

# FLOATING BALL VALVES

Single Piece / Two Piece / Three Piece



*UNIMAC - YOUR TOTAL FLOW SOLUTION PARTNER*

## Soft Seated Ball Valve Range

TYPE	END CONNECTION	PORT	ASME CLASS	SIZE													
				1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	
SINGLE PIECE	FLANGED	REDUCED	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
TWO PIECE	FLANGED	FULL / REDUCED	150 / 300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		FULL / REDUCED	600	✓	✓	✓		✓	✓		✓	✓	✓*				
THREE PIECE	SOCKET WELD / SCREWED	FULL/REDUCED	400 / 800	✓	✓	✓	✓	✓	✓	✓							
SINGLE PIECE / FULL JACKETED	FLANGED	FULL	150	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			
TWO PIECE / PARTIAL JACKETED	FLANGED	FULL	150					✓	✓	✓	✓	✓	✓	✓			
3-WAY L PORT	FLANGED	FULL	150 / 300	✓	✓	✓		✓	✓			✓	✓	✓	✓		
3-WAY T PORT	FLANGED	FULL	150 / 300	✓	✓	✓		✓	✓			✓	✓	✓	✓		

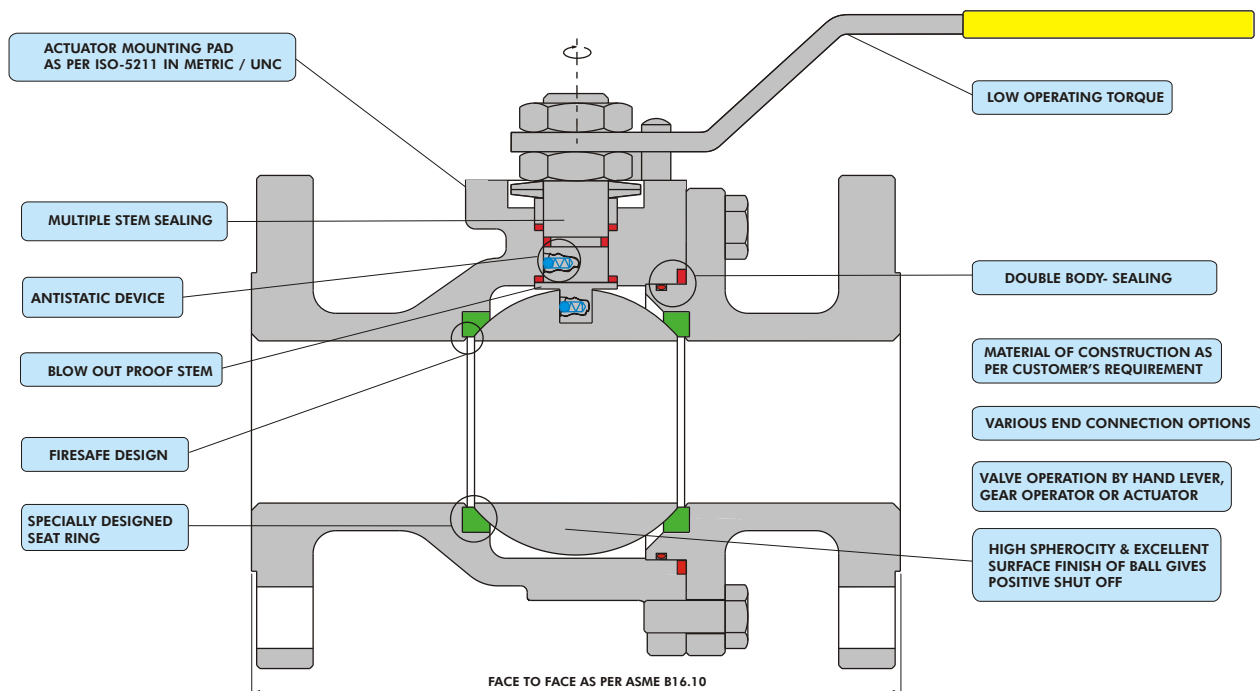
\* RB only

## Design & Testing Standards

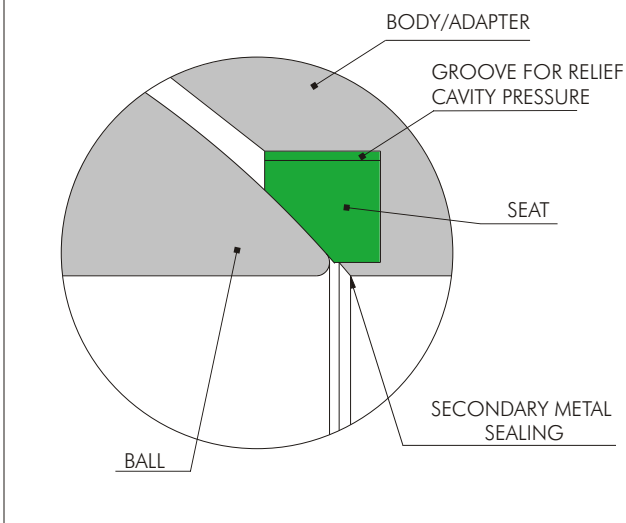
- UNIMAC valves are designed and manufactured as per ASME B 16.34/ API 6D / BS EN 17292. These standards cover Pressure - Temperature ratings, minimum shell thickness, bore diameter for each size/class
- NACE MR 01-75 compliant
- Castings inspection as per MSS-SP 53, 54, 55, 59, 93 & 94
- Actuator mounting pad on the valve is as per ISO 5211
- Fugitive emission qualification as per TA - Luft / US clean air act and MESC
- Other applicable standards :
  - Face to Face : ASME B 16.10 / API 6D
  - Flange dimensions : ASME B 16.5
  - Butt welded valve ends : ASME B 16.25/ B31.3/ B31.4/ B31.8
  - Pressure tests : API 598 / BS EN 12266 - I / API 6D
  - Fire safety : API 607 / API 6FA / BS 6755 Part II

QUALITY CERTIFICATE - ISO9001-2015, PED, CRN, FIRE SAFE, CRYO.

## Two Piece Soft Seated Floating Ball Valve

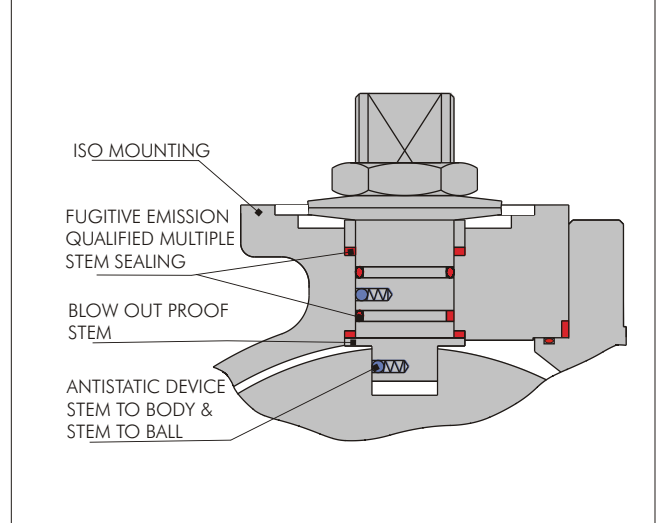


## Fire Safe Design Details



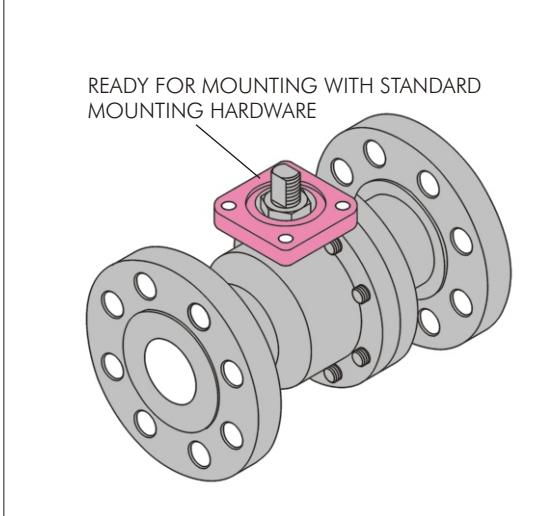
- Fire safe conformance to API 607 / API 6FA / BS-6755 Part II assures highest standard of safety.
- Certified by customer's inspectors and independent certifying authorities.

## Multi - Seal Stem



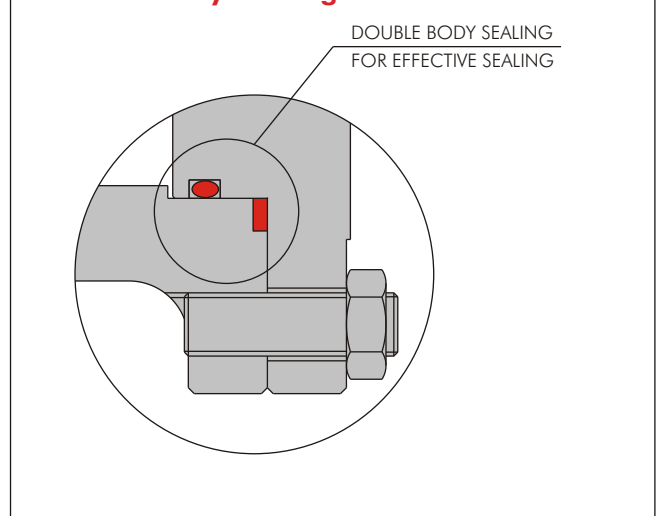
- Antistatic devices are built in the valve stem to ensure electrical continuity between ball, stem and body. Thus providing greater safety while handling volatile media.
  - Higher size ball valves are designed with stem bearing to absorb radial loading on the stem.
  - Multiple stem sealing ensures high degree of sealing.
- Note : For sizes upto 1" one Antistatic device is provided*

## Iso Pad Details



- UNIMAC CONTROL SYSTEMS ISO - 5211 top pad which simplifies actuator / gear operator mounting.

## Double Body Sealing



- Double body sealing ensures positive body - joint sealing against pipeline stresses.

## Corrosion Protection and Painting

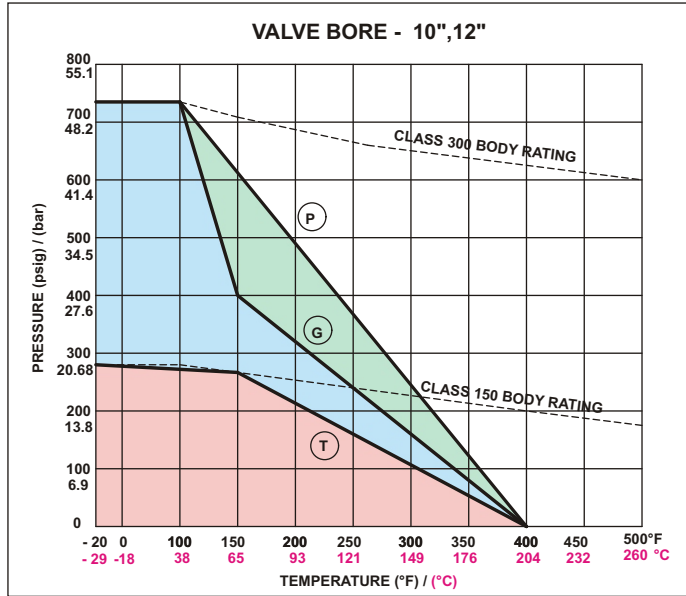
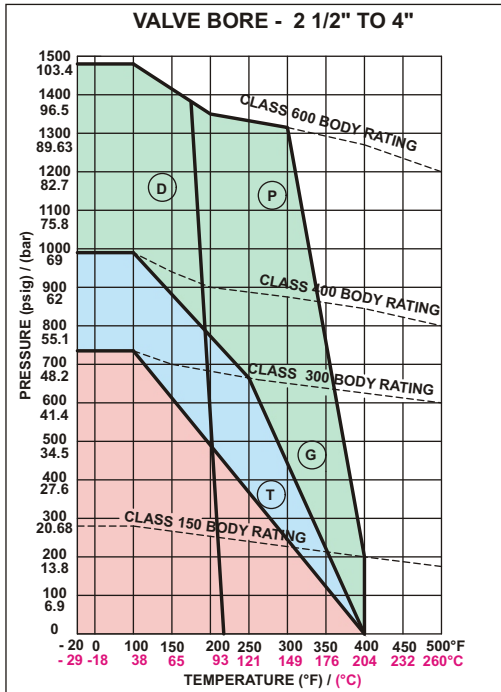
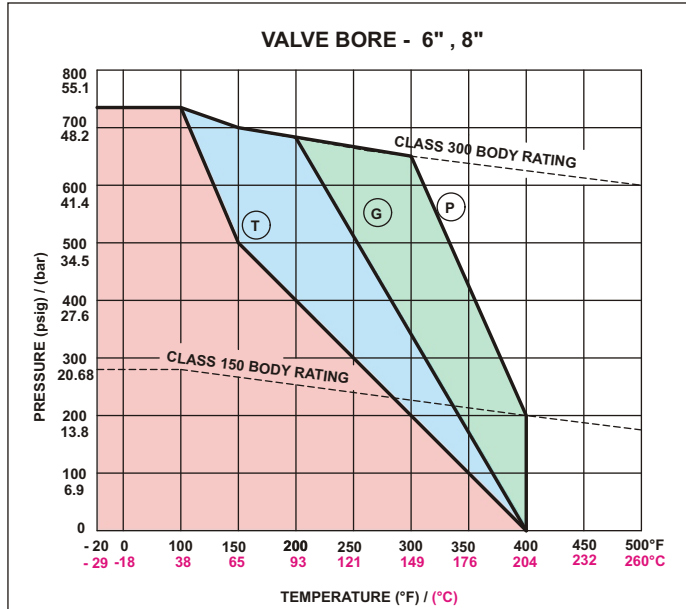
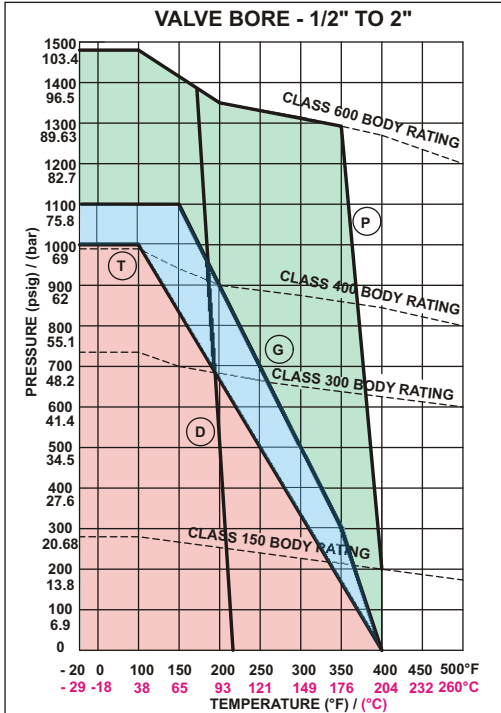
All castings are shot blasted and are subjected to de-watering oil coats. Carbon steel valves are Zinc phosphated and internally lacquered before final assembly.

Valves are thoroughly cleaned and primer coated with Epoxy zinc Phosphate primer, followed by a final coat of Epoxy blue shade applied in semi gloss finish.

Valves are shipped in vapor corrosion impregnated paper bags with desiccant pouches to prevent corrosion due to saline environment.



# Pressure - Temperature Ratings

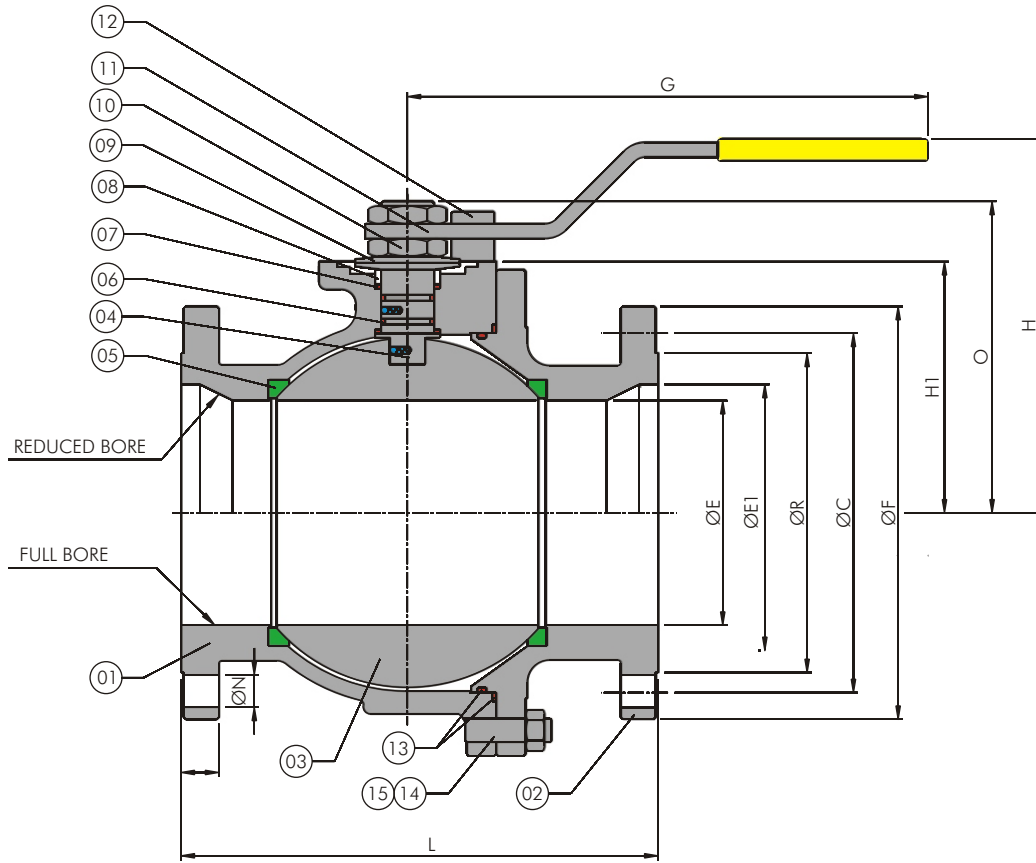


## TEMPERATURE LIMITS:

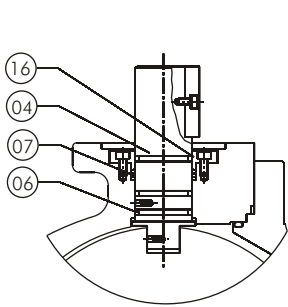
	Material	Lower Limit F / °C	Upper Limit F / °C
BODY	WCB	-20 -29	1000 538
	LCB	-50 -46	650 343
	CF8	-425 -254	1500 816
	CF8M	-425 -254	1500 816
SEAT *	DELRIN (D)	-50 -46	Refer Graph
	V-PTFE (T)	-50 -46	Refer Graph
	REINFORCED PTFE (G)	-50 -46	Refer Graph
	PEEK (P)**	-50 -46	Refer Graph

Pressure-Temperature seat ratings of valves are as given in the graph for Body material ASTM A216 Gr. WCB. With the exception of Body Seat rings and Primary soft seals, all valve components are capable of withstanding the Pressure-Temperature rating as specified in ANSI B 16.34, BS 1560 part II, BS 4504:Part I or BS 5351 as applicable.

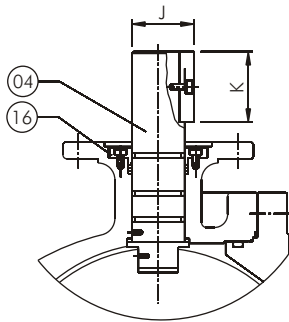
## Two Piece Soft Seated Floating Ball Valve



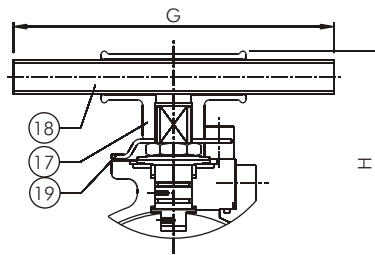
ITEM	PART NAME
01	BODY
02	BODY ADAPTOR
03	BALL
04	STEM
05	SEAT
06	'O' RING
07	GASKET
08	SPACER
09	CUP SPRING
10	STEM NUT
11	HANDLE
12	STOP PIN
13	BODY SEAL
14	STUD
15	NUT
16	GLAND
17	HANDLE COUPLER
18	PIPE
19	STOP & LOCK PLATE
20	GEAR BOX



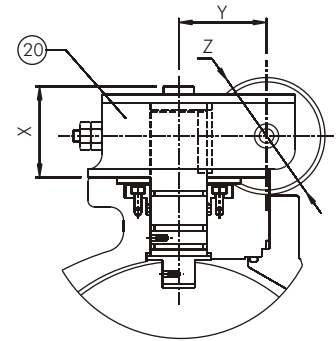
STEM ASSEMBLY DETAILS  
FOR 6" FB CLASS-300 & 8"



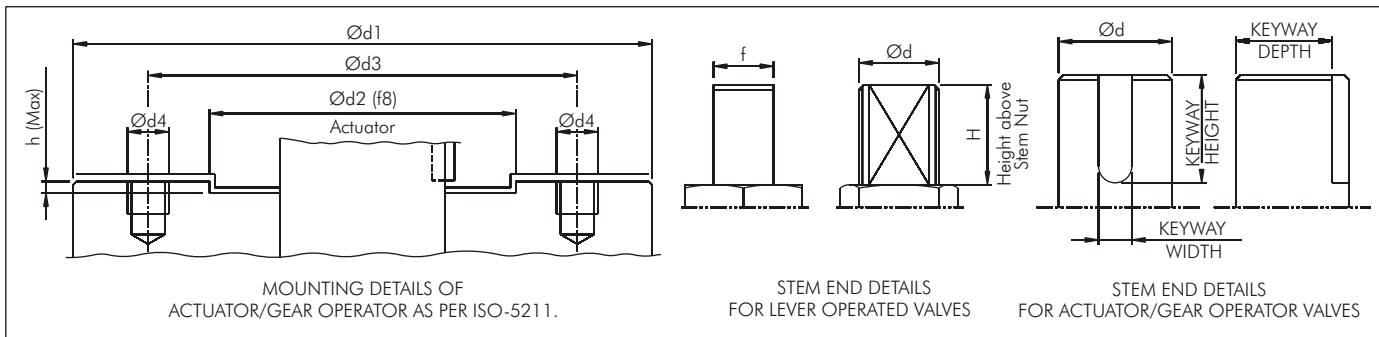
STEM ASSEMBLY DETAILS  
FOR 10" & 12"



FOR 6" FB CLASS-150



DIRECT MOUNTING GEAR BOX  
6" FB CLASS 300 & ABOVE



Note : 6" FB # 150 shall be gear operated for API 6D valves.

# Dimensional Details - 2 Piece Soft Seated Floating Ball Valve



## Dimensions (mm)

SIZE DN	15	20	25	40	50	65	80	100	150	200	250	300
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CLASS	ASME 150 FULL BORE								(SP)/(LP)	(SP*)/(LP)	(LP)	(LP)
E	14	19	25	38	50	62	76	102	152	198/203	254	305
L	108.0	117.0	127.0	165.0	178	190.0	203	229	267/394	292/457	533.4	609.6
H	93	98	127	147	178	185	220	245	273	-	-	-
G	180	180	210	210	290	290	400	450	990	-	-	-
F	89	98.0	108.0	127.0	152.0	178	190	229	279.5	343.0	406.4	482.5
C	60.3	69.8	79.4	98.4	120.6	139.7	152.4	190.5	241.3	298.5	362.0	431.8
R	35	43	51	73	92	105	127	157	216	270	324	381
T	11.1	13	11.2	14.3	16.0	17.5	19.5	23.8	25.4	28.6	30.5	31.8
N	16	16	16	16	19	19	19	19	22	22	26	25.4
NO OF HOLES	4	4	4	4	4	4	4	8	8	8	12	12
O	50.5	55.5	66.5	92	105	114.5	138	160	222	266/274	370	504
H1	38	42	48	63	72.5	81.5	98	120	170	211.5/219	309	410.5
K	-	-	-	-	-	-	-	-	-	53	60	91
X	-	-	-	-	-	-	-	-	-	122	147	185
Y	-	-	-	-	-	-	-	-	-	131	116	225
Z	-	-	-	-	-	-	-	-	-	400	500	500
ISO 5211 MTG	F05	F05	F05	F05	F07	F07	F10	F10	F12	F14	F16	F25
WT(Kg)	2.0	2.6	3.6	6.0	10	16	20	38	70/92	140/150	250	382
GEAR BOX WT (Kg)	-	-	-	-	-	-	-	-	-	20	35	35
NO OF TURNS	-	-	-	-	-	-	-	-	-	15.00	11.25	18.75
TORQUE (Nm)	5	8	12	25	30	46	70	145	350	800	1200	2000
J x W	-	-	-	-	-	-	-	-	-	47 x 12	71.5 x 22	85.5 x 22

CLASS	ASME 300 FULL BORE								(SP/LP)	(LP)	(LP)	
E	14	19	25	38	50	62	76	102	152	203	254	305
L	140.5	152.0	165.0	190.0	216	241.0	283	305	403.4	419.0/502	568.4	648
H	93	98	127	147	178	185	220	245	-	-	-	-
G	180	180	210	210	290	290	450	450	-	-	-	-
F	95	117	124	156	165	190.5	210	254	318	381	444.5	520.7
C	66.7	83	89	114	127	149.2	168	200	270	330	387.3	451
R	35.0	43	51	73.0	92	105	127.0	157.0	216	270.0	324	381.0
T	14.3	15.8	17.5	20.6	22.4	25.4	28.6	32	36.5	41.3	47.8	51
N	16	19	19	22	19	22	22	22	22	25	28.5	32
NO OF HOLES	4	4	4	4	8	8	8	8	12	12	16	16
O	50.5	55.5	66.5	92	105	114.5	138	160	235.5	274	370	504
H1	38	42	48	63	72.5	83	98	120	180.5	219	309	410.5
K	-	-	-	-	-	-	-	-	53	53	60	91
X	-	-	-	-	-	-	-	-	115	122	171	185
Y	-	-	-	-	-	-	-	-	84	131	185	225
Z	-	-	-	-	-	-	-	-	400	400	500	600
ISO 5211 MTG	F05	F05	F05	F05	F07	F07	F10	F10	F14	F14	F16	F25
WT(Kg)	2.7	3.6	5	9.5	15	25	32	52	115	185/195	322	550
GEAR BOX WT (Kg)	-	-	-	-	-	-	-	-	20	20	35	45
NO OF TURNS	-	-	-	-	-	-	-	-	10.25	15	14	18.75
TORQUE (Nm)	8	9	16	35	44	64	110	180	550	1000	2100	3100
J x W	-	-	-	-	-	-	-	-	47 x 12	47 x 12	71.5 x 22	85.5 x 22

CLASS	ASME 150 REDUCED BORE								(SP)	(SP)	(SP)	(LP)
E1	9	14	19	32	38	50	62	76	102	152	203	254
E	14	19	25	38	50	62	76	102	152	203	254	305
L	108.0	117.0	127.0	165.0	178.0	190.0	203.0	229	267	292	330.0	609.5
H	60	93	98	127	147	178	185	220	245	273	-	-
G	104	180	180	210	210	290	290	450	450	990	-	-
F	89	98.0	108.0	127.0	152.0	178.0	190.0	229	279.5	343	406.4	482.5
C	60.3	69.8	79.4	98.4	120.6	139.7	152.4	190.5	241.3	298.5	362.0	431.8
R	35	43	51	73	92	105	127	157	216	270	324	381
T	11.2	13	11.2	14.3	16	17.5	19.5	23.8	25.4	28.6	30.5	31.8
N	16	16	16	16	19	19	19	19	22	22	26	25.4
NO OF HOLES	4	4	4	4	4	4	4	8	8	8	12	12
O	30.0	50.5	55.5	72.5	92.0	105.0	114.5	138.0	160	222	274.0	370
H1	20	38	42	52.3	63	72.5	81.5	98	120	170	219	309
K	-	-	-	-	-	-	-	-	-	-	53	60
X	-	-	-	-	-	-	-	-	-	-	122	170
Y	-	-	-	-	-	-	-	-	-	-	131	180
Z	-	-	-	-	-	-	-	-	-	-	400	500
ISO 5211 MTG	F03	F05	F05	F05	F05	F07	F07	F10	F10	F12	F14	F16
WT(Kg)	1.3	2.3	2.8	4.0	8.1	13.5	17.4	28.1	44.2	79	145	325
GEAR BOX WT (Kg)	-	-	-	-	-	-	-	-	-	-	20	35
NO OF TURNS	-	-	-	-	-	-	-	-	-	-	15	11
TORQUE (Nm)	4	5	8	20	25	30	46	70	145	350	800	1200
J x W	-	-	-	-	-	-	-	-	-	-	47 x 12	71.5 x 22

\* Complies to BS 5351 only

# Dimensional Details - 2 Piece Soft Seated Floating Ball Valve

SIZE DN	15	20	25	40	50	65	80	100	150	200	250	300	
<b>CLASS</b>	<b>ASME 300 REDUCED BORE</b>										<b>(SP)</b>	<b>(SP)</b>	<b>(SP)</b>
<b>E1</b>	9	14	19	32	38	50	62	76	102	152	203	254	
<b>E</b>	14	19	25	38	50	62	76	102	152	203	254	305	
<b>L</b>	140.5	152.0	165.0	190.0	216	241.0	283	305	403.4	419.0	457.2	502	
<b>H</b>	60	93	98	127	147	178	185	220	245	-	-	-	
<b>G</b>	104	180	180	210	210	290	290	450	450	-	-	-	
<b>F</b>	95.0	117.0	124.0	156.0	165.0	190.5	210.0	254.0	318	381.0	444.5	520.7	
<b>C</b>	66.7	83.0	89.0	114.0	127.0	149.2	168.0	200.0	270	330.0	387.3	451.0	
<b>R</b>	35	43	51	73	92	105	127	157	216	270	324	381	
<b>T</b>	14.3	15.8	17.5	20.6	22.4	25.4	28.6	32	36.5	41.3	47.8	51	
<b>N</b>	16	19	19	22	19	22	22	22	22	25	28.5	32.0	
<b>NO OF HOLES</b>	4	4	4	4	8	8	8	8	12	12	16	16	
<b>O</b>	30	50.5	55.5	72.5	92	105	114.5	138	160	235.5	274	370	
<b>H1</b>	20	38	42	52.3	63	72.5	84.5	98	120	180.5	219	309	
<b>K</b>	-	-	-	-	-	-	-	-	-	53	53	60	
<b>X</b>	-	-	-	-	-	-	-	-	-	115	122	170	
<b>Y</b>	-	-	-	-	-	-	-	-	-	84	131	180	
<b>Z</b>	-	-	-	-	-	-	-	-	-	400	400	500	
<b>ISO 5211 MTG</b>	F03	F05	F05	F05	F05	F07	F07	F10	F10	F14	F14	F16	
<b>WT(Kg)</b>	1.8	3.3	4.2	8.4	11.6	20.0	22	38	87	142.5	196	415	
<b>GEAR BOX WT (Kg)</b>	-	-	-	-	-	-	-	-	-	20	20	35	
<b>NO OF TURNS</b>	-	-	-	-	-	-	-	-	-	10	15	14	
<b>TORQUE (Nm)</b>	6	8	9	25	35	44	64	110	180	550	1000	2100	
<b>J x W</b>	-	-	-	-	-	-	-	-	-	47 x 12	47 x 12	71.5 x 22	

### Dimensions ( inches)

SIZE	1/2"	3/4"	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"		
<b>CLASS</b>	<b>ASME 150 FULL BORE</b>										<b>(SP)/(LP)</b>	<b>(SP*)/(LP)</b>	<b>(LP)</b>	<b>(LP)</b>
<b>E</b>	0.55	0.75	0.98	1.50	1.97	2.44	2.99	4.02	5.98	7.80/7.99	10.00	12.00		
<b>L</b>	4.25	4.61	5.00	6.50	7.00	7.50	7.99	9.02	10.51/15.51	11.5/18.0	21.00	24.00		
<b>H</b>	3.66	3.86	5.00	6.50	7.01	7.28	8.66	9.65	10.75	-	-	-		
<b>G</b>	7.09	7.09	8.27	8.27	11.42	11.42	15.75	15.75	38.98	-	-	-		
<b>F</b>	3.50	3.86	4.25	5.00	5.98	7.00	7.48	9.02	11.00	13.50	16.00	19.00		
<b>C</b>	2.37	2.75	3.13	3.87	4.75	5.50	6.00	7.50	9.50	11.75	14.25	17.00		
<b>R</b>	1.38	1.69	2.00	2.87	3.62	4.12	5.00	6.19	8.50	10.62	12.76	15.00		
<b>T</b>	0.44	0.51	0.44	0.56	0.62	0.69	0.75	0.94	1.00	1.13	1.20	1.25		
<b>N</b>	0.62	0.62	0.62	0.62	0.75	0.75	0.75	0.75	0.88	0.88	1.02	1.00		
<b>NO. OF HOLES</b>	4	4	4	4	4	4	4	8	8	8	12	12		
<b>O</b>	1.99	2.19	2.62	3.63	4.14	4.48	5.44	6.28	8.73	10.47/10.79	14.57	19.84		
<b>H1</b>	1.50	1.65	1.89	2.48	2.85	3.21	3.86	4.72	6.69	8.33/8.62	12.17	16.16		
<b>K</b>	-	-	-	-	-	-	-	-	-	2.09	2.36	3.58		
<b>X</b>	-	-	-	-	-	-	-	-	-	4.80	5.79	7.28		
<b>Y</b>	-	-	-	-	-	-	-	-	-	5.16	4.57	8.86		
<b>Z</b>	-	-	-	-	-	-	-	-	-	15.75	19.69	19.69		
<b>ISO5211 MTG</b>	F05	F05	F05	F05	F07	F07	F10	F10	F12	F14	F16	F25		
<b>WT(lbs)</b>	4.4	5.7	7.9	13.2	22	35.3	44	83.8	154.3/200.8	308.7/330.7	551.2	842.2		
<b>GEAR BOX WT (lbs)</b>	-	-	-	-	-	-	-	-	-	44	77.2	77.2		
<b>NO OF TURNS</b>	-	-	-	-	-	-	-	-	-	15.0	11.25	18.75		
<b>TORQUE (in-lbs)</b>	44	71	106	221	266	407	620	1283	3098	7080	10621	17702		
<b>J x W</b>	-	-	-	-	-	-	-	-	-	1.85x0.47	2.81x0.87	3.36x0.87		

CLASS	<b>ASME 300 FULL BORE</b>										<b>(SP/LP)</b>	<b>(LP)</b>	<b>(LP)</b>
<b>E</b>	0.55	0.75	0.98	1.50	1.97	2.44	2.99	4.02	5.98	7.99	10.00	12.00	
<b>L</b>	5.53	5.98	6.50	7.48	8.50	9.50	11.14	12.00	15.88	16.5/19.76	22.38	25.50	
<b>H</b>	3.66	3.86	5.00	5.79	7.01	7.28	8.66	9.65	-	-	-	-	
<b>G</b>	7.09	7.09	8.27	8.27	11.42	11.42	17.72	17.72	-	-	-	-	
<b>F</b>	3.75	4.62	4.88	6.14	6.50	7.50	8.25	10.00	12.50	15.00	17.50	20.50	
<b>C</b>	2.63	3.25	3.50	4.50	5.00	5.88	6.62	7.88	10.62	13.00	15.25	17.75	
<b>R</b>	1.38	1.69	2.00	2.88	3.62	4.12	5.00	6.18	8.50	10.62	12.76	15.00	
<b>T</b>	0.56	0.62	0.69	0.81	0.88	1.00	1.13	1.26	1.44	1.63	1.88	2.01	
<b>N</b>	0.62	0.75	0.75	0.88	0.75	0.88	0.88	0.88	0.88	1.00	1.12	1.25	
<b>NO. OF HOLES</b>	4	4	4	4	8	8	8	8	12	12	16	16	
<b>O</b>	1.99	2.19	2.62	3.63	4.14	4.48	5.44	6.28	9.27	10.79	14.57	19.84	
<b>H1</b>	1.50	1.65	1.89	2.48	2.85	3.27	3.86	4.72	7.11	8.62	12.17	16.16	
<b>K</b>	-	-	-	-	-	-	-	-	2.09	2.09	2.36	3.58	
<b>X</b>	-	-	-	-	-	-	-	-	4.53	4.80	6.73	7.28	
<b>Y</b>	-	-	-	-	-	-	-	-	3.31	5.16	7.28	8.86	
<b>Z</b>	-	-	-	-	-	-	-	-	15.75	15.75	19.69	23.62	
<b>ISO5211 MTG</b>	F05	F05	F05	F05	F07	F07	F10	F10	F14	F14	F16	F25	
<b>WT(lbs)</b>	6.0	7.9	11	20.94	33.1	55.1	70.55	114.6	253.6	407.86/430	710	1212.54	
<b>GEAR BOX WT (lbs)</b>	-	-	-	-	-	-	-	-	44	44	77.2	99.2	
<b>NO OF TURNS</b>	-	-	-	-	-	-	-	-	10.25	15.00	14.00	18.75	
<b>TORQUE (in-lbs)</b>	71	80	142	310	390	567	974	1593	4868	8851	18587	27437	
<b>J x W</b>	-	-	-	-	-	-	-	-	1.85x0.47	1.85x0.47	2.81x0.87	3.36x0.87	

\* Complies to BS 5351 only

# Dimensional Details, Valve Operation

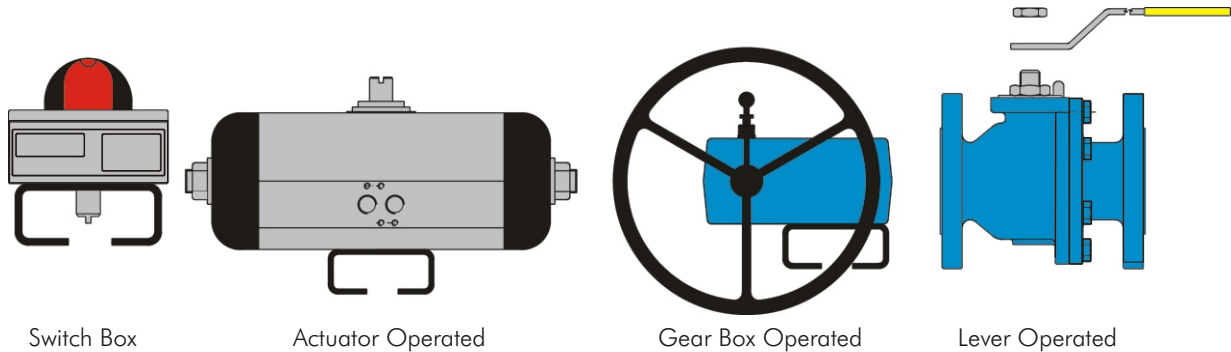


SIZE	1/2"	3/4"	1"	1-1/2"	2"	2-1/2"	3"	4"	6"(SP)	8"(SP)	10"(SP)	12"(LP)
<b>CLASS ASME 150 REDUCED BORE</b>												
E1	0.35	0.55	0.75	1.26	1.50	1.97	2.44	2.99	4.02	5.98	7.99	10.00
E	0.55	0.75	0.98	1.50	1.97	2.44	2.99	4.02	5.98	7.99	10.00	12.00
L	4.25	4.61	5.00	6.50	7.00	7.50	7.99	9.02	10.51	11.50	13.00	24.00
H	2.36	3.66	3.86	5.00	6.50	7.01	7.28	8.66	9.65	10.75	-	-
G	4.09	7.09	7.09	8.27	8.27	11.42	11.42	17.72	17.72	38.98	-	-
F	3.50	3.86	4.25	5.00	5.98	7.00	7.48	9.02	11.00	13.50	16.00	19.00
C	2.37	2.75	3.13	3.87	4.75	5.50	6.00	7.50	9.50	11.75	14.25	17.00
R	1.38	1.69	2.00	2.87	3.62	4.12	5.00	6.19	8.50	10.62	12.76	15.00
T	0.44	0.51	0.44	0.56	0.62	0.69	0.75	0.94	1.00	1.13	1.20	1.25
N	0.62	0.62	0.62	0.62	0.75	0.75	0.75	0.75	0.88	0.88	1.02	1.00
<b>NO. OF HOLES</b>	4	4	4	4	4	4	4	8	8	8	12	12
O	1.18	1.99	2.19	2.85	3.63	4.14	4.48	5.44	6.28	8.73	10.79	14.57
H1	0.79	1.50	1.65	2.06	2.48	2.85	3.21	3.86	4.72	6.69	8.62	12.17
K	-	-	-	-	-	-	-	-	-	-	2.09	2.36
X	-	-	-	-	-	-	-	-	-	-	4.80	5.79
Y	-	-	-	-	-	-	-	-	-	-	5.16	4.57
Z	-	-	-	-	-	-	-	-	-	-	15.75	19.69
<b>ISO5211 MTG</b>	F03	F05	F05	F05	F05	F07	F07	F10	F10	F12	F14	F16
<b>WT(lbs)</b>	2.9	5.07	6.2	8.8	17.86	29.76	38.36	61.95	97.44	174.2	319.67	716.5
<b>GEAR BOX WT (lbs)</b>	-	-	-	-	-	-	-	-	-	-	44	77.2
<b>NO OF TURNS</b>	-	-	-	-	-	-	-	-	-	-	15.00	11.25
<b>TORQUE (in-lbs)</b>	36	44	71	106	221	266	407	620	1283	3098	7080	10621
<b>J x W</b>	-	-	-	-	-	-	-	-	-	-	1.85x0.47	2.81x0.87

CLASS	ASME 300 REDUCED BORE										(SP)	(SP)	(SP)		
E1	0.35	0.55	0.75	1.26	1.50	1.97	2.44	2.99	4.02	5.98	7.99	10.00			
E	0.55	0.75	0.98	1.50	1.97	2.44	2.99	4.02	5.98	7.94	10.00	12.00			
L	5.53	5.98	6.50	7.48	8.50	9.50	11.14	12.00	15.88	16.50	18.00	19.75			
H	2.36	3.66	3.86	5.00	5.79	7.01	7.28	8.66	9.65	-	-	-			
G	4.09	7.09	7.09	8.27	8.27	11.42	11.42	17.72	17.72	-	-	-			
F	3.75	4.62	4.88	6.14	6.50	7.50	8.25	10.00	12.50	15.00	17.50	20.50			
C	2.63	3.25	3.50	4.50	5.00	5.88	6.62	7.88	10.62	13.00	15.25	17.75			
R	1.38	1.69	2.00	2.88	3.62	4.12	5.00	6.18	8.50	10.62	12.76	15.00			
T	0.56	0.62	0.69	0.81	0.88	1.00	1.13	1.26	1.44	1.63	1.88	2.01			
N	0.62	0.75	0.75	0.88	0.75	0.88	0.88	0.88	0.88	1.00	1.12	1.25			
<b>NO. OF HOLES</b>	4	4	4	4	8	8	8	8	12	12	16	16			
O	1.18	1.99	2.19	2.85	3.63	4.14	4.48	5.44	6.28	9.27	10.79	14.57			
H1	0.79	1.58	1.65	2.06	2.48	2.85	3.33	3.86	4.72	7.11	8.62	12.17			
K	-	-	-	-	-	-	-	-	-	2.09	2.09	2.36			
X	-	-	-	-	-	-	-	-	-	4.53	4.80	6.73			
Y	-	-	-	-	-	-	-	-	-	3.31	5.16	7.28			
Z	-	-	-	-	-	-	-	-	-	15.75	15.75	19.69			
<b>ISO5211 MTG</b>	F03	F05	F05	F05	F05	F07	F07	F10	F10	F14	F14	F16			
<b>WT(lbs)</b>	3.97	7.28	9.26	18.5	25.57	44	48.5	83.78	191.8	314.16	432.1	914.92			
<b>GEAR BOX WT (lbs)</b>	-	-	-	-	-	-	-	-	-	44	44	77.2			
<b>NO OF TURNS</b>	-	-	-	-	-	-	-	-	-	10.25	15.00	14.00			
<b>TORQUE (in-lbs)</b>	53	71	80	142	310	390	567	974	1593	4868	8851	18587			
<b>J x W</b>	-	-	-	-	-	-	-	-	-	1.85x0.47	1.85x0.47	2.81x0.87			

## Valve Operation :

UNIMAC offers an option of operating the valve by hand lever, gear operator or actuator. Length of lever and diameter of handwheel (maximum 31-1/2") of gear operator are redesigned to keep operating force less than 80lb. All valves have a stopper for fully opened and closed positional along with indicator to show position of ball port.





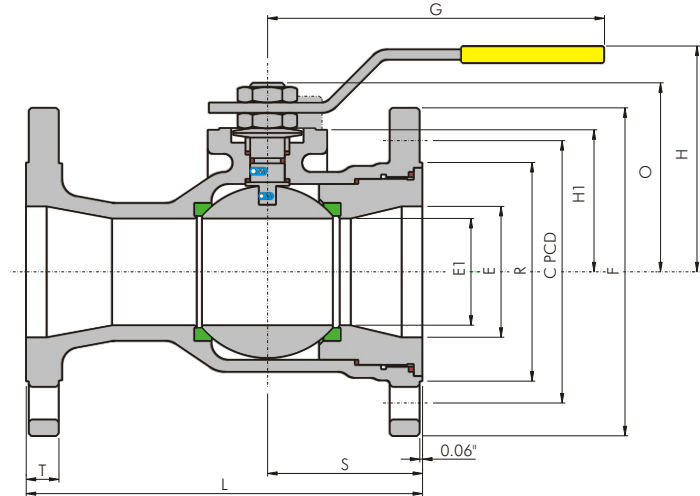
## Dimensions (mm)

SIZE	ISO PAD DETAILS												
	ISO 5211 FLANGE	d1	d2-f8	d3	d4	h-max	no. of studs	DIA. (d)	A/F(f)	HEIGHT ABOVE STEM NUT(H)	KEYWAY DEPTH	KEYWAY WIDTH	KEYWAY LENGTH
<b>Class 150/300</b>		mm	mm	mm	UNC	mm		mm	mm	mm	mm	mm	mm
DN15FB	F05	65	35	50	1/4"	3	4	12	8	8.8	-	-	-
DN20 FB	F05	65	35	50	1/4"	3	4	12	8	8.8	-	-	-
DN25 FB	F05	65	35	50	1/4"	3	4	16	10	11.7	-	-	-
DN40FB	F05	65	35	50	1/4"	3	4	16	10	19.3	-	-	-
DN50 FB	F07	90	55	70	5/16"	3	4	20	14	22.8	-	-	-
DN65FB	F07	90	55	70	5/16"	3	4	20	14	22.8	-	-	-
DN80 FB	F10	125	70	102	3/8"	3	4	28	20	27.8	-	-	-
DN100 FB	F10	125	70	102	3/8"	3	4	28	20	27.8	-	-	-
DN150FB#150	F12	150	85	125	1/2"	8.5	4	36	24	35.0	-	-	-
DN150FB#300	F14	175	100	140	5/8"	5	4	42	-	-	37	12	53
DN200FB#150	F14	175	100	140	5/8"	5	4	42	-	-	37	12	53
DN200FB#300	F14	175	100	140	5/8"	5	4	42	-	-	37	12	53
DN250FB#150	F16	210	130	165	3/4"	6	4	66	-	-	57	22	60
DN250FB#300	F16	210	130	165	3/4"	6	4	66	-	-	57	22	60
DN300FB#150	F25	300	200	254	5/8"	6	8	80	-	-	72	22	91
DN300FB#300	F25	300	200	254	5/8"	6	8	80	-	-	72	22	91
DN15 RB	F03	46	-	36	UNC 10	-	4	8	4	6.6	-	-	-
DN20 RB	F05	65	35	50	1/4"	3	4	12	8	8.8	-	-	-
DN25 RB	F05	65	35	50	1/4"	3	4	12	8	8.8	-	-	-
DN40RB	F05	65	35	50	1/4"	3	4	16	10	12.9	-	-	-
DN50 RB	F05	65	35	50	1/4"	3	4	16	10	19.3	-	-	-
DN65RB	F07	90	55	70	5/16"	3	4	20	14	22.8	-	-	-
DN80 RB	F07	90	55	70	5/16"	3	4	20	14	22.8	-	-	-
DN100 RB	F10	125	70	102	3/8"	3	4	28	20	27.8	-	-	-
DN150 RB	F10	125	70	102	3/8"	3	4	28	20	27.8	-	-	-
DN200RB#150	F12	150	85	125	1/2"	8.5	4	36	24	35.0	-	-	-
DN200RB#300	F14	175	100	140	5/8"	5	4	42	-	-	37	12	53
DN250RB#150	F14	175	100	140	5/8"	5	4	42	-	-	37	12	53
DN250RB#300	F14	175	100	140	5/8"	5	4	42	-	-	37	12	53
DN300RB#150	F16	210	130	165	3/4"	6	4	66	-	-	57	22	60
DN300RB#300	F16	210	130	165	3/4"	6	4	66	-	-	57	22	60

## Dimensions (inches)

Class 150/300		inch	inch	inch	UNC	inch		inch	inch	inch	inch	inch	inch
1/2"FB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.47	0.31	0.35	-	-	-
3/4" FB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.47	0.31	0.35	-	-	-
1" FB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.63	0.39	0.46	-	-	-
1-1/2"FB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.63	0.39	0.76	-	-	-
2" FB	F07	3.54	2.17	2.76	5/16"	0.12	4.00	0.79	0.55	0.90	-	-	-
2-1/2"FB	F07	3.54	2.17	2.76	5/16"	0.12	4.00	0.79	0.55	0.90	-	-	-
3" FB	F10	4.92	2.76	4.02	3/8"	0.12	4.00	1.10	0.79	1.09	-	-	-
4" FB	F10	4.92	2.76	4.02	3/8"	0.12	4.00	1.10	0.79	1.09	-	-	-
6" FB #150	F12	5.91	3.35	4.92	1/2"	0.34	4.00	1.42	0.94	1.38	-	-	-
6" FB #300	F14	6.89	3.94	5.51	5/8"	0.20	4.00	1.65	-	-	1.44	0.47	2.09
8" FB #150	F14	6.89	3.94	5.51	5/8"	0.20	4.00	1.65	-	-	1.44	0.47	2.09
8" FB #300	F14	6.89	3.94	5.51	5/8"	0.20	4.00	1.65	-	-	1.44	0.47	2.09
10" FB #150	F16	8.27	5.12	6.50	3/4"	0.24	4.00	2.60	-	-	2.25	0.87	2.36
10" FB #300	F16	8.27	5.12	6.50	3/4"	0.24	4.00	2.60	-	-	2.25	0.87	2.36
12"FB #150	F25	11.81	7.87	10.00	5/8"	0.24	8.00	3.15	-	-	2.82	0.87	3.58
12" FB #300	F25	11.81	7.87	10.00	5/8"	0.24	8.00	3.15	-	-	2.82	0.87	3.58
1/2" RB	F03	1.81	-	1.42	UNC 10	-	4.00	0.31	0.16	0.26	-	-	-
3/4"RB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.47	0.31	0.35	-	-	-
1" RB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.47	0.31	0.35	-	-	-
1-1/2" RB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.63	0.39	0.51	-	-	-
2" RB	F05	2.56	1.38	1.97	1/4"	0.12	4.00	0.63	0.39	0.76	-	-	-
2-1/2" RB	F07	3.54	2.17	2.76	5/16"	0.12	4.00	0.79	0.55	0.90	-	-	-
3" RB	F07	3.54	2.17	2.76	5/16"	0.12	4.00	0.79	0.55	0.90	-	-	-
4" RB	F10	4.92	2.76	4.02	3/8"	0.12	4.00	1.10	0.79	1.09	-	-	-
6"RB	F10	4.92	2.76	4.02	3/8"	0.12	4.00	1.10	0.79	1.09	-	-	-
8" RB 150	F12	5.91	3.35	4.92	1/2"	0.34	4.00	1.42	0.94	1.38	-	-	-
8" RB #300	F14	6.89	3.94	5.51	5/8"	0.20	4.00	1.65	-	-	1.44	0.47	2.09
10" RB #150	F14	6.89	3.94	5.51	5/8"	0.20	4.00	1.65	-	-	1.44	0.47	2.09
10" RB #300	F14	6.89	3.94	5.51	5/8"	0.20	4.00	1.65	-	-	1.44	0.47	2.09
12" RB #150	F16	8.27	5.12	6.50	3/4"	0.24	4.00	2.60	-	-	2.25	0.87	2.36
12" RB #300	F16	8.27	5.12	6.50	3/4"	0.24	4.00	2.60	-	-	2.25	0.87	2.36

# Single Piece Ball Valve 150# - General Assembly



## Dimensions (mm)

SIZE	DN15	DN20	DN25	DN40	DN50	DN65	DN80	DN100
CLASS	ASME 150 REDUCED BORE							
E1	9	14	19	25	38	50	62	76
E	14	19	25	38	50	62	76	102
L	108	117	127	165	178	190	203	229
H	52	63	96	133	147	176	185.5	219.5
G	110	130	180	210	210	290	290	450
F	89	98	108	127	152	178	190.5	229
C	60.5	69.8	79.4	98.4	120.7	139.7	152.4	190
R	35	43	51	73	92	105	127	157
T	11.1	12.7	14.3	17.5	19	22.2	23.8	23.8
N	16	16	16	16	19	19	19	19
NO OF HOLES	4	4	4	4	4	4	4	8
O	33	46	56.5	66.5	92	105	114	138
H1	18	25	38	46	60	66	87.5	90
WT(Kg)	6.45	7.64	8.24	10.81	13.89	19.05	25.79	32.74
TORQUE (Nm)	4	5	8	20	25	30	46	70

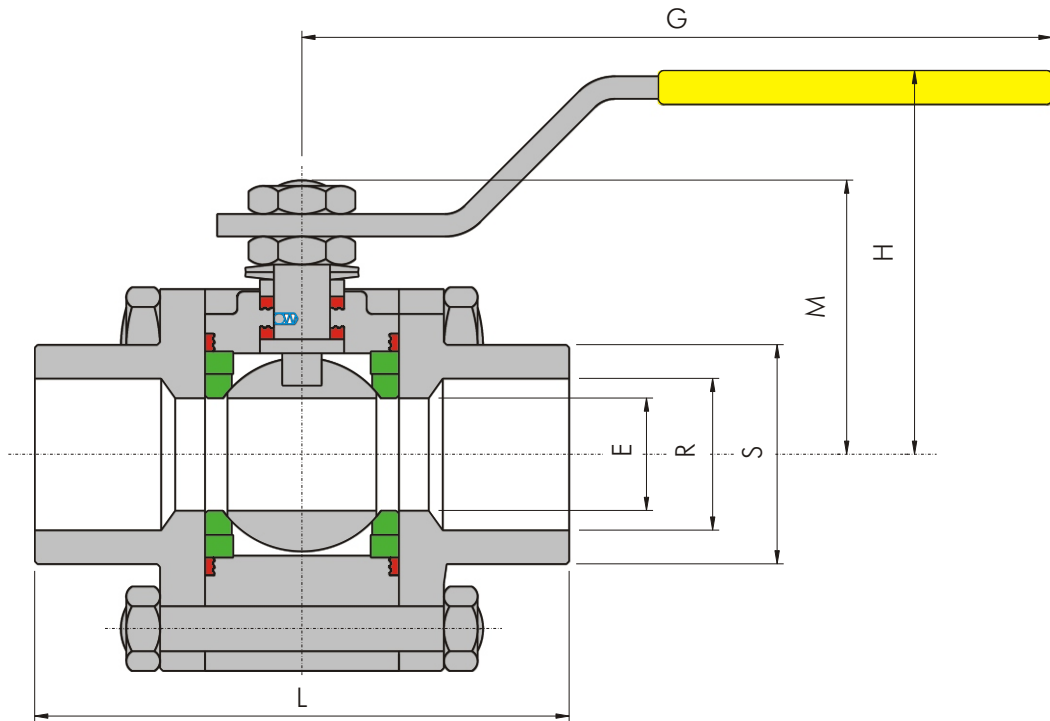
## Dimensions (inches)

SIZE	1/2"	3/4"	1"	1-1/2"	2"	2-1/2"	3"	4"
CLASS	ASME 150 REDUCED BORE							
E1	0.35	0.55	0.75	1.25	1.50	1.97	2.44	3.00
E	0.55	0.75	1.00	1.50	1.97	2.44	3.00	4.00
L	4.25	4.62	5.00	6.50	7.00	7.48	8.00	9.00
H	2.03	2.47	3.77	5.25	5.80	6.94	7.30	8.64
G	4.33	5.12	7.09	8.27	8.27	11.42	11.42	17.72
F	3.50	3.86	4.25	5.00	6.00	7.00	7.50	9.00
C	2.38	2.75	3.13	3.87	4.75	5.50	6.00	7.48
R	1.38	1.69	2.00	2.88	3.62	4.12	5.00	6.19
T	0.44	0.50	0.56	0.69	0.75	0.88	0.94	0.94
N	0.62	0.62	0.62	0.62	0.75	0.75	0.75	0.75
NO. OF HOLES	4.00	4.00	4.00	4.00	4.00	4.00	4.00	8.00
O	1.29	1.81	2.22	2.62	3.64	4.13	4.49	5.43
H1	0.71	0.98	1.50	1.81	2.36	2.60	3.21	3.54
WT(lbs)	14.33	16.98	18.30	24.03	30.86	42.33	57.32	72.75
TORQUE (in-lbs)	36	44	71	106	221	266	407	620



One piece design feature eliminates any possible leakage to atmosphere through unnecessary joint faces. Insert holds the internal assembly in position and is shouldered into place. This creates a positive metal to metal sealing between body and insert, thus eliminating leakage through flange.

# Three Piece Ball Valve 400# - General Assembly



## Dimensions (mm)

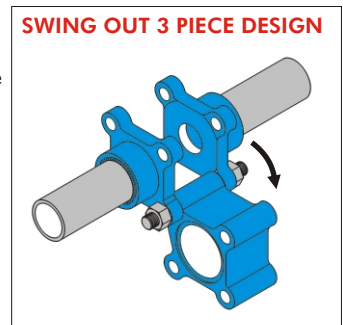
SIZE	DN15		DN20		DN25		DN32		DN40		DN50	
	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB
CLASS	ASME 400 FULL BORE / REDUCED BORE											
E	14	9	19	14	25	19	32	25	38	32	50	38
R	21.8	21.8	27.4	27.4	34.1	34.1	42.7	42.7	49.0	49.0	61.0	61.0
S	30.0	30.0	36.0	36.0	46.0	45.0	56	56	60.5	60.5	74	74
L	66.5	66.5	80.5	80.5	95.5	95.5	111.5	111.5	103.5	103.5	124.5	124.5
G	120	105	120	120	200	120	200	200	250	200	250	250
H	73	58	83	73	83.5	83	88	83.5	108.0	88.0	118.0	108.0
M	42.5	29.5	47.0	42.5	56.4	47.0	61.5	56.4	70.5	61.5	85.5	70.5
WT(Kg)SCRD	0.92	0.57	1.35	1.08	2.28	1.53	3.4	2.35	4.67	3.25	7.53	4.88
WT(Kg)SW	0.88	0.57	1.35	1.03	2.24	1.49	3.35	2.13	4.58	3.03	7.33	4.77
TORQUE(Nm)	8	6	9	8	16	9	25	16	35	25	44	35

## Dimensions (inches)

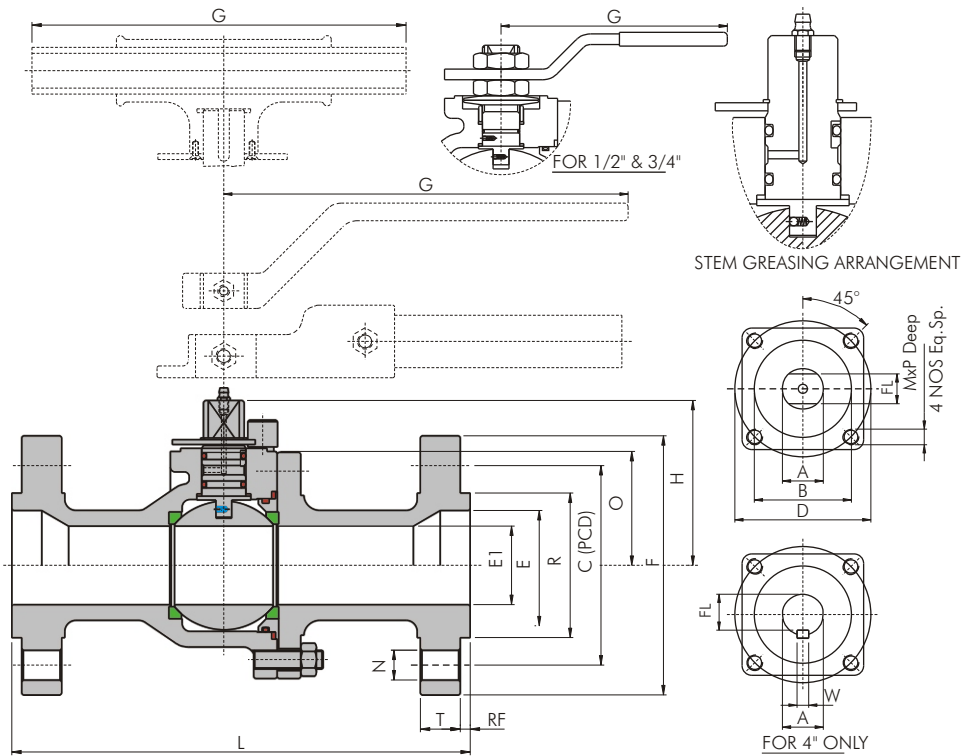
SIZE	1/2"		3/4"		1"		1-1/4"		1-1/2"		2"	
	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB
CLASS	ASME 400 FULL BORE / REDUCED BORE											
E	0.55	0.35	0.75	0.55	0.98	0.75	1.25	0.98	1.50	1.25	1.97	1.50
R	0.86	0.86	1.08	1.08	1.34	1.34	1.68	1.68	1.93	1.93	2.40	2.40
S	1.18	1.18	1.42	1.42	1.81	1.77	2.20	2.20	2.38	2.38	2.91	2.91
L	2.62	2.62	3.17	3.17	3.76	3.76	4.37	4.37	4.07	4.07	4.88	4.51
G	4.72	4.13	4.72	4.72	7.87	5.12	7.87	7.87	9.84	7.87	9.84	9.84
H	2.87	2.28	3.27	2.87	3.29	4.72	3.46	3.29	4.25	3.46	4.65	4.25
M	1.67	1.16	1.85	1.67	2.22	3.27	2.42	2.22	2.78	2.42	3.37	2.78
WT(lbs)SCRD	2.01	1.24	2.96	2.37	5.01	3.36	7.48	5.17	10.26	7.14	16.56	10.73
WT(lbs)SW	1.93	1.22	2.94	2.26	4.92	3.27	7.37	4.68	10.07	6.66	16.12	10.48
TORQUE(in-lbs)	71	53	80	71	142	80	221	142	310	142	390	310



Three-piece design is compact and is available with a variety of pipe ends like screwed, socket weld or butt weld. It uses bottom entry stem. Also it has a fully enclosed bolting. It combines superior performance characteristics with fast and economical in-line maintenance because of swing out design feature as illustrated. It is simple for installation and easy for maintenance; and also seats, seals and ball can be replaced quickly without disturbing pipe alignment.



# Two Piece Ball Valve 600# - General Assembly



Dimensions (mm)

CLASS	ASME 600 FULL BORE / REDUCED BORE														
	DN15		DN20		DN25		DN40		DN50		DN80		DN100		DN150
E x E1	FB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB
L	165.0	190.5	190.5	216.0	216.0	241.3	241.3	292.0	292.0	355.6	355.6	432.0	432.0	559	559
H	67.0	67.0	67.0	66.0	67.0	91.0	66.0	106.0	91.0	147.0	106.0	184.0	147.0	184	184
G	212.0	212.0	212.0	205.0	212.0	275.0	205.0	455.0	275.0	692.0	455.0	990.0	692.0	990	990
F	95.3	117.6	117.6	124.0	124.0	155.4	155.4	165.0	165.0	209.6	209.6	273.0	273.0	356	356
C	66.5	83.0	83.0	89.0	89.0	114.3	114.3	127.0	127.0	168.0	168.0	216.0	216.0	292	292
R	35.0	43.0	43.0	51.0	51.0	73.0	73.0	92.0	92.0	127.0	127.0	157.0	157.0	216	216
T	14.2	15.7	15.7	17.5	17.5	22.4	22.4	25.4	25.4	32.0	32.0	38.0	38.0	48	48
N	16.0	19.0	19.0	19.0	19.0	22.0	22.0	19.0	19.0	22.0	22.0	25.4	25.4	28.5	28.5
NO. OF HOLES	4	4	4	4	4	4	4	8	8	8	8	8	8	8	12
O	48.0	48.0	48.0	48.0	48.0	63.0	48.0	72.5	63.0	108.0	72.5	125.0	108.0	125	125
ISO 5211 MTG	F05	F05	F05	F05	F05	F05	F05	F07	F05	F10	F07	F14	F10	F14	F14
A	16.0	16.0	16.0	20.0	16.0	24.0	20.0	26.0	24.0	34.0	26.0	42.0	34.0	42	42
B	35.0	35.0	35.0	35.0	35.0	35.0	35.0	55.0	35.0	70.0	55.0	100.0	70.0	100	100
D	50.0	50.0	50.0	50.0	50.0	50.0	50.0	70.0	50.0	102.0	70.0	140.0	102.0	140	140
FL	10.0	10.0	10.0	14.0	10.0	18.0	14.0	20.0	18.0	26.4	20.0	37.0	26.4	37	37
M UNC x P	1/4" x 10	1/4" x 10	1/4" x 10	1/4" x 8.0	1/4" x 10	1/4" x 8.0	1/4" x 8.0	5/16" x 13.0	1/4" x 8.0	3/8" x 15.0	5/16" x 13.0	5/8" x 18.0	3/8" x 15.0	5/8" x 18.0	5/8" x 18.0
WT(Kg)	4.2	4.5	-	6.8	-	12.7	-	17.0	16.0	39.0	-	80.0	60.0	-	-
TORQUE (Nm)	26	30	26	66	30	100	66	134	100	304	134	500	304	500	500

NOTE : RF FOR 600# = 6.4 mm. FOR 4" SIZE W x K= 12 x 55

Dimensions (inches)

CLASS	ASME 600 FULL BORE / REDUCED BORE														
	1/2"		3/4"		1"		1-1/2"		2"		3"		4"		6"
E x E1	FB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB
L	6.5	7.5	7.5	8.5	8.5	9.5	9.5	11.5	11.5	14.0	14.0	17.0	17.0	22.01	22.01
H	2.64	2.64	2.64	2.61	2.64	3.58	2.61	4.17	3.58	5.77	4.17	7.24	5.77	7.24	7.24
G	8.35	8.35	8.35	8.07	8.35	10.8	8.07	17.91	10.8	27.24	17.91	38.98	27.09	38.98	38.98
F	3.75	4.63	4.63	4.88	4.88	6.12	6.12	6.50	6.50	8.25	8.25	10.75	10.75	14.02	14.02
C	2.62	3.27	3.27	3.50	3.50	4.50	4.50	5.00	5.00	6.62	6.62	8.50	8.50	11.05	11.05
R	1.38	1.69	1.69	2.00	2.00	2.88	2.88	3.62	3.62	5.00	5.00	6.18	6.18	8.05	8.05
T	0.56	0.62	0.62	0.69	0.69	0.88	0.88	1.00	1.00	1.26	1.26	1.50	1.50	1.89	1.89
N	0.63	0.75	0.75	0.75	0.75	0.88	0.88	0.75	0.75	0.88	0.88	1.00	1.00	1.12	1.12
NO. OF HOLES	4	4	4	4	4	4	4	8	8	8	8	8	8	8	12
O	1.89	1.89	1.89	1.89	1.89	2.48	1.89	2.85	2.48	4.25	2.85	4.92	4.25	4.92	4.92
ISO 5211 MTG	F05	F05	F05	F05	F05	F05	F05	F07	F05	F10	F07	F14	F10	F14	F14
A	0.63	0.63	0.63	0.79	0.63	0.94	0.79	1.02	0.94	1.34	1.02	1.65	1.34	1.65	1.65
B	1.38	1.38	1.38	1.38	1.38	1.38	1.38	2.17	1.38	2.76	2.17	3.94	2.76	3.94	3.94
D	1.97	1.97	1.97	1.97	1.97	1.97	1.97	2.76	1.97	4.02	2.76	5.51	4.02	5.51	5.51
FL	0.39	0.39	0.39	0.55	0.55	0.71	0.55	0.79	0.71	1.04	0.79	1.46	1.04	1.46	1.46
M UNC x P	1/4" x 0.39	1/4" x 0.39	1/4" x 0.39	1/4" x 0.31	1/4" x 0.39	1/4" x 0.31	1/4" x 0.31	5/16" x 0.51	1/4" x 0.31	3/8" x 0.59	5/16" x 0.51	5/8" x 0.71	3/8" x 0.59	5/8" x 0.71	5/8" x 0.71
WT(lbs)	9.26	9.92	-	14.99	-	28	-	35.27	-	86.0	-	176.4	132	-	-
TORQUE (in-lbs)	230	266	230	584	584	885	266	1186	885	2691	1186	4425	2691	4425	4425

NOTE : RF FOR 600# = 0.25". FOR 4" SIZE W x K= 0.47 X 2.17"

## Material of Construction

PART	MATERIAL OPTIONS
BODY	ASTM - A 216 WCB / A351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 217 CA15
BODY ADAPTER	ASTM - A 216 WCB / A351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 217 CA15
BALL	ASTM - A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 217 CA15
STEM	ASTM - A479 SS304 / A479 SS316 / A479 SS304L / A479 SS316L / A182 F304 / A182 F316 / A182 F410
SEAT	VIRGIN PTFE / RPTFE / NYLON / PEEK / DELRIN / PCTFE/DEVLON / MEPTFE / MOS <sub>2</sub>
O RING	VITON
STEM GASKET	VIRGIN PTFE / RPTFE / GRAPHITE
SPACER	ASTM - A 479 SS316
CUP SPRING	ASTM - A 479 SS304 / 50 Cr V4
STEM NUT	ASTM - A 194 Gr.7/ A194 Gr.7M / A 194 Gr.8/ A 194 Gr.8M / A 194 Gr.2H / A 194 Gr.2HM
HANDLE	MS (ZINC PLATED) / SS304 / SS316
STOP PIN	ASTM - A 479 SS316 / MS
BODY GASKET	VIRGIN PTFE / RPTFE / GRAPHITE
STUDS / BOLTS	ASTM - A 320 Gr.L7 / A320 Gr.L7M/ A 193 Gr.B8 / A 193 Gr.B8M / A 193 Gr.B7 / A 193 Gr.B7M
NUT	ASTM - A 194 Gr.7/ A194 Gr.7M / A 194 Gr.8 / A 194 Gr.8M / A 194 2H / A 194 Gr.2HM
STEM BUSH	PHOSPHOR BRONZE
STEM HOUSING	ASTM - A 216 WCB / A351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 217 CA15

- Materials not listed above can be offered on request

## Fire Test

UNIMAC Ball Valves have been designed to meet the requirements of API 607 / API 6 FA / BS 6755 - Part II. Fire safe tests have been witnessed and certified by GULF LLOYDS



SR.NO	TYPE OF VALVE	SIZE	RATING	STANDARD
1	SOFT SEATED SINGLE PIECE DESIGN	1/2" TO 3"	150#, 300#	API 607 (Edition IV)
2	SOFT SEATED TWO PIECE DESIGN	1/2" TO 12" 3/4" TO 12"	150#, 300#, 600# 150#, 300#, 600#	API 6FA / BS 6755 PART-II API 607 (Edition IV)
3	SOFT SEATED THREE PIECE DESIGN	1/2", 3/4" 1" TO 2"	400#, 600#, 800# 400#, 600#, 800#	API 607 (Edition IV) BS 6755 PART - II



# Product Selection Code



Design	Construction	End Connection	Ratings	Bore	Body	Ball+Coating	Seat+Coating	Fire Safety	Operation	Special Req.
N S M P W X C D T L E U B	1 2 3	RF RS FF FS RT SW SN BS NP BW DN BT SG LG TG BN O	1 2 3 4 5 6 7 8 9 O	F R	C 1 7 L 8 2 4 6 3 5 A U W I M O	C 1 7 L 8 2 4 6 3 5 A U W I M O	1 2 4 6 3 5 U I M T G N L D P E V O	F N	B G L A C C O	SI PP SE BE DP SP LP JK LT XX

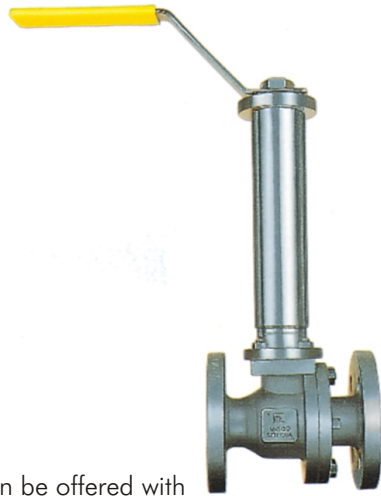
<p><b>Design</b></p> <p>N - Side Entry Soft Seated Trunnion S - Side Entry Soft Seated Floater M - Side Entry Metal Seated Trunnion P - Side Entry Metal Seated Floater W - Side Entry Welded Body Trunnion X - Side Entry Welded Body Floater C - Side Entry Cryogenic Trunnion D - Side Entry Cryogenic Floater T - Side Entry Multi Port (T Port) L - Side Entry Multi Port (L Port) E - Top Entry Soft Seated Trunnion U - Top Entry Metal Seated Trunnion B - Top Entry Cryogenic Trunnion</p> <p><b>Construction</b></p> <p>1 - Single Piece 2 - Two Piece 3 - Three Piece</p> <p><b>End connection &amp; finish</b></p> <p>RF - Flanged Raised Face Serrated RS - Flanged Raised Face Smooth FF - Flanged Flat Face Serrated FS - Flanged Flat Face Smooth RT - Flanged RTJ SW - Socket Weld SN - Socket Weld With Nipple Extension BS - Screwed BSP NP - Screwed NPT BW - Butt Weld DN - DIN BT - Screwed BSPT SG - Small Groove LG - Large Groove TG - Tongue &amp; Groove BN - Butt Weld + Nipple Ext. O - Other than above</p>	<p><b>Rating</b></p> <p>1 - 150# / PN16 2 - 1500# 3 - 300# / PN40 4 - 400# / PN64 5 - 2500# 6 - 600# 8 - 800# 9 - 900# O - Other than above</p> <p><b>Body &amp; Ball</b></p> <p>C - WCB 1 - A105 7 - WCC L - LCB 8 - LF2 2 - LCC 4 - CF8 / SS304 / F304 6 - CF8M / SS316 / F316 3 - CF3 / SS304L / F304L 5 - CF3M / SS316L / F316L A - CA 15 / SS 410 / F6A U - Duplex SS W - Super Duplex I - Inconel M - Monel O - Other than above</p> <p>Ball/Seat Coating (If applicable)</p> <p>e - ENP w - Overlay h - Hard Chrome s - Stellite c - Chrome Carbide t - Tungsten Carbide n - Chromium Nitride O - Other than above</p>	<p><b>Bore</b></p> <p>F - Full R - Reduced/Regular</p> <p><b>Seat</b></p> <p>1 - A105 2 - LF2 4 - F304 6 - F316 3 - F304L 5 - F316L U - Duplex SS I - Inconel M - Monel T - PTFE G - RPTFE N - Nylon-PA 12 L - Nylon-Devlon D - Delrin P - PEEK E - PCTFE V - VITON O - Other than above</p> <p><b>Fire safety</b></p> <p>F - Fire safe N - Non fire safe</p> <p><b>Operator</b></p> <p>B - Bare stem G - Gear operated L - Handlever A - Actuated C - Chain Wheel O - Other than above</p>	<p><b>Special Requirement</b></p> <p>SI - Sealant Injection PP - Pup Piece SE - Stem Extension BE - Bonnet Extension DP - Double Piston Effect (Non Relieving) SP - Short Pattern LP - Long Pattern JK - Jacketed LT - Low Temp. (-46°C/-50°F) XX - Special Requirement To Be Specified</p>
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## EXAMPLE

S	2	RF	1	F	C	6	T	N	L	SP
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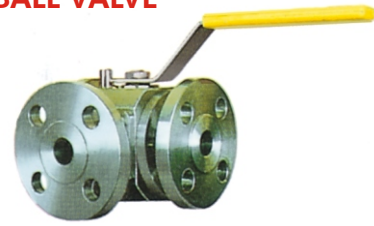
Above stands for Side entry soft Seated floating ball valve, Two piece body, Flanged end raised face serrated, 150#, Full Bore, WCB Body, CF8M/SS316 ball, PTFE seat, Non fire safe, Hand-lever operator, Short pattern.

## EXTENDED STEM

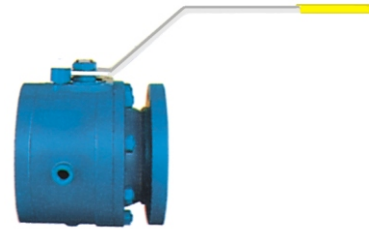


UNIMAC Ball Valves can be offered with suitable stem extension when used for low temperature applications or under ground installations.

## THREE WAY BALL VALVE

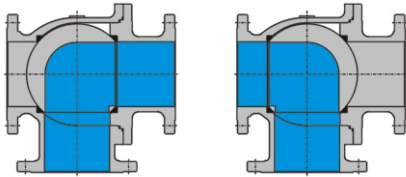


## PARTIAL / FULL JACKETED BALL VALVE

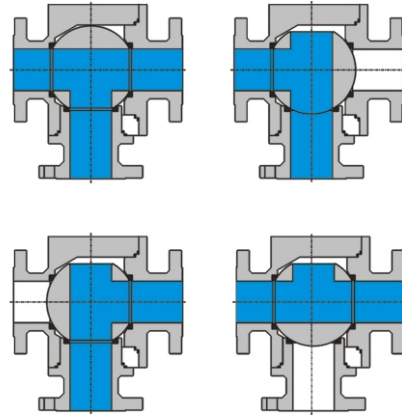


Jacketed chamber is fabricated and tested for service pressure

## FLOW PATH DIAGRAM FOR MULTI-PORT VALVES



Three way L-port configuration



Three way T-port configuration