

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



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

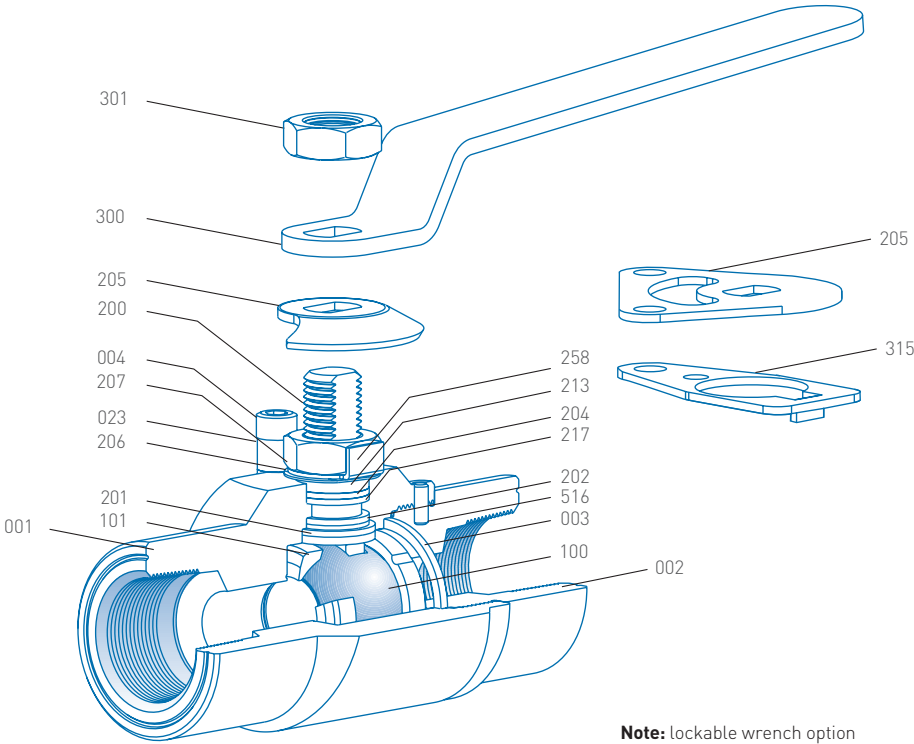
Size range: DN15 - 50 / NPS ½ - 2
 Pressure rating: ASME Class 800 and 1500
 Temperature rating: Up to 260°C / 500°F
 End connections: Threaded BSPT, NPT, socket weld and extended weld ends

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.



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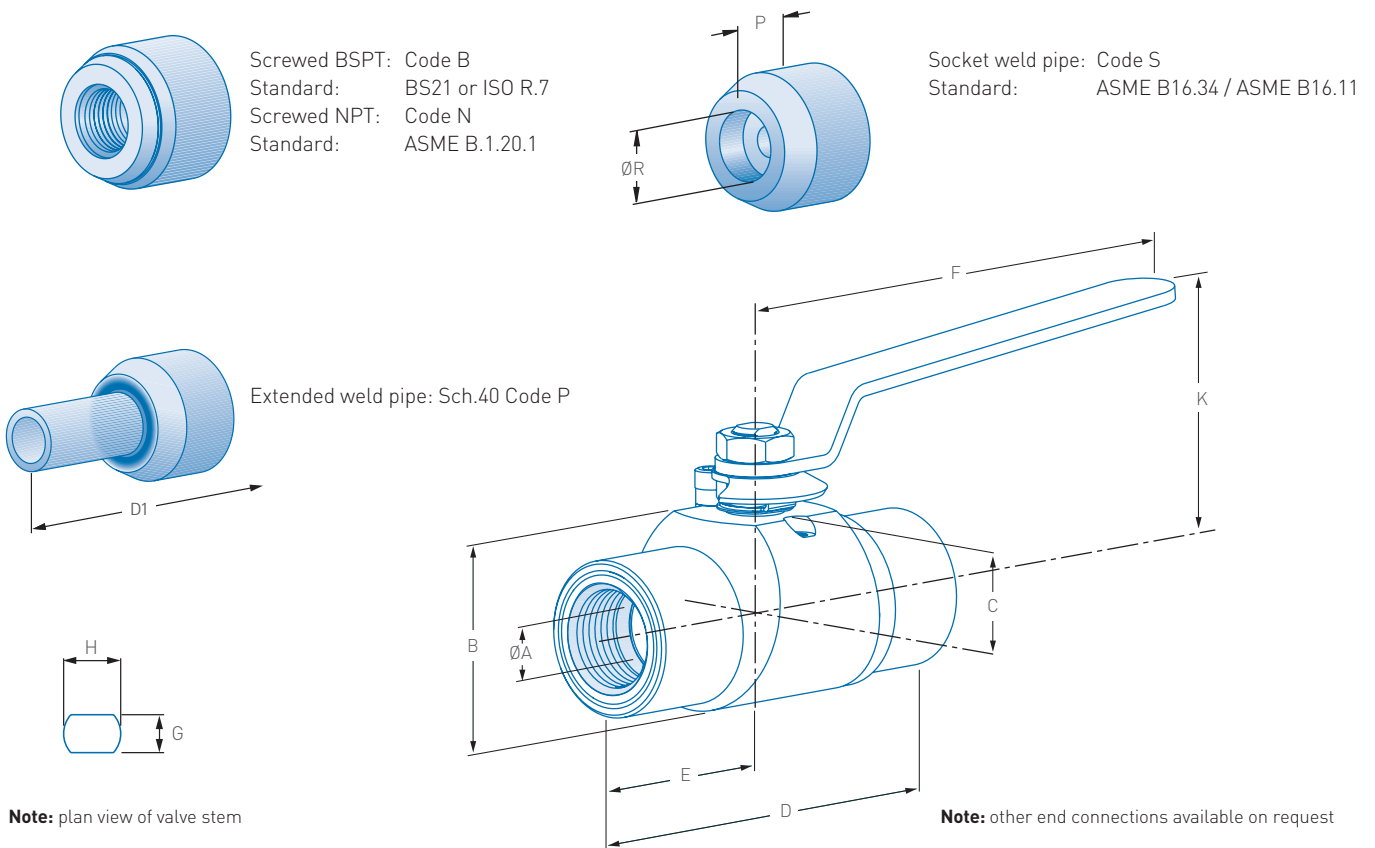
Note: lockable wrench option

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	Carbon filled PTFE	Carbon filled PTFE
	(Class 1500) Code V	Devlon V or equivalent	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)	Carbon steel zinc plated	UNS S31600
	(lockable)	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

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END CONNECTIONS, STANDARDS AND ORDER CODES



Note: plan view of valve stem

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.

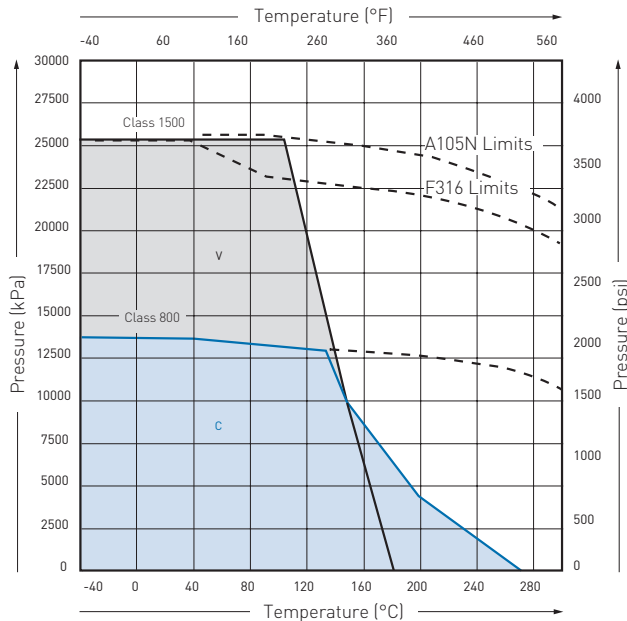
Dimensions are nominal + 1 mm.

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

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PRESSURE/TEMPERATURE CHART



PRESSURE/TEMPERATURE RATINGS

Class 800

Carbon glass reinforced. PTFE seated.

Carbon steel:

DN15 - 50 / NPS ½ - 2 13.8 MPa/138 bar at 38°C/100°F

DN15 - 50 / NPS ½ - 2 0.5 MPa/5 bar at 260°C/500°F

Stainless steel:

DN15 - 50 / NPS ½ - 2 13.2 MPa/132 bar at 38°C/100°F

DN15 - 50 / NPS ½ - 2 0.5 MPa/5 bar at 260°C/500°F

Class 1500

Devlon V (or equivalent) seated.

Carbon steel:

DN15 - 50 / NPS ½ - 2 25.5 MPa/255 bar at 38°C/100°F

DN15 - 50 / NPS ½ - 2 0.5 MPa/5 bar at 180°C/356°F

Stainless steel:

DN15 - 50 / NPS ½ - 2 24.8 MPa/248 bar at 38°C/100°F

DN15 - 50 / NPS ½ - 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 ½ - 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.