

WKM[®] DynaSeal[®] 370D4 Trunnion Ball Valves

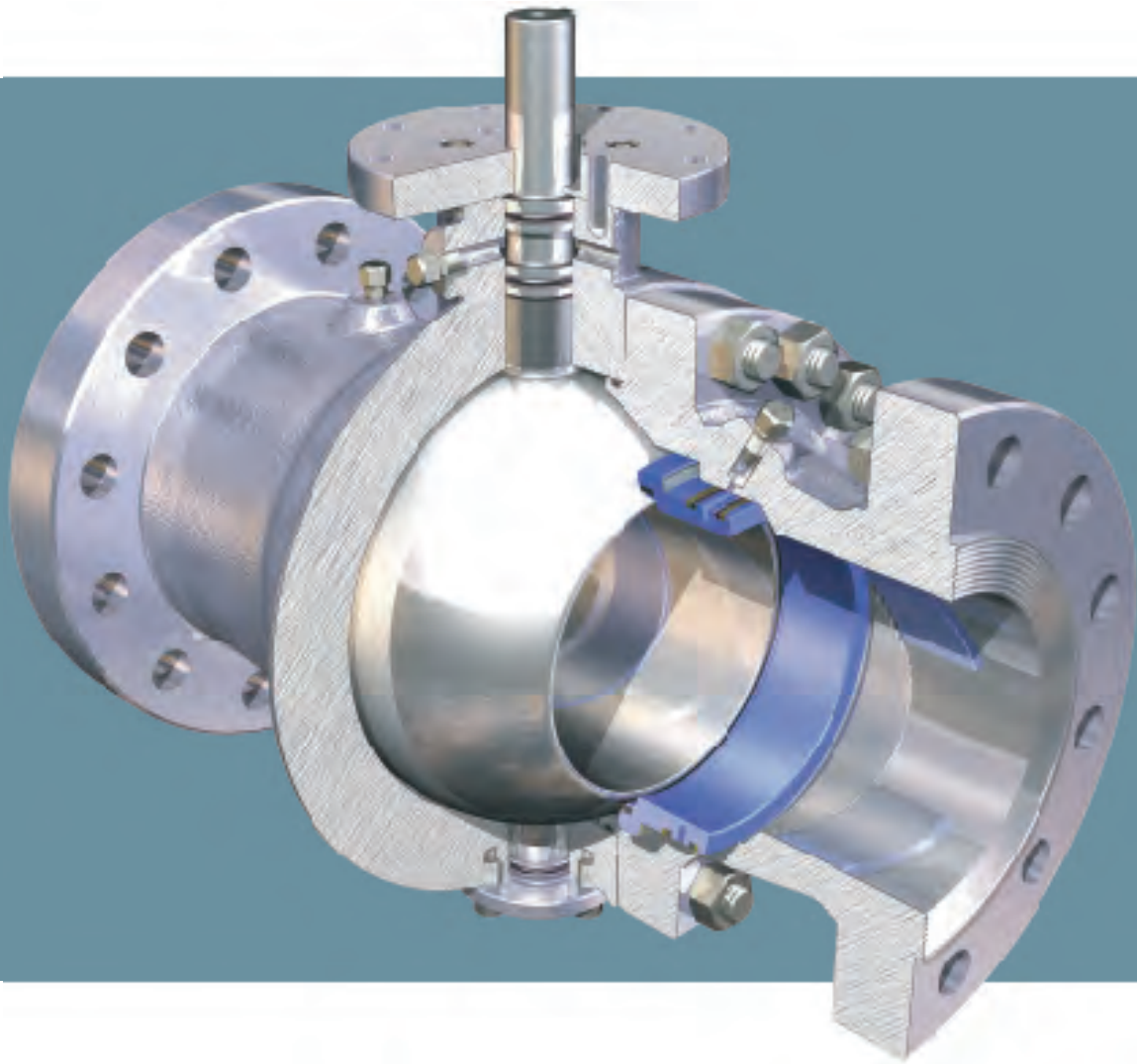


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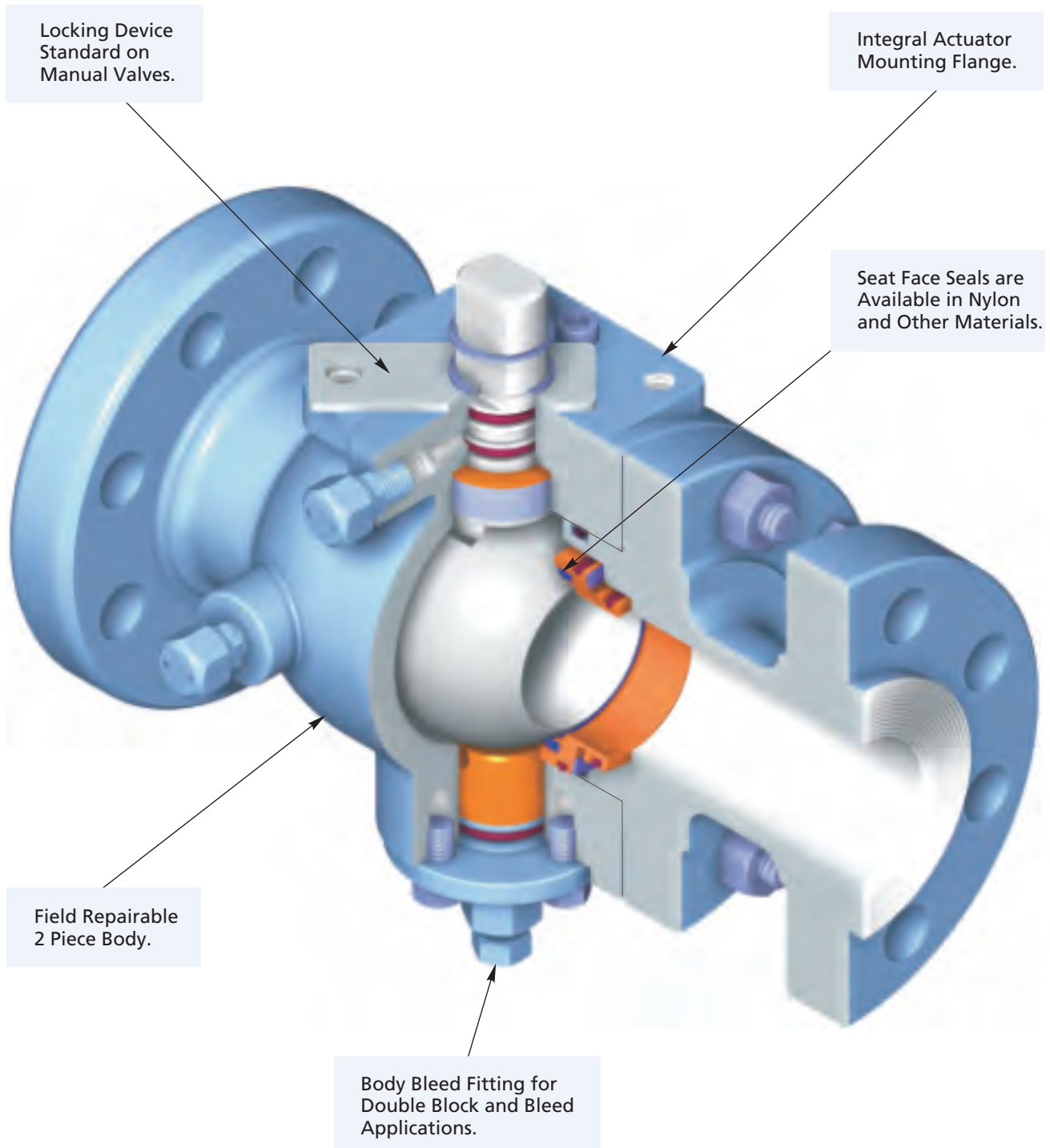
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370D4 TRUNNION BALL VALVES
ASME CLASSES 150 THROUGH 2500 & 5000# MOP
2 in. - 6 in. x 4 in. (50 mm - 150 mm x 100 mm)

WKM DynaSeal 370D4 Trunnion Ball Valves are designed and engineered for heavy duty performance and meet API 6D specifications for general purpose petroleum and chemical process applications.



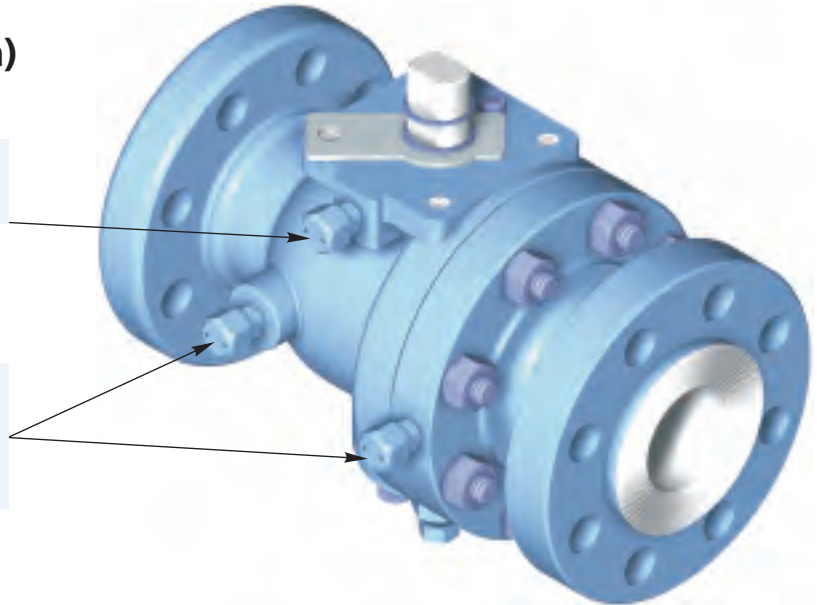
370D4 TRUNNION BALL VALVES

ASME CLASSES 150 THROUGH 2500 & 5000# MOP

2 in. - 6 in. x 4 in.
(50 mm - 150 mm x 100 mm)

Stem sealant injection is optional on 2 in. - 4 in. (50 mm - 100 mm)

Secondary seat sealant injection fittings are standard on Class 600 and higher pressure classes and optional on lower pressure classes



The End Entry Ball Valve for gas, oil and product pipelines, it's the choice for gas distribution and other specialized applications.

WKM DynaSeal 370D4 Trunnion Ball Valves offers all the required features and options demanded by the gas transmission, gas distribution and oilfield production industries. Seat and stem sealant injection fittings, low pressure sealability comply with ASME/ANSI B16.34, API 6D, API 6FA and API 607 4th Edition Standards. The End Connections may be specified in Flanged, Weld End or Weld by Flanged End Connections.

FEATURES AND BENEFITS

PRESSURE-ACTUATED SEATS

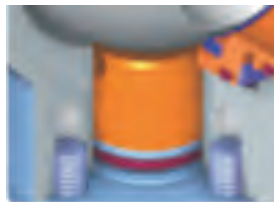
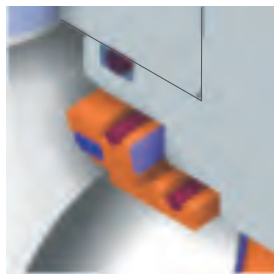
This valve uses pressure-actuated seats with locked-in non-metallic face seals. To assure tight sealing at low pressures, special wave springs force the seats against the ball. At higher pressures, the upstream seat is forced against the ball by the pressure working across the differential between the area of the seat insert and the seat O-ring. The higher the pressure, the tighter the seal.

SECONDARY SEAT SEALANT INJECTION

In the event of damage to the valve seat, sealant can be injected to temporarily seal the valve until repair can be performed. (Optional in 2 in. - 4 in. (50 mm - 100 mm) Class 150/300 and standard in all others.)

FIELD REPAIRABLE

The split body design permits complete repairs to be made in the field without special tools.



INDICATOR HANDLE

When the handle is aligned with the pipe, the valve is open. When the handle is perpendicular to the pipe, the valve is closed.

DESIGN STANDARDS

See page 4.

POSITIVE DOUBLE BLOCK AND BLEED OPERATION

The pressure-actuated seats and bleed fittings allow Double Block and Bleed operation. When used for Block and Bleed, this feature permits the valve to take the place of two valves. It also allows the operator to check up and downstream sealing by bleeding off the body pressure.

AUTOMATIC BODY PRESSURE RELIEF

Seats will internally relieve excess body pressure.

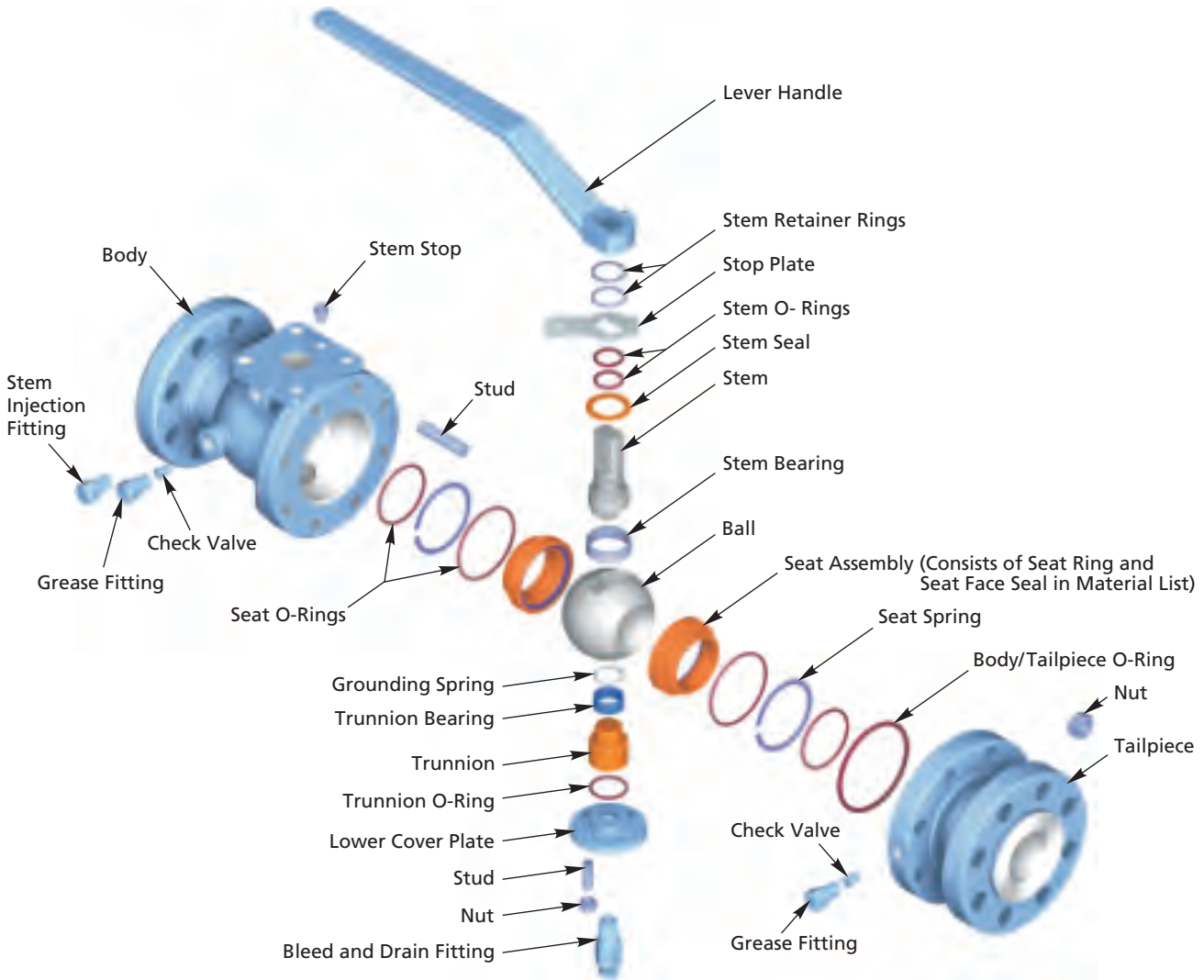
FIRE TESTED FOR SAFETY

WKM DynaSeal 370D Valves are qualified under API standard 6FA and API 607 4th Edition.

NACE TRIM STANDARD

All WKM DynaSeal 370D Trunnion Ball Valves come standard to NACE MR0175/ISO 15156 for Buried Service.

370D4 TRUNNION BALL VALVES
ASME CLASSES 150 THROUGH 2500 & 5000# MOP
2 in. - 6 in. x 4 in. (50 mm - 150 mm x 100 mm)



STANDARDS AND SPECIFICATIONS

WKM DynaSeal 370D4 Trunnion Ball Valves conform to the following Design and Testing Standards:

- API 6D/ISO 14313
- NACE MR0175/ISO 15156
- ASME/ANSI B16.34 (Valves, Flange End)
- ASME/ANSI B16.5 (Steel Pipe Flanges and Flange Fitting)
- MSS-SP-6 (Standard Finishes for Pipe Flanges)
- MSS-SP-25 (Standard Marking System for Valves)
- MSS-SP-55 (Quality Standards for Steel Castings)
- API 6FA (Fire Test Specification)

In addition WKM DynaSeal 370D4 Trunnion Ball Valves can be supplied to comply with these Standards:

- ASME/ANSI B31.1 (Power Piping)
- API 598 (Valve Inspection and Testing)
- ASME/ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping)
- MSS-SP-61 (Pressure Testing of Steel Valves)
- ASME/ANSI B16.104 (Valve Seat Leakage)
- API 607 4th Edition (Fire Test Specification)

ASME/ANSI PRESSURE CLASS

SIZE		CLASS					
in.	(mm)	150	300	600	900	1500	2500
2	(50)	•	•	•	•	•	•
3 x 2	(75 x 50)			•	•		
3	(75)	•	•	•	•	•	•
4 x 3	(100 x 75)			•	•		
4	(100)	•	•	•	•	•	•
6 x 4	(150 x 100)	•	•	•	•	•	•

SIZE		5000# MOP
in.	(mm)	
2 1/16	(52)	•
3 1/8	(79)	•
4 1/16	(103)	•

370D4 TRUNNION BALL VALVES MATERIALS LIST ASME CLASSES 150 THROUGH 2500 & 5000# MOP 2 in. - 6 in. x 4 in. (50 mm - 150 mm x 100 mm) BODY GROUP TRIM NUMBER

PART	CARBON STEEL (NACE) 24	CARBON STEEL LOW TEMP (NACE) 37	STAINLESS STEEL (NACE) 23
Body	A216 Gr. WCC/A105	A352 Gr. LCC/A350 Gr. LF2	A351 Gr. CF8M/316 SS
Body 5000# MOP	A487 Gr. 4	A487 Gr. 4	N/A
Tailpiece	A216 Gr. WCC/A105	A352 Gr. LCC/A350 Gr. LF2	A351 Gr. CF8M/316 SS
Tailpiece 5000# MOP	A-487 Gr. 4	A-487 Gr. 4	N/A
Studs	A193 Gr. B7M	A320 Gr. L7M	A193 Gr. B7M Zinc Plate
Nuts	A194 Gr. 2HM	A194 Gr. 7ML	A194 Gr. 2HM Zinc Plate
Cap Screws	A574M	A320 Gr. L7M	A193 Gr. B7M Zinc Plate
Stem Stop	CS Zinc Plate	CS Zinc Plate	CS Zinc Plate
Stem Bearing	CS/Filled PTFE	CS/Filled PTFE	SS/Filled PTFE
Trunnion Bearing	CS/Filled PTFE	CS/Filled PTFE	SS/Filled PTFE
Stop Plate	Carbon Steel	Carbon Steel	Carbon Steel
Lever Handle	Ductile Iron	Ductile Iron	Ductile Iron
Lower Cover Plate	Carbon Steel	4130	316 SS

INTERNAL GROUP TRIM NUMBER

Ball Class 150 through 2500	A105 CS ENP	A105 CS ENP	A182 Gr. 316 SS
Ball 5000# MOP	4130/4140 ENP	4130/4140 ENP	A182 Gr. 316 SS
Stem	4130/4140 ENP	4130/4140 ENP	A564 Type 630 SS ENP
Trunnion	4130/4140 ENP	4130/4140 ENP	A564 Type 630 SS ENP
Seat Rings Class 150 through 900	1018/1029 CS	1018/1029 CS	A182 Gr. 316 SS
Seat Rings Class 1500, 2500 & 5000# MOP	4130	4130	A564 Type 630 SS
Seat Springs	B637 X750	B637 X750	B637 X750
Grounding Spring	Stainless Steel	Stainless Steel	Stainless Steel

Note: Trims 23 and 24 are suitable for ambient temperatures from -20°F to 350°F, trim 37 is suitable for ambient temperatures from -50°F to 350°F.

SEAL GROUP TRIM CODE (Note Pressure Classes)

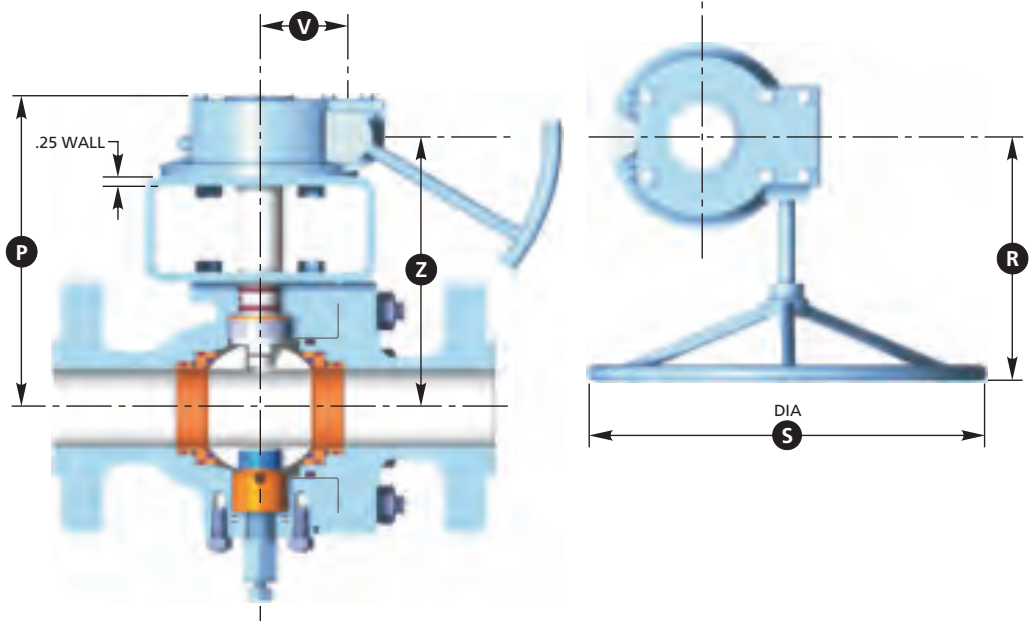
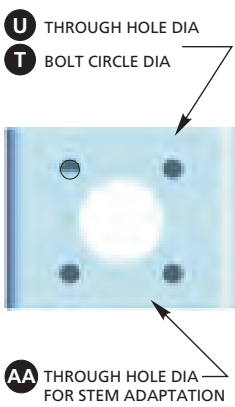
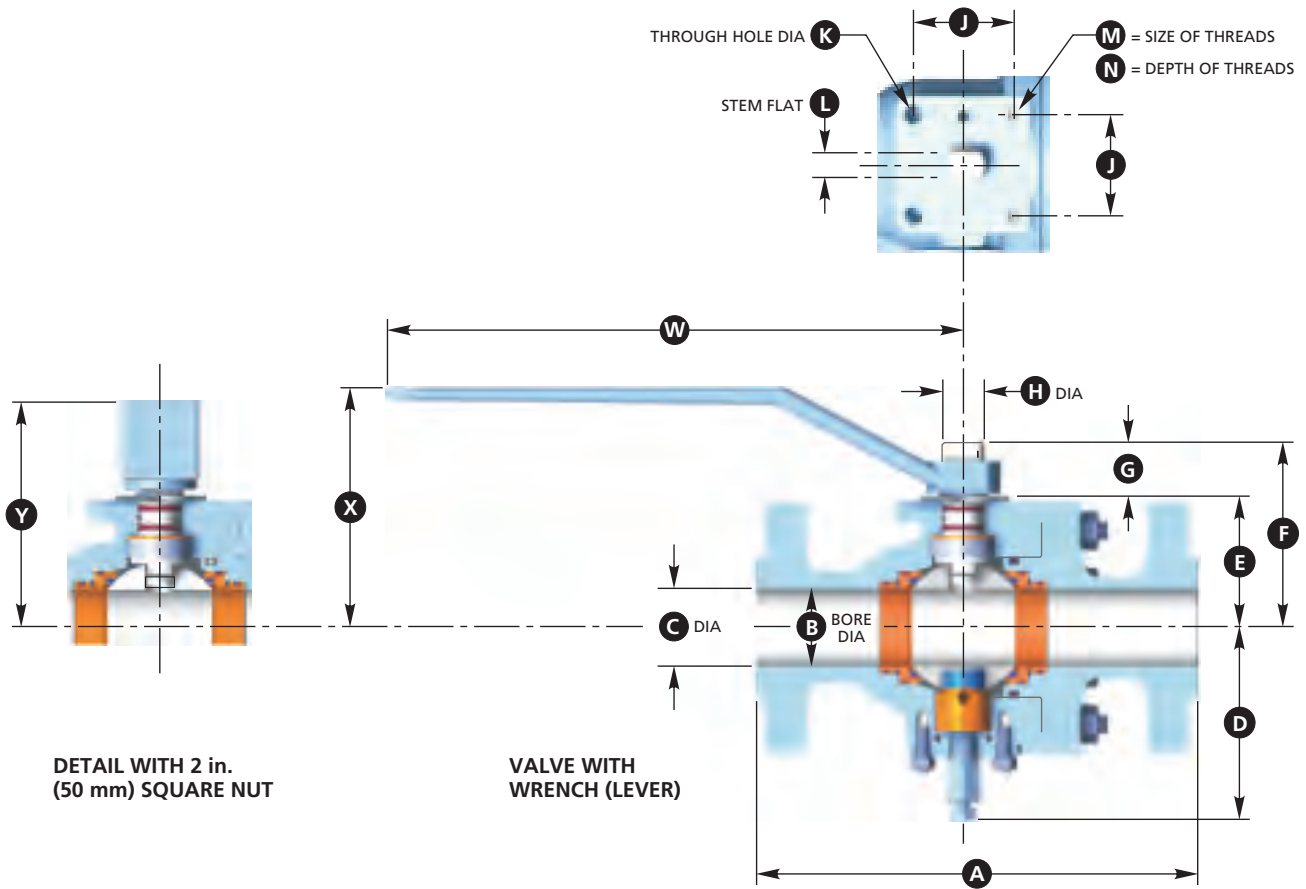
PART	CLASS	YFF 150/2500 & 5000# MOP FIRE TESTED	TFF 150/600 FIRE TESTED*	YRF 150/2500 FIRE TESTED	PFF 900/2500 & 5000# MOP FIRE TESTED
Temperature Limits		-20°F to +250°F	-20°F to +350°F	-50°F to +250°F	-20°F to +350°F
Seat Face Seals Class 150 through 900		Nylon (N6)	Filled PTFE	Nylon (N6)	PK
Seat Face Seals Class 1500, 2500 & 5000# MOP		Nylon (N6)	N/A	Nylon (N6)	PK
Stem Seal Class 150 through 900		Filled PTFE	Filled PTFE	Filled PTFE	Filled PTFE
Stem Seal Class 1500, 2500 & 5000# MOP		PK	N/A	PK	PK
Stem O-Rings		FKM	FKM	HNBR	FKM
Body/Tail Piece O-Ring		FKM	FKM	HNBR	FKM
Seat O-Rings		FKM	FKM	HNBR	FKM
Trunnion O-Ring		FKM	FKM	HNBR	FKM
** O-Ring Backup Ring Class 1500, 2500 & 5000# MOP		PK	N/A	PK	PK

* Note: TFF Trim Code does not apply to Class 900, 1500, 2500 & 5000# MOP.

** Not shown on page 6.

NACE indicates compliance with NACE MR0175/ISO 15156.

**370D4 TRUNNION BALL VALVES
ASME CLASSES 150 THROUGH 900
2 in. - 4 in. x 3 in. (50 mm - 100 x 75 mm)**



370D4 TRUNNION BALL VALVES

ASME CLASSES 150 THROUGH 900

2 in. - 4 in. x 3 in. (50 mm - 100 x 75 mm)

FULL PORT DIMENSIONS

ASME CLASS 150

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z	AA
	RF	RJ																						
2 (50)	7.00 (178)	7.50 (191)	2.00 (51)	2.00 (51)	5.11 (130)	3.29 (84)	4.80 (122)	1.52 (39)	1.112 (28.24)	2.66 (68)	1/2-13UNC -	0.688 (17.48)	3/8-16UNC -	0.40 (10)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	5.81 (148)	5.56 (141)	7.68 (195)	3.00 (76)
3 (75)	8.00 (203)	8.50 (216)	3.00 (76)	3.00 (76)	5.96 (151)	4.81 (122)	6.38 (162)	1.57 (40)	1.112 (28.24)	3.00 (76)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	6.67 (169)	7.08 (180)	9.20 (234)	3.00 (76)

ASME CLASS 300

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z	AA
	RF	RJ																						
2 (50)	8.50 (216)	9.12 (232)	2.00 (51)	2.00 (51)	5.11 (130)	3.29 (84)	4.80 (122)	1.52 (39)	1.112 (28.24)	2.66 (68)	1/2-13UNC -	0.688 (17.48)	3/8-16UNC -	0.40 (10)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	5.81 (148)	5.56 (141)	7.68 (195)	3.00 (76)
3 (75)	11.12 (282)	11.75 (298)	3.00 (76)	3.00 (76)	5.96 (151)	4.81 (122)	6.38 (162)	1.57 (40)	1.112 (28.24)	3.00 (76)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	6.67 (169)	7.08 (180)	9.20 (234)	3.00 (76)

ASME CLASS 600

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z	AA
	RF	RJ																						
2 (50)	11.50 (292)	11.62 (295)	2.00 (51)	2.00 (51)	5.11 (130)	3.29 (84)	4.80 (122)	1.52 (39)	1.112 (28.24)	2.66 (68)	1/2-13UNC -	0.688 (17.48)	3/8-16UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	5.81 (148)	5.56 (141)	7.68 (195)	3.00 (76)
3 (75)	14.00 (356)	14.12 (359)	3.00 (76)	3.00 (76)	5.96 (151)	4.81 (122)	6.38 (162)	1.57 (40)	1.112 (28.24)	3.00 (76)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	6.67 (169)	7.08 (180)	9.20 (234)	3.00 (76)

ASME CLASS 900

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z	AA
	RF	RJ																						
2 (50)	14.50 (368)	14.62 (371)	2.00 (51)	2.00 (51)	5.11 (130)	3.73 (95)	5.25 (133)	1.52 (39)	1.112 (28.24)	2.66 (68)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	6.25 (159)	6.00 (152)	8.12 (206)	3.00 (76)
3 (75)	15.00 (381)	15.12 (384)	3.00 (76)	3.00 (76)	5.96 (151)	4.81 (122)	6.38 (162)	1.57 (40)	1.112 (28.24)	3.00 (76)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	8.12 (206)	10.00 (254)	4.92 (125)	0.56 (14)	2.80 (71)	15.00 (381)	6.67 (169)	7.08 (180)	9.50 (241)	3.00 (76)

REDUCED PORT DIMENSIONS

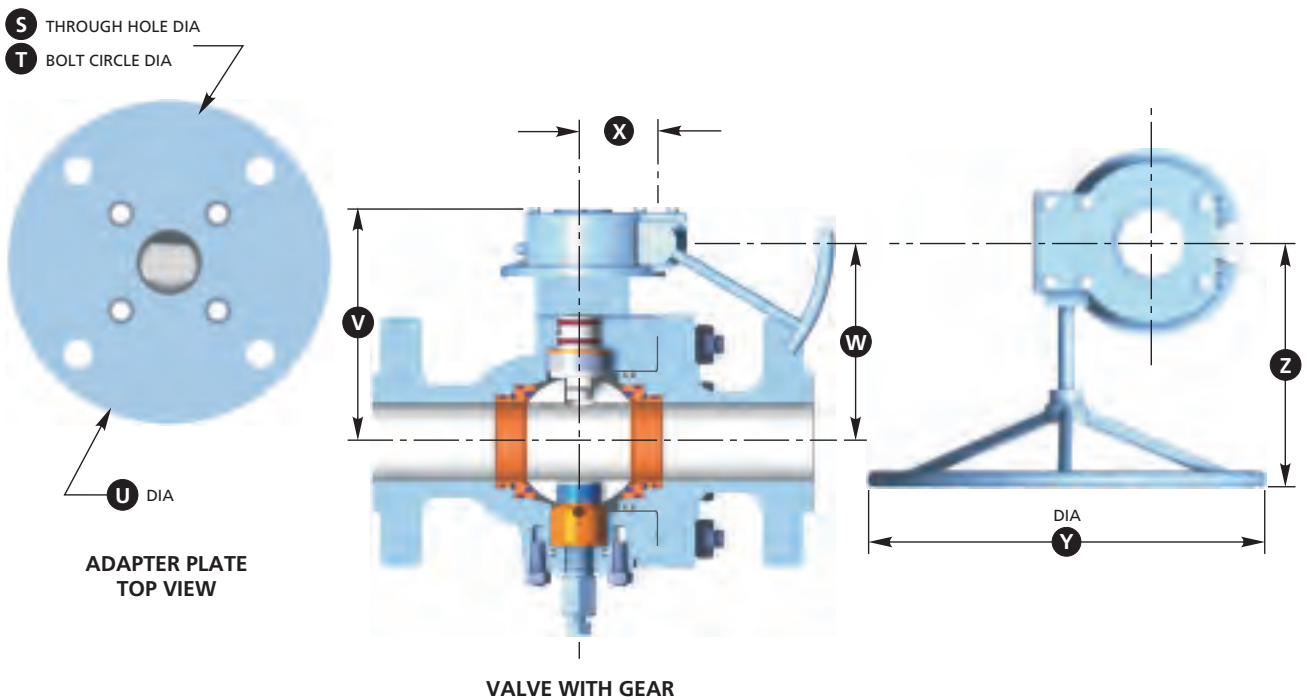
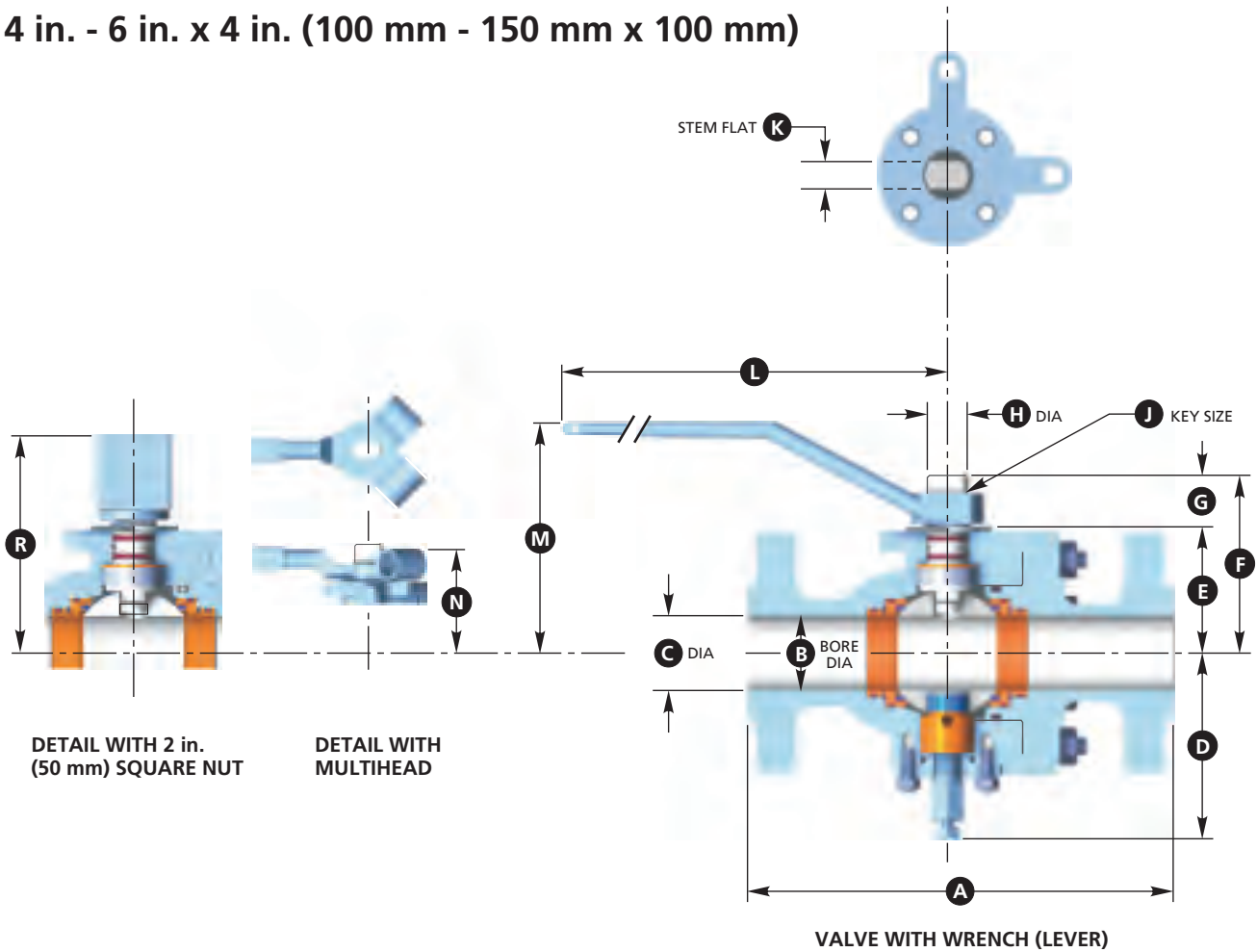
ASME CLASS 600

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z	AA
	RF	RJ																						
3 x 2 (75 x 50)	14.00 (356)	14.12 (359)	2.00 (51)	3.00 (76)	5.11 (130)	3.29 (84)	4.80 (122)	1.52 (39)	1.112 (28.24)	2.66 (68)	1/2-13UNC -	0.688 (17.48)	3/8-16UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	5.81 (148)	5.56 (141)	7.68 (195)	3.00 (76)
4 x 3 (100 x 75)	17.00 (432)	17.12 (435)	3.00 (76)	4.00 (102)	5.96 (151)	4.81 (122)	6.38 (162)	1.57 (40)	1.112 (28.24)	3.00 (76)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	6.67 (169)	7.08 (180)	9.20 (234)	3.00 (76)

ASME CLASS 900

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z	AA
	RF	RJ																						
3 x 2 (75 x 50)	15.00 (381)	15.12 (384)	2.00 (51)	3.00 (76)	5.11 (130)	3.73 (95)	5.25 (133)	1.52 (39)	1.112 (28.24)	2.66 (68)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	7.25 (184)	6.00 (152)	4.02 (102)	0.56 (14)	2.05 (52)	15.00 (381)	6.25 (159)	6.00 (152)	8.12 (206)	3.00 (76)
4 x 3 (100 x 75)	18.00 (457)	18.12 (460)	3.00 (76)	4.00 (102)	5.96 (151)	4.81 (122)	6.38 (162)	1.57 (40)	1.112 (28.24)	3.00 (76)	1/2-13UNC -	0.688 (17.48)	1/2-13UNC -	0.55 (14)	8.12 (206)	10.00 (254)	4.92 (125)	0.56 (14)	2.80 (71)	15.00 (381)	6.67 (169)	7.08 (180)	9.50 (241)	3.00 (76)

370D4 TRUNNION BALL VALVES
ASME CLASSES 150 THROUGH 900
4 in. - 6 in. x 4 in. (100 mm - 150 mm x 100 mm)



370D4 TRUNNION BALL VALVES

ASME CLASSES 150 THROUGH 900

4 in. - 6 in. x 4 in. (100 mm - 150 mm x 100 mm)

FULL PORT DIMENSIONS

ASME CLASS 150

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
4 (100)	9.00 (229)	9.50 (241)	4.00 (102)	4.00 (102)	7.19 (183)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	26.00 (660)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	8.00 (203)	7.88 (200)

ASME CLASS 300

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
4 (100)	12.00 (305)	12.63 (321)	4.00 (102)	4.00 (102)	7.19 (183)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	26.00 (660)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	10.00 (254)	8.12 (206)

ASME CLASS 600

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
4 (100)	17.00 (432)	17.13 (435)	4.00 (102)	4.00 (102)	7.19 (183)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	48.00 (1219)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	10.00 (254)	8.12 (206)

ASME CLASS 900

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
4 (100)	18.00 (457)	18.13 (461)	4.00 (102)	4.00 (102)	7.31 (186)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	48.00 (1219)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	16.00 (406)	8.82 (224)

REDUCED PORT DIMENSIONS

ASME CLASS 150

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
6 x 4 (150 x 100)	15.50 (394)	16.00 (406)	4.00 (102)	6.00 (152)	7.30 (185)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	26.00 (660)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	8.00 (203)	7.88 (200)

ASME CLASS 300

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
6 x 4 (150 x 100)	15.88 (403)	16.50 (419)	4.00 (102)	6.00 (152)	7.30 (185)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	26.00 (660)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	10.00 (254)	8.12 (206)

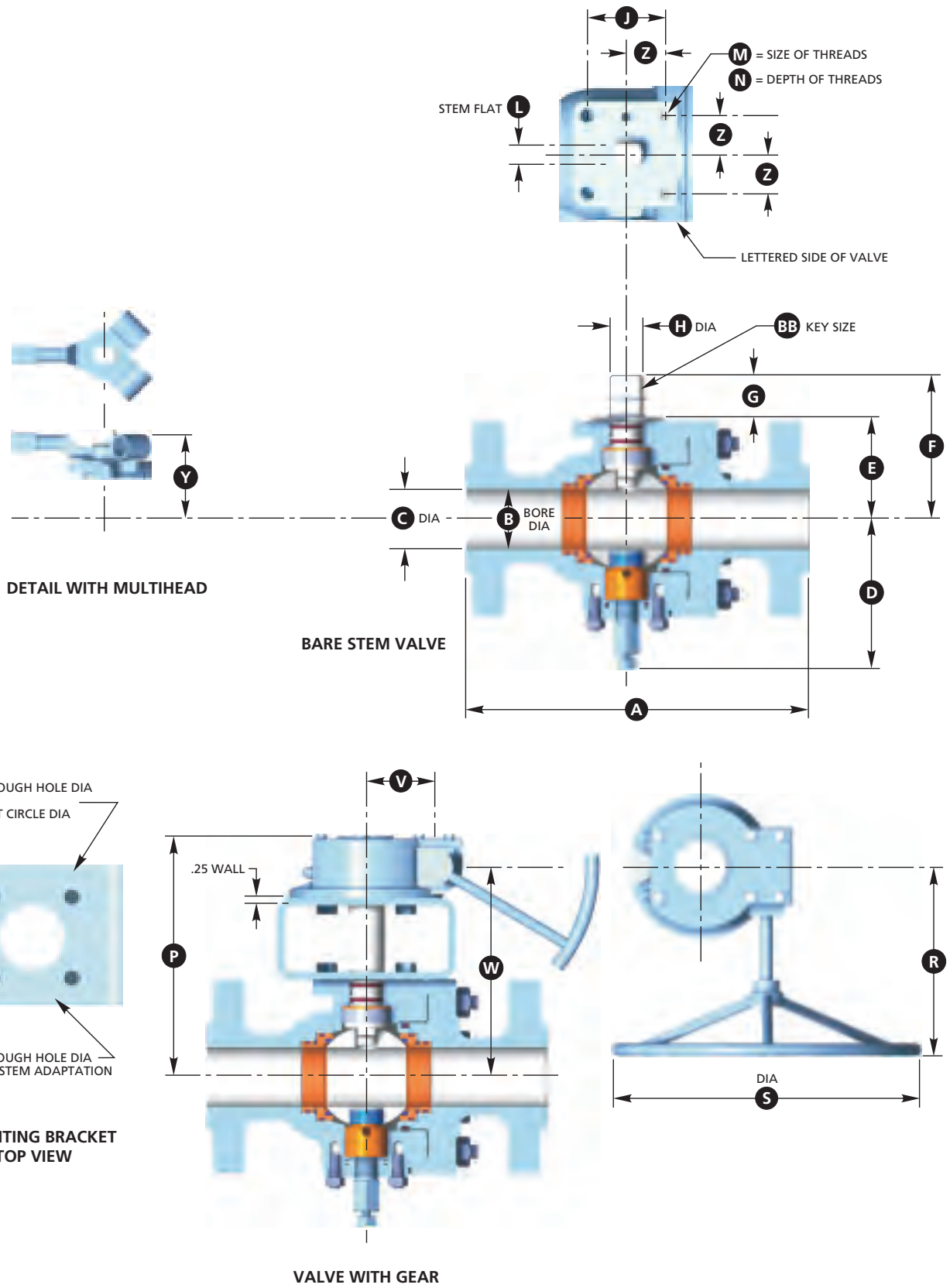
ASME CLASS 600

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
6 x 4 (150 x 100)	22.00 (559)	22.13 (562)	4.00 (102)	6.00 (152)	7.30 (185)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	48.00 (1219)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	10.00 (254)	8.12 (206)

ASME CLASS 900

Size in. (mm)	A		B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	U	V	W	X	Y	Z
	RF	RJ																					
6 x 4 (150 x 100)	24.00 (610)	24.13 (613)	4.00 (102)	6.00 (152)	7.43 (189)	6.25 (159)	8.52 (216)	2.27 (58)	1.49 (38)	0.375 (10)	0.994 (25)	48.00 (1219)	10.26 (261)	9.61 (244)	8.65 (220)	0.56 (14)	4.921 (125)	6.25 (159)	10.31 (262)	8.72 (221)	2.80 (71)	16.00 (406)	8.82 (224)

370D4 TRUNNION BALL VALVES
ASME CLASSES 1500 & 2500 & 5000# MOP
2 in. - 6 in. x 4 in. (50 mm - 150 mm x 100 mm)



370D4 TRUNNION BALL VALVES ASME CLASSES 1500 & 2500 & 5000# MOP 2 in. - 6 in. x 4 in. (50 mm - 150 mm x 100 mm)

FULL PORT DIMENSIONS

ASME CLASS 1500 AND 5000# MOP

Size in. (mm)	A		B	C	D	E	F	G	H	J	L	M	N	P	R	S	T	U	V	W	X	Y	Z	BB
	RF	RJ																						
2 (50)	14.50 (368)	14.62 (371)	2.00 (51)	2.00 (51)	6.29 (160)	4.06 (103)	5.58 (142)	1.52 (39)	1.118 (28.40)	2.656 (67)	0.690 (17.53)	1/2-13UNC	0.50 (13)	10.34 (263)	8.12 (206)	10.00 (254)	4.92 (125)	0.56 (14)	2.80 (71)	8.75 (222)	3.00 (76)	6.40 (163)	1.328 (34)	-
3 (75)	18.50 (470)	18.62 (473)	3.00 (76)	3.00 (76)	7.29 (185)	4.75 (121)	6.96 (177)	2.21 (56)	1.496 (38.00)	3.375 (86)	0.994 (25.25)	1/2-13UNC	0.50 (13)	12.03 (306)	8.82 (224)	16.00 (406)	4.92 (125)	0.56 (14)	2.80 (71)	10.44 (265)	3.00 (76)	7.47 (190)	2.030 (52)	-
4 (100)	21.50 (546)	21.63 (549)	4.00 (102)	4.00 (102)	8.47 (215)	6.68 (170)	8.72 (221)	2.04 (52)	1.496 (38.00)	4.500 (114)	-	5/8-11UNC	0.63 (16)	14.12 (359)	9.73 (247)	16.00 (406)	6.50 (165)	0.56 (14)	3.39 (86)	12.47 (317)	3.00 (76)	9.44 (240)	2.250 (57)	0.375 (9.53)

ASME CLASS 2500

Size in. (mm)	A		B	C	D	E	F	G	H	J	L	M	N	P	R	S	T	U	V	W	X	Y	Z	BB
	RF	RJ																						
2 (50)	17.75 (451)	17.88 (454)	1.78 (45)	1.78 (45)	6.29 (160)	4.06 (103)	5.68 (144)	1.62 (41)	0.995 (25.27)	3.500 (89)	-	1/2-13UNC	0.50 (13)	10.34 (263)	8.12 (206)	10.00 (254)	4.92 (125)	0.56 (14)	2.80 (71)	8.75 (222)	3.00 (76)	6.70 (170)	1.750 (44)	0.250 (6.35)
3 (75)	22.75 (578)	23.00 (584)	2.56 (65)	2.56 (65)	7.72 (196)	6.31 (160)	8.30 (211)	2.00 (51)	1.496 (38.00)	4.000 (102)	-	1/2-13UNC	0.50 (13)	13.75 (349)	9.73 (247)	16.00 (406)	5.51 (140)	0.56 (14)	3.39 (86)	12.10 (307)	3.00 (76)	9.07 (230)	2.030 (52)	0.375 (9.53)
4 (100)	26.50 (673)	26.88 (683)	3.53 (90)	3.53 (90)	8.47 (215)	7.25 (184)	10.05 (255)	2.80 (71)	1.683 (42.75)	4.625 (117)	-	5/8-11UNC	0.63 (16)	15.09 (383)	13.64 (346)	20.00 (508)	4.92 (125)	0.56 (14)	4.11 (104)	13.20 (335)	3.00 (76)	-	2.312 (59)	0.375 (9.53)

REDUCED PORT DIMENSIONS

ASME CLASSES 1500 AND 5000# MOP

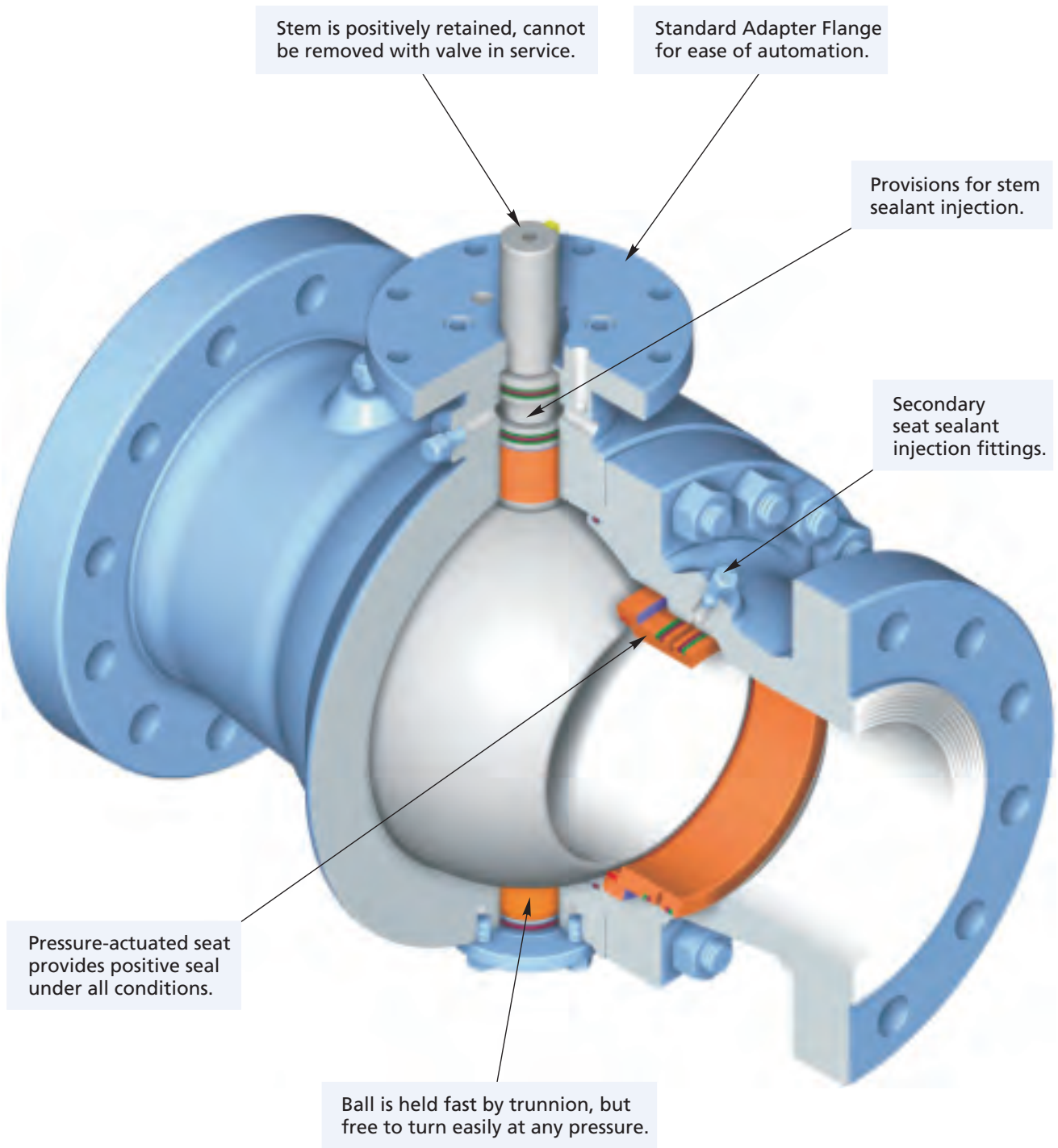
Size in. (mm)	A		B	C	D	E	F	G	H	J	L	M	N	P	R	S	T	U	V	W	X	Y	Z	BB
	RF	RJ																						
6 x 4 (150 x 100)	27.75 (705)	28.00 (711)	4.00 (102)	5.81 (148)	8.59 (218)	6.68 (170)	8.72 (221)	2.04 (52)	1.496 (38.00)	4.500 (114)	-	5/8-11UNC	0.63 (16)	14.12 (359)	9.73 (247)	16.00 (406)	6.50 (165)	0.56 (14)	3.39 (86)	12.47 (317)	3.00 (76)	9.44 (240)	2.250 (57)	0.375 (9.53)

ASME CLASSES 2500

Size in. (mm)	A		B	C	D	E	F	G	H	J	L	M	N	P	R	S	T	U	V	W	X	Y	Z	BB
	RF	RJ																						
6 x 4 (150 x 100)	36.00 (914)	36.50 (927)	3.53 (90)	5.31 (135)	8.90 (226)	7.25 (184)	10.05 (255)	2.80 (71)	1.683 (42.75)	4.625 (117)	-	5/8-11UNC	0.63 (16)	15.09 (383)	13.64 (346)	20.00 (508)	4.92 (125)	0.56 (14)	4.11 (104)	13.20 (335)	3.00 (76)	-	2.312 (59)	0.375 (9.53)

**370D4 TRUNNION BALL VALVES
ASME CLASSES 150 AND 300
6 in. through 16 in. (150 mm through 400 mm)**

WKM DynaSeal 370D4 Trunnion Ball Valves are designed and engineered for heavy duty performance. Used in many general purpose petroleum and chemical process applications, these valves are also specified for more demanding applications.



370D4 TRUNNION BALL VALVES ASME CLASSES 150 AND 300 6 in. through 16 in. (150 mm through 400 mm)

FEATURES AND BENEFITS

FIRE TESTED FOR SAFETY

- WKM DynaSeal 370D4 Trunnion Ball Valves are qualified under API 6FA and API 607 4th Edition Standards.

ACTUATION-FRIENDLY

- A variety of actuator types can be easily installed.
- Cameron's Valves & Measurement group can provide a total package of Valves, Actuators or Worm Gear Mounting Plates to accommodate actuation.

END CONNECTIONS

Flanged, Weld, Weld-by-Flange

BODY STYLES

Two-Piece

STANDARD MATERIALS

Carbon Steel, Stainless Steel,
NACE MR0175/ISO 15156

OPTIONAL MATERIALS

Special Trims available upon request.

DOUBLE BLOCK AND BLEED OPERATION

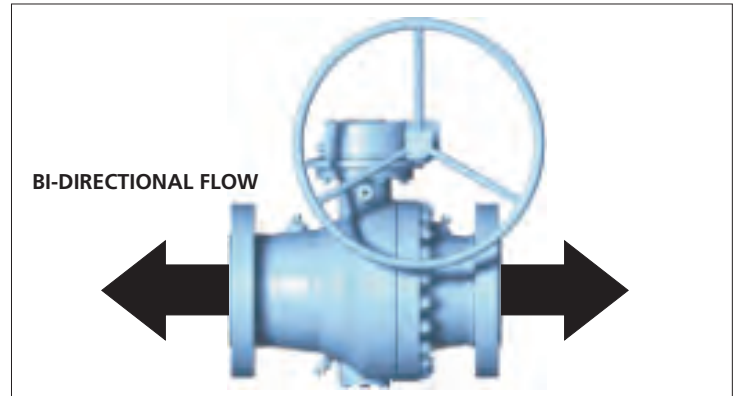
The pressure-actuated seats and bleed fittings allow Double Block and Bleed operation.

When used for Block and Bleed, this feature may permit the valve to take the place of two valves.

It also allows the operator to check up and downstream sealing by bleeding off the body pressure.

NACE TRIM STANDARD

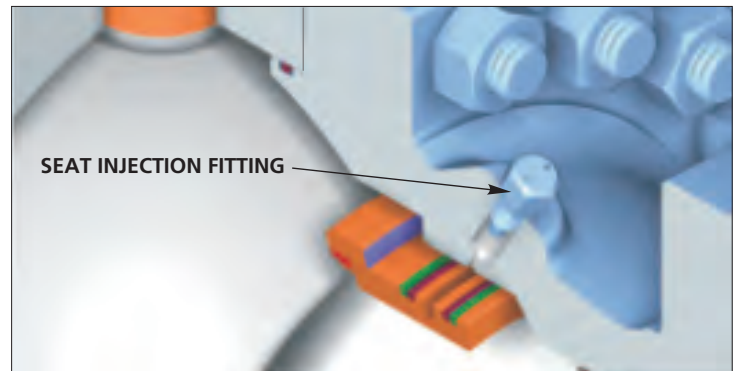
All WKM DynaSeal 370D Trunnion Ball Valves come standard to NACE MR0175/ISO 15156 for Buried Service.



BI-DIRECTIONAL FLOW

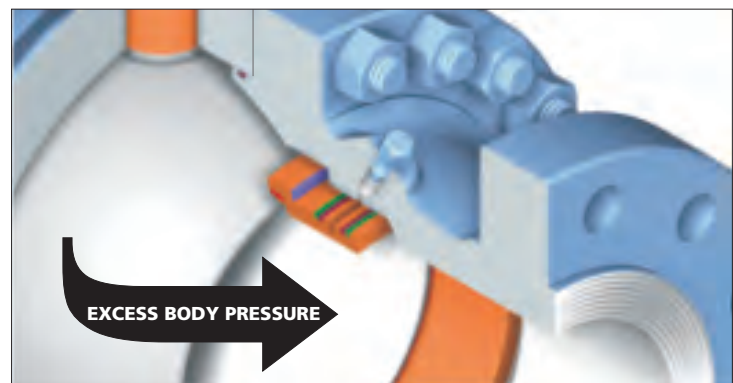
This valve uses pressure-actuated seats with locked-in non-metallic face seals.

To assure sealing at low pressure, special wave springs force the seats against the ball. At higher pressures, the upstream seat is forced against the ball by the pressure working across the differential area between the seat insert and the seat O-Ring. The higher the pressure, the tighter the seal.



SECONDARY SEAT SEAL INJECTION

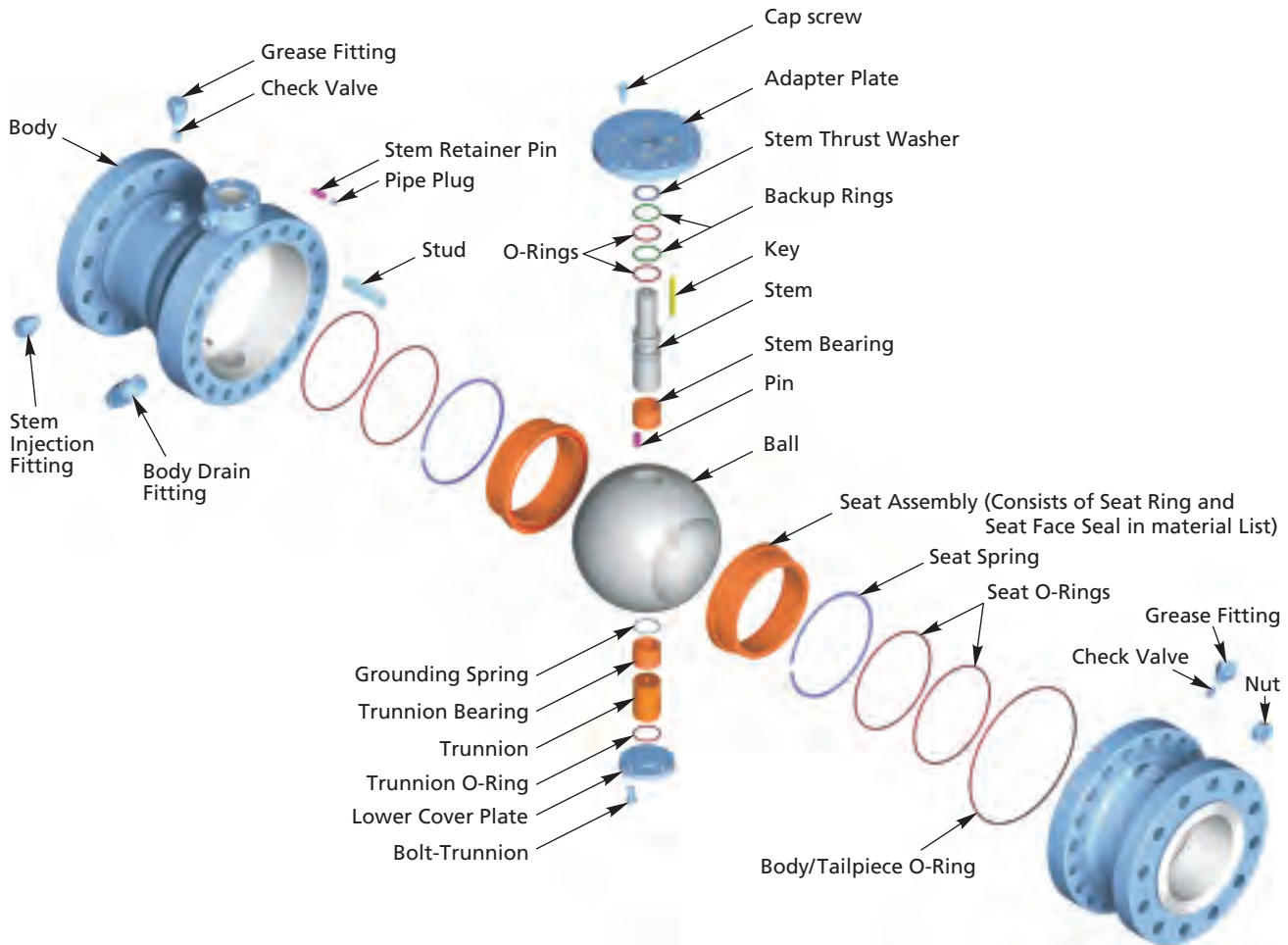
In the event of damage to the valve seat, sealant can be injected to temporarily seal the valve.



AUTOMATIC BODY PRESSURE RELIEF

Seats will internally relieve excess body pressure.

370D4 TRUNNION BALL VALVES ASME CLASSES 150 AND 300 6 in. through 16 in. (150 mm through 400 mm)



STANDARDS AND SPECIFICATIONS

WKM DynaSeal 370D4 Trunnion Ball Valves conform to the following Design and Testing Standards:

- API 6D
- NACE MR0175/ISO 15156
- ASME/ANSI B16.34 (Valves, Flange End)
- ASME/ANSI B16.5 (Steel Pipe Flanges and Flange Fitting)
- MSS-SP-6 (Standard Finishes for Pipe Flanges)
- MSS-SP-25 (Standard Marking System for Valves)
- MSS-SP-55 (Quality Standards for Steel Castings)
- API 6FA (Fire Test Specification)

In addition WKM DynaSeal 370D4 Trunnion Ball Valves can be supplied to comply with these Standards:

- ASME/ANSI B31.1 (Power Piping)
- API 598 (Valve Inspection and Testing)
- ASME/ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping)
- MSS-SP-61 (Pressure Testing of Steel Valves)
- ASME/ANSI B16.104 (Valve Seat Leakage)
- API 607 4th Edition (Fire Test Specification)

ASME/ANSI PRESSURE CLASS

SIZE	CLASS	CLASS	
		150	300
6	(150)	•	•
8 x 6	(200 x 150)	•	•
8 x 8	(200 x 200)	•	•
10 x 8	(250 x 200)	•	•
10 x 10	(250 x 250)	•	•
12 x 10	(300 x 250)	•	•
12 x 12	(300 x 300)	•	•
14 x 12	(350 x 300)	•	•
14	(350)	•	•
16	(400)	•	•

370D4 TRUNNION BALL VALVES MATERIALS LIST ASME CLASSES 150 AND 300 6 in. through 16 in. (150 mm through 400 mm)

BODY GROUP TRIM NUMBER

PART	CARBON STEEL (NACE) 24	CARBON STEEL LOW TEMP (NACE) 37	STAINLESS STEEL (NACE) 23
Body	A216 Gr. WCC/A105	A352 Gr. LCC/A350 Gr. LF2	A351 Gr. CF8M/316 SS
Tailpiece	A216 Gr. WCC/A105	A352 Gr. LCC/A350 Gr. LF2	A351 Gr. CF8M/316 SS
Studs	A193 Gr. B7M	A320 Gr. L7M	A193 Gr. B7M Zinc Plate
Nuts	A194 Gr. 2HM	A194 Gr. 7ML	A194 Gr. 2HM Zinc Plate
Bolt-Trunnion	A193 Gr. B7M	A320 Gr. L7M	A193 Gr. B7M Zinc Plate
Stem Bearing	CS/Filled PTFE	CS/Filled PTFE	SS/Filled PTFE
Trunnion Bearing	CS/Filled PTFE	CS/Filled PTFE	SS/ Filled PTFE
Stop Plate	Carbon Steel	Carbon Steel	Carbon Steel
Wrench	Ductile Iron	Ductile Iron	Ductile Iron
Adapter Plate	Carbon Steel	4130	Carbon Steel
Lower Cover Plate	Carbon steel	4130	316 SS

INTERNAL GROUP TRIM NUMBER

Ball	A105 CS ENP	A105 CS ENP	A182 Gr. 316 SS
Stem	4130/4140 ENP	4130/4140 ENP	A564 Type 630 SS**
Trunnion	4130/4140 ENP	4130/4140 ENP	A564 Type 630 SS**
Seat Rings	1018/1029 CS	1018/1029 CS	A182 Gr. 316 SS
Seat Springs	B637 X750	B637 X750	B637 X750
Grounding Spring	Stainless Steel	Stainless Steel	Stainless Steel
Stem Retainer Pin	A564 Type 630	A564 Type 630	A564 Type 630

Note: Trims 23 and 24 are suitable for temperatures from -20°F to 350°F. Trim 37 is suitable for temperatures from -50°F to 250°F.

SEAL GROUP TRIM CODE

PART	YFF FIRE TESTED	TFF FIRE TESTED	YRF*
Temperature Limits	-20°F to +250°F	-20°F to +350°F	-50°F to +250°F
Seat Face Seals	Nylon (N6)	Filled PTFE	Nylon (N6)
Seat Backup Rings	Nylon (N6)	PK	Nylon (N6)
Stem Backup Rings	Nylon (N6)	PK	Nylon (N6)
Stem Thrust Washer	304 SS	304 SS	304 SS
Stem O-Rings	FKM	FKM	HNBR
Body/Tailpiece O-Ring	FKM	FKM	HNBR
Trunnion O-Ring	FKM	FKM	HNBR

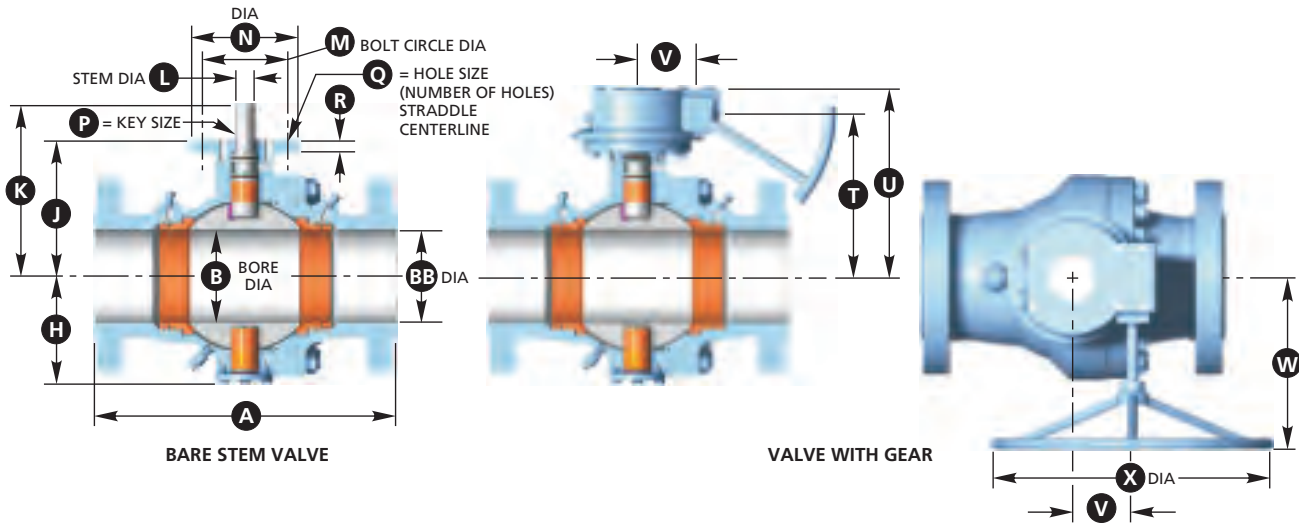
* YRF Fire Tested.

** 14 in. (350 mm) and 16 in. (400 mm) Material A182 Gr. 316 SS.
NACE indicates compliance with NACE MR0175/ISO 15156.

370D4 TRUNNION BALL VALVES

ASME CLASSES 150 AND 300

6 in. through 16 in. (150 mm through 400 mm)



FULL PORT DIMENSIONS

ASME CLASS 150

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
6 (150)	15.50 (394)	-	6.00 (152)	6.00 (152)	7.87 (200)	9.41 (239)	11.16 (283)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.88 (22)	11.06 (281)	12.84 (326)	3.39 (86)	8.84 (225)	12 (305)
8 (200)	18.00 (457)	-	8.00 (203)	8.00 (203)	9.32 (237)	10.98 (279)	12.79 (325)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.63 (16)	12.61 (320)	14.20 (361)	2.93 (74)	11.86 (301)	14 (356)
10 (250)	21.00 (533)	-	10.00 (254)	10.00 (254)	11.21 (285)	13.11 (333)	16.17 (411)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.382 (9.70)	0.66-(8) -	0.80 (20)	15.29 (388)	17.49 (444)	5.25 (133)	14.96 (380)	20 (508)
12 (300)	24.00 (610)	-	12.00 (305)	12.00 (305)	13.51 (343)	15.30 (389)	18.29 (465)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.506 (12.85)	0.56-(8) -	1.16 (29)	17.47 (444)	19.63 (499)	5.37 (136)	15.24 (387)	24 (610)
14 (350)	27.00 (686)	27.51 (699)	13.25 (337)	13.25 (337)	15.12 (384)	17.40 (442)	21.50 (546)	2.00 (50.80)	10.00 (254)	11.81 (300)	0.63 (16)	0.687-(8) (17.45-(8))	1.50 (38)	19.62 (498)	22.55 (573)	5.12 (130)	15.81 (402)	18.00 (457)
16 (400)	30.00 (762)	30.51 (775)	15.25 (387)	15.25 (387)	16.88 (429)	18.59 (472)	22.27 (566)	2.591 (65.81)	10.00 (254)	11.81 (300)	0.63 (16)	0.687-(8) (17.45-(8))	1.28 (33)	20.78 (528)	23.51 (597)	5.12 (130)	15.82 (402)	24.00 (610)

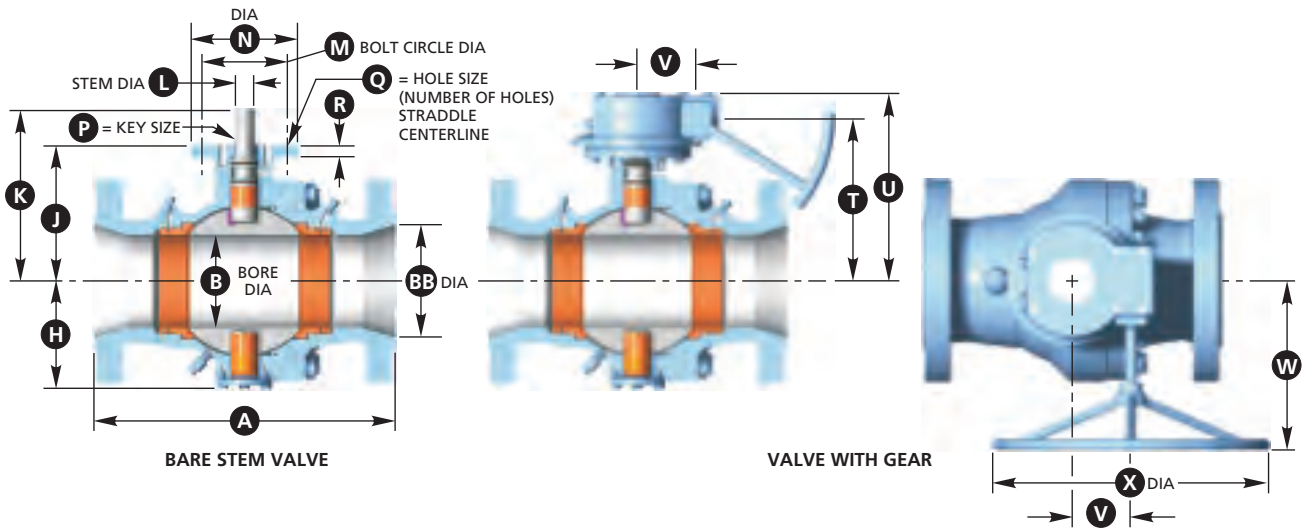
ASME CLASS 300

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
6 (150)	15.88 (403)	-	6.00 (152)	8.00 (203)	7.87 (200)	9.41 (239)	11.16 (283)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.88 (22)	11.06 (281)	12.84 (326)	3.39 (86)	8.84 (225)	12 (305)
8 (200)	19.75 (502)	-	8.00 (203)	10.00 (254)	9.32 (237)	10.98 (279)	12.79 (325)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.63 (16)	12.67 (322)	14.56 (370)	4.11 (104)	12.89 (327)	18 (457)
10 (250)	22.38 (568)	-	10.00 (254)	12.00 (305)	11.21 (285)	13.11 (333)	16.17 (411)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.382 (9.70)	0.66-(8) -	0.80 (20)	15.07 (388)	17.44 (443)	5.25 (133)	14.96 (380)	20 (508)
12 (300)	25.50 (648)	-	12.00 (305)	14.00 (356)	13.51 (343)	15.30 (389)	18.29 (465)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.506 (12.85)	0.56-(8) -	1.16 (29)	17.47 (444)	19.63 (499)	5.37 (136)	15.24 (387)	24 (610)
14 (350)	30.00 (762)	30.63 (778)	13.25 (337)	13.25 (337)	15.12 (384)	17.40 (442)	21.50 (546)	2.00 (50.80)	10.00 (254)	11.81 (300)	0.63 (16)	0.687-(8) (17.45-(8))	1.50 (38)	19.62 (498)	22.55 (573)	5.12 (130)	15.81 (402)	24.00 (610)
16 (400)	33.00 (838)	33.62 (854)	15.25 (387)	15.25 (387)	16.88 (429)	18.59 (472)	22.27 (566)	2.591 (65.81)	10.00 (254)	11.81 (300)	0.63 (16)	0.687-(8) (17.45-(8))	1.28 (33)	20.78 (528)	23.51 (597)	5.12 (130)	15.82 (402)	24.00 (610)

370D4 TRUNNION BALL VALVES

ASME CLASSES 150 AND 300

8 in. x 6 in. (200 mm x 150 mm) THROUGH 14 in. x 12 in. (350 mm x 300 mm)



REDUCED PORT DIMENSIONS

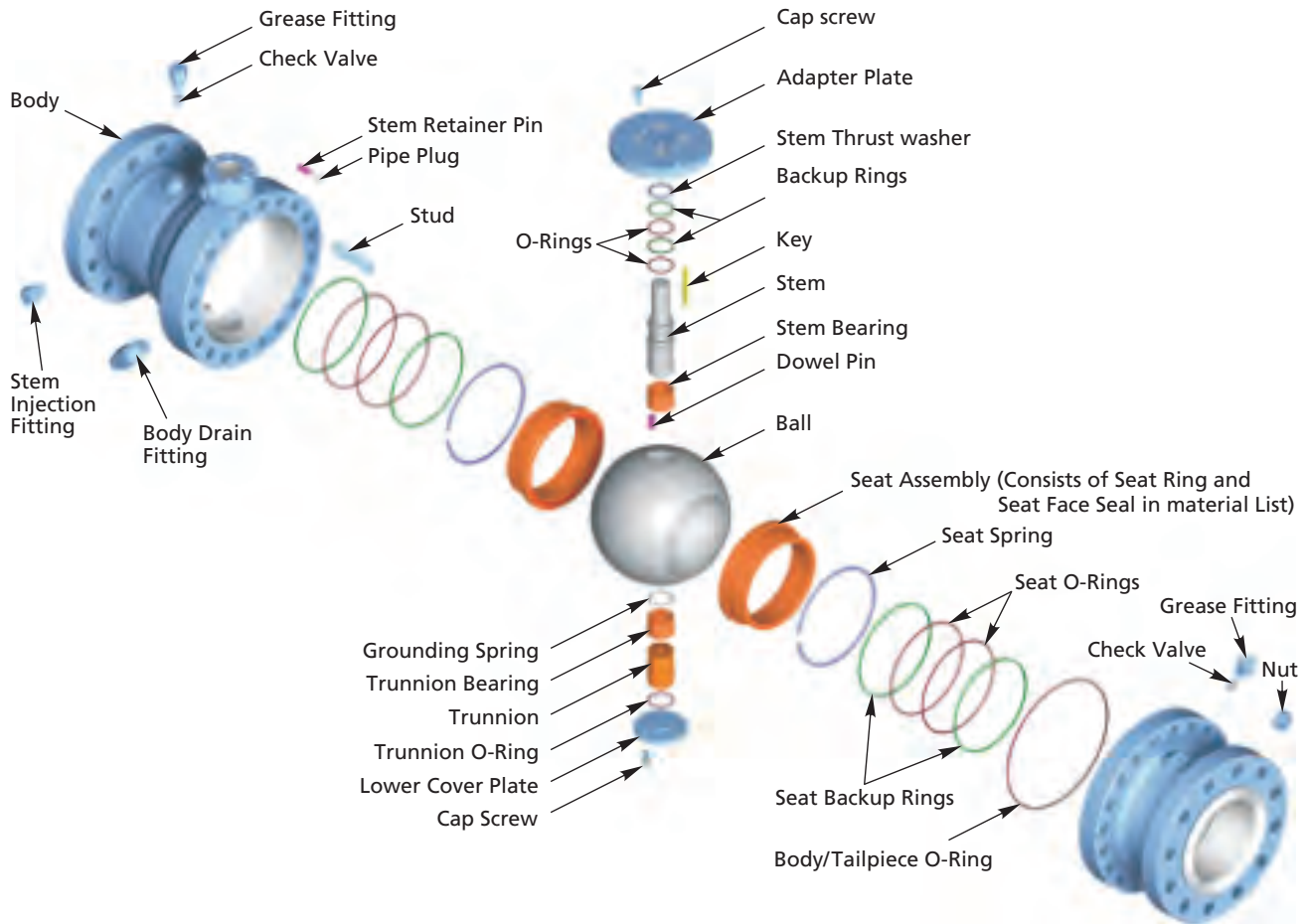
ASME CLASS 150

Size in. (mm)	A RF	B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
8 x 6 (200 x 150)	18 (457)	6.00 (152)	8.00 (203)	7.87 (200)	9.41 (239)	11.16 (283)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.88 (22)	11.06 (281)	12.84 (326)	3.39 (86)	8.84 (225)	12 (305)
10 x 8 (250 x 200)	21 (533)	8.00 (203)	10.00 (254)	9.32 (237)	10.98 (279)	12.79 (325)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.63 (16)	12.61 (320)	14.20 (361)	2.93 (74)	11.86 (301)	14 (356)
12 x 10 (300 x 250)	24 (610)	10.00 (254)	12.00 (305)	11.21 (285)	13.11 (333)	16.17 (411)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.382 (9.70)	0.66-(8) -	0.80 (20)	15.29 (388)	17.49 (444)	5.25 (133)	14.96 (380)	20 (508)
14 x 12 (350 x 300)	27 (686)	12.00 (305)	14.00 (356)	13.51 (343)	15.30 (389)	18.29 (465)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.506 (12.85)	0.56-(8) -	1.16 (29)	17.47 (444)	19.63 (499)	5.37 (136)	15.24 (387)	24 (610)

ASME CLASS 300

Size in. (mm)	A RF	B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
8 x 6 (200 x 150)	19.75 (502)	6.00 (152)	8.00 (203)	7.87 (200)	9.41 (239)	11.16 (283)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.88 (22)	11.06 (281)	12.84 (326)	3.39 (86)	8.84 (225)	12 (305)
10 x 8 (250 x 200)	22.38 (568)	8.00 (203)	10.00 (254)	9.32 (237)	10.98 (279)	12.79 (325)	1.503 (38.18)	7.50 (191)	9.50 (241)	0.382 (9.70)	0.56-(8) -	0.63 (16)	12.67 (322)	14.56 (370)	4.11 (104)	12.89 (327)	18 (457)
12 x 10 (300 x 250)	25.50 (648)	10.00 (254)	12.00 (305)	11.21 (285)	13.11 (333)	16.17 (411)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.382 (9.70)	0.66-(8) -	0.80 (20)	15.07 (388)	17.44 (443)	5.25 (133)	14.96 (380)	20 (508)
14 x 12 (350 x 300)	30.00 (762)	12.00 (305)	14.00 (356)	13.51 (343)	15.30 (389)	18.29 (465)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.506 (12.85)	0.56-(8) -	1.16 (29)	17.47 (444)	19.63 (499)	5.37 (136)	15.24 (387)	24 (610)

370D4 TRUNNION BALL VALVES ASME CLASSES 600 THROUGH 1500 & 5000# MOP 6 in. - 16 in. (150 mm - 400 mm)



STANDARDS AND SPECIFICATIONS

WKM DynaSeal 370D4 Trunnion Ball Valves conform to the following Design and Testing Standards:

- API 6D
- NACE MR0175/ISO 15156
- ASME/ANSI B16.34 (Valves, Flange End)
- ASME/ANSI B16.5 (Steel Pipe Flanges and Flange Fitting)
- MSS-SP-6 (Standard Finishes for Pipe Flanges)
- MSS-SP-25 (Standard Marking System for Valves)
- MSS-SP-55 (Quality Standards for Steel Castings)
- API 6FA (Fire Test Specification)

In addition WKM DynaSeal 370D4 Trunnion Ball Valves can be supplied to comply with these Standards:

- ASME/ANSI B31.1 (Power Piping)
- API 598 (Valve Inspection and Testing)
- ASME/ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping)
- MSS-SP-61 (Pressure Testing of Steel Valves)
- ASME/ANSI B16.104 (Valve Seat Leakage)
- API 607 4th Edition (Fire Test Specification)

ASME/ANSI PRESSURE CLASS

SIZE		CLASS		
in.	(mm)	600	900	1500
6	(150)	•	•	•
8 x 6	(200 x 150)	•	•	•
8	(200)	•	•	
10 x 8	(250 x 200)	•	•	
10	(250)	•	•	
12 x 10	(300 x 250)	•	•	
12	(300)	•	•	
14 x 12	(350 x 300)	•	•	
14	(350)	•		
16	(400)	•		
SIZE		5000# MOP		
in.	(mm)			
7 1/16 x 6	(179 x 152)	•		

370D4 TRUNNION BALL VALVES MATERIALS LIST ASME CLASSES 600 THROUGH 1500 & 5000# MOP 6 in. - 16 in. (150 mm - 400 mm)

BODY GROUP TRIM NUMBER

PART	CARBON STEEL (NACE)	CARBON STEEL LOW TEMP (NACE)	STAINLESS STEEL (NACE)
	24	37	23
Body Class 600 through 1500	A216 Gr. WCC/A105	A352 Gr. LCC/A350 Gr. LF2	A351 Gr. CF8M/316 SS
Body 5000# MOP	A487 Gr. 4	A487 Gr. 4	N/A
Tailpiece Class 600 through 1500	A216 Gr. WCC/A105	A352 Gr. LCC/A350 Gr. LF2	A351 Gr. CF8M/316 SS
Tailpiece 5000# MOP	A487 Gr. 4	A487 Gr. 4	N/A
Lower Cover Plate Class 600 through 1500	Carbon Steel	4130	316 SS
Lower Cover Plate 5000# MOP	4130	4130	N/A
Studs	A193 Gr. B7M	A320 Gr. L7M	A193 Gr. B7M Zinc Plate
Nuts	A194 Gr. 2HM	A194 Gr. 7ML	A194 Gr. 2HM Zinc Plate
Cap Screws	A574M	A320 Gr. L7M	A193 Gr. B7M Zinc Plate
Pipe Plug	Stainless Steel	Stainless Steel	Stainless Steel
Adapter Plate	Carbon Steel	4130	316 SS

INTERNAL GROUP TRIM NUMBER

Ball Class 600 through 1500	A216 Gr. WCC/A105 CS ENP	A216 Gr. WCC/A105 CS ENP	A564 Type 630
Ball 5000# MOP	4130/4140 ENP	4130/4140 ENP	A564 Type 630 ENP
Dowel Pin	A564 Type 630	A564 Type 630	A564 Type 630
Stem/Trunnion	4130/4140 ENP	4130/4140 ENP	A564 Type 630 ENP***
Seat Rings Class 600 & 900	126 Gr. WCC/A105	126 Gr. WCC/A105	A182 Gr. 316/A351 Gr. CF8M
Seat Rings Class 1500	126 Gr. WCC/A105	126 Gr. WCC/A105	A564 Type 630
Seat Rings 5000# MOP	4130	4130	A564 Type 630
Seat Spring	B637 X750	B637 X750	B637 X750
Stem & Trunnion Bearings	SS/Filled PTFE	SS/Filled PTFE	SS/Filled PTFE
Thrust Washer	Stainless Steel	Stainless Steel	Stainless Steel
Ground Spring	SSstainless Steel	Stainless Steel	Stainless Steel
Stem Retainer Pin	A564 Type 630	A564 Type 630	A564 Type 630

Note: Trims 23 and 24 are suitable for temperatures from -20°F to 350°F. Trim 37 is suitable for temperatures from -50°F to 250°F.

SEAL GROUP TRIM CODE

PART	CLASS	YFF 600/1500 FIRE TESTED	TFF 600 FIRE TESTED*	YRF** 600/1500 & 5000# MOP	PFF 900/1500 FIRE TESTED
Temperature Limits		-20°F to +250°F	-20°F to +350°F	-50°F to +250°F	-20°F to +350°F
Seat Face Seals		Nylon (N6)	Filled PTFE	Nylon (N6)	PK
Stem Seal O-Rings		FKM	FKM	HNBR	FKM
Body/Tailpiece O-Rings		FKM	FKM	HNBR	FKM
Seat O-Rings		FKM	FKM	HNBR	FKM
Trunnion O-Ring		FKM	FKM	HNBR	FKM
Seat Backup Rings		Nylon (N6)	PK	Nylon (N6)	PK
Stem backup Rings		Nylon (N6)	PK	Nylon (N6)	PK

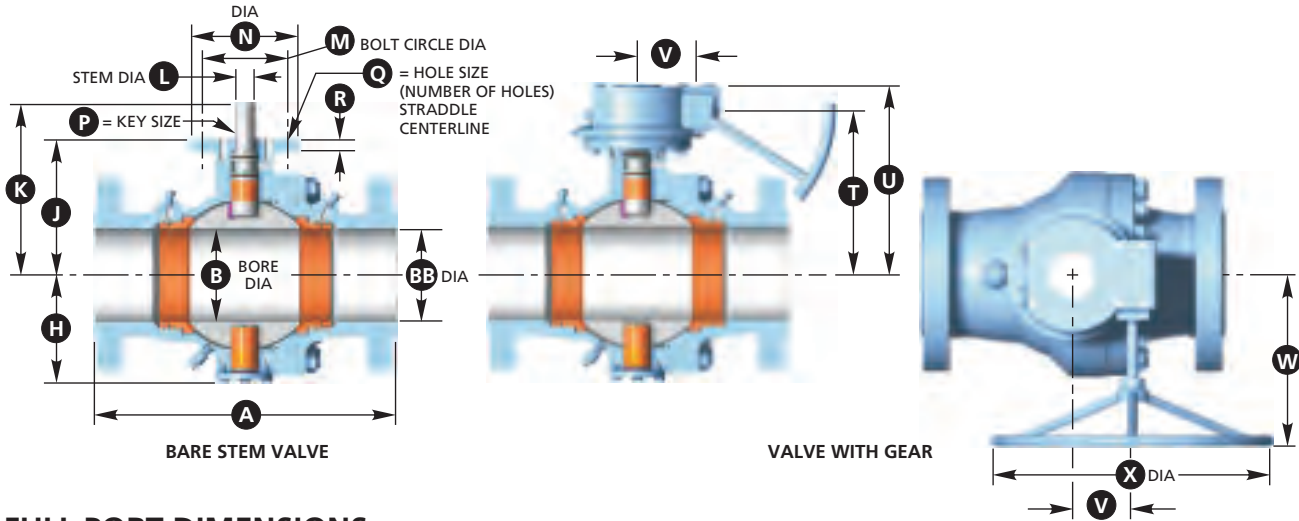
* Note: TFF Trim Code does not apply to Class 900, 1500, 2500 & 5000# MOP.

** YRF Fire Tested.

*** 14 in. (350 mm) and 16 in. (400 mm) Material A182 Gr. 316 SS.

NACE indicates compliance with NACE MR0175/ISO 15156.

370D4 TRUNNION BALL VALVES ASME CLASSES 600 THROUGH 1500 & 5000# MOP 6 in. THROUGH 16 in. (150 mm THROUGH 400 mm)



FULL PORT DIMENSIONS

ASME CLASS 600

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
6 (150)	22.00 (559)	22.12 (562)	6.00 (152)	6.00 (152)	7.75 (197)	9.41 (239)	11.25 (286)	1.503 (38.18)	7.50 (191)	9.00 (229)	0.375 (9.53)	0.56-(8) -	0.88 (22)	11.08 (281)	12.85 (326)	3.39 (86)	12.26 (311)	20.0 (500)
8 (200)	26.00 (660)	26.12 (663)	8.00 (203)	8.00 (203)	9.69 (246)	11.75 (298)	14.81 (376)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.375 (9.53)	0.66-(8) -	1.05 (27)	13.92 (354)	16.32 (415)	5.12 (130)	15.25 (387)	24.0 (600)
10 (250)	31.00 (787)	31.12 (790)	10.00 (254)	10.00 (254)	11.86 (301)	13.69 (348)	16.93 (430)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.500 (12.70)	0.56-(8) -	1.16 (29)	15.86 (403)	18.25 (464)	5.12 (130)	14.85 (377)	28.0 (700)
12 (300)	33.00 (838)	33.12 (841)	12.00 (305)	12.00 (305)	14.46 (367)	16.13 (410)	19.50 (495)	2.560 (65.02)	10.25 (260)	12.50 (318)	0.625 (15.88)	0.66-(8) -	1.28 (33)	18.30 (465)	22.24 (565)	8.31 (211)	17.61 (447)	24.0 (600)
14 (350)	35.00 (889)	35.13 (892)	13.25 (337)	13.25 (337)	15.56 (395)	17.50 (445)	21.46 (545)	3.13 (79.50)	10.00 (254)	11.81 (300)	0.63 (16)	0.675-(8) (17.15-(8))	1.50 (38)	19.77 (502)	23.71 (602)	6.78 (172)	16.89 (429)	24.0 (610)
16 (400)	39.00 (991)	39.13 (994)	15.25 (387)	15.25 (387)	18.03 (458)	20.00 (508)	23.75 (603)	3.94 (100)	11.73 (298)	13.78 (350)	0.63 (16)	0.787-(8) (19.98-(8))	1.57 (40)	22.38 (568)	24.76 (629)	6.78 (172)	16.89 (429)	32.0 (813)

ASME CLASS 900

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
6 (150)	24.00 (610)	24.12 (613)	6.00 (152)	6.00 (152)	8.50 (216)	10.09 (256)	13.12 (333)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.375 (9.53)	0.66-(8) -	1.05 (27)	12.26 (311)	14.65 (372)	5.12 (130)	15.25 (387)	20.0 (500)
8 (200)	29.00 (737)	29.12 (740)	8.00 (203)	8.00 (203)	10.50 (267)	12.31 (313)	15.31 (389)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.500 (12.70)	0.56-(8) -	1.16 (29)	14.48 (368)	16.88 (429)	5.12 (130)	14.85 (377)	28.0 (700)
10 (250)	33.00 (838)	33.12 (841)	10.00 (254)	10.00 (254)	12.74 (324)	14.47 (368)	17.82 (453)	2.560 (65.02)	10.25 (260)	12.50 (318)	0.625 (15.88)	0.66-(8) -	1.28 (33)	16.64 (423)	20.58 (523)	8.31 (211)	17.61 (447)	24.0 (600)
12 (300)	38.00 (965)	38.12 (968)	12.00 (305)	12.00 (305)	15.40 (391)	17.78 (452)	21.56 (548)	2.745 (69.72)	10.25 (260)	12.50 (318)	0.625 (15.88)	0.69-(8) -	1.63 (41)	20.10 (511)	24.04 (611)	10.36 (263)	19.69 (500)	20.0 (500)

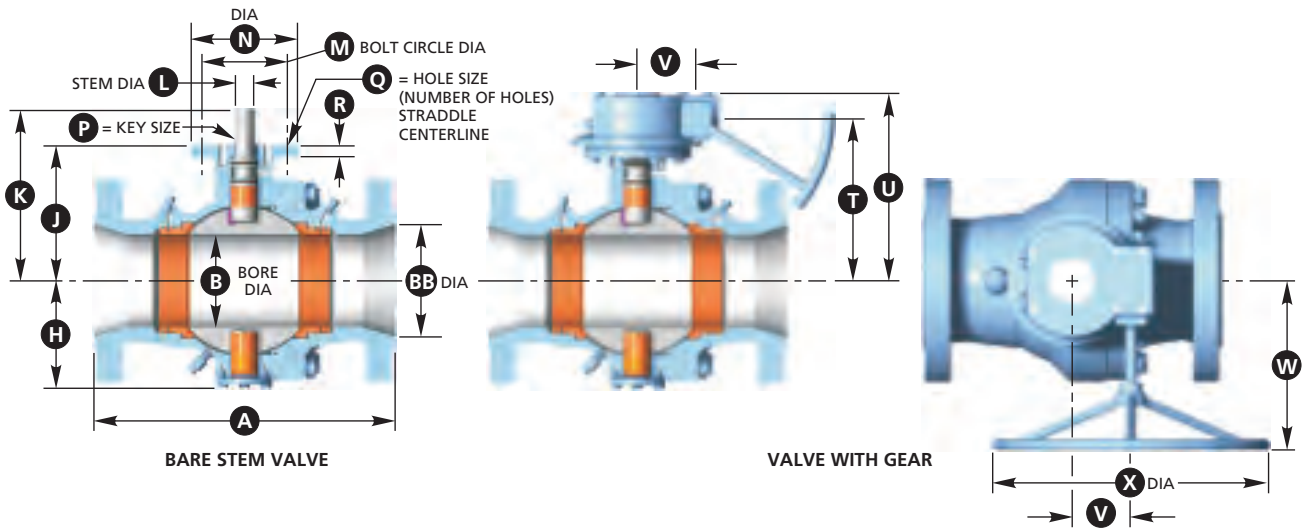
ASME CLASS 1500 AND 5000# MOP

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
6 (150)	27.75 (705)	28.00 (711)	6.00 (152)	6.00 (152)	10.25 (260)	11.53 (293)	15.15 (385)	2.003 (50.88)	8.00 (203)	9.75 (248)	0.500 (12.70)	0.78-(4) -	1.50 (38)	13.70 (348)	16.10 (409)	5.12 (130)	15.25 (387)	20.01 (500)

370D4 TRUNNION BALL VALVES

ASME CLASSES 600 THROUGH 1500 & 5000# MOP

8 in. x 6 in. (200 mm x 150 mm) THROUGH 14 in. x 12 in. (350 mm x 300 mm)



REDUCED PORT DIMENSIONS

ASME CLASS 600

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
8 x 6 (200 x 150)	26.00 (660)	26.12 (663)	6.00 (152)	8.00 (203)	7.75 (197)	9.41 (239)	11.25 (286)	1.503 (38.18)	7.50 (191)	9.00 (229)	0.375 (9.53)	0.56-(8) -	0.88 (22)	11.08 (281)	12.85 (326)	3.39 (86)	12.26 (311)	20.0 (500)
10 x 8 (250 x 200)	31.00 (787)	31.12 (790)	8.00 (203)	10.00 (254)	9.69 (246)	11.75 (298)	14.81 (376)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.375 (9.53)	0.66-(8) -	1.05 (27)	13.92 (354)	16.32 (415)	5.12 (130)	15.25 (387)	24.0 (600)
12 x 10 (300 x 250)	33.00 (838)	33.12 (841)	10.00 (254)	12.00 (305)	11.86 (301)	13.69 (348)	16.93 (430)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.500 (12.70)	0.56-(8) -	1.16 (29)	15.86 (403)	18.25 (464)	5.12 (130)	14.85 (377)	28.0 (700)
14 x 12 (350 x 300)	35.00 (889)	35.12 (892)	12.00 (305)	13.25 (337)	14.46 (367)	16.13 (410)	19.50 (495)	2.560 (65.02)	10.25 (260)	12.50 (318)	0.625 (15.88)	0.66-(8) -	1.28 (33)	18.30 (465)	22.24 (565)	8.31 (211)	17.61 (447)	24.0 (600)

ASME CLASS 900

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
8 x 6 (200 x 150)	29.00 (737)	29.12 (740)	6.00 (152)	8.00 (203)	8.50 (216)	10.09 (256)	13.12 (333)	1.685 (42.80)	8.00 (203)	9.25 (235)	0.375 (9.53)	0.66-(8) -	1.05 (27)	12.26 (311)	14.65 (372)	5.12 (130)	15.25 (387)	20.0 (500)
10 x 8 (250 x 200)	33.00 (838)	33.12 (841)	8.00 (203)	10.00 (254)	10.50 (267)	12.31 (313)	15.31 (389)	2.003 (50.88)	7.50 (191)	9.50 (241)	0.500 (12.70)	0.56-(8) -	1.16 (29)	14.48 (368)	16.88 (429)	5.12 (130)	14.85 (377)	28.0 (700)
12 x 10 (300 x 250)	38.00 (965)	38.12 (968)	10.00 (254)	12.00 (305)	12.74 (324)	14.47 (368)	17.82 (453)	2.560 (65.02)	10.25 (260)	12.50 (318)	0.625 (15.88)	0.69-(8) -	1.28 (33)	16.64 (423)	20.58 (523)	8.31 (211)	17.61 (447)	24.0 (600)
14 x 12 (350 x 300)	40.50 (1029)	40.88 (1038)	12.00 (305)	12.75 (324)	15.40 (391)	17.78 (452)	21.56 (548)	2.745 (69.72)	10.25 (260)	12.50 (318)	0.625 (15.88)	0.66-(8) -	1.63 (41)	20.10 (511)	24.04 (611)	10.36 (263)	19.69 (500)	20.0 (500)

ASME CLASS 1500 AND 5000# MOP

Size in. (mm)	A		B	BB	H	J	K	L	M	N	P	Q	R	T	U	V	W	X
	RF	RJ																
8 x 6 (200 x 150)	32.75 (832)	33.12 (841)	6.00 (152)	7.63 (194)	10.25 (260)	11.53 (293)	15.15 (385)	2.003 (50.88)	8.00 (203)	9.75 (248)	0.500 (12.70)	0.78-(4) -	1.50 (38)	13.70 (348)	16.10 (409)	5.12 (130)	15.25 (387)	20.0 (500)

370D4 TRUNNION BALL VALVES ASME CLASSES 150 THROUGH 2500 & 5000# MOP

WEIGHTS lb. (kg) - VALVE ONLY - BARE STEM

VALVE PORT SIZE in. (mm)	VALVE PRESSURE CLASS					
	150	300	600	900	1500 (5000# MOP)	2500
2 x 2 (50 x 50)	33 (15.0)	45 (20.4)	65 (29.5)	94 (42.6)	120 (54.4)	107 (48.5)
3 x 2 (75 x 50)	-	-	82 (37.2)	107 (48.5)	-	-
3 x 3 (75 x 75)	60 (27.2)	78 (35.4)	128 (58.1)	175 (79.4)	215 (97.5)	410 (186.0)
4 x 3 (100 x 75)	-	-	175 (79.4)	240 (108.9)	-	-
4 x 4 (100 x 100)	105 (47.6)	145 (65.8)	200 (90.7)	276 (125.2)	400 (181.4)	670 (303.9)
6 x 4 (150 x 100)	155 (70.3)	200 (90.7)	275 (124.7)	366 (166.0)	640 (290.3)	1188 (538.9)
6 x 6 (150 x 150)	234 (106.1)	285 (129.3)	500 (226.8)	650 (294.8)	941 (426.8)	-
8 x 6 (200 x 150)	294 (133.4)	361 (163.7)	575 (260.8)	748 (339.3)	1220 (553.4)	-
8 x 8 (200 x 200)	470 (213.2)	590 (267.6)	800 (362.9)	1010 (458.1)	-	-
10 x 8 (250 x 200)	685 (310.7)	850 (385.6)	920 (417.3)	1162 (527.1)	-	-
10 x 10 (250 x 250)	850 (385.6)	1000 (453.6)	1270 (576.1)	1580 (716.7)	-	-
12 x 10 (300 x 250)	950 (430.9)	1150 (521.6)	1460 (662.2)	1817 (824.2)	-	-
12 x 12 (300 x 300)	1200 (544.3)	1520 (689.5)	1880 (852.8)	2450 (1111.3)	-	-
14 x 12 (350 x 300)	1300 (589.67)	1660 (753.0)	2160 (979.8)	2818 (1278.2)	-	-
14 (350)	1440 (653.2)	1760 (798.3)	2420 (1097.7)	-	-	-
16 (400)	2160 (979.8)	2600 (1179.3)	3540 (1605.7)	-	-	-

WEIGHTS lb. (kg) - WORM GEAR ACTUATOR ONLY

VALVE PORT SIZE in. (mm)	VALVE PRESSURE CLASS					
	150	300	600	900	1500 (5000# MOP)	2500
2 (50)	13.5 (6.1)	13.5 (6.1)	13.5 (6.1)	13.5 (6.1)	27.5 (12.5)	27.5 (12.5)
3 (75)	13.5 (6.1)	13.5 (6.1)	13.5 (6.1)	27.5 (12.5)	32.0 (14.5)	47.5 (21.5)
4 (100)	25.6 (11.6)	27.5 (12.5)	27.5 (12.5)	32.0 (14.5)	47.5 (21.5)	69.5 (31.5)
6 (150)	36.0 (16.3)	36.0 (16.3)	40.0 (18.1)	79.5 (36.1)	79.5 (36.1)	-
8 (200)	39 (17.7)	58 (26.3)	81.0 (36.7)	82.5 (37.4)	-	-
10 (250)	79 (35.8)	79 (35.8)	82.0 (37.2)	110.0 (49.9)	-	-
12 (300)	86 (39.0)	86 (39.0)	110.0 (49.9)	163.5 (74.2)	-	-
14 (350)	70.5 (32)	70.5 (32)	123.5 (56)	-	-	-
16 (400)	70.5 (32)	70.5 (32)	123.5 (56)	-	-	-

Note: Weights shown are for Worm Gear Actuator, Handwheel and Mounting Hardware.

FLOW CHARACTERISTICS (C_v)*

VALVE PORT SIZE in. (mm)	VALVE PRESSURE CLASS					
	150	300	600	900	1500 (5000# MOP)	2500
2 x 2 (50 x 50)	473	429	369	328	328	207
3 x 2 (75 x 50)	-	-	136	136	-	-
3 x 3 (75 x 75)	1244	1055	940	908	818	490
4 x 3 (100 x 75)	-	-	407	406	-	-
4 x 4 (100 x 100)	2492	2158	1813	1762	1598	1014
6 x 4 (150 x 100)	432	432	552	551	593	414
6 x 6 (150 x 150)	5468	5403	4590	4394	4112	-
8 x 6 (200 x 150)	1294	1293	1642	1637	1652	-
8 x 8 (200 x 200)	10782	10293	8971	8494	-	-
10 x 8 (250 x 200)	2843	2848	3578	3569	-	-
10 x 10 (250 x 250)	17438	16892	14352	13911	-	-
12 x 10 (300 x 250)	5195	5187	6505	6454	-	-
12 x 12 (300 x 300)	16892	26702	22772	21221	-	-
14 x 12 (350 x 300)	8478	8449	10592	10490	-	-
14 x 14 (350 x 350)	22742	22254	21507	-	-	-
16 x 16 (400 x 400)	31823	31142	29902	-	-	-

* Flow of water in U.S. gal/min/1 psi pressure drop across a fully open valve.

370D4 TRUNNION BALL VALVES ASME CLASSES 150 THROUGH 2500 & 5000# MOP

BALL VALVE TORQUE CHART

VALVE PORT SIZE	PRESSURE (P)	TORQUE EXPRESSIONS		BREAK TORQUE @ MAX. P (in-lbs)	RUN TORQUE @ MAX. P (in-lbs)	RESEAT TORQUE @ MAX. P (in-lbs)
		BREAK TORQUE (in-lbs)	RUN TORQUE (in-lbs)			
in. (mm)	(psig)					
2 (50)	0 - 285	213 + (0.24 x P)	107 + (0.12 x P)	281	141	211
	286 - 740	213 + (0.41 x P)	107 + (0.20 x P)	516	255	387
	741 - 1480	213 + (0.52 x P)	107 + (0.26 x P)	983	492	737
	1481 - 2220	213 + (0.56 x P)	107 + (0.27 x P)	1456	706	1092
	2221 - 3705	213 + (0.58 x P)	107 + (0.29 x P)	2362	1181	1772
	3706 - 6170	213 + (0.59 x P)	107 + (0.29 x P)	3853	1896	2890
3 (75)	0 - 285	383 + (0.44 x P)	191 + (0.22 x P)	508	254	381
	286 - 740	383 + (1.03 x P)	191 + (0.52 x P)	1145	576	859
	741 - 1480	383 + (1.21 x P)	191 + (0.61 x P)	2174	1094	1631
	1481 - 2220	383 + (1.28 x P)	191 + (0.65 x P)	3225	1634	2419
	2221 - 3705	383 + (1.23 x P)	191 + (0.61 x P)	4940	2451	3705
	3706 - 6170	383 + (1.23 x P)	191 + (0.62 x P)	7972	4016	5979
4 (100)	0 - 285	822 + (0.94 x P)	411 + (0.47 x P)	1090	545	818
	286 - 740	822 + (1.92 x P)	411 + (0.96 x P)	2243	1121	1682
	741 - 1480	822 + (2.23 x P)	411 + (1.12 x P)	4122	2069	3092
	1481 - 2220	822 + (2.33 x P)	411 + (1.17 x P)	5995	3008	4496
	2221 - 3705	822 + (1.97 x P)	411 + (0.99 x P)	8121	4079	6091
	3706 - 6170	822 + (2.01 x P)	411 + (1.00 x P)	13224	6581	9918
6 (150)	0 - 285	1661 + (7.50 x P)	1026 + (2.18 x P)	3670	1636	2753
	286 - 740	1661 + (5.00 x P)	1026 + (1.30 x P)	5361	1988	4021
	741 - 1480	1661 + (5.00 x P)	1026 + (1.23 x P)	9061	2846	6796
	1481 - 2220	1661 + (5.80 x P)	1026 + (1.58 x P)	14537	4534	10903
	2221 - 3705	1661 + (5.69 x P)	1026 + (1.75 x P)	22742	7510	17057
8 (200)	0 - 285	2899 + (13.92 x P)	1834 + (3.13 x P)	6866	2726	5150
	286 - 740	2899 + (11.71 x P)	1834 + (2.15 x P)	11564	3425	8673
	741 - 1480	2899 + (10.15 x P)	1834 + (1.89 x P)	17921	4631	13441
	1481 - 2220	2899 + (9.78 x P)	1834 + (1.78 x P)	24611	5786	18458
10 (250)	0 - 285	2916 + (26.43 x P)	2041 + (12.28 x P)	10449	5541	7837
	286 - 740	2916 + (18.02 x P)	2041 + (5.67 x P)	16251	6237	12188
	741 - 1480	2916 + (14.82 x P)	2041 + (3.55 x P)	24850	7295	18638
	1481 - 2220	2916 + (14.82 x P)	2041 + (2.69 x P)	35816	8013	26862
12 (300)	0 - 285	5728 + (36.46 x P)	4421 + (5.20 x P)	13184	5903	12089
	286 - 740	5728 + (19.43 x P)	4421 + (2.45 x P)	20106	6232	15080
	741 - 1480	5728 + (17.31 x P)	4421 + (1.92 x P)	31347	7263	23510
	1481 - 2220	5728 + (15.23 x P)	4421 + (1.68 x P)	39539	8151	29654
14 (350)	0-285	13,535 + (18.75 x P)	9475 + (2.81 x P)	18879	10275	14159
	286-740	13,535 + (18.75 x P)	9475 + (2.81 x P)	27410	11555	20558
	741-1480	13,535 + (18.75 x P)	9475 + (2.81 x P)	41285	13634	30964
16 (400)	0-285	16,100 + (27.50 x P)	11270 + (4.13 x P)	23938	12447	17954
	286-740	16,100 + (27.50 x P)	11270 + (4.13 x P)	36450	14326	27338
	741-1480	16,100 + (27.50 x P)	11270 + (4.13 x P)	56800	17382	42600

The above values are new valve torque values, where **P** is the maximum operating pressure (psig) of the valve.

The above torque values do not contain service factors.

Soaking effects and/or particle matter in the valve may cause an increase in the torque.

For intermediate pressure use the torque expressions for the stated pressure range.

For example, an intermediate pressure of 1000 psig uses the torque equations that correspond to the 751-1500 psig pressure range.

The reseat torque is taken as **0.75** times the break torque.

For power operation, multiply all of the above values by a factor of **1.25** or customer specified factor whichever is larger.

For operating temperatures between -20°F to -50°F multiply these values by **1.20**.

Actuator selection should be made on customer experience and appropriate service factors.

WKM 370D4 TRUNNION BALL VALVES MATERIAL SELECTION GUIDE

A selection of body, stem and seat/seal materials for WKM 370D4 Trunnion Valves are available. The following list is intended as a guide in the selection of materials for corrosive service.

No material can be expected to resist the corrosive action of all the many ladings found in modern industry. Experience has shown, however, that certain materials can perform satisfactorily within certain limits.

The physical properties of a material are affected differently by each corrosive medium. Therefore, it sometimes becomes necessary to sacrifice value in another property. As a result, the user must decide which property is of prime importance for his application.

Internal moving parts, in contact with the lading, should always carry an "A" rating. Body materials with exposure to corrosive ladings can sometimes carry "B" rating because metal loss due to corrosive is not as critical.

We strongly recommend that tests be run under actual operating conditions to obtain a material's performance ability in any one corrosive medium.

Rating interpretation:

- "A" - excellent;
- "B" - good (slightly attacked);
- "C" - fair (moderately attacked,
- "D" - not recommended.

LADING	STD BDY 23	STD BDY 24	SPL BDY 27	SPL BDY 37	STD YFF	SPL YRF	SPL TFF	SPL TRF	SPL PFF	SPL PRF	SPL PLF	STD INT 23	STD INT 24	SPL INT 27	SPL INT 37
ACETALDEHYDE	A	C	A	C	D	C		C		C		A	C	A	C
ACETATE SOLVENTS	A	A	A	A	D							A	A	A	A
ACETIC ACID (30%)	A	C	A	C	B							A	C	A	C
ACETIC ACID (AERATED)	A	D	A	D	D							A	D	A	D
ACETIC ACID (AIR FREE)	A	D	A	D	D							A	D	A	D
ACETIC ACID (CRUDE)	B	C	B	C	D							B	C	B	D
ACETIC ANHYDRIDE	B	D	B	D	D	D		D		D		B	D	B	D
ACETONE	A	A	A	A	D	D				D		A	A	A	A
ACETYLENE (DRY ONLY)	A	A	A	A	A							A	A	A	A
ACRYLONITRILE	A	A	A	A	D	D						A	A	A	A
ALCOHOL-AMYL	A	B	A	B	B	-						A	B	A	B
ALCOHOL-BUTYL	A	B	A	B	A	-						A	B	A	B
ALCOHOL-ETHYL	A	B	A	B	C	-						A	B	A	B
ALCOHOL-METHYL (METHANOL)	A	B	A	B	B	-						A	B	A	B
ALUMINUM CHLORIDE (DRY)	A	B	A	B	A	B		A		A		A	B	A	B
ALUMINUM SULFATE (ALUMS)	A	C	A	C	A	A		A		A		A	C	A	C
ALUM'S	A	C	A	C	A					A		A	C	A	C
AMINES	A	A	A	A	B	D		D		D		A	A	A	A
AMINES RICH	A	A	B	A	B							A	A	A	A
AMMONIA (AQUEOUS)	A	A	A	A	D							A	A	A	A
AMMONIA ANHYDROUS	A	A	A	A	D	B		B		B		A	A	A	A
AMMONIA SOLUTIONS	A	B	A	B	D							A	B	A	B
AMMONIUM BICARBONATE	B	C	B	C	B					C		B	C	B	C
AMMONIUM CARBONATE	B	B	B	B	B	D		A		D		B	B	B	B
AMMONIUM CHLORIDE	C	D	C	D	A	B		A		D		C	D	C	D
AMMONIUM HYDROXIDE (28%)	B	C	B	C	B	D		B		C		B	C	B	C
AMMONIUM HYDROXIDE CONCENTRATED	B	C	B	C	C			D		C		B	C	B	C
AMMONIUM MONOPHOSPHATE	B	D	B	D	B			B		D		B	D	B	D
AMMONIUM NITRATE	A	D	A	D	C	A		C		D		A	D	A	D
AMMONIUM PHOSPHATE (DIBASIC)	B	D	B	D	A	C		A		D		B	D	B	D
AMMONIUM PHOSPHATE (TRIBASIC)	B	D	B	D	A	B		A		D		B	D	B	D
AMMONIUM SULFATE	B	C	B	C	A	A		A		C		B	C	B	C
AMYL ACETATE	B	C	B	C	D	D		D		C		B	C	B	C
ANILINE	B	A	A	A	C	D		C		A		B	A	A	A
ANILINE DYES	A	C	A	C	B			B		C		A	C	A	C
ANTIMONY TRICHLORIDE	D	D	-	D	A	D		A		D		D	D	-	D
APPLE JUICE	B	D	-	D	A			A		A		B	D	-	D
ARSENIC ACID	B	D	B	D	A	C		A		D		B	D	B	D
ASPHALT EMULSION	A	A	A	A	A	B		A		A		A	A	A	A
ASPHALT LIQUID	A	A	A	A	A			A		A		A	A	A	A
BARIUM CARBONATE	B	B	B	B	A	C		A		B		B	B	B	B
BARIUM CHLORIDE	C	C	C	C	A	A		A		C		C	C	C	C
BARIUM HYDROXIDE	B	C	B	C	A	A		A		C		B	C	B	C
BARIUM SULFATE	B	B	B	B	A	A		A		B		B	B	B	B
BARIUM SULFIDE	B	B	B	B	A	A		A		C		B	B	-	B
BEER (ALCOHOL INDUSTRY)	A	C	-	C	A	A		A		A		A	C	-	C
BEER (BEVERAGE INDUSTRY)	A	C	-	C	A	A		A		A		A	C	-	C
BEET SUGAR LIQUIDS	A	B	A	B	A	A		A		A		A	B	A	B

(-) - Not tested.

PC - Precision Buna-N.

Note: All ladings at ambient temperatures.

WKM 370D4 TRUNNION BALL VALVES MATERIAL SELECTION GUIDE (CONTINUED)

LADING	STD BDY 23	STD BDY 24	SPL BDY 27	SPL BDY 37	STD YFF	SPL YRF	SPL TFF	SPL TRF	SPL PFF	SPL PRF	SPL PLF	STD INT 23	STD INT 24	SPL INT 27	SPL INT 37
BENZALDEHYDE	A	A	A	A	D	D		D		D		A	A	A	A
BENZENE (BENZOL)	A	B	A	B	A	D		D		D		A	B	A	B
BENZOIC ACID	B	D	A	D	A	D		D		D		B	D	B	D
BORAX LIQUORS	B	C	B	C	A	A		A				B	C	B	C
BORIC ACID	A	D	A	D	A	B		A		A		A	D	A	D
BRINES	B	D	B	D	A					A		B	D	B	D
BROMINE (DRY)	D	D	-	D	A	D		D		D		D	D	-	D
BROMINE (WET)	D	D	-	D	B					D		D	D	-	D
BUNKER OILS (FUEL OILS)	A	B	A	B	A							A	B	A	B
BUTADIENE	A	B	A	B	D	D		D		D		A	B	A	B
BUTANE	A	A	A	A	A	A		A		A		A	B	A	B
BUTTERMILK	A	D	-	D	A	B		A				A	D	-	D
BUTYLENE	A	A	A	A	A	D		D				A	A	A	A
BUTYRIC ACID	B	D	B	D	B	C		C		B		B	D	B	D
CALCIUM BISULFITE	B	D	B	D	B	A		A				B	D	B	D
CALCIUM CARBONATE	B	D	B	D	A	A		A		A		B	D	B	D
CALCIUM CHLORIDE	B	C	B	C	A	A		A		A		B	C	B	C
CALCIUM HYDROXIDE (20%)	B	B	B	B	A	A		A		A		B	B	B	B
CALCIUM HYPOCHLORITE	C	D	-	D	A	D		D		B		A	D	-	D
CALCIUM SULFATE	B	C	B	C	A	D		D		C		B	C	B	C
CARBON BISULFIDE	B	B	B	B	A	D		D		D		A	D	-	D
CARBON DIOXIDE (DRY)	A	A	A	A	D	A		A		A		A	A	A	A
CARBON DIOXIDE (WET)	B	D	B	D	D	A		A		A		B	D	B	D
CARBON TETRACHLORIDE (DRY)	A	B	A	B	A			B		B		A	B	A	B
CARBON TETRACHLORIDE (WET)	B	D	B	D	A			B				B	D	B	D
CARBONATED WATER	A	B	A	B	A							A	B	A	B
CARBONIC ACID	B	D	B	D	A	A		A				B	D	B	D
CASTOR OIL	A	B	A	B	A							A	B	A	B
CHINA WOOD OIL (TUNG)	A	C	A	C	A							A	C	A	C
CHLORINATED SOLVENTS (DRY)	B	C	B	C	A					D		B	C	B	C
CHLORINE (WET)	D	D	-	D	A			C		D		D	D	-	D
CHLORINE GAS (DRY)	B	B	B	B	A					D		B	B	B	B
CHLOROACETIC ACID	C	D	-	D	D	D		D		D		D	D	-	D
CHLORO BENZENE (DRY)	A	B	A	B	A	D		D		D		A	B	A	B
CHLOROFORM (DRY)	A	B	A	B	A	D		D		D		A	B	A	B
CHLOROSULPHONIC ACID (DRY)	B	B	B	B	D	D		D				B	B	B	B
CHLOROSULPHONIC ACID (WET)	D	D	-	D	D	D		D				D	D	-	D
CHROME ALUM	A	B	A	B	A							A	B	A	B
CHROMIC ACID	C	D	-	D	A	D		D		D		C	D	-	D
CITRUS JUICES	B	D	B	D	A	A		A				B	D	B	D
COCONUT OIL	B	C	B	C	A							B	C	B	C
COFFEE EXTRACTS (HOT)	A	C	A	C	A	A						A	C	A	C
COKE OVEN GAS	A	B	A	B	A					D		A	B	A	B
COOKING OIL	A	B	A	B	A							A	B	A	B
COPPER ACETATE (10%)	B	C	B	C	D					B		B	C	B	C
COPPER CHLORIDE	D	D	-	D	A	D		A		A		D	D	-	D
COPPER NITRATE	B	D	B	D	A	D		A		A		B	D	B	D
COPPER SULFATE	C	D	-	D	A	D		A		A		C	D	-	D
CORN OIL	B	C	B	C	A							B	C	B	C
CORROSION INHIBITOR- AMINE BASED	A	A	A	A	B							A	A	A	A
COTTONSEED OIL	B	C	B	C	A					A		B	C	B	C
CREOSOTE OIL	B	B	B	B	A							B	B	B	B
CRESYLIC ACID	B	B	B	B	A	D		A		A		B	B	B	B
CRUDE OIL SOUR	A	B	A	B	A							A	B	A	B
CRUDE OIL SWEET	A	B	A	B	A							A	B	A	B
CUTTING OILS, WATER EMULSIONS	A	B	A	B	A							A	B	A	B
CYCLOHEXANE	A	A	A	A	A	A		A		A		A	A	A	A
DIACETONE ALCOHOL	A	A	A	A	D	D		D		D		A	A	A	A
DIESEL FUEL	A	A	A	A	A	A		A				A	A	A	A
DIETHYLAMINE	A	A	A	A	B					B		A	A	A	A
DIPHHTALIC ANHYDROUS	-	-	-	-	-							-	-	-	-
DOWTHERMS (A-E)	A	B	A	B	A					D		A	B	A	B

(-) - Not tested.

PC - Precision Buna-N.

Note: All ladings at ambient temperatures.

WKM 370D4 TRUNNION BALL VALVES MATERIAL SELECTION GUIDE (CONTINUED)

LADING	STD BDY 23	STD BDY 24	SPL BDY 27	SPL BDY 37	STD YFF	SPL YRF	SPL TFF	SPL TRF	SPL PFF	SPL PRF	SPL PLF	STD INT 23	STD INT 24	SPL INT 27	SPL INT 37
DRILLING MUD	A	B	A	B	A							A	B	A	B
DRIP COCKS, GAS	A	B	A	B	A							A	B	A	B
DRY CLEANING FLUIDS	A	B	A	B	A							A	B	A	B
EPSOM SALT	B	C	B	C	A							B	C	A	C
ETHANE	A	A	A	A	A	D		A		A		A	A	A	A
ETHANOLAMINE	A	A	A	A	D	B		B				A	A	A	A
ETHERS	A	B	A	B	D	D		D		D		A	B	A	B
ETHYL ACETATE	B	B	B	B	D	D		D		D		B	B	B	B
ETHYL ACRYLATE	A	A	A	A	D					D		A	A	A	A
ETHYL CHLORIDE (DRY)	A	B	A	B	A	A		A		A		A	B	A	B
ETHYL CHLORIDE (WET)	B	B	B	B	A	A		A				B	B	B	B
ETHYLENE (LIQUID OR GAS)	A	A	A	A	A							A	A	A	A
ETHYLENE GLYCOL	B	B	B	B	A	A		A		A		B	B	B	B
ETHYLENE OXIDE	B	B	B	B	D	D		D		D		B	B	B	B
ETHYLENE PROPYLENE	A	B	-	-	A							A	B	-	-
FATTY ACIDS	B	D	B	D	A	B		B		B		B	D	B	D
FERRIC CHLORIDE	D	D	-	D	A	C		C		B		D	D	-	D
FERRIC NITRATE	C	D	-	D	A	A		A		A		C	D	-	D
FERRIC SULFATE	B	D	B	D	A	A		A		B		B	D	B	D
FERROUS CHLORIDE	D	D	-	D	A	D		D		B		D	D	-	D
FERROUS SULFATE	B	D	B	D	A					C		B	D	B	D
FERROUS SULFATE (SAT)	A	C	A	C	-	D		D				A	C	A	C
FERTILIZER SOLUTIONS	B	B	B	B	D							B	B	B	B
FISH OILS	A	B	A	B	A	B		B				A	B	A	B
FLUORINE (DRY)	A	B	A	B	C	D		D		D		A	B	A	B
FLUROSILICIC ACID	C	D	-	D	A	D		D		A		C	D	-	D
FOOD FLUIDS - PASTES	A	C	-	C	A							A	C	-	C
FORMALDEHYDE (COLD)	A	A	A	A	D	D		D		B		A	A	A	A
FORMALDEHYDE (HOT)	B	D	B	D	D	D		D				B	D	B	D
FORMIC ACID (COLD)	B	D	B	D	C	D		D		B		B	D	B	D
FORMIC ACID (HOT)	D	D	-	D	C	D		D				D	D	-	D
FREON 12 (DRY)	A	B	A	B	B	A		A		A		A	B	A	B
FRUIT JUICES	A	D	-	D	A	A		A				A	D	-	D
FUEL JET JP-4	A	A	A	A	A							A	A	A	A
FUEL JET JP-5 100F	A	A	A	A	B							A	A	A	A
FUEL JET JP-6 100F	A	A	A	A	B							A	A	A	A
FUEL OIL	A	B	A	B	A	B		B		B		A	B	A	B
FUEL RP-1	A	A	A	A	A							A	A	A	A
FURFURAL	B	A	A	A	D	D		D		D		B	A	A	A
GALLIC ACID	B	D	B	D	A	B		B				B	D	B	D
GAS (MANUFACTURED)	B	B	B	B	A	A		A		B		B	B	B	B
GAS ODORIZERS	A	B	A	B	A							A	B	A	B
GAS, NATURAL	A	B	A	B	A							A	B	A	B
GASOLINE, AVIATION	A	A	A	A	A							A	A	A	A
GASOLINE, SOUR	A	B	A	B	A							A	B	A	B
GASOLINE, LEADED, LOW OCTANE	A	A	A	A	A	A		A		A		A	A	A	A
GASOLINE, UNLEADED, LOW OCTANE	A	A	A	A	A	A		A		A		A	A	A	A
GELATIN	A	D	-	D	A	A		A				A	D	-	D
GLUCOSE	A	B	A	B	A	A		A		A		A	B	A	B
GLUE	A	A	A	A	A							A	A	A	A
GLYCERINE - GLYCEROL	A	B	A	B	A	A		A		A		A	B	A	B
GLYCOLS	B	B	B	B	A					A		B	B	B	B
GREASE	A	A	A	A	A					A		A	A	A	A
HEPTANE	A	A	A	A	A	A		A		D		A	A	A	A
HEXANE	A	A	A	A	B	B		A		A		A	A	A	A
HEXANOL, TERTIARY	A	A	A	A	A							A	A	A	A
HYDRAULIC OIL PHOSPHATE ESTER	A	A	A	A	A							A	A	A	A
HYDRAULIC OIL PETROLEUM BASE	A	A	A	A	A			A		A		A	A	A	A
HYDROBROMIC ACID	D	D	-	D	A	D		D		D		D	D	-	D
HYDROCHLORIC ACID 37% AIR FREE	D	D	-	D	B	D		D		D		D	D	-	D
HYDROCYANIC ACID	B	D	B	D	B	B		B		B		B	D	B	D
HYDROFLUORIC ACID	D	D	-	D	D	D		D		D		D	D	-	D

(-) - Not tested.

PC - Precision Buna-N.

Note: All ladings at ambient temperatures.

WKM 370D4 TRUNNION BALL VALVES MATERIAL SELECTION GUIDE (CONTINUED)

LADING	STD BDY 23	STD BDY 24	SPL BDY 27	SPL BDY 37	STD YFF	SPL YRF	SPL TFF	SPL TRF	SPL PFF	SPL PRF	SPL PLF	STD INT 23	STD INT 24	SPL INT 27	SPL INT 37
HYDROFLUOSILICIC ACID	C	D	-	D	A	D		D				C	D	-	D
HYDROGEN GAS (COLD)	A	B	A	B	B	A		A		A		A	B	A	B
HYDROGEN PEROXIDE 30% (DILUTE)	B	D	B	D	B	D		D		D		B	D	B	D
HYDROGEN PEROXIDE 90%	B	D	B	D	B	D		D		D		B	D	B	D
HYDROGEN SULFIDE (DRY)	A	A	A	A	A	C		C				A	A	A	A
HYDROGEN SULFIDE (WET)	A	D	B	D	A	D		D		D		A	D	B	D
HYPO (SODIUM THIOSULFATE)	A	D	A	D	A							A	D	A	D
HYPOCHLORITES, SODIUM	C	D	-	D	A							C	D	-	D
ILLUMINATING GAS	A	A	A	A	-							A	A	A	A
INK	A	D	A	D	-							A	D	A	D
IODINE (WET)	D	D	-	D	B	A		A		A		D	D	-	D
ISO-OCTANE	A	A	A	A	A	A		A		A		A	A	A	A
ISOCYANIDE	A	A	A	A	D							A	A	A	A
ISODOFORM (DRY)	B	B	B	B	-							B	B	B	B
ISOPROPYL ALCOHOL	B	B	B	B	A	B		B				B	B	B	B
ISOPROPYL ETHER	A	A	A	A	D	B		B		B		A	A	A	A
KEROSENE	A	B	A	B	A	A		A		A		A	B	A	B
KETCHUP	A	D	-	D	A							A	D	-	D
KETONES	A	A	A	A	D							A	A	A	A
LACQUERS (SOLVENTS)	A	C	A	C	D	D		D		D		A	C	A	C
LACTIC ACID (CONC. COLD)	A	D	-	D	A					A		B	D	-	D
LACTIC ACID (CONC. HOT)	B	D	-	D	A					D		B	D	-	D
LACTIC ACID (DILUTE COLD)	A	D	A	D	A							A	D	A	D
LACTIC ACID (DILUTE HOT)	A	D	-	D	A							B	D	-	D
LARD OIL	A	C	-	C	A	A		A				A	C	-	C
LEAD ACETATE	B	C	-	C	D	B		B				B	D	-	D
LINOLEIC ACID	A	B	A	B	C					B		A	B	A	B
LINSEED OIL	A	A	A	A	A					A		A	A	A	A
LIQUEFIED PET GAS (LPG)	A	B	A	B	A							A	B	A	B
LITHIUM BROMIDE	A	D	-	D	-					C		A	D	-	D
LUBRICATING OIL	A	A	A	A	A					B		A	A	A	A
MAGNESIUM BISULFATE (10%)	A	C	-	C	A							A	C	-	C
MAGNESIUM CHLORIDE	D	C	-	C	A	A		A		A		D	C	-	C
MAGNESIUM HYDROXIDE	A	B	A	B	A	B		B		B		A	B	A	B
MAGNESIUM HYDROXIDE (HOT)	A	B	A	B	B							A	B	A	B
MAGNESIUM SULFATE	B	B	-	B	A							B	B	-	B
MALEIC ACID	C	B	B	B	A	D		D		C		C	B	B	B
MALEIC ANHYDRIDE	A	D	-	D	-					D		A	D	-	D
MALIC ACID	A	D	-	D	A	A		A				A	D	-	D
MAYONNAISE	A	D	-	D	A	A						A	D	-	D
MERCAPTANSA	A	A	A	A	A							A	A	A	A
MERCURIC CHLORIDE	D	D	-	D	A	D		D		A		D	D	-	D
MERCURIC CYANIDE (10%)	B	D	-	D	-	C		C		C		B	D	-	D
MERCURY	A	A	A	A	A	A		A		A		A	A	A	A
METHANE	A	A	A	A	A	A		A		A		A	A	A	A
METHYL ACETATE	A	A	A	A	D	D		D		D		A	A	A	A
METHYL ACETONE	A	A	A	A	D							A	A	A	A
METHYL CELLOSOLVE	B	B	B	B	D	C		C				B	B	B	B
METHYL CHLORIDE (DRY)	A	B	A	B	A	D		D		D		A	B	A	B
METHYL ETHYL KETONE	A	A	A	A	D	D		D		D		A	A	A	A
METHYL FORMATE	B	B	B	B	-					D		B	B	B	B
METHYLAMINE	B	B	B	B	-							B	B	B	B
METHYLENE CHLORIDE (DRY)	B	B	B	B	B	D		D		D		B	B	B	B
MILK	A	D	-	D	A	A		A		A		A	D	-	D
MINE WATERS (ACID)	B	D	-	D	B							B	D	-	D
MINERAL SPRITS	B	B	B	B	A							B	B	B	B
MINERAL OIL	A	B	A	B	A					A		A	B	A	B
MIXED ACIDS (COLD)	A	C	-	C	-							A	C	-	C
MOLASSES - CRUDE	A	A	A	A	A							A	A	A	A
MOLASSES, EDIBLE	A	A	A	A	A							A	A	A	A
MTBE 100% CXHEMRAZ O-RINGS	A	B	-	B	CH							A	D	B	D
MTBE 40% MAX	A	A	A	A	B							A	B	B	B

(-) - Not tested.

PC - Precision Buna-N.

Note: All ladings at ambient temperatures.

WKM 370D4 TRUNNION BALL VALVES MATERIAL SELECTION GUIDE (CONTINUED)

LADING	STD BDY 23	STD BDY 24	SPL BDY 27	SPL BDY 37	STD YFF	SPL YRF	SPL TFF	SPL TRF	SPL PFF	SPL PRF	SPL PLF	STD INT 23	STD INT 24	SPL INT 27	SPL INT 37
MURIATIC ACID	D	D	-	D	A							D	D	-	D
MUSTARD	A	B	A	B	A							A	B	A	B
NAPHTHA	A	B	A	B	A	B		B		B		A	B	A	B
NAPHTHALENE	A	A	A	A	A	D		D		D		A	A	A	A
NICKEL AMMONIUM SULFATE (20%)	A	D	-	D	A							A	D	-	D
NICKEL CHLORIDE	B	D	-	D	A	C		C		A		B	D	-	D
NICKEL NITRATE (30%)	B	D	-	D	A	C		C		C		B	D	-	D
NICKEL SULFATE	C	D	-	D	A	A		A				C	D	-	D
NICOTINIC ACID	A	B	A	B	-							A	B	A	B
NITRIC ACID (10%) VIRGIN TFE PACK	A	D	-	D	A					D		A	D	-	D
NITRIC ACID (100%) VIRGIN TFE PACK	A	A	A	A	D					D		A	A	A	A
NITRIC ACID (30%) VIRGIN TFE PACK	A	D	-	D	C					D		A	D	-	D
NITRIC ACID (80%) VIRGIN TFE PACK	A	D	-	D	C					D		A	D	-	D
NITRIC ACID ANHYDROUS/AQUEOUS (VTFP)	A	A	A	A	D					D		A	A	A	A
NITROBENZENE	B	B	B	B	D	D		D		D		B	B	B	B
NITROGEN	A	A	A	A	A					A		A	A	A	A
NITROUS ACID (10%)	B	D	-	D	A					C		B	D	-	D
NITROUS GASES	A	B	A	B	A							A	B	A	B
NITROUS OXIDE	B	A	A	A	A	C		C		B		B	A	B	A
OIL, COTTONSEED	B	C	B	C	A	B		B				B	C	B	C
OIL, PETROLEUM (REFINED)	A	A	A	A	A							A	A	A	A
OIL, PETROLEUM (SOUR) H ₂ S & CO ₂ 40%	A	A	A	A	B							A	A	A	A
OIL, WATER MIXTURES	A	B	A	B	B							A	B	A	B
OIL, ANIMAL	A	A	A	A	A							A	A	A	A
OIL, FISH	A	B	A	B	A							A	B	A	B
OIL, FUEL	A	B	A	B	A	B		B				A	B	A	B
OIL, LUBE	A	A	A	A	A	A						A	A	A	A
OIL, MINERAL	A	B	A	B	A	A		A				A	B	A	B
OLEIC ACID	A	B	A	B	A	C		C		C		A	B	A	B
OLEUM	B	B	B	B	A	D		D		D		B	B	B	B
OLIVE OIL	A	B	A	B	A	A		A		A		A	B	A	B
OXALIC ACID	D	D	-	D	B	B		B		B		D	D	-	D
OXYGEN	A	B	A	B	A					D		A	B	A	B
OZONE (DRY)	A	A	A	A	A	D		D		D		A	A	A	A
OZONE (WET)	A	C	A	C	A	D		D		D		A	C	A	C
PAINTS AND THINNERS	A	A	A	A	A	D		D		D		A	A	A	A
PALM OIL	B	C	B	C	A							B	C	B	C
PALMITIC ACID	A	C	A	C	A	A		A		A		A	C	A	C
PARAFFIN	A	B	A	B	A	A		A		A		A	B	A	B
PARAFORMALDEHYDE	B	B	B	B	A					C		B	B	B	B
PENTANE	A	B	A	B	A	A		A		A		A	B	A	B
PERCHLOROETHYLENE	B	B	B	B	A	C		C		B		B	B	B	B
PETROLATUM	B	C	B	C	A	D		D		A		B	C	B	C
PHENOL (CARBOLIC ACID)	A	B	A	B	A	D		D		D		A	B	A	B
PHENOL RESIN	A	C	-	-	A							A	C	-	C
PHOSGENE (DRY)	A	A	A	A	B							A	A	A	A
PHOSGENE (WET)	A	D	-	-	B							A	D	-	-
PHOSPHORIC ACID (10%) COLD	B	D	B	D	A					D		B	D	B	D
PHOSPHORIC ACID (10%) HOT	D	D	-	D	A					D		D	D	-	D
PHOSPHORIC ACID (50%) COLD	B	D	B	D	A					D		B	D	B	D
PHOSPHORIC ACID (50%) HOT	D	D	-	D	A					D		D	D	-	D
PHOSPHORIC ACID (85%) COLD	A	B	A	B	A					D		A	B	A	B
PHOSPHORIC ACID (85%) HOT	A	C	-	C	A					D		A	C	-	C
PHTHALIC ACID	B	C	B	C	A					C		-	C	B	C
PHTHALIC ANHYDRIDE	B	C	B	C	A							B	C	B	C
PICRIC ACID	B	C	B	C	A	C		C		A		B	C	B	C
PINE OIL	A	B	A	B	A							A	B	A	B
PINEAPPLE JUICE	A	C	-	C	A							A	C	-	C
POLY ESTER RESIN	A	B	-	B	A							A	B	A	B
POLYETHYLENE FLUFF	A	B	A	B	B							A	B	A	B
POLYETHYLENE LIQUID	A	B	A	-	B							A	B	A	B
POLYURETHANE	A	A	A	A	D							A	A	A	A

(-) - Not tested.

PC - Precision Buna-N.

Note: All ladings at ambient temperatures.

WKM 370D4 TRUNNION BALL VALVES MATERIAL SELECTION GUIDE (CONTINUED)

LADING	STD BDY 23	STD BDY 24	SPL BDY 27	SPL BDY 37	STD YFF	SPL YRF	SPL TFF	SPL TRF	SPL PFF	SPL PRF	SPL PLF	STD INT 23	STD INT 24	SPL INT 27	SPL INT 37
POTASSIUM BISULFITE (10%)	B	D	-	D	A							D	B	D	B
POTASSIUM BROMIDE	B	D	-	-	D					C		B	D	-	D
POTASSIUM CARBONATE	A	C	-	C	A							A	C	-	C
POTASSIUM CHLORATE	A	B	A	B	A							A	B	A	B
POTASSIUM CHLORIDE	A	C	-	C	A	A		A		A		A	C	-	C
POTASSIUM CYANIDE	B	B	B	B	A	A		A				B	B	B	B
POTASSIUM DICHROMATE	A	B	A	B	A	B		A		B		A	B	A	B
POTASSIUM DIPHOSPHATE	A	A	A	A	A							A	A	A	A
POTASSIUM FERRICYANIDE	A	B	A	B	A	C		C				B	B	B	B
POTASSIUM FERROCYANIDE	A	B	A	B	A							A	B	A	B
POTASSIUM HYDROXIDE 70% (COLD)	A	A	A	A	D							A	A	A	A
POTASSIUM HYDROXIDE 70% (HOT)	A	A	A	A	D							A	A	A	A
POTASSIUM HYDROXIDE-DILUTE (COLD)	B	B	B	B	C							B	B	B	B
POTASSIUM HYDROXIDE-DILUTE (HOT)	A	B	A	B	D							B	B	B	B
POTASSIUM IODIDE	B	C	B	C	A	C		C				B	C	B	C
POTASSIUM NITRATE	A	B	A	B	A	B		B		A		A	B	A	B
POTASSIUM PERMANGANATE	A	A	A	A	A	D		D		C		A	A	A	A
POTASSIUM SULFATE	A	B	A	B	A	A		A		A		A	B	A	B
POTASSIUM SULFIDE (10%)	B	C	B	C	A	C		C		C		B	C	B	C
POTASSIUM SULFITE (10%)	A	D	-	D	A							A	D	-	D
PRODUCER GAS	A	B	A	B	A							A	B	A	B
PROPANE	A	A	A	A	B	A		A		A		A	A	A	A
PROPLENE	A	B	-	B	A			C		D		A	B	-	B
PROPYL ALCOHOL	A	A	A	A	A					A		A	A	A	A
PROPYLENE GYLCOL	A	A	A	A	A	C		C		A		A	A	A	A
PYROGALLIC ACID	B	B	B	B	-	B		B				B	B	B	B
QUENCH OIL (WATER SOLUBLE)	A	A	A	A	B							A	A	A	A
RESINS-ROSINS	A	C	-	C	-							A	C	-	C
ROAD TAR	A	A	A	A	A							A	A	A	A
ROOF PITCH	A	A	A	A	A							A	A	A	A
RUBBER LATEX EMULSIONS	A	B	A	B	A							A	B	A	B
RUBBER SOLVENT	A	A	A	A	D							A	A	A	A
SALAD OIL	B	C	-	C	A							B	C	-	C
SALICYLIC ACID	A	D	-	D	A	B		B				A	D	A	D
SALT	B	C	A	C	A							B	C	A	C
SEA WATER	A	D	A	D	A	A		A				A	D	A	D
SHELLAC (BLEACHED)	A	A	A	A	D							A	A	A	A
SHELLAC (ORANGE)	A	A	A	A	D							A	A	A	A
SILICONE OILS	A	A	A	A	A	A		A		A		A	A	A	A
SILVER NITRATE	B	D	-	D	A	B		B		B		B	D	-	D
SOAP SOLUTIONS (STEARATES)	A	A	A	A	A	A		A		A		A	A	A	A
SODIUM ACETATE	B	B	B	B	D	B		B		B		B	B	B	B
SODIUM ALUMINATE	A	C	-	C	A	C		C		C		A	C	-	C
SODIUM BICARBONATE	B	C	-	C	A	A		A		A		B	C	-	C
SODIUM BISULFATE (10%)	A	D	-	D	A	A		A				A	D	-	D
SODIUM BISULFITE (10%)	D	D	-	D	A	C		C		A		D	D	-	D
SODIUM BORATE	D	C	-	C	A	A		A		A		D	C	-	C
SODIUM BROMIDE (10%)	B	C	B	C	A	C		C		C		B	C	B	C
SODIUM CARBONATE	B	B	B	B	A	B		B		A		B	B	B	B
SODIUM CHLORATE	B	C	B	C	A	D		D		C		B	C	B	C
SODIUM CHLORIDE	B	C	B	C	A	A		A		A		B	C	B	C
SODIUM CHROMATE	B	B	B	B	A	C		C				B	B	B	B
SODIUM CYANIDE (10%)	A	A	A	A	A	A		A				A	A	A	A
SODIUM FLUORIDE	B	D	-	D	A	C		B		C		B	D	-	D
SODIUM HYDROXIDE 20% (COLD)	A	A	A	A	B	B		B				A	A	A	A
SODIUM HYDROXIDE 20% (HOT)	B	C	-	C	C	B		B				B	C	-	C
SODIUM HYDROXIDE 50% (COLD)	B	B	B	B	C							B	B	B	B
SODIUM HYDROXIDE 50% (HOT)	B	B	B	B	C							B	B	B	B
SODIUM HYDROXIDE 70% (COLD)	B	C	-	C	C							B	C	-	C
SODIUM HYDROXIDE 70% (HOT)	B	B	B	B	C							B	B	B	B
SODIUM HYPOCHLORIDE	D	D	-	D	A							D	D	-	D
SODIUM METAPHOSPHATE	B	A	A	A	A	A		A				B	A	A	A

(-) - Not tested.

PC - Precision Buna-N.

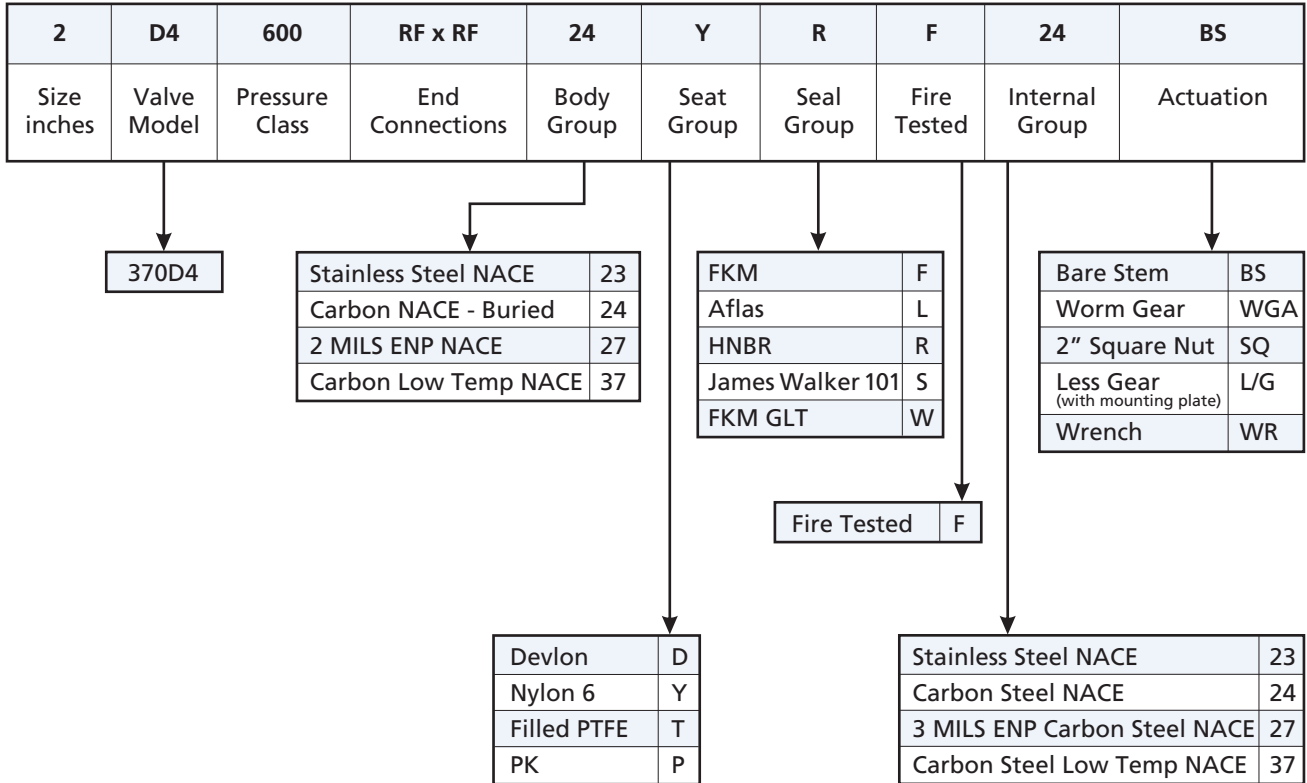
Note: All ladings at ambient temperatures.

WKM 370D4 TRUNNION BALL VALVES MATERIAL SELECTION GUIDE (CONTINUED)

LADING	STD BDY 23	STD BDY 24	SPL BDY 27	SPL BDY 37	STD YFF	SPL YRF	SPL TFF	SPL TRF	SPL PFF	SPL PRF	SPL PLF	STD INT 23	STD INT 24	SPL INT 27	SPL INT 37
SODIUM METASILICATE (HOT)	A	D	-	D	-							A	D	-	D
SODIUM METASILICATE (COLD)	A	C	-	C	-							A	C	-	C
SODIUM NITRATE	B	B	B	B	-	B		B		C		B	B	B	B
SODIUM PERBORATE	B	B	B	B	A	B		B		B		B	B	B	B
SODIUM PEROXIDE	B	C	-	C	A	B				B		B	C	B	C
SODIUM PHOSPHATE (DIBASIC)	B	B	B	B	A							B	B	B	B
SODIUM PHOSPHATE (TRIBASIC)	B	B	B	B	A							B	B	B	B
SODIUM SILICATE	A	A	A	A	A	A		A		A		A	A	A	A
SODIUM SILICATE (HOT)	B	B	B	B	A							B	B	B	B
SODIUM SULFATE NA ₂ S04	A	B	A	B	A	D		D		D		A	B	A	B
SODIUM SULFIDE (HOT)	B	C	-	C	A							B	C	-	C
SODIUM SULFIDE NA ₂ S02	B	B	B	B	A	A		A				B	B	B	B
SODIUM THIOSULFATE	B	D	-	D	A	B		B		B		B	D	-	D
SOUR GAS AND OIL	A	A	-	A	A							A	A	-	A
SOYBEAN OIL	A	C	-	C	A							A	C	-	C
STANNIC CHLORIDE	D	D	-	D	A	B		B		A		D	D	-	D
STANNOUS CHLORIDE	C	D	-	D	A	C		C		A		C	D	-	D
STARCH	A	A	A	A	A							A	A	A	A
STEAM (212F)	A	B	A	B	D					D		B	A	B	A
STEARIC ACID	A	C	-	C	-	B		B		B		A	C	-	C
STODDARD SOLVENT	B	B	B	B	A	A		A				B	B	B	B
STYRENE	A	A	A	A	D	D		D		D		A	A	A	A
SUGAR LIQUIDS	A	B	A	B	A	A		A				A	B	A	B
SULFATE, BLACK LIQUORS	B	C	-	C	B							B	C	-	C
SULFATE, GREEN LIQUORS	B	C	-	C	A							B	C	-	C
SULFATE, WHITE LIQUORS	B	D	-	D	A							B	D	-	D
SULFURIC ACID (0-7%)	B	D	-	D	A							B	D	-	D
SULFURIC ACID (20%)	D	D	-	D	A	D		D		C		D	D	-	D
SULFURIC ACID (50%)	D	D	-	D	A							D	D	-	D
SULFUROUS ACID	D	D	-	D	A	D		D		B		D	D	-	D
SULPHUR	A	B	A	B	A					D		A	B	A	B
SULPHUR DIOXIDE (DRY)	A	B	A	B	A					D		A	B	A	B
SULPHUR TRIOXIDE (DRY)	B	B	B	B	A					D		B	B	B	B
SYNTHESIS GAS	B	B	B	B	A							B	B	B	B
TALL OIL	B	B	B	B	A							B	B	B	B
TANNIC ACID	B	B	B	B	A	C		C				B	B	B	B
TAR - TAR OIL	A	A	A	A	A							A	A	A	A
TARTARIC ACID	B	D	-	D	A	B		B		A		B	D	-	D
TETRAETHYL LEAD	B	C	-	C	A					B		B	C	-	C
TITANIUM TETRACHLORIDE T1-CL4	-	-	-	-	A					B		-	-	-	-
TITANIUM TRICHLORIDE T1-CL3	-	-	-	-	A							-	-	-	-
TOLUENE - TOLUOL	A	A	A	A	A	D		D		D		A	A	A	A
TOMATO JUICE	A	C	-	C	A							A	C	-	C
TRANSFORMER OIL	A	A	A	A	A					A		A	A	A	A
TRIBUTYL PHOSPHATE	A	A	A	A	D					D		A	A	A	A
TRICHLOROETHYLENE	B	B	B	B	B	C		C		C		B	B	B	B
TUNG OIL	A	B	A	B	A							A	B	A	B
TURPENTINE	A	B	A	B	A	B		B		A		A	B	A	B
UREA	B	C	-	C	-							B	C	B	C
VARNISH	A	C	-	C	B	B		B		B		A	C	-	C
VEGETABLE OIL, EDIBLE	A	B	-	B	A	A		A				A	B	-	B
VEGETABLE OIL, NON-EDIBLE	A	B	A	B	A	A		A				A	B	A	B
VINEGAR	A	D	-	D	A	B		B		B		A	D	-	D
WATER, DISTILLED (AREATED)	A	D	A	D	A	A		A		A		A	D	A	D
WATER, FRESH	A	C	A	C	A	A		A		A		A	C	A	C
WATER, SEA	A	D	A	D	A	A		A		A		A	D	A	D
WAX, EMULSIONS	A	A	A	A	A							A	A	A	A
WAXES	A	A	A	A	A							A	A	A	A
WHISKEY AND WINE	A	D	-	D	A	A		A		A		A	D	-	D
XYLENE (DRY)	A	A	A	A	A	D		D		D		A	A	A	A
ZINC CHLORIDE	D	D	-	D	A	A		A		A		D	D	-	D
ZINC HYDROSULFITE	A	A	A	A	A	C		C				A	A	A	A
ZINC SULFATE	B	D	B	D	A	A		A		A		B	D	B	D

370D4 TRUNNION BALL VALVES

HOW TO ORDER



TRIM APPLICATION INFORMATION

The chart above identifies in general terms each of the standard WKM trims and where those trims may be used. The information on this page is general and was created to be used by people who have some technical knowledge of materials and are familiar with the proper applications of materials. This information is based on our experience and is believed to be reliable, however, information on this page is to be used at your own discretion and risk.

REFER TO TRIM CHARTS IN EACH SECTION:

370D4 SERIES: 2 in. (50 mm) through 6 in. x 4 in. (150 mm x 100 mm) ASME/ANSI Class 150 through 2500 and 2 1/16 in. (52 mm) through 4 1/16 in. (103 mm) 5000# MOP
 6 in. (150 mm) through 14 in. x 12 in. (350 mm x 300 mm) ASME/ANSI Class 150 through 1500 and 7 1/16 in. x 6 in. (179 mm x 150 mm) 5000# MOP

The trim charts provide more specific application details including availability of Fire Tested Materials. Please contact factory personnel for information concerning availability of trims other than those listed or for any additional information concerning the choice or guidance for application of the trims listed.

NACE MR0175/ISO 15156 Compliance - Materials of construction shall be in compliance with the pre-qualified material requirements specified by NACE MR0175/ISO 15156. According to NACE MR0175/ISO 15156, it is the manufacturer's responsibility for meeting metallurgical requirements and the customer/user responsibility to ensure that a material will be satisfactory in the intended environment. When given the application requirements (environment) by the customer/user, Cameron can make technical recommendations in accordance with NACE MR0175/ISO 15156 but in no way certifies or warrants the product or materials for the application.

370D4 TRUNNION BALL VALVES

ACTUATION INFORMATION

VALVES ARE PRICED "BARE STEM"
AVAILABLE OPTIONS ARE:

- Wrench Operation -
Wrenches and Multi-Position "Wrench Heads" must be ordered separately.
Wrenches are shipped separately with valves but "Wrench Heads" are installed on the valves.
- Multi-Position Wrench Heads are standard on ASME/ANSI Class 1500, 2500 and 5000# MOP valves.
- Multi-Position Wrench Heads are available as options on 4 in. (100 mm) size for other pressure classes.
- Valves ordered with Worm Gears (WGA) are shipped with gears installed, but Handwheels are not installed. (Shipped separately).
- Valves ordered Less Gear (LG) with Gear Mounting Plate installed (for actuation by others).
- 4 in. (100 mm) size valve ordered for automation by others (LG) requires a special "Actuator" Flange at additional cost.
- Locking devices are standard on Wrench Operated 2 in. and 3 in. (50 mm and 75 mm) bore sizes, D4 Ball Valves, Class 150 through 900.

TRADEMARK INFORMATION

WKM[®] is a registered trademark which is owned by Cameron.

This document contains references to registered trademarks or product designations, which are not owned by Cameron.

Trademark	Owner	Common Name	Comparable Cameron Abbreviated Name (in Trim Charts)
Aflas	Asahi Glass Company	TFE Propylene	FXM
Devlon	Devol Engineering Limited		
PEEK	Victrix PLC Corp United Kingdom	Polyetheretherketone	PK
Teflon	E.I. DuPont De Nemours & Company	Poly Tetra Fluoro Ethylene	PTFE
Viton	E.I. DuPont De Nemours & Company	Fluoroelastomer	FKM
17-4PH	Armco Advanced Materials Corp.	17-4PH Stainless Steel	Type 630
		Electroless Nickel Plating	ENP

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