



TECHNICAL BULLETIN

Audco Ball Valve

Reduced Bore Fire safe Flanged Ball Valves 51/52 Series



Experience In Motion

With the Series 51/52 designed to BS EN ISO 17292 / API 6D, AUDCO brings to the market a reduced bore valve which combines low cost of ownership and long service life with high operational safety and a range of features which sets the standards for others to follow.

What remains unchanged however is Audco's total dedication to quality and service support. All of this is the result of following one simple strategy - to listen and respond to the needs of our customers.

51/52 Valve Assembly

Anti-blowout stem - Inserted from inside of valve body for greater safety

Actuator mounting - Conforms to ISO 5211 for ease of actuation

Gland nut - Does not need to be removed for actuator mounting thereby maintaining valve integrity

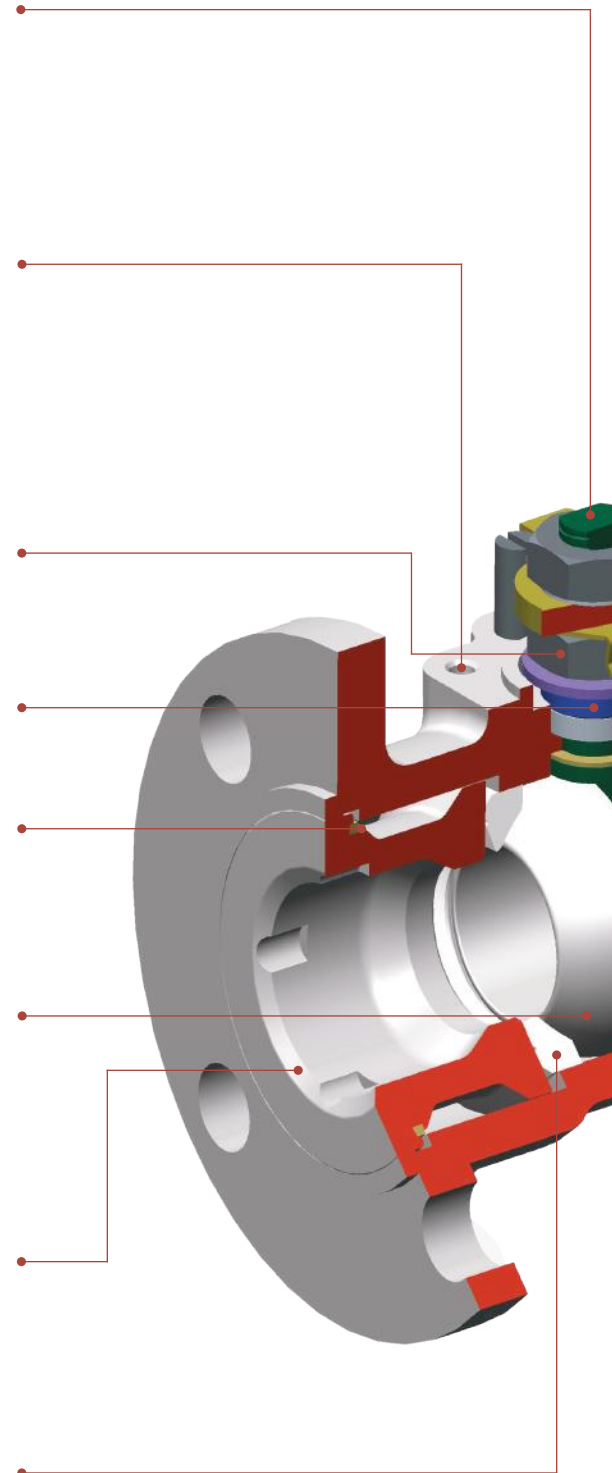
Anti-static stem - Ensures electrical continuity between ball and body

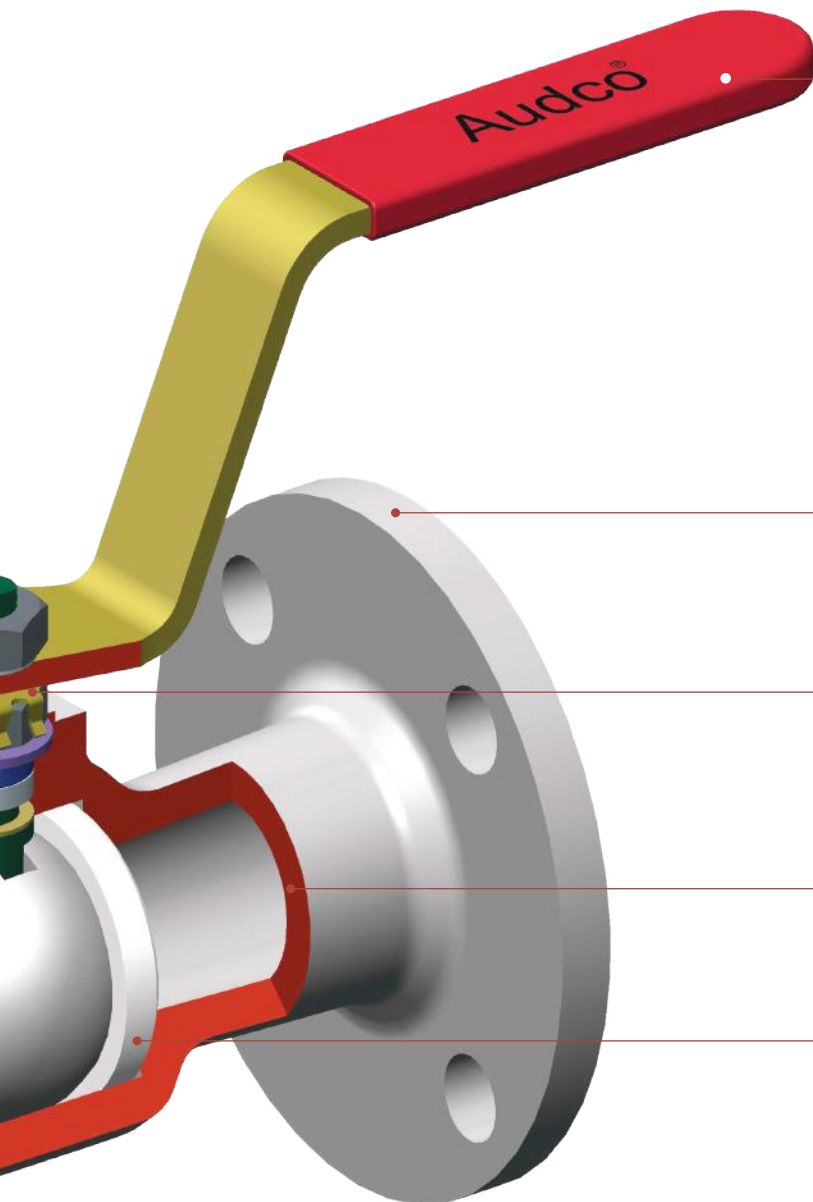
Body seals - Flexible Graphite as standard for fire safe integrity maintained with metal to metal secondary seal

Ball - 316 stainless steel as standard with pressure equalising hole to balance cavity pressure with line pressure when valve is open. Parallel ported ball maximises flow and minimises pressure drop

Insert - Screwed insert designed to withstand full line differential pressure

Seats - Wide range of seat materials to suit customer applications.





• **Wrench** - Ergonomically designed for ease of operation

• **Flange Connectors** - Integral to body complying with all major international standards or alternatively to meet specific customer needs

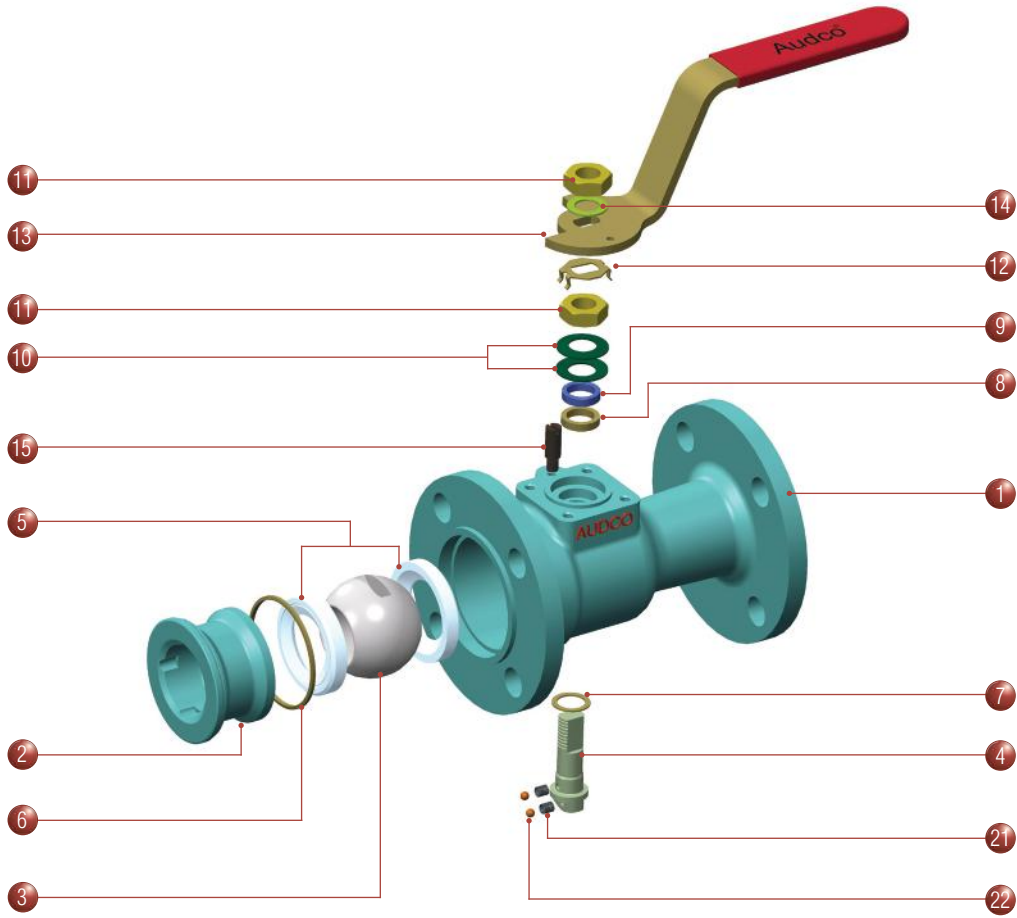
• **Locking clip** - Maintains position of gland nut during actuation for long leak-free performance

• **Materials of Construction** - Bodies are manufactured from cast material

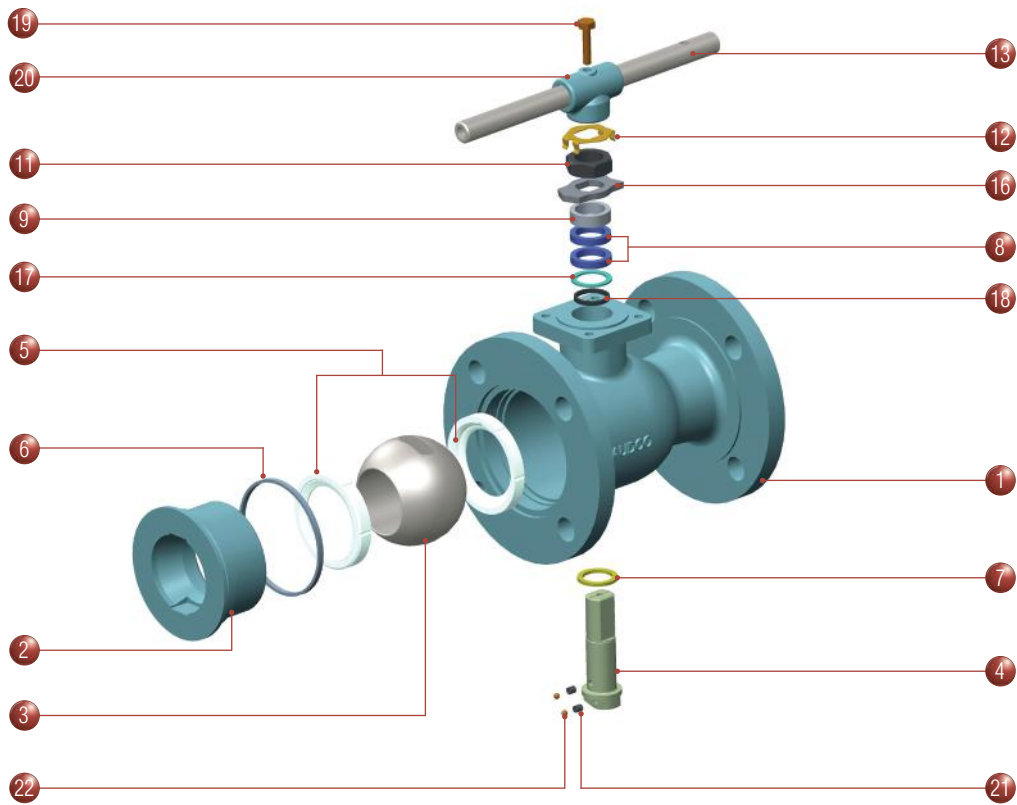
• **Seat Design** - Cavity pressure relieving (CPR) seats ensure that pressure generated through media expansion when the valve is closed is safely relieved upstream

Reduced Bore Fire safe Flanged Ball valve parts

DN15 - DN50



DN80 - DN200

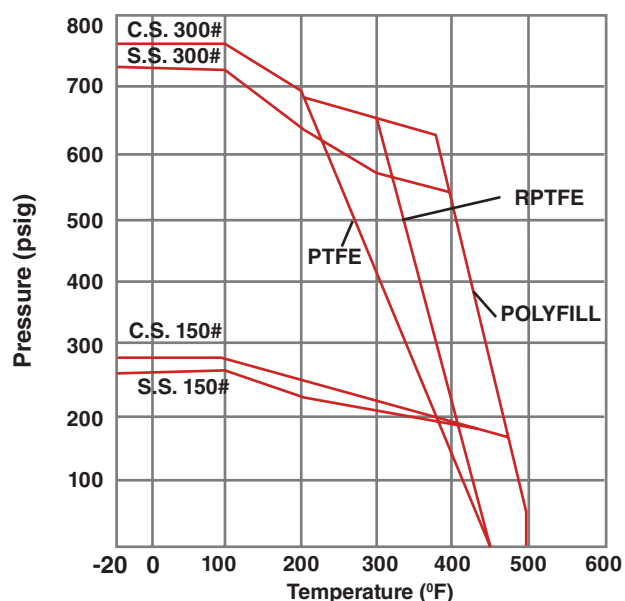


Parts and Material Specification

| Item | Description | Material | Item | Description | Material |
|------|----------------------|--|------|---------------------------|---|
| 1 | Body | Stainless Steel ASTM-A351 CF8M Carbon Steel ASTM A216 WCB | 12* | Gland Nut Locking Clip | Carbon Steel Rustproofed |
| 2 | Insert | Stainless Steel ASTM-A351 CF8M Carbon Steel ASTM A216 WCB | 13 | Wrench | Stainless Steel/ Carbon Steel |
| 3 | Ball | Stainless Steel ASTM-A351 CF8M ASTM A479 316 | 14 | Spring washer | Stainless Steel |
| 4 | Stem | Stainless Steel 316 | 15 | Stop Pin | Stainless Steel/ Carbon Steel |
| 5* | Seat Ring | PTFE Virgin, PTFE 25% glass filled, Fluorfill, PEEK, metal or other ptions | 16 | Stop Indicator | Stainless Steel 316/ Zinc Plated Carbon Steel |
| 6* | Body Seal | Flexible Graphite/ Virgin PTFE | 17 | Stem Location Ring | Stainless Steel 316 |
| 7* | Stem Thrust Seal | PTFE 25% glass filled | 18 | Secondary Stem Seal | Virgin PTFE |
| 8* | Gland Packing | Flexible Graphite | 19 | Wrench Fixing Bolt | Carbon Steel |
| 9 | Gland | Stainless Steel 316 | 20 | Wrench Head | S.G Iron/ Zinc Plated Carbon Steel/ Carbon Steel |
| 10* | Disc Spring | Stainless Steel | 21 | Anti-Static Spring | Stainless Steel |
| 11 | Gland/ Wrench Nut | Zinc Plated Carbon Steel/ Stainless Steel | 22 | Anti-Static Plunger | Stainless Steel |

*Items marked thus denote component supplied in repair kit.

Pressure/Temperature Rating



NOTE: Max. working pressure/temperature limited by both flange rating, seat and body seal capability.

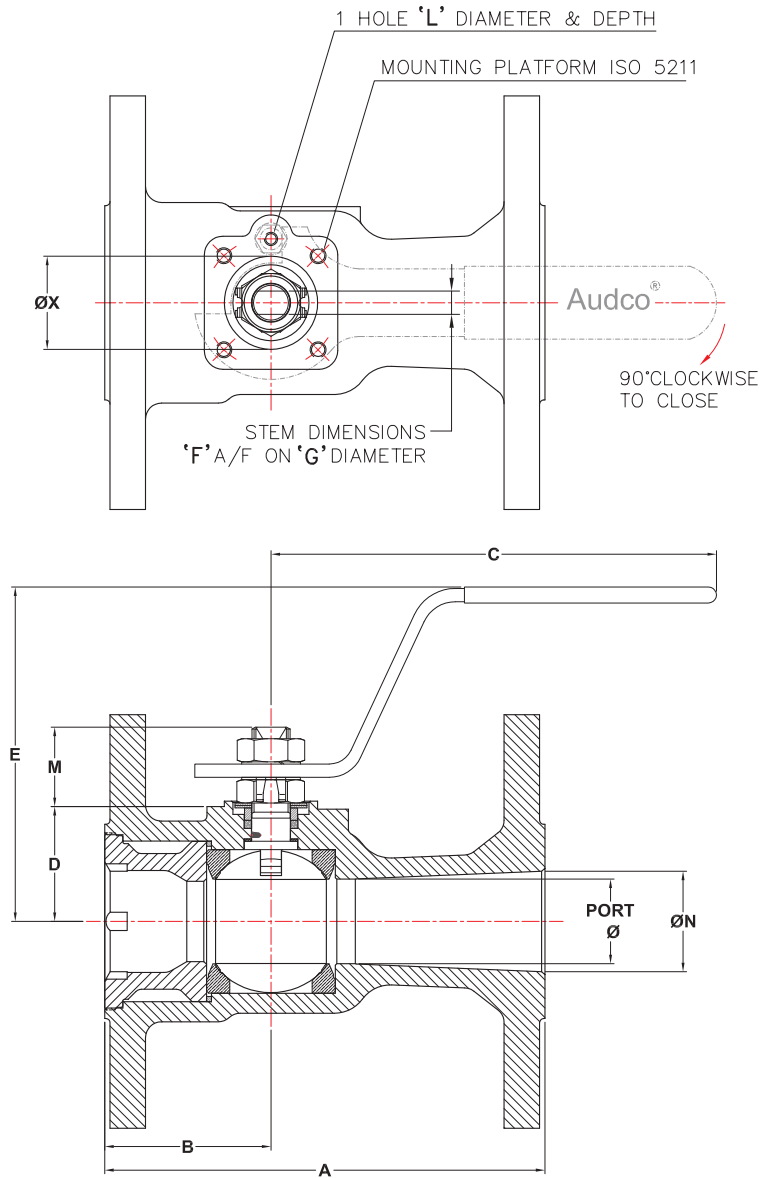
Technical Information

| Valve size | Series | Weight kg | Flow Coefficients Cv |
|------------|--------|-----------|----------------------|
| DN15 | 51 | 2 | 8 |
| | 52 | 2.5 | |
| DN20 | 51 | 3 | 12 |
| | 52 | 3.4 | |
| DN25 | 51 | 3.6 | 32 |
| | 52 | 4.3 | |
| DN40 | 51 | 5.9 | 82 |
| | 52 | 7.3 | |
| DN50 | 51 | 8.2 | 120 |
| | 52 | 10 | |
| DN80 | 51 | 17.9 | 350 |
| | 52 | 22.7 | |
| DN100 | 51 | 28.1 | 670 |
| | 52 | 36.3 | |
| DN150 | 51 | 48 | 874 |
| | 52 | 70 | |
| DN200 | 51 | 120 | 1583 |
| | 52 | 170 | |

General Assembly

51 Series - Reduced bore class 150

52 Series - Reduced bore class 300



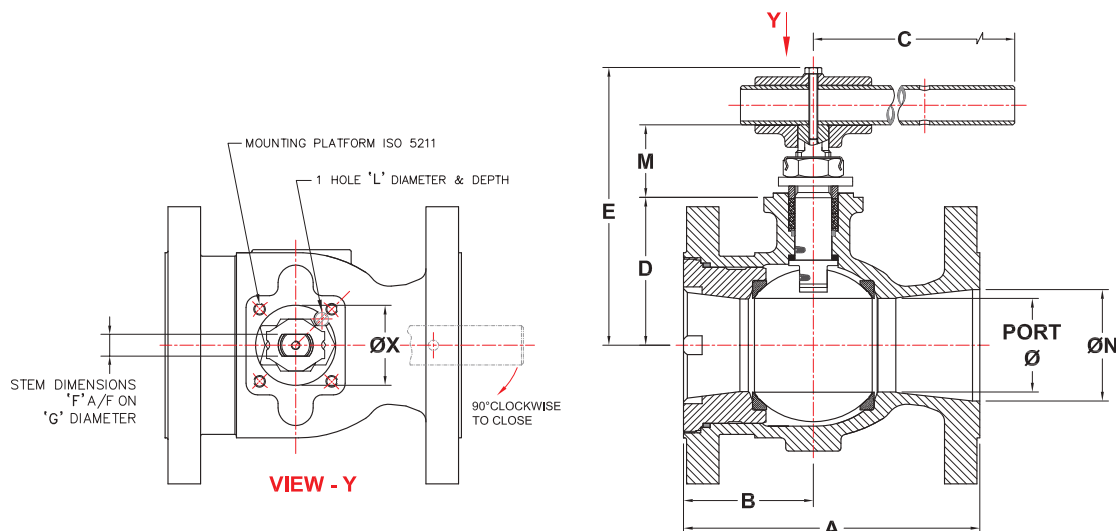
Valve Dimensions (mm)

| 51/52 Series (DN15 - DN50) | | | | | | | | | | | | | | | |
|----------------------------|------|-----|-----|------|------|-----|----------------|-------|---------|-------------|----|------|--------------------|----|---------|
| Valve Size | Port | A | | B | | C | D | E | STEM | | M | N | L THREAD & DEPTH | X | ISO MTG |
| | | 51 | 52 | 51 | 52 | | | | F - A/F | G - THREAD | | | | | |
| 15 | 11.0 | 108 | 140 | 46 | | 155 | 21.95 21.65 | 98 | 5.5 | 3/8"-24 UNF | 18 | 13.5 | M5x0.8p 6.0 MIN | 25 | F03 |
| 20 | 14.3 | 117 | 152 | 49.6 | | 155 | 24.27 24.01 | 98 | 5.5 | 3/8"-24UNF | 18 | 17.5 | M5x0.8p 6.0 MIN. | 30 | F04 |
| 25 | 20.6 | 127 | 165 | 57.1 | | 168 | 31.21 30.95 | 111 | 7.5 | 7/16"-20UNF | 25 | 24.5 | M8x1.25p 10.0MIN. | 30 | F04 |
| 40 | 31.8 | 165 | 190 | 62.3 | 82.7 | 168 | 43.31 43.05 | 126.4 | 8.6 | 9/16"-18UNF | 30 | 37.7 | M6x1.0p 6.0 MIN. | 35 | F05 |
| 50 | 38.1 | 178 | 216 | 67.8 | | 193 | 48.76 48.50 | 131.5 | 8.6 | 9/16"-18UNF | 30 | 48.1 | M8x1.25p 10.0 MIN. | 35 | F05 |

General Assembly (DN80-DN200)

51 Series - Reduced bore class 150

52 Series - Reduced bore class 300



Valve Dimensions (mm)

| 51 – Series (DN80 – DN200) | | | | | | | | | | | | | |
|----------------------------|-------|-----|-------|-----|----------------|-----|---------|------|--------------|-------|-------------------|----|---------|
| Valve Size | Port | A | B | C | D | E | STEM | | M | N | L THREAD & DEPTH | X | ISO MTG |
| | | | | | | | F - A/F | ØG | | | | | |
| 80 | 64.0 | 203 | 89 | 350 | 101.7 101.3 | 190 | 15.1 | 21.1 | 51.1 48.4 | 76.8 | M6x1.0p 6.0 MIN | 55 | F07 |
| 100 | 76.2 | 229 | 82 | 350 | 112.4 111.6 | 201 | 15.1 | 21.1 | 51.1 48.4 | 102.1 | M6x1.0p 6.0 MIN | 55 | F07 |
| 150 | 102.3 | 267 | 129 | 557 | 140.6 139.8 | 235 | 19.3 | 27.1 | 55.9 53.2 | 151.5 | M8x1.25p 10.0 MIN | 70 | F10 |
| 200 | 151.0 | 292 | 144.5 | 850 | 182.4 181.6 | 310 | 26.6 | 33.1 | 73.0 70.3 | 203.3 | M10x1.5p 12.0 MIN | 85 | F12 |

| 52 – Series (DN80 – DN200) | | | | | | | | | | | | | |
|----------------------------|-------|-----|-------|-----|----------------|-----|---------|------|--------------|-------|-------------------|-----|---------|
| Valve Size | Port | A | B | C | D | E | STEM | | M | N | L THREAD & DEPTH | X | ISO MTG |
| | | | | | | | F - A/F | ØG | | | | | |
| 80 | 64.0 | 282 | 89 | 350 | 101.7 101.3 | 190 | 15.1 | 21.1 | 51.1 48.4 | 76.8 | M6x1.0p 6.0 MIN | 55 | F07 |
| 100 | 76.2 | 305 | 107 | 557 | 119.9 119.1 | 214 | 19.3 | 27.1 | 55.7 53.0 | 102.1 | M8x1.25p 10.0 MIN | 70 | F10 |
| 150 | 102.3 | 403 | 129 | 850 | 147.1 146.3 | 275 | 26.6 | 33.1 | 73.0 70.3 | 151.5 | M10x1.5p 12.0 MIN | 85 | F12 |
| 200 | 151.0 | 419 | 144.5 | 850 | 194.6 193.8 | 327 | 30.4 | 37.8 | 77.4 74.7 | 203.3 | M10x1.5p 12.0 MIN | 100 | F14 |

Notes

- When wrench not fitted, flats on stem when parallel to pipeline axis denote open position.
- Installation, Operating and Maintenance instructions are supplied with product and also available on request

Standards of Compliance

| | |
|-----------------------------|-------------------------|
| Valve Specification | BS EN ISO 17292, API 6D |
| Flanges 51 | ASME B16.5 Class 150 |
| Flanges 52 | ASME B16.5 Class 300 |
| Face to Face Lengths | ASME B16. 10 |
| Pressure Test Specification | BS EN 12266 Part 1 |
| Fire safe Specification | API 607 |
| Sour Gas Applications | NACE MR0175/ISO 15156 |



How to Order

| Valve Size | Operator | Bore | Product series | Body / Insert | Ball & Stem | Seats | Body Seal | Ends |
|------------|-----------------------------|------------------|----------------|------------------|------------------|--------------|--------------|------------------------|
| 05 - DN15 | L - Lever / Wrench | R - Reduced bore | 51 | 4 - Carbon steel | 4 - Carbon steel | T - PTFE | T - PTFE | F1 - ASME B16.5 CL.150 |
| 07 - DN20 | G - Gear | | 52 | 6 - 316 S.S | 6 - 316 S.S | R - RPTFE | G - Graphite | F2 - ASME B16.5 CL.300 |
| 10 - DN25 | B - Bare stem for actuation | | | | | P - Polyfill | | |
| 12 - DN32 | A - Actuator | | | | | | | |
| 15 - DN40 | | | | | | | | |
| 20 - DN50 | | | | | | | | |
| 25 - DN65 | | | | | | | | |
| 30 - DN80 | | | | | | | | |
| 40 - DN100 | | | | | | | | |
| 60 - DN150 | | | | | | | | |
| 80 - DN200 | | | | | | | | |

For any other additional requirement please specify.

Ordering Example: A valve size DN80 Series 51 with Cast steel body and Insert, 316 ball and stem, PTFE seats and seals with flanged ends class 150 Lever operated. The catalogue numbering shall be "30LR-5146TT-F1"

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