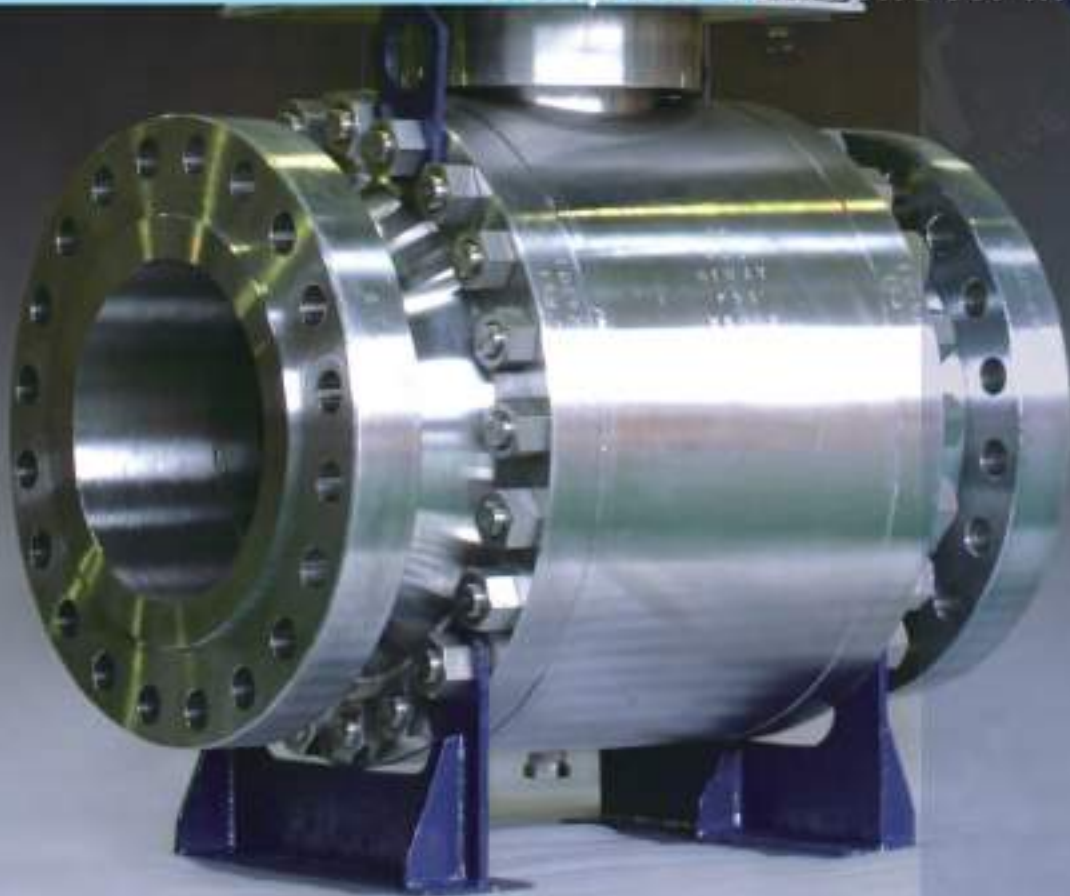


**NEWAY**

# Metal-Seated Ball Valve

*Complete Solutions for Industrial Valves*



**NEWAY VALVE**

Cat.no. : E-MMBV-2015

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## Complete Solutions for Industrial Valves

As a global leader of valve manufacturing, Neway is dedicated to the production, research, and development of industrial valves. Neway is committed to providing complete valve solutions to all industries through advanced engineering and innovation.

Neway's product line includes Ball, Gate, Globe, Check, Butterfly, Nuclear, Control, and Safety valves. Our high quality standards and innovative ability are recognized by many global end users and EPCs. Neway valves are utilized in a wide variety of industries and working conditions such as Gas, Oil, Refining, Chemical, Coal Chemical, Offshore, FPSO, Air Separation, LNG, Nuclear Power, Power Generation, and Pipeline Transmission applications.

## Global Facilities & Service

Neway has developed a sophisticated multi-plant management system operating 1 general valve assembly plant, 1 API6A valve plant, 3 foundries, and 1 R&D center. Our newest assembly plant was expanded in 2013, and it now covers 35,000 square meters. Internationally, we have founded 2 valve assembly plants in Mexico and Saudi Arabia to maximize the advantages of mass production and specialization.

Advanced software (ANSYS, FE-Safe, CF-Design, Siemens PLM and NX) is applied here at Neway for the Research & Development of products. We use SAP to control the traceability and status of all products during the manufacturing process. In order to ensure the safety, eco-friendliness, and reliability of our products, we use the most advanced fire-safe, cryogenic, high pressure, and fugitive emission test equipment.

As part of Neway's global strategy, to provide better service to our customers, we have established our overseas subsidiaries in North America, Brazil, Netherlands, Italy, Singapore, and Dubai; with over 80 agents and distributors worldwide.

## High Quality, High Value

Neway is dedicated to the pursuit of "Zero Defect" quality assurance. We maintain a quality management system that encompasses our entire operation from order entry, to final inspection, and field service. Through Neway's continuous efforts, our products have achieved all main industrial certificates including ISO 9001, API Q1, API 6A, API 6D, CE/PED, ASME N & NPT, TA-Luft, ABS, GOST R&K, and Fire-Safe approvals.

# Quality Commitment

API Q1

NORSOK



CE/PED

Novus recognizes the importance of valve quality for the safety and protection of personnel health and property. It is our quality commitment to focus our resources to provide our customers with first class products at a competitive price, designed, manufactured, inspected and tested in accordance with our customers specifications and complying with all international standards.

Current industrial standards do not always take into consideration the likelihood and consequences of possible deterioration in service, related to specific service fluids or the external environments in which they operate. Therefore we request that our customers communicate with our engineering department. Our valve optimization program continuously strives to provide valves that withstand deterioration in service, and ensure safety over the valves expected lifetime.



TALuft



ABS



AD2000



Fire Safe Test

# How To Order



Neway part numbers are designed to cover essential features. When ordering, Please show the figure numbers and detailed description to avoid misunderstanding of your requirements.

Following descriptions provide a basic guideline in valve specification:

## 1 Valve Size

### Full bore

|    |     |     |     |       |     |       |     |     |     |     |     |      |
|----|-----|-----|-----|-------|-----|-------|-----|-----|-----|-----|-----|------|
| m  | 1/2 | 3/4 | 1   | 1-1/2 | 2   | 2-1/2 | 3   | 4   | 6   | 8   | 10  | 12   |
| mm | 15  | 20  | 25  | 40    | 50  | 65    | 80  | 100 | 150 | 200 | 250 | 300  |
| in | 1/2 | 3/4 | 1   | 1-1/2 | 2   | 2-1/2 | 3   | 4   | 6   | 8   | 10  | 12   |
| mm | 350 | 400 | 450 | 500   | 600 | 650   | 700 | 750 | 800 | 850 | 900 | 1000 |

### Reduced bore

|    |         |         |         |         |         |         |         |         |         |         |         |          |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| in | 1/2x3/8 | 3/4x1/2 | 1x3/4   | 1-1/2x1 | 2x1-1/2 | 2-1/2x2 | 3x2     | 4x3     | 6x4     | 8x6     | 10x8    | 12x10    |
| mm | 15x10   | 20x15   | 25x20   | 40x25   | 50x40   | 65x50   | 80x50   | 100x80  | 150x100 | 200x150 | 250x200 | 300x250  |
| in | 1/2     | 3/4     | 1       | 1-1/2   | 2       | 2-1/2   | 3       | 4       | 6       | 8       | 10      | 12       |
| mm | 350x300 | 400x350 | 450x400 | 500x450 | 600x500 | 650x600 | 700x600 | 750x600 | 800x750 | 850x750 | 900x750 | 1000x900 |

## 2 Valve type

| Symbol | Valve type                             | Symbol | Valve type   |
|--------|--|--------|--|
| BM     | 2-pcs casting floating type metal seat | BSM    | 3-pcs forging trunnion mounted type metal seat         |
| BBM    | 2-pcs forging floating type metal seat | BSK    | 2-pcs forging trunnion mounted type(O-ring) metal seat |

## 3 Class & Pressure

| Code | Class | Pressure (Mpa) | Code | Class | Pressure (Mpa) |
|------|-------|----------------|------|-------|----------------|
| 1    | 150   | 2              | 8    | 800   | 14             |
| 3    | 300   | 5              | 9    | 900   | 15             |
| 4    | 400   | 6.8            | 15   | 1500  | 25             |
| 6    | 600   | 10             | 25   | 2500  | 42             |

## 4 End Connection

| Symbol | End                     | Symbol | End             | Symbol | End                     |
|--------|-------------------------|--------|-----------------|--------|-------------------------|
| R      | Raised face flanged end | B      | Butt-weld end   | N      | Screwed end             |
| J      | RTJ flanged end         | S      | Socket weld end | SN     | Socket weld/Screwed end |

## 5 Operator

| Symbol | Description        | Symbol | Description                |
|--------|--------------------|--------|----------------------------|
|        | Lever              | BS     | Bare shaft                 |
| G      | Gear operator      | H      | Hydraulic actuator         |
| M      | Electric actuator  | L      | Gas over oil actuator      |
| P      | Pneumatic actuator | D      | Electric over oil actuator |

## ⑥ Body Materials

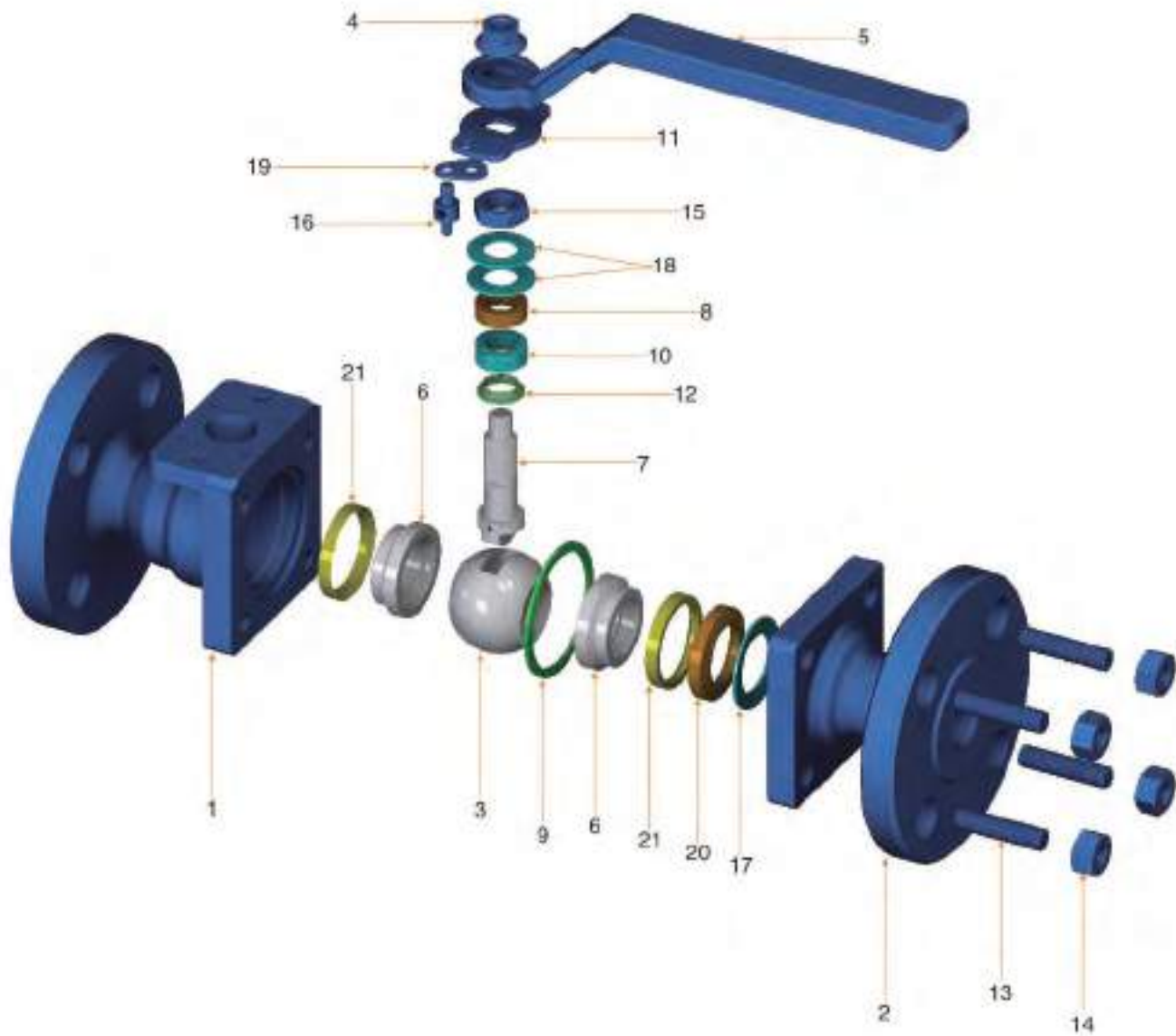
| Classification/Steel       | Forged Material  | Cast Material   | Recommended Temperature Limits (°C) |
|----------------------------|------------------|-----------------|-------------------------------------|
| Carbon Steel               | A105N            | A216 Grade WCB  | -29~425                             |
| Carbon Steel               | A350 Grade LF2   | A216 Grade LCB  | -46~350                             |
| Carbon Steel               | A350 Grade LF2   | A216 Grade LCC  | -46~350                             |
| Duplex Stainless Steel     | A182 Grade F51   | A995 Grade 4A   | -51~315                             |
| Duplex Stainless Steel     | A182 Grade F53   | A995 Grade 5A   | -51~315                             |
| Austenitic Stainless Steel | A182 Grade F316  | A351 Grade CF8M | -196~815                            |
| Austenitic Stainless Steel | A182 Grade F304  | A351 Grade CF8  | -196~815                            |
| Low Carbon Stainless Steel | A182 Grade F316L | A351 Grade CF3M | -196~815                            |
| Low Carbon Stainless Steel | A182 Grade F304L | A351 Grade CF3  | -196~815                            |

## ⑦ Trim Codes

| Seat Insert |                     | Packing/O-ring |           | Stem |               | Ball |               | Seat |               |
|-------------|---------------------|----------------|-----------|------|---------------|------|---------------|------|---------------|
| Code        | Material            | Code           | Material  | Code | Material      | Code | Material      | Code | Material      |
| 4           | Ball-WC Seat-WC     | 1              | NBR       | 1    | F6a           | 1    | F6a           | 1    | F6a           |
| 6           | Ball-Ni60 Seat-Ni55 | 2              | VITON A   | 2    | F304          | 2    | F304          | 2    | F304          |
| 9           | Ball-WC Seat-Ni55   | 3              | VITON AED | 3    | A105N/ENP     | 3    | A105N/ENP     | 3    | A105N/ENP     |
| E           | Ball-Cr3C2-NiCr     | 4              | VITON B   | 4    | 17-4PH        | 4    | 17-4PH        | 4    | 17-4PH        |
|             | Seat-Cr3C2-NiCr     | 6              | HNBR      | 5    | AISI 4140/ENP | 5    | AISI 4140/ENP | 5    | AISI 4140/ENP |
| F           | Ball-WC Seat-Ni60   | 8              | VITON GLT | 6    | F316          | 6    | F316          | 6    | F316          |
|             |                     | 9              | EPDM      | 7    | F304L         | 7    | F304L         | 7    | F304L         |
|             |                     |                |           | 8    | F316L         | 8    | F316L         | 8    | F316L         |
|             |                     |                |           | 9    | LF2/ENP       | 9    | LF2/ENP       | 9    | LF2/ENP       |
|             |                     |                |           | A    | F51           | A    | F51           | A    | F51           |

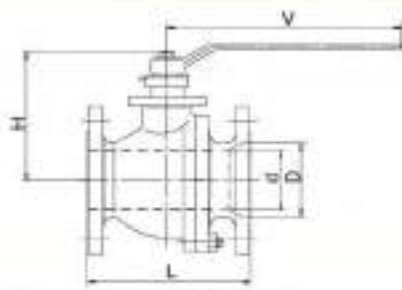


- 1 Top flange design as per ISO 5211, optional actuators of gearbox, electric actuator and pneumatic actuator are available.
- 2 Hard faced ball and the seat to satisfy the requirement of high hardness, high temperature resistance, wear resistance.
- 3 With the help of the pre-loaded spring, the seat is able to maintain seal even in low operating pressure.
- 4 Several designs of the seat to choose from, among which the dust proof seat design is available.

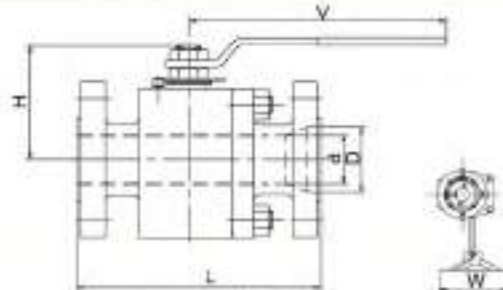


| 序号 | 英文名称          | 标准材料              | 酸性环境              | 不锈钢               | 低温环境              |
|----|---------------|-------------------|-------------------|-------------------|-------------------|
| 1  | BODY          | ASTMA105N         | ASTMA105N         | ASTMA182 F316     | ASTMA350 LF2      |
| 2  | BONNET        | ASTMA105N         | ASTMA105N         | ASTMA182 F316     | ASTMA350 LF2      |
| 3  | BALL          | ASTMA182 F316+WC  | ASTMA182 F316+WC  | ASTMA182 F316+WC  | ASTMA182 F316+WC  |
| 4  | LEVER         | AISI 1045         | AISI 1045         | ASTM A276 304     | ASTM A276 304     |
| 5  | GLAND FLANGE  | AISI 1035         | AISI 1035         | ASTM A276 304     | ASTM A276 304     |
| 6  | SEAT RING     | ASTMA182 F316+WC  | ASTMA182 F316+WC  | ASTMA182 F316+WC  | ASTMA182 F316+WC  |
| 7  | SEAT GLAND    | ASTMA182 F316     | ASTMA182 F316     | ASTMA182 F316     | ASTMA182 F316     |
| 8  | STEM          | 17-4PH            | 17-4PH            | 17-4PH            | 17-4PH            |
| 9  | GLAND         | ASTMA182 F304L    | ASTMA182 F304L    | ASTMA182 F304L    | ASTMA182 F304L    |
| 10 | THRUST WASHER | ASTMA182 F316L+N2 | ASTMA182 F316L+N2 | ASTMA182 F316L+N2 | ASTMA182 F316L+N2 |
| 11 | GASKET        | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      |
| 12 | PACKING       | GRAPHITE          | GRAPHITE          | GRAPHITE          | GRAPHITE          |
| 13 | GASKET        | GRAPHITE          | GRAPHITE          | GRAPHITE          | GRAPHITE          |
| 14 | BOLT          | ASTMA193 B7       | ASTMA193 B7M      | ASTMA193 B8       | ASTMA320 L7M      |
| 15 | SPRING        | 17-7PH            | 17-7PH            | INCONEL X-750     | INCONEL X-750     |
| 16 | STUD          | ASTMA193 B7       | ASTMA193 B7M      | ASTMA193 B8       | ASTMA320 L7M      |
| 17 | NUT           | ASTMA194 2H       | ASTMA194 2HM      | ASTMA194 8        | ASTMA194 7M       |
| 18 | COVER FLANGE  | ASTMA216 WCB      | ASTMA216 WCB      | ASTMA182 F316     | ASTMA350 LF2      |
| 19 | PIN           | ASTM A276 420     | ASTM A276 420     | ASTMA276 420      | ASTMA276 420      |
| 20 | GASKET        | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      |
| 21 | STOP PLATE    | AISI 1045         | AISI 1045         | ASTM A276 420     | ASTM A276 420     |
| 22 | RETAINER      | AISI 1088         | AISI 1088         | ASTM A276 304     | ASTM A276 304     |
| 23 | BOLT          | AISI 1035         | AISI 1035         | ASTM A276 304     | ASTM A276 304     |
| 24 | WASHER        | AISI 1035         | AISI 1035         | ASTM A276 304     | ASTM A276 304     |
| 25 | PIN           | AISI 1035         | AISI 1035         | ASTM A276 304     | ASTM A276 304     |
| 26 | SCREW         | AISI 1035         | AISI 1035         | ASTM A276 304     | ASTM A276 304     |
| 27 | LOCK PLATE    | ASTM A276 304     | ASTM A276 304     | ASTM A276 304     | ASTM A276 304     |
| 28 | PIN           | AISI 1035         | AISI 1035         | ASTM A276 304     | ASTM A276 304     |





Adapta 150LB, 300LB.BM Series



Adapta 600LB.BM Series

## 150LB Full bore ( Floating )

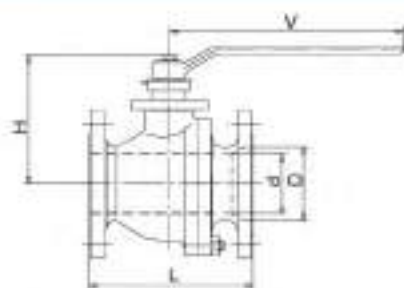
| Size  |     | D    |     | L    |     |       |       | H    |       | W  |    | V     |      | Weight |    |
|-------|-----|------|-----|------|-----|-------|-------|------|-------|----|----|-------|------|--------|----|
| in    | mm  | in   | mm  | RF   | DW  | in    | mm    | in   | mm    | in | mm | in    | mm   | lb     | Kg |
| 1/2   | 15  | 0.51 | 13  | 4.25 | 108 | 5.49  | 139.5 | 2.23 | 56.6  |    |    | 5.51  | 140  | 4.41   | 2  |
| 3/4   | 20  | 0.75 | 19  | 4.61 | 117 | 6.00  | 152.5 | 2.32 | 59    |    |    | 5.51  | 140  | 6.61   | 3  |
| 1     | 25  | 0.98 | 25  | 5.00 | 127 | 6.50  | 165   | 3.29 | 83.5  |    |    | 8.46  | 215  | 8.82   | 4  |
| 1-1/2 | 40  | 1.50 | 38  | 6.50 | 165 | 7.52  | 191   | 4.63 | 117.5 |    |    | 10.43 | 265  | 17.64  | 8  |
| 2     | 50  | 2.01 | 51  | 7.01 | 178 | 8.50  | 216   | 5.15 | 130.8 |    |    | 16.93 | 430  | 22.06  | 10 |
| 3     | 80  | 2.99 | 76  | 7.99 | 203 | 11.14 | 283   | 6.90 | 175.3 |    |    | 41.73 | 1060 | 35.27  | 16 |
| 4     | 100 | 4.02 | 102 | 9.02 | 229 | 12.01 | 305   | 7.65 | 194.3 |    |    | 41.73 | 1060 | 88.18  | 40 |

## 150LB Reduced bore ( Floating )

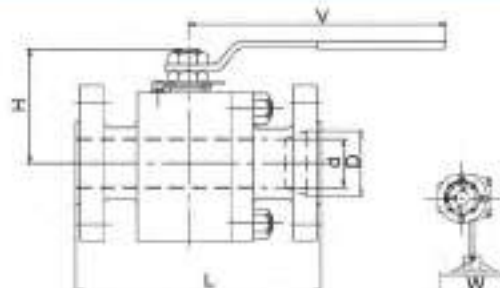
| Size    |        | D    |     | d    | L  |      |     |       | H     |      | W     |    | V  |       | Weight |       |     |
|---------|--------|------|-----|------|----|------|-----|-------|-------|------|-------|----|----|-------|--------|-------|-----|
| in      | mm     | in   | mm  | in   | mm | RF   | DW  | in    | mm    | in   | mm    | in | mm | in    | mm     | lb    | Kg  |
| 1/2*3/8 | 15*10  | 0.51 | 13  | 0.28 | 7  | 4.25 | 108 | 5.49  | 139.5 | 1.93 | 49    |    |    | 5.51  | 140    | 3.31  | 1.5 |
| 3/4*1/2 | 20*15  | 0.75 | 19  | 0.51 | 13 | 4.61 | 117 | 6.00  | 152.5 | 2.23 | 56.6  |    |    | 5.51  | 140    | 4.41  | 2   |
| 1*3/4   | 25*20  | 0.98 | 25  | 0.75 | 19 | 5.00 | 127 | 6.50  | 165   | 2.32 | 59    |    |    | 5.51  | 140    | 6.61  | 3   |
| 1-1/2*1 | 40*25  | 1.50 | 38  | 0.98 | 25 | 6.50 | 165 | 7.52  | 191   | 3.29 | 83.5  |    |    | 8.46  | 215    | 15.43 | 7   |
| 2*1-1/2 | 50*40  | 2.01 | 51  | 1.50 | 38 | 7.01 | 178 | 8.50  | 216   | 4.63 | 117.5 |    |    | 10.43 | 265    | 17.64 | 8   |
| 3*2     | 80*50  | 2.99 | 76  | 2.01 | 51 | 7.99 | 203 | 11.14 | 283   | 5.15 | 130.8 |    |    | 10.43 | 265    | 30.06 | 14  |
| 4*1     | 100*80 | 4.02 | 102 | 2.99 | 76 | 9.02 | 229 | 12.01 | 305   | 6.90 | 175.3 |    |    | 16.93 | 430    | 79.37 | 36  |

## 300LB Full bore ( Floating )

| Size  |     | D    |     | L     |     |       |     | H     |       | W     |     | V     |      | Weight |    |
|-------|-----|------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|------|--------|----|
| in    | mm  | in   | mm  | RF    | DW  | in    | mm  | in    | mm    | in    | mm  | in    | mm   | lb     | Kg |
| 1/2   | 15  | 0.51 | 13  | 5.51  | 140 | 5.51  | 140 | 2.23  | 56.6  |       |     | 5.51  | 140  | 6.61   | 3  |
| 3/4   | 20  | 0.75 | 19  | 5.98  | 152 | 5.98  | 152 | 2.32  | 59    |       |     | 5.51  | 140  | 8.82   | 4  |
| 1     | 25  | 0.98 | 25  | 6.50  | 165 | 6.50  | 165 | 3.29  | 83.5  |       |     | 8.46  | 215  | 13.23  | 6  |
| 1-1/2 | 40  | 1.50 | 38  | 7.52  | 191 | 7.52  | 191 | 4.63  | 117.5 |       |     | 10.43 | 265  | 24.25  | 11 |
| 2     | 50  | 2.01 | 51  | 8.50  | 216 | 8.50  | 216 | 5.15  | 130.8 |       |     | 16.93 | 430  | 33.07  | 15 |
| 3     | 80  | 2.99 | 76  | 11.14 | 283 | 11.14 | 283 | 6.90  | 175.3 |       |     | 41.73 | 1060 | 103.62 | 47 |
| 4     | 100 | 4.02 | 102 | 12.01 | 305 | 12.01 | 305 | 10.04 | 255   | 11.81 | 300 |       |      | 149.91 | 68 |



Adaptra 150LB, 300LB BM Series



Adaptra 600LB BM Series

### 300LB Reduced bore ( Floating )

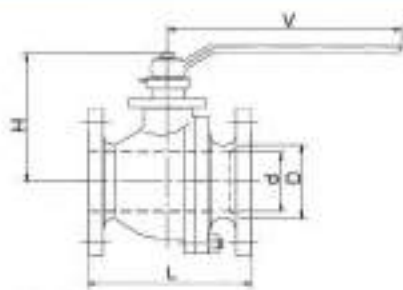
| Size    |        | D    |     | d    |    | L     |     |       |     | H    |       | W  |    | V     |      | Weight |    |
|---------|--------|------|-----|------|----|-------|-----|-------|-----|------|-------|----|----|-------|------|--------|----|
| in      | mm     | in   | mm  | in   | mm | RF    |     | BW    |     | in   | mm    | in | mm | in    | mm   | lb     | Kg |
| 1/2*3/8 | 15*10  | 0.51 | 13  | 0.28 | 7  | 5.51  | 140 | 5.51  | 140 | 2.14 | 54.3  |    |    | 5.51  | 140  | 4.41   | 2  |
| 3/4*1/2 | 20*15  | 0.75 | 19  | 0.51 | 13 | 5.98  | 152 | 5.98  | 152 | 2.23 | 56.6  |    |    | 5.51  | 140  | 6.61   | 3  |
| 1*3/4   | 25*20  | 0.98 | 25  | 0.75 | 19 | 6.50  | 165 | 6.50  | 165 | 2.32 | 59    |    |    | 5.51  | 140  | 8.82   | 4  |
| 1-1/2*1 | 40*25  | 1.50 | 38  | 0.98 | 25 | 7.52  | 191 | 7.52  | 191 | 3.29 | 83.5  |    |    | 6.46  | 215  | 19.84  | 9  |
| 2*1-1/2 | 50*40  | 2.01 | 51  | 1.50 | 38 | 8.50  | 216 | 8.50  | 216 | 4.63 | 117.5 |    |    | 10.43 | 265  | 28.66  | 13 |
| 3*2     | 80*50  | 2.99 | 76  | 2.01 | 51 | 11.14 | 283 | 11.14 | 283 | 5.15 | 130.8 |    |    | 16.93 | 430  | 99.21  | 45 |
| 4*3     | 100*80 | 4.02 | 102 | 2.99 | 76 | 12.01 | 306 | 12.01 | 306 | 6.90 | 175.3 |    |    | 41.73 | 1066 | 143.30 | 65 |

### 400LB Full bore ( Floating )

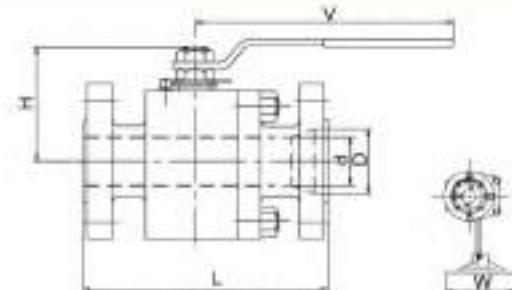
| Size  |     | D    |     | L     |     |       |     |       |     | H     |       | W     |     | V     |     | Weight |     |
|-------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|-----|--------|-----|
| in    | mm  | in   | mm  | RF    |     | BW    |     | RTJ   |     | in    | mm    | in    | mm  | in    | mm  | lb     | Kg  |
| 1/2   | 15  | 0.51 | 13  | 8.50  | 165 | 8.50  | 165 | 6.46  | 164 | 3.86  | 98    |       |     | 5.91  | 150 | 8.82   | 4   |
| 3/4   | 20  | 0.75 | 19  | 7.52  | 191 | 7.52  | 191 | 7.52  | 191 | 4.53  | 115   |       |     | 7.09  | 180 | 13.23  | 6   |
| 1     | 25  | 0.98 | 25  | 8.50  | 216 | 8.50  | 216 | 8.50  | 216 | 4.74  | 120.5 |       |     | 10.43 | 265 | 24.25  | 11  |
| 1-1/2 | 40  | 1.50 | 38  | 9.49  | 241 | 9.49  | 241 | 9.49  | 241 | 6.26  | 159   |       |     | 11.81 | 300 | 55.11  | 25  |
| 2     | 50  | 2.01 | 51  | 11.50 | 292 | 11.50 | 292 | 11.81 | 295 | 11.34 | 288   | 11.81 | 300 |       |     | 110.23 | 50  |
| 3     | 80  | 2.99 | 76  | 14.02 | 356 | 14.02 | 356 | 14.13 | 359 | 11.89 | 302   | 15.75 | 400 |       |     | 121.25 | 55  |
| 4     | 100 | 4.02 | 102 | 15.98 | 406 | 15.98 | 406 | 16.14 | 410 | 12.80 | 320   | 23.62 | 600 |       |     | 414.46 | 188 |

### 400LB Reduced bore ( Floating )

| Size    |        | D    |     | d    |    | L     |     |       |     | H     |     | W     |       | V     |     | Weight |     |        |     |
|---------|--------|------|-----|------|----|-------|-----|-------|-----|-------|-----|-------|-------|-------|-----|--------|-----|--------|-----|
| in      | mm     | in   | mm  | in   | mm | RF    |     | BW    |     | RTJ   |     | in    | mm    | in    | mm  | in     | mm  | lb     | Kg  |
| 1/2*3/8 | 15*10  | 0.51 | 13  | 0.28 | 7  | 6.50  | 165 | 6.50  | 165 | 6.46  | 164 | 3.19  | 81    |       |     | 5.91   | 150 | 6.61   | 3   |
| 3/4*1/2 | 20*15  | 0.75 | 19  | 0.51 | 13 | 7.52  | 191 | 7.52  | 191 | 7.52  | 191 | 3.86  | 98    |       |     | 5.91   | 150 | 11.02  | 6   |
| 1*3/4   | 25*20  | 0.98 | 25  | 0.75 | 19 | 8.50  | 216 | 8.50  | 216 | 8.50  | 216 | 4.53  | 115   |       |     | 7.09   | 180 | 19.84  | 9   |
| 1-1/2*1 | 40*25  | 1.50 | 38  | 0.98 | 25 | 9.49  | 241 | 9.49  | 241 | 9.49  | 241 | 4.74  | 120.5 |       |     | 10.43  | 265 | 48.50  | 22  |
| 2*1-1/2 | 50*40  | 2.01 | 51  | 1.50 | 38 | 11.50 | 292 | 11.50 | 292 | 11.81 | 295 | 6.26  | 159   |       |     | 11.81  | 300 | 36.11  | 25  |
| 3*2     | 80*50  | 2.99 | 76  | 2.01 | 51 | 14.02 | 356 | 14.02 | 356 | 14.13 | 359 | 11.34 | 288   | 11.81 | 300 |        |     | 112.43 | 51  |
| 4*3     | 100*80 | 4.02 | 102 | 2.99 | 76 | 15.98 | 406 | 15.98 | 406 | 16.14 | 410 | 11.89 | 302   | 15.75 | 400 |        |     | 399.03 | 181 |



Adapta 150LB, 300LB, BM Series



Adapta 600LB, BM Series

## 600LB Full bore ( Floating )

| Size  |     | D    |     | L     |     |       |     |       |     | H     |       | W     |     | V     |     | Weight |     |
|-------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|-----|--------|-----|
|       |     |      |     | RF    |     | BW    |     | RTJ   |     |       |       |       |     |       |     |        |     |
| in    | mm  | in   | mm  | in    | mm  | in    | mm  | in    | mm  | in    | mm    | in    | mm  | in    | mm  | lb     | Kg  |
| 1/2   | 15  | 0.51 | 13  | 6.50  | 165 | 6.50  | 165 | 6.46  | 164 | 3.86  | 98    |       |     | 5.91  | 150 | 6.82   | 4   |
| 3/4   | 20  | 0.75 | 19  | 7.52  | 191 | 7.52  | 191 | 7.52  | 191 | 4.53  | 115   |       |     | 7.09  | 180 | 13.23  | 6   |
| 1     | 25  | 0.98 | 25  | 8.50  | 216 | 8.50  | 216 | 8.50  | 216 | 4.74  | 120.5 |       |     | 10.43 | 265 | 24.25  | 11  |
| 1-1/2 | 40  | 1.50 | 38  | 9.49  | 241 | 9.49  | 241 | 9.49  | 241 | 6.26  | 159   |       |     | 11.81 | 300 | 55.11  | 25  |
| 2     | 50  | 2.01 | 51  | 11.50 | 292 | 11.50 | 292 | 11.61 | 295 | 11.34 | 288   | 11.81 | 300 |       |     | 110.23 | 50  |
| 3     | 80  | 2.99 | 76  | 14.02 | 356 | 14.02 | 356 | 14.13 | 359 | 11.89 | 302   | 15.75 | 400 |       |     | 121.25 | 55  |
| 4     | 100 | 4.02 | 102 | 17.01 | 432 | 17.01 | 432 | 17.13 | 435 | 12.60 | 320   | 23.62 | 600 |       |     | 414.46 | 188 |

## 600LB Reduced bore ( Floating )

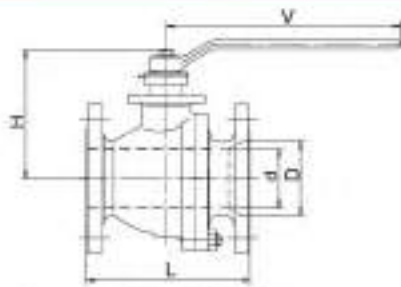
| Size    |        | D    |     | d    | L  |       |     |       |     |       | H   |       | W     |       | V   |       | Weight |        |     |
|---------|--------|------|-----|------|----|-------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|--------|--------|-----|
|         |        |      |     |      | RF |       | BW  |       | RTJ |       |     |       |       |       |     |       |        |        |     |
| in      | mm     | in   | mm  | in   | mm | in    | mm  | in    | mm  | in    | mm  | in    | mm    | in    | mm  | in    | mm     | lb     | Kg  |
| 1/2*3/8 | 15*10  | 0.51 | 13  | 0.28 | 7  | 6.50  | 165 | 6.50  | 165 | 6.46  | 164 | 3.23  | 82    |       |     | 5.91  | 150    | 6.81   | 3   |
| 3/4*1/2 | 20*15  | 0.75 | 19  | 0.51 | 13 | 7.52  | 191 | 7.52  | 191 | 7.52  | 191 | 3.86  | 98    |       |     | 5.91  | 150    | 11.02  | 5   |
| 1*3/4   | 25*20  | 0.98 | 25  | 0.75 | 19 | 8.50  | 216 | 8.50  | 216 | 8.50  | 216 | 4.53  | 115   |       |     | 7.09  | 180    | 19.94  | 9   |
| 1-1/2*1 | 40*25  | 1.50 | 38  | 0.98 | 25 | 9.49  | 241 | 9.49  | 241 | 9.49  | 241 | 4.74  | 120.5 |       |     | 10.43 | 265    | 46.50  | 22  |
| 2*1-1/2 | 50*40  | 2.01 | 51  | 1.50 | 38 | 11.50 | 292 | 11.50 | 292 | 11.50 | 292 | 6.26  | 159   |       |     | 11.81 | 300    | 55.11  | 25  |
| 3*2     | 80*50  | 2.99 | 76  | 2.01 | 51 | 14.02 | 356 | 14.02 | 356 | 14.13 | 359 | 11.34 | 288   | 11.81 | 300 |       |        | 112.43 | 51  |
| 4*3     | 100*90 | 4.02 | 102 | 2.99 | 76 | 17.01 | 432 | 17.01 | 432 | 17.13 | 435 | 11.89 | 302   | 15.75 | 400 |       |        | 398.00 | 181 |

## 900LB Full bore ( Floating )

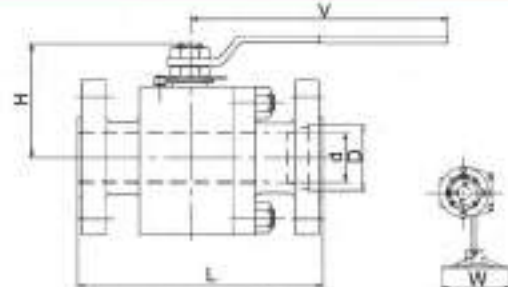
| Size  |    | D    |    | L     |     |       |     |       |     | H     |       | W     |     | V     |     | Weight |    |    |    |
|-------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|-----|--------|----|----|----|
|       |    |      |    | RF    |     | BW    |     | RTJ   |     |       |       |       |     |       |     |        |    |    |    |
| in    | mm | in   | mm | in    | mm  | in    | mm  | in    | mm  | in    | mm    | in    | mm  | in    | mm  | in     | mm | lb | Kg |
| 1/2   | 15 | 0.51 | 13 | 8.50  | 216 | 8.50  | 216 | 8.50  | 216 | 4.41  | 112   |       |     | 7.09  | 180 | 22.05  | 10 |    |    |
| 3/4   | 20 | 0.75 | 19 | 9.02  | 229 | 9.02  | 229 | 9.02  | 229 | 4.75  | 120.5 |       |     | 10.43 | 265 | 26.66  | 13 |    |    |
| 1     | 25 | 0.98 | 25 | 10.00 | 254 | 10.00 | 254 | 10.00 | 254 | 6.24  | 158.5 |       |     | 11.81 | 300 | 33.07  | 15 |    |    |
| 1-1/2 | 40 | 1.50 | 38 | 12.01 | 305 | 12.01 | 305 | 12.01 | 305 | 7.48  | 190   |       |     | 15.75 | 400 | 105.62 | 48 |    |    |
| 2     | 50 | 2.01 | 51 | 14.49 | 368 | 14.49 | 368 | 14.61 | 371 | 11.42 | 290   | 15.75 | 400 |       |     | 158.73 | 72 |    |    |

## 900LB Reduced bore ( Floating )

| Size    |       | D    |    | d    | L  |       |     |       |     |       | H   |      | W     |    | V  |       | Weight |       |    |
|---------|-------|------|----|------|----|-------|-----|-------|-----|-------|-----|------|-------|----|----|-------|--------|-------|----|
|         |       |      |    |      | RF |       | BW  |       | RTJ |       |     |      |       |    |    |       |        |       |    |
| in      | mm    | in   | mm | in   | mm | in    | mm  | in    | mm  | in    | mm  | in   | mm    | in | mm | in    | mm     | lb    | Kg |
| 1/2*3/8 | 15*10 | 0.51 | 13 | 0.28 | 7  | 8.50  | 216 | 8.50  | 216 | 8.50  | 216 | 4.17 | 106   |    |    | 6.58  | 165    | 17.64 | 8  |
| 3/4*1/2 | 20*15 | 0.75 | 19 | 0.51 | 13 | 9.02  | 229 | 9.02  | 229 | 9.02  | 229 | 4.41 | 112   |    |    | 7.09  | 180    | 19.94 | 9  |
| 1*3/4   | 25*20 | 0.98 | 25 | 0.75 | 19 | 10.00 | 254 | 10.00 | 254 | 10.00 | 254 | 4.74 | 120.5 |    |    | 10.43 | 265    | 26.46 | 12 |
| 1-1/2*1 | 40*25 | 1.50 | 38 | 0.98 | 25 | 12.01 | 305 | 12.01 | 305 | 12.01 | 305 | 6.24 | 158.5 |    |    | 11.81 | 300    | 30.96 | 14 |
| 2*1-1/2 | 50*40 | 2.01 | 51 | 1.50 | 38 | 14.49 | 368 | 14.49 | 368 | 14.61 | 371 | 7.49 | 190   |    |    | 15.75 | 400    | 99.21 | 45 |



Adapta 150LB, 300LB.BM Series



Adapta 600LB.BM Series

### 1500LB Full bore ( Floating )

| Size  |    | D    |    | L     |     |       |     |       |     | H     |       | W     |     | V     |     | Weight |    |
|-------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|-----|--------|----|
|       |    |      |    | RF    |     | BW    |     | RTJ   |     |       |       |       |     |       |     |        |    |
| in    | mm | in   | mm | in    | mm  | in    | mm  | in    | mm  | in    | mm    | in    | mm  | in    | mm  | lb     | Kg |
| 1/2   | 16 | 0.51 | 13 | 8.60  | 216 | 8.60  | 216 | 8.60  | 216 | 4.41  | 112   |       |     | 7.09  | 180 | 22.95  | 10 |
| 3/4   | 20 | 0.75 | 19 | 9.02  | 229 | 9.02  | 229 | 9.02  | 229 | 4.25  | 109.5 |       |     | 10.43 | 265 | 28.96  | 13 |
| 1     | 25 | 0.98 | 25 | 10.00 | 254 | 10.00 | 254 | 10.00 | 254 | 6.24  | 158.5 |       |     | 11.81 | 300 | 33.97  | 15 |
| 1-1/2 | 40 | 1.50 | 38 | 12.01 | 305 | 12.01 | 305 | 12.01 | 305 | 7.48  | 190   |       |     | 15.75 | 400 | 105.82 | 48 |
| 2     | 50 | 2.01 | 51 | 14.49 | 368 | 14.49 | 368 | 14.81 | 371 | 11.42 | 290   | 15.75 | 400 |       |     | 158.73 | 72 |

### 1500LB Reduced bore ( Floating )

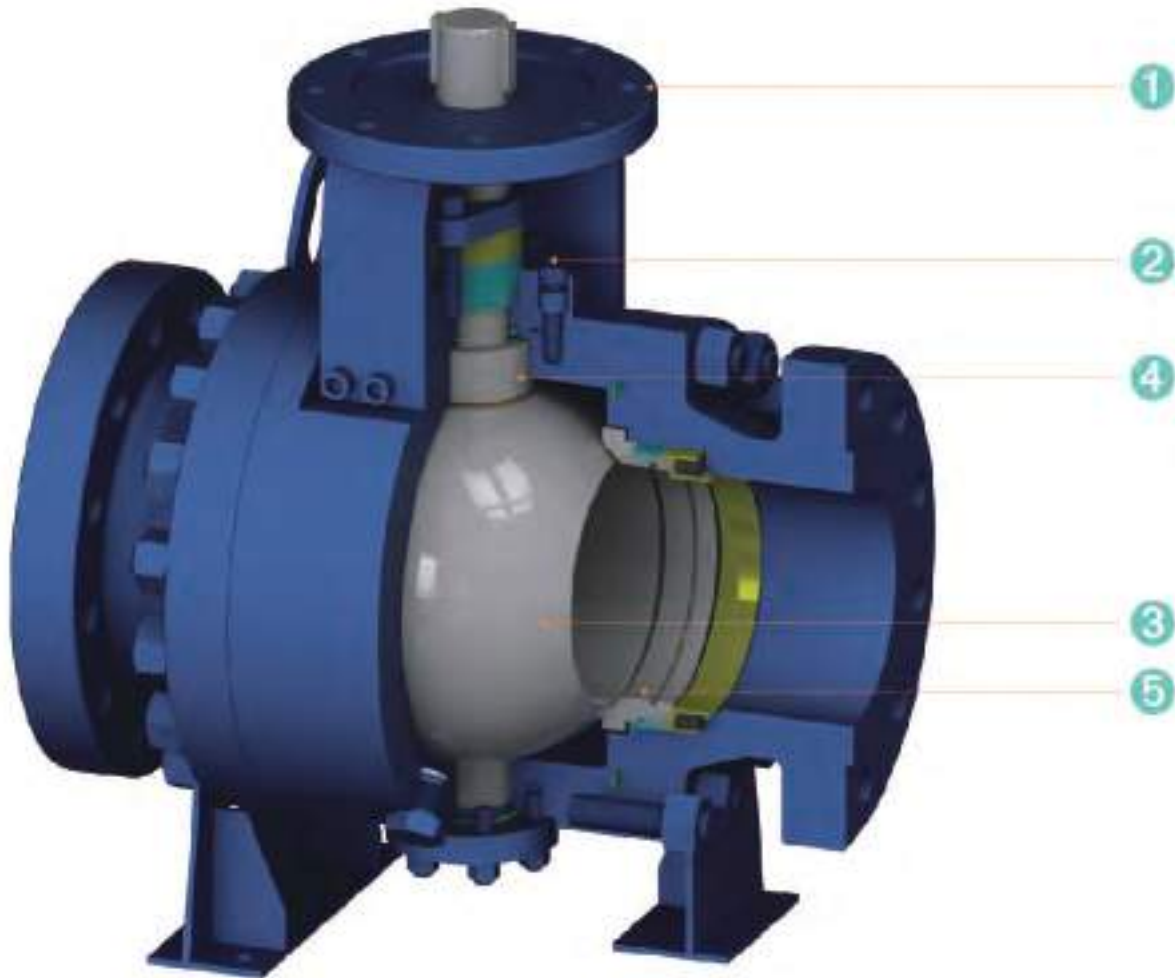
| 口径      |       | D    |    | d    |    | L     |     |       |     |       |     | H    |       | W  |    | V     |     | Weight |    |
|---------|-------|------|----|------|----|-------|-----|-------|-----|-------|-----|------|-------|----|----|-------|-----|--------|----|
|         |       |      |    |      |    | RF    |     | BW    |     | RTJ   |     |      |       |    |    |       |     |        |    |
| in      | mm    | in   | mm | in   | mm | in    | mm  | in    | mm  | in    | mm  | in   | mm    | in | mm | in    | mm  | lb     | Kg |
| 1/2*3/8 | 15*10 | 0.51 | 13 | 0.28 | 7  | 8.50  | 216 | 8.50  | 216 | 8.50  | 216 | 4.17 | 106   |    |    | 6.90  | 185 | 17.64  | 8  |
| 3/4*1/2 | 20*15 | 0.75 | 19 | 0.51 | 13 | 9.02  | 229 | 9.02  | 229 | 9.02  | 229 | 4.41 | 112   |    |    | 7.09  | 180 | 19.84  | 9  |
| 1*3/4   | 25*20 | 0.98 | 25 | 0.75 | 19 | 10.00 | 254 | 10.00 | 254 | 10.00 | 254 | 4.74 | 120.5 |    |    | 10.43 | 265 | 26.46  | 12 |
| 1-1/2*1 | 40*25 | 1.50 | 38 | 0.98 | 25 | 12.01 | 305 | 12.01 | 305 | 12.01 | 305 | 6.24 | 158.5 |    |    | 11.81 | 300 | 30.96  | 14 |
| 2*1-1/2 | 50*40 | 2.01 | 51 | 1.50 | 38 | 14.49 | 368 | 14.49 | 368 | 14.81 | 371 | 7.48 | 190   |    |    | 15.75 | 400 | 82.21  | 45 |

### 2500LB Full bore ( Floating )

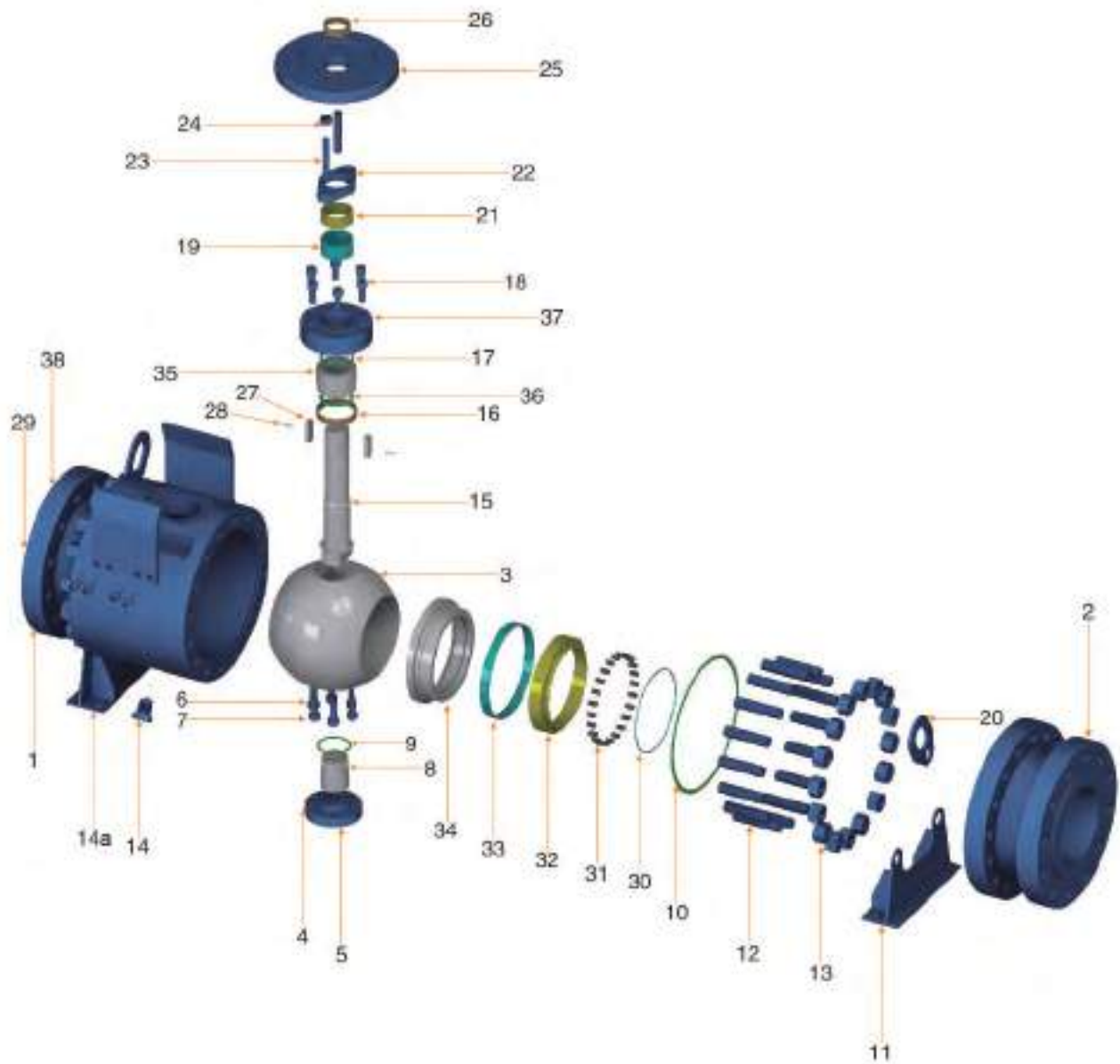
| 口径    |    | D    |    | L     |     |       |     |       |     | H     |     | W     |     | V     |     | Weight |    |    |    |
|-------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--------|----|----|----|
|       |    |      |    | RF    |     | BW    |     | RTJ   |     |       |     |       |     |       |     |        |    |    |    |
| in    | mm | in   | mm | in    | mm  | in    | mm  | in    | mm  | in    | mm  | in    | mm  | in    | mm  | in     | mm | lb | Kg |
| 1/2   | 16 | 0.51 | 13 | 10.39 | 264 | 10.39 | 264 | 10.39 | 264 | 4.83  | 115 |       |     | 7.09  | 180 | 25.46  | 12 |    |    |
| 3/4   | 20 | 0.75 | 19 | 10.75 | 273 | 10.75 | 273 | 10.75 | 273 | 4.65  | 118 |       |     | 10.43 | 265 | 35.27  | 16 |    |    |
| 1     | 25 | 0.98 | 25 | 12.13 | 308 | 12.13 | 308 | 12.13 | 308 | 6.97  | 177 |       |     | 11.81 | 300 | 41.89  | 19 |    |    |
| 1-1/2 | 40 | 1.50 | 38 | 14.49 | 368 | 14.49 | 368 | 14.49 | 368 | 8.03  | 204 |       |     | 15.75 | 400 | 108.02 | 49 |    |    |
| 2     | 50 | 1.85 | 42 | 17.76 | 451 | 17.76 | 451 | 17.87 | 454 | 11.73 | 298 | 15.75 | 400 |       |     | 169.75 | 77 |    |    |

### 2500LB Reduced bore ( Floating )

| 口径      |       | D    |    | d    |    | L     |     |       |     |       |     | H    |     | W  |    | V     |     | Weight |      |
|---------|-------|------|----|------|----|-------|-----|-------|-----|-------|-----|------|-----|----|----|-------|-----|--------|------|
|         |       |      |    |      |    | RF    |     | BW    |     | RTJ   |     |      |     |    |    |       |     |        |      |
| in      | mm    | in   | mm | in   | mm | in    | mm  | in    | mm  | in    | mm  | in   | mm  | in | mm | in    | mm  | lb     | Kg   |
| 1/2*3/8 | 15*10 | 0.51 | 13 | 0.28 | 7  | 10.39 | 264 | 10.39 | 264 | 10.39 | 264 | 3.70 | 94  |    |    | 6.30  | 160 | 18.84  | 9    |
| 3/4*1/2 | 20*15 | 0.75 | 19 | 0.51 | 13 | 10.75 | 273 | 10.75 | 273 | 10.75 | 273 | 4.53 | 115 |    |    | 7.09  | 180 | 26.46  | 12   |
| 1*3/4   | 25*20 | 0.98 | 25 | 0.75 | 19 | 12.13 | 308 | 12.13 | 308 | 12.13 | 308 | 4.65 | 118 |    |    | 10.43 | 265 | 34.17  | 15.5 |
| 1-1/2*1 | 40*25 | 1.50 | 38 | 0.98 | 25 | 14.49 | 368 | 14.49 | 368 | 14.49 | 368 | 6.97 | 177 |    |    | 11.81 | 300 | 82.59  | 42   |
| 2*1-1/2 | 50*40 | 1.85 | 42 | 1.50 | 38 | 17.76 | 451 | 17.76 | 451 | 17.87 | 454 | 8.03 | 204 |    |    | 15.75 | 400 | 152.12 | 69   |

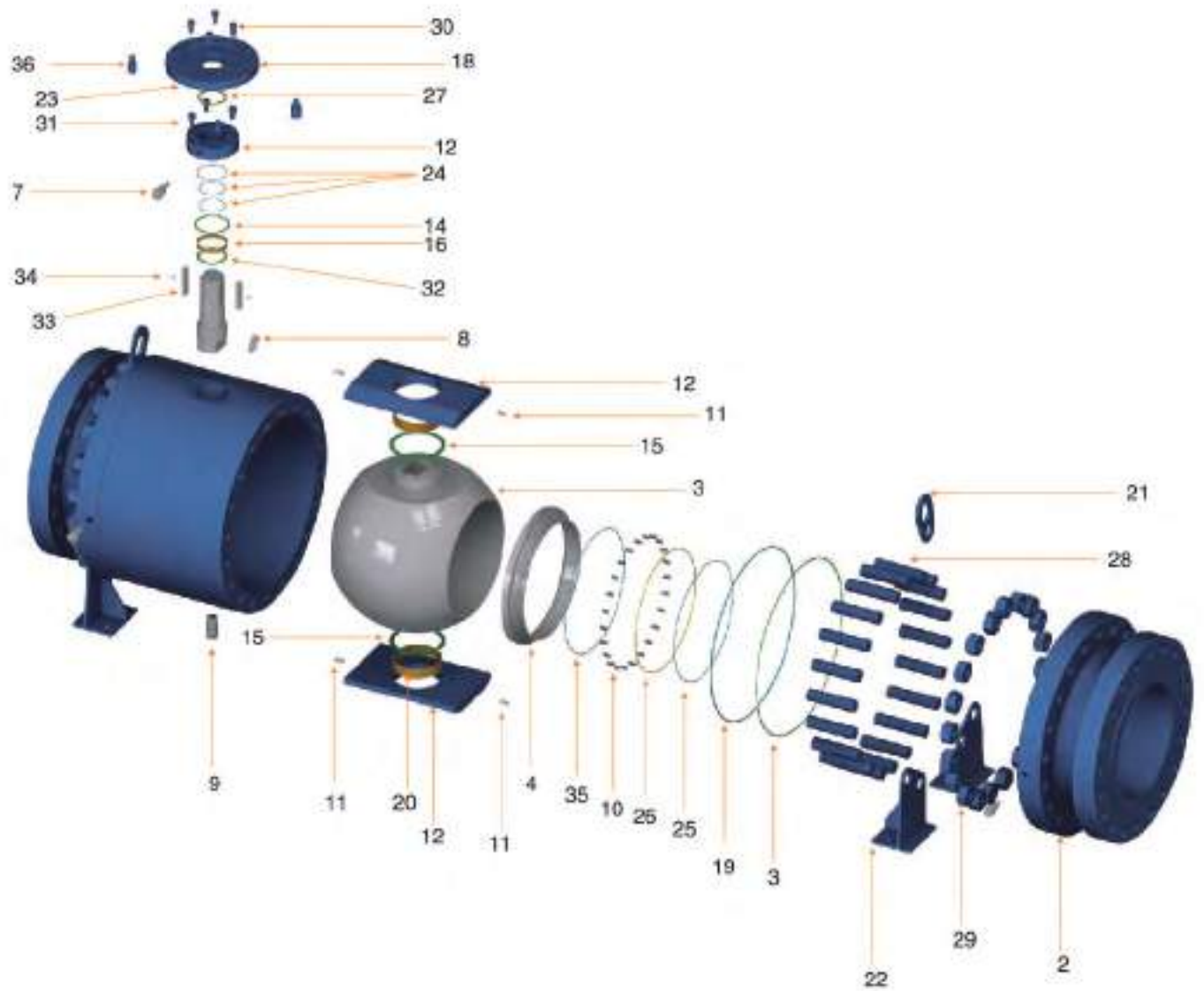


- ① Top flange design as per ISO 5211, optional actuators of gearbox, electric actuator and pneumatic actuator are available.
- ② Low emission graphite packing design.
- ③ Hard faced ball and the seat to satisfy the requirement of high hardness, high temperature resistance, wear resistance.
- ④ With the help of the pre-loaded spring, the seat is able to maintain seal even in low operating pressure.
- ⑤ Several designs of the seat to choose from, among which the dust proof seat design is available.



No.Parts Standard Material Sour Condition Stainless Steel Low Temperature Condition

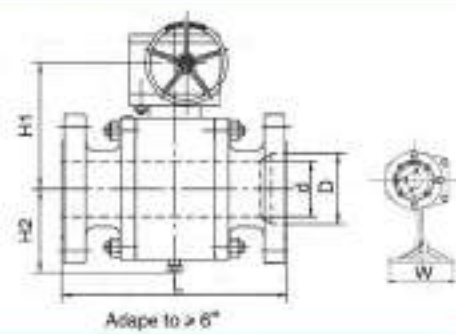
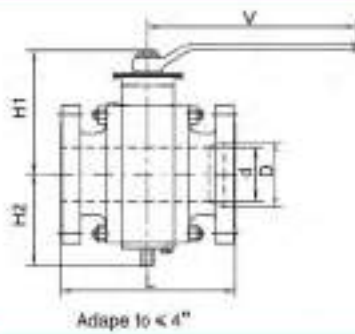
| 序号  | 英文名称          | 标准材料               | 酸性环境               | 不锈钢                | 低温环境               |
|-----|---------------|--------------------|--------------------|--------------------|--------------------|
| 1   | BODY          | ASTM A105N         | ASTM A105N         | ASTM A182 F316     | ASTM A350 LF2      |
| 2   | BONNET        | ASTM A105N         | ASTM A105N         | ASTM A182 F316     | ASTM A350 LF2      |
| 3   | BALL          | ASTM A182 F316+WC  | ASTM A182 F316+WC  | ASTM A182 F316+WC  | ASTM A182 F316+WC  |
| 4   | TRUNNION      | ASTM A105N+CrC     | ASTM A105N+CrC     | 17-4PH+CrC         | ASTM A350 LF2+CrC  |
| 5   | COVER         | ASTM A105N         | ASTM A105N         | ASTM A182 F316     | ASTM A350 LF2      |
| 6   | STUD          | ASTM A193 B7       | ASTM A193 B7M      | ASTM A193 B8       | ASTM A320 L7M      |
| 7   | NUT           | ASTM A194 2H       | ASTM A194 2HM      | ASTM A194 8        | ASTM A194 7M       |
| 8   | BEARING       | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 |
| 9   | GASKET        | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       |
| 10  | GASKET        | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       |
| 11  | SUPPORT LEGS  | ASTM A283 GRD      | ASTM A283 GRD      | ASTM A283 GRD      | ASTM A283 GRD      |
| 12  | STUD          | ASTM A193 B7       | ASTM A193 B7M      | ASTM A193 B8       | ASTM A320 L7M      |
| 13  | NUT           | ASTM A194 2H       | ASTM A194 2HM      | ASTM A194 8        | ASTM A194 7M       |
| 14  | PLUG          | ASTM A182 F316L    | ASTM A182 F316L    | ASTM A182 F316L    | ASTM A182 F316L    |
| 14a | GASKET        | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       |
| 15  | STEM          | 17-4PH             | 17-4PH             | 17-4PH             | 17-4PH             |
| 16  | BEARING       | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 |
| 17  | GASKET        | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       |
| 18  | SCREW         | ASTM A193 B7       | ASTM A193 B7M      | ASTM A193 B8       | ASTM A320 L7M      |
| 19  | PACKING       | GRAPHITE           | GRAPHITE           | GRAPHITE           | GRAPHITE           |
| 20  | LIFTING LUGS  | ASTM A283 GRD      | ASTM A283 GRD      | ASTM A283 GRD      | ASTM A283 GRD      |
| 21  | GLAND         | ASTM A182 F304L    | ASTM A182 F304L    | ASTM A182 F304L    | ASTM A182 F304L    |
| 22  | GLAND FLANGE  | ASTM A216-WCB      | ASTM A216-WCB      | ASTM A351-CF8      | ASTM A352 LCB      |
| 23  | STUD          | ASTM A193 B7       | ASTM A193 B7M      | ASTM A193 B8       | ASTM A320 L7M      |
| 24  | NUT           | ASTM A194 2H       | ASTM A194 2HM      | ASTM A194 8        | ASTM A194 7M       |
| 25  | TOP FLANGE    | ASTM A105N         | ASTM A105N         | ASTM A105N         | ASTM A350 LF2      |
| 26  | BEARING       | ASTM A240 316+PTFE | ASTM A240 316+PTFE | ASTM A240 316+PTFE | ASTM A240 316+PTFE |
| 27  | KEY           | AISI 1045          | AISI 1045          | ASTM A276-420      | ASTM A276 420      |
| 28  | STEM PIN      | ASTM A276 304      | ASTM A276 304      | ASTM A276 304      | ASTM A276 304      |
| 29  | SCREW         | AISI 1035          | AISI 1035          | ASTM A276 304      | ASTM A276 304      |
| 30  | GRAPHITE RING | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       | 316+GRAPHITE       |
| 31  | SPRING        | INCONEL X-750      | INCONEL X-750      | INCONEL X-750      | INCONEL X-750      |
| 32  | SEAT GLAND    | ASTM A182 F316     | ASTM A182 F316     | ASTM A182 F316     | ASTM A182 F316     |
| 33  | PACKING       | GRAPHITE           | GRAPHITE           | GRAPHITE           | GRAPHITE           |
| 34  | SEAT          | ASTM A182 F316+WC  | ASTM A182 F316+WC  | ASTM A182 F316+WC  | ASTM A182 F316+WC  |
| 35  | SLEVER        | AISI 4140+CrC      | AISI 4140+CrC      | 17-4PH+CrC         | AISI 4140+CrC      |
| 36  | THRUST PLATE  | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 | ASTM A182 F316L-N2 |
| 37  | COVER FLANGE  | ASTM A105N         | ASTM A105N         | ASTM A182 F316     | ASTM A350 LF2      |
| 38  | ARMOR PLATE   | ASTM A283 GRD      | ASTM A283 GRD      | ASTM A283 GRD      | ASTM A283 GRD      |





No.Parts Standard Material Sour Condition Stainless Steel Low Temperature Condition

| 序号 | 英文名称                   | 标准材料              | 酸性环境              | 不锈钢               | 低温环境              |
|----|------------------------|-------------------|-------------------|-------------------|-------------------|
| 1  | BODY                   | ASTMA105N         | ASTMA105N         | ASTMA182 F316     | ASTMA350 LF2      |
| 2  | BONNET                 | ASTMA105N         | ASTMA105N         | ASTMA182 F316     | ASTMA350 LF2      |
| 3  | BALL                   | ASTMA105N/ENP     | ASTMA105N/ENP     | ASTMA182 F316     | ASTMA350 LF2/ENP  |
| 4  | SEAT                   | ASTMA182 F316+WC  | ASTMA182 F316+WC  | ASTMA182 F316+WC  | ASTMA182 F316+WC  |
| 5  | STEM                   | 17-4PH            | 17-4PH            | 17-4PH            | 17-4PH            |
| 6  | TRUNNION ALIGNMENT PIN | ASTMA276 304      | ASTMA276 304      | ASTMA182 F316L    | ASTMA276 304      |
| 7  | INJECTION              | STAINLESS STEEL   | STAINLESS STEEL   | STAINLESS STEEL   | STAINLESS STEEL   |
| 8  | VENT VALVE             | STAINLESS STEEL   | STAINLESS STEEL   | STAINLESS STEEL   | STAINLESS STEEL   |
| 9  | PLUG                   | ASTMA182 F316L    | ASTMA182 F316L    | ASTMA182 F316L    | ASTMA182 F316L    |
| 10 | SPRING                 | INCONEL X-750     | INCONEL X-750     | INCONEL X-750     | INCONEL X-750     |
| 11 | PIN                    | AISI 1035         | AISI 1035         | ASTMA276 304      | AISI 1035         |
| 12 | TRUNNION SUPPORT       | ASTMA588B         | ASTMA588B         | ASTM A351-CF3     | ASTM A351-CF3     |
| 13 | GASKET                 | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      |
| 14 | GASKET                 | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      |
| 15 | THRUST WASHER          | METAL BACKED PTFE | METAL BACKED PTFE | METAL BACKED PTFE | METAL BACKED PTFE |
| 16 | BEARING                | 316SS+PTFE+MoS2   | 316SS+PTFE+MoS2   | 316SS+PTFE+MoS2   | 316SS+PTFE+MoS2   |
| 17 | COVER FLANGE           | ASTMA105N         | ASTMA105N         | ASTMA182 F316     | ASTMA350 LF2      |
| 18 | TOP FLANGE             | ASTMA105N         | ASTMA105N         | ASTMA182 F304     | ASTMA350 LF2      |
| 19 | O-RING                 | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        |
| 20 | Bearing                | 316SS+PTFE+MoS2   | 316SS+PTFE+MoS2   | 316SS+PTFE+MoS2   | 316SS+PTFE+MoS2   |
| 21 | LIFTING LUGS           | ASTMA283 GRD      | ASTMA283 GRD      | ASTMA283 GRD      | ASTMA283 GRD      |
| 22 | SUPPORT LEGS           | ASTMA283 GRD      | ASTMA283 GRD      | ASTMA283 GRD      | ASTMA283 GRD      |
| 23 | O-RING                 | NBR               | NBR               | NBR               | NBR               |
| 24 | O-RING                 | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        |
| 25 | O-RING                 | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        |
| 26 | O-RING                 | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        | HNBR/VITON        |
| 27 | GRAPHITE RING          | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      | 316+GRAPHITE      |
| 28 | Body Stud              | ASTMA193-B7       | ASTMA193-B7M      | ASTMA193-B8       | ASTMA320-L7M      |
| 29 | Body Nut               | ASTMA194-2H       | ASTMA194-2HM      | ASTMA194-B        | ASTMA194-7M       |
| 30 | Screw                  | AISI 1035         | AISI 1035         | ASTMA276 304      | ASTMA276 304      |
| 31 | Screw                  | AISI 1035         | AISI 1035         | ASTMA276 304      | ASTMA276 304      |
| 32 | THRUST WASHER          | METAL BACKED PTFE | METAL BACKED PTFE | METAL BACKED PTFE | METAL BACKED PTFE |
| 33 | KEY                    | AISI 1045         | AISI 1045         | ASTMA276-420      | ASTMA276 420      |
| 34 | PIN                    | ASTMA276 304      | ASTMA276 304      | ASTMA276 304      | ASTMA276 304      |
| 35 | GRAPHITE RING          | GRAPHITE          | GRAPHITE          | GRAPHITE          | GRAPHITE          |
| 36 | PIN                    | ASTMA276 304      | ASTMA276 304      | ASTMA276 304      | ASTMA276 304      |

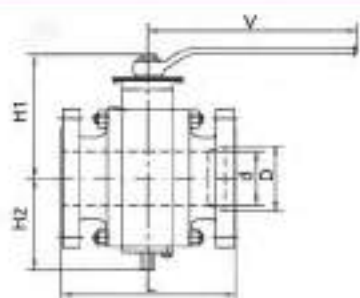


### 150LB Full bore-TM

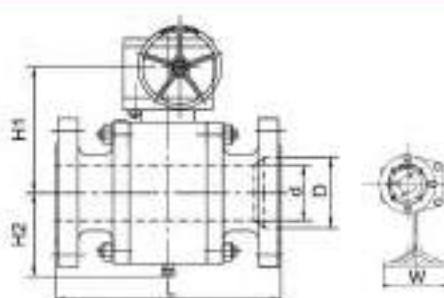
| Size |      | D     |     | L     |      |       |      | H1    |      | H2    |      | W     |     | V     |     | Weight |       |
|------|------|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|-----|--------|-------|
| in   | mm   | in    | mm  | in    | mm   | in    | mm   | in    | mm   | in    | mm   | in    | mm  | in    | mm  | lb     | Kg    |
| 2    | 50   | 1.93  | 49  | 7.01  | 178  | 8.50  | 216  | 4.25  | 108  | 3.54  | 90   |       |     | 11.22 | 285 | 40     | 18    |
| 3    | 80   | 2.91  | 74  | 7.99  | 203  | 11.14 | 283  | 11.02 | 280  | 4.33  | 110  | 11.81 | 300 |       |     | 66     | 30    |
| 4    | 100  | 3.94  | 100 | 9.02  | 229  | 12.01 | 305  | 11.81 | 295  | 5.51  | 140  | 11.81 | 300 |       |     | 229    | 104   |
| 6    | 150  | 5.91  | 150 | 15.51 | 394  | 17.99 | 457  | 14.41 | 366  | 6.89  | 175  | 19.69 | 500 |       |     | 430    | 195   |
| 8    | 200  | 7.91  | 201 | 17.99 | 457  | 20.51 | 521  | 20.16 | 512  | 7.48  | 190  | 23.62 | 600 |       |     | 866    | 393   |
| 10   | 250  | 9.92  | 252 | 20.98 | 533  | 22.01 | 559  | 23.23 | 580  | 9.06  | 230  | 23.62 | 600 |       |     | 1113   | 505   |
| 12   | 300  | 11.93 | 303 | 24.02 | 610  | 25.00 | 635  | 26.22 | 666  | 11.61 | 295  | 27.56 | 700 |       |     | 1506   | 725   |
| 14   | 350  | 13.15 | 334 | 27.01 | 686  | 30.00 | 762  | 29.92 | 760  | 14.17 | 360  | 27.56 | 700 |       |     | 1964   | 900   |
| 16   | 400  | 15.16 | 385 | 30.00 | 762  | 32.99 | 838  | 32.68 | 830  | 16.73 | 425  | 29.92 | 750 |       |     | 2706   | 1250  |
| 18   | 450  | 17.17 | 436 | 34.02 | 864  | 35.98 | 914  | 36.22 | 920  | 18.50 | 470  | 29.92 | 750 |       |     | 4134   | 1875  |
| 20   | 500  | 19.17 | 487 | 35.98 | 914  | 39.02 | 991  | 39.49 | 1003 | 20.87 | 530  | 29.92 | 750 |       |     | 6161   | 2790  |
| 22   | 550  | 21.18 | 538 | 39.02 | 991  | 39.02 | 991  | 41.65 | 1058 | 23.43 | 595  | 29.92 | 750 |       |     | 8834   | 3100  |
| 24   | 600  | 23.19 | 589 | 42.01 | 1067 | 45.00 | 1143 | 43.90 | 1115 | 25.98 | 660  | 29.92 | 750 |       |     | 9609   | 3906  |
| 28   | 700  | 26.93 | 684 | 49.02 | 1245 | 52.99 | 1346 | 46.06 | 1170 | 28.54 | 725  | 29.92 | 750 |       |     | 12743  | 5780  |
| 30   | 750  | 28.94 | 735 | 50.98 | 1295 | 55.00 | 1397 | 48.23 | 1225 | 31.69 | 805  | 29.92 | 750 |       |     | 17163  | 7785  |
| 32   | 800  | 30.87 | 779 | 54.02 | 1372 | 60.00 | 1524 | 50.79 | 1290 | 34.53 | 877  | 31.50 | 800 |       |     | 20295  | 9165  |
| 34   | 850  | 32.68 | 830 | 57.99 | 1473 | 64.02 | 1626 | 53.15 | 1350 | 36.46 | 926  | 31.50 | 800 |       |     | 23810  | 10800 |
| 36   | 900  | 34.41 | 874 | 60.00 | 1524 | 67.99 | 1727 | 55.12 | 1400 | 38.39 | 975  | 35.43 | 900 |       |     | 28794  | 13020 |
| 40   | 1000 | 38.43 | 976 | 67.99 | 1727 | 67.99 | 1727 | 67.72 | 1720 | 40.16 | 1020 | 35.43 | 900 |       |     | 39793  | 18050 |

### 150LB Reduced bore -TM

| Size    |          | D     |     | d     | L   |       |      |       | H1   |       | H2   |       | W   |       | V   |       | Weight |       |       |
|---------|----------|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|-----|-------|-----|-------|--------|-------|-------|
| in      | mm       | in    | mm  | in    | mm  | in    | mm   | in    | mm   | in    | mm   | in    | mm  | in    | mm  | lb    | Kg     |       |       |
| 2"1-1/2 | 50*40    | 1.93  | 49  | 1.50  | 38  | 7.01  | 178  | 8.50  | 216  | 4.13  | 105  | 2.95  | 75  |       |     | 13.78 | 350    | 33    | 15    |
| 3"      | 80*50    | 2.91  | 74  | 1.93  | 49  | 7.99  | 203  | 11.14 | 283  | 4.25  | 108  | 3.54  | 90  |       |     | 11.22 | 285    | 66    | 29    |
| 4"      | 100*80   | 3.94  | 100 | 2.91  | 74  | 9.02  | 229  | 12.01 | 305  | 11.02 | 280  | 4.33  | 110 | 11.81 | 300 |       |        | 190   | 86    |
| 6"      | 150*100  | 5.91  | 150 | 3.94  | 100 | 15.51 | 394  | 17.99 | 457  | 11.81 | 295  | 5.51  | 140 | 11.81 | 300 |       |        | 276   | 125   |
| 8"      | 200*150  | 7.91  | 201 | 5.91  | 150 | 17.99 | 457  | 20.51 | 521  | 14.41 | 366  | 6.89  | 175 | 19.69 | 500 |       |        | 518   | 235   |
| 10"     | 250*200  | 9.92  | 252 | 7.91  | 201 | 20.98 | 533  | 22.01 | 559  | 20.16 | 512  | 7.48  | 190 | 23.62 | 600 |       |        | 1005  | 456   |
| 12*10   | 300*250  | 11.93 | 303 | 9.92  | 252 | 24.02 | 610  | 25.00 | 635  | 23.23 | 580  | 9.06  | 230 | 23.62 | 600 |       |        | 1323  | 600   |
| 14*12   | 350*300  | 13.15 | 334 | 11.93 | 303 | 27.01 | 686  | 30.00 | 762  | 26.22 | 666  | 11.61 | 295 | 27.56 | 700 |       |        | 1795  | 810   |
| 16*14   | 400*350  | 15.16 | 385 | 13.15 | 334 | 30.00 | 762  | 32.99 | 838  | 29.92 | 760  | 14.17 | 360 | 27.56 | 700 |       |        | 2228  | 1015  |
| 18*16   | 450*400  | 17.17 | 436 | 15.16 | 385 | 34.02 | 864  | 35.98 | 914  | 32.68 | 830  | 16.73 | 425 | 29.92 | 750 |       |        | 2976  | 1350  |
| 20*18   | 500*450  | 19.17 | 487 | 17.17 | 436 | 35.98 | 914  | 39.02 | 991  | 36.22 | 920  | 18.50 | 470 | 29.92 | 750 |       |        | 4378  | 1986  |
| 22*20   | 550*500  | 21.18 | 538 | 19.17 | 487 | 39.02 | 991  | 39.02 | 991  | 39.49 | 1003 | 20.87 | 530 | 29.92 | 750 |       |        | 6173  | 2800  |
| 24*20   | 600*500  | 23.19 | 589 | 19.17 | 487 | 42.01 | 1067 | 45.00 | 1143 | 41.65 | 1058 | 23.43 | 595 | 29.92 | 750 |       |        | 7867  | 3564  |
| 28*24   | 700*600  | 26.93 | 684 | 23.19 | 589 | 49.02 | 1245 | 52.99 | 1346 | 43.90 | 1115 | 25.98 | 660 | 29.92 | 750 |       |        | 9635  | 4325  |
| 30*28   | 750*700  | 28.94 | 735 | 26.93 | 684 | 50.98 | 1295 | 55.00 | 1397 | 46.06 | 1170 | 28.54 | 725 | 29.92 | 750 |       |        | 14237 | 6459  |
| 32*30   | 800*750  | 30.87 | 779 | 28.94 | 735 | 54.02 | 1372 | 60.00 | 1524 | 48.23 | 1225 | 31.69 | 805 | 29.92 | 750 |       |        | 18969 | 8423  |
| 34*32   | 850*800  | 32.68 | 830 | 30.87 | 779 | 57.99 | 1473 | 64.02 | 1626 | 50.79 | 1290 | 34.53 | 877 | 31.50 | 800 |       |        | 21715 | 9850  |
| 36*32   | 900*800  | 34.41 | 874 | 30.87 | 779 | 60.00 | 1524 | 67.99 | 1727 | 53.15 | 1350 | 36.46 | 926 | 31.50 | 800 |       |        | 26796 | 12150 |
| 40*36   | 1000*900 | 38.43 | 976 | 34.41 | 874 | 73.03 | 1855 | 82.01 | 2093 | 57.46 | 1460 | 39.82 | 986 | 35.43 | 900 |       |        | 31415 | 14250 |



Adapte to &lt; 4"



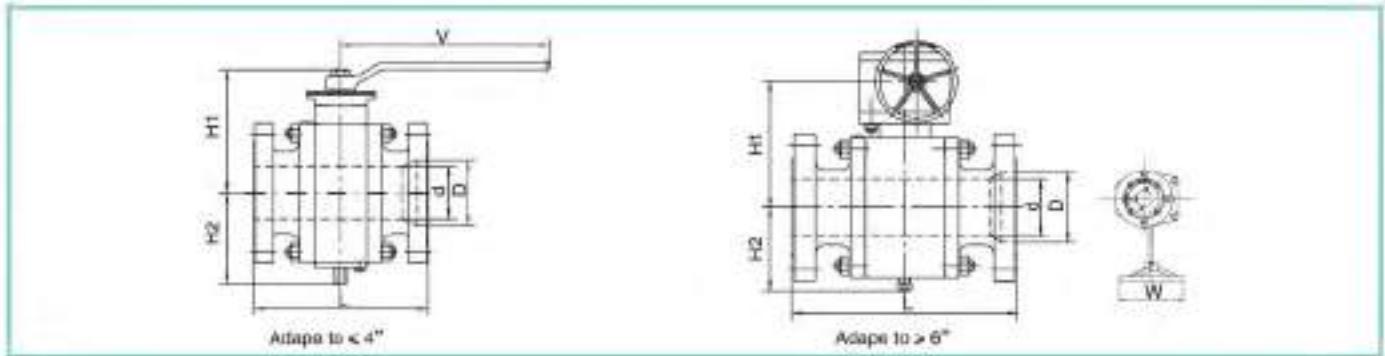
Adapte to &gt;= 6"

## 300LB Full bore -TM

| Size |      | D     |     | L     |      |       |      | H1    |       | H2    |      | W     |      | V     |     | Weight |       |
|------|------|-------|-----|-------|------|-------|------|-------|-------|-------|------|-------|------|-------|-----|--------|-------|
| in   | mm   | in    | mm  | RF    | SW   | RF    | SW   | in    | mm    | in    | mm   | in    | mm   | in    | mm  | lb     | Kg    |
| 2    | 50   | 1.93  | 49  | 8.50  | 216  | 8.50  | 216  | 4.23  | 107.5 | 3.54  | 90   |       |      | 11.22 | 285 | 51     | 23    |
| 3    | 80   | 2.91  | 74  | 11.14 | 283  | 11.14 | 283  | 11.02 | 280   | 4.33  | 110  | 11.81 | 300  |       |     | 77     | 35    |
| 4    | 100  | 3.94  | 100 | 12.01 | 305  | 12.01 | 305  | 12.05 | 306   | 5.51  | 140  | 19.69 | 500  |       |     | 229    | 104   |
| 6    | 150  | 5.91  | 150 | 15.87 | 403  | 15.87 | 403  | 14.41 | 366   | 6.89  | 175  | 19.69 | 500  |       |     | 474    | 215   |
| 8    | 200  | 7.91  | 201 | 19.78 | 502  | 19.51 | 521  | 21.69 | 551   | 7.48  | 190  | 27.56 | 700  |       |     | 853    | 387   |
| 10   | 250  | 9.92  | 252 | 22.38 | 588  | 22.01 | 569  | 24.57 | 624   | 9.84  | 250  | 27.56 | 700  |       |     | 1411   | 640   |
| 12   | 300  | 11.03 | 303 | 25.51 | 648  | 25.00 | 635  | 27.60 | 701   | 12.44 | 316  | 29.92 | 760  |       |     | 1900   | 862   |
| 14   | 350  | 13.15 | 334 | 30.06 | 762  | 30.00 | 762  | 30.94 | 786   | 15.67 | 398  | 29.92 | 760  |       |     | 2976   | 1350  |
| 16   | 400  | 15.30 | 385 | 32.99 | 838  | 32.99 | 838  | 33.46 | 850   | 19.29 | 490  | 29.92 | 760  |       |     | 3439   | 1560  |
| 18   | 450  | 17.17 | 436 | 35.98 | 914  | 35.98 | 914  | 35.83 | 910   | 19.69 | 500  | 31.50 | 800  |       |     | 4643   | 2108  |
| 20   | 500  | 19.17 | 487 | 39.02 | 991  | 39.02 | 991  | 37.01 | 940   | 20.87 | 530  | 31.50 | 800  |       |     | 6173   | 2800  |
| 22   | 550  | 21.18 | 538 | 42.99 | 1092 | 42.99 | 1092 | 39.84 | 1012  | 23.11 | 587  | 31.50 | 800  |       |     | 7500   | 3432  |
| 24   | 600  | 23.19 | 589 | 45.06 | 1143 | 45.00 | 1143 | 42.52 | 1086  | 25.00 | 635  | 31.50 | 800  |       |     | 9209   | 4200  |
| 28   | 700  | 26.93 | 684 | 52.99 | 1346 | 52.99 | 1346 | 49.21 | 1259  | 31.10 | 790  | 31.50 | 800  |       |     | 13688  | 6300  |
| 30   | 750  | 28.94 | 735 | 55.00 | 1397 | 55.00 | 1397 | 51.97 | 1329  | 33.70 | 856  | 35.43 | 900  |       |     | 18827  | 8540  |
| 32   | 800  | 30.87 | 779 | 60.00 | 1524 | 60.00 | 1524 | 55.12 | 1409  | 36.22 | 920  | 35.43 | 900  |       |     | 22343  | 10136 |
| 34   | 850  | 32.68 | 830 | 64.02 | 1626 | 64.02 | 1626 | 58.69 | 1518  | 37.20 | 945  | 39.37 | 1000 |       |     | 28902  | 13250 |
| 36   | 900  | 34.41 | 874 | 67.99 | 1727 | 67.99 | 1727 | 64.06 | 1627  | 38.78 | 985  | 39.37 | 1000 |       |     | 31306  | 14200 |
| 40   | 1000 | 38.43 | 976 | 75.98 | 1930 | 75.98 | 1930 | 67.91 | 1725  | 40.47 | 1028 | 39.37 | 1000 |       |     | 42969  | 19500 |

## 300LB Reduced bore-TM

| Size    |          | D     |     | d     | L   |       |      |       | H1   |       | H2    |       | W   |       | V    |       | Weight |       |       |
|---------|----------|-------|-----|-------|-----|-------|------|-------|------|-------|-------|-------|-----|-------|------|-------|--------|-------|-------|
| in      | mm       | in    | mm  | in    | RF  | SW    | RF   | SW    | in   | mm    | in    | mm    | in  | mm    | in   | mm    | lb     | Kg    |       |
| 2"1-1/2 | 50*40    | 1.93  | 49  | 1.50  | 38  | 8.50  | 216  | 8.50  | 216  | 4.13  | 105   | 2.95  | 75  |       |      | 8.84  | 250    | 42    | 19    |
| 3"2     | 80*60    | 2.91  | 74  | 1.93  | 49  | 11.14 | 283  | 11.14 | 283  | 4.23  | 107.5 | 3.54  | 90  |       |      | 11.22 | 285    | 68    | 31    |
| 4"3     | 100*80   | 3.94  | 100 | 2.91  | 74  | 12.01 | 305  | 12.01 | 305  | 11.02 | 280   | 4.33  | 110 | 11.81 | 300  |       |        | 190   | 86    |
| 6"4     | 150*100  | 5.91  | 150 | 3.94  | 100 | 15.87 | 403  | 15.87 | 403  | 12.05 | 306   | 5.51  | 140 | 19.69 | 500  |       |        | 357   | 162   |
| 8"6     | 200*150  | 7.91  | 201 | 5.91  | 150 | 19.78 | 502  | 19.51 | 521  | 14.41 | 366   | 6.89  | 175 | 19.69 | 500  |       |        | 584   | 265   |
| 10"8    | 250*200  | 9.92  | 252 | 7.91  | 201 | 22.38 | 588  | 22.01 | 569  | 21.69 | 551   | 7.48  | 190 | 27.56 | 700  |       |        | 939   | 426   |
| 12"10   | 300*250  | 11.83 | 303 | 9.92  | 252 | 25.51 | 648  | 25.00 | 635  | 24.57 | 624   | 9.84  | 250 | 27.56 | 700  |       |        | 1499  | 680   |
| 14"12   | 350*300  | 13.15 | 334 | 11.83 | 303 | 30.00 | 762  | 30.00 | 762  | 27.60 | 701   | 12.44 | 316 | 29.92 | 760  |       |        | 2017  | 915   |
| 16"14   | 400*350  | 15.16 | 385 | 13.15 | 334 | 32.99 | 838  | 32.99 | 838  | 30.94 | 786   | 15.67 | 398 | 29.92 | 760  |       |        | 3100  | 1406  |
| 18"16   | 450*400  | 17.17 | 436 | 15.16 | 385 | 35.98 | 914  | 35.98 | 914  | 33.46 | 850   | 19.29 | 490 | 29.92 | 760  |       |        | 3842  | 1752  |
| 20"18   | 500*450  | 19.17 | 487 | 17.17 | 436 | 39.02 | 991  | 39.02 | 991  | 35.83 | 910   | 19.69 | 500 | 31.50 | 800  |       |        | 4859  | 2204  |
| 22"20   | 550*500  | 21.18 | 538 | 19.17 | 487 | 42.99 | 1092 | 42.99 | 1092 | 37.01 | 945   | 20.87 | 530 | 31.50 | 800  |       |        | 6504  | 2950  |
| 24"20   | 600*500  | 23.19 | 589 | 19.17 | 487 | 45.00 | 1143 | 45.00 | 1143 | 39.84 | 1012  | 23.11 | 587 | 31.50 | 800  |       |        | 8029  | 3642  |
| 28"24   | 700*600  | 26.93 | 684 | 23.19 | 589 | 52.99 | 1346 | 52.99 | 1346 | 42.52 | 1080  | 25.00 | 635 | 31.50 | 800  |       |        | 9614  | 4361  |
| 30"28   | 750*700  | 28.94 | 735 | 26.93 | 684 | 55.00 | 1397 | 55.00 | 1397 | 49.21 | 1259  | 31.10 | 790 | 31.50 | 800  |       |        | 14386 | 6512  |
| 32"30   | 800*750  | 30.87 | 779 | 28.94 | 735 | 60.00 | 1524 | 60.00 | 1524 | 51.97 | 1320  | 33.70 | 856 | 35.43 | 900  |       |        | 18894 | 8624  |
| 34"32   | 850*800  | 32.68 | 830 | 30.87 | 779 | 64.02 | 1626 | 64.02 | 1626 | 55.12 | 1400  | 36.22 | 920 | 35.43 | 900  |       |        | 24140 | 10950 |
| 36"32   | 900*800  | 34.41 | 874 | 30.87 | 779 | 67.99 | 1727 | 67.99 | 1727 | 58.69 | 1518  | 37.20 | 945 | 39.37 | 1000 |       |        | 28550 | 12943 |
| 40"36   | 1000*900 | 38.43 | 976 | 34.41 | 874 | 75.98 | 1930 | 75.98 | 1930 | 64.06 | 1627  | 38.78 | 985 | 39.37 | 1000 |       |        | 33216 | 15067 |

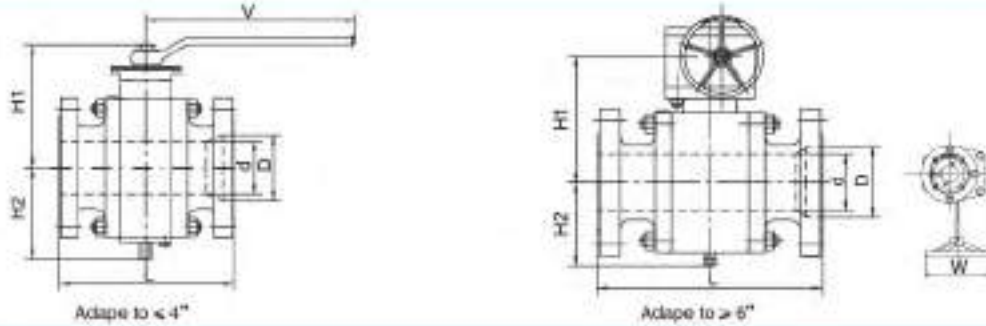


400LB Full bore-TM

| Size |      | D     |     | L     |      |       |      |       |      | H1    |      | H2    |     | W     |      | V  |    | Weight |       |
|------|------|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|------|----|----|--------|-------|
| in   | mm   | in    | mm  | RF    |      | BW    |      | RTJ   |      | in    | mm   | in    | mm  | in    | mm   | in | mm | lb     | Kg    |
| 2    | 50   | 1.83  | 48  | 11.50 | 292  | 11.50 | 292  | 11.61 | 295  | 10.43 | 265  | 6.42  | 163 | 15.75 | 400  |    |    | 106    | 48    |
| 3    | 80   | 2.91  | 74  | 14.02 | 356  | 14.02 | 356  | 14.13 | 359  | 10.83 | 275  | 7.05  | 179 | 15.75 | 400  |    |    | 138    | 60    |
| 4    | 100  | 3.94  | 100 | 15.98 | 406  | 15.98 | 406  | 17.13 | 435  | 12.40 | 315  | 8.62  | 219 | 23.62 | 600  |    |    | 276    | 125   |
| 6    | 150  | 5.91  | 150 | 19.49 | 495  | 19.49 | 495  | 19.61 | 498  | 22.06 | 560  | 8.19  | 208 | 23.62 | 600  |    |    | 816    | 370   |
| 8    | 200  | 7.91  | 201 | 23.50 | 597  | 23.50 | 597  | 23.62 | 600  | 27.17 | 690  | 9.65  | 245 | 23.62 | 600  |    |    | 1489   | 680   |
| 10   | 250  | 9.92  | 252 | 26.50 | 673  | 26.50 | 673  | 26.61 | 676  | 24.92 | 633  | 12.05 | 306 | 23.62 | 600  |    |    | 2271   | 1030  |
| 12   | 300  | 11.93 | 303 | 30.00 | 762  | 30.00 | 762  | 30.12 | 765  | 26.18 | 665  | 13.74 | 349 | 23.62 | 700  |    |    | 2970   | 1350  |
| 14   | 350  | 13.15 | 334 | 32.52 | 826  | 32.52 | 826  | 32.64 | 829  | 24.37 | 619  | 15.75 | 400 | 27.56 | 700  |    |    | 4078   | 1850  |
| 16   | 400  | 15.16 | 385 | 35.51 | 902  | 35.51 | 902  | 35.63 | 905  | 29.06 | 738  | 17.72 | 450 | 29.92 | 760  |    |    | 4740   | 2150  |
| 18   | 450  | 17.17 | 436 | 38.50 | 978  | 38.50 | 978  | 38.62 | 981  | 30.83 | 783  | 19.76 | 502 | 35.43 | 900  |    |    | 6250   | 2835  |
| 20   | 500  | 19.17 | 487 | 41.50 | 1054 | 41.50 | 1054 | 41.73 | 1060 | 33.39 | 848  | 22.28 | 566 | 35.43 | 900  |    |    | 8025   | 3640  |
| 22   | 550  | 21.18 | 538 | 45.00 | 1143 | 45.00 | 1143 | 45.39 | 1153 | 37.56 | 954  | 23.31 | 592 | 39.37 | 1000 |    |    | 11728  | 5320  |
| 24   | 600  | 23.19 | 589 | 48.50 | 1232 | 48.50 | 1232 | 48.86 | 1241 | 40.04 | 1017 | 25.63 | 651 | 39.37 | 1000 |    |    | 15929  | 7180  |
| 28   | 700  | 26.93 | 684 | 55.00 | 1397 | 55.00 | 1397 | 55.51 | 1410 | 41.66 | 1069 | 27.83 | 707 | 39.37 | 1000 |    |    | 21032  | 9540  |
| 30   | 750  | 28.94 | 735 | 60.00 | 1524 | 60.00 | 1524 | 60.51 | 1537 | 44.69 | 1135 | 29.53 | 750 | 39.37 | 1000 |    |    | 23192  | 10520 |
| 32   | 800  | 30.67 | 779 | 65.00 | 1651 | 65.00 | 1651 | 65.63 | 1667 | 48.70 | 1237 | 30.94 | 786 | 43.54 | 1100 |    |    | 24902  | 11250 |
| 34   | 850  | 32.68 | 830 | 70.00 | 1778 | 70.00 | 1778 | 70.63 | 1794 | 51.34 | 1304 | 32.52 | 826 | 43.54 | 1100 |    |    | 26307  | 12040 |
| 36   | 900  | 34.41 | 874 | 74.02 | 1880 | 74.02 | 1880 | 73.82 | 1875 | 56.81 | 1443 | 35.51 | 902 | 43.54 | 1100 |    |    | 32518  | 14790 |
| 40   | 1000 | 38.43 | 976 | 85.43 | 2170 | 85.43 | 2170 | 85.43 | 2170 | 60.43 | 1535 | 38.66 | 987 | 43.54 | 1100 |    |    | 41226  | 18700 |

400LB Reduced bore - TM

| Size    |          | D     |     | d     | L   |       |      |       |      |       | H1   |       | H2   |       | W   |       | V    |    | Weight |       |       |
|---------|----------|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|------|----|--------|-------|-------|
| in      | mm       | in    | mm  | in    | mm  | RF    |      | BW    |      | RTJ   |      | in    | mm   | in    | mm  | in    | mm   | in | mm     | lb    | Kg    |
| 2"1-1/2 | 50*40    | 1.93  | 49  | 1.50  | 38  | 11.50 | 292  | 11.50 | 292  | 11.61 | 295  | 8.11  | 206  | 5.71  | 145 | 15.75 | 400  |    |        | 88    | 40    |
| 3"3     | 80*50    | 2.91  | 74  | 1.93  | 49  | 14.02 | 356  | 14.02 | 356  | 14.13 | 359  | 10.43 | 265  | 6.42  | 163 | 15.75 | 400  |    |        | 166   | 76    |
| 4"3     | 100*80   | 3.94  | 100 | 2.91  | 74  | 15.98 | 406  | 15.98 | 406  | 17.13 | 435  | 10.83 | 275  | 7.05  | 179 | 15.75 | 400  |    |        | 231   | 105   |
| 6"4     | 150*100  | 5.91  | 150 | 3.94  | 100 | 19.49 | 495  | 19.49 | 495  | 19.61 | 498  | 12.40 | 315  | 8.62  | 219 | 23.62 | 600  |    |        | 617   | 280   |
| 8"6     | 200*150  | 7.91  | 201 | 5.91  | 150 | 23.50 | 597  | 23.50 | 597  | 23.62 | 600  | 22.06 | 560  | 8.19  | 208 | 23.62 | 600  |    |        | 1235  | 560   |
| 10"8    | 250*200  | 9.92  | 252 | 7.91  | 201 | 26.50 | 673  | 26.50 | 673  | 26.61 | 676  | 27.17 | 690  | 9.65  | 245 | 23.62 | 600  |    |        | 1693  | 760   |
| 12"10   | 300*250  | 11.93 | 303 | 9.92  | 252 | 30.00 | 762  | 30.00 | 762  | 30.12 | 765  | 24.92 | 633  | 12.05 | 306 | 23.62 | 600  |    |        | 2315  | 1050  |
| 14"12   | 350*300  | 13.15 | 334 | 11.93 | 303 | 32.52 | 826  | 32.52 | 826  | 32.64 | 829  | 26.18 | 665  | 13.74 | 349 | 29.92 | 760  |    |        | 3483  | 1580  |
| 16"14   | 400*350  | 15.16 | 385 | 13.15 | 334 | 35.51 | 902  | 35.51 | 902  | 35.63 | 905  | 24.37 | 619  | 15.75 | 400 | 27.56 | 700  |    |        | 4431  | 2010  |
| 18"16   | 450*400  | 17.17 | 436 | 15.16 | 385 | 38.50 | 978  | 38.50 | 978  | 38.62 | 981  | 29.06 | 738  | 17.72 | 450 | 29.92 | 760  |    |        | 5801  | 2650  |
| 20"18   | 500*450  | 19.17 | 487 | 17.17 | 436 | 41.50 | 1054 | 41.50 | 1054 | 41.73 | 1060 | 30.83 | 783  | 19.76 | 502 | 35.43 | 900  |    |        | 6702  | 3040  |
| 22"20   | 550*500  | 21.18 | 538 | 19.17 | 487 | 45.00 | 1143 | 45.00 | 1143 | 45.39 | 1153 | 33.39 | 848  | 22.28 | 566 | 35.43 | 900  |    |        | 9063  | 4080  |
| 24"20   | 600*500  | 23.19 | 589 | 19.17 | 487 | 48.50 | 1232 | 48.50 | 1232 | 48.86 | 1241 | 37.56 | 954  | 23.31 | 592 | 39.37 | 1000 |    |        | 13989 | 6350  |
| 28"24   | 700*600  | 26.93 | 684 | 23.19 | 589 | 55.00 | 1397 | 55.00 | 1397 | 55.51 | 1410 | 40.04 | 1017 | 25.63 | 651 | 39.37 | 1000 |    |        | 17670 | 8015  |
| 30"28   | 750*700  | 28.94 | 735 | 26.93 | 684 | 60.00 | 1524 | 60.00 | 1524 | 60.51 | 1537 | 41.65 | 1069 | 27.83 | 707 | 39.37 | 1000 |    |        | 22126 | 10050 |
| 32"30   | 800*750  | 30.67 | 779 | 28.94 | 735 | 65.00 | 1651 | 65.00 | 1651 | 65.63 | 1667 | 44.69 | 1135 | 29.53 | 750 | 39.37 | 1000 |    |        | 22222 | 10083 |
| 34"32   | 850*800  | 32.68 | 830 | 30.67 | 779 | 70.00 | 1778 | 70.00 | 1778 | 70.63 | 1794 | 48.70 | 1237 | 30.94 | 786 | 43.54 | 1100 |    |        | 24295 | 11020 |
| 36"32   | 900*800  | 34.41 | 874 | 30.67 | 779 | 74.02 | 1880 | 74.02 | 1880 | 73.82 | 1875 | 51.34 | 1304 | 32.52 | 826 | 43.54 | 1100 |    |        | 27337 | 12400 |
| 40"36   | 1000*900 | 38.43 | 976 | 34.41 | 874 | 85.43 | 2170 | 85.43 | 2170 | 85.43 | 2170 | 56.81 | 1443 | 35.51 | 902 | 43.54 | 1100 |    |        | 36486 | 16550 |



Adapte to &lt; 4"

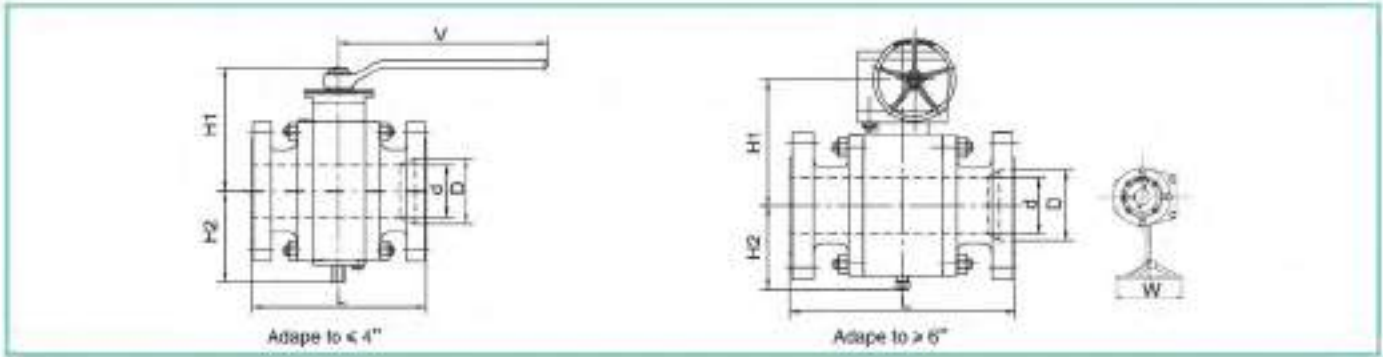
Adapte to &gt; 6"

## 600LB Full bore-TM

| Size |      | D     |     | L     |      |       |      |       |      | H1    |      | H2    |     | W     |      | V  |    | Weight |       |
|------|------|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|------|----|----|--------|-------|
|      |      |       |     | RF    |      | BW    |      | RTJ   |      |       |      |       |     |       |      |    |    |        |       |
| in   | mm   | in    | mm  | in    | mm   | in    | mm   | in    | mm   | in    | mm   | in    | mm  | in    | mm   | in | mm | lb     | kg    |
| 2    | 50   | 1.93  | 49  | 11.50 | 292  | 11.50 | 292  | 11.61 | 295  | 10.43 | 265  | 6.42  | 163 | 15.75 | 400  |    |    | 106    | 48    |
| 3    | 80   | 2.91  | 74  | 14.02 | 356  | 14.02 | 356  | 14.13 | 359  | 10.83 | 275  | 7.05  | 179 | 15.75 | 400  |    |    | 198    | 90    |
| 4    | 100  | 3.94  | 100 | 17.01 | 432  | 17.01 | 432  | 17.13 | 435  | 12.40 | 315  | 8.62  | 219 | 23.62 | 600  |    |    | 331    | 150   |
| 6    | 150  | 5.91  | 150 | 22.01 | 559  | 22.01 | 559  | 22.13 | 562  | 22.05 | 560  | 8.19  | 208 | 23.62 | 600  |    |    | 979    | 440   |
| 8    | 200  | 7.91  | 201 | 25.98 | 660  | 25.98 | 660  | 26.14 | 664  | 27.17 | 690  | 9.65  | 245 | 23.62 | 600  |    |    | 1786   | 810   |
| 10   | 250  | 9.92  | 252 | 30.98 | 787  | 30.98 | 787  | 31.14 | 791  | 24.92 | 633  | 12.05 | 306 | 23.62 | 600  |    |    | 2723   | 1235  |
| 12   | 300  | 11.93 | 303 | 32.99 | 838  | 32.99 | 838  | 33.11 | 841  | 25.15 | 665  | 13.74 | 349 | 29.92 | 780  |    |    | 3571   | 1620  |
| 14   | 350  | 13.15 | 334 | 35.00 | 889  | 35.00 | 889  | 35.12 | 892  | 24.37 | 619  | 15.75 | 400 | 29.92 | 780  |    |    | 4486   | 2035  |
| 16   | 400  | 15.16 | 385 | 39.02 | 991  | 39.02 | 991  | 39.17 | 995  | 29.06 | 738  | 17.72 | 450 | 29.92 | 780  |    |    | 5688   | 2580  |
| 18   | 450  | 17.17 | 436 | 42.99 | 1092 | 42.99 | 1092 | 43.11 | 1095 | 30.83 | 783  | 19.70 | 502 | 35.43 | 900  |    |    | 7486   | 3400  |
| 20   | 500  | 19.17 | 487 | 47.01 | 1194 | 47.01 | 1194 | 47.24 | 1200 | 33.30 | 848  | 22.28 | 566 | 35.43 | 900  |    |    | 9612   | 4380  |
| 22   | 550  | 21.18 | 538 | 50.98 | 1295 | 50.98 | 1295 | 51.38 | 1305 | 37.56 | 954  | 23.31 | 592 | 39.37 | 1000 |    |    | 14095  | 6380  |
| 24   | 600  | 23.19 | 589 | 55.00 | 1397 | 55.00 | 1397 | 55.39 | 1407 | 40.04 | 1017 | 25.63 | 651 | 39.37 | 1000 |    |    | 18959  | 8600  |
| 28   | 700  | 26.93 | 684 | 60.98 | 1549 | 60.98 | 1549 | 61.50 | 1562 | 41.65 | 1058 | 27.83 | 707 | 39.37 | 1000 |    |    | 25000  | 11340 |
| 30   | 750  | 28.94 | 735 | 65.00 | 1651 | 65.00 | 1651 | 65.51 | 1664 | 44.69 | 1135 | 29.53 | 750 | 39.37 | 1000 |    |    | 27822  | 12620 |
| 32   | 800  | 30.67 | 779 | 70.00 | 1778 | 70.00 | 1778 | 70.63 | 1794 | 48.70 | 1237 | 30.94 | 786 | 43.54 | 1106 |    |    | 29762  | 13500 |
| 34   | 850  | 32.68 | 830 | 75.98 | 1930 | 75.98 | 1930 | 76.61 | 1946 | 51.34 | 1304 | 32.62 | 826 | 43.54 | 1106 |    |    | 33951  | 15400 |
| 36   | 900  | 34.41 | 874 | 82.01 | 2083 | 82.01 | 2083 | 82.56 | 2097 | 56.81 | 1443 | 35.51 | 902 | 43.54 | 1106 |    |    | 39021  | 17700 |
| 40   | 1000 | 38.43 | 976 | 85.43 | 2179 | 85.43 | 2179 | 85.43 | 2170 | 60.43 | 1535 | 38.86 | 987 | 43.54 | 1106 |    |    | 49383  | 22400 |

## 600LB Reduced bore -TM

| Size     |          | D     |     | d     |     | L     |      |       |      |       |      | H1    |      | H2    |     | W     |      | V  |    | Weight |       |
|----------|----------|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|------|----|----|--------|-------|
|          |          |       |     |       |     | RF    |      | BW    |      | RTJ   |      |       |      |       |     |       |      |    |    |        |       |
| in       | mm       | in    | mm  | in    | mm  | in    | mm   | in    | mm   | in    | mm   | in    | mm   | in    | mm  | in    | mm   | in | mm | lb     | kg    |
| 2 1/2-12 | 50*40    | 1.93  | 49  | 1.50  | 38  | 11.50 | 292  | 11.50 | 292  | 11.61 | 295  | 8.11  | 206  | 5.71  | 145 | 11.81 | 300  |    |    | 88     | 40    |
| 3*2      | 80*50    | 2.91  | 74  | 1.93  | 49  | 14.02 | 356  | 14.02 | 356  | 14.13 | 359  | 10.43 | 265  | 6.42  | 163 | 15.75 | 400  |    |    | 198    | 90    |
| 4*3      | 100*80   | 3.94  | 100 | 2.91  | 74  | 17.01 | 432  | 17.01 | 432  | 17.13 | 435  | 10.83 | 275  | 7.05  | 179 | 15.75 | 400  |    |    | 231    | 105   |
| 6*4      | 150*100  | 5.91  | 150 | 3.94  | 100 | 22.01 | 559  | 22.01 | 559  | 22.13 | 562  | 12.40 | 315  | 8.62  | 219 | 23.62 | 600  |    |    | 781    | 336   |
| 8*6      | 200*150  | 7.91  | 201 | 5.91  | 150 | 25.98 | 660  | 25.98 | 660  | 26.14 | 664  | 22.05 | 560  | 8.19  | 208 | 23.62 | 600  |    |    | 1477   | 670   |
| 10*8     | 250*200  | 9.92  | 252 | 7.91  | 201 | 30.98 | 787  | 30.98 | 787  | 31.14 | 791  | 27.17 | 690  | 9.65  | 245 | 23.62 | 600  |    |    | 1984   | 900   |
| 12*10    | 300*250  | 11.93 | 303 | 9.92  | 252 | 32.99 | 838  | 32.99 | 838  | 33.11 | 841  | 24.92 | 633  | 12.05 | 306 | 23.62 | 600  |    |    | 2778   | 1260  |
| 14*12    | 350*300  | 13.15 | 334 | 11.93 | 303 | 35.00 | 889  | 35.00 | 889  | 35.12 | 892  | 25.15 | 665  | 13.74 | 349 | 29.92 | 780  |    |    | 4167   | 1890  |
| 16*14    | 400*350  | 15.16 | 385 | 13.15 | 334 | 39.02 | 991  | 39.02 | 991  | 39.17 | 995  | 24.37 | 619  | 15.75 | 400 | 29.92 | 780  |    |    | 5313   | 2410  |
| 18*16    | 450*400  | 17.17 | 436 | 15.16 | 385 | 42.99 | 1092 | 42.99 | 1092 | 43.11 | 1095 | 29.06 | 738  | 17.72 | 450 | 29.92 | 780  |    |    | 6481   | 2940  |
| 20*18    | 500*450  | 19.17 | 487 | 17.17 | 436 | 47.01 | 1194 | 47.01 | 1194 | 47.24 | 1200 | 30.83 | 783  | 19.70 | 502 | 35.43 | 900  |    |    | 8025   | 3640  |
| 22*20    | 550*500  | 21.18 | 538 | 19.17 | 487 | 50.98 | 1295 | 50.98 | 1295 | 51.38 | 1305 | 33.30 | 848  | 22.28 | 566 | 35.43 | 900  |    |    | 12059  | 5470  |
| 24*20    | 600*500  | 23.19 | 589 | 19.17 | 487 | 55.00 | 1397 | 55.00 | 1397 | 55.39 | 1407 | 37.56 | 954  | 23.31 | 592 | 39.37 | 1000 |    |    | 16799  | 7620  |
| 28*24    | 700*600  | 26.93 | 684 | 23.19 | 589 | 60.98 | 1549 | 60.98 | 1549 | 61.50 | 1562 | 40.04 | 1017 | 25.63 | 651 | 39.37 | 1000 |    |    | 21164  | 9600  |
| 30*28    | 750*700  | 28.94 | 735 | 25.93 | 664 | 65.00 | 1651 | 65.00 | 1651 | 65.51 | 1664 | 41.65 | 1058 | 27.83 | 707 | 39.37 | 1000 |    |    | 25287  | 11500 |
| 32*30    | 800*750  | 30.67 | 779 | 28.94 | 735 | 70.00 | 1778 | 70.00 | 1778 | 70.63 | 1794 | 44.69 | 1135 | 29.53 | 750 | 39.37 | 1000 |    |    | 28553  | 12990 |
| 34*32    | 850*800  | 32.68 | 830 | 30.67 | 779 | 75.98 | 1930 | 75.98 | 1930 | 76.61 | 1946 | 48.70 | 1237 | 30.94 | 786 | 43.54 | 1106 |    |    | 29745  | 13220 |
| 36*32    | 900*800  | 34.41 | 874 | 30.67 | 779 | 82.01 | 2083 | 82.01 | 2083 | 82.56 | 2097 | 51.34 | 1304 | 32.62 | 826 | 43.54 | 1106 |    |    | 32904  | 14880 |
| 40*36    | 1000*900 | 38.43 | 976 | 34.41 | 874 | 85.43 | 2179 | 85.43 | 2179 | 85.43 | 2170 | 56.81 | 1443 | 35.51 | 902 | 43.54 | 1106 |    |    | 40873  | 18560 |



### 900LB Full bore-TM

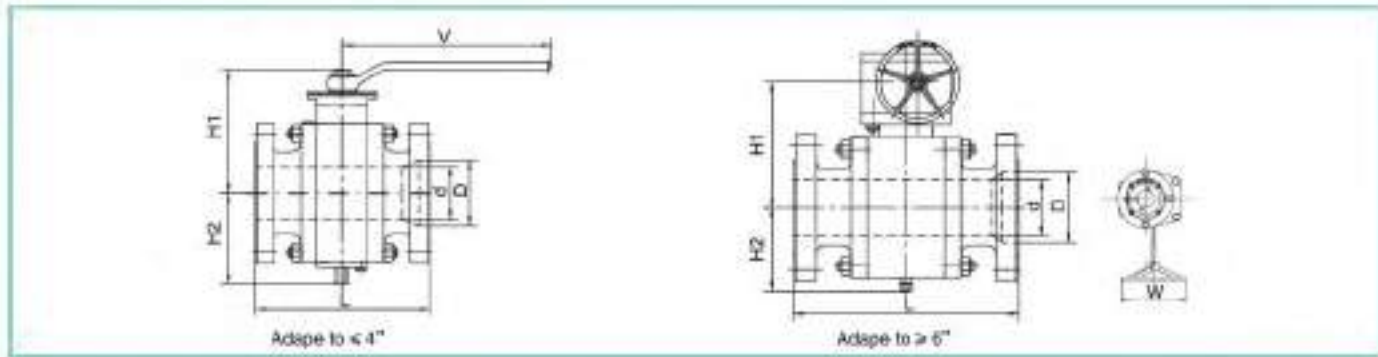
| Size |     | D     |     | L     |      |       |      |       |      | H1    |      | H2    |     | W     |      | V  |    | Weight |      |
|------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|------|----|----|--------|------|
| in   | mm  | in    | mm  | RF    |      | BW    |      | RTJ   |      | in    | mm   | in    | mm  | in    | mm   | in | mm | lb     | Kg   |
| 2    | 50  | 1.93  | 49  | 14.49 | 368  | 14.49 | 368  | 14.61 | 371  | 12.20 | 310  | 4.63  | 116 | 19.69 | 500  |    |    | 220    | 100  |
| 3    | 80  | 2.91  | 74  | 15.00 | 381  | 15.00 | 381  | 15.12 | 384  | 11.10 | 282  | 4.69  | 119 | 15.75 | 400  |    |    | 331    | 150  |
| 4    | 100 | 3.94  | 100 | 17.99 | 457  | 17.99 | 457  | 18.11 | 460  | 15.75 | 400  | 7.87  | 200 | 23.62 | 600  |    |    | 495    | 220  |
| 6    | 150 | 5.91  | 150 | 24.02 | 610  | 24.02 | 610  | 24.13 | 613  | 18.98 | 482  | 8.78  | 223 | 29.92 | 760  |    |    | 1188   | 530  |
| 8    | 200 | 7.91  | 201 | 29.02 | 737  | 29.02 | 737  | 29.13 | 740  | 19.76 | 502  | 12.87 | 327 | 29.92 | 760  |    |    | 1351   | 613  |
| 10   | 250 | 9.92  | 252 | 32.99 | 838  | 32.99 | 838  | 33.11 | 841  | 20.83 | 529  | 14.69 | 373 | 31.50 | 800  |    |    | 2394   | 1086 |
| 12   | 300 | 11.93 | 303 | 37.99 | 965  | 37.99 | 965  | 38.11 | 968  | 26.01 | 655  | 13.15 | 334 | 35.43 | 900  |    |    | 3095   | 1390 |
| 14   | 350 | 12.68 | 322 | 40.51 | 1029 | 40.51 | 1029 | 40.87 | 1038 | 37.99 | 965  | 13.78 | 350 | 39.37 | 1000 |    |    | 3834   | 1710 |
| 16   | 400 | 14.69 | 373 | 44.49 | 1130 | 44.49 | 1130 | 44.88 | 1140 | 44.09 | 1120 | 18.90 | 480 | 39.37 | 1000 |    |    | 11376  | 5160 |
| 18   | 450 | 16.65 | 423 | 47.99 | 1219 | 47.99 | 1219 | 48.50 | 1232 | 46.54 | 1182 | 20.71 | 526 | 43.54 | 1100 |    |    | 16182  | 7340 |
| 20   | 500 | 18.54 | 471 | 52.01 | 1321 | 52.01 | 1321 | 52.52 | 1334 | 48.45 | 1236 | 22.80 | 579 | 43.54 | 1100 |    |    | 19992  | 9020 |

### 900LB Reduced bore -TM

| Size    |         | D     |     | d     | L   |       |      |       |      |       | H1   |       | H2   |       | W   |       | V    |    | Weight |       |      |
|---------|---------|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|------|----|--------|-------|------|
| in      | mm      | in    | mm  | in    | mm  | RF    |      | BW    |      | RTJ   |      | in    | mm   | in    | mm  | in    | mm   | in | mm     | lb    | Kg   |
| 2"1-1/2 | 50*40   | 1.93  | 49  | 1.50  | 38  | 14.49 | 368  | 14.49 | 368  | 14.61 | 371  | 8.54  | 217  | 4.69  | 119 | 15.75 | 400  |    |        | 157   | 71   |
| 3"      | 80*50   | 2.91  | 74  | 1.93  | 49  | 15.00 | 381  | 15.00 | 381  | 15.12 | 384  | 12.20 | 310  | 4.63  | 116 | 19.69 | 500  |    |        | 220   | 100  |
| 4"      | 100*80  | 3.94  | 100 | 2.91  | 74  | 17.99 | 457  | 17.99 | 457  | 18.11 | 460  | 11.10 | 282  | 4.69  | 119 | 15.75 | 400  |    |        | 331   | 150  |
| 6"      | 150*100 | 5.91  | 150 | 3.94  | 100 | 24.02 | 610  | 24.02 | 610  | 24.13 | 613  | 15.75 | 400  | 7.87  | 200 | 23.62 | 600  |    |        | 495   | 220  |
| 8"      | 200*150 | 7.91  | 201 | 5.91  | 150 | 29.02 | 737  | 29.02 | 737  | 29.13 | 740  | 18.98 | 482  | 8.78  | 223 | 29.92 | 760  |    |        | 1188  | 530  |
| 10"     | 250*200 | 9.92  | 252 | 7.91  | 201 | 32.99 | 838  | 32.99 | 838  | 33.11 | 841  | 19.76 | 502  | 12.87 | 327 | 29.92 | 760  |    |        | 1351  | 613  |
| 12"     | 300*250 | 11.93 | 303 | 9.92  | 252 | 37.99 | 965  | 37.99 | 965  | 38.11 | 968  | 20.83 | 529  | 14.69 | 373 | 31.50 | 800  |    |        | 2394  | 1086 |
| 14"     | 350*300 | 12.68 | 322 | 11.93 | 303 | 40.51 | 1029 | 40.51 | 1029 | 40.87 | 1038 | 36.81 | 935  | 13.15 | 334 | 35.43 | 900  |    |        | 3095  | 1390 |
| 16"     | 400*350 | 14.69 | 373 | 12.68 | 322 | 44.49 | 1130 | 44.49 | 1130 | 44.88 | 1140 | 37.99 | 965  | 13.78 | 350 | 39.37 | 1000 |    |        | 3834  | 1710 |
| 18"     | 450*400 | 16.65 | 423 | 14.69 | 373 | 47.99 | 1219 | 47.99 | 1219 | 48.50 | 1232 | 44.09 | 1120 | 18.90 | 480 | 39.37 | 1000 |    |        | 11376 | 5160 |
| 20"     | 500*450 | 18.54 | 471 | 16.65 | 423 | 52.01 | 1321 | 52.01 | 1321 | 52.52 | 1334 | 46.54 | 1182 | 20.71 | 526 | 43.54 | 1100 |    |        | 16182 | 7340 |

### 1500LB Full bore-TM

| Size |     | D     |     | L     |      |       |      |       |      | H1    |      | H2    |     | W     |      | V  |    | Weight |      |
|------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|-----|-------|------|----|----|--------|------|
| in   | mm  | in    | mm  | RF    |      | BW    |      | RTJ   |      | in    | mm   | in    | mm  | in    | mm   | in | mm | lb     | Kg   |
| 2    | 50  | 1.93  | 49  | 14.49 | 368  | 14.49 | 368  | 14.61 | 371  | 12.20 | 310  | 4.92  | 125 | 19.69 | 500  |    |    | 271    | 123  |
| 3    | 80  | 2.91  | 74  | 18.50 | 470  | 18.50 | 470  | 18.82 | 473  | 14.17 | 360  | 6.89  | 170 | 23.62 | 600  |    |    | 516    | 234  |
| 4    | 100 | 3.94  | 100 | 21.50 | 546  | 21.50 | 546  | 21.81 | 549  | 16.93 | 430  | 7.09  | 180 | 23.62 | 600  |    |    | 902    | 409  |
| 6    | 150 | 5.67  | 144 | 27.76 | 705  | 27.76 | 705  | 27.99 | 711  | 21.46 | 545  | 12.28 | 312 | 29.92 | 760  |    |    | 1994   | 900  |
| 8    | 200 | 7.56  | 192 | 32.76 | 832  | 32.76 | 832  | 33.11 | 841  | 27.17 | 690  | 15.75 | 400 | 29.92 | 760  |    |    | 2873   | 1303 |
| 10   | 250 | 9.41  | 239 | 38.02 | 961  | 38.02 | 961  | 39.37 | 1000 | 29.13 | 740  | 19.13 | 486 | 29.92 | 760  |    |    | 5538   | 2512 |
| 12   | 300 | 11.30 | 287 | 44.49 | 1130 | 44.49 | 1130 | 45.12 | 1146 | 31.10 | 790  | 21.70 | 536 | 29.92 | 760  |    |    | 7275   | 3300 |
| 14   | 350 | 12.40 | 315 | 49.49 | 1267 | 49.49 | 1267 | 50.34 | 1276 | 33.69 | 853  | 23.37 | 591 | 35.43 | 900  |    |    | 9498   | 3840 |
| 16   | 400 | 14.17 | 360 | 54.49 | 1384 | 54.49 | 1384 | 55.39 | 1407 | 35.91 | 912  | 24.41 | 620 | 35.43 | 900  |    |    | 16524  | 4320 |
| 18   | 450 | 15.98 | 406 | 60.51 | 1537 | 60.51 | 1537 | 61.38 | 1559 | 37.40 | 950  | 25.97 | 665 | 39.37 | 1000 |    |    | 26820  | 6860 |
| 20   | 500 | 17.87 | 454 | 65.51 | 1664 | 65.51 | 1664 | 66.38 | 1686 | 39.68 | 1000 | 27.56 | 700 | 39.37 | 1000 |    |    | 42125  | 6800 |



## 1500LB Reduced bore -TM

| Size     | D       |       | L   |       |     |       |      |       | H1   |       | H2   |       | W   |       | V   |       | Weight |       |      |
|----------|---------|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|-----|-------|-----|-------|--------|-------|------|
|          | in      | mm    | in  | mm    | in  | mm    | in   | mm    | in   | mm    | in   | mm    | in  | mm    | in  | mm    | lb     | Kg    |      |
| 2" 1-1/2 | 50*40   | 1.93  | 49  | 1.50  | 38  | 14.48 | 368  | 14.49 | 368  | 14.61 | 371  | 12.20 | 310 | 4.92  | 125 | 19.69 | 900    | 245   | 111  |
| 3"       | 80*50   | 2.91  | 74  | 1.93  | 49  | 18.50 | 470  | 18.50 | 470  | 18.62 | 473  | 14.17 | 360 | 6.69  | 170 | 23.62 | 900    | 485   | 220  |
| 4"       | 100*80  | 3.94  | 100 | 2.91  | 74  | 21.50 | 546  | 21.50 | 546  | 21.61 | 549  | 16.93 | 430 | 7.09  | 180 | 23.62 | 900    | 714   | 324  |
| 6"       | 150*100 | 5.67  | 144 | 3.94  | 100 | 27.76 | 705  | 27.76 | 705  | 27.90 | 711  | 21.46 | 545 | 12.28 | 312 | 29.92 | 760    | 1914  | 823  |
| 8"       | 200*150 | 7.56  | 192 | 5.67  | 144 | 32.76 | 832  | 32.76 | 832  | 33.11 | 841  | 27.17 | 680 | 15.75 | 400 | 29.92 | 760    | 2973  | 1303 |
| 10"      | 250*200 | 9.41  | 239 | 7.56  | 192 | 39.02 | 991  | 39.02 | 991  | 39.37 | 1000 | 29.13 | 740 | 13.13 | 486 | 29.92 | 760    | 4930  | 2100 |
| 12" 10   | 300*250 | 11.30 | 287 | 9.41  | 239 | 44.49 | 1130 | 44.49 | 1130 | 45.12 | 1146 | 31.10 | 790 | 21.10 | 536 | 29.92 | 760    | 6426  | 2915 |
| 14" 12   | 350*300 | 12.40 | 315 | 11.30 | 287 | 49.48 | 1257 | 49.48 | 1257 | 50.24 | 1276 | 33.56 | 853 | 23.27 | 591 | 35.43 | 900    | 7551  | 3425 |
| 16" 14   | 400*350 | 14.17 | 360 | 12.43 | 315 | 54.48 | 1384 | 54.49 | 1384 | 55.39 | 1407 | 35.91 | 912 | 24.41 | 620 | 35.43 | 900    | 8673  | 4025 |
| 18" 16   | 450*400 | 15.98 | 406 | 14.17 | 360 | 60.51 | 1537 | 60.51 | 1537 | 61.38 | 1559 | 37.40 | 950 | 25.97 | 646 | 39.37 | 1000   | 10194 | 4624 |
| 20" 18   | 500*450 | 17.87 | 454 | 15.98 | 406 | 65.51 | 1694 | 65.51 | 1694 | 66.38 | 1686 | 38.56 | 960 | 27.56 | 700 | 39.37 | 1000   | 11023 | 5000 |

## 2500LB Full bore-TM

| Size | D   |       | L   |       |      |       |      |       | H1   |       | H2    |       | W   |       | V    |    | Weight |       |      |
|------|-----|-------|-----|-------|------|-------|------|-------|------|-------|-------|-------|-----|-------|------|----|--------|-------|------|
|      | in  | mm    | in  | mm    | in   | mm    | in   | mm    | in   | mm    | in    | mm    | in  | mm    | in   | mm | in     | mm    | lb   |
| 2    | 80  | 1.65  | 42  | 17.76 | 451  | 17.76 | 451  | 17.87 | 454  | 13.88 | 352.5 | 6.30  | 160 | 19.69 | 500  |    |        | 503   | 228  |
| 3    | 80  | 2.44  | 62  | 22.76 | 578  | 22.76 | 578  | 22.99 | 584  | 14.65 | 372   | 7.09  | 180 | 23.62 | 600  |    |        | 636   | 379  |
| 4    | 100 | 3.43  | 87  | 26.50 | 673  | 26.50 | 673  | 26.89 | 683  | 19.45 | 494   | 8.27  | 210 | 23.62 | 600  |    |        | 1248  | 566  |
| 6    | 150 | 5.16  | 131 | 35.98 | 914  | 35.98 | 914  | 36.00 | 927  | 26.69 | 678   | 14.96 | 390 | 29.92 | 760  |    |        | 2403  | 1090 |
| 8    | 200 | 7.05  | 179 | 40.24 | 1022 | 40.24 | 1022 | 40.87 | 1038 | 35.04 | 890   | 19.29 | 490 | 29.92 | 760  |    |        | 8195  | 3710 |
| 10   | 280 | 8.78  | 223 | 50.00 | 1270 | 50.00 | 1270 | 50.87 | 1292 | 37.64 | 956   | 19.76 | 502 | 35.43 | 900  |    |        | 9524  | 4320 |
| 12   | 300 | 10.43 | 265 | 55.98 | 1422 | 55.98 | 1422 | 56.89 | 1445 | 40.28 | 1023  | 22.06 | 560 | 39.37 | 1000 |    |        | 11486 | 5210 |

## 2500LB Reduced bore -TM

| Size     | D       |       | L   |      |     |       |      |       | H1   |       | H2   |       | W     |       | V   |       | Weight |    |    |      |      |
|----------|---------|-------|-----|------|-----|-------|------|-------|------|-------|------|-------|-------|-------|-----|-------|--------|----|----|------|------|
|          | in      | mm    | in  | mm   | in  | mm    | in   | mm    | in   | mm    | in   | mm    | in    | mm    | in  | mm    | in     | mm | lb | Kg   |      |
| 2" 1-1/2 | 50*40   | 1.65  | 42  | 1.50 | 38  | 17.76 | 451  | 17.76 | 451  | 17.87 | 454  | 13.88 | 352.5 | 6.30  | 160 | 19.69 | 500    |    |    | 452  | 205  |
| 3"       | 80*50   | 2.44  | 62  | 1.65 | 42  | 22.76 | 578  | 22.76 | 578  | 22.99 | 584  | 14.65 | 372   | 7.09  | 180 | 23.62 | 600    |    |    | 683  | 310  |
| 4"       | 100*80  | 3.43  | 87  | 2.44 | 62  | 26.50 | 673  | 26.50 | 673  | 26.89 | 683  | 19.45 | 494   | 8.27  | 210 | 23.62 | 600    |    |    | 948  | 430  |
| 6"       | 150*100 | 5.16  | 131 | 3.43 | 87  | 35.98 | 914  | 35.98 | 914  | 36.50 | 927  | 26.89 | 678   | 14.96 | 390 | 29.92 | 760    |    |    | 1918 | 870  |
| 8"       | 200*150 | 7.05  | 179 | 5.16 | 131 | 40.24 | 1022 | 40.24 | 1022 | 40.87 | 1038 | 35.04 | 890   | 19.29 | 490 | 29.92 | 760    |    |    | 5071 | 2300 |
| 10"      | 250*200 | 8.78  | 223 | 7.05 | 179 | 50.00 | 1270 | 50.00 | 1270 | 50.87 | 1292 | 37.64 | 956   | 19.76 | 502 | 35.43 | 900    |    |    | 8325 | 3840 |
| 12" 10   | 300*250 | 10.43 | 265 | 8.78 | 223 | 55.98 | 1422 | 55.98 | 1422 | 56.89 | 1445 | 40.28 | 1023  | 22.06 | 560 | 39.37 | 1000   |    |    | 9921 | 4500 |

## Typical application

1. Coal chemical industry: coal-to-liquids, coal-to-methanol, coal gasification.
2. High sour gas field with abrasive solids.
3. Shipbuilding, offshore.
4. Oxygen service.
5. Photovoltaic industry: polysilicon
6. Other working condition in high temperature or with abrasive solids.

## Design and production features

Sealing structure of the seat

Bi-directional sealing of the valve. The seat is able to block the media from both sides of the valve, thus eliminating the limit of installing direction.

Preloading of belleville spring or cylinder spring to ensure sealing in low pressure.

Dust proof structure of the spring.

Live loading packing

The Belleville spring is added on gland flange to minimize need of packing retightening.

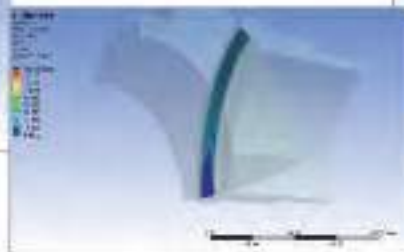
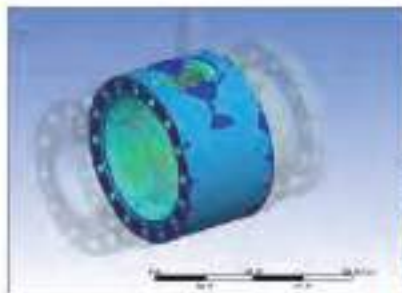
Choosing of sealing material

For all the gaskets and packing in relate to the sealing parts, the purity of the graphite is strictly controlled to lower the ignition lost rate and ensure the sealing performance in high temperature.

## Design and analysis software

All the designs are verified in accordance with 3D Finite Element Analysis.

Neway has rich application experience in design software such as CAD, Solidworks, NX, Ansys, Fesafe, Cfdesign.



Integrated analysis of stress

Specific stress result of sealing face

Specific stress result of stem

Strength analysis of body and closure

| Valve Types |   | ASME Class |           |          | End Connections |                         |       | Operator                            |
|-------------|---|------------|-----------|----------|-----------------|-------------------------|-------|-------------------------------------|
| Symbol      | Valve Type                                  | Code       | Class(LB) | Pressure | Symbol          | End                     | Lever |                                     |
| BM          | 2-pcs Casting floating type                 | 1          | 150       | 2.0Mpa   | R               | Raised face flanged end | G     | Gear operator                       |
| BBM         | 2-pcs forging floating type                 | 3          | 300       | 5.0Mpa   | J               | RTJ flanged end         | M     | Electric actuator                   |
| BSM         | 3-pcs forging trunnion mounted type         | 4          | 400       | 8.0Mpa   | B               | Butt-weld end           | P     | Pneumatic actuator                  |
|             |   | 6          | 600       | 10.0Mpa  | S               | Socket weld end         | BS    | Bare shaft                          |
| BSK         | 2-pcs forging trunnion mounted type(O-ring) | 8          | 800       | 14.0Mpa  | N               | Screwed end             | H     | Hydraulic actuator                  |
|             |   | 9          | 900       | 15.0Mpa  | SN              | Socket weld/Screwed end | L     | Gas over oil actuator               |
|             |   | 15         | 1500      | 25.0Mpa  |                 |                         | C     | Gear operator(Operator forces<350N) |
|             |   | 25         | 2500      | 42.0Mpa  |                 |                         |       |                                     |



**BM/BBM**

| in    | 150LB |        | 300LB |        | 600LB |        | 900LB |        | 900LB |        | 1500LB |        | 2500LB |        |
|-------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|--------|--------|
|       | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m    | FT/Lbs | N.m    | FT/Lbs |
| 1/4   | 4.5   | 3      | 8     | 4      | 8.9   | 7      | 10.8  | 8      | 12    | 9      | 17.5   | 13     | 35.8   | 26     |
| 1/2   | 10    | 7      | 14    | 10     | 26    | 19     | 31    | 23     | 33    | 24     | 48     | 35     | 92     | 68     |
| 3/4   | 16    | 12     | 29    | 21     | 52    | 38     | 80    | 59     | 88    | 65     | 140    | 103    | 295    | 218    |
| 1     | 31    | 23     | 59    | 44     | 146   | 108    | 190   | 140    | 210   | 155    | 350    | 258    | 718    | 529    |
| 1-1/2 | 76    | 56     | 146   | 108    | 296   | 218    | 385   | 284    | 430   | 317    | 550    | 406    |        |        |
| 2     | 145   | 107    | 273   | 201    | 550   | 406    | 750   | 553    | 830   | 612    |        |        |        |        |
| 2-1/2 | 280   | 206    | 530   | 391    | 950   | 701    |       |        |       |        |        |        |        |        |
| 3     | 370   | 273    | 690   | 501    | 1320  | 973    |       |        |       |        |        |        |        |        |
| 4     | 720   | 531    | 1420  | 1047   | 3400  | 2507   |       |        |       |        |        |        |        |        |

**BSM**

| in    | 150LB |        | 300LB |        | 600LB |        | 900LB  |        | 1500LB |        | 2500LB |        |
|-------|-------|--------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
|       | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m    | FT/Lbs | N.m    | FT/Lbs | N.m    | FT/Lbs |
| 1-1/2 | 120   | 88     | 200   | 147    | 320   | 236    | 560    | 413    | 1360   | 1003   | 2400   | 1770   |
| 2     | 140   | 103    | 265   | 195    | 490   | 361    | 810    | 597    | 1450   | 1069   | 2800   | 2065   |
| 2-1/2 | 205   | 151    | 390   | 288    | 702   | 518    | 1200   | 885    | 2100   | 1549   | 4300   | 3171   |
| 3     | 290   | 214    | 530   | 391    | 960   | 723    | 1600   | 1180   | 2900   | 2065   | 5640   | 4159   |
| 4     | 450   | 332    | 1080  | 796    | 2113  | 1558   | 3100   | 2286   | 5600   | 4130   | 10000  | 7375   |
| 5     | 913   | 673    | 1830  | 1350   | 3383  | 2495   | 5800   | 4277   | 9800   | 7227   | 18600  | 13717  |
| 6     | 1450  | 1069   | 2950  | 2176   | 5510  | 4063   | 8700   | 6416   | 15800  | 11652  | 32000  | 23596  |
| 8     | 2890  | 2124   | 6000  | 4425   | 11320 | 8348   | 18000  | 13274  | 30000  | 22124  | 50000  | 36873  |
| 10    | 4500  | 3319   | 9300  | 6858   | 19000 | 14012  | 31600  | 23304  | 42300  | 31195  | 57000  | 42035  |
| 12    | 8400  | 6195   | 14600 | 10767  | 31700 | 23376  | 54200  | 39971  |        |        |        |        |
| 14    | 9300  | 6858   | 18300 | 13496  | 37000 | 27286  | 61100  | 45069  |        |        |        |        |
| 16    | 14000 | 10324  | 31000 | 22861  | 65000 | 47936  | 116000 | 85546  |        |        |        |        |
| 18    | 17800 | 13127  | 36000 | 26549  | 73500 | 54204  | 128000 | 94395  |        |        |        |        |
| 20    | 19550 | 14417  | 39000 | 28761  | 77000 | 56785  | 139500 | 102875 |        |        |        |        |
| 22    | 23560 | 17375  | 46200 | 34071  | 85200 | 63569  |        |        |        |        |        |        |
| 24    | 26250 | 19358  | 51704 | 38130  | 93400 | 68879  |        |        |        |        |        |        |

**BSK**

| in    | 150LB |        | 300LB |        | 600LB |        | 900LB |        | 1500LB |        | 2500LB |        |
|-------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|--------|--------|
|       | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m   | FT/Lbs | N.m    | FT/Lbs | N.m    | FT/Lbs |
| 1-1/2 | 81    | 60     | 134   | 99     | 215   | 159    | 375   | 277    | 912    | 637    | 1600   | 1180   |
| 2     | 94    | 69     | 178   | 131    | 329   | 243    | 543   | 400    | 972    | 717    | 1870   | 1383   |
| 2-1/2 | 138   | 102    | 262   | 193    | 471   | 347    | 804   | 593    | 1407   | 1038   | 2881   | 2125   |
| 3     | 186   | 144    | 356   | 263    | 657   | 485    | 1072  | 791    | 1876   | 1383   | 3779   | 2787   |
| 4     | 302   | 223    | 724   | 534    | 1416  | 1044   | 2077  | 1532   | 3752   | 2767   | 6790   | 4941   |
| 5     | 612   | 451    | 1227  | 905    | 2267  | 1672   | 3866  | 2866   | 6566   | 4842   | 12462  | 9160   |
| 6     | 972   | 717    | 1977  | 1458   | 3692  | 2723   | 5829  | 4289   | 10586  | 7807   | 21440  | 15811  |
| 8     | 1930  | 1423   | 4020  | 2965   | 7585  | 5594   | 12060 | 8894   | 20100  | 14820  | 33500  | 24706  |
| 10    | 3015  | 2223   | 6231  | 4596   | 12730 | 9388   | 21172 | 15614  | 29340  | 20900  | 38190  | 28164  |
| 12    | 5628  | 4150   | 9782  | 7214   | 21239 | 15663  | 36314 | 26780  |        |        |        |        |
| 14    | 6321  | 4662   | 12251 | 9042   | 24790 | 18282  | 40937 | 30190  |        |        |        |        |
| 16    | 9380  | 6917   | 20770 | 15317  | 43550 | 32117  | 77720 | 57316  |        |        |        |        |
| 18    | 11926 | 8795   | 24120 | 17788  | 49245 | 36316  | 85760 | 63240  |        |        |        |        |
| 20    | 13099 | 9660   | 26130 | 19270  | 51590 | 38046  | 93465 | 68927  |        |        |        |        |
| 22    | 15785 | 11641  | 30954 | 22827  | 57754 | 42591  |       |        |        |        |        |        |
| 24    | 17587 | 12970  | 34642 | 25547  | 62578 | 46149  |       |        |        |        |        |        |

NOTE: 1. Torque is calculated based on 100°C.

2. Torque may be changed according to different fluid and trim material.

3. Torque shown in this table is to be used as a guide for actuator selection. A safety factor of 1.3-1.5 is recommended for actuator sizing.

## Neway Factory

### NEWAY Head Office

Covers area: 2,295sqm  
Office area: 6,885sqm

**Founded in 2014**



### Neway Manufacturing Base

Main Products: Ball, Valve, Gate Valve, Globe Valve,  
Check Valve, Forged Steel Valve,  
Butterfly Valve

Covers area: 230,000sqm  
Work shop: 140,061sqm

**Expanded in 2013**



### NEWAY Foundry (Suzhou)

Main products: Sand Casting  
Covers area: 112,500sqm  
Workshop: 134,000sqm

**Founded in 2008**



### NEWAY Foundry (Dafeng)

Main Products: Lost wax investment casting  
Covers area: 46,000sqm  
Workshop: 12,000sqm

**Founded in 2004**



### NEWAY Foundry (Dafeng)

Main Products: Lost wax investment casting  
Covers area: 40,000sqm  
Workshop: 20,000sqm

**Founded in 2008**



## *Product Warranty*

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Seller will replace without charge or refund the purchase price of products provided by Seller which prove to be defective in material or workmanship, provided in each case that the product is properly installed and is used in the service for which Seller recommends it and that written claim, specifying the alleged defect, is presented to the Seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with repair or replacement. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states Buyer's exclusive remedy and seller's exclusive liability.



Cat.no.:E-PS



Cat.no.:E-FBV



Cat.no.:E-TMBV



Cat.no.:E-PLV



Cat.no.:E-TOV



Cat.no.:E-DOV



Cat.no.:E-GGC



Cat.no.:E-AV



Cat.no.:E-HPCV



Cat.no.:E-FSV



Cat.no.:E-CSB



Cat.no.:E-CSC



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