

KTM SERIES EB538/EB535 FLOATING BALL VALVE

DN15 - 50 / NPS ½ - 2

A two piece fire safe and anti-static full bore, screwed/weld end ball valve for the chemical and petroleum industries

- EB538 - ASME Class 800
- EB535 - ASME Class 1500



FEATURES

- Designed to ASME B16.34.
- Two piece locked body design eliminates body bolting.
- Fire Safe tested and certified to API 607 by Lloyd's Register Asia.
- Screwed connection to ASME B1.20.1 (NPT) and BS 21 (BSPT).
- Socket welded dimensions to ASME B16.34 / ASME B16.11.
- Extended welded ends are available as an option.
- Socket weld valve face-to-face dimensions allows inline welding.
- Forged carbon steel or stainless steel body.
- Integral mounting flange for ease of actuation.
- Integral padlocking wrench kit option.
- Precision stainless steel ball and stem is standard in all trims.
- Vented ball equalizes body cavity pressure in open position and prevents seat damage.
- Fully machined seats are standard ensuring bubble-tight shut-off.
- Vented seats equalize pressure over upstream seat when used in high differential pressure applications and thereby reduces operating torque.
- Anti-static to API 608.
- A secondary 'fire safe' metal seat.
- Live loaded gland packing to compensate for wear and temperature fluctuations.
- Material traceability on pressure containing components.
- Certificate of compliance to EN 10204/ISO 10474 Type 3.1 (DIN 50 049) are supplied as standard.
- Full range of actuators, accessories, limit or proximity switches etc.
- Manufactured under Quality System ISO 9001 Cert # MEL0929678/A.

GENERAL APPLICATION

This valve has been designed for use in the oil and gas production, refining and chemical applications. Body material and wetted trim components conform to NACE Standard MR0175 - 2002.

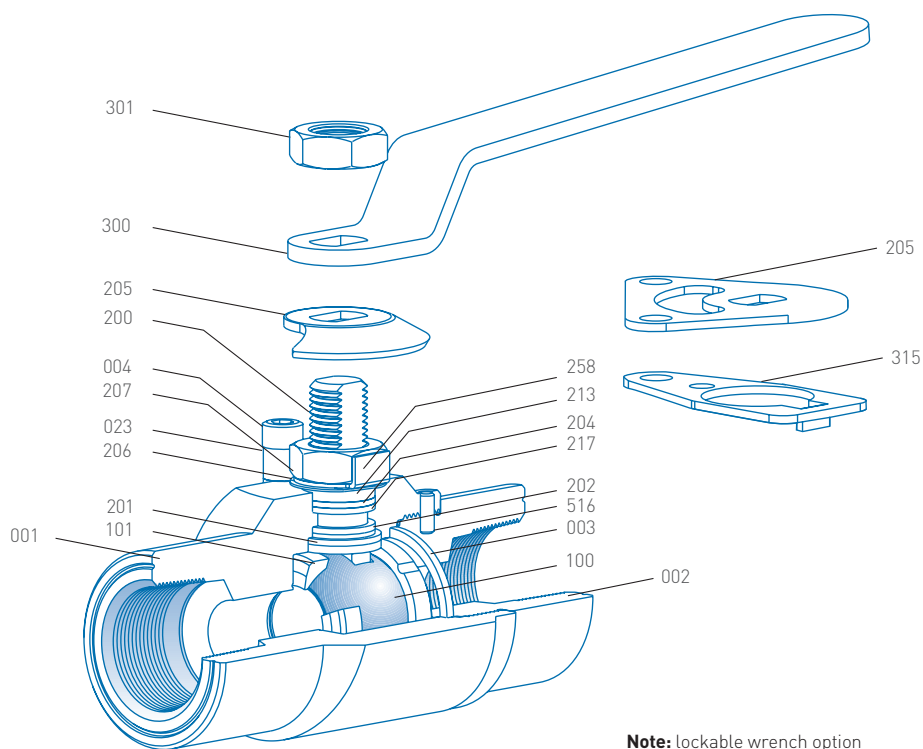
Hazardous areas handling flammable fuels, gases or chemicals where 'fire safe', or anti-static valves are mandatory or desirable.

TECHNICAL DATA

Size range: DN15 - 50 / NPS ½ - 2
 Pressure rating: ASME Class 800 and 1500
 Temperature rating: Up to 260°C / 500°F
 End connections: Threaded BSPT, NPT, socket weld and extended weld ends



KTM SERIES EB538/EB535 FLOATING BALL VALVE

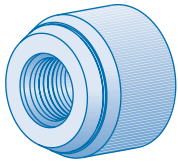


PARTS LIST

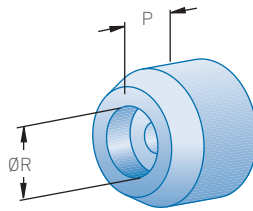
| No. | Description | Carbon steel | Stainless steel |
|-----|--|--|--|
| 001 | Body | ASTM A105N (max C 0.23%) | ASTM A182 Gr F316 (max C 0.03%) |
| 002 | Body insert | ASTM A105N (max C 0.23%) | ASTM A182 Gr F316 (max C 0.03%) |
| 003 | Body insert seal | Flexible graphite | Flexible graphite |
| 004 | Stop pin | UNS S31600 | UNS S31600 |
| 023 | Spacer | UNS S31600 | UNS S31600 |
| 100 | Ball | UNS S31600 | UNS S31600 |
| 101 | Seat (Class 800) Code C (Class 1500) Code V | Carbon filled PTFE Devlon V or equivalent | Carbon filled PTFE Devlon V or equivalent |
| 200 | Stem | UNS S31600 | UNS S31600 |
| 201 | Primary stem seal | Carbon reinforced PTFE | Carbon reinforced PTFE |
| 202 | Fire safe stem seal | Flexible graphite | Flexible graphite |
| 204 | Stem thrust washer | Carbon reinforced PTFE | Carbon reinforced PTFE |
| 205 | Stop plate | Carbon steel zinc plated | UNS S31600 |
| 206 | Spring washer | Inconel X750 | Inconel X750 |
| 207 | Gland nut | UNS S31600 | UNS S31600 |
| 213 | Gland | UNS S31600 | UNS S31600 |
| 217 | Gland packing | Flexible graphite | Flexible graphite |
| 258 | Lock washer | UNS S31600 | UNS S31600 |
| 300 | Wrench (non lockable) (lockable) | Carbon steel zinc plated UNS S31600 | UNS S31600 UNS S31600 |
| 301 | Wrench nut | UNS S31600 | UNS S31600 |
| 315 | Lock plate | UNS S31600 | UNS S31600 |
| 500 | Nameplate | UNS S31600 | UNS S31600 |
| 501 | Rivet | UNS S31600 | UNS S31600 |
| 516 | Lock pin | UNS S31600 | UNS S31600 |

KTM SERIES EB538/EB535 FLOATING BALL VALVE

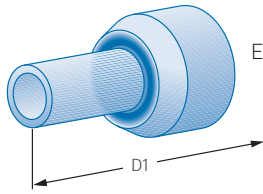
END CONNECTIONS, STANDARDS AND ORDER CODES



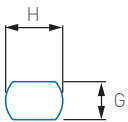
Screwed BSPT: Code B
 Standard: BS21 or ISO R.7
 Screwed NPT: Code N
 Standard: ASME B.1.20.1



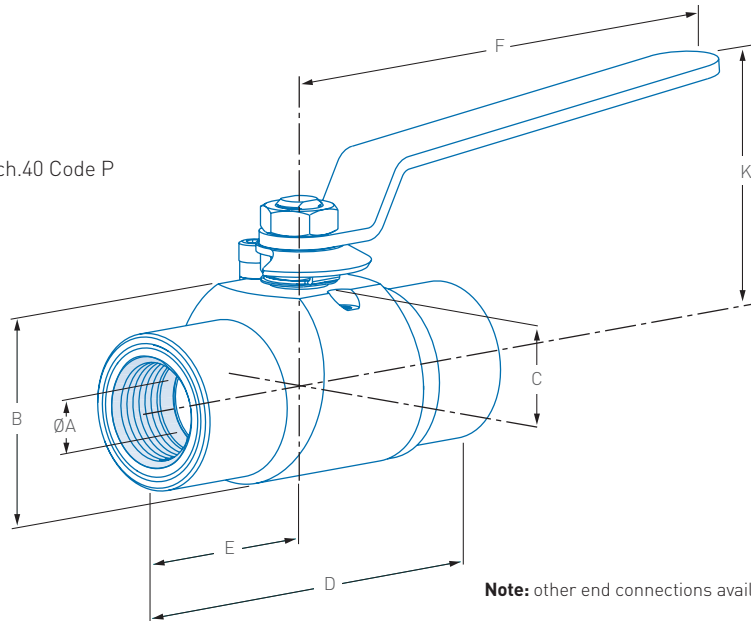
Socket weld pipe: Code S
 Standard: ASME B16.34 / ASME B16.11



Extended weld pipe: Sch.40 Code P



Note: plan view of valve stem



Note: other end connections available on request

DIMENSIONS (mm)

| Valve size DN | Port dia. ØA | Stem conn. code | B | C | D | E | F | K | P | ØR | Stem conn. (H x G) | Top plate data | | | Mass (kg) | K _v value (fully open) |
|------------------|-----------------|-----------------|-----|------|-----|------|-----|-----|----|----|--------------------|----------------|-----------|-----------|-----------|-----------------------------------|
| | | | | | | | | | | | | Centres | No. holes | Hole dia. | | |
| 15 | 12.5 | A | 57 | 25.5 | 110 | 55.0 | 135 | 61 | 13 | 27 | 3/8 x 1/4 | 37 | 2 | M6 | 1.2 | 12.7 |
| 20 | 17.7 | B | 65 | 32.0 | 115 | 57.5 | 200 | 82 | 13 | 34 | 1/16 x 3/8 | 39 | 2 | M6 | 2.0 | 26.2 |
| 25 | 25.4 | B | 80 | 37.0 | 130 | 65.0 | 200 | 92 | 13 | 49 | 1/16 x 3/8 | 39 | 2 | M6 | 4.2 | 45.3 |
| 40 | 36.5 | D | 102 | 46.0 | 150 | 75.0 | 200 | 107 | 16 | 61 | 3/4 x 1/2 | 52 x 52 | 4 | M6 | 6.4 | 132.0 |
| 50 | 50.0 | E | 127 | 63.0 | 175 | 87.5 | 254 | 155 | 16 | 61 | 7/8 x 5/8 | 50 x 50 | 4 | M6 | 9.5 | 286.0 |

NOTES

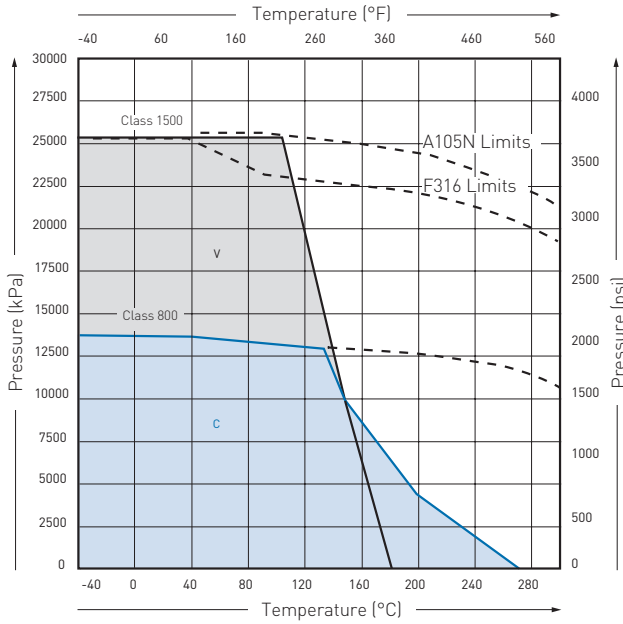
- B = The clearance dimension of the valve body from actuator mounting face to base of valve.
- H = The diameter of the stem connection.
- G = The dimension across the stem flats.
- D₁ = 400 mm for all valve sizes.
- K_v = The flow rate of water in m³/hr that will pass through a valve with a pressure drop of 1 bar (100 kPa) at 20°C.
- C_v = 1.155 K_v.
- Dimensions are nominal + 1 mm.

DIMENSIONS (inches)

| Valve size NPS | Port dia. ØA | Stem conn. code | B | C | D | E | F | K | P | ØR | Stem conn. (H x G) | Top plate data | | | Mass (lb) | C _v value (fully open) |
|-------------------|-----------------|-----------------|------|------|------|------|-------|------|------|------|--------------------|----------------|-----------|-----------|-----------|-----------------------------------|
| | | | | | | | | | | | | Centres | No. holes | Hole dia. | | |
| 1/2 | 0.49 | A | 2.24 | 1.00 | 4.53 | 2.26 | 5.32 | 2.40 | 0.51 | 1.06 | 3/8 x 1/4 | 1.46 | 2 | M06 | 2.7 | 8.9 |
| 3/4 | 0.70 | B | 2.56 | 1.26 | 5.12 | 2.56 | 7.87 | 3.23 | 0.51 | 1.34 | 1/16 x 3/8 | 1.54 | 2 | M06 | 4.4 | 18.3 |
| 1 | 1.00 | B | 3.15 | 1.46 | 5.91 | 2.95 | 7.87 | 3.62 | 0.51 | 1.93 | 1/16 x 3/8 | 1.54 | 2 | M06 | 9.3 | 57.2 |
| 1 1/2 | 1.44 | D | 4.00 | 1.81 | 6.89 | 3.46 | 7.87 | 4.21 | 0.63 | 2.40 | 3/4 x 1/2 | 2.05 x 2.05 | 4 | M06 | 14.0 | 92.4 |
| 2 | 1.97 | E | 5.00 | 2.48 | 6.89 | 3.46 | 10.00 | 6.10 | 0.63 | 2.40 | 7/8 x 5/8 | 1.97 x 1.97 | 4 | M06 | 21.0 | 92.4 |

KTM SERIES EB538/EB535 FLOATING BALL VALVE

PRESSURE/TEMPERATURE CHART



PRESSURE/TEMPERATURE RATINGS

Class 800

Carbon glass reinforced. PTFE seated.

Carbon steel:

DN15 - 50 / NPS 1/2 - 2 13.8 MPa/138 bar at 38°C/100°F

DN15 - 50 / NPS 1/2 - 2 0.5 MPa/5 bar at 260°C/500°F

Stainless steel:

DN15 - 50 / NPS 1/2 - 2 13.2 MPa/132 bar at 38°C/100°F

DN15 - 50 / NPS 1/2 - 2 0.5 MPa/5 bar at 260°C/500°F

Class 1500

Devlon V (or equivalent) seated.

Carbon steel:

DN15 - 50 / NPS 1/2 - 2 25.5 MPa/255 bar at 38°C/100°F

DN15 - 50 / NPS 1/2 - 2 0.5 MPa/5 bar at 180°C/356°F

Stainless steel:

DN15 - 50 / NPS 1/2 - 2 24.8 MPa/248 bar at 38°C/100°F

DN15 - 50 / NPS 1/2 - 2 0.5 MPa/5 bar at 180°C/356°F

NOTES

a) ASTM A105N per ASME B16.34 Table 2-1.1 - 2013

b) ASTM A182 F316 per ASME B16.34 Table 2-2.2 - 2013

TYPICAL SPECIFYING SEQUENCE - CLASS 800 AND CLASS 1500

| | | | | | | | | | | |
|------------|--------------|---------------|--------------------|--------------------|-----------|---------------|-----------|-----------------------------|---------------|--------------------|
| 025 | EB538 | C | N | N | C | S | F | 3 | - | 01 |
| Valve size | Figure no. | Body material | End conn. (note 1) | End conn. (note 1) | Seat type | Trim material | Body seal | Certification code (note 2) | Valve variant | Lock wrench option |

Size range: DN15 - 50 / NPS 1/2 - 2

Figure no.: EB538 - Fire safe, anti-static, Class 800, full bore, floating ball design ball valve.

EB535 - Fire safe, anti-static, Class 1500 full bore, floating ball design ball valve.

| Trim code | Body material | End conn. | End conn | Seat | Trim | Body seal |
|-----------|---------------|-----------|----------|---------------|---------|-------------------|
| CNNCSF | Carbon steel | NPT | NPT | Carbon R'PTFE | 316 S/S | Flexible graphite |
| SNSCSF | 316 S/S | NPT | S/W | Carbon R'PTFE | 316 S/S | Flexible graphite |
| CNNVSF | Carbon steel | NPT | NPT | Devlon V | 316 S/S | Flexible graphite |
| SSSVSF | 316 S/S | S/W | S/W | Devlon V | 316 S/S | Flexible graphite |

NOTES

- For end connection details refer to Emerson.
- Certification code: standard certification code 3 includes pressure test certification and material certification of the pressure containing components conforming to EN 10204/ISO 10474 Type 3.1 (DIN 50 049). For additional certification requirements, refer to Emerson.
- Valve variant: Standard valve is not offered with variants. Should a valve variant be required, refer to Emerson for variant listing and order code details.
- Standard options: base valve is supplied with wrench fitted - Code 00. For other valve options, refer to Emerson for listing and order code details.
- Extended pipe weld end is Class 800 - Sched.40, Class 1500 - Sched.80, refer to Emerson for other schedules or options.