



# **GWC ITALIA**

# Worldwide Network

### ITALY GROUP HEADQUARTERS, MANUFACTURING & SALES

GWC Italia S.p.A. Via A. Grandi, 5 20056 Trezzo Sull'Adda

20000 Irezzo Sull A

Milano, Italy

Phone: +39 02 86882941 Fax: +39 02 86882942 Email: sales@gwcitalia.com



# USA HEADQUARTERS MANUFACTURING & SALES

GWC Italia 8502 Crippen Street Bakersfield, USA 93311 Phone: +1 661 834 1775

Fax: +1 661 834 2072 Email: sales@gwcitalia-usa.com



### **SALES DUBAI**

GWC Italia DMCC 1506, Platinum Tower I-Cluster, Jumeirah Lake Towers Dubai UAE

Phone: +971 44 539 358
Email: sales@gwcitalia.com

### **MANUFACTURING & SALES**

GWC Valve Manufacturing (Shanghai) Co., Ltd. No 3300 Tianchen Road, Qingpu, Shanghai 201708, China

Phone: +86 21 5979 8796 Fax: +86 21 5979 8790 Email: sales@gwcitalia.com



### **SALES CHINA**

GWC Italia 5/F, China Life Tower, No.16 Chaowai Street Chaoyang District Beijing 100020, China Phone: +86 10 5877 1065 Fax: +86 10 5877 1120 Email: sales@gwcitalia.com GWC Italia SpA with its Headquarters in Milan, Italy fully designs, manufactures and markets valves with one of the most extensive Trunnion Mounted Ball Valve lines you will find in the Industry today. GWC Italia which was founded by an Italian Group & USA Entrepreneurial Management team has a history of building and managing successful valve Manufacturing companies over the past 40 years. GWC Italia Valves are used in major applications for Upstream, Downstream & Transportation Segments of the Oil & Gas Industry, E&P, Petrochemical, Chemical, Mining/Minerals, Power, Marine and Industrial markets.

# GWC Italia's extensive line of valve and flow control products include:

- Trunnion Mounted Ball Valves (soft & metal seated)
  - Split Body
  - Top Entry
  - Welded Body
  - Subsea
  - Cryogenic & High Temperature
  - Compact Body (Twin Ball)
- Floating Ball Valves
- Pipeline Gate and Check Valves
- Gate, Globe and Check Valves including Cast & Forged
- Needle & Gauge Valves



Proven technology for individual valve solutions worldwide

# **CERTIFICATIONS & STANDARDS**

### **American Standards**

### **American Petroleum Institute**

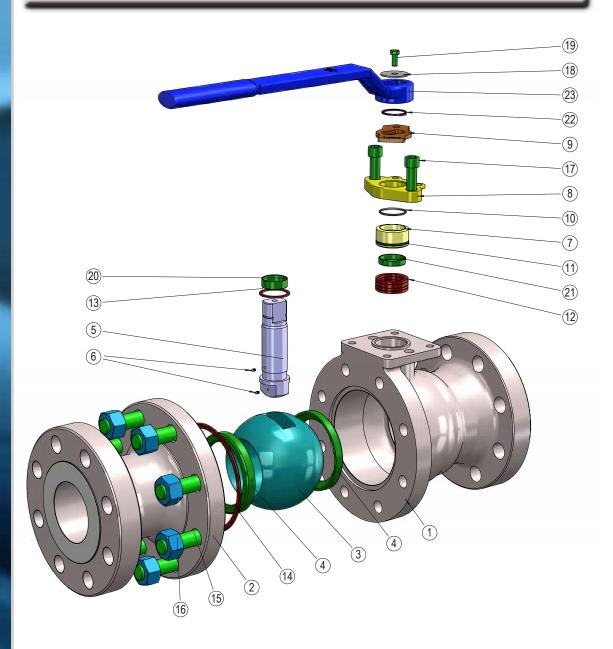
API-6D	Specification for Pipeline Valves
API-6D SS	Specification for Subsea Pipeline Valves
API-6A	Specification for Wellhead and Christmas Tree Equipment
API-6FA	Specification for Fire Test for Valves
API-598	Valve Inspection and Testing
API-600	Bolted Bonnet Steel Gate Valves for Petroleum and Natural Gas Industries
API-602	Compact Steel Gate Valves-Flanged, Threaded, Welding and Extended-Body Ends
API-607	Fire Test for Soft-Seated Quarter-Turn Valves
API-608	Metal Ball Valves - Flanged, Threaded, and Welding End
API-Q1	Specification for Quality Programs for the Petroleum, Petrochemical & Natural Gas

### International Standards

ISO 9001	Quality Management Systems
ISO 14001	Environmental Management
OHSAS 18001	Occupational Health and Safety Management System
ISO/TS 29001	Petroleum, Petrochemical and Natural Gas Industries - Sector Specific Quality Management Systems
CE/PED	Pressure Equipment Directive
TR CU	Technical Regulations of the Customs Union
CRN	Canadian Registration Number
Z245.15-17	Steel Valves
ATEX	European for explosive atmosphere
SIL3	Measurement of performance required for safety instrument function
ΔRS	American Bureau of Shipping



# **STANDARD FEATURES - Split Body Ball Valves**



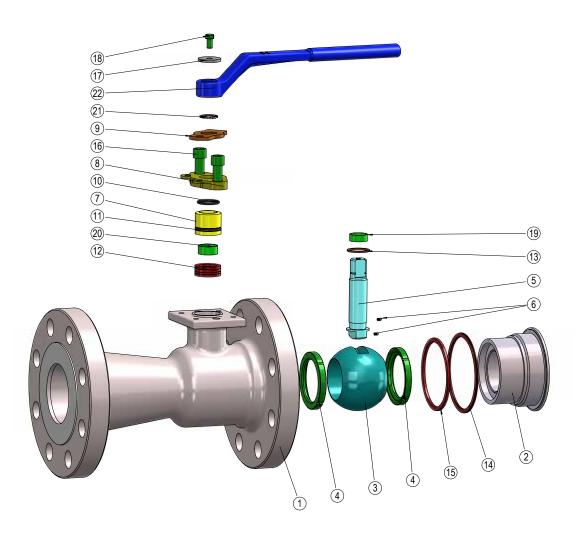
The GWC SPLIT BODY ball valves are designed, constructed and tested according to the most recent international standards, such as API, ASME, BS, DIN, etc.

- 1. Body
- 2. Closure / Cap
- 3. Ball
- 4. Cavity Relieving Seat
- 5. Stem
- 6. Anti-Static Spring and Ball
- 7. Gland Bushing
- 8. Gland Flange

- 9. Combination Lock Stop
- 10. Stem O-Ring
- 11. Gland O-Ring
- 12. Packing
- 13. Stem Thrust Washer
- 14. Spiral Wound Gasket
- 15. Body Stud
- 16. Body Nut

- 17. Gland Screw
- 18. Stem Washer
- 19. Stem Bolt
- 20. Stem Bearing
- 21. Gland Bearing
- 22. Snap Ring / Circlip
- 23. Handle

# STANDARD FEATURES — Unibody Ball Valves



The GWC UNIBODY ball valves are designed, constructed and tested according to the most recent international standards, such as API, ASME, BS, DIN, etc.

- 1. Body
- 2. Closure / Cap
- 3. Ball
- 4. Cavity Relieving Seat
- 5. Stem
- 6. Anti-Static Spring and Ball
- 7. Gland Bushing
- 8. Gland Flange
- 9. Combination Lock Stop

- 10. Stem O-Ring
- 11. Gland O-Ring
- 12. Packing
- 13. Stem Thrust Washer
- 14. Graphite Gasket
- 15. PTFE Gasket
- 16. Gland Screw
- 17. Stem Washer
- 18. Stem Bolt

- 19. Stem Bearing
- 20. Gland Bearing
- 21. Snap Ring / Circlip
- 22. Handle

### **SPLIT BODY & UNIBODY BALL VALVES**

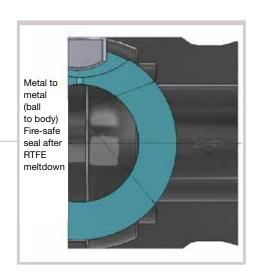
# Body to stem anti-static spring and ball Ball to stem anti-static spring and ball

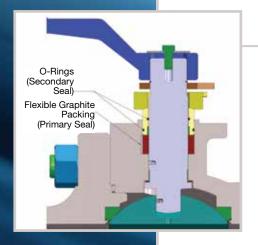
### Figure 1

Ball valves present a particular problem with the build up of static electricity around the ball. All GWC ball valves have anti-static devices which provides contact between stem and ball, and stem and body to eliminate static electricity.

### Figure 2

In the event of a fire the valve is required to make a downstream seal. Even after the disintegration of the RTFE seats, GWC ball valves have an excellent metal to metal seal.



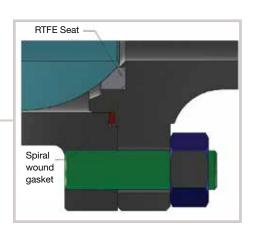


### Figure 3

The combination of stem packing and o-rings guarantee zero emissions even at a low pressure. The primary seal is made out of flexible graphite, a material with extremely good resistance to fire conditions. The anti-blow out stem is inserted from inside the valve body.

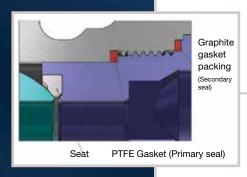


Special attention has been paid to the mechanical strength and sealing efficiency of the central flanged joint in the valve body.



### Figure 5 (unibody only)

The PTFE gasket packing acts as a primary seal for the Unibody ball valves. The secondary seal has been made out of flexible graphite, a material with extremely good resistance to fire conditions.



# **ORDERING GUIDE**

# Example: 4" Figure B150-1-BC-G2-L

-|1|-|BC|-|G||2|

1.

4" CLASS 150 FLOATING BALL VALVE, FLG-RF, FULL BORE, A216 WCB BODY x 316SS TRIM, RTFE SEAT, VITON-B O-RINGS, NACE, FIRESAFE, LEVER OP.

### 1. MODEL

A - FLOATING BALL, UNIBODY, REDUCED BORE

C - FLOATING BALL, SPLIT BODY, REDUCED BORE

B - FLOATING BALL, SPLIT BODY, FULL BORE

### 2. RATING

15 - CLASS 150

90 - CLASS 900 \*

30 - CLASS 300

150 - CLASS 1500 \*

60 - CLASS 600

\* 1/2" - 1" SIZES ONLY

### 3. END CONNECTION

0 - RF FLANGED

9 - RING JOINT

7 - BUTTWELD (SCHEDULE REQUIRED)

X - SPECIAL

### 4. TYPE

1 - FIRE-SAFE

### 5. MATERIAL (BODY + TRIM )

AC - WCB + 304 HC - LCB + LF2/ENP BC - WCB + 316 IC - LCB + F6A/13CR CC - WCB + A105/ENP DC - WCB + F6A/13CR EC - LCC + LF2/ENP

JC - LCB + 316 KC - CF8 + 304 LC - CF8M + 316 MC - CF3 + 304L NC - CF3M + 316L OC - CN7M + A/20

PC - A890-4A + F51 QC - A890-5A + F53

RC - A890-6A + F55

X - SPECIAL

### 6. MATERIAL (SEAT)

FC - LCC + F6A/13CR

GC - LCC + 316

V - PEEK G - RTFE **B-NYLON** J - DELRIN E - DEVLON

X - SPECIAL

### 7. MATERIAL (O-RING SEAL)

1 - HNBR 4 - EPDM 2 - VITON -B 5 - AFLAS 3 - VITON-GLT

7 - GRAPHITE X - SPECIAL

6 - PTFE

M - METAL

### 8. OPERATOR

L - HANDWHEEL OPERATOR GO - WORM GEAR OPERATOR **B - BARE STEM** 

### 9. SPECIAL REQUIREMENTS

**EB - EXTENDED BONNET** 

S - SUPPLY COMPLETE INFORMATION

# **UNIBODY FLOATING BALL VALVE — Model A150/A300**



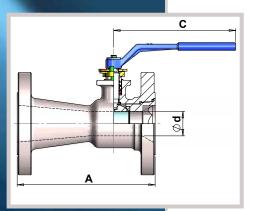
### Construction

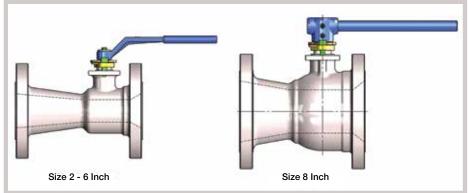
Unibody, reduced bore, free floating ball, fire-safe certified to API-607, blow-out proof stem, cavity relieving seats, anti-static device, designed and tested according to ASME B16.34, BS5351 and API-6D.

### **Dimension**

Face to Face	ASME B16.10 Short Pattern			
End Flange	ASME B16.5			
Rating	ASME Class 150-300			

<sup>\*\*</sup>NACE MR-01-75 Certified\*\*





### **Standard Materials**

Fig. No.	A150-1-BC-G1-L, A300-1-BC-G1-L	A150-1-LC-G1-L, A300-1-LC-G1-L
Body/Retainer	A216 WCB	A351 CF8M
Ball/Stem	316SS	316SS
Seats	RTFE	RTFE
O-Rings	HNBR	HNBR

# Class 150

DIMENSIONS IN INCHES								
VALVE SIZE	2" 50mm	3" 80mm	4" 100mm	6" 150mm	8" 200mm			
Bore Size (d)	1.50	2.50	3.00	4.00	6.00			
Face to Face (A)	7.00	8.00	9.00	10.50	11.50			
Length of Lever (C)	9.84	9.84	13.78	18.11	-			
Approx. Weight (lbs.)	16	28	54	84	160			

# Class 300

DIMENSIONS IN INCHES								
VALVE SIZE	2" 50mm	-   •   •   •						
Bore Size (d)	1.50	2.00	3.00	4.00	6.00			
Face to Face (A)	8.50	11.15	12.00	15.88	16.50			
Length of Lever (C)	9.84	9.84	13.78	18.11	-			
Approx. Weight (lbs.)	24	50	85	132	200			

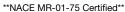
# SPLIT BODY FLOATING BALL VALVE — Model B150/B300

### Construction

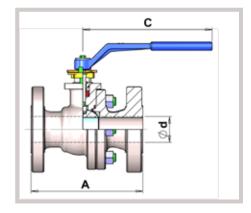
Split body, full bore, free floating ball, fire-safe certified to API-607, blow-out proof stem, cavity relieving seats, anti-static device, designed and tested according to ASME B16.34, BS5351 and API-6D.

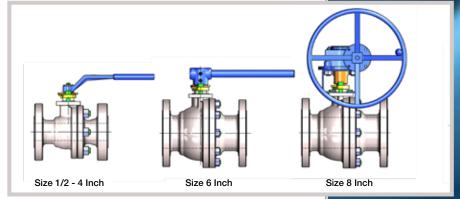
### **Dimension**

Face to Face	ASME B16.10 Long Pattern			
End Flange	ASME B16.5			
Rating	ASME Class 150-300			









### **Standard Materials**

Fig. No.	B150-1-BC-G1-L, B300-1-BC-G1-L	B150-1-LC-G1-L, B300-1-LC-G1-L
Body/Retainer	A216 WCB	A351 CF8M
Ball/Stem	316SS	316SS
Seats	RTFE	RTFE
O-Rings	HNBR	HNBR

# Class 150

DIMENSIONS IN INCHES										
VALVE SIZE	1/2" 15mm	3/4" 20mm	1" 25mm	1-1/2" 40mm	2" 50mm	2-1/2" 65mm	3" 80mm	4" 100mm	6" 150mm	8" 200mm
Bore Size (d)	0.50	0.75	1.00	1.50	2.00	2.50	3.00	4.00	6.00	8.00
Face to Face (A)	4.25	4.625	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00
Length of Lever (C)	5.91	5.91	5.91	9.84	9.84	9.84	13.78	18.11	29.53	-
Wheel Diameter (F)	-	-	-	-	-	-	-	-	-	23.62
Approx. Weight (lbs.)	5	7	10	20	26	35	56	80	172	378

# Class 300

	DIMENSIONS IN INCHES									
VALVE SIZE	1/2" 15mm	3/4" 20mm	1" 25mm	1-1/2" 40mm	2" 50mm	3" 80mm	4" 100mm	6" 150mm	8" 200mm	
Bore Size (d)	0.50	0.75	1.00	1.50	2.00	3.00	4.00	6.00	8.00	
Face to Face (A)	5.50	6.00	6.50	7.50	8.50	11.125	12.00	15.875	19.75	
Length of Lever (C)	5.91	5.91	5.91	9.84	9.84	13.78	18.11	29.53	-	
Wheel Diameter (F)	-	-	-	-	-	-	-	-	23.62	
Approx. Weight (lbs.)	9	11	15	28	38	75	110	230	481	

# SPLIT BODY FLOATING BALL VALVE — C150/C300



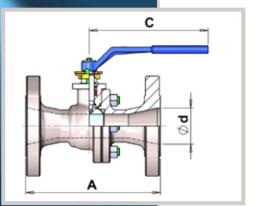
### Construction

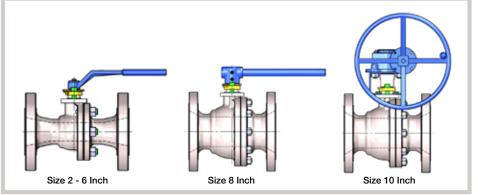
Split body, reduced bore, free floating ball, fire-safe certified to API-607, blow-out proof stem, cavity relieving seats, anti-static device, designed and tested according to ASME B16.34, BS5351 and API-6D.

### **Dimension**

Face to Face	ASME B16.10 Short Pattern			
End Flange	ASME B16.5			
Rating	ASME Class 150-300			

<sup>\*\*</sup>NACE MR-01-75 Certified\*\*





### **Standard Materials**

Fig. No.	C150-1-BC-G1-L, C300-1-BC-G1-L	C150-1-LC-G1-L, C300-1-LC-G1-L
Body/Cap	A216 WCB	A351 CF8M
Ball/Stem	316SS	316SS
Seats	RTFE	RTFE
O-Rings	HNBR	HNBR

# Class 150

DIMENSIONS IN INCHES									
VALVE SIZE	2" 50mm	3" 80mm	4" 100mm	6" 150mm	8" 200mm	10" 250mm			
Bore Size (d)	1.50	2.00	3.00	4.00	6.00	8.00			
Face to Face (A)	7.00	8.00	9.00	10.50	11.50	13.00			
Length of Lever (C)	9.84	9.84	13.80	18.10	29.50	-			
Wheel Diameter (F)	-	-	-	-	-	23.62			
Approx. Weight (lbs.)	21	48	69	124	189	446			

# Class 300

DIMENSIONS IN INCHES									
VALVE SIZE	2" 50mm	3" 80mm	4" 100mm	6" 150mm	8" 200mm	10" 250mm			
Bore Size (d)	1.50	2.00	3.00	4.00	6.00	8.00			
Face to Face (A)	8.50	11.125	12.00	15.875	16.50	18.00			
Length of Lever (C)	9.84	9.84	13.80	18.10	29.50	-			
Wheel Diameter (F)	-	-	-	-	-	23.62			
Approx. Weight (lbs.)	30	58	97	208	370	581			

# SPLIT BODY FLOATING BALL VALVE - Model B600/C600

### Construction

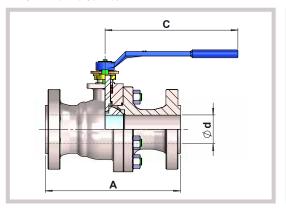
Split body, full bore or reduced bore, free floating ball, fire-safe certified to API-607, blow-out proof stem, cavity relieving seats, anti-static device, designed and tested according to ASME B16.34, BS5351 and API-6D.

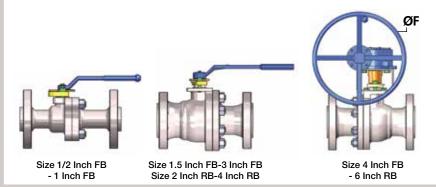
### **Dimension**

Face to Face	ASME B16.10 Long Pattern
End Flange	ASME B16.5
Rating	ASME Class 600

<sup>\*\*</sup>NACE MR-01-75 Certified\*\*







### **Standard Materials**

Fig. No.	B600-1-BC-J1-L, C600-1-BC-J1-L	B600-1-LC-J1-L, C600-1-LC-J1-L
Body/Cap	A216 WCB	A351 CF8M
Ball/Stem	316SS	316SS
Seats	DELRIN	DELRIN
O-Rings	HNBR	HNBR

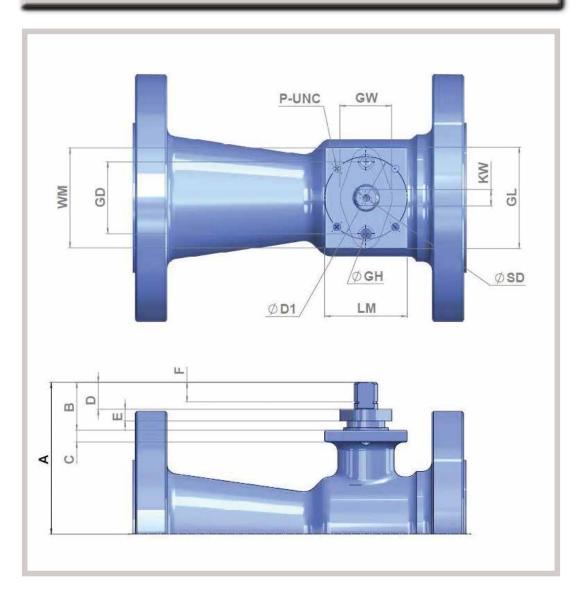
# Class 600 - Full Bore

	DIMENSIONS IN INCHES										
VALVE SI	ZE	1/2" 15mm	3/4" 20mm	1" 25mm	1-1/2" 40mm	2" 50mm	3" 80mm	4" 100mm			
Bore Size (d)		0.50	0.75	1.00	1.50	2.00	3.00	4.00			
(A)	RF	6.50	7.50	8.50	9.50	11.50	14.00	17.00			
Face to Face (A)	RTJ	6.50	7.50	8.50	9.50	11.62	14.12	17.12			
Length of Lever (C)		5.90	5.90	5.90	17.13	17.13	21.65	-			
Wheel Diameter (F)		-	-	-	-	-	-	18.11			
Approx. Weight (lbs.)		10	12	16	31	44	104	183			

# Class 600 — Reduced Bore

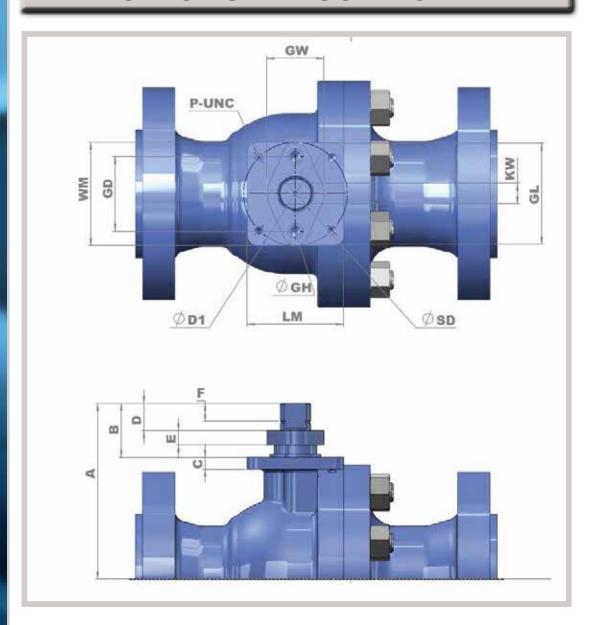
DIMENSIONS IN INCHES									
VALVE SIZ	E	2" 50mm	3" 80mm	4" 100mm	6" 150mm				
Bore Size (d)		1.50	2.00	3.00	4.00				
- · - · · ·	RF	11.50	14.00	17.00	22.00				
Face to Face (A)	RTJ	11.62	14.12	17.12	22.11				
Length of Lever (C)		17.13	17.13	21.65	-				
Wheel Diameter (F)		-	-	-	18.11				
Approx. Weight (lbs.)		42	81	131	271				

# **TOP WORKS DIMENSION - MODEL A**



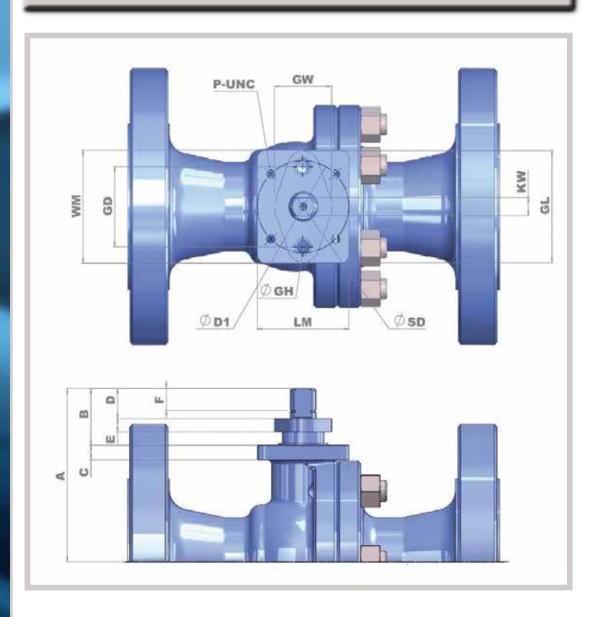
					ТО	P WOF	RKS DI	MENSI	ON FC	R MO	DEL A -	INCH						
Size	CLASS	Α	В	С	D	E	F	WM	GD	GW	P-UNC	KW	GL	LM	ØSD	ØGН	ØD1	MSS SP-101 TYPE
2" x 1.5"	150	4.1	1.5	0.4	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.4	2.8	0.8	0.7	2.8	FA07
[DN 50 X DN40]	300	4.1	1.5	0.4	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.4	2.8	0.8	0.7	2.8	FA07
3" x 2"	150	4.7	1.6	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.4	2.8	0.8	0.7	2.8	FA07
[DN 80 X DN40]	300	4.7	1.6	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.4	2.8	0.8	0.7	2.8	FA07
4" x 3"	150	6.6	2.1	0.6	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	4.0	3.7	1.2	0.7	4.0	FA10
[DN 100 X DN 80]	300	6.6	2.1	0.6	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	4.0	3.7	1.2	0.7	4.0	FA10
6" x 4"	150	7.2	2.1	0.6	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	4.0	3.7	1.2	0.7	4.0	FA10
[DN 150 X DN 100]	300	7.2	2.1	0.6	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	4.0	3.7	1.2	0.7	4.0	FA10
					TC	P WO	RKS D	IMENS	ION F	OR MC	DEL A	- MM						
Size	CLASS	Α	В	С	D	E	F	WM	GD	GW	P-UNC	кw	GL	LM	ØSD	ØGН	ØD1	MSS SP-101 TYPE
2" x 1.5"	150	103.5	39.0	10.5	20.4	10.0	14.8	86.0	61.0	44.0	4-5/16	14.0	86.0	70.0	19.8	17.0	70	FA07
[DN 50 X DN40]	300	103.5	39.0	10.5	20.4	10.0	14.8	86.0	61.0	44.0	4-5/16	14.0	86.0	70.0	19.8	17.0	70	FA07
3" x 2"	150	120.5	41.0	10.5	22.4	10.0	16.5	86.0	61.0	44.0	4-5/16	14.0	86.0	70.0	19.8	17.0	70	FA07
[DN 50 X DN40]	300	120.5	41.0	10.5	22.4	10.0	16.5	86.0	61.0	44.0	4-5/16	14.0	86.0	70.0	19.8	17.0	70	FA07
4" x 3"	150	168.0	53.0	12.0	27.1	14.0	18.5	102.0	74.0	56.0	4-3/8	20.0	102.0	95.0	29.8	19.0	102	FA10
[DN 100 X DN 80]	300	168.0	53.0	12.0	27.1	14.0	18.5	102.0	74.0	56.0	4-3/8	20.0	102.0	95.0	29.8	19.0	102	FA10
6" x 4"	150	183.0	53.0	12.0	27.9	14.0	18.5	102.0	74.0	56.0	4-3/8	20.0	102.0	95.0	29.8	19.0	102	FA10
[DN 150 X DN 100]	300	183.0	53.0	12.0	27.9	14.0	18.5	102.0	74.0	56.0	4-3/8	20.0	102.0	95.0	29.8	19.0	102	FA10

# **TOP WORKS DIMENSION - MODEL B**



					ΤΩ	P WOE	RKS DI	MENSI	ON EC	R MO	DEL B -	INCH						
Size	CLASS	A	В	С	В	E	F	WM	GD	GW	P-UNC	кw	GL	LM	ØSD	ØGН	ØD1	MSS SP-101
Size	1 11				_	_												TYPE
1/2"	150	2.3	0.8	0.3	0.4	0.2	0.2	2.2	1.8	1.7	4-1/4	0.3	2.4	1.7	0.5	0.4	1.7	FA04
[DN 15]	300	2.3	0.8	0.3	0.4	0.2	0.2	2.3	1.8	1.7	4-1/4	0.3	2.4	1.4	0.5	0.4	1.4	FA03
	600	2.3	0.8	0.4	0.4	0.2	0.2	2.3	1.8	1.7	4-1/4	0.3	2.4	1.4	0.5	0.4	1.4	FA03
3/4"	300	2.4	0.9	0.3	0.5	0.2	0.2	2.3	1.8	1.7	4-1/4 4-1/4	0.3	2.4	1.4	0.5	0.4	1.4	FA03
[DN 20]	600	2.3	0.8	0.3	0.4	0.2	0.2	2.3	1.8	1.7	4-1/4	0.3	2.4	1.4	0.5	0.4	1.4	FA03
	150	2.7	0.9	0.4	0.4	0.2	0.2	2.5	2.0	1.7	4-1/4	0.3	2.7	1.6	0.5	0.4	1.7	FA04
1"	300	2.7	0.9	0.4	0.4	0.2	0.2	2.5	2.0	1.7	4-1/4	0.3	2.7	1.6	0.5	0.5	1.7	FA04
[DN 25]	600	2.7	0.9	0.4	0.5	0.2	0.2	2.5	2.0	1.7	4-1/4	0.3	2.7	1.6	0.5	0.5	1.7	FA04
	150	4.1	1.5	0.4	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
1-1/2"	300	4.1	1.5	0.4	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
[DN 40]	600	4.1	1.5	0.5	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
	150	8.1	1.5	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
2"	300	5.0	1.5	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
[DN 50]	600	4.9	1.5	0.5	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
	150	5.6	1.6	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.5	3.3	2.8	0.8	0.6	2.8	FA07
2-1/2" [DN 65]	300	5.3	1.6	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.5	3.3	2.8	0.8	0.6	2.8	FA07
[514 05]	600	6.1	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
	150	6.6	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
3" [DN 80]	300	6.6	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
	600	6.8	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
411	150	7.4	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
4" [DN 100]	300	7.4	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
	600	9.0	3.0	0.6	1.6	0.7	1.2	5.2	3.9	3.1	4-1/2	1.2	5.2	4.5	1.6	0.9	4.9	FA12
6"	150	10.5	3.0	0.7	1.7	0.7	1.2	5.2	3.9	3.1	4-1/2	1.2	5.2	4.5	1.6	0.9	4.9	FA12
[DN 150]	300	10.5	3.0	0.6	1.9	0.7	1.2	5.2	3.9	3.1	4-1/2	1.2	5.2	4.5	1.6	0.9	4.9	FA12
8"	150	12.6	3.1	0.7	1.7	0.9	1.2	5.9	4.4	3.3	4-5/8	1.4	5.7	5.3	2.0	0.9	5.5	FA14
8" [DN 200]	150 300	12.6 12.6	3.1	0.7	1.9	0.9	1.2	5.9	4.4	3.3	4-5/8	1.4	5.7 5.7	5.3 5.3	2.0	0.9	5.5 5.5	FA14 FA14
					1.9	0.9	1.2	5.9	4.4	3.3		1.4						FA14
					1.9	0.9	1.2	5.9	4.4	3.3	4-5/8	1.4						
[DN 200]	300	12.6	3.1	0.7	1.9 TC	0.9 P WO	1.2 RKS D	5.9	4.4 ION F	3.3 OR MC	4-5/8 DEL B	1.4 - MM	5.7	5.3	2.0	0.9	5.5	FA14 MSS SP-101
[DN 200]	300 CLASS	12.6	3.1 B	0.7	1.9 TC	0.9 P WO	1.2 RKS D	5.9 IMENS	4.4 GD GD	3.3 OR MC	4-5/8 DEL B P-UNC	1.4 - MM KW	5.7 <b>GL</b>	5.3 LM	2.0 ØSD	0.9 ØGH	5.5 ØD1	FA14  MSS SP-101 TYPE
[DN 200] Size	300 CLASS 150 300 600	12.6 A 58.0 59.5 59.5	3.1 <b>B</b> 21.0 21.5 21.5	0.7 <b>C</b> 8.0 8.0 9.0	1.9 TC D 11.1 11.1 11.1	0.9 P WO  E  6.0  6.0  6.0	1.2 RKS D  F  5.9  5.9  5.9	5.9  IMENS  WM  55.0  58.0  58.0	4.4 GD 46.5 46.5 46.5	3.3 OR MC GW 42.0 42.0 42.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4	1.4 - MM KW 8.0 8.0 8.0	5.7 <b>GL</b> 60.0 60.0 60.0	5.3 <b>LM</b> 42.0 36.0 36.0	2.0 ØSD 12 12 12	0.9 ØGH 10.0 10.0	5.5 ØD1 42 36 36	FA14  MSS SP-101 TYPE  FA04 FA03 FA03
[DN 200]  Size  1/2" [DN 15]	300 CLASS 150 300 600 150	12.6  A  58.0  59.5  59.5  60.0	3.1 <b>B</b> 21.0 21.5 21.5 22.0	0.7 <b>c</b> 8.0 8.0 9.0 8.0	1.9  TC  D  11.1  11.1  11.1  11.9	0.9 P WO  E  6.0  6.0  6.0  6.0	1.2  RKS D  F  5.9  5.9  5.9  5.9	5.9  WM  55.0  58.0  58.0  58.0	4.4 GION FO GD 46.5 46.5 46.5 46.5	3.3 OR MC GW 42.0 42.0 42.0 42.0	4-5/8 P-UNC 4-1/4 4-1/4 4-1/4 4-1/4	1.4 - MM KW 8.0 8.0 8.0	<b>GL</b> 60.0 60.0 60.0 60.0	5.3 <b>LM</b> 42.0 36.0 36.0 36.0	2.0 ØSD 12 12 12 12	0.9 ØGH 10.0 10.0 10.0	5.5 ØD1 42 36 36 36	FA14  MSS SP-101 TYPE FA04 FA03 FA03 FA03
[DN 200] Size	300  CLASS  150 300 600 150 300	12.6  A  58.0  59.5  59.5  60.0  59.3	3.1 <b>B</b> 21.0 21.5 21.5 22.0 21.5	0.7 <b>C</b> 8.0 8.0 9.0 8.0	1.9 TC D 11.1 11.1 11.1 11.9 11.1	0.9 <b>P WO E</b> 6.0  6.0  6.0  6.0	1.2 RKS D  F  5.9  5.9  5.9  5.9  5.9	5.9 WM 55.0 58.0 58.0 58.0	4.4  GD  46.5  46.5  46.5  46.5  46.5	3.3 OR MC GW 42.0 42.0 42.0 42.0 42.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4	1.4 - MM KW 8.0 8.0 8.0 8.0	60.0 60.0 60.0 60.0 60.0	5.3 LM 42.0 36.0 36.0 36.0 36.0	2.0 ØSD 12 12 12 12 12	0.9 ØGH 10.0 10.0 10.0 10.0	5.5 ØD1 42 36 36 36 36	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03
[DN 200]  Size  1/2" [DN 15]	300  CLASS  150 300 600 150 300 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5	0.7 <b>C</b> 8.0 8.0 9.0 8.0 9.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1	0.9 <b>E</b> 6.0 6.0 6.0 6.0 6.0	1.2  RKS D  F  5.9  5.9  5.9  5.9  5.9	5.9  IMENS  WM  55.0  58.0  58.0  58.0  58.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  46.5	3.3 GW 42.0 42.0 42.0 42.0 42.0 42.0	4-5/8 P-UNC 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4	1.4 - MM	60.0 60.0 60.0 60.0 60.0 60.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 36.0	2.0  ØSD  12  12  12  12  12  12	0.9 ØGH 10.0 10.0 10.0 10.0 9.5	5.5 ØD1 42 36 36 36 36 36	FA14  MSS SP-101
[DN 200]  Size  1/2" [DN 15]	300  CLASS  150 300 600 150 300 600 150	12.6  58.0 59.5 59.5 60.0 59.3 59.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5	0.7 <b>C</b> 8.0 8.0 9.0 8.0 9.0 9.0	1.9 TC D 11.1 11.1 11.1 11.9 11.1 11.1 11.1	0.9 <b>E</b> 6.0 6.0 6.0 6.0 6.0 6.0	1.2  RKS D  F  5.9  5.9  5.9  5.9  5.9  5.9  5.9	5.9  WM  55.0  58.0  58.0  58.0  58.0  64.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 46.5	3.3 GW 42.0 42.0 42.0 42.0 42.0 42.0 42.0	4-5/8 P-UNC 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4	1.4 - MM KW 8.0 8.0 8.0 8.0 8.0 8.0	60.0 60.0 60.0 60.0 60.0 60.0 60.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 40.0	2.0  ØSD  12  12  12  12  12  12  12	0.9  ØGH  10.0  10.0  10.0  10.0  10.0  12.0	5.5 ØD1 42 36 36 36 36 36 42	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA03 FA03 FA04
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]	300  CLASS  150 300 600 150 300 600 150 300 600	12.6 58.0 59.5 59.5 60.0 59.3 59.5 69.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5	0.7 <b>C</b> 8.0 8.0 9.0 8.0 9.0 9.0 9.0	1.9 TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1	0.9 <b>E</b> 6.0 6.0 6.0 6.0 6.0 6.0	1.2  RKS D  F  5.9  5.9  5.9  5.9  5.9  5.9  5.9	5.9  WM  55.0  58.0  58.0  58.0  58.0  64.0  64.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 46.5 50.0	3.3 GW 42.0 42.0 42.0 42.0 42.0 42.0 42.0 43.0	4-5/8 P-UNC 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4	1.4 - MM KW 8.0 8.0 8.0 8.0 8.0 8.0 8.0	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 40.0	2.0  ØSD  12  12  12  12  12  12  12  12	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0	5.5 ØD1 42 36 36 36 36 42 42	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]	300  CLASS  150 300 600 150 300 600 150 300 600 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5	0.7 <b>C</b> 8.0 8.0 9.0 8.0 9.0 9.0 9.0 9.0	1.9 TC D 11.1 11.1 11.1 11.9 11.1 11.1 11.1 11	0.9 P WO  E 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	1.2  RKS D  F  5.9  5.9  5.9  5.9  5.9  5.9  5.9	5.9 WM 55.0 58.0 58.0 58.0 58.0 64.0 64.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  50.0  46.5	3.3 OR MC GW 42.0 42.0 42.0 42.0 42.0 42.0 43.0 43.0	4-5/8 P-UNC 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4	1.4 - MM KW 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 40.0 40.0	2.0  ØSD  12  12  12  12  12  12  12  12  12  1	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0	5.5 ØD1 42 36 36 36 36 42 42 42	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA04
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600	12.6 A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 39.0	0.7 <b>C</b> 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  12.1  13.1	0.9 WO  E 6.0 6.0 6.0 6.0 6.0 6.0 6.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3	5.9 WM 55.0 58.0 58.0 58.0 64.0 64.0 64.0 86.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0	3.3 OR MC GW 42.0 42.0 42.0 42.0 42.0 42.0 43.0 43.0 43.0 44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16	1.4 - MM KW 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 68.0 85.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 40.0 40.0 40.0 70.0	2.0  ØSD  12  12  12  12  12  12  12  12  12  1	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5	5.5  ØD1  42  36  36  36  36  42  42  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA04 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]	300  CLASS  150 300 600 150 300 600 150 300 600 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5	0.7 <b>C</b> 8.0 8.0 9.0 8.0 9.0 9.0 9.0 9.0	1.9 TC D 11.1 11.1 11.1 11.9 11.1 11.1 11.1 11	0.9 P WO  E 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	1.2  RKS D  F  5.9  5.9  5.9  5.9  5.9  5.9  5.9	5.9 WM 55.0 58.0 58.0 58.0 58.0 64.0 64.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  50.0  46.5	3.3 OR MC GW 42.0 42.0 42.0 42.0 42.0 42.0 43.0 43.0	4-5/8 P-UNC 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4 4-1/4	1.4 - MM KW 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 40.0 40.0	2.0  ØSD  12  12  12  12  12  12  12  12  12  1	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0	5.5 ØD1 42 36 36 36 36 42 42 42	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA04
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300	12.6 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 23.5 39.0 39.0	0.7 <b>C</b> 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5	1.9 TC  D 11.1 11.1 11.1 11.1 11.1 11.1 11.1	0.9 WO  E 6.0 6.0 6.0 6.0 6.0 6.0 6.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3	5.9 WM 55.0 58.0 58.0 58.0 64.0 64.0 64.0 86.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0	3.3 OR MC 42.0 42.0 42.0 42.0 42.0 42.0 43.0 43.0 44.0 44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16	1.4 - MM 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 68.0 85.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 40.0 40.0 40.0 70.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  70  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 600 600	12.6  58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5	3.1 B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 23.5 39.0 39.0	0.7 <b>C</b> 8.0 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5 12.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  120.4  19.9	0.9 P WO  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F  5.9  5.9  5.9  5.9  5.9  5.9  5.9	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  64.0  86.0  86.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0	3.3 GW 42.0 42.0 42.0 42.0 42.0 43.0 43.0 44.0 44.0 44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16	1.4 - MM	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 68.0 85.0 85.0	5.3 LM 42.0 36.0 36.0 36.0 40.0 40.0 70.0 70.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8	0.9  OGH  10.0  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  70  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 206.0	3.1  B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 39.0 37.0 38.0	0.7  8.0  8.0  9.0  8.0  9.0  9.0  9.0  10.5  12.0  9.5	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  120.4  19.9  21.8	0.9 P WO  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F  5.9  5.9  5.9  5.9  5.9  5.9  5.9	5.9 WM 55.0 58.0 58.0 58.0 64.0 64.0 64.0 86.0 86.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16	1.4 - MM	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 68.0 85.0 85.0	5.3 LM 42.0 36.0 36.0 36.0 36.0 40.0 40.0 70.0 70.0 70.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8	0.9  ØGH  10.0  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  70  70  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 206.0 127.0	3.1  B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 39.0 39.0 37.0 38.0 38.0	0.7  C 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5 12.0 9.5 11.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  120.4  20.4  19.9  21.8  22.2	0.9 WO  E  6.0  6.0  6.0  6.0  6.0  6.0  10.0  10.0  10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3	5.9 WM 55.0 58.0 58.0 58.0 64.0 64.0 64.0 86.0 86.0 86.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16	1.4 - MM	5.7  GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0	5.3  LM  42.0  36.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0	2.0  ØSD  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  70  70  70  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 206.0 127.0	3.1  B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 39.0 39.0 37.0 38.0 38.0 38.5	0.7  C 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5 10.5 12.0 9.5 11.0 13.5	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3	0.9 WO  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3	5.9 WM 55.0 58.0 58.0 58.0 64.0 64.0 64.0 86.0 86.0 86.0 86.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0 61.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16	1.4 - MM - KW - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0	5.7 GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0	5.3  LM  42.0  36.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0	2.0  ØSD  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  40  70  70  70  70  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 206.0 127.0 124.5 143.5	3.1  B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 39.0 39.0 37.0 38.0 38.0 38.5 41.0	0.7  C 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5 12.0 9.5 11.0 13.5	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  120.4  20.4  19.9  21.8  22.2  22.3  23.2	0.9 WO  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3	5.9 WM 55.0 58.0 58.0 58.0 64.0 64.0 64.0 86.0 86.0 86.0 86.0 86.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0 61.0 61.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16	1.4 - MM	5.7  GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 68.0	5.3  LM  42.0  36.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  70.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  19.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  70  70  70  70  70  70  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 206.0 127.0 124.5 143.5 135.5	3.1  B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 39.0 39.0 37.0 38.0 38.0 38.5 41.0 41.0	0.7  C 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5 11.0 13.5 10.5 10.5	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4	0.9 WO  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 16.3	5.9 WM 55.0 58.0 58.0 58.0 64.0 64.0 64.0 86.0 86.0 86.0 86.0 86.0 86.0	4.4 GION FO GD 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0 61.0 61.0 61.0 61.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  44.0  44.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16	1.4 - MM	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0 85.0 85.0	5.3  LM  42.0  36.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  70.0  70.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  19.8  19.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  70  70  70  70  70  70  70  70	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 127.0 124.5 143.5 135.5	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 23.5 39.0 38.0 38.0 38.0 41.0 41.0 53.0	0.7  C 8.0 9.0 8.0 9.0 9.0 9.0 10.5 11.0 13.5 10.5 12.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1	0.9 NO	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 16.3 17.7	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  86.0  86.0  86.0  86.0  86.0  86.0  102.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  50.0  61.0  61.0  61.0  61.0  61.0  61.0  74.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  44.0  56.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16	1.4 - MM  KW  8.0  8.0  8.0  8.0  8.0  8.0  14.0  14.0  14.0  14.0  14.0  13.9  20.0	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0 85.0 85.0 100.0	5.3  LM  42.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  70.0  95.0	2.0  ØSD  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  19.8  29.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  16.5  16.5	5.5  ØD1  42  36  36  36  36  42  42  70  70  70  70  70  70  70  70  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 127.0 124.5 143.5 135.5 168.0	3.1  B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 39.0 38.0 38.0 38.0 41.0 41.0 53.0	0.7  C 8.0 8.0 9.0 8.0 9.0 9.0 9.0 10.5 12.0 9.5 11.0 13.5 10.5 12.0 12.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1  27.1	0.9 NO	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 16.3 17.7	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  86.0  86.0  86.0  86.0  86.0  102.0	4.4 GION F GD 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0 61.0 61.0 61.0 74.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  44.0  56.0  56.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16	1.4 - MM  KW  8.0  8.0  8.0  8.0  8.0  8.0  14.0  14.0  14.0  14.0  13.9  20.0  20.0	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 68.0 85.0 85.0 85.0 85.0 85.0 100.0	5.3  LM  42.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  95.0  95.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  19.8  29.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  16.5  19.0  19.0	5.5  ØD1  42  36  36  36  36  42  42  42  70  70  70  70  70  70  70  102  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]  3" [DN 80]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 127.0 124.5 143.5 135.5 168.0 168.0	3.1 B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 23.5 39.0 39.0 38.0 38.0 38.5 41.0 41.0 53.0 53.0	0.7  C 8.0 8.0 9.0 8.0 9.0 9.0 9.0 10.5 12.0 9.5 11.0 13.5 10.5 12.0 12.0 12.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1  27.1	0.9 NO	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 16.3 17.7 17.7	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  64.0  86.0  86.0  86.0  86.0  86.0  102.0  102.0	4.4 GION F GD 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0 61.0 61.0 61.0 74.0 74.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  44.0  56.0  56.0  56.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/18  4-3/8  4-3/8	1.4 - MM  KW  8.0  8.0  8.0  8.0  8.0  8.0  14.0  14.0  14.0  14.0  13.9  20.0  20.0	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 68.0 85.0 85.0 85.0 85.0 100.0 100.0	5.3  LM  42.0  36.0  36.0  36.0  40.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  95.0  95.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  29.8  29.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  19.0  19.0	5.5  ØD1  42  36  36  36  36  42  42  70  70  70  70  70  70  70  102  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 127.0 124.5 143.5 135.5 168.0 168.0 173.0	3.1  B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 39.0 38.0 38.0 38.0 41.0 41.0 53.0 53.0	0.7  C 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5 11.0 13.5 10.5 12.0 12.0 12.0 12.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  120.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1  27.1  27.1	0.9 P WO  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0 1	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 17.7 17.7	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  64.0  86.0  86.0  86.0  86.0  102.0  102.0  102.0  102.0  102.0	4.4 GD 46.5 46.5 46.5 46.5 46.5 50.0 50.0 61.0 61.0 61.0 61.0 61.0 74.0 74.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  44.0  56.0  56.0  56.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/16  4-5/18  4-3/8  4-3/8  4-3/8  4-3/8  4-3/8	1.4 - MM - KW - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 13.9 - 20.0 - 20.0 - 20.0 - 20.0 - 20.0 - 20.0	5.7  GL 60.0 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0 100.0 100.0	5.3  LM  42.0  36.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  95.0  95.0  95.0  95.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  29.8  29.8  29.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  12.0  16.5  16.5  16.5  16.5  19.0  19.0  19.0  19.0	5.5  ØD1  42  36  36  36  36  42  42  42  70  70  70  70  70  70  102  102  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]  3" [DN 80]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 143.5 135.5 155.5 168.0 168.0 173.0 188.0 129.0	3.1  B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 39.0 39.0 37.0 38.0 38.0 41.0 41.0 53.0 53.0 53.0 53.0 75.5	0.7  C 8.0 8.0 9.0 8.0 9.0 9.0 9.0 9.0 10.5 10.5 12.0 13.5 10.5 12.0 12.0 12.0 12.0 12.0 12.0 12.0 16.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1  27.1  27.1  29.1  41.1	0.9  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 17.7 17.7 17.7 17.7 17.7 17.7 17.7	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  64.0  86.0  86.0  86.0  86.0  102.0  102.0  102.0  102.0  102.0  133.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  50.0  50.0  61.0  61.0  61.0  61.0  74.0  74.0  74.0  74.0  74.0  100.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  56.0  56.0  56.0  56.0  78.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16	1.4 - MM - KW - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 12.0 - 20.0 - 20.0 - 20.0 - 20.0 - 30.0	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0 100.0 100.0 100.0 100.0 132.0	5.3  LM  42.0  36.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  95.0  95.0  95.0  91.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  29.8  29.8  29.8  29.8  29.8  39.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  19.0  19.0  19.0  19.0  19.0  24.0	5.5  ØD1  42  36  36  36  36  36  42  42  42  70  70  70  70  70  70  102  102  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]  3" [DN 80]  4" [DN 100]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 127.0 124.5 143.5 155.5 168.0 168.0 173.0 188.0 188.0 229.0 267.0	3.1  B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 39.0 39.0 37.0 38.0 38.0 38.0 53.0 53.0 53.0 53.0 53.0 53.0 53.0 53	0.7  C 8.0 8.0 9.0 8.0 9.0 9.0 9.0 10.5 12.0 9.5 11.0 13.5 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1  27.1  27.1  27.1  27.1  29.1  41.1  43.1	0.9  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 17.7 17.7 17.7 17.7 17.7 17.7 29.5	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  86.0  86.0  86.0  86.0  102.0  102.0  102.0  102.0  133.0  133.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  50.0  61.0  61.0  61.0  61.0  74.0  74.0  74.0  74.0  100.0  100.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  56.0  56.0  56.0  56.0  78.0  78.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16	1.4 - MM - KW - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 12.0 - 20.0 - 20.0 - 20.0 - 20.0 - 30.0 - 30.0	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0 100.0 100.0 100.0 100.0 132.0	5.3  LM  42.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  95.0  95.0  95.0  95.0  114.0  114.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  29.8  29.8  29.8  29.8  39.8  39.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  19.0  19.0  19.0  19.0  24.0  24.0	5.5  ØD1  42  36  36  36  36  36  42  42  70  70  70  70  70  70  102  102  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]  3" [DN 80]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 127.0 124.5 143.5 155.5 168.0 168.0 173.0 188.0 188.0 229.0 267.0 266.5	3.1  B 21.0 21.5 21.5 22.0 21.5 21.5 23.5 23.5 23.5 39.0 38.0 38.0 38.0 41.0 41.0 53.0 53.0 53.0 53.0 53.0 75.5 75.0	0.7  C 8.0 8.0 9.0 8.0 9.0 9.0 9.0 10.5 11.0 13.5 10.5 12.0 12.0 12.0 12.0 12.0 12.0 12.0 16.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1  27.1  27.1  27.1  29.1  29.1  41.1  43.1  49.1	0.9  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 17.7 17.7 17.7 17.7 17.7 29.5 29.5	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  64.0  86.0  86.0  86.0  86.0  102.0  102.0  102.0  102.0  102.0  133.0  133.0  133.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  50.0  61.0  61.0  61.0  61.0  74.0  74.0  74.0  74.0  100.0  100.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  56.0  56.0  56.0  56.0  78.0  78.0  78.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16	1.4 - MM - KW - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 13.9 - 20.0 - 20.0 - 20.0 - 20.0 - 20.0 - 30.0 - 30.0 - 30.0	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0 100.0 100.0 100.0 100.0 132.0 132.0	5.3  LM  42.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  95.0  95.0  95.0  95.0  114.0  114.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  29.8  29.8  29.8  29.8  39.8  39.8  39.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  19.0  19.0  19.0  19.0  24.0  24.0  24.0	5.5  ØD1  42  36  36  36  36  36  42  42  70  70  70  70  70  70  102  102  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07
[DN 200]  Size  1/2" [DN 15]  3/4" [DN 20]  1" [DN 25]  1-1/2" [DN 40]  2" [DN 50]  2-1/2" [DN 65]  3" [DN 80]  4" [DN 100]	300  CLASS  150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150 300 600 150	12.6  A 58.0 59.5 59.5 60.0 59.3 59.5 69.5 69.5 103.5 103.5 103.5 127.0 124.5 143.5 155.5 168.0 168.0 173.0 188.0 188.0 229.0 267.0	3.1  B 21.0 21.5 21.5 22.0 21.5 23.5 23.5 23.5 39.0 39.0 37.0 38.0 38.0 38.0 53.0 53.0 53.0 53.0 53.0 53.0 53.0 53	0.7  C 8.0 8.0 9.0 8.0 9.0 9.0 9.0 10.5 12.0 9.5 11.0 13.5 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0	1.9  TC  D  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  11.1  20.4  20.4  19.9  21.8  22.2  22.3  23.2  22.4  27.1  27.1  27.1  27.1  27.1  29.1  41.1  43.1	0.9  E 6.0 6.0 6.0 6.0 6.0 6.0 10.0 10.0 10.0	1.2  RKS D  F 5.9 5.9 5.9 5.9 5.9 5.9 5.9 14.3 14.3 16.3 16.3 16.3 17.7 17.7 17.7 17.7 17.7 17.7 29.5	5.9  WM  55.0  58.0  58.0  58.0  64.0  64.0  86.0  86.0  86.0  86.0  102.0  102.0  102.0  102.0  133.0  133.0	4.4  GD  46.5  46.5  46.5  46.5  46.5  50.0  61.0  61.0  61.0  61.0  74.0  74.0  74.0  74.0  100.0  100.0	3.3  OR MC  GW  42.0  42.0  42.0  42.0  42.0  43.0  43.0  44.0  44.0  44.0  44.0  56.0  56.0  56.0  56.0  78.0  78.0	4-5/8  P-UNC  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-1/4  4-5/16	1.4 - MM - KW - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 14.0 - 12.0 - 20.0 - 20.0 - 20.0 - 20.0 - 30.0 - 30.0	5.7  GL 60.0 60.0 60.0 60.0 68.0 68.0 85.0 85.0 85.0 85.0 100.0 100.0 100.0 100.0 132.0	5.3  LM  42.0  36.0  36.0  36.0  40.0  40.0  70.0  70.0  70.0  70.0  70.0  95.0  95.0  95.0  95.0  114.0  114.0	2.0  ØSD  12  12  12  12  12  12  12  12  19.8  19.8  19.8  19.8  19.8  29.8  29.8  29.8  29.8  39.8  39.8	0.9  ØGH  10.0  10.0  10.0  10.0  12.0  12.0  12.0  16.5  16.5  16.5  16.5  16.5  19.0  19.0  19.0  19.0  24.0  24.0	5.5  ØD1  42  36  36  36  36  36  42  42  70  70  70  70  70  70  102  102  102	FA14  MSS SP-101 TYPE  FA04 FA03 FA03 FA03 FA03 FA04 FA04 FA04 FA07 FA07 FA07 FA07 FA07 FA07 FA07 FA07

# **TOP WORKS DIMENSION - MODEL C**

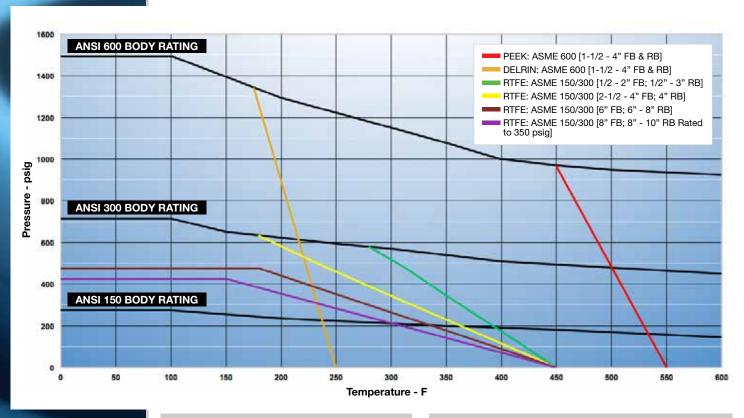


					ТО	P WOF	RKS DI	MENS	ON FC	R MO	DEL C -	INCH						
Size	CLASS	Α	В	С	D	E	F	WM	GD	GW	P-UNC	KW	GL	LM	ØSD	ØGН	ØD1	MSS SP-101 TYPE
	150	4.1	1.5	0.4	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
2" x 1.5" [DN 50 x DN 40]	300	4.1	1.5	0.4	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
	600	4.1	1.5	0.5	0.8	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
	150	4.8	1.5	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
3" x 2" [DN 80 x DN 50]	300	5.0	1.5	0.4	0.9	0.4	0.6	3.4	2.4	1.7	4-5/16	0.6	3.3	2.8	0.8	0.6	2.8	FA07
	600	4.9	1.5	0.6	0.9	0.4	0.6	3.7	2.4	1.7	4-5/16	0.6	3.3	3.0	0.8	0.6	2.8	FA07
	150	6.6	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
4" x 3" [DN 100 x DN 80]	300	6.6	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
	600	6.8	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
011 411	150	7.4	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
6" x 4" [DN 150 x DN 100]	300	7.4	2.1	0.5	1.1	0.6	0.7	4.0	2.9	2.2	4-3/8	0.8	3.9	3.7	1.2	0.7	4.0	FA10
	600	9.0	3.0	0.6	1.6	0.7	1.2	5.2	3.9	3.1	4-1/2	1.2	5.2	4.5	1.6	0.9	4.9	FA12
8" x 6"	150	10.3	3.0	0.6	1.6	0.7	1.2	5.2	3.9	3.1	4-1/2	1.2	5.2	4.5	1.6	0.9	4.9	FA12
[DN 200 x DN 150]	300	10.3	3.0	0.6	1.7	0.7	1.2	5.2	3.9	3.1	4-1/2	1.2	5.2	4.5	1.6	0.9	4.9	FA12
10" x 8"	150	12.6	3.1	0.7	1.7	0.9	1.2	5.9	4.4	3.3	4-5/8	1.4	5.7	5.3	2.0	0.9	5.5	FA14
[DN 250 x DN 200]	300	12.6	3.1	0.7	1.9	0.9	1.2	5.9	4.4	3.3	4-5/8	1.4	5.7	5.3	2.0	0.9	5.5	FA14
					TC	P WO	RKS D	IMENS	ION F	OR MC	DEL C	- MM						
Size	CLASS	A	В	С	D	E	F	WM	GD	GW	P-UNC	KW	GL	LM	ØSD	ØGН	ØD1	MSS SP-101 TYPE
	150	103.5	39.0	10.5	20.4	10.0	14.3	86.0	61.0	44.0	4-5/16	14.0	85.0	70.0	19.8	16.5	70	FA07
2" x 1.5" [DN 50 x DN 40]	300	103.5	39.0	10.5	20.4	10.0	14.3	86.0	61.0	44.0	4-5/16	14.0	85.0	70.0	19.8	16.5	70	FA07
	600	103.5	37.0	12.0	19.9	10.0	14.3	86.0	61.0	44.0	4-5/16	14.0	85.0	70.0	19.8	16.0	70	FA07
	150	122.0	38.0	9.5	21.8	10.0	16.3	86.0	61.0	44.0	4-5/16	14.0	85.0	70.0	19.8	16.5	70	FA07
3" x 2" [DN 80 x DN 50]	300	128.0	39.0	11.0	22.8	10.0	16.3	86.0	61.0	44.0	4-5/16	14.0	85.0	70.0	19.8	16.5	70	FA07
	600	124.5	38.5	16.0	22.3	10.0	16.3	94.0	61.0	44.0	4-5/16	14.0	85.0	76.0	19.8	16.0	70	FA07
	150	168.0	53.0	12.0	27.1	14.0	17.7	102.0	74.0	56.0	4-3/8	20.0	100.0	95.0	29.8	19.0	102	FA10
4" x 3" [DN 100 x DN 80]	300	168.0	53.0	12.0	27.1	14.0	17.7	102.0	74.0	56.0	4-3/8	20.0	100.0	95.0	29.8	19.0	102	FA10
	600	173.0	53.0	12.0	27.1	14.0	17.7	102.0	74.0	56.0	4-3/8	20.0	100.0	95.0	29.8	18.0	102	FA10
	150	188.0	53.0	12.0	27.9	14.0	17.7	102.0	74.0	56.0	4-3/8	20.0	100.0	95.0	29.8	19.0	102	FA10
6" x 4"	300	188.0	53.0	12.0	27.9	14.0	17.7	102.0	74.0	56.0	4-3/8	20.0	100.0	95.0	29.8	19.0	102	FA10
[DN 150 x DN 100]	300											00.0	132.0	4440				
[DN 150 x DN 100]	600	229.0	75.5	16.0	41.1	18.0	29.5	133.0	100.0	78.0	4-1/2	30.0	132.0	114.0	39.8	24.0	125	FA12
[DN 150 x DN 100] 8" x 6"		229.0 262.0	75.5 75.5	16.0 16.0	41.1 41.1	18.0 18.0	29.5 29.5	133.0 133.0	100.0	78.0 78.0	4-1/2 4-1/2	30.0	132.0	114.0	39.8	24.0	125 125	FA12 FA12
	600																	
8" x 6"	600 150	262.0	75.5	16.0	41.1	18.0	29.5	133.0	100.0	78.0	4-1/2	30.0	132.0	114.0	39.8	24.0	125	FA12

# **TECHNICAL CHARACTERISTICS**

### PRESSURE / TEMPERATURE CHART

The following chart indicates the pressure and temperature ratings for commonly used seat material used in ASME 150# – 600# GWC floating ball valves. Other materials are available upon request.



### **TORQUE VALUES [INCH-LBS]**

		ANSI Class#	
BORE Size	150	300	600
(In.)		Pressure (PSI)	
	285 PSI	740 PSI	1480 PSI
1/2" FP	48	60	204
3/4" FP	60	84	324
1" FP	132	240	540
1-1/2" FP 2" RP	180	264	1140
2" FP 3" RP	240	492	1505
2-1/2" FP	372	852	-
3" FP 4" RP	624	1500	3144
4" FP 6" RP	1332	2916	6912
6" FP 8" RP	4944	11064	-
8" FP 10" RP	9996	25092	-

<sup>\*</sup> No Safety factor added in the above torque. GWC recommends Min. 25% (or) more to be considered based on application.

### **FLANGED FLOATING VALVE Cv VALUES**

Cv is a number measured in gallons/minute, which is calculated from the flow of water through the valve with a 1 psi pressure drop across the valve length.

CIZE (Im.)		ANSI Class#	
SIZE (In.)	150	300	600
1/2" FP	20	20	20
3/4" FP	50	50	50
1" FP	95	95	95
1-1/2" FP 2" RP	240 133	240 133	240 133
2" FP 3" RP	460 245	460 245	460 245
2-1/2" FP	720	720	-
3" FP 4" RP	1150 590	1150 590	1150 590
4" FP 6" RP	2125 850	2125 850	2125 850
6" FP 8" RP	5450 2200	5450 2200	-
8" FP 10" RP	10225 3900	10225 3900	-





### WORLDWIDE HEADQUARTERS GWC Italia S.p.A.

Via A. Grandi, 5 20056 Trezzo Sull'Adda Milano, Italy

Phone: +39 02 86882941 Fax: +39 02 86882942

# USA HEADQUARTERS

GWC Italia

8502 Crippen Street Bakersfield, CA 93311 **Phone:** +1 661 834 1775 **Fax:** +1 661 834 2072