



## KTM SERIES EB7 UNIBODY FLOATING BALL VALVES

KTM Fire-safe and Anti-Static ASME 150/300 one piece, end entry, flanged ball valve for oil, gas, petrochemical and chemical industries



### FEATURES

- Designed to ASME B16.34, API 608 and ISO 17292.
- Optional testing to API 6D / ISO 14313.
- Single piece end entry body design complies with ASME B16.34.
- ISO 5211 top mounting flange.
- Face to Face to API 6D/ASME B16.10/BS 2080/BS EN 558.2.
- Fire tested to API 607 6th edition.
- Flange connection to ASME B16.5 as standard.
- One piece body offers total pipe integrity minimizing the number of potential leak paths.
- Carbon steel or stainless steel body as standard.
- Precision 316 stainless steel ball as standard.
- Blowout proof shouldered stem.
- Anti-static device.
- Cantilevered E-seat (PTFE/PFA copolymer) as standard.
- A secondary metal 'fire-safe' seat.
- Optional (DN 50 and above) cavity pressure bleed / vent fitting.
- External replaceable weather seal (DN 50/NPS 2 and above).
- Emergency seat and stem sealant facility (optional - DN 50/NPS 2 and above).
- Spring energized stem assembly to compensate for wear and temperature changes.
- Integral padlocking facility as standard.
- Vented ball equalizes body cavity pressure in open position and prevents possible seat damage.
- Manufactured under quality system ISO 9001 and API 6D Q1.
- All valves factory hydro/air tested to API 598.
- Certificate of compliance to EN 10204:2004. Type 3.1 are supplied as standard.

### GENERAL APPLICATIONS

Ideally suited for use in the oil and gas production, refining and chemical applications. Body material and wetted trim components conform to NACE MR0175-2002.

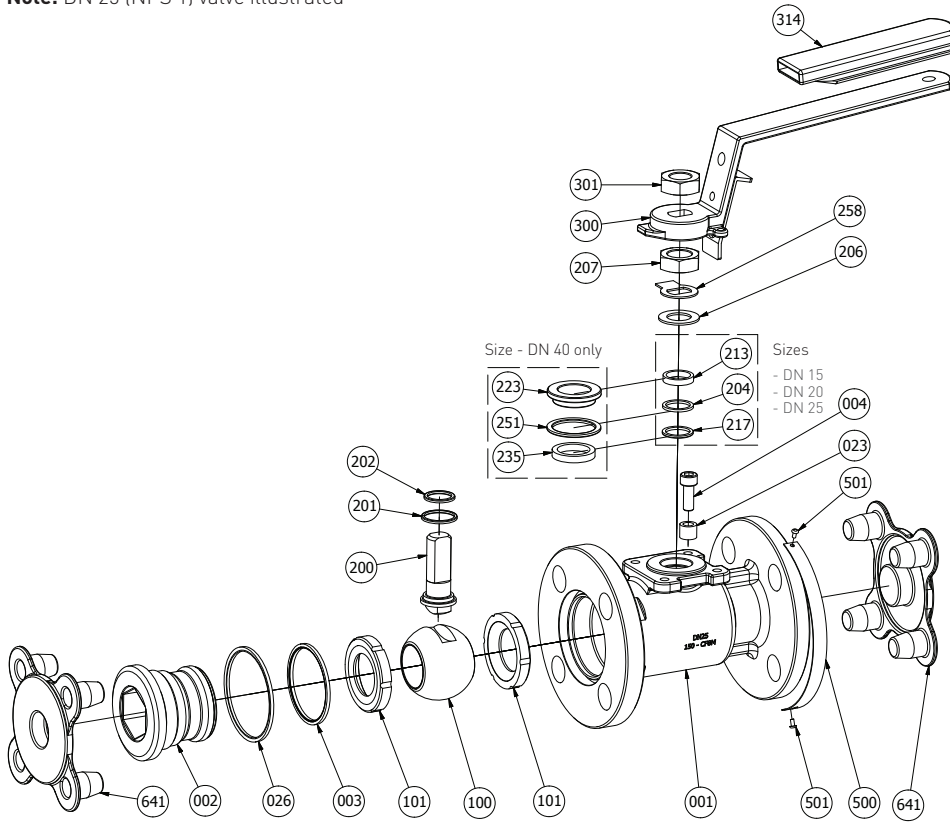
Hazardous areas handling flammable fuels, gases or chemicals where 'fire-safe', or anti-static valves are mandatory or desirable.

### TECHNICAL DATA

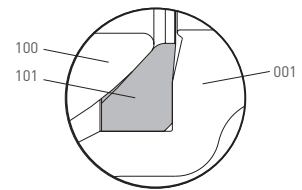
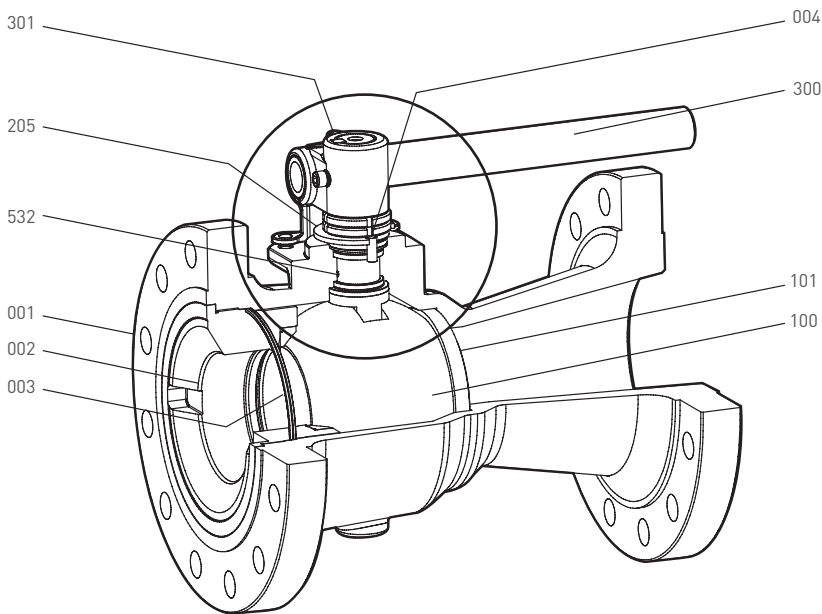
Model: EB7  
Sizes: DN 15 - 200 (NPS ½ - 8)  
Pressure rating: ASME Class 150, 300  
End Connection: ASME B16.5  
Raised face flange  
Temperature: -29°C - 232°C (-20°F - 450°F)

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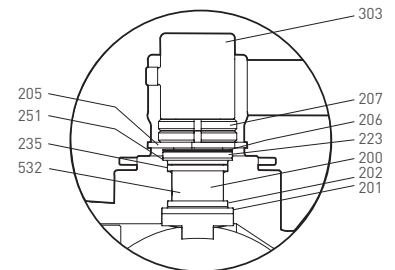
**Note:** DN 25 (NPS 1) valve illustrated



**Note:** DN 150 (NPS 6) valve illustrated



Cantilever seat detail



Stem section detail DN 50-200 (NPS 2 - 8)

# KTM SERIES EB7 UNIBODY FLOATING BALL VALVES

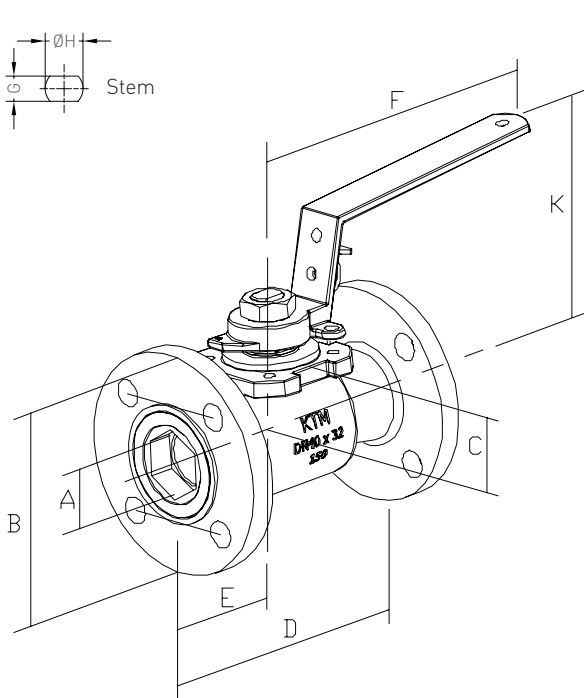
## PARTS LIST

No.	Description	Carbon steel	Stainless steel
001	Body	ASTM A216-WCB/WCC Dual certified	ASTM A351-CF8M
002	Body insert	ASTM A216-WCB/WCC Dual certified	ASTM A351-CF8M
003	Body insert seal	Virgin PTFE	Virgin PTFE
004	Stop screw DN 15 - 50 (NPS ½ - 2)	UNS S31600	UNS S31600
004	Stop pin DN 80 - 200 (NPS 3 - 8)	Alloy steel	UNS S31600
023	Stop pin spacer DN 15 - 50 (NPS ½ - 2)	UNS S31600	UNS S31600
026	Firesafe body seal DN 15 - 40 (NPS ½ - 1½) only	Flexible graphite	Flexible graphite
100	Ball	UNS S31600	UNS S31600
101	Seat (Code E - Cantilevered)	PTFE/PFA copolymer	PTFE/PFA copolymer
	Seat (Code G - Cantilevered)	Carbon reinforced PTFE	Carbon reinforced PTFE
200	Stem (Standard)	UNS S31600	UNS S31600
	Stem (High strength)	(Optional - UNS S17400)	(Optional - UNS S17400)
201	Primary stem seal	Glass reinforced PTFE	Glass reinforced PTFE
202	Firesafe stem seal	Flexible graphite	Flexible graphite
204	Stem thrust washer DN 15 - 25 (NPS ½ - 1)	Glass reinforced PTFE	Glass reinforced PTFE
205	Stop plate DN 80 - 200 (NPS 3 - 8)	UNS S31600	UNS S31600
206	Stem spring	Inconel	Inconel
207	Stem nut	UNS S31600	UNS S31600
213	Gland DN 15 - 25 (NPS ½ - 1)	UNS S31600	UNS S31600
217	Gland packing DN 15 - 25 (NPS ½ - 1)	Flexible graphite	Flexible graphite
223	Stem seal follower DN 40 - 200 (NPS 1½ - 8)	UNS S31600	UNS S31600
235	Aux. stem seal DN 40 - 200 (NPS 1½ - 8)	Virgin PTFE	Virgin PTFE
251	Weather seal DN 40 - 200 (NPS 1½ - 8)	Comp. carbon fiber	Comp. carbon fiber
258	Lock washer DN 15 - 50 (NPS ½ - 2)	UNS S31600	UNS S31600
300	Lever DN 15 - 50 (NPS ½ - 2)	UNS S31600	UNS S31600
	Lever DN 80 - 200 (NPS 3 - 8)	Carbon steel zinc plated (Optional - UNS S31600)	Carbon steel zinc plated (Optional - UNS S31600)
301	Lever retainer	Carbon steel zinc plated (Optional - UNS S31600)	Carbon steel zinc plated (Optional - UNS S31600)
303	Lever head DN 80 - 200 (NPS 3 - 8)	S.G. iron (prime coated) (Optional - UNS S31600)	S.G. iron (prime coated) (Optional - UNS S31600)
532	Anti-Static device DN 80 - 200 (NPS 3 - 8)	UNS S31600/Inconel	UNS S31600/Inconel
641	Flange cover	Plastic	Plastic

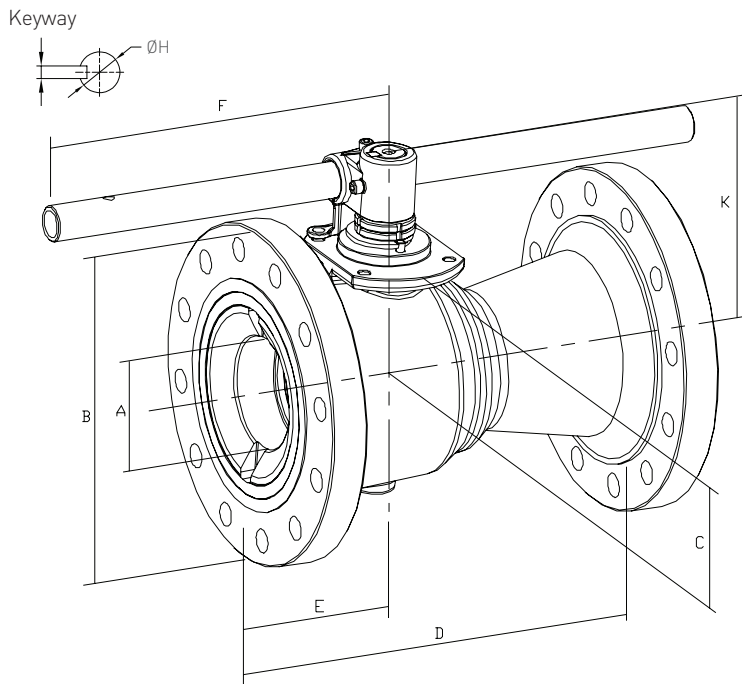
**Note:** pressure containing materials conform to NACE standard MR0175-2002.

# KTM SERIES EB7 UNIBODY FLOATING BALL VALVES

## METRIC DATA



Note: DN 40 valve illustrated



Note: DN 150 valve illustrated

### DIMENSIONS DN 15 - DN 40 (Full bore)

Valve size		ØB			C	D			Stem connection		Top plate data			Mass (kg)		K <sub>v</sub> at	
DN	Bore ØA	Class		Class		E	F	K	ØH x G	Key	No. holes	Hole dia.	PCD	150	300	150	300
15	13	90	95	22.5	108	140	56.0	145	95	9.5 x 6.3	-	4	M06	50	2.0	2.0	7.9
20	19	100	115	30.0	117	152	63.0	180	106	14.3 x 9.5	-	4	M06	50	2.5	2.5	26.2
25	25	110	125	34.5	127	165	65.0	180	111	14.3 x 9.5	-	4	M06	50	3.5	3.5	45.3
40	38	125	155	47.5	165	190	87.6	200	127	19 x 12.7	-	4	M08	70	6.5	10.0	132.0

### DIMENSIONS DN 50 - DN 200 (Reduced bore)

Valve size		ØB			C	D			Stem connection		Top plate data			Mass (kg)		K <sub>v</sub> at		
DN	Bore ØA	Class		Class		E	F	K	ØH x G	Key	No. holes	Hole dia.	PCD	150	300	150	300	
50	38	150	165	47.5	178	216	89.0	200	134	19 x 12.7	-	4	M08	70	8.5	11.0	139	152
80	63	190	210	85.0	203	283	103.3	427	158	22 x 15.9	-	4	M10	102	18.5	26.0	351	357
100	76	230	255	97.0	229	305	114.5	427	170	22 x 15.9	-	4	M10	102	29.5	40.5	532	600
150	102	280	320	124.0	267	403	133.5	625	220	32	10 x 10	4	M12	125	52.0	78.0	578	832
200	150	345	380	159.0	292	419	161.0	966	255	32	10 x 10	4	M12	125	98.0	118.0	1280	1558

### NOTES

F = The lever dimension when the handle is in the extended position.

H = The diameter of the stem connection.

G = The dimension across the stem flats.

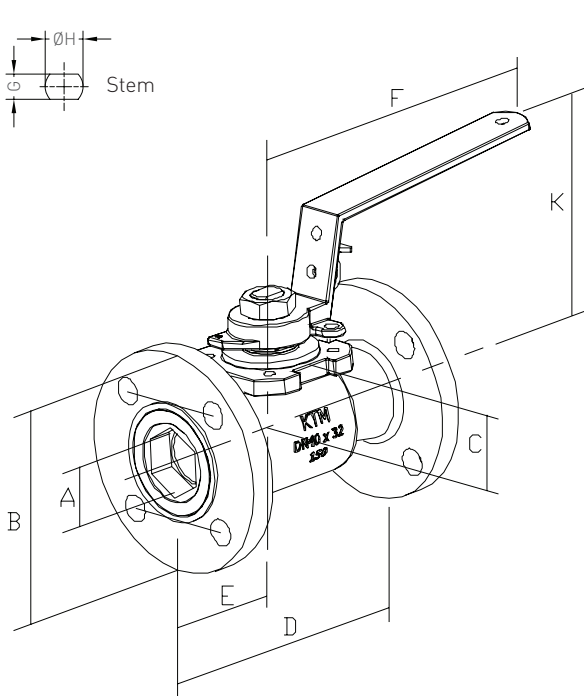
K<sub>v</sub> = The flow rate of water in m<sup>3</sup>/hr that will pass through a valve with a pressure drop of 1 bar (100 kPa) at 20°C.

C<sub>v</sub> = 1.155 K<sub>v</sub>      K<sub>v</sub> = C<sub>v</sub>/1.155

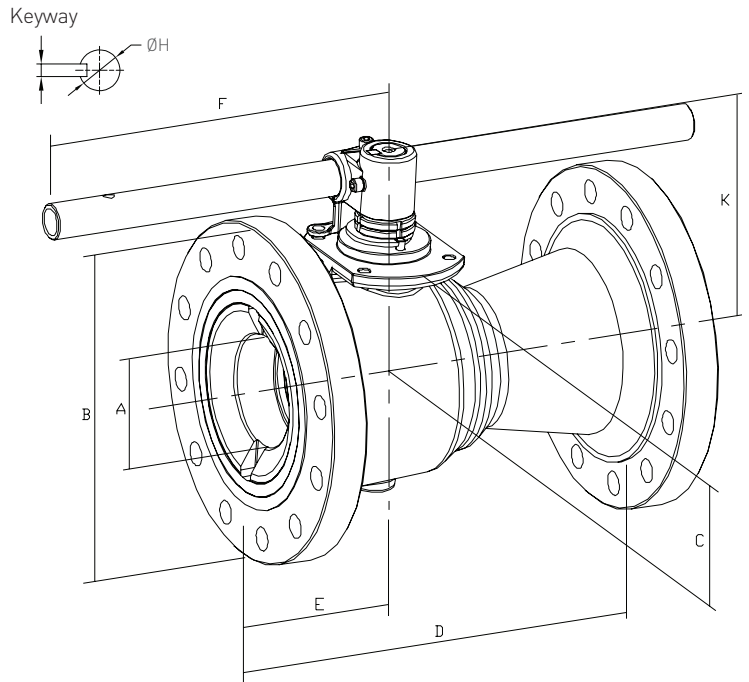
Dimensions are nominal to ±1 mm.

# KTM SERIES EB7 UNIBODY FLOATING BALL VALVES

## IMPERIAL DATA



Note: NPS 1½ valve illustrated



Note: NPS 6 valve illustrated

### DIMENSIONS NPS ½ - NPS 1½ (Full bore)

Valve size	NPS	Bore ØA	ØB		C	D			Shaft connection		Top plate data			Mass (lbs)		K <sub>v</sub> at		
			Class 150	Class 300		Class 150	Class 300	E	F	K	ØH x G	Key	No. holes	Hole dia.	PCD	Class 150	Class 300	Class 150
½		0.50	3.54	3.74	0.89	4.25	5.50	2.20	5.70	3.74	0.37 x 0.25	-	4	M06	2.00	4.4	4.4	7.9
¾		0.75	3.94	4.53	1.18	4.60	5.98	2.48	7.10	4.20	0.56 x 0.37	-	4	M06	2.00	5.5	5.5	26.2
1		1.00	4.33	4.92	1.35	5.00	6.50	2.60	7.10	4.37	0.56 x 0.37	-	4	M06	2.00	7.7	7.7	45.3
1½		1.50	4.92	6.10	1.87	6.50	7.48	87.60	7.87	5.00	0.75 x 0.50	-	4	M08	2.75	14.3	22.0	132.0

### DIMENSIONS NPS 2 - NPS 8 (Reduced bore)

Valve size	NPS	Bore ØA	ØB		C	D			Shaft connection		Top plate data			Mass (lbs)		K <sub>v</sub> at			
			Class 150	Class 300		Class 150	Class 300	E	F	K	ØH x G	Key	No. holes	Hole dia.	PCD	Class 150	Class 300	Class 150	Class 300
2		1.5	5.90	6.5	1.87	7.0	8.5	3.5	7.9	5.3	0.75 x 0.5	-	4	M08	2.75	18.7	24.3	139	152
3		2.5	7.48	8.3	3.35	8.0	11.1	4.1	16.8	6.2	0.87 x 0.63	-	4	M10	4.00	40.8	57.3	351	357
4		3.0	9.10	10.0	3.82	9.0	12.0	4.5	16.8	6.7	0.87 x 0.63	-	4	M10	4.00	65.0	89.3	532	600
6		4.0	11.00	12.6	4.88	10.5	15.9	5.3	24.6	8.7	1.26	10 x 10 #	4	M12	4.90	114.6	172.0	578	832
8		6.0	13.60	15.0	6.26	11.5	16.5	6.3	39.0	10.0	1.26	10 x 10 #	4	M12	4.90	216.0	260.0	1280	1558

### NOTES

F = The lever dimension when the handle is in the extended position.

H = The diameter of the stem connection.

G = The dimension across the stem flats.

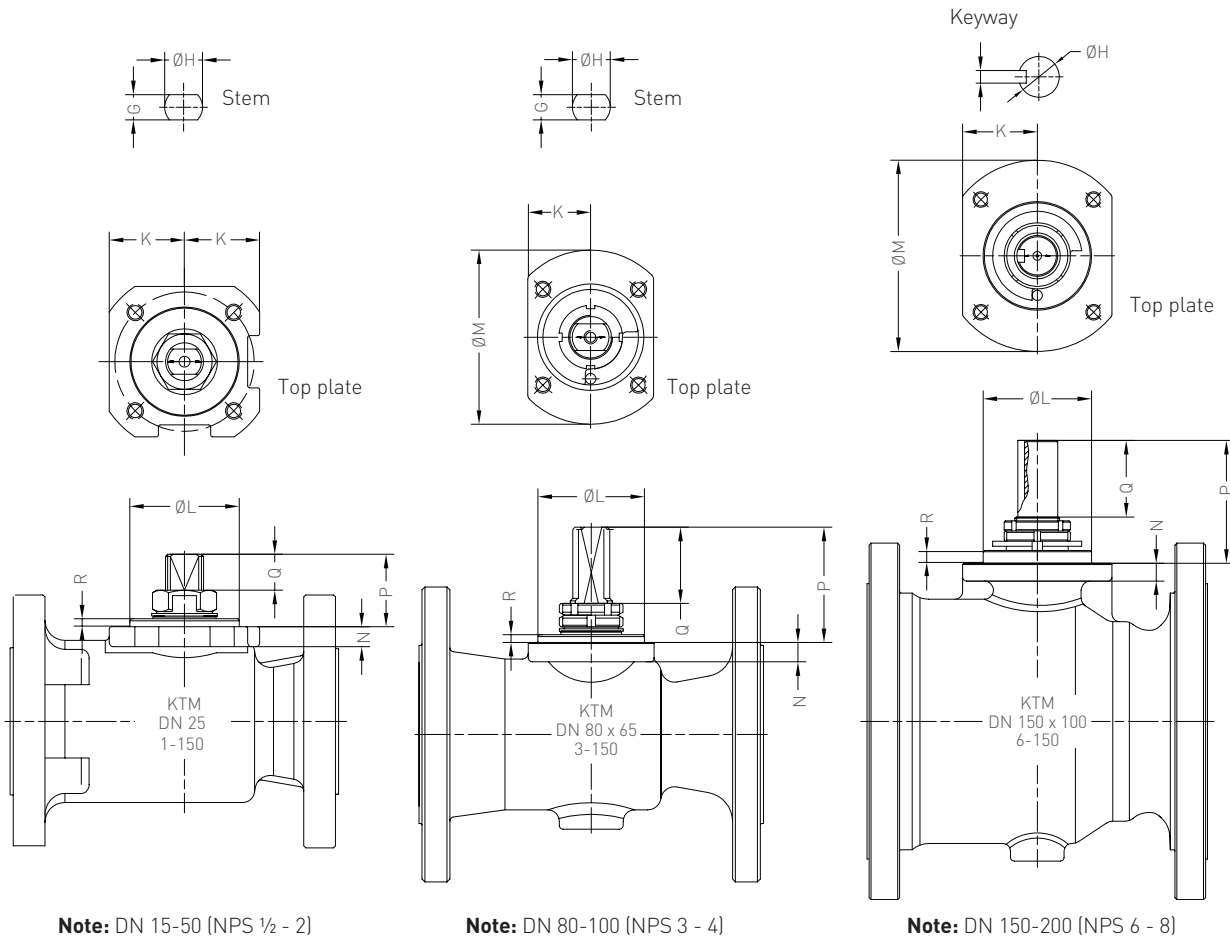
K<sub>v</sub> = The flow rate of water in US gallon per minute that will pass through a valve with a pressure drop of 1 psi at 68°F.

C<sub>v</sub> = 1.155 K<sub>v</sub>      K<sub>v</sub> = C<sub>v</sub>/1.155

# = Metric stem keyway is used on NPS 6 and 8 valves.

Dimensions are nominal to ±0.03".

# KTM SERIES EB7 UNIBODY FLOATING BALL VALVES



## TOP WORK DIMENSIONS DN 15 - DN 200 (Metric)

Valve size	ISO MTG code	Stem connection		Top plate data			Dimensions						
		ØH x G	Key	No. holes	Hole dia.	PCD	P	Q	M	K	L	N	R
15	F05	9.5 x 6.3	-	4	M06	50	19.0	8.5	-	25.0	35	6.5	2
20	F05	14.3 x 9.5	-	4	M06	50	29.5	15.5	-	25.0	35	6.5	2
25	F05	14.3 x 9.5	-	4	M06	50	29.5	15.5	-	25.0	35	6.5	2
40	F07	19 x 12.7	-	4	M08	70	37.0	18.0	-	37.5	55	10.0	4
50	F07	19 x 12.7	-	4	M08	70	37.0	18.5	75	37.5	55	10.0	4
80	F10	22 x 15.9	-	4	M10	102	73.0	42.0	126	47.5	70	10.0	5
100	F10	22 x 15.9	-	4	M10	102	73.0	42.0	126	47.5	70	10.0	5
150	F12	32	10 x 10	4	M12	125	96.0	60.0	151	58.5	85	14.0	10
200	F12	32	10 x 10	4	M12	125	96.0	60.0	151	58.5	85	15.0	10

## TOP WORK DIMENSIONS NPS ½ - NPS 8 (Imperial)

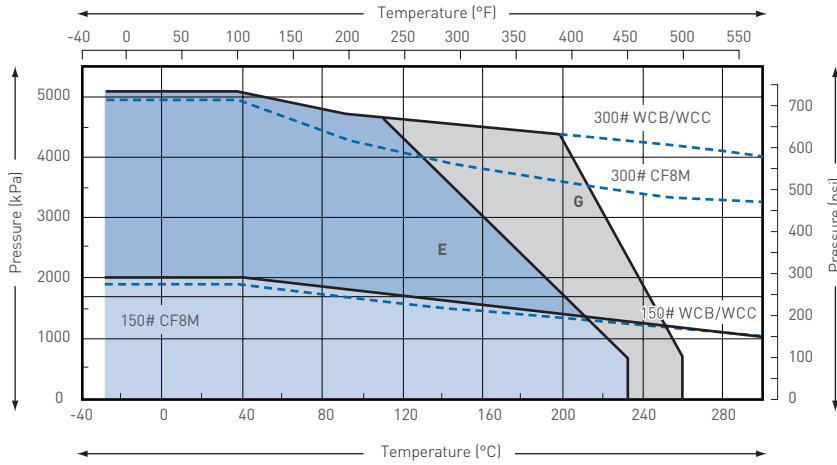
Valve size	ISO MTG code	Stem connection		Top plate data			Dimensions						
		ØH x G	Key	No. holes	Hole dia.	PCD	P	Q	M	K	L	N	R
½	F05	0.373 x 0.247	-	4	M06	2.00	0.75	0.33	-	0.98	1.38	0.26	0.08
¾	F05	0.562 x 0.373	-	4	M06	2.00	1.16	0.61	-	0.98	1.38	0.26	0.08
1	F05	0.562 x 0.373	-	4	M06	2.00	1.16	0.61	-	0.98	1.38	0.26	0.08
1½	F07	0.75 x 0.5	-	4	M08	2.75	1.46	0.71	-	1.48	2.17	0.40	0.16
2	F07	0.75 x 0.5	-	4	M08	2.75	1.46	0.72	2.95	1.48	2.17	0.40	0.16
3	F10	0.865 x 0.625	-	4	M10	4.00	2.88	1.65	4.96	1.87	2.76	0.40	0.20
4	F10	0.865 x 0.625	-	4	M10	4.00	2.88	1.65	4.96	1.87	2.76	0.40	0.20
6	F12	1.259	10 x 10 #	4	M12	4.92	3.78	2.36	5.95	2.30	3.35	0.55	0.40
8	F12	1.259	10 x 10 #	4	M12	4.92	3.78	2.36	5.95	2.30	3.35	0.59	0.40

**Note:**

# = Metric stem keyway is used on DN 150 and DN 200 (NPS 6 and NPS 8)

# KTM SERIES EB7 UNIBODY FLOATING BALL VALVES

PRESSURE/TEMPERATURE GRAPH



**E** - PTFE/PFA copolymer cantilevered seat  
**G** - R'PTFE cantilevered seat

**NOTE**

1. These pressure/temperature ratings displayed are for total valve assembly with the respective seat material fitted.
2. Carbon steel valves have a minimum temperature limitation of minus 29°C (-20°F).

**PRESSURE/TEMP RATINGS**

**Class 150**

**PTFE/PFA copolymer**

**Carbon steel:**

ASTM A216-WCB/WCC dual certified  
 1980 kPa/19.8 bar max at 38°C  
 (287 psi max at 100°F)

**Stainless steel:**

ASTM A351-CF8M  
 1900 kPa/19 bar max at 38°C  
 (276 psi max at 100°F)

**Carbon reinforced PTFE**

**Carbon steel:**

ASTM A216-WCB/WCC dual certified  
 1980 kPa/19.8 bar max at 38°C  
 (287 psi max at 100°F)

**Stainless steel:**

ASTM A351-CF8M  
 1900 kPa/19 bar max at 38°C  
 (276 psi max at 100°F)

**Class 300**

**PTFE/PFA copolymer**

**Carbon steel:**

ASTM A216-WCB/WCC dual certified  
 5170 kPa/51.7 bar max at 38°C  
 (750 psi max at 100°F)

**Stainless steel:**

ASTM A351-CF8M  
 4960 kPa/49.6 bar max at 38°C  
 (719 psi max at 100°F)

**Carbon reinforced PTFE**

**Carbon steel:**

ASTM A216-WCB/WCC dual certified  
 5170 kPa/51.7 bar max at 38°C  
 (750 psi max at 100°F)

**Stainless steel:**

ASTM A351-CF8M  
 4960 kPa/49.6 bar max at 38°C  
 (719 psi max at 100°F)

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