
info@yarmouthresearch.com
www.yarmouthresearch.com

Yarmouth Research and Technology, LLC

Customer: W.O.M. 
Date: 5/5/2014
Product Description: 2 inch Class 600 Dual-Seal Ball Valve
Project Number: PN214067

Equipment Confirmed to be in Calibration to NIST Standards: Yes

Burn and Cool Down Test
Burn Start Time: 13:25:00 EST
Average Pressure During Burn: 1102 psig
Allowable Seat Leak Rate: 800 ml/min
External Leak Rate During Burn/Cool Down: 0.0 ml/min
Allowable External Leak Rate: 200 ml/min
Were Test Conditions Within Compliance? Yes

Were the Valve Leaks Below the Allowables? Yes

Post-burn Test
Average Pressure During Test: 105 psig
Seat Leak Rate: 0.0 ml/min
Allowable Seat Leak Rate: 80 ml/min
Average Leak Rate Over 5 Minute Duration: 0.0 ml/min
Allowable Leak Rate: 40 ml/min
Was the Leakage Below the Allowables? Yes

Operational Test
Did Valve Unseat and Open Fully?: Yes
Average Pressure During Test: 1112 psig
External Leak Rate After Operating: 122 ml/min
Allowable External Leak Rate: 400 ml/min
Was the Leakage Below the Allowables? Yes

Does Valve Pass or Fail the Test Standard? PASS

Certified By:
Matthew Wasielewski, PE
President and Manager
Yarmouth Research and Technology, LLC

Sizes 2”- 36” Dual-Seal Ball Valves qualify for 6FA

2” Valve Prior to Fire Test
2” Valve During Fire Test
6” Valve Complete Breakdown After Fire Test
A revolutionary design protected by several patents.
Pressure / Temperature range for seat insert materials for Model 30 ball valves

Insert Materials:
TFE (reinforced teflon)
DEVLOM
PEEK

For applications above 350 °F consult WOM
Other ratings are available on request.
Metal to metal seats are also supplied on request.

Note: These ratings are a guide for general service.
Please consult WOM for specific recommendations.
Contact Us

Worldwide Oilfield Machine, Inc. Headquarters/ U.S.A
11809 Canemont Street
Houston, Texas 77035 USA
Phone: +1 (713) 729-9200
Fax: +1 (713) 725-7321

Worldwide Oilfield Machine, Inc.
5800 Cunningham
Houston, Texas 77041 USA
Phone: +1 (713) 937-0795
Fax: +1 (713) 937-8574

Worldwide Oilfield Machine, Inc.
11625 Fairmont St.
Houston, Texas 77035 USA
Phone: +1 (713) 721-5200
Fax: +1 (713) 721-5205

Worldwide Oilfield Machine, Inc.
11400 Tanner Rd.
Houston, Texas 77041 USA
Phone: +1 (713)-937-8323
Fax: +1 (713) 937-8574

Worldwide Oilfield Machine Ltd. - UK
7 St Machar Road
Aberdeen
AB24 2UJ
Scotland, UK
Phone: +44 (01224) 484400
Fax: +44 (01224) 489740

Worldwide Oilfield Machine Pvt. Ltd - India
Gat No. 778, at Post Velu
Pune Satara Rd.
Tal. Bhor, Dist. Pune 412 205. India
Phone 1: +91-8308210300
Phone 2: +91-8308215300

Magna Casting & Machine Works
Gat No. 777, at Post Velu
Pune Satara Rd.
Tal. Bhor, Dist. Pune 412 205. India
Phone 1: +91-8308210300
Phone 2: +91-8308215300

Magna Forge & Machine Works
Gat No. 777, at Post Velu
Pune Satara Rd.
Tal. Bhor, Dist. Pune 412 205. India
Phone 1: +91-8308210300
Phone 2: +91-8308215300

Worldwide Oilfield Machine, Inc.- Turkmenistan
Yimpash Business Centre
Turkmenbashy Shayoly 54
Office #308 3rd Floor
Ashgabat – Turkmenistan 744000
Phone 1: +99-365 820130
Phone 2: +99-365 309757

Worldwide Oilfield Machine, M.E. - U.A.E
Jebel Ali Free Zone (JAFZA) South,
Plot# S61302, Near Gate#12,
P.O. Box: 32478
Dubai (UAE)
Phone: (971-4) 81 63 600
Fax: (971-4) 81 63 601

Magnum Technology Center
Jebel Ali Free Zone (JAFZA) South,
Plot# S61302, Near Gate#12,
P.O. Box: 32478
Dubai (UAE)
Phone: (971-4) 81 63 600
Fax: (971-4) 81 63 601

PT Worldwide Oilfield Machine - Indonesia
#11-08 One Pacific Place
Sudirman Central Business District
Jl. Jenderal Sudirman Kav. 52-53,
Jakarta 12190
Phone: +1-832-372-0674

Worldwide Oilfield Machine Asia Pacific-Singapore
17 Gul Way
Singapore 629194
Phone: +65 6863 3533
Fax: +65 6558 7562

Worldwide Oilfield Machine- Korea
#1012, 481-10, Byucksan Digital Vally-II,
Gasandong, GumchonGu
Seoul, Korea 153-803
Phone: +82-2-654-6806

Worldwide Oilfield Machine, Ltd. of North America
2500 North Service Rd.
Huron, Ohio 44842
Phone: 1-800-424-0500
Fax: 1-800-424-0503

Worldwide Oilfield Machine- Canada
180 Southdown Road, Unit 101
Mississauga, Ontario L4Z 1Z9
Phone: +1 (905) 226-9988
Fax: +1 (905) 226-9999

Worldwide Oilfield Machine Limited
5800 Cunningham
Houston, Texas 77041 USA
Phone: +1 (713) 937-0795
Fax: +1 (713) 937-8574

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