

Your **Best** Valve Partner



**BRITVAL** LTD



Since its launch, Britval valves has catered to various industries, manufacturing valves for general application to critical application areas. Owing to an endless backing from our contractors , our products have secured the confidence of the leading EPC contractors and project suppliers, thus gaining a highly promising reputation globally.



Our specialised engineering team are always eager to learn the requirements of projects and support them with apt solutions meeting all the stringent requirements.

As a manufacturer of valves, we have the technology and machine tools to enable us to develop products that can be used in different industrial plants such as: chemical, petrochemical, petroleum-refineries, offshore-platforms, power plants, remote heating, steelworks, cryogenic plants, sugar factories and paper mills.

We are proud to introduce Britval valves for your challenging flow control requirements.

# MISSION, VISION & VALUES

## OUR VALUES

Work with integrity, transparency and fairness

MISSION

VALUES

VISION

## OUR VISION

To grow profitably across the globe by excelling in operations through continuous innovations and improvements & to become the premier source of industrial valves world wide.

## QUALITY MANAGEMENT

BRITVAL valves has established a quality system in accordance with the ISO 9001:2015 standard. We have chosen and appointed the best accrediting body, because of their expertise and set standards of auditing and process checking. The main value of our quality management system is that it helps us to improve our performance, reduce cost and give direct benefit to our customers accordingly.

## OUR MISSION

Our Mission is to achieve uncompromising excellence in the products that we manufacture and the level of responsiveness we maintain, to meet the needs and expectations of our customers, vendors and employees.

**Quality**  
is not an act  
It is a  
**Habit**

# VARIOUS INDUSTRIES

BRITVAL Valves is a pioneer in flow control solutions for various industries. BRITVAL valves have been installed across the globe in onshore and offshore facilities, pipelines, LNG and GTL projects, Refineries, Petrochemical complexes, pipelines, tankages and terminals, power industry and water and waste water industry. BRITVAL Valves offers a range of products that go beyond industry and standard requirements.

Valves are offered for severe services in harsh environments , Erosion and corrosion resistant valves in high alloys and with specialized coatings.

|  |                                  |
|--|----------------------------------|
|    | <p><b>Oil &amp; Gas</b></p>      |
| <p><b>Refining, Petrochemicals &amp; Chemicals</b></p>  |                                  |
|    | <p><b>Power &amp; Energy</b></p> |
| <p><b>Water &amp; Waste Water</b></p>                  |                                  |
|    | <p><b>Other Industries</b></p>   |

# OUR PRODUCTS



## Product Portfolio

| Valve                         | Type      | End Connection           | 1/4 | 3/8 | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2  | 2 1/2 | 3  | 4   | 6   | 8   |
|-------------------------------|-----------|--------------------------|-----|-----|-----|-----|----|-------|-------|----|-------|----|-----|-----|-----|
|                               |           |                          | 8   | 10  | 15  | 20  | 25 | 32    | 40    | 50 | 65    | 80 | 100 | 150 | 200 |
| Single-piece,<br>Regular Bore | Fire-safe | Flanged CI 150/ 300      |     |     | •   | •   | •  |       | •     | •  | •     | •  | •   | •   |     |
| Two-piece,<br>Full Bore       | Fire-safe | Flanged CI 150/ 300      |     |     |     | •   | •  | •     |       | •  | •     | •  | •   | •   | •   |
| Three-piece,<br>Full Bore     | Standard  | Screwed/ Socket-weld*    | •   | •   | •   | •   | •  | •     | •     | •  | •     | •  | •   | •   |     |
|                               |           | Flanged CI 150/ 300/ 600 |     |     | •   | •   | •  |       | •     | •  |       |    |     |     |     |
|                               |           | Flanged CI 2500          |     |     | •   | •   | •  |       | •     |    |       |    |     |     |     |
|                               | Fire-safe | Screwed/ Socket-weld*    | •   | •   | •   | •   | •  | •     | •     | •  | •     |    |     |     |     |
| Three-piece,<br>Regular Bore  | Standard  | Screwed/ Socket-weld**   | •   | •   | •   | •   | •  | •     | •     | •  | •     | •  | •   | •   |     |
|                               |           | Flanged CI 150/ 300/ 600 |     |     |     | •   | •  |       | •     | •  |       |    |     |     |     |
|                               |           | Flanged CI 1500          |     |     | •   | •   | •  |       | •     | •  |       |    |     |     |     |
|                               | Fire-safe | Screwed/ Socket-weld*    |     |     |     | •   | •  | •     | •     | •  | •     |    |     |     |     |
|                               | IBR       | Screwed/ Socket-weld     |     |     |     | •   | •  | •     | •     | •  | •     |    |     |     |     |

\*Screwed/ socket-weld valves in sizes DN 8 to DN 50 are offered in Class 800, and sizes DN 65 and above, in Class 300.

\*\*Sizes DN 15 to DN 50 are offered in Class 1500 also.

# BALL VALVES

BRITVAL Ball Valves are available in single-piece, two-piece and three-piece constructions. In these valves, line pressure forces the floating ball against the downstream seat to effect bubble-tight sealing.

### Blowout Proof Stem

The side-entry stem of BRITVAL Ball Valves has a shoulder that bears against a matching shoulder in the body to make it blowout proof - the higher the line pressure, the better the sealing to atmosphere.

### High Integrity Stem Sealing

Sealing to atmosphere is further enhanced by stem thrust seals and stem packing rings. To compensate for wear and thermal expansions, Belleville springs are used.



### Mirror-finished Solid Stainless Steel Balls

To obtain bubble-tight sealing and lower operating torques, mirror-finished SS balls are used as a standard. The solid construction of the balls guarantees higher structural strength.

### Seats with Pressure-relieving Slots

Seats with fine grain structure are used to ensure better strength and longer life. Pressure-relieving slots are a unique feature of BRITVAL Ball Valves. The slots relieve upstream pressure when the valve is in closed position and prevent seat damage.

### Actuator Mounting Flange

BRITVAL single-piece and two-piece Ball Valves are provided with an integral actuator mounting flange conforming to ISO 5211.

## Material of Construction

| No. | Part                          | Material specification  |           |  |
|-----|-------------------------------|---|-----------|--|
|     |                               | Single-piece  | Two-piece | Three-piece                                      |
| 1   | Body/<br>Connector/<br>Insert | ASTM A216 Gr. WCB   |           | ASTM A216 Gr. WCB<br>ASTM A105                   |
|     |                               | ASTM A351 Gr. CF8M/ ASTM A182 Gr. F316                              |           |  |
| 2   | Ball                          | ASTM A351 Gr. CF8M/ ASTM A182 Gr. F316/ ASTM A182 Gr. F304          |           |  |
| 3   | Seat                          | PTFE/ RPTFE/ Special filled PTFE/ PEEK/ Devlon®/ NXT-70/ SS316 + ST |           |  |
| 4   | Stem                          | ASTM A479 Type 316  |           |  |
| 5   | Body Seal                     | Graphite  |           | PTFE/ RPTFE/<br>Special filled PTFE/<br>Graphite |
| 6   | Stem Thrust Seal              | Carbon-filled PTFE  |           |  |
| 7   | Stem Packing                  | Carbon-filled PTFE/ Graphite  |           |  |

# OUR PRODUCTS

## TRUNNION BALL VALVES



### Range

| Valve Type | ASME Class | 2  | 3  | 4   | 6   | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 28  | 30  | 36  | 42   | 48   | 56   |
|------------|------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
|            |            | 50 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 700 | 750 | 900 | 1050 | 1200 | 1400 |
| 2-piece    | 150        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 300        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 600        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 900        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 1500       | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 2500       | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
| 3-piece    | 150        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 300        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 600        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 900        | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 1500       | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |
|            | 2500       | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    |

### Materials of Construction

| No. | Components    | Materials   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----|---------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|     |               | WCB/ WCC  |  |  |  |  |  |  |  |  |  | LCB/ LCC                                     |  |  |  |  |  |  |  |  |
| 1   | Body          | A105N/ A216 Gr. WCB/ WCC  |  |  |  |  |  |  |  |  |  | A350 Gr. LF2/<br>A352 Gr. LCB/ LCC           |  |  |  |  |  |  |  |  |
| 2   | Connector     | A105N/ A216 Gr. WCB/ WCC  |  |  |  |  |  |  |  |  |  | A350 Gr. LF2/<br>A352 Gr. LCB/ LCC           |  |  |  |  |  |  |  |  |
| 3   | Ball          | A182 Gr. F6a/ A105N + ENP Coated/<br>A182 Gr. F316/ F316L                   |  |  |  |  |  |  |  |  |  | A182 Gr. F316/ F316L/<br>A351 Gr. CF8M/ CF3M |  |  |  |  |  |  |  |  |
| 4   | Seat          | PTFE/ RPTFE/ Nylon impregnated with MoS <sub>2</sub> / PEEK/ Devlon®/ PCTFE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5   | Seat Ring     | A182 Gr. F6a/ A182 Gr. F316/ F316L  |  |  |  |  |  |  |  |  |  | A182 Gr. F316/ F316L                         |  |  |  |  |  |  |  |  |
| 6   | Coil Spring   | Inconel X750  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7   | Bearing       | SS-backed PTFE  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8   | Seals         | FKM (Viton®)/ HNBR/ Nitrile Rubber/ FFKM (Kalrez®) / Lipseals/ Graphite     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9   | Stem          | A479 Type 410/ A479 Type 316/ 316L  |  |  |  |  |  |  |  |  |  | A479 Type 316/ 316L                          |  |  |  |  |  |  |  |  |
| 10  | Packing       | Graphite  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11  | Body Seal     | Graphite/ Spirally-wound SS304/ 316 with Graphite Filler                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12  | Stud          | A193 Gr. B7/ B7M  |  |  |  |  |  |  |  |  |  | A320 Gr. L7/ L7M                             |  |  |  |  |  |  |  |  |
| 13  | Hexagonal Nut | A194 Gr. 2H/ 2HM/ 7   |  |  |  |  |  |  |  |  |  | A194 Gr. 7/ 7M                               |  |  |  |  |  |  |  |  |
| 14  | Gear Unit     | Worm Gear   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

#### Double Block and Bleed

BRITVAL Valves offers Trunnion-mounted Ball Valves (TMBV) that conform to API 6D. The valve, in closed position, blocks flow from both valve ends when the cavity between the seating surfaces is vented through a bleed connection provided on the body cavity.

Inbuilt Double Block & Bleed feature enables on-line affirmation of seat sealing. The seat rings float in the flow-axis against a fixed ball and line pressure forces the spring-loaded seats against the ball to effect sealing.

#### Fire Safe

BRITVAL Trunnion-mounted Ball Valves are fire-safe by design and meet the requirements of API 6FA, API 607 and ISO 10497.

#### Blowout-proof Stem

The stem of BRITVAL Trunnion-mounted Ball Valves has an integral shoulder that butts against a matching profile in the body to make it blowout-proof. This feature also enables online replacement of packing rings during an emergency.

#### Anti-static

Build-up of static electricity due to friction between ball and soft seat material is a fire hazard. A spring-loaded plunger is provided on the stem to ensure electrical continuity and to dissipate any static electricity generated.

#### Cavity Relief

To prevent damage to valve seats and ball due to over-pressurisation inside cavity, all BRITVAL Trunnion-mounted Ball Valves are provided with automatic cavity pressure relief mechanism. When pressure of entrapped fluid exceeds 1.33 times the rated pressure, the spring-loaded seat gets pushed away from the ball to relieve pressure.

#### Internal Trunnion Holder

BRITVAL Trunnion-mounted Ball Valves are equipped with internal trunnion holders (bearing blocks). This design eliminates a leakage path as well as prevents accidental damage during handling.

# OUR PRODUCTS

## GATE GLOBE CHECK



|  | Valve type                      | End Conn.                   | ASME Class | 2   | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 28 | 30 | 34 | 36 | 42 | 48 | 54 | 56 | 60 | 64 |  |
|--|---------------------------------|-----------------------------|------------|-----|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
|  |                                 |                             |            | 150 |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Gate Valves<br>Bolted Bonnet    | Flanged<br>Buttweld<br>ends | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 2500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Globe Valves<br>Bolted Bonnet   | Flanged<br>Buttweld<br>ends | 150        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Check Valves<br>Bolted Cover    | Flanged<br>Buttweld<br>ends | 150        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Gate Valves<br>Pr. Seal Bonnet  | Flanged<br>Buttweld<br>ends | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 2500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Globe Valves<br>Pr. Seal Bonnet | Flanged<br>Buttweld<br>ends | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 2500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Check Valves<br>Pr. Seal Bonnet | Flanged<br>Buttweld<br>ends | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 2500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Cryogenic<br>Gate Valves        |                             | 150        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 2500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Cryogenic<br>Globe Valves       |                             | 150        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 2500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Angle<br>Globe Valves           |                             | 150        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | Soft-seated<br>Gate Valves      |                             | 150        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  | API 6D<br>Gate Valves           |                             | 150        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 300        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 600        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 900        |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|  |                                 |                             | 1500       |     |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

### Common Test / Inspection methods

| Test / Inspection                      | Method                             | Acceptance Criteria                |
|--|------------------------------------|------------------------------------|
| Visual Inspection                      |                                    | MSS SP55                           |
| Chemical Analysis                      | ASTM E350                          | Relevant ASTM                      |
| Mechanical Properties                  | ASTM A370                          | Relevant ASTM                      |
| Radiographic Inspection                | ASME B16.34                        | ASME B16.34                        |
| Magnetic Particle Inspection           | ASTM E709                          | ASME B16.34                        |
| Liquid Penetrant Inspection            | ASTM E165                          | ASME B16.34                        |
| Ultrasonic Inspection                  | ASTM A388                          | ASME B16.34                        |
| Positive Material Identification (PMI) | Vacuum emission spectrometer       | Customer specification             |
| Pressure Testing*                      | API 600/API 598/<br>BS 6755 Part I | API 600/API 598/<br>BS 6755 Part I |
| Dimensional Inspection                 |                                    | Valve Standard                     |

\* Performed on all valves.

The pressure containing parts of all valves are marked with the foundry identification and heat numbers.

### Body / Bonnet Materials

| Material Classification       | ASTM Specification    |
|-------------------------------|-----------------------|
| Carbon Steel                  | ASTM A216 Gr. WCB     |
| 1 1/4 Cr - 1/2 Mo             | ASTM A217 Gr. WC6     |
| 2 1/4 Cr - 1 Mo               | ASTM A217 Gr. WC9     |
| 5 Cr - 1/2 Mo                 | ASTM A217 Gr. C5      |
| 9 Cr - 1 Mo                   | ASTM A217 Gr. C12     |
| 9 Cr - 1 Mo - 1/4 V           | ASTM A217 Gr. C12A    |
| Low-temperature Steel         | ASTM A352 Gr. LCB/LCC |
| Austenitic Stainless Steel    |                       |
| 18-8 (Type 304)               | ASTM A351 Gr. CF8     |
| Austenitic Stainless Steel    |                       |
| 16Cr - 12Ni - 2 Mo (Type 316) | ASTM A351 Gr. CF8M    |

Other materials such as ASTM A351 Gr. CF3, ASTM A351 Gr. CF3M and Duplex SS are also offered.

# OUR PRODUCTS

# FORGED GATE GLOBE CHECK



| ASME B16.34/<br>MSS SP 84 | BS 6364           | BS 5352 | API 602 | BS 5352 | ASME<br>Class                       |  | 1/4"                 | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |   |
|---------------------------|-------------------|---------|---------|---------|-------------------------------------|--|----------------------|------|------|------|----|--------|--------|----|---|
| DESIGN STANDARD           | API 602 / BS 5352 | BS 5352 | API 602 | BS 5352 | ASME<br>Class                       |  | 1/4"                 | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |   |
|                           |                   |         |         |         |                                     |  |                      |      |      |      |    |        |        |    |   |
|                           |                   |         |         |         | Gate Valves                         |  | screwed/<br>sock.wld | 800  | RB   | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  |   |
|                           |                   |         |         |         |                                     |  | sock.wld             | 1500 | SP   | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 150                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         | Globe & Check<br>Valves             |  | flanged              | 300  | RB   |      | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 600                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | screwed/<br>sock.wld | 800  | RB   | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         | Bellows-Sealed<br>Gate Valves       |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 150                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 300                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         | Bellows-Sealed<br>Globe Valves      |  | screwed/<br>sock.wld | 800  | RB   |      | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 800                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | screwed/<br>sock.wld | 800  | RB   |      | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         | Cryogenic<br>Gate & Globe<br>Valves |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 150                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 300                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         | Y-pattern<br>Globe Valves           |  | 800                  | RB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | FB                   |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 1500                 | FB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 2500                 | FB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  | 1500                 | FB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         | Y-pattern<br>Check Valves           |  | 2500                 | FB   |      | ●    | ●  | ●      | ●      | ●  | ● |
|                           |                   |         |         |         |                                     |  |                      |      | ●    | ●    | ●  | ●      | ●      | ●  | ● |

RB - Reduced Bore - bore conforms to BS 5352 Reduced Bore and API 602 Standard Port

FB - Full Bore - bore conforms to BS 5352 Standard Bore

SP - Standard Port - bore conforms to API 602 Standard Port

## Body and Trim Combinations

| Body & Bonnet/Cover | Trim numbers |
|---------------------|--------------|
| ASTM A105           | 01 / 08 / 05 |
| ASTM A182 Gr. F5    | 08 / 05      |
| ASTM A182 Gr. F9    | 08 / 05      |
| ASTM A182 Gr. F11   | 08 / 05      |
| ASTM A182 Gr. F22   | 08 / 05      |
| ASTM A182 Gr. F304  | 02 / 15      |
| ASTM A182 Gr. F316  | 10 / 12 / 16 |
| ASTM A350 Gr. LF2   | 08 / 16      |



Other materials of construction such as F316L/ F304L also available.

# OUR PRODUCTS

## KNIFE GATE VALVES



### Salient Features

- Sharp heavy-duty knife edge at the bottom of gate cuts through solid sediments and ensures reliable shut-off
- Gate offered with surface coatings based on customer demand - Hardfacing, Nitriding, Chrome-plating
- Replaceable seats - Easy maintenance at site. Longer service life
- Low operating torque - Facilitates use of a smaller size actuators. Lower initial investment.

### Accessories

- Deflection Cone
- V-Orifice
- Stem Extension
- Stem Protection
- Retainer Ring
- Protection Guard

Sizes 2" to 54", Class 150 and PN 10

BRITVAL Valves offers Knife Gate Valves with metallic and resilient seats for bidirectional and unidirectional applications. The versatile range is available in wafer, lugged and flanged configurations.

The Knife Gate Valve provides reliable shut-off for both dry and wet line fluids. The bonnet-less valve is equipped with a heavy-duty gate to cut through sediments – and is ideally suited for abrasive slurries, pulp stock, semi-solids, dry ash, chips, etc. The valves find application in paper and pulp, minerals and metals, steel plants, thermal power plants and chemical/petrochemical industries.

### Compliance Standards

- Valve Design: MSS SP 81
- Wall Thickness: ANSI B16.34
- Face-to-Face: MSS SP 81
- Flange Dimensions: ANSI B16.5
- Testing Standard: MSS SP 151

### Range

| Type            | Pressure Rating* | Size** | Seats       | End connections        |
|-----------------|------------------|--------|-------------|------------------------|
| Uni-Directional | PN10             | 2"-54" | Metal, Soft | Lugged/ Wafer/ Flanged |
|                 | #150             |        |             |                        |
| Bi-Directional  | PN10             | 2"-54" | Soft        | Lugged                 |
|                 | #150             |        |             |                        |

\* Also offered: Valves in 75 psi to 150 psi

\*\* Higher sizes on demand

### Actuators

- Pneumatic: Double/ Single Acting
- Electro-Pneumatic
- Hydraulic
- Electrical

# OUR PRODUCTS

## TRIPLE-OFFSET BUTTERFLY VALVES



### Triple-offset Butterfly Valves

BRITVAL Valves offers a comprehensive range of Triple-offset Butterfly Valves in a variety of body styles and materials to address critical process requirements in diverse industries such as hydrocarbon, power, chemicals & fertiliser, water, etc.

The product range covers valves in ASME classes up to 1500, in sizes up to 100" (2500 mm), in carbon steel, stainless steel and alloy steels, suitable for temperatures from -196°C to 538°C. Based on customer requirements, valves in higher pressure classes, larger sizes and other materials are also offered.

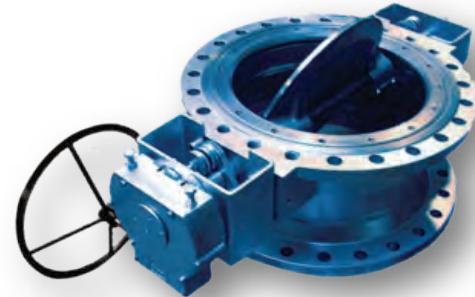
The metal-seated valves conform to API 609 Category B and offer high integrity bi-directional sealing.

### Flanged - Short and Long Patterns

| ASME Class | 3  | 4   | 6   | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 24  | 26  | 28  | 30  | 32  | 34  | 36  | 38  | 40   | 42   | 48   | 54   | 64   | 72   | 84   | 100  |
|------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
|            | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1200 | 1350 | 1600 | 1800 | 2100 | 2500 |
| 150        | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    | •    | •    | •    | •    | •    |
| 300        | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    | •    | •    | •    | •    | •    |
| 600        | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    | •    | •    | •    | •    | •    |
| 900        | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    | •    | •    | •    | •    | •    |
| 1500       | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •    | •    | •    | •    | •    | •    | •    | •    |

### Wafer and Wafer-Lugged

| ASME Class | 3  | 4   | 6   | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 24  |
|------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|            | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
| 150        | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
| 300        | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
| 600        | •  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |



### Materials of Construction

| No. | Components        | Materials  |                                      |                               |   |  |
|-----|-------------------|--|--------------------------------------|-------------------------------|---|--|
|     |                   | WCB/ WCC   | LCB/ LCC                             | WC6/ WC9                      | C5  |  |
| 1   | Body              | A 216 Gr. WCB/ WCC   | A 352 Gr. LCB/ LCC                   | A 217 Gr. WC6/ WC9            | A 217 Gr. C5                                |  |
| 2   | Disc              | A 216 Gr. WCB/ WCC   | A 352 Gr. LCB/ LCC                   | A 217 Gr. WC6/ WC9            | A 217 Gr. C5                                |  |
| 3   | Laminar Seal      | UNS S31803 + Graphite/<br>UNS S20910 + Graphite                              |                                      |                               | SS 410 + Graphite/<br>UNS S20910 + Graphite |  |
| 4   | Retainer          | A 516 Gr. 70   | SS 316                               | SS 410                        | SS 410/ SS 316                              |  |
| 5   | Shaft             | A 479 Type SS 410/<br>A 564 Type 630   | A 479 Type S20910/<br>A 564 Type 630 | A 479 Type SS 410             | A 479 Type SS 410/<br>A 479 Type S20910     |  |
| 6   | Packing           | Graphite - 5 Braided rings / Graphite - 3 moulded and 2 braided rings / PTFE |                                      |                               |   |  |
| 7   | Key               | SS 410/ 17-4-PH  | UNS S20910 /<br>17-4-PH              | SS 410                        | SS 410/ UNS S20910                          |  |
| 8   | Dowel Pin         | SS 410/ 17-4-PH  | UNS S20910 /<br>17-4-PH              | SS 410                        | SS 410/ UNS S20910                          |  |
| 9   | Bearing           | SS 316/ UNS S20910 Nitrided  |                                      |                               |   |  |
| 10  | Thrust Plate      | SS 316/ UNS S20910 Nitrided  |                                      |                               |   |  |
| 11  | Bottom Cover      | A 516 Gr. 70   | SS 316 / A 516 Gr. 70                | SS 410                        | SS 410/ SS 316                              |  |
| 12  | Bearing Protector | Graphite   |                                      |                               |   |  |
| 13  | Gasket - Disc     | SS 316 / 316L with Graphite  |                                      |                               |   |  |
| 14  | Gasket - Cover    | SS 316 / 316L with Graphite  |                                      |                               |   |  |
| 15  | Gear Unit         | Worm type (self-locking)   |                                      |                               |   |  |
| 16  | Bolting           | A 193 Gr. B7/<br>A 194 Gr. 2H  | A 320 Gr. L7/<br>A 194 Gr. 7         | A 193 Gr. B16/<br>A 194 Gr. 7 | A 193 Gr. B16/<br>A 194 Gr. 7               |  |
|     |                   | Body seat hard-faced with Stellite 21 or 6                                   |                                      |                               |   |  |

# OUR PRODUCTS

## CONTROL VALVES



BRITVAL control valve used to control fluid flow by varying the size of the flow passage as directed by a signal from a controller. This enables the direct control of flow rate and the consequential control of process quantities such as pressure, temperature, and liquid level. The opening or closing of automatic control valves is usually done by electrical, hydraulic or pneumatic actuators.



### Globe Valve (Size : 1/2" to 36")

|                         |  |                       |  |
|-------------------------|--|-----------------------|--|
| <b>Body Type:</b>       | 2 Way/ 3 Way/ Angle/ Jacketed  | <b>Guiding:</b>       | 2 - top heavy duty stem guides                         |
| <b>Body Materials:</b>  | All Cast Materials. Forged available up to 4" in any class and higher sizes specifically for #2500 and higher. | <b>Gland Packing:</b> | PTFE, Braided PTFE, Grafoil, Fugitive Emission, Vacuum |
| <b>End Connections:</b> | Flanged (Integral & Separable), Screwed, Butt-weld and Socket-weld   | <b>Gaskets:</b>       | PTFE, Spiral Grafoil, Glass filled SS                  |
| <b>Bonnet:</b>          | Standard, Extended, Cryogenic & Bellow Sealed  | <b>Actuator:</b>      | Spring Cylinder Linear, Fully Field Reversible         |



### Butterfly Valve (Size : 2" to 72")

|                         |   |                       |  |
|-------------------------|---|-----------------------|--|
| <b>Body Type:</b>       | One Piece Straight Through/ Jacketed      | <b>Gland Packing:</b> | PTFE, Braided PTFE, Grafoil, Vacuum            |
| <b>Body Materials:</b>  | All Cast Materials                        | <b>Gaskets:</b>       | PTFE, Spiral Grafoil, Glass filled SS          |
| <b>End Connections:</b> | Wafer, Semi-Lugged, Full Lugged & Flanged | <b>Seat Ring:</b>     | Clamped-in self aligned                        |
| <b>Bonnet:</b>          | Standard, Extended & Cryogenic            | <b>Actuator:</b>      | Spring Cylinder Rotary, Fully Field Reversible |

### Full Bore Ball Valve (Size : 1" to 24")

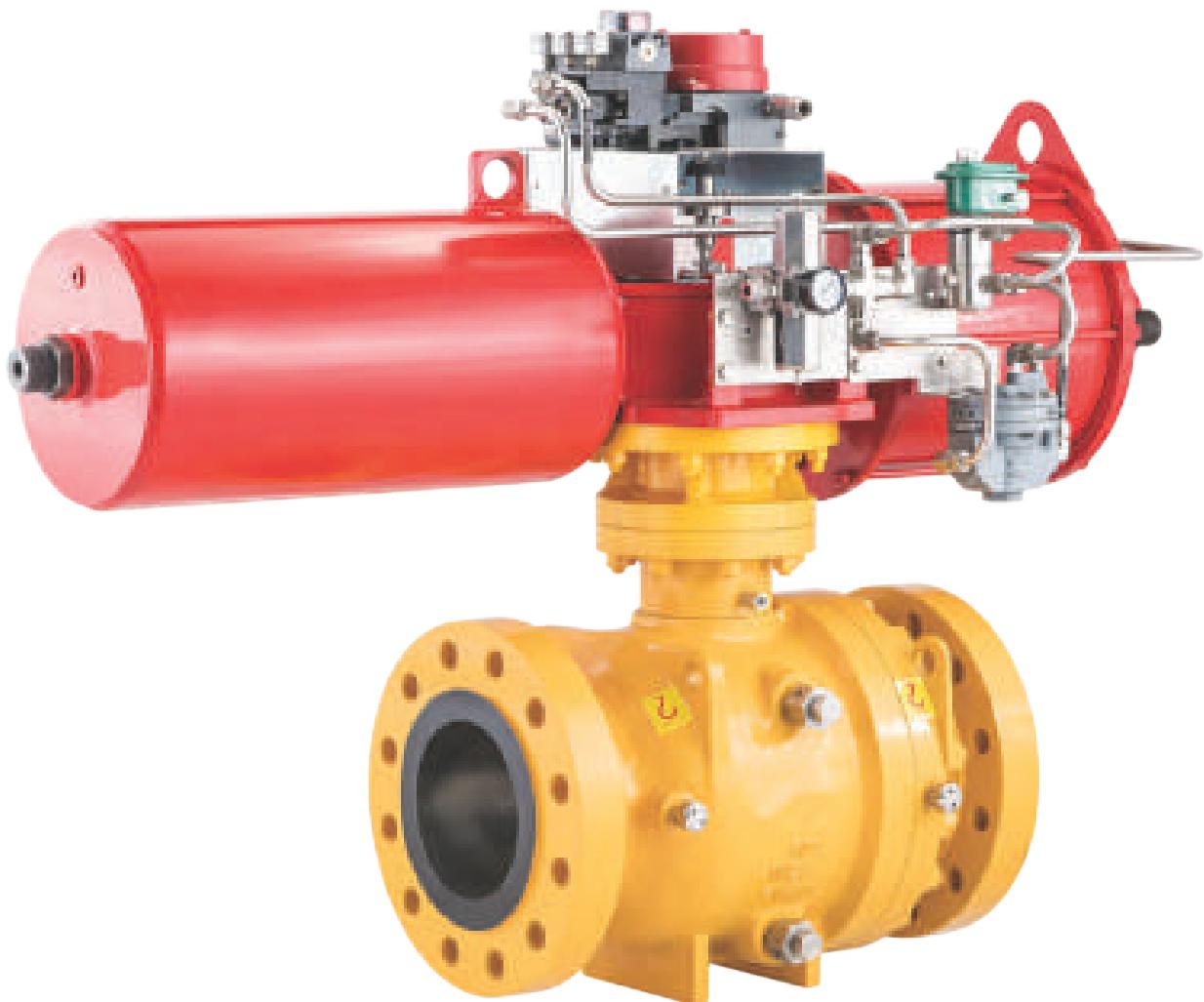
|                         |  |                         |  |
|-------------------------|--|-------------------------|--|
| <b>Body Type:</b>       | Two Piece/ Three Piece/Floating/ Trunnion-mounted/Jacketed | <b>Gland Packing:</b>   | PTFE, Braided PTFE, Grafoil, Vacuum              |
| <b>Body Materials:</b>  | All Cast Materials   | <b>Gaskets:</b>         | PTFE, Spiral Grafoil, Glass filled SS            |
| <b>End Connections:</b> | Flanged, Socket & Butt Welded                              | <b>Characteristics:</b> | On - Off/ Approximate throttling with Positioner |
| <b>Bonnet:</b>          | Standard, Extended & Cryogenic                             | <b>Actuator:</b>        | Pneumatic Spring Rotary, Fully field reversible  |



Control valves can be classified based on a number of attributes and feature like pressure drop profile , movement profile of the controlling element , functionality , actuator medium . A huge variety of valve types and control operation exist. However, there are two main forms of action; the sliding stem and the rotary action.

# OUR PRODUCTS

## VALVE AUTOMATION



### Pneumatic Actuators

- SIL3-capable
- Linear / Rotary
- Rack-and-Pinion / Scotch Yoke
- Piston type – Single-acting / Double-acting
- Fast acting with cushioning arrangement
- Certification: IP / ATEX / IEC / PED / CE

### Hydraulic / Electro-hydraulic Actuators

- SIL3-capable
- Linear / Rotary
- Scotch Yoke / Rack-and-Pinion (Hydraulic only)
- Piston type – Single-acting / Double-acting
- Electrical failsafe
- With External Hydraulic Power pack
- Certification: IP / ATEX / IEC / PED / CE

### Gas-over-Oil Actuators

- Pipeline gas used as power source
- Linear / Rotary
- Scotch Yoke
- Piston type – Double-acting
- Electrical failsafe
- Certification: IP / ATEX / IEC / CE

### Electric Actuators

- SIL3-capable
- Linear / Rotary
- Intrusive & Non-intrusive
- On-Off / Inchng / Modulating Duty
- Integral or Non-integral Starter
- Electrical fail-safe
- Communication: Hardwire / Modbus / Profibus / FF
- Certification: IP / NEMA / ATEX / IEC / FM / CE / PESO



