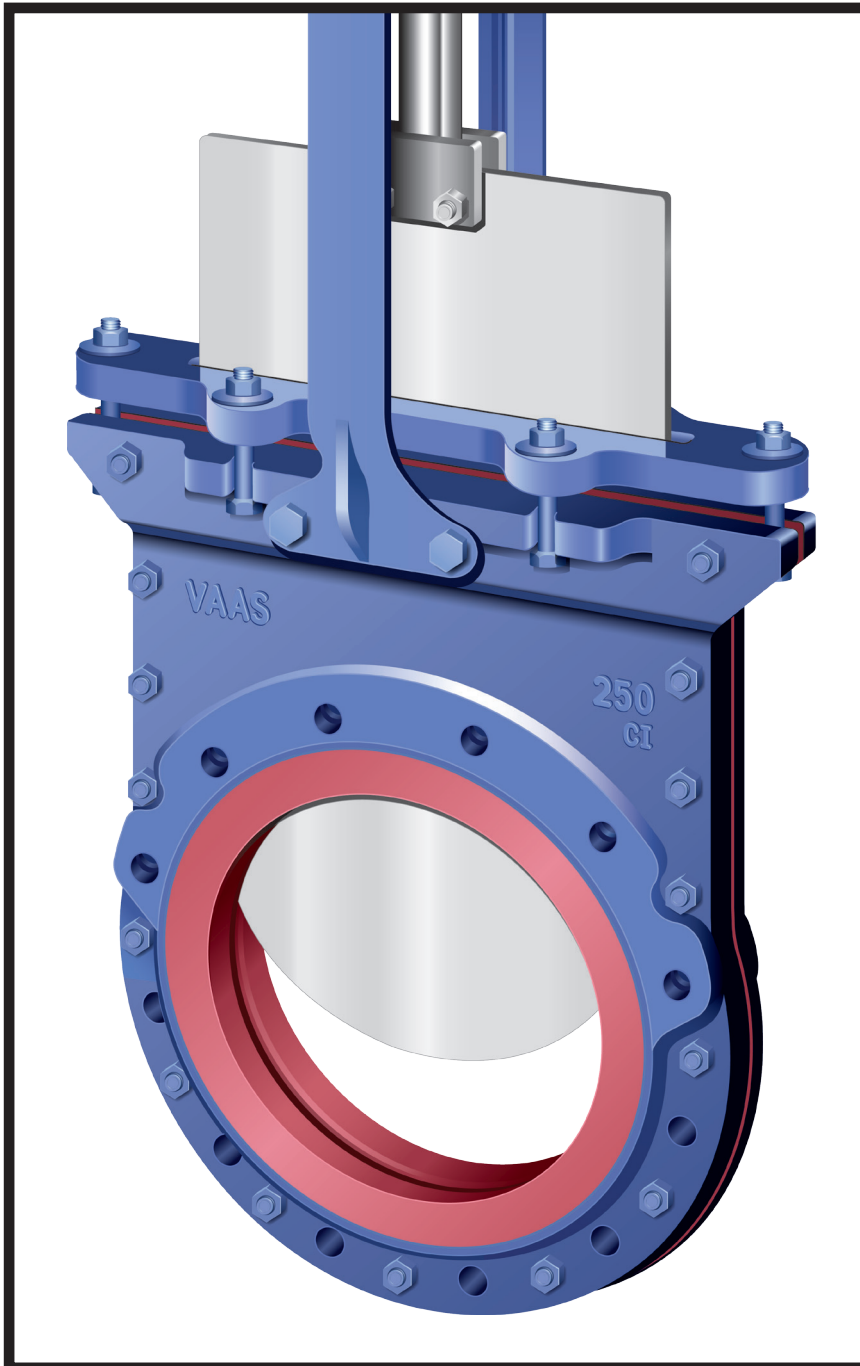


VAAS

SERIES 750 BI-DIRECTIONAL SLURRY GATE VALVES



- Fig 752 with Steel-Reinforced U-Seal
- Fig 755 FRL with Steel-Reinforced Polyurethane Bore Liners and Steel-Reinforced U-Seal
- Fig 755P with Polyurethane Lined Body and Steel-Reinforced U-Seal
- Two-Piece, Bolted Body
- Reinforced Replaceable Bore Liners
- Reinforced Replaceable Peripheral U-Seal
- Ground-Finished Stainless Steel Gate
- Multi-Layered Packing with Quad Seal
- Zero Leakage - Leak-Tested in Both Directions

- Straight-through, uninterrupted flow reduces turbulence and assists with maximum liner & seat performance in heavy solids.
- Standard valve complies with MSS SP-81 face-to-face dimensions.

**TOUGH, INDUSTRY-PROVEN VALVES
WITH FIELD-REPLACEABLE BORE LINERS AND U-SEAL.**

**WIDELY USED IN MINING AND PROCESS PLANTS
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VAAS SERIES 750 BI-DIRECTIONAL SLURRY VALVES

SERIES 750 OFFERS A RANGE OF KNIFE GATE VALVES DESIGNED FOR BI-DIRECTIONAL TIGHT SHUT-OFF TO HANDLE DIFFICULT MEDIA SUCH AS ABRASIVE SLURRIES, SLUDGES AND DRY POWDERS.

The VAAS Series 750 uses an elastomer seal around the periphery of the gate to achieve fluid sealing, as opposed to uni-directional knife-gate valves, which are face-sealing. The peripheral seal being symmetrical, sealing remains identical from either direction of flow, thus offering fully bi-directional valve shut-off. The valve is fitted with a special elastomer quad-seal in the gland-packing which provides enhanced sealing to atmosphere.

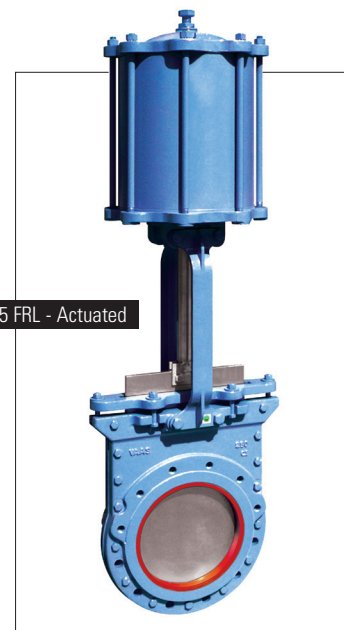
The VAAS Series 750 offers a straight, unrestricted flow-path with bore equal to schedule 40 pipe diameter. This feature, combined with minimum face-to-face dimensions of its wafer design, offers the least possible pressure drop across the valve.

The standard range is designed for 10 bar / 150 psi CWP.

Valves are also manufactured for 16 bar / 240 psi and 20 bar / 300 psi higher-pressure applications.

Superstructures for all VAAS knife-gate valves are designed for easy interchangeability, or site retrofit, between manual handwheel and VAAS pneumatic actuation.

The Series 750 offers three models - Fig 752 (with reinforced nitrile U-Seal), Fig 755 FRL (with reinforced polyurethane bore liners and reinforced nitrile U-Seal) and Fig 755P (with polyurethane lined body and reinforced nitrile U-Seal).



VAAS Fig 755 FRL - Actuated

TECHNICAL DATA

Size Range:

50mm / 2" to 600mm / 24"

Operating Pressure:

10 bar / 150 psi

Options: 16 bar / 240 psi and 20 bar / 300 psi

Bore Liners (for 755 FRL):

Polyurethane with steel reinforcement.

Option: Moulded polyurethane lined body halves - minimum thickness - 2.5mm.

U-Seal:

Nitrile with steel reinforcement rated to 90°C / 194°F.

Option: Viton with steel reinforcement rated to 200°C / 392°F.

Flanges:

Drilled to suit ANSI 150, AS, BS, DIN, JIS and other international standards.

TYPICAL APPLICATIONS

- Isolation of interconnected slurry pumping lines.
- Air / Gas tight applications.
- High-pressure slurry handling.
- General bi-directional / reverse pressure isolation duties for a wide range of media.
- Erosive and abrasive applications.
- Mining and ore processing.
- Coal washeries.
- Vacuum applications.

FEATURES - DESIGN

TWO PIECE BOLTED BODY

- Easy to dismantle for seal and liner replacement; unique design with identical cast body halves.
- 10 bar / 150 PSI CWP rating with face-to-face dimensions complying with MSS SP-81 for easy interchangeability with conventional knife gate valves.
- Wide choice of international flange drilling options - ANSI, AS, BS and other international standards.
- Full port flow - Schedule 40 pipe ID bore - minimizes pressure drop, eliminates turbulence, abrasive wear and premature failure of valve.

REINFORCED REPLACEABLE LINERS (Fig 755)

- Field replaceable full bore liners (steel reinforced polyurethane) standard for Fig. 755, for fast turn-around and low cost maintenance.
- Increased body-bore wear protection.

POLYURETHANE LINED (Fig 755P)

- Polyurethane liner bonded to body halves, including flange faces, for total protection from media.

REINFORCED PERIPHERAL SEAL

- Offers bi-directional, zero leakage shut-off. Tested for tight shut-off from both directions.
- Bi-directional capabilities facilitate easy installation.
- Steel reinforcement of the elastomer seal increases strength of seal and provides long lasting resilience in tough slurry applications.
- Quick seat change - maintenance friendly - easy replacement and less downtime.
- Peripheral seal also doubles as body gasket - no additional gasket is required for body halves.
- Wide material options are available to suit process media - nitrile rubber, viton and others.

GATE

- High quality ground-finished stainless steel gate reduces packing stress, friction and operating force, thereby increasing packing life for optimum sealing and lower maintenance.
- Generous gate thickness, well supported by body halves, resists distortion or deflection.

PACKING

- Multi-layered, square braided packing provides efficient gland sealing at full rated pressure of valve.
- Valve is fitted with a central layer of elastomer "quad" seal for enhanced gland sealing (semi-energised).
- Wiper seal options available to increase packing life for tough slurry services.

NON-RISING STEM OPTION

- Rising stem as standard supply.
- Non-rising handwheel operation is also available for tight spaces and to provide increased operator safety.

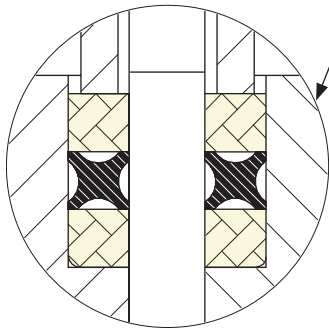
ACTUATOR

- Double-acting pneumatic cylinder actuator which can be easily retrofitted on site for all sizes.
- Options: Electric and hydraulic actuators, chainwheels, etc.
- Handwheel operated as standard up to 250mm / 10". Gear operators fitted 300mm / 12" and above but also available for smaller sizes in higher pressure applications.

FEATURES - SEAT AND GLAND SEALING

PACKING AND GLAND BOX

- Self-aligning gland box ensures positive seal between gate and packing.
- Gland box is fully serviceable on site which facilitates easy replacement of packing and adjustment of gland nuts by spanner.
- Machined gland pocket area provides tight seal between gate and seating face in body, achieving correct alignment and enhanced seal life.
- Enhanced gland sealing is obtained by a central layer of semi-energised elastomer "quad" seal.



Gland packing details:
Multi-layered square braid packing with central "quad" seal layer.

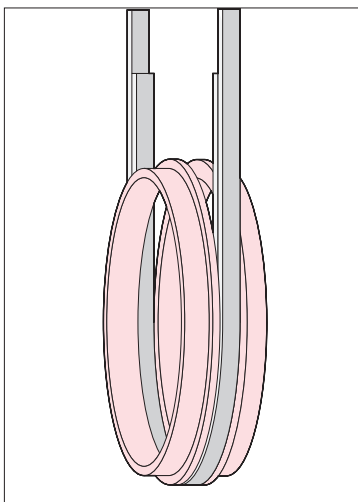


Fig 755 FRL
U-Seal and body-bore liners -
field replaceable parts.

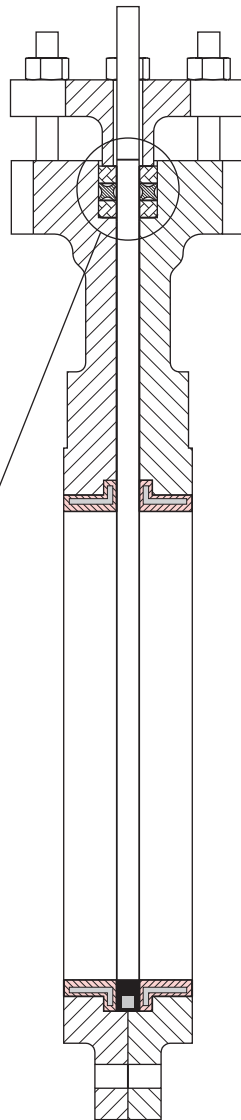


Fig 755 FRL
Cross-sectional view

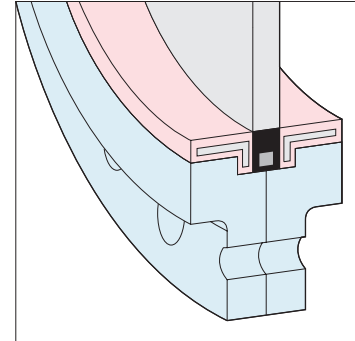


Fig 755 FRL
Replaceable polyurethane bore liners
cover entire body-bore of valve.

SEAT DESIGN

- Bi-directional tight shut-off is achieved through seal formed when the periphery of gate comes in contact with nitrile rubber U-seal.
- Steel reinforcement increases strength of nitrile U-seal and provides long-lasting resilience.
- Fig. 755 (above) has field-replaceable (FRL) steel reinforced polyurethane liners which cover the entire bore of the valve preventing media contact with body.
- Fig. 755 has just three field-replaceable parts for ease of maintenance i.e. U-seal and two body liners.
- Fig. 752 (below) has same seat design as Fig. 755 i.e. replaceable U-seal.

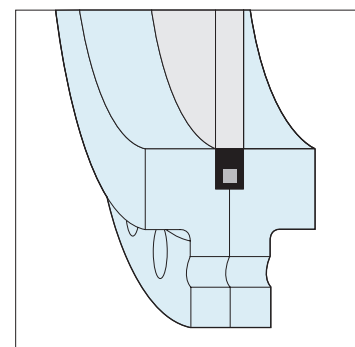
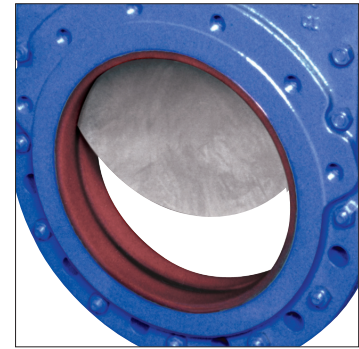
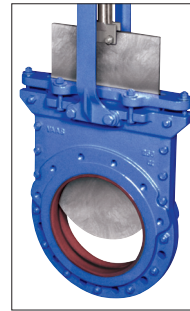
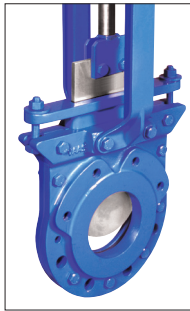
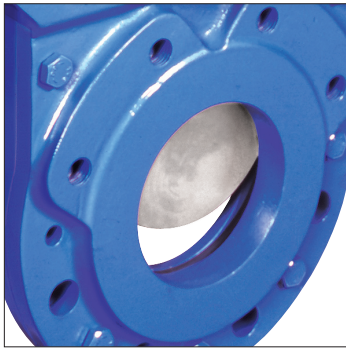


Fig 752
Reinforced nitrile U-Seal

FEATURES - OPTIONS

- Viton steel-reinforced U-Seal for corrosive and high-temperature applications.
- Hard chrome-plated gate.
- Body in stainless steels and high alloys for specific corrosive applications / environments.
- 16 bar / 240 psi and 20 bar / 300 psi designs for higher pressure applications.



VAAS Fig 752

For less demanding bi-directional slurry applications.

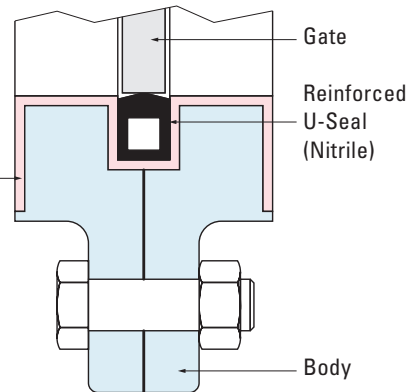
VAAS Fig 755 FRL

Reinforced, replaceable bore liners that protect the bore in abrasive applications.

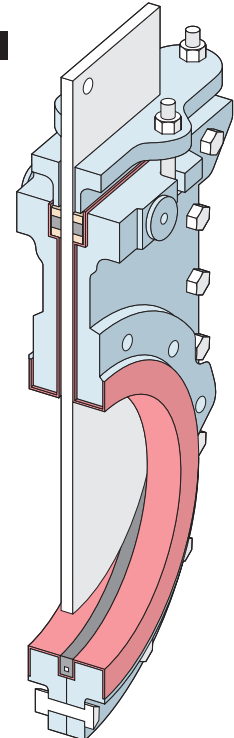
VAAS Fig 755P

Internal polyurethane lined body offers added reliability and longer life in a number of demanding applications. The lining protects body from media.

Moulded polyurethane (Minimum thickness 2.5mm)



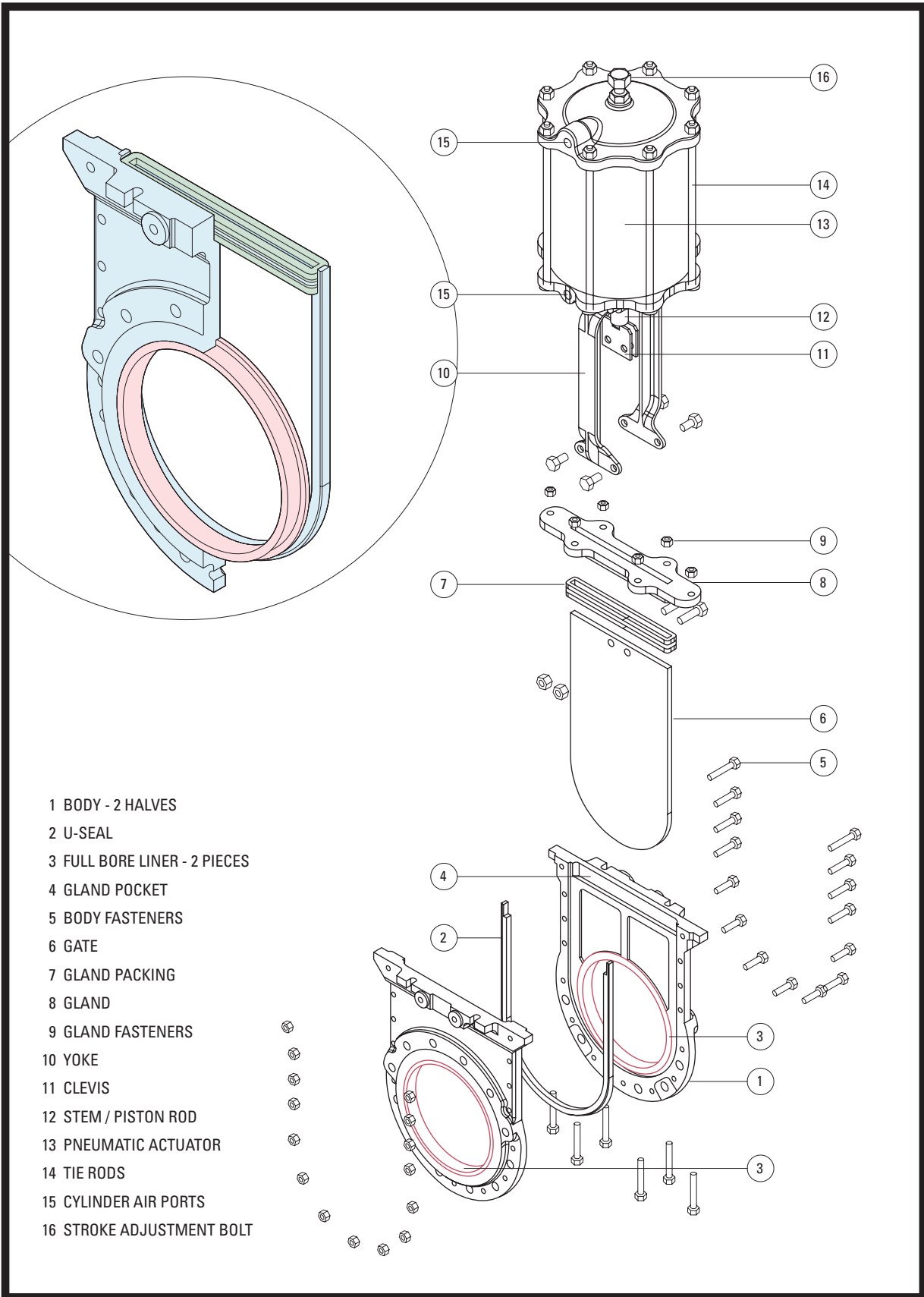
VAAS Fig 755P



VAAS Fig 710

Slim-Design, Bi-Directional gate valve rated 7 bar / 100psi with nitrile body seal rings for gate face sealing. Valves are drilled in the chest area to fit between ANSI class 150, 300 and 600 flanges. Valve ends are flat-face for gasket sealing and generally used for low-pressure testing of pipelines.

EXPLODED VIEW OF VAAS FIG. 755 FRL BI-DIRECTIONAL SLURRY GATE VALVE.



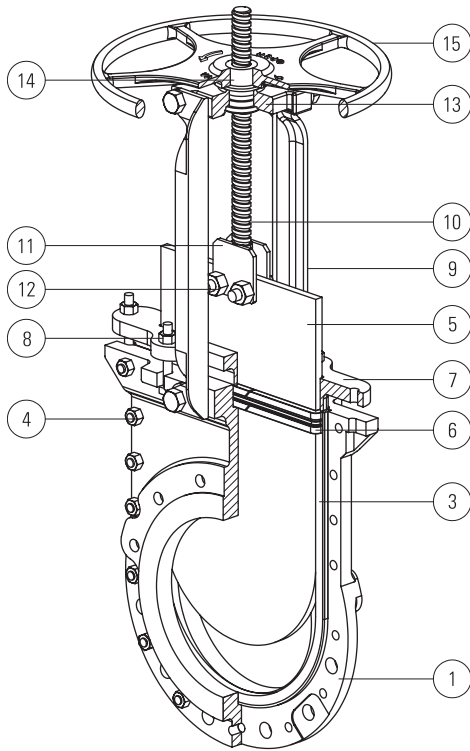
- 1 BODY - 2 HALVES
- 2 U-SEAL
- 3 FULL BORE LINER - 2 PIECES
- 4 GLAND POCKET
- 5 BODY FASTENERS
- 6 GATE
- 7 GLAND PACKING
- 8 GLAND
- 9 GLAND FASTENERS
- 10 YOKE
- 11 CLEVIS
- 12 STEM / PISTON ROD
- 13 PNEUMATIC ACTUATOR
- 14 TIE RODS
- 15 CYLINDER AIR PORTS
- 16 STROKE ADJUSTMENT BOLT

VAAS FIGURE NUMBERING SYSTEM

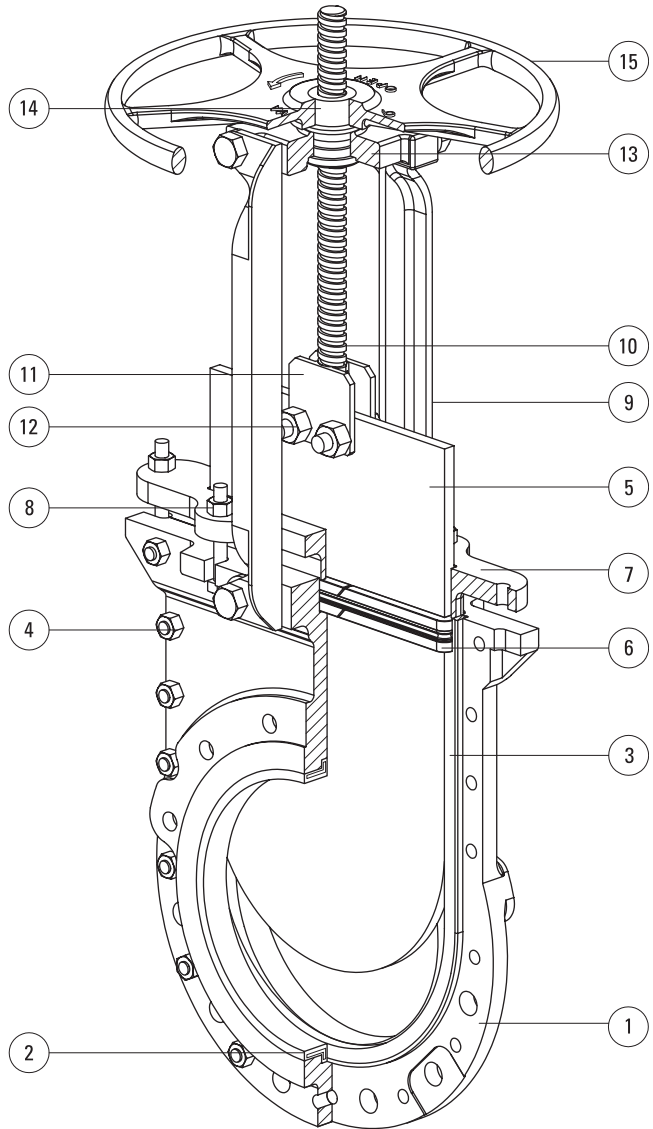
| ITEM | CODE | OPTIONS |
|-----------------|--|---|
| Size | 0200 0300 0400 0500 0600 0800 1000 1200 1400 1600 1800 2000 2400 | 50mm / 2 inch 80mm / 3 inch 100mm / 4 inch 125mm / 5 inch 150mm / 6 inch 200mm / 8 inch 250mm / 10 inch 300mm / 12 inch 350mm / 14 inch 400mm / 16 inch 450mm / 18 inch 500mm / 20 inch 600mm / 24 inch |
| Model | FIG 752 FIG 755 FIG 755P | Bi-directional valve, wafer style, mid-flange two piece split body design Bi-directional valve, wafer style, mid-flange two piece split body design with full bore polyurethane liner Internal polyurethane lined valve |
| Endstyle | WT WTM | Blind holes in chest area and others as through holes Metric blind holes in chest area and others as through holes |
| Drilling | F | F To suit mounting between ANSI 150lb flanges G1 To suit mounting between DIN PN10 flanges G2 To suit mounting between DIN PN 16 flanges HD To suit mounting between BS10 Table D flanges HE To suit mounting between BS10 Table E flanges JS1 To suit mounting between JS1 10K flanges F10 To suit mounting between AS 2129 Table D flanges F11 To suit mounting between AS 2129 Table E flanges Fx Special drilling |
| Body | CI | CI Cast Iron DI Ductile Iron S1 SS304 S2 SS316 Bx Special |
| Gate | S1 | S1 SS304 S2 SS316 GT-x Special <i>Option</i> HC Hard Chrome Plating |

| ITEM | CODE | OPTIONS |
|-----------------------------|--------|--|
| Seal | RS80 | RS 80 NITRILE seal with steel reinforcement - max 90°C / 194°F RS 85 VITON seal with steel reinforcement - max 200°C / 392°F RSx Special |
| Packing | C | CQ Square braided PTFE impregnated syntex fibre with nitrile quad seal middle layer - max 90°C / 194°F C Square braided PTFE impregnated syntex fibre for high temperature application - max 200°C / 392°F Mx Special <i>Option</i> S Scraper layer polyurethane - max 80°C / 176°F |
| Rating | CWP-10 | CWP-10 10 bar / 150 psi CWP CWP-16 16 bar / 240 psi CWP - On Application CWP-20 20 bar / 300 psi CWP - On Application CWPx Special |
| Specials | SG | SG Stem guard |
| Actuator | CHG | CHG Rising stem direct mounted handwheel CRG Non-rising stem direct mounted handwheel CGGx Open bevel gear operator CEGx-Fx Enclosed bevel gear operator RCGC Pneumatic cylinder MAX Special manual actuator PAX Special pneumatic actuator Hydraulic and Electric Actuators - On Application |
| Painting | PS | PS Standard painting - two pack blue Phirozi (RAL 5012) epoxy on all non-stainless steel parts Px Special painting |
| Testing | TS | TS Pre-despatch test as per VAAS standard TC Special tests |
| Special Construction | SPx | Other special constructions |

VAAS SERIES 750 VALVE PARTS & MATERIALS



VAAS Fig 752

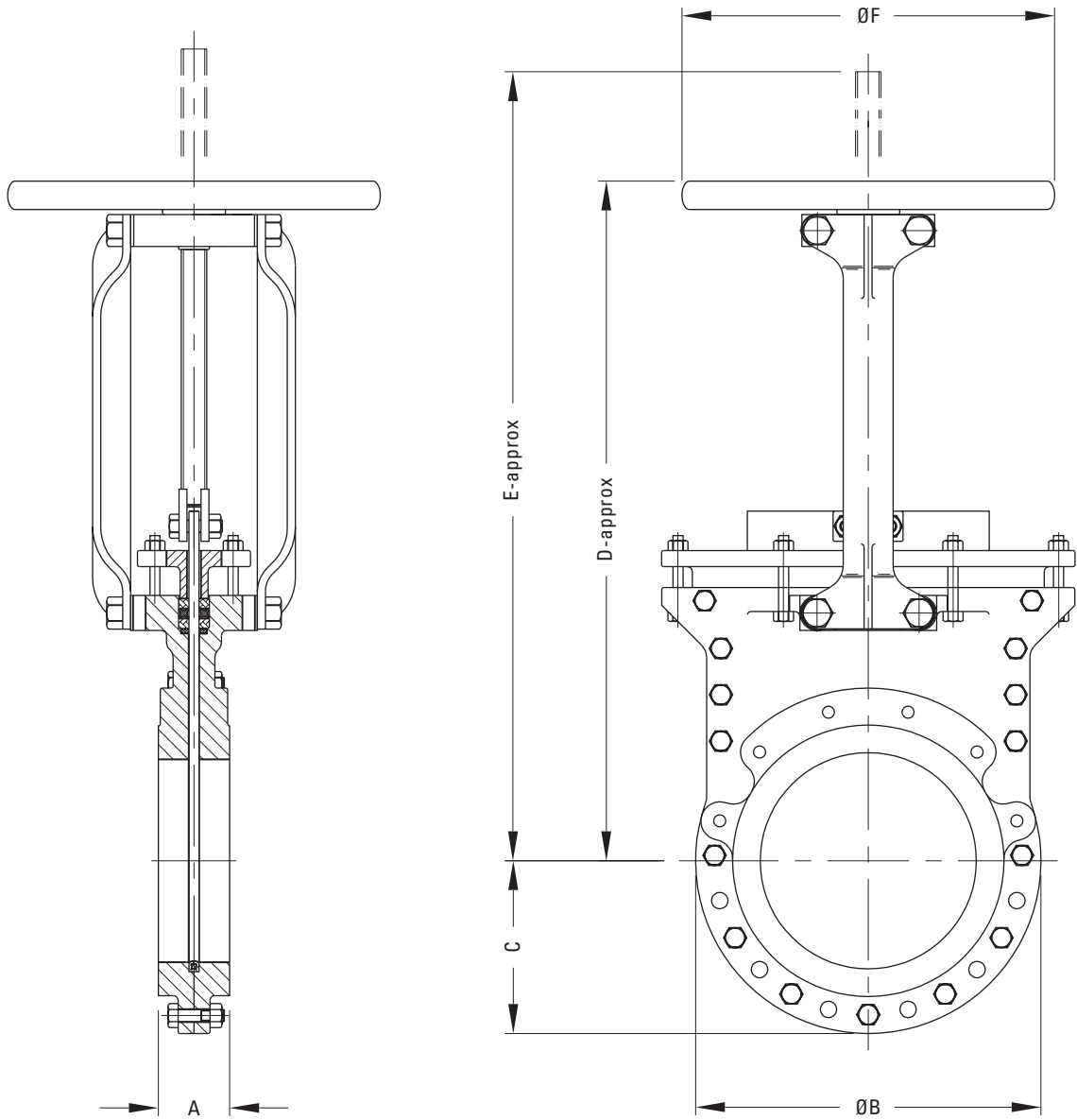


VAAS Fig 755

| NO. | DESCRIPTION | MATERIAL |
|-----|--------------------|--|
| 1 | BODY | CAST IRON / DUCTILE IRON * |
| 2 | BORE LINER | POLYURETHANE with STEEL REINFORCEMENT |
| 3 | SEAL | NITRILE * |
| 4 | FASTENERS (Body) | CARBON STEEL |
| 5 | GATE | 316 STAINLESS STEEL * |
| 6 | PACKING | PTFE IMPREGNATED SYNTEX FIBRE with NITRILE QUAD SEAL * |
| 7 | GLAND | DUCTILE IRON |
| 8 | FASTENERS (Gland) | CARBON STEEL |
| 9 | YOKE | DUCTILE IRON / WCB |
| 10 | STEM | 304 STAINLESS STEEL |
| 11 | CLEVIS | 304 STAINLESS STEEL |
| 12 | FASTENERS (Clevis) | CARBON STEEL |
| 13 | COLLAR | DUCTILE IRON |
| 14 | YOKE SLEEVE | ALUMINIUM BRONZE |
| 15 | HAND WHEEL | CAST IRON |

* See page 7 for optional materials available

VAAS HANDWHEEL OPERATED VALVE DIMENSIONS

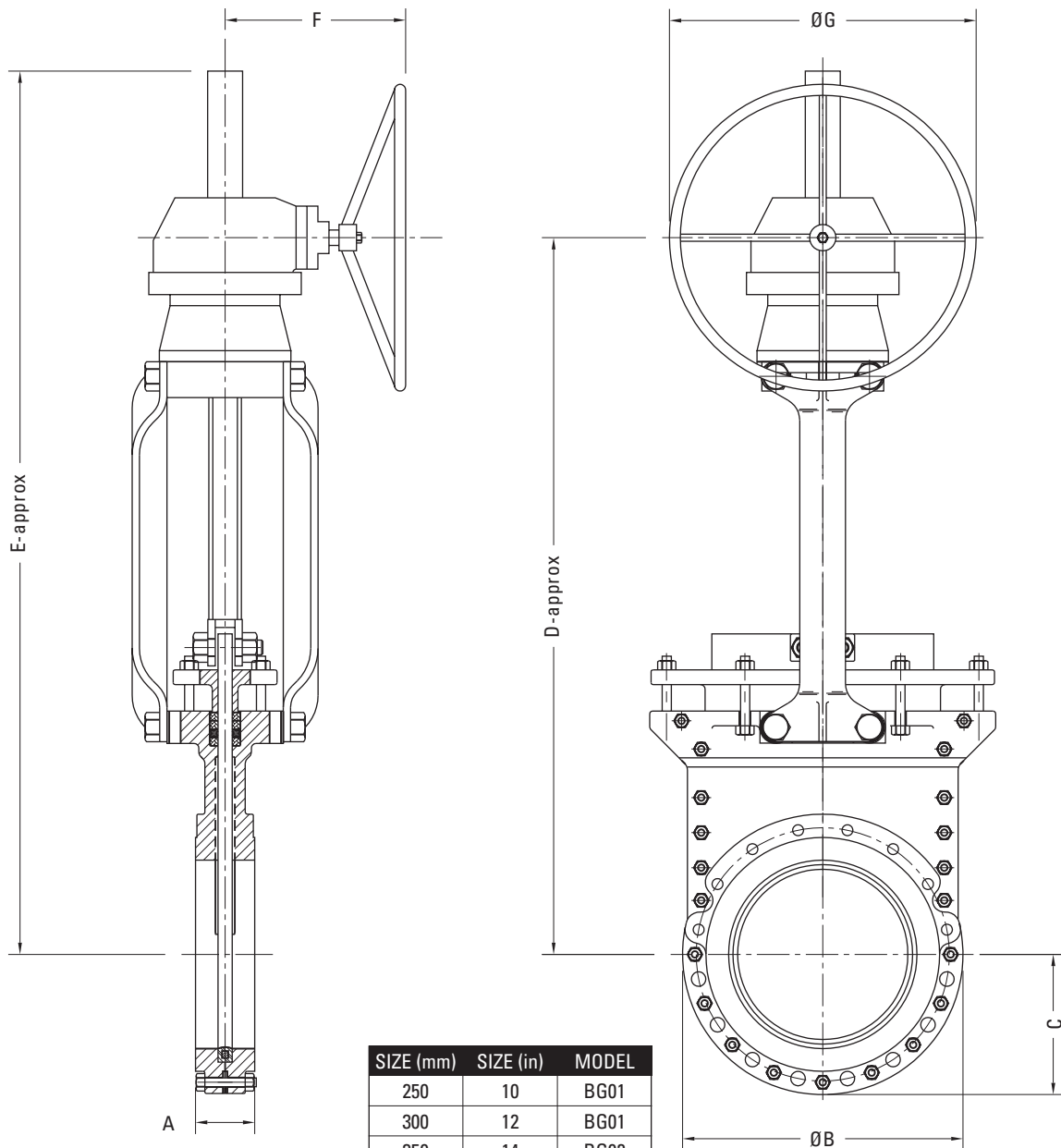


| SIZE (mm) | A | B | C | D | E | F | Kgs |
|-----------|----------------|-------|-------|------|------|-----|-----|
| 50 | On Application | | | | | | 15 |
| 80 | 51 | 190.5 | 95.5 | 412 | 445 | 203 | 17 |
| 100 | 51 | 228.5 | 114.5 | 479 | 555 | 203 | 24 |
| 125 | 70 | 254 | 127 | 519 | 645 | 254 | 30 |
| 150 | 57 | 279.5 | 140 | 597 | 717 | 254 | 36 |
| 200 | 70 | 343 | 171.5 | 716 | 887 | 305 | 66 |
| 250 | 70 | 406.5 | 203.5 | 775 | 1040 | 406 | 82 |
| 300 | 76 | 482.5 | 241.5 | 868 | 1181 | 406 | 104 |
| 350 | 76 | 533.5 | 267 | 964 | 1313 | 508 | 188 |
| 400 | 89 | 597 | 298.5 | 1101 | 1498 | 508 | 273 |
| 450 | 89 | 635 | 317.5 | 1229 | 1675 | 508 | 330 |
| 500 | 114 | 698.5 | 349.5 | 1317 | 1860 | 508 | 432 |
| 600 | 114 | 813 | 406.5 | 1520 | 2185 | 508 | 648 |

| SIZE (in) | A | B | C | D | E | F | Lbs |
|-----------|----------------|-------|-------|-------|-------|-------|------|
| 2 | On Application | | | | | | 33 |
| 3 | 2.00 | 7.5 | 3.75 | 16.22 | 17.51 | 7.99 | 37 |
| 4 | 2.00 | 8.99 | 4.50 | 18.85 | 21.85 | 7.99 | 53 |
| 5 | 2.24 | 10.00 | 5.00 | 20.43 | 25.39 | 10.00 | 66 |
| 6 | 2.24 | 11.00 | 5.51 | 23.50 | 28.22 | 10.00 | 79 |
| 8 | 2.75 | 13.50 | 6.75 | 28.18 | 34.92 | 12.00 | 145 |
| 10 | 2.75 | 16.00 | 8.01 | 30.51 | 40.94 | 15.98 | 180 |
| 12 | 2.99 | 18.99 | 9.50 | NA | NA | NA | 229 |
| 14 | 2.99 | 21.00 | 10.51 | NA | NA | NA | 414 |
| 16 | 3.50 | 23.50 | 11.75 | NA | NA | NA | 601 |
| 18 | 3.50 | 25.00 | 12.50 | NA | NA | NA | 726 |
| 20 | 4.48 | 27.50 | 13.75 | NA | NA | NA | 950 |
| 24 | 4.48 | 32.00 | 16.00 | NA | NA | NA | 1426 |

Dimensions indicated are for general reference only. Certified drawings are available on request.

VAAS GEAR OPERATED VALVE DIMENSIONS



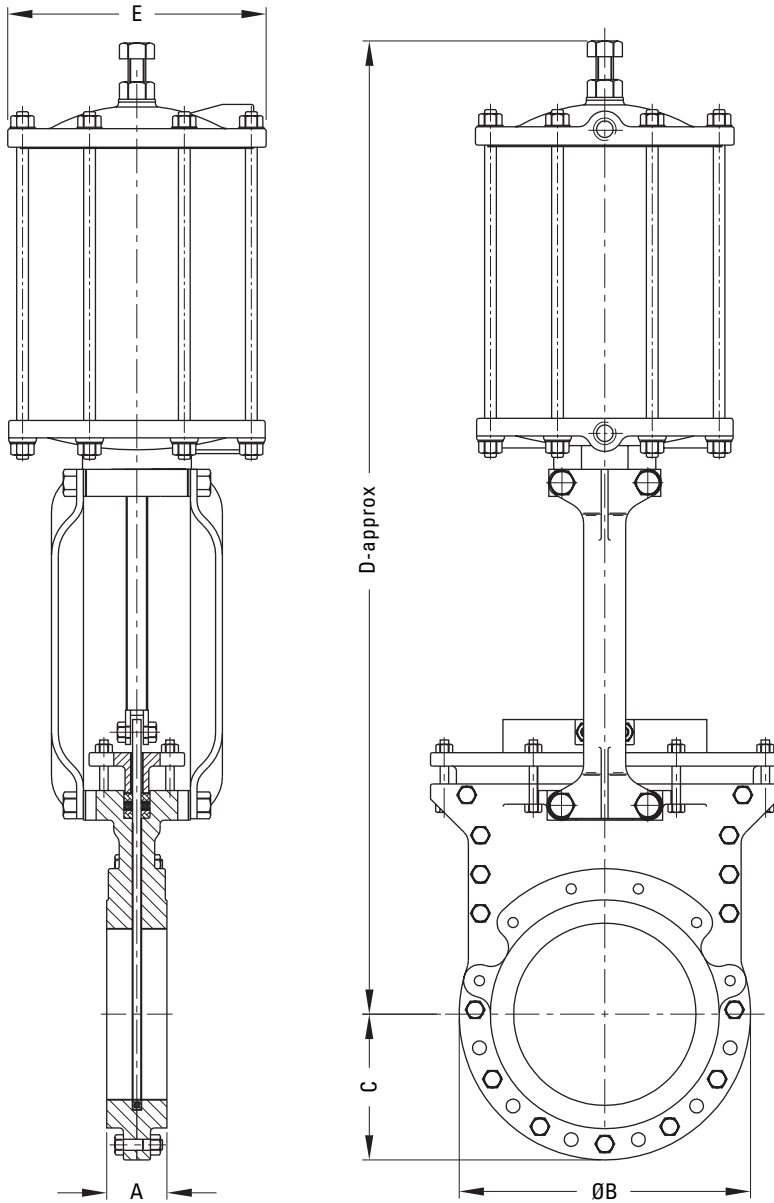
| SIZE (mm) | SIZE (in) | MODEL |
|-----------|-----------|-------|
| 250 | 10 | BG01 |
| 300 | 12 | BG01 |
| 350 | 14 | BG02 |
| 400 | 16 | BG02 |
| 450 | 18 | BG03 |
| 500 | 20 | BG03 |
| 600 | 24 | BG03 |

| SIZE (mm) | A | B | C | D | E | F | G | Kgs |
|-----------|-----|-------|-------|------|------|-------|-----|-----|
| 250 | 70 | 406.5 | 203.5 | 916 | 1090 | 256.5 | 450 | 109 |
| 300 | 76 | 482.5 | 241.5 | 1003 | 1231 | 256.5 | 450 | 131 |
| 350 | 76 | 533.5 | 267 | 1098 | 1363 | 261 | 450 | 222 |
| 400 | 89 | 597 | 298.5 | 1235 | 1548 | 261 | 450 | 307 |
| 450 | 89 | 635 | 317.5 | 1472 | 1724 | 412 | 700 | 367 |
| 500 | 114 | 698.5 | 349.5 | 1628 | 1910 | 412 | 700 | 469 |
| 600 | 114 | 813 | 406.5 | 1950 | 2235 | 445 | 700 | 685 |

| SIZE (in) | A | B | C | D | E | F | G | Lbs |
|-----------|------|-------|-------|-------|-------|-------|-------|------|
| 10 | 2.75 | 16.00 | 8.01 | 36.06 | 42.91 | 10.09 | 17.71 | 239 |
| 12 | 2.99 | 18.99 | 9.50 | 39.48 | 48.46 | 10.09 | 17.71 | 288 |
| 14 | 2.99 | 21.00 | 10.51 | 43.22 | 54.44 | 10.27 | 17.71 | 489 |
| 16 | 3.50 | 23.50 | 11.75 | 48.62 | 60.94 | 10.27 | 17.71 | 676 |
| 18 | 3.50 | 25.00 | 12.50 | 57.95 | 67.87 | 16.22 | 27.55 | 807 |
| 20 | 4.48 | 27.50 | 13.75 | 64.09 | 75.19 | 16.22 | 27.55 | 1031 |
| 24 | 4.48 | 32.00 | 16.00 | 76.77 | 87.99 | 17.51 | 23.03 | 1507 |

Dimensions indicated are for general reference only. Certified drawings are available on request.

VAAS PNEUMATIC ACTUATED VALVE DIMENSIONS



| VALVE SIZE (mm) | VALVE SIZE (in) | ACTUATOR MODEL |
|-----------------|-----------------|----------------|
| 50 | 2 | RCGC4/2 |
| 80 | 3 | RCGC4/3 |
| 100 | 4 | RCGC6/4 |
| 125 | 5 | RCGC8/5 |
| 150 | 6 | RCGC8/6 |
| 200 | 8 | RCGC10/8 |
| 250 | 10 | RCGC12/10 |
| 300 | 12 | RCGC12/12 |
| 350 | 14 | RCGC12/14 |
| 400 | 16 | RCGC16/16 |
| 450 | 18 | RCGC16/18 |
| 500 | 20 | RCGC20/20 * |
| 600 | 24 | RCGC20/24 * |

* Packed Gland Design (not illustrated).

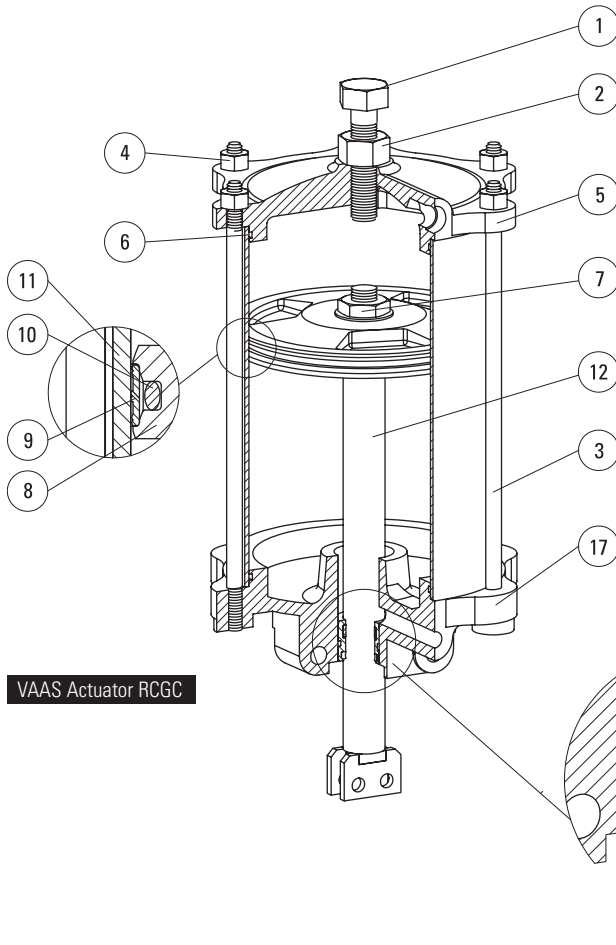
Actuator sizing based on
10 bar / 150 psi CWP rated valves
with minimum 5 bar / 75 psi air supply.

| SIZE (mm) | A | B | C | D | E | Kgs |
|-----------|-----|----------------|-------|------|-----|-----|
| 50 | | On Application | | | | 21 |
| 80 | 51 | 190.5 | 95.5 | 560 | 137 | 24 |
| 100 | 51 | 228.5 | 114.5 | 700 | 165 | 34 |
| 125 | 70 | 254 | 127 | 715 | 260 | 51 |
| 150 | 57 | 279.5 | 140 | 890 | 260 | 58 |
| 200 | 70 | 343 | 171.5 | 1070 | 295 | 104 |
| 250 | 70 | 406.5 | 203.5 | 1250 | 355 | 150 |
| 300 | 76 | 482.5 | 241.5 | 1392 | 355 | 164 |
| 350 | 76 | 533.5 | 267 | 1510 | 355 | 251 |
| 400 | 89 | 597 | 298.5 | 1765 | 540 | 378 |
| 450 | 89 | 635 | 317.5 | 1942 | 540 | 440 |
| 500 | 114 | 698.5 | 349.5 | 2100 | 585 | 642 |
| 600 | 114 | 813 | 406.5 | 2296 | 585 | 873 |

| SIZE (in) | A | B | C | D | E | Lbs |
|-----------|------|----------------|-------|-------|-------|------|
| 2 | | On Application | | | | 46 |
| 3 | 2.00 | 7.5 | 3.75 | 2.04 | 4.33 | 52 |
| 4 | 2.00 | 8.99 | 4.50 | 27.55 | 6.49 | 75 |
| 5 | 2.24 | 10.00 | 5.00 | 28.14 | 10.23 | 112 |
| 6 | 2.24 | 11.00 | 5.51 | 35.00 | 10.23 | 127 |
| 8 | 2.75 | 13.50 | 6.75 | 42.12 | 11.61 | 229 |
| 10 | 2.75 | 16.00 | 8.01 | 49.21 | 13.97 | 330 |
| 12 | 2.99 | 18.99 | 9.50 | 54.80 | 13.97 | 361 |
| 14 | 2.99 | 21.00 | 10.51 | 59.44 | 13.97 | 553 |
| 16 | 3.50 | 23.50 | 11.75 | 69.48 | 19.05 | 832 |
| 18 | 3.50 | 25.00 | 12.50 | 76.45 | 19.05 | 968 |
| 20 | 4.48 | 27.50 | 13.75 | 82.67 | 23.03 | 1412 |
| 24 | 4.48 | 32.00 | 16.00 | 90.39 | 23.03 | 1921 |

Dimensions indicated are for general reference only. Certified drawings are available on request.

ACTUATOR SELECTOR TABLE / RCGC PARTS & MATERIALS



VAAS Actuator RCGC

| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|---------------------|
| 1 | HX. BOLT | CARBON STEEL |
| 2 | LOCK NUT | CARBON STEEL |
| 3 | TIE ROD | CARBON STEEL |
| 4 | HX. NUT | CARBON STEEL |
| 5 | CAP | DUCTILE IRON |
| 6 | O-RING HEAD & CAP | NITRILE RUBBER |
| 7 | NYLOCK NUT | CARBON STEEL |
| 8 | PISTON | CAST IRON |
| 9 | SEAL PISTON | PTFE |
| 10 | O-RING PISTON | NITRILE RUBBER |
| 11 | CYLINDER TUBE | FRP |
| 12 | PISTON ROD | 304 STAINLESS STEEL |
| 13 | NECK SEAL HOUSING | ALUMINIUM / BRASS |
| 14 | GUIDE | CARBON FILLED PTFE |
| 15 | O-RING | NITRILE RUBBER |
| 16 | WIPER SEAL | POLYURETHANE |
| 17 | HEAD | CAST IRON |

The VAAS RCGC double-acting, pneumatic cylinder actuator is suitable for air supply pressure up to 7 bar / 100 psi. It is a rugged, low-maintenance design actuator suitable for all valve sizes. Models are sized to provide sufficient thrust to meet maximum line pressures.

In addition, hydraulic and electric actuation is available on request.

Accessories: Solenoid valves, limit switches, pneumatic fail-safe systems and safety guards & shrouds.

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