

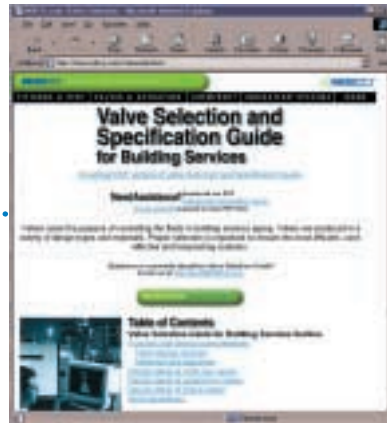
NIBCO®

AHEAD OF THE FLOW™



Fire Protection Valves

NIBCO flow-control solutions are everywhere you look, including on our website. We offer a wide range of metal and plastic valves and fittings that keep residential, commercial and industrial operations flowing smoothly throughout the world.



The "Valve Selection & Specification Guide" includes valuable information to assist in product selection.

★ *Major features include:*

- Design characteristic of each valve type
- Recommended applications & requirements
- Manufacturers cross-reference section
- Drill-down capabilities to recommended options
- E-mail access to technical support



The "New Products" page is a continuously updated showcase for new products by NIBCO.

★ *Current highlights include:*

- Commercial & light-industrial bronze ball valves
- TruConnect® fittings for Chem-Aire®
- Just Right® hot-water circulation device
- PEXlink® copper fittings for PEX applications
- Turf Bubbler Wick Irrigation® system for residential and commercial landscaping



The "Valves & Actuation" homepage at www.nibco.com provides easy access to valuable reference tools.

★ *Key information includes:*

- Price sheets (PDF & Excel format) —also accessible from home page
- Downloadable catalogs (PDF format)
- On-line product listings with spec. sheets
- Valve Selection & Spec. Guide
- Technical library



Real-Time Information

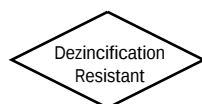


Exclusive, secure web applications that allow quick access to customer specific information—and even on-line order processing.

Real-Time information accessible anytime, anywhere

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De-alloying corrosion, known as "Dezincification," was effectively eradicated from valve products in the 1950s. Today, however, this problem has returned with the increased use of high-zinc alloys (commonly referred to as 'Yellow Brass') in forged and cast valves typically produced outside the United States.

Dezincification selectively removes zinc from the alloy, leaving behind a porous, copper-rich structure that has little mechanical strength. The physical attributes of an in-service valve with Dezincification includes a white powdery substance or mineral stains on its exterior surface.

What's the cure? On all bronze valves the metal components in the waterway must not contain more than 15% zinc in their chemical makeup. As a standard NIBCO bronze fire protection valves are made to be "Dezincification Resistant," which is a seal of quality and longevity.

Bronze UL/FM & Trim Valves

Illustrated Index

 Dezincification
Resistant

	UL/ULC Listed • FMRC Approved Bronze Gate Valve Outside screw and yoke 175 lb. WWP  T-104-O Sizes ½" thru 2" Threaded ends Page 5	UL Listed • FMRC Approved Bronze Ball Valve with weather-proof indicating gear operator 300 lb. WWP  KG-505-W-8 Grooved ends (2" - 2½") KT-505-W-8 Threaded ends (1" - 2½") Page 6	UL Listed • FMRC Approved Bronze Hose Gate Valve with cap and chain 175 lb. WWP  T-103-HC Size 2½" Threaded ends Page 7
	UL Listed • FMRC Approved Bronze Angle Valve with cap and chain 300 lb. WWP  T-331-HC Size 2½" Threaded ends Page 8	UL Listed Bronze Globe Valve Rubber Disc 175 lb. WWP  KT-65-UL Sizes ¼" thru 1" Threaded ends Page 9	UL Listed Bronze Globe Valve Rubber Disc 175 lb. WWP  KT-211-W-UL Sizes ¼" thru 3" Threaded ends Page 10
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Bronze Check Valve Spring Actuated Inline Lift Rubber Buna-N Disc 250 lb. WWP  T-480 Sizes ½" thru 2" Threaded ends Page 15	Bronze Ball Valve Standard Port TFE Seats 400 lb. WWP  T-580 Sizes ½" thru 2" Threaded ends Page 16	Bronze Ball Valve Full Port TFE Seats 600 lb. WWP  T-585-70 Sizes ¼" thru 2" Threaded ends Page 17	UL Listed • FMRC Approved Bronze Ball Valve TFE Seats 175 lb. WWP  KT-580-70-UL KT-585-70-UL Sizes ¼" thru 3" Threaded ends Page 18

175 lb. WWP Bronze Gate Valves

Fire Protection Valve • Block Pattern • Screw-over Bonnet •
Outside Screw and Yoke • Solid Wedge

175 PSI/12.1 Bar Non-Shock Cold Water
(400 PSI Non-Shock CWP General Service)

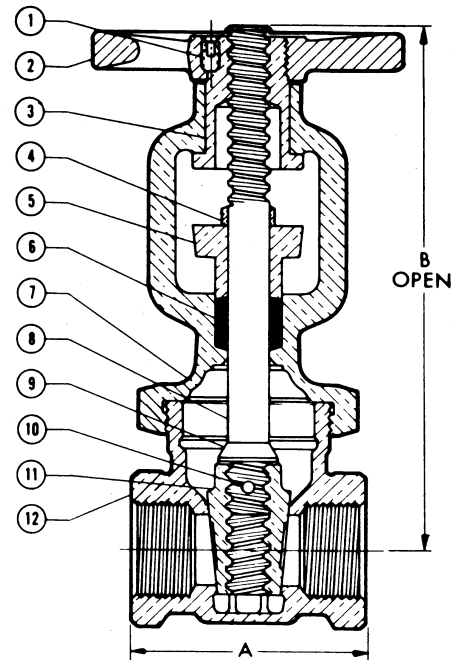
UL/ULC LISTED • FMRC APPROVED •
APPROVED BY THE NEW YORK CITY B.S.A. 143-69-SA

MATERIAL LIST

PART	SPECIFICATION
1. Set Screw	Steel ASTM A 307
2. Handwheel	Malleable Iron
3. Yoke Bushing	Bronze ASTM B 62
4. Gland Bolts	Steel ASTM A 307 Zinc Plated
5. Packing Gland	Bronze ASTM B 62
6. Packing	Non Asbestos
7. Bonnet	Bronze ASTM B 62
8. Stem	Silicon Bronze ASTM B 371 Alloy C69400
9. Stem Collar	Silicon Bronze ASTM B 371 Alloy C69400
10. Wedge Pin	Bronze ASTM B 140 Alloy C31400
11. Wedge	Bronze ASTM B 62
12. Body	Bronze ASTM B 62



T-104-O
Threaded



T-104-O
NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions				Handwheel Diameter		Weight		Box Qty.	Master Ctn. Qty.
		A		B							
In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
½	15	2.19	59	5.88	149	3.25	88	2.28	1.04	1	20
¾	20	2.44	62	6.44	164	3.25	88	2.83	1.29	1	20
1	25	2.88	73	7.44	189	3.25	88	3.67	1.67	1	10
1¼	32	3.13	79	8.69	221	4.00	100	5.83	2.65	1	10
1½	40	3.38	84	9.38	238	4.00	100	6.84	3.11	1	10
2	50	3.88	98	11.38	289	4.63	117	11.31	5.14	1	6



300 lb. WWP Bronze Ball Valves

Fire Protection Valve • Threaded or Grooved Body Style • Full Port Design 1" - 2" •
Standard Port Design 2½" • Accepts Internal Supervisory Switches*

300 PSI/20.7 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-110 • FMRC APPROVED •
UL LISTED FOR INDOOR AND OUTDOOR SERVICE •
CALIFORNIA STATE FIRE MARSHAL LISTING NO. 7770-1243:103

MATERIAL LIST

PART	SPECIFICATION
1. Body	Bronze ASTM B 584 Alloy C84400
2. Ball	Bronze ASTM B 584 Alloy C84400
3. Seat Ring	Carbon-filled TFE
4. Thrust Washer	Reinforced TFE
5. Stem	Bronze ASTM B 371 Alloy C69400
6. Stem O-Ring	Nitrile
7. Retaining Washer	Brass
8. Retaining Ring	Steel
9. Ground Wire Screw	Steel
10. 505-8 Act Assy.	Brass
11. Body End	Bronze ASTM B 584 Alloy C84400
12. Mounting Screw	Steel
13. Lock Washer	Steel
14. Handle Pin	Brass
15. Hand Wheel	Steel/plastisol coated (1¼" - 2½") Brass Tee Handle (1")
16. Indicator Flag	Painted Steel
17. Body Gasket	Elastomer
18. Lead Screw O-Ring	Nitrile
19. Thrust Washer	Anti-friction Polymer
20. Cover Gasket	Neoprene
21. Flag Seal O-Ring	Nitrile
22. Tamper-Proof Screw	Stainless Steel
23. Pipe Plug (-4 units)	Stainless Steel (Not shown)

*-4 version has no factory mounted internal supervisory switches.

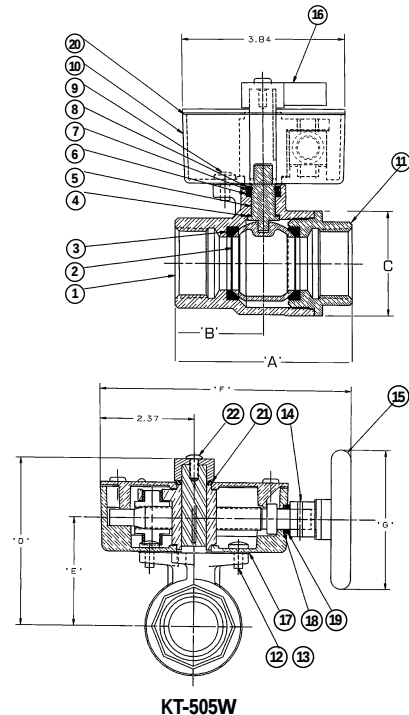
Refer to page 41 for details for TS-2M Switch Kit.

Dezincification
Resistant



KT-505-W-8*
Threaded

KG-505-W-8*
Grooved



KT-505W

DIMENSIONS—WEIGHTS—QUANTITIES

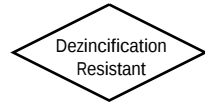
Dimensions																
Size	A		B		C	D	E	F	G	C.V.†	Weight					
	Threaded	Grooved	Threaded	Grooved							Threaded	Grooved	Box	Master	Qty.	Qty.
In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	Lbs.	Kg.	Lbs.	Kg.		
1 25	3.33	85	—	—	1.66	42	—	—	2.11	54	3.81	97	2.31	59	6.14	156
1¼ 32	4.18	106	—	—	2.09	53	—	—	2.46	62	4.21	107	2.72	69	6.33	161
1½ 40	4.70	119	—	—	2.35	60	—	—	2.95	74	4.46	113	2.97	75	6.33	161
2 50	5.15	131	6.71	170	2.57	65	3.36	85	3.69	94	4.67	119	3.18	81	6.33	161
2½ 65	5.65	144	7.28	185	2.92	74	3.64	93	3.75	95	4.67	119	3.18	81	6.33	161

† Note: C.V. is defined as the flow in GPM that a valve will carry with a pressure drop of 1.0 psi when the media is water at 60° F.



175 lb. WWP Bronze Hose Gate Valves

Fire Protection Valve • Screw-in Bonnet • Non-Rising Stem • Solid Wedge



175 PSI/12.1 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-80 •
UL LISTED • FMRC APPROVED

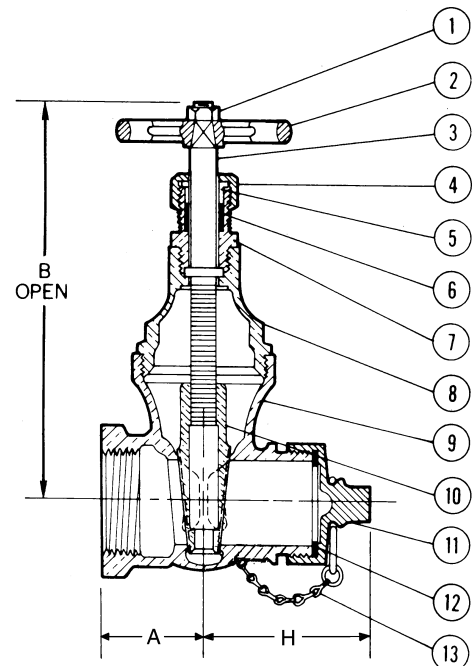
MATERIAL LIST

PART	SPECIFICATION
1. Handwheel Nut	Bronze ASTM B 16
2. Handwheel	Malleable Iron
3. Stem	Silicon Bronze ASTM B 371 Alloy C69400
4. Packing Nut	Bronze ASTM B 62
5. Packing Gland	Bronze ASTM B 16 or ASTM B 62
6. Packing	Non Asbestos
7. Stuffing Box	Bronze ASTM B 62
8. Bonnet	Bronze ASTM B 62
9. Body	Bronze ASTM B 62
10. Wedge	Bronze ASTM B 62
11. Hose Cap	Bronze ASTM B 62
12. Hose Cap Gasket	Rubber
13. Safety Chain	Brass



T-103-HC

Threaded
w/Cap and Chain



T-103-HC

NPT x ANFH (NFA)
Hose 7.5 Threads
Per Inch

DIMENSIONS—WEIGHTS—QUANTITIES

Size	Dimensions						Weight		Box Qty.	Master Ctn. Qty.
	A		B		H		Lbs.	Kg.		
In. mm.	In.	mm.	In.	mm.	In.	mm.				
2½ 65	3.00	80	11.38	288	4.75	121	18.52	8.39	1	2



300 lb. WWP Bronze Hose Angle Valves

Fire Protection Valve • Rising Stem • Renewable Disc • Screw-in Bonnet

 Dezincification
Resistant

300 PSI/20.7 Bar Non-Shock Cold Water

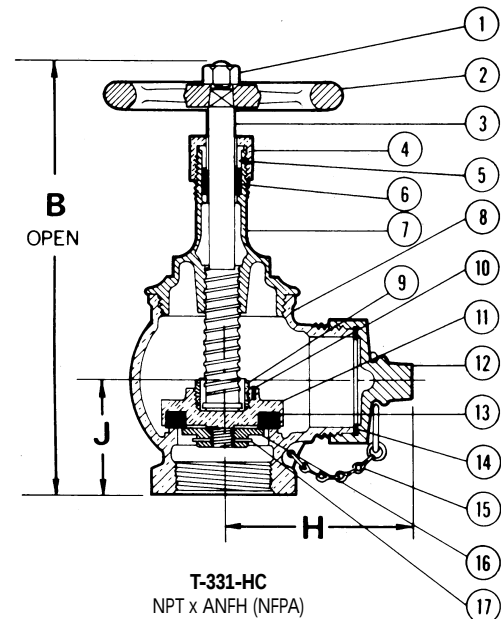
 CONFORMS TO MSS SP-80 •
UL LISTED • FMRC APPROVED

MATERIAL LIST

PART	SPECIFICATION
1. Handwheel Nut	Bronze ASTM B 16
2. Handwheel	Malleable Iron
3. Stem	Silicon Bronze ASTM B 371 Alloy C69400
4. Packing Nut	Bronze ASTM B 62
5. Packing Gland	Bronze ASTM B 16 or ASTM B 62
6. Packing	Non Asbestos
7. Bonnet	Bronze ASTM B 62
8. Body	Bronze ASTM B 62
9. Disc Holder Nut	Bronze ASTM B 62
10. Drive Screw	18-8SS
11. Disc Holder	Bronze ASTM B 62
12. Hose Cap	Bronze ASTM B 62
13. Seat Disc	Rubber
14. Hose Cap Gasket	Rubber
15. Safety Chain	Brass
16. Seat Disc Nut	Bronze ASTM B 62
17. Cotter Key	Brass



T-331-HC

 Threaded
w/Cap and Chain

T-331-HC
NPT x ANFH (NFA)
Hose 7.5 Threads
Per Inch

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions						Weight		Box Qty.	Master Ctn. Qty.
		B		H		J					
In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
2½	65	10.50	267	5.13	130	3.06	78	15.61	7.08	1	4



175 lb. WWP Bronze Globe Valves

Fire Protection Valve • Threaded Ends • Rubber Disc • Screw Over Bonnet

175 PSI/12.1 Bar Non-Shock Cold Water

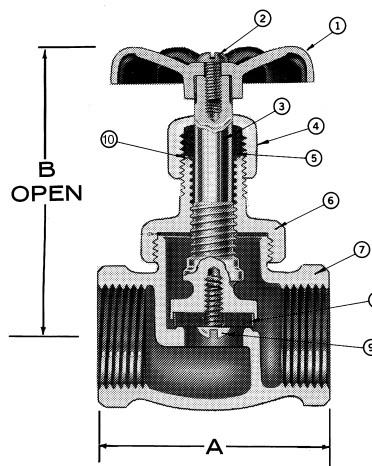
UL LISTED*

MATERIAL LIST

PART	SPECIFICATION
1. Handwheel	Aluminum
2. Handwheel Screw	Carbon Steel Stainless Steel (1")
3. Stem	Bronze ASTM B 584 Alloy C84400
4. Packing Nut	Bronze ASTM B 584 Alloy C83600 or ASTM B 16
5. Packing	Graphite Impregnated (Non Asbestos)
6. Bonnet	Bronze ASTM B 584 Alloy C84400
7. Body	Bronze ASTM B 584 Alloy C84400
8. Seat Disc	EPDM Rubber
9. Seat Screw	Stainless Steel
10. Pack Washer	Sheet Brass



KT-65-UL
Threaded



KT-65-UL
NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions				Weight		Box Qty.	Master Ctn. Qty.
		A		B					
In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
¼	8	2.00	50	2.75	70	.48	.22	10	100
⅜	10	2.00	50	2.75	70	.45	.20	10	100
½	15	2.28	58	3.12	79	.68	.31	10	60
¾	20	2.28	58	3.12	79	.74	.34	10	60
1	25	3.12	79	4.50	114	1.68	.76	5	25

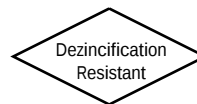
*UL Listed for Trim and Drain use – sizes 1/2", 3/4", 1".

Size 1/4" and 3/8" supplied as KT-65.



175 lb. WWP Bronze Globe Valves

Fire Protection Valve • Screw-in Bonnet • Integral Seat • Renewable Disc



175 PSI/12.1 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-80 • UL LISTED*

MATERIAL LIST

PART	SPECIFICATION
1. Handwheel Nut	Zinc Plated Steel with Clear Chromate or Brass ASTM B 16
2. Identification Plate	Aluminum
3. Handwheel	Aluminum Commercial Alloy 380
4. Stem	Silicon Bronze ASTM B 371 Alloy C69400
5. Packing Gland	Bronze ASTM B 62 or ASTM B 584 Alloy C84400 or ASTM B-282 or B 16
6. Packing Nut	Bronze ASTM B 62 or ASTM B 584 Alloy C84400
7. Packing	Non Asbestos
8. Bonnet	Bronze ASTM B 62
9. Disc Holder Nut	Bronze ASTM B 140 Alloy C31400 or B 62
10. Disc Holder	Bronze ASTM B 62
11. Seat Disc	EPDM Rubber (W) TFE (Y)†
12. Disc Nut	Bronze ASTM B 62
13. Body	Bronze ASTM B 62

† 2½" and 3" size only.

DIMENSIONS—WEIGHTS—QUANTITIES

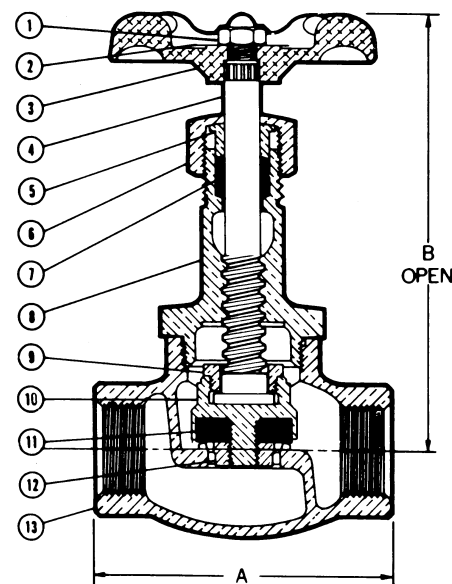
Size		Dimensions				Weight		Box Qty.	Master Ctn. Qty.
		A		B					
In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
1¼	32	4.31	110	6.13	156	3.55	1.61	2	10
1½	40	4.69	119	7.19	183	5.50	2.49	2	10
2	50	5.38	143	7.94	202	8.25	3.75	2	6
**2½	65	6.63	168	10.19	259	15.40	7.00	1	2
**3	80	7.75	197	11.19	284	22.44	10.20	1	2

*UL Listed for Trim and Drain use – sizes 1¼", 1½", 2".

**Sizes 2½" and 3" supplied as T-211-Y with TFE seat disc.



KT-211-W-UL
Threaded



KT-211-W-UL
NPT x NPT



175 lb. WWP Bronze Angle Valves

Fire Protection Valve • Threaded Ends • Rubber Disc • Screw Over Bonnet

175 PSI/12.1 Bar Non-Shock Cold Water

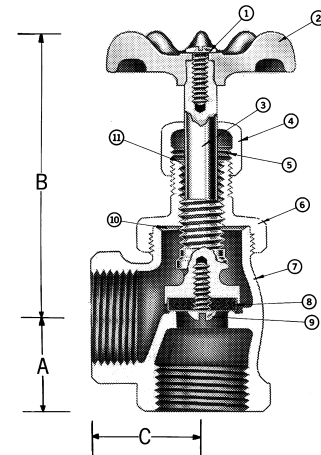
UL LISTED*

MATERIAL LIST

PART	SPECIFICATION
1. Handwheel	Aluminum
2. Handwheel Screw	Carbon Steel (½" & ¾") Stainless Steel (1")
3. Stem	Bronze ASTM B 584 Alloy C84400
4. Packing Nut	Bronze ASTM B 584 Alloy C83600 or ASTM B 16
5. Packing	Graphite Impregnated (Non Asbestos)
6. Bonnet	Bronze ASTM B 584 Alloy C84400
7. Body	Bronze ASTM B 584 Alloy C84400
8. Seat Disc	EPDM Rubber
9. Seat Screw	Stainless Steel
10. Pack Washer	Sheet Brass



KT-67-UL
Threaded



KT-67-UL
NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions						Weight		Box Qty.	Master Ctn. Qty.
		A		B		C					
In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
½	15	.94	24	3.25	83	1.06	27	.62	.28	10	60
¾	20	1.02	26	3.12	79	1.20	30	.70	.32	10	60
1	25	1.80	46	4.50	114	1.62	41	1.57	.71	5	25

*UL Listed for Trim and Drain Use.



175 lb. WWP Bronze Angle Valves

Fire Protection Valve • Screw-in Bonnet • Integral Seat • Renewable Disc

175 PSI/12.1 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-80 • UL/ULC LISTED*

MATERIAL LIST

PART	SPECIFICATION
1. Handwheel Nut	Bronze ASTM B 16
2. Identification Plate	Aluminum
3. Handwheel	Aluminum Commercial Alloy C38000
4. Stem	Silicon Bronze ASTM B 371 Alloy C69400
5. Packing Gland	Bronze ASTM B 62 or ASTM B 584 Alloy C84400
6. Packing Nut	Bronze ASTM B 62 or ASTM B 584 Alloy C84400 or ASTM B 16
7. Packing	Non Asbestos
8. Bonnet	Bronze ASTM B 62
9. Disc Holder Nut	Bronze ASTM B 62
10. Disc Holder	Bronze ASTM B 62
11. Seat Disc	EPDM Rubber (W) TFE (Y)†
12. Seat Disc Nut	Bronze ASTM B 62
13. Body	Bronze ASTM B 62

† 2½" and 3" size only.

DIMENSIONS—WEIGHTS—QUANTITIES

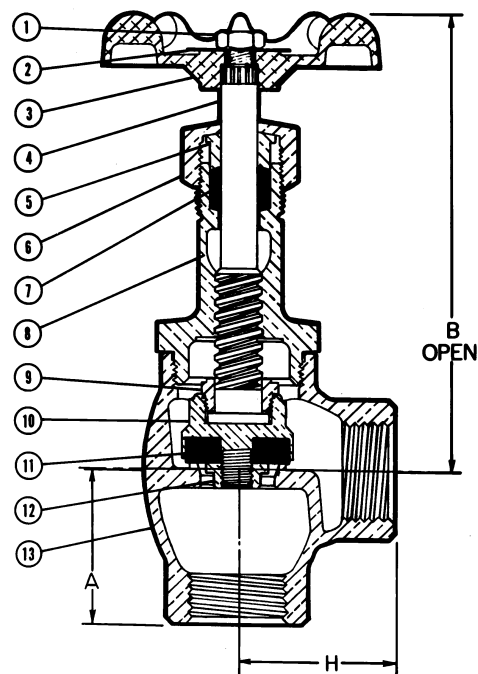
Size		Dimensions						Weight		Box Qty.	Master Ctn. Qty.
		A		B		H					
In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
1¼	32	2.19	56	6.13	156	2.19	56	3.71	1.69	1	10
1½	40	2.38	60	7.19	183	2.38	60	5.54	2.52	1	10
2	50	2.25	57	7.25	184	2.25	57	6.72	3.05	1	10
**2½	65	3.19	81	10.56	268	3.19	81	16.13	7.33	1	2
**3	80	3.88	86	11.13	283	3.88	86	21.72	9.87	1	2

* UL/ULC Listed for sizes for trim and drain use 1¼", 1½", 2".

** Sizes 2½" and 3" supplied as T-311-Y with TFE seat disc.

Dezincification
Resistant


T-301-W
Threaded



T-301-W
NPT x NPT



400 lb. WWP Bronze Side Outlet Globe Valves

Fire Protection Valve • 3-Way Valve • Screw-in Bonnet • Integral Seat • Renewable Disc

400 PSI/27.6 Bar Non-Shock Cold Water

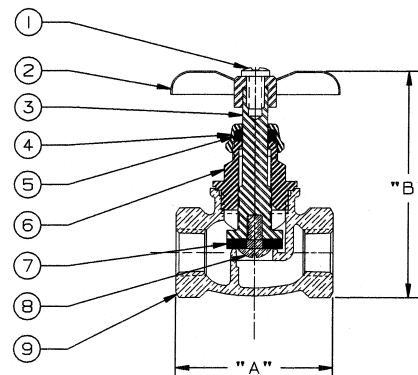
Dezincification
Resistant



KT-291-W3
Threaded

MATERIAL LIST

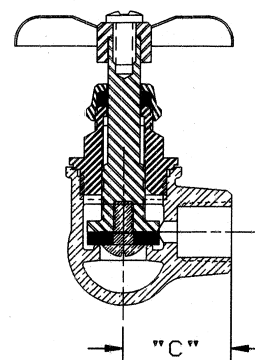
PART	SPECIFICATION
1. Handwheel Screw	Zinc Plated Steel
2. Handwheel	Aluminum ASTM B 85 Alloy C38000
3. Stem	ASTM B 133 Alloy C10200
4. Packing Nut	ASTM B 16 Alloy C36000
5. Packing	Non Asbestos Fibers
6. Bonnet	Bronze ASTM B 584 Alloy C84400
7. Disc	Buna-N
8. Disc Screw	Stainless Steel ASTM A 276 Alloy S43000
9. Body	Bronze ASTM B 584 Alloy C84400



KT-291-W3
NPT x NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions						Weight		Box Qty.	Master Ctn.	Qty.
		A		B		C						
In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.			
1/4	8	1.75	44	2.25	57	.94	24	.41	.19	10		100



200 lb. WWP Bronze Check Valves

Fire Protection Valve • Horizontal Swing • Rubber Disc

200 PSI/13.8 Bar Non-Shock Cold Water

 Dezincification
Resistant


KT-403-W
Threaded

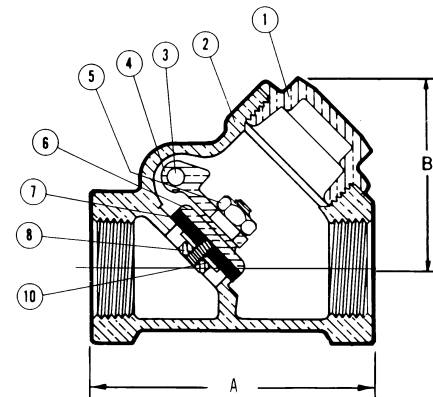
CONFORMS TO MSS SP-80

MATERIAL LIST

PART	SPECIFICATION
1. Bonnet	Bronze ASTM B 62 or B 584 Alloy C84400
2. Body	Bronze ASTM B 62 or B 584 Alloy C84400
3. Hinge Pin	Bronze ASTM B 140 Alloy C31400 or B 134 Alloy C23000
4. Disc Hanger	Bronze ASTM B 62
5. Hanger Nut	Bronze ASTM B 97 Alloy C65500
6. Disc Holder	Bronze ASTM B 62
7. Seat Disc	Buna-N (W) TFE (Y)‡
8. Seat Disc Nut	Bronze ASTM B 16 or B 97 Alloy C65500
9. Hinge Pin Plug	Bronze ASTM B 140 Alloy C32000 (Not Shown)
*10. Seat Disc Washer	ASTM B 124 Alloy C65500

*Sizes ¾", 1", 1¼" and 1½" only.

‡2½" and 3" size only.



KT-403-W
NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions				Weight		Box Qty.	Master. Ctn. Qty.
		A		B					
In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
½	15	2.44	62	1.69	43	.58	.26	10	50
¾	20	2.94	75	1.88	48	.92	.42	10	50
1	25	3.56	90	2.31	59	1.55	.70	5	30
1¼	32	4.19	106	2.69	68	2.32	1.05	5	20
1½	40	4.50	114	2.94	75	3.00	1.36	2	10
2	50	5.25	133	3.81	97	4.87	2.21	2	10
2½	65	8.00	203	5.06	129	11.48	5.22	1	5
3	80	9.25	235	6.25	159	17.53	7.97	1	4

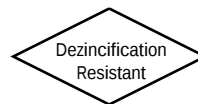
Sizes 2½" and 3" supplied as T-433-Y with TFE seat disc.

NIBCO check valves may be installed in both horizontal and vertical lines with upward flow or in any intermediate position.

WARNING - Valve must be installed downstream of receiver tank if used in line with reciprocating air compressor.

250 lb. WWP Bronze Ring Check® Valves

Fire Protection Valve • Inline Lift Type • Rubber Disc • Spring Actuated



250 PSI/17.2 Bar Non-Shock Cold Water



T-480
Threaded

MATERIAL LIST

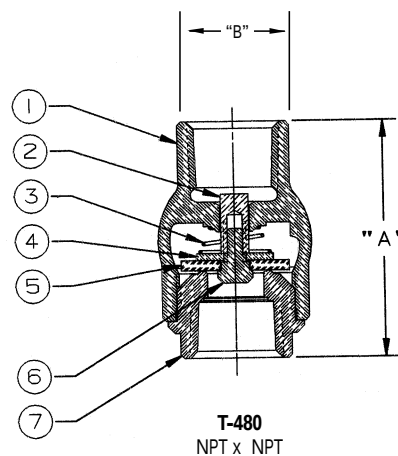
PART	SPECIFICATION
1. Body	Bronze ASTM B 584 Alloy C84400
2. Stem	Stainless Steel ASTM B 582 Alloy S30300
3. Spring	316 Stainless Steel
4. Disc Holder	301 Stainless Steel
5. Disc	Buna-N Rubber
6. Seat Screw	Stainless Steel ASTM A 276 Alloy S43000
7. Body End	Bronze ASTM B 584 Alloy C84400

DIMENSIONS—WEIGHTS—QUANTITIES

Size	Dimensions				Weight		Box Qty.	Master Ctn. Qty.
	A		B		Lbs.	Kg.		
In. mm.	In.	mm.	In.	mm.				
3/8 10	2.00	51	1.38	35	.41	.19	10	100
1/2 15	2.00	51	1.38	35	.36	.16	10	100
3/4 20	2.25	57	1.63	41	.48	.22	10	100
1 25	2.63	67	2.00	51	.76	.35	10	50
1 1/4 32	2.94	75	2.38	60	1.13	.51	5	30
1 1/2 40	3.31	84	2.75	70	1.62	.74	5	30
2 50	3.75	95	3.38	84	2.25	1.02	5	10

1/2" requires 1 1/2 pounds pressure to open.

3/4" thru 2" require 1/2 pound pressure to open.



T-480
NPT x NPT

NIBCO check valves may be installed in both horizontal and vertical lines with upward flow or in any intermediate position.

WARNING - Valve must be installed downstream of receiver tank if used in line with reciprocating air compressor.

Do Not Use as a Footvalve.

400 lb. WWP Bronze Ball Valves

Fire Protection Valve • Standard Port • Two-Piece Body •
Blowout-Proof Stem • TFE Seats

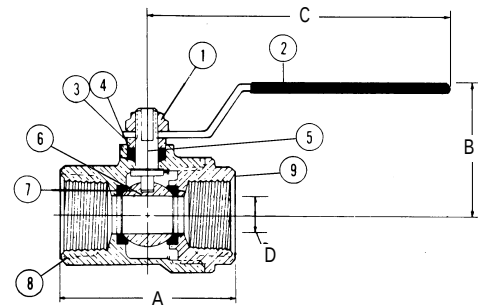
400 PSI/27.6 Bar Non-Shock Cold Water



T-580

Threaded

MATERIAL LIST	
PART	SPECIFICATION
1. Handle Nut	Zinc Plated Steel
2. Handle	Zinc Plated Steel with Plastisol Grip
3. Packing Gland	Brass ASTM B 16
4. Packing	Non Asbestos
5. Stem	Silicon Bronze ASTM B 371 Alloy C69400 or ASTM B 16
6. Ball	Brass ASTM B 16 or ASTM B 124 Alloy C37700
7. Seat Rings	TFE
8. Body	Cast Bronze ASTM B 584 Alloy C84400 or Forging Brass ASTM B 124 Alloy C37700
9. Body Endpiece	Cast Bronze ASTM B 584 Alloy C84400 or Forging Brass ASTM B 124 Alloy C37700



T-580

NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions								Weight		Box Qty.	Master Ctn. Qty.
		A		B		C		D Port					
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
½	15	2.00	51	1.56	40	3.94	100	.38	8	.57	.26	10	100
¾	20	2.28	58	1.72	44	3.94	100	.50	13	.72	.33	10	100
1	25	2.88	73	2.06	52	4.69	119	.75	19	1.25	.57	5	50
1 ¼	32	3.41	87	2.31	59	4.69	119	1.00	25	1.65	.79	4	40
1 ½	40	3.75	95	2.81	61	6.75	171	1.25	32	2.53	1.19	2	20
2	50	4.44	113	3.13	79	6.75	171	1.50	38	3.65	1.66	1	10

600 lb. WWP Bronze Ball Valves

Fire Protection Valve • Two-Piece Body • Chrome Plated Ball •
Blowout-Proof Stem • Reinforced TFE Seats • Full Port

600 PSI/41.4 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-110

MATERIAL LIST

PART	SPECIFICATION
1. Handle Nut	Zinc Plated Steel
2. Handle	Zinc Plated Steel Clear Chromate with Plastisol Grip
3. Packing Nut	Brass ASTM B 16 Alloy C36000
4. Packing	TFE
5. Stem	Silicon Bronze ASTM B 371 Alloy C69400 or ASTM B 99 Alloy C65100
6. Thrust Washer	Reinforced TFE
*7. Grounding Washer	Stainless Steel ASTM A 167 Type 304
**8. Ball	Cast Red Bronze, ASTM B 584 Alloy C84400 with Hard Chrome Plate
9. Seat Ring(2)	Reinforced TFE
10. Body	Cast Red Bronze, ASTM B 584 Alloy C84400 or Forging Brass ASTM B 124 Alloy C37700
11. Body End Piece	Cast Red Bronze, ASTM B 584 Alloy C84400 or Forging Brass ASTM B 124 Alloy C37700

*1/4" size only.

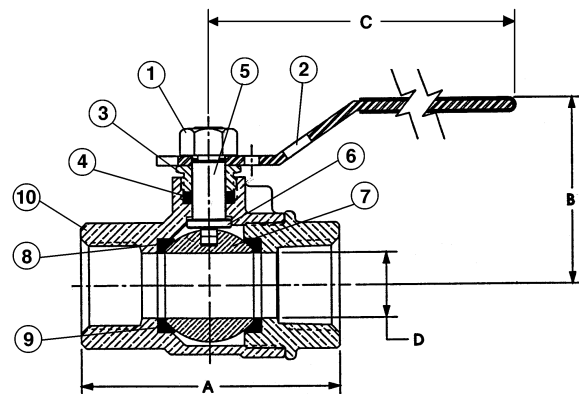
**Ball material on 1/4", 1/2", and 3/4" sizes is ASTM B 16 Alloy C36000 with hard chrome plate.

Dezincification
Resistant



T-585-70

Threaded



T-585-70

NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Dimensions													
Size		A		B		C		D Port		Weight		Box	Master
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.	Qty.	Ctn. Qty.
¼	8	2.00	51	1.75	44	5.00	127	.38	10	.45	.20	10	100
⅜	10	2.00	51	1.75	44	5.00	127	.38	10	.45	.20	10	100
½	15	2.44	62	1.88	48	5.19	132	.50	13	.64	.29	10	100
¾	20	2.94	75	2.25	57	6.25	159	.75	19	1.33	.60	5	50
1	25	3.34	85	2.38	60	6.44	164	1.00	25	1.79	.81	5	40
1 ¼	32	4.19	106	3.00	76	6.75	171	1.25	32	2.17	.99	5	20
1 ½	40	4.72	120	3.16	80	9.06	230	1.25	32	3.27	1.49	5	10
2	50	5.16	131	3.50	89	9.25	235	2.00	51	5.09	2.31	2	8

300 lb. WWP Bronze Ball Valves

Fire Protection Valve • Two-Piece Body • Chrome Plated Ball •
Blowout-Proof Stem • Reinforced TFE Seats

300 PSI/20.7 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-110 • UL LISTED† •
FMRC APPROVED†

MATERIAL LIST

PART	SPECIFICATION
1. Handle Nut	Zinc Plated Steel
2. Handle	Zinc Plated Steel Clear Chromate with Plastisol Grip
3. Packing Nut	Brass ASTM B 16
4. Packing	TFE
5. Stem	Silicon Bronze ASTM B 371 Alloy C69400
6. Thrust Washer	Reinforced TFE
*7. Ball	Cast Red Bronze ASTM B 584 Alloy C84400 with Hard Chrome Plate
8. Seat Ring (2)	Reinforced TFE
9. Body	Cast Red Bronze ASTM B 584 Alloy C84400
10. Body End Piece	Cast Red Bronze ASTM B 584 Alloy C84400

*Ball material on 1/4", 1/2", and 3/4" sizes is ASTM B 16 Alloy C36000
with hard chrome plate.

Dezincification
Resistant

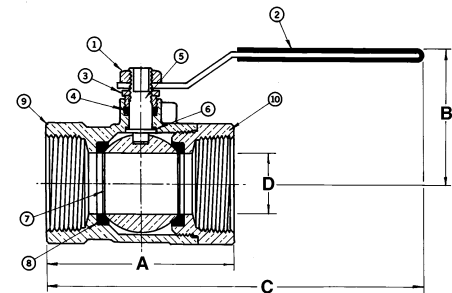


KT-585-70-UL

1/4" - 1" Full Port
Threaded

KT-580-70-UL

1 1/4" - 3" Standard Port
Threaded



KT-585-70-UL

Full Port
NPT x NPT

KT-580-70-UL

Standard Port
NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

KT-585-70-UL Dimensions												
Size	A		B		C		D Port		Weight		Box Qty.	Master Ctn. Qty.
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
1/4 8	2.00	51	1.75	44	5.00	127	.38	10	.45	.20	10	100
3/8 10	2.00	51	1.75	44	5.00	127	.38	10	.45	.20	10	100
1/2 15	2.44	62	1.88	48	5.19	132	.50	13	.64	.29	10	100
3/4 20	2.94	75	2.25	57	6.25	159	.75	19	1.33	.60	5	50
1 25	3.34	85	2.38	59	6.44	164	1.00	25	1.79	.81	5	40

KT-580-70-UL Dimensions												
Size	A		B		C		D Port		Weight		Box Qty.	Master Ctn. Qty.
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.		
1 1/4 32	3.94	100	2.63	67	6.75	171	1.00	25	2.17	.99	5	20
1 1/2 40	4.31	110	3.00	76	8.91	228	1.25	32	3.27	1.49	5	20
2 50	4.63	117	3.25	83	9.06	230	1.50	38	5.09	2.31	5	10
2 1/2 65	5.84	148	3.53	90	9.66	245	2.00	51	8.25	3.79	2	6
3 80	7.09	202	4.41	112	11.53	293	2.50	64	15.65	7.11	1	4

† UL Listed, FMRC Approved for trim and drain use – sizes 1/4" thru 2".



UL/FM Iron Valve Illustrated Index

UL/ULC Listed • FMRC Approved Iron Body Gate Valve Outside screw and yoke Rising stem, solid wedge 175 lb. WWP  F-607-OTS Sizes 2½" thru 12" Flanged ends Page 20	UL/ULC Listed • FMRC Approved Iron Body Gate Valve Rising Stem • Solid Resilient Wedge Outside Screw and Yoke 200 lb. WWP  G-607-RW (Grooved) FG-607-RW (Flanged x Grooved) Sizes 3" thru 8" Page 21	UL/ULC Listed • FMRC Approved DI Body Gate Valve Rising stem, solid resilient wedge Outside screw and yoke 250 lb. WWP  F-607-RW Sizes 2½" thru 12" Flanged ends Page 22
UL/ULC Listed • FMRC Approved Iron Body Gate Valve Indicator post pattern non-rising stem 175 lb. WWP  M-609 (Mechanical) F-609 (Flanged) Sizes 4" thru 12" Page 23	UL/ULC Listed • FMRC Approved DI Body Gate Valve (Resilient Wedge) Indicator post pattern Non-rising stem 250 lb. WWP  M-609-RW (Mechanical) F-609-RW (Flanged) Sizes 4" thru 12" Page 24	UL/ULC Listed • FMRC Approved Gate Valve Indicator Post  NIP-1AJ Upright Indicator Post NIP-2AJ Wall Indicator Post (pictured) Page 25-26
UL/ULC Listed • FMRC Approved Iron Body Check Valve Double-Door Style, Spring Actuated Buna-N Rubber Seat 200 lb. WWP  KW-900-W Sizes 2½" thru 12" Wafer Style Page 27	UL/ULC Listed • FMRC Approved Iron Body Swing Check Valve Rubber Disc 175 lb. WWP  F-908-W Sizes 2½" thru 12" Flanged ends Page 28	UL/ULC Listed • FMRC Approved Iron Body Swing Check Valve 250 lb. WWP  G-917-W Sizes 2½" thru 6" Grooved ends Page 29

175 lb. WWP Iron Body Gate Valves

Fire Protection Valve • Bolted Bonnet • Outside Screw and Yoke • Solid Wedge •
Pre-Grooved Stem for Supervisory Switch Mounting

175 PSI/12.1 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-70 •
UL/ULC LISTED • FMRC APPROVED •
APPROVED BY THE NEW YORK CITY B.S.A. 143-69-SA

MATERIAL LIST

PART	SPECIFICATION
1. Stem	Brass ASTM B 16 Alloy C36000
2. Handwheel Nut	Cast Bronze B 584 Alloy C84400
3. Identification Plate	Aluminum
4. Yoke Bushing	Cast Bronze B 584 Alloy C84400
5. Handwheel	Cast Iron ASTM A 126 Class B
6. Bonnet Cap Nut	Steel ASTM A 307
7. Bonnet Cap	Ductile Iron ASTM A 536
8. Bonnet	Cast Iron ASTM A 126 Class B
9. Bonnet Cap Bolt	Steel ASTM A 307
10. Gland Follower Nut	Brass ASTM B 36
11. Gland Follower	Ductile Iron ASTM A 536
12. Packing Gland	Zinc Plated Powdered Iron ASTM B 310 or Cast Brass ASTM Alloy C36000
13. Packing	Non Asbestos
14. Gland Follower Bolt	Steel ASTM A 307
15. Backseat Bushing	Cast Bronze B 584 Alloy C84400
16. Body Nut	Steel ASTM A 307
17. Body Bolt	Steel ASTM A 307
18. Wedge Pin	Silicon Bronze B 140 Alloy C31600
19. Body	Cast Iron ASTM A 126 Class B
20. Seat Ring	Cast Bronze B 584 Alloy C84400
21. Wedge Face Rings	Cast Bronze B 584 Alloy C84400
22. Wedge	Cast Bronze B 584 Alloy C84400
23. Body Gasket	Non Asbestos
24. Stem Collar	Brass ASTM B 16 Alloy C36000

¹ Sizes up to 8" inclusive made with yoke integral with bonnet.
10" and 12" sizes made with separate yoke bolted to bonnet.

² Sizes 2½" thru 6" are all bronze wedges.
Sizes 8" thru 12" made with cast iron wedge with bronze wedge face rings

TS: pre-grooved stem for supervisory switch mounting.

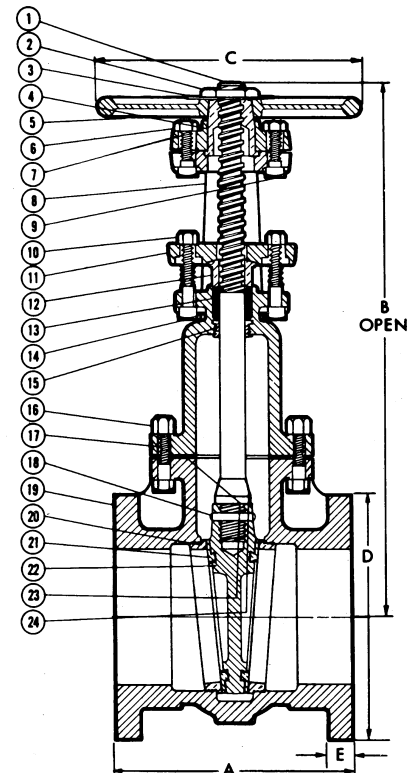
DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions										Weight	
		A		B		C		D		E			
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.
2½	65	7.50	191	16.88	429	8.00	203	7.00	178	.69	17	55	25
3	80	8.00	203	19.75	502	8.00	203	7.50	191	.75	19	66	30
4	100	9.00	229	24.00	610	10.00	254	9.00	229	.94	24	107	49
5	125	10.00	254	27.50	699	10.00	254	10.00	254	.94	24	145	66
6	150	10.50	267	61.50	800	12.00	305	11.00	279	1.00	25	179	81
8	200	11.50	292	40.75	1035	14.00	356	13.50	343	1.13	29	308	140
10	250	13.00	330	48.50	1232	16.00	406	16.00	406	1.19	30	481	219
12	300	14.00	356	57.00	1448	18.00	457	19.00	483	1.25	32	706	321



F-607-OTS

Flanged



F-607-OTS

Flg x Flg

FREEZING WEATHER PRECAUTION: Subsequent to testing a piping system, gate valve should be in an open position to allow complete drainage.

Note: Available to ISO Flange dimensions.
Specify F-607-OI. See page 50.



250 lb. WWP Grooved Iron Body Gate Valves

Fire Protection Valve • **Resilient Wedge** • Epoxy Coated Interior/Exterior • Provided with Grooved Transition Couplings • Pre-Grooved Stem for Supervisory Switch • Drilled, Tapped and Plugged at Boss Location A**

250 PSI/17.2 Non-Shock Cold Water (160° F max. operating temperature)

MEETS AWWA C-509 OS&Y STANDARD • UL/ULC LISTED • FMRC APPROVED

MATERIAL LIST

PART	SPECIFICATION
*1. Body	Ductile Iron ASTM A 536
2. Wedge Body	Ductile Iron ASTM A 536
3. Wedge, Vulcanized	EPDM
4. Wedge Nut	ASTM Copper Alloy C35330, ASTM B 453
5. Pin	Stainless Steel
6. Support Ring	N.A.
7. Stem	Bronze
8. Bonnet Bolts	302 SS
9. Bonnet Gasket	Nitrile Rubber, ASTM D 2000, Buna-N
*10. Bonnet	Cast Iron ASTM A 120 Class B
11. Bonnet Bolt Seals	Hot Melt
12. Gland Bushing	Black AKZO Akulon S223
13. O-Ring Seals	Nitrile Rubber, ASTM D 2000, Buna-N
14. O-Ring Seals	Nitrile Rubber, ASTM D 2000, Buna-N
15. Washer	Zinc Coated Steel
16. Gland	Black AKZO Akulon S223
17. Nut	Stainless Steel
18. Gland Follower	Ductile Iron ASTM A 536
19. Yoke	Ductile Iron ASTM A 536
20. Stud Bolt	Zinc Coated Steel, ASTM A 164
21. Washer	ASTM Copper Alloy C35330, ASTM B 453
22. Handwheel	Cast Iron ASTM A 126 Class B
23. Stem Nut	ASTM Copper Alloy C35330, ASTM B 453

* Electrostatically applied fusion-bonded epoxy coated inside and outside per AWWA C-550.

** Drilled, tapped and plugged at boss dim. B. 3" - 4" valves tapped .5", 6" - 8" tapped .75". FG-607-RW tapped and plugged both sides of body.

† NOTE: Gate valve groove dimensions per AWWA C-606 for ductile/cast iron pipe. Transition grooved couplings supplied to join valve to I.P.S. grooved pipe or other I.P.S. components.

DIMENSIONS—WEIGHTS—QUANTITIES

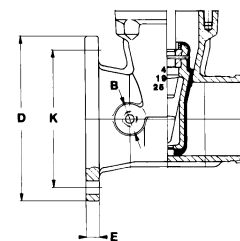
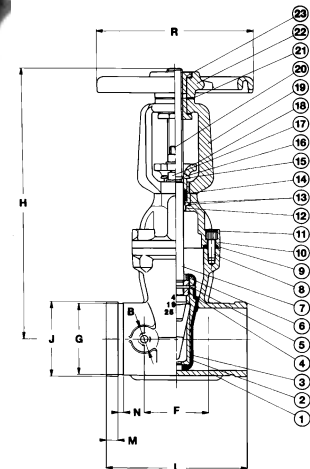
Dimensions												
Size	B		D		E		F		G		H Open	H Closed
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
3 80	1.57	40	7.50	191	.75	19	3.70	94	3.72	94	16.90	429
4 100	1.65	42	9.00	229	.75	19	4.10	104	4.56	116	21.00	533
6 150	1.97	50	11.00	279	.75	19	5.30	135	6.66	169	29.30	744
8 200	1.97	50	13.50	343	.79	20	5.00	127	8.78	223	34.40	874

Dimensions													Weight			
Size	J		K		L		M		N		R		Grooved		Flg x Grv	
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.	Lbs.	Kg.
3 80	3.90	99	6.00	152	7.80	198	.75	19	.38	10	9.00	229	41	19	47	21
4 100	4.80	122	7.50	191	9.00	229	.75	19	.38	10	11.00	279	61	28	69	31
6 150	6.90	175	9.50	241	10.50	267	.88	22	.38	10	13.00	330	102	46	113	51
8 200	9.05	230	11.75	298	11.50	292	.94	24	.50	13	14.00	356	154	70	171	78



G-607-RW
Grooved†

FG-607-RW
FLG x Grooved†



250 lb. WWP Iron Body Gate Valves

Fire Protection Valve • Outside Screw and Yoke • **Resilient Wedge** •
Epoxy Coated Interior/Exterior • Pre-Grooved Stem for Supervisory Switch •
Drilled, Tapped and Plugged at Boss Location A**

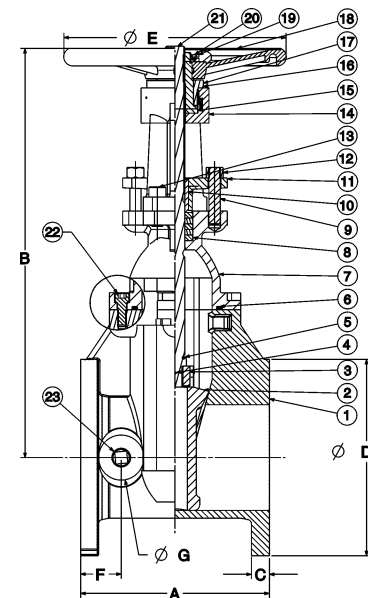
250 PSI/17.2 Bar Non-Shock Cold Working Pressure
(160° F/71° C max. operating temperature)

UL/ULC LISTED • FMRC APPROVED •
AWWA C509 & 515 • M.E.A. APPROVED



F-607-RW

Flanged



F-607-RW

Fig x Fig

MATERIAL LIST	
PART	SPECIFICATION
1. Valve Body	Ductile Iron ASTM A 536
2. Resilient Wedge	Ductile Iron ASTM A 536/EPDM ASTM D 2000
3. Wedge Nut	Bronze ASTM B 584 UNS C83600
4. Dowel Pin	Stainless Steel ASTM A 276 UNS S42000
5. Stem Back Seat O-Ring	EPDM ASTM D 2000
6. Bonnet Gasket	EPDM ASTM D 2000
7. Bonnet	Ductile Iron ASTM A 536
8. Stem Packing	EPDM ASTM D 2000
9. Threaded Rod	Carbon Steel Zinc Plated
10. Gland Bushing	Bronze ASTM B 584
11. Gland	Cast Iron ASTM A 126-B
12. Gland Nut	Stainless Steel 18-8
13. Yoke Screw	Alloy Steel ASTM A 574M Zinc Plated
14. Yoke	Cast Iron ASTM A 126-B
15. Yoke Bushing	Bronze ASTM B 584
16. Flat Point Set Screw	Alloy Steel ASTM F 912M Black Oxide
17. Yoke Bushing Retainer	Cast Iron ASTM A 126-B
18. Handwheel	Ductile Iron ASTM A 536
19. Handwheel Nut	Carbon Steel Zinc Plated
20. Flat Head Screw	Carbon Steel Zinc Plated
21. Stem	Bronze ASTM B 150 UNS C61400
22. Bonnet Screw	Alloy Steel ASTM A 574M Zinc Plated
23. NPT Pipe Plug	Malleable Iron ANSI B16.3 (Epoxy Coated)
24. UL/FM Label (not shown)	Aluminum

* Electrostatically applied fusion-bonded epoxy coated inside and outside per AWWA C-550.
Epoxy NSF and FDA certification

**Drilled, tapped and plugged at Position A with 1/2" valve sizes 2 1/2"-4",
3/4" on 6"-8", 1" on 10"-12".

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions														Bolt				Weight			
		A		B Open		B Closed		C		D		E		F		G		Circle	Flange			Turns	
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Holes	To Open	Lbs.	Kg.
2½	65	7.5	190	17.8	453	14.9	378	0.69	17.5	7.0	178	7.9	200	1.50	38	1.6	40	5.50	140	4	8.8	45	20
3	80	8.0	203	19.7	500	15.9	405	0.75	19.0	7.5	191	7.9	200	1.73	44	2.1	54	6.00	152	4	10.5	53	24
4	100	9.0	229	21.0	534	16.6	422	0.94	24.0	9.0	229	10.2	260	2.13	54	2.1	54	7.50	191	8	10.4	94	43
6	150	10.5	267	29.3	744	22.9	581	1.00	25.4	11.0	279	12.4	315	2.24	57	2.5	64	9.50	241	8	15.7	154	70
8	200	11.5	292	37.0	939	28.5	724	1.13	28.6	13.5	343	14.8	375	2.48	63	2.8	70	11.75	298	8	17.2	247	112
10	250	13.0	330	44.8	1139	34.5	877	1.19	30.2	16.0	406	16.4	416	2.56	65	2.8	70	14.25	362	12	21.4	349	159
12	300	14.0	356	52.2	1326	39.9	1014	1.25	31.8	19.0	483	17.5	445	2.91	74	3.4	86	17.00	432	12	25.5	484	220



FREEZING WEATHER PRECAUTION: Subsequent to testing a piping system, valves should be left in an open position to allow complete drainage.

175 lb. WWP Iron Body Gate Valves

Fire Protection Valve • Bolted Bonnet • Indicator Post Pattern •
Non-Rising Stem • Solid Wedge

175 PSI/12.1 Bar Non-Shock Cold Water

UL/ULC LISTED • FMRC APPROVED

MATERIAL LIST

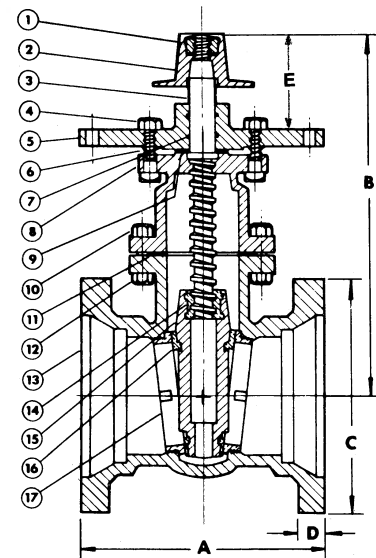
PART	SPECIFICATION
1. Nut	Steel ASTM A 307
2. Square Oper. Nut	Cast Iron ASTM A 126 Class B
3. Stem	Brass ASTM B 16 Alloy C36000
4. Ind. Post Flange Nut	Steel ASTM A 307
5. Ind. Post Flange	Cast Iron ASTM A 126 Class B
6. Ind. Post Flange Bolt	Steel ASTM A 307
7. O-Ring Seal	Buna-N Rubber
8. Bonnet	Cast Iron ASTM A 126 Class B
9. Ind. Post Flange Gasket	Non Asbestos
10. Body Bolt	Steel ASTM A 307
11. Body Gasket	Non Asbestos
12. Body Nut	Steel ASTM A 307
13. Body	Cast Iron ASTM A 126 Class B
*14. Wedge Bushing	Cast Bronze B 584 Alloy C84400
15. Wedge	Cast Bronze ASTM A 126 Class B
16. Wedge Face Ring	Cast Bronze B 584 Alloy C84400
17. Seat Ring	Cast Bronze B 584 Alloy C84400

*Sizes 8", 10" and 12" only

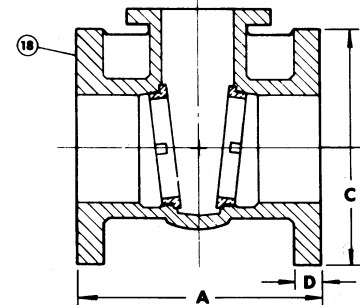


F-609
Flanged

M-609
Mechanical



M-609
MJ x MJ



F-609
Flg x Flg

DIMENSIONS—WEIGHTS—QUANTITIES

F-609 Dimensions											
Size	A		B		C		D		E		Weight
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs. Kg.
4 100	9.00	229	14.13	359	9.00	229	.94	24	3.66	93	105 48
6 150	10.50	267	18.56	471	11.00	279	1.00	25	2.25	57	170 77
8 200	11.50	292	22.13	562	13.50	343	1.13	29	4.00	102	277 125
10 250	13.00	330	25.75	654	16.00	406	1.19	30	3.88	98	399 181
12 300	14.00	356	29.50	749	19.00	483	1.25	32	4.94	125	623 283

M-609 Dimensions											
Size	A		B		C		D		E		Weight
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs. Kg.
4 100	9.25	235	14.13	359	9.00	229	1.00	25	3.66	93	100 45
6 150	10.75	273	18.56	471	11.09	282	1.03	26	2.25	57	153 69
8 200	11.50	292	22.13	562	13.31	338	1.09	28	4.00	102	250 113
10 250	13.00	330	25.75	654	15.63	397	1.13	29	3.88	98	390 176
12 300	14.00	356	29.50	749	18.00	457	1.25	32	4.94	125	556 253

FREEZING WEATHER PRECAUTION: Subsequent to testing a piping system, gate valve should be in an open position to allow complete drainage.

NOTE: Number of turns required to open 4", 9", 6", 13½", 8", 17½", 10", 30¼", 12", 38¼" turns. Tolerance ± ½ turn on all sizes.

NOTE: Available to ISO Flange dimensions. Specify F-609-I. See page 50.



250 lb. WWP Iron Body Gate Valves

Fire Protection Valve • Bolted Bonnet • Indicator Post Pattern • Non-Rising Stem •
Resilient Wedge • Epoxy Coated Interior/Exterior

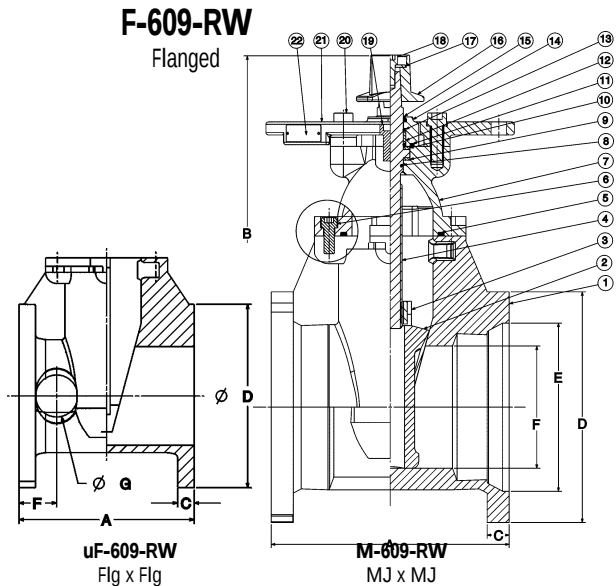
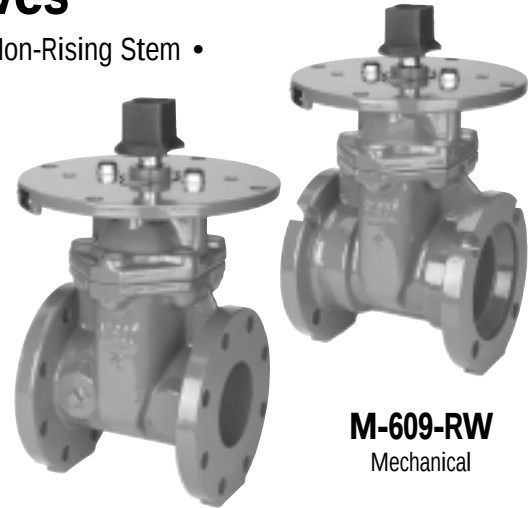
250 PSI/17.2 Bar Non-Shock Cold Working Pressure
(160° F/71° C max. operating temperature)

UL/ULC LISTED • FMRC APPROVED •
AWWA C-509 & 515 • M.E.A. APPROVED

MATERIAL LIST

PART	SPECIFICATION
1. Valve Body	Ductile Iron ASTM A 536
2. Resilient Wedge	Ductile Iron ASTM A 536/EPDM ASTM D 2000
3. Wedge Nut	Bronze ASTM B 584 UNS C83600
4. Stem	Bronze ASTM B 150 UNS C61400
5. Bonnet Gasket	EPDM ASTM D 2000
6. Bonnet Screw	Alloy Steel ASTM A 574M Zinc Plated
7. Bonnet	Ductile Iron ASTM A 536
8. Stem Primary O-Ring	EPDM ASTM D 2000
9. Stem Thrust Washer (lower)	Bronze ASTM B 584 UNS C83600
10. Stem Thrust Washer (upper)	Stainless Steel ASTM A 276 UNS S41000
11. Gland Seal O-Ring	EPDM ASTM D 2000
12. Stem Seal Bushing	Bronze ASTM B 584 UNS C83600
13. Stem Secondary O-Ring	EPDM ASTM D 2000
14. Gland Flange	Ductile Iron ASTM A 536
15. Stem Ring Wiper	EPDM ASTM D 2000
16. Square Operating Nut	Cast Iron ASTM A 126-B
17. Operating Nut Washer	Carbon Steel Zinc Plated
18. Operating Nut Screw	Alloy Steel ASTM A 574M Zinc Plated
19. Gland Flange Screw	Alloy Steel ASTM A 574M Zinc Plated
20. Indicator Flange Screw	Alloy Steel ASTM A 574M Zinc Plated
21. Indicator Post Flange	Ductile Iron ASTM A 536
22. UL/FM Label	Aluminum

NOTE: Body, Bonnet and Ind. Post Flange coated with electrostatically applied fusion bonded epoxy resin inside and outside per AWWA C-550.
Epoxy NSF and FDA certification



DIMENSIONS—WEIGHTS—QUANTITIES

M-609-RW Dimensions														Bolt			
Size	A		B		C		D		E		F			Circle	Flange	Turns	Weight
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		In.	mm.	Holes	Lbs. Kg.
4 100	10.0	254	13.5	344	1.00	26	9.1	232	6.0	153	3.9	100		7.50	191	4	13.0 89 40
6 150	11.5	292	17.4	441	1.06	27	11.1	283	8.1	206	5.9	150		9.50	241	6	15.7 132 60
8 200	11.5	292	20.8	529	1.12	28	13.4	340	10.3	261	7.9	200		11.75	298	6	17.3 190 86
10 250	13.0	330	24.2	614	1.18	30	15.7	400	12.3	313	9.8	250		14.00	356	8	21.4 287 130
12 300	14.0	356	27.6	700	1.25	32	18.0	456	14.4	367	11.8	300		16.25	413	8	25.3 408 185

F-609-RW Dimensions														Bolt			
Size	A		B		C		D		F		G			Circle	Flange	Turns	Weight
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		In.	mm.	Holes	Lbs. Kg.
4 100	9.0	229	13.5	344	0.94	24.0	9.0	229	2.13	54	2.1	54		7.50	191	8	13.0 91 41
6 150	10.5	267	17.4	441	1.00	25.4	11.0	279	2.24	57	2.5	64		9.50	241	8	15.6 142 65
8 200	11.5	292	20.8	529	1.13	28.6	13.5	343	2.48	63	2.8	70		11.75	298	8	17.3 216 98
10 250	13.0	330	24.2	614	1.19	30.2	16.0	406	2.56	65	2.8	70		14.25	362	12	21.4 314 143
12 300	14.0	356	27.6	700	1.25	31.8	19.0	483	2.91	74	3.4	86		17.00	432	12	25.3 446 203



FREEZING WEATHER PRECAUTION: Subsequent to testing a piping system, gate valve should be in an open position to allow complete drainage.

Indicator Posts

Fire Protection • Upright and Wall Posts •
For use with non-rising stem indicator post style gate valves

UL/ULC LISTED • FMRC APPROVED

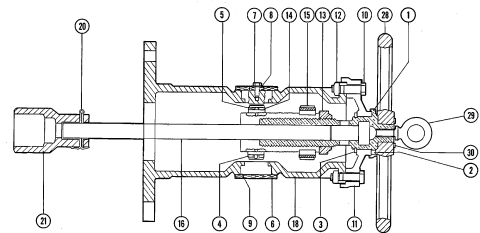
MATERIAL LIST

PART	SPECIFICATION
1. Operating Stem	Bronze ASTM B 62
2. Flat Head Screw	Brass
3. Stem Retaining Ring	Steel Zinc Plated
4. Elastic Locknut	Steel Zinc Plated
5. Slotted Round HD Screw	Steel Zinc Plated
6. Window	Polycarbonate
7. Hex HD Cap Scr.	1040 Steel Zinc Plated
8. Flat Washer	1040 Steel Zinc Plated
9. Window Gasket	Red Rubber
10. Cap Screw	1040 Steel Zinc Plated
11. Cap	Ductile Iron
12. Cap Nut	1040 Steel Zinc Plated
13. Target Frame	Bronze ASTM B 62
14. Target Plate - Open	Aluminum - Cast
15. Target Plate - Shut	Aluminum - Cast
16. Operating Rod	Steel
17. Operating Wrench	Ductile Iron
18. Body (Upper)	Ductile Iron
19. Body (Lower)	Ductile Iron
20. Oper. Rod Cotter Pin	304 Stainless Steel
21. Oper. Rod Coupling	Ductile Iron
22. Barrel	Ductile Iron
23. Body (Lower) Fl. Bolt	Steel Zinc Plated
24. Body (Lower) Washer	Steel Zinc Plated
25. Body (Lower) Nut	Steel Zinc Plated
26. Body (Center) Nut	Steel Zinc Plated
27. Body (Center) Set Scr.	Steel Zinc Plated
28. Hand Wheel	Ductile
29. H.W. Eyebolt	Forged
30. H.W. Retainer Washer	Steel Zinc Plated

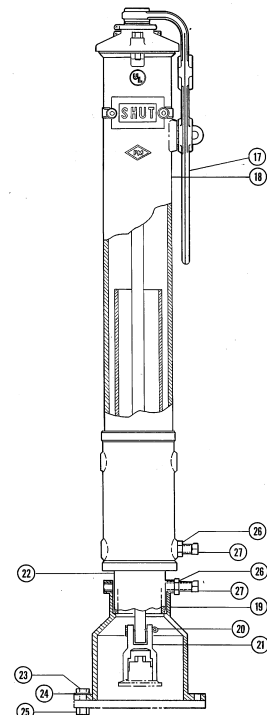
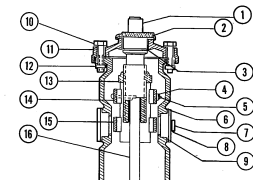
NOTE: ½" tapped-plugged boss located near target window permits installation of external supervisory switch, not supplied by NIBCO.



NIP-2AJ
Wall Post



NIP-1AJ
Upright Post



Indicator Posts

Installation Information

Adjustment in the field may be accomplished by sliding out and cutting the stem rod to the appropriate length. Deeper bury is available by special order from the distributor or by customer providing longer ductile pipe and longer stem rod.

NIBCO Fig. No. NIP-1AJ Mated to NIBCO IBBM Gate Valves Bury Depth Dimensions (Inches - Rounded)*

Valve Size		Maximum Bury Depth		Minimum Bury Depth	
In.	mm.	In.	mm.	In.	mm.
4	100	52	1321	33	838
6	150	59	1499	40	1016
8	200	62	1575	43	1092
10	250	67	1702	48	1219
12	300	71	1803	52	1321

Note: Add 18" Bury Depth for NIP-1AJE

Add 36" Bury Depth for NIP-1AJEE

Special lengths available in 6" increments, P.O.A. beyond NIP-1AJEE

*(Bury/trench depth is defined as dimension from ground level to bottom of pipe.)

Pipe Length		"B" Minimum		"B" Maximum		"B" Factory Set		Stem Length	
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
29.75	730	21	525	39	980	32.25	808	63	1580

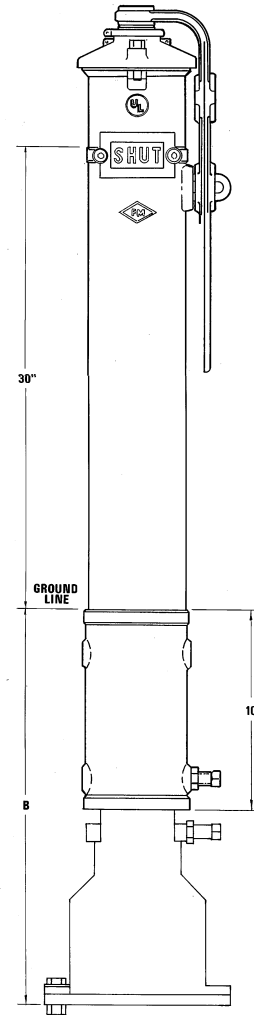
Indicator Post Gate Valve Dimensions

Valve Size		4"		6"		8"		10"		12"	
		In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
Dimension from centerline of valve to top of the operating nut	F/M609 (IBBM)	14.1	358	18.6	472	22.1	561	25.8	655	29.5	749
	F/M609RW	13.6	345	17.6	447	21.5	546	24.7	627	27.7	704
Turns to open (+.5 turn)	F/M609 (IBBM)	9		13.5		17.5		30.25		38.25	
	F/M609RW	14		22		26		32		38	

Weight includes stem rod and coupling

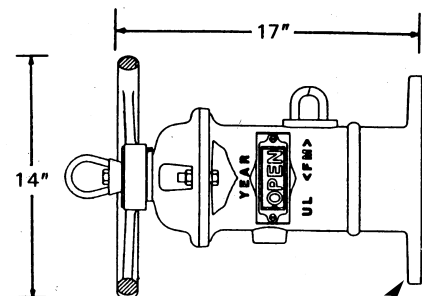
	Lbs.	Kg.
NIP-1AJ - Upright Adjustable Post	150	68
NIP-2AJ - Wall Post	80	36

Note: 63" long 1" square rod supplied with NIP-1AJ and 30" with NIP-2AJ. Base of NIP-2AJ threaded to accept 4" pipe wall sleeve (customer supplied).



NIP-1AJ

Upright Post



NIP-2AJ

Wall Post

(4) holes .75 drill on 10.50 bolt circle drilled on centerline

175 lb. WWP Iron Body Check Valves

Fire Protection Valve • UL listed at 175 PSI sizes 4", 6", 8", 10", 12"
Double-Door • Wafer Style • Rubber Seat • Spring Actuated

200 PSI/13.8 Bar Non-Shock Cold Water General Service

UL/ULC LISTED • FMRC APPROVED*

MATERIAL LIST

PART	SPECIFICATION
1. Body	Cast Iron ASTM A 126 Class B
2. Disc Plate	Bronze ASTM B 62
3. Seal	Buna-N (Integral with Body)
4. Pipe Plugs (4)	Cast Iron ASTM A 126 Class B
5. Stop Shaft	SS ASTM A 479
6. Spring	SS Spring Wire ASTM A 313
7. Disc Shaft	SS ASTM A 479
8. Washer	SS 18-8



KW-900-W
Wafer Style

DIMENSIONS—WEIGHTS—QUANTITIES

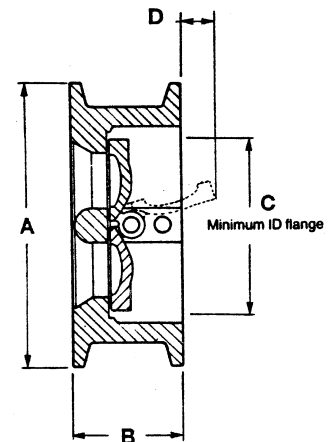
Dimensions												
Size		A		B		C		D			Weight	
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	C/V	Lbs.	Kg.
**2½	65	4.88	124	2.13	54	1.13	29	.16	4	110	5.50	3
**3	80	5.38	135	2.25	57	2.50	64	.63	16	175	7.50	3
4	100	6.88	175	3.63	92	3.44	87	.94	24	350	13.50	6
**5	125	7.75	197	2.75	70	4.50	114	1.34	34	550	17.50	8
6	150	8.75	222	4.13	105	4.13	105	1.72	44	850	26.50	12
8	200	11.00	279	4.75	121	6.63	168	1.50	38	1500	50.00	23
10	250	13.38	338	6.00	152	8.25	210	1.63	41	2400	89.00	40
12	300	16.13	410	7.38	187	9.88	251	2.00	51	3700	150.00	68
14	350	17.75	451	7.25	184	12.00	305	3.13	79	4500	170.00	77
16	400	20.25	514	7.50	191	14.44	367	4.38	111	5500	225.00	102

** These sizes FM approved only, not UL listed.

NOTE: 14" and 16" sizes, 150 PSI WWP, FM approved only – P.O.A.

FEATURES

- Spring loaded for fast closure, eliminating reverse flow slam and water hammer.
- Easily installed, with gasket, between standard class 125 flanges.
- Only one set of flange studs is needed.
- May be installed in both horizontal and vertical lines with upward flow.



KW-900-W
Wafer



sizes
4" - 12" only

175 lb. WWP Iron Body Check Valves

Fire Protection Valve • Bolted Bonnet • Horizontal Swing • Renewable Seat and Disc •
 Drilled and Tapped for Ball Drip Outlet

175 PSI/12.1 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-71 •
 UL/ULC LISTED • FMRC APPROVED •
 APPROVED BY THE NEW YORK CITY B.S.A. 143-69-SA

MATERIAL LIST

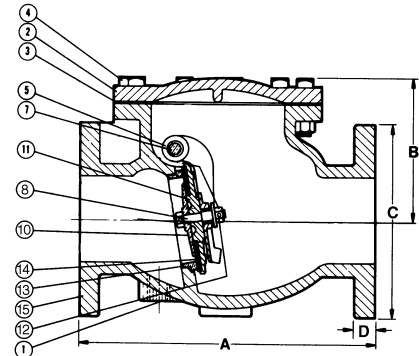
PART	SPECIFICATION
1. Pipe Plug	Cast Iron or Steel
2. Bonnet	Cast Iron ASTM A 126 Class B
3. Bonnet Gasket	Non Asbestos
4. Bonnet Bolt and Nut	Steel ASTM A 307
5. Hinge Plug	Cast Bronze B 584 Alloy C84400
6. Hinge Pin	Brass ASTM B 16 (not shown)
7. Disc Hanger Nut	Cast Bronze B 584 Alloy C84400
8. Disc Stud Bolt	Brass ASTM B 16 Alloy C36000
9. Disc Cage	Cast Iron ASTM A 126 Class B or Malleable Iron ASTM A 47 (not shown)
10. Disc Plate	Cast Bronze B 584 Alloy C84400
11. Disc Hanger	Cast Bronze B 584 Alloy C84400
12. Disc Nut	Brass ASTM B 16 Alloy C36000
13. Seat Ring	Cast Bronze B 584 Alloy C84400
14. Disc	Rubber (W)
15. Body	Cast Iron ASTM A 126 Class B

NOTE: Material list applies to sizes 4", 6", 8", 12" only.

All sizes are drilled and tapped 3/4" at Boss "C" for ball drip.



F-908-W
 Flanged



F-908-W
 Flg x Flg

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions								Weight	
		A		B		C		D			
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.
2½	65	10.00	254	6.44	164	7.00	178	.69	17	53	24
3	80	10.25	260	6.63	168	7.50	191	.75	19	62	28
4	100	13.00	330	8.00	203	9.00	229	.94	24	103	47
5	125	15.00	381	9.19	233	10.00	254	1.00	25	145	66
6	150	16.25	413	10.31	262	11.00	279	1.00	25	174	79
8	200	19.50	495	11.50	292	13.50	343	1.13	29	290	132
10	250	22.00	559	13.31	338	16.00	406	1.19	30	490	223
12	300	27.50	699	15.56	395	19.00	483	1.25	32	683	310

NIBCO Iron Body check valves may be installed in both horizontal and vertical lines with upward flow.



Ball Drip

An automatic ball drip is available for NIBCO Underwriter's check valves. The ball drip is installed at boss location "C" on the check valve of the fire department connection. It will close against pressure, but will open when pressure is off allowing water to drain from the fire department connection.

½" Ball Drip # RG 22000

¾" Ball Drip # RG 22100



250 lb. WWP Iron Body Check Valves

Fire Protection Valve • Drilled & Tapped for Ball Drip Outlet • EPDM Seal • Bronze Seat •
Stainless Steel Disc & Spring Actuated

250 PSI/17.2 Bar Non-Shock Cold Water

GROOVES CONFORM TO ANSI AWWA C-606 FOR STEEL PIPE •

UL/ULC LISTED • FMRC APPROVED •

APPROVED BY THE NEW YORK CITY MEA 258-93-E

MATERIAL LIST

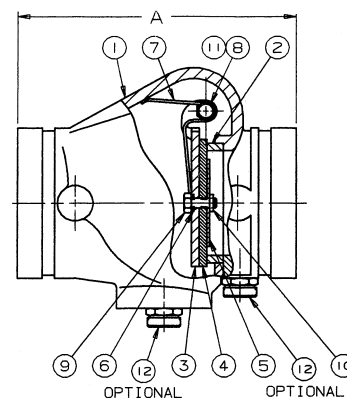
PART	SPECIFICATION
*1. Valve Body	Gray Iron, ASTM A 48 Class 30A
2. Seat	Bronze C83600 or C93200, ASTM B 505
3. Clapper	Stainless Steel 304, ASTM A 240
**4. Facing Seal	EPDM Rubber
5. Clamping Ring	Stainless Steel 304, ASTM A 240
**6. Gasket	EPDM Rubber
7. Spring	Stainless Steel 302, ASTM A 313
8. Hinge Pin	Stainless Steel 303, ASTM A 582
9. Bolt	Stainless Steel 304, ASTM F 593
**10. Locknut	Stainless Steel 303, ASTM F 594
11. Plug 1/8" NPT	Steel
12. Plug 1/2" NPT	Steel

* Not field replaceable.

** Replacement seal kit.



G-917-W
Grooved



G-917-W

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimension		Weight	
		A			
In.	mm.	In.	mm.	Lbs.	Kg.
2½	65	7.03	179	9	4
3	80	7.62	194	11	5
4	100	8.44	214	17	8
6	150	10.25	260	38	17



Ball Drip

An automatic ball drip is available for NIBCO Underwriter's check valves. The ball drip is installed at boss location "C" on the check valve of the fire department connection. It will close against pressure, but will open when pressure is off allowing water to drain from the fire department connection.

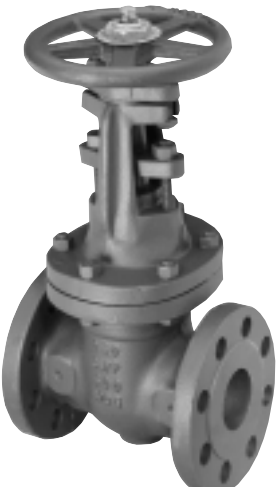
½" Ball Drip # RG 22000

¾" Ball Drip # RG 22100



Hi Rise Valves

Illustrated Index

	Ductile Iron Body Gate Valve Outside screw and yoke Bronze Trim, Solid Wedge 285 lb. WWP  F-637-31 Sizes 2" thru 24" Class 150 Flanged-Raised Face Page 31	Iron Body Gate Valve Outside screw and yoke Bronze Trim, Solid Wedge 500 lb. WWP  F-667-O Sizes 2" thru 12" Class 250 Flanged Ends Page 32
UL - FMRC Approved Iron Body Gate Valve Outside screw and yoke Bronze Trim, Solid Wedge 300 lb. WWP  F-697-O Sizes 2½" thru 10" Class 250 Flanged Ends Page 33	Ductile Iron Body Swing Check Valve Bronze Trim 285 lb. WWP  F-938-31 Sizes 2" thru 12" Class 150 Flanged-Raised Face Page 34	Iron Body Swing Check Valve Bronze Trim 500 lb. WWP  F-968-B Sizes 2½" thru 6" Class 250 Flanged Ends Page 35

285 lb. WWP Ductile Iron Body Gate Valves

Fire Protection Valve • Raised Face Flanges • Bolted Bonnet •
Outside Screw and Yoke • Solid Wedge • B 584 Bronze Trim

285 PSI/19.7 Bar Non-Shock Cold Working Pressure
to -20° F to 100° F/-29° C to 38° C

TESTING SPECIFICATION TO MSS SP-70

MATERIAL LIST

PART	SPECIFICATION
1. Stem	Bronze ASTM B 371
2. Handwheel Nut	Bronze ASTM B 584
3. Identification Plate	Aluminum
4. Yoke Bushing	Bronze ASTM B 584
5. Handwheel	Iron ASTM A 126 Class B
6. Bonnet Cap Nut	Steel ASTM A 307
7. Bonnet Cap	Ductile Iron ASTM A 536
8. ¹ Bonnet	Ductile Iron ASTM A 395
9. Bonnet Cap Bolt	Steel ASTM A 307
10. Gland Follower Nut	Brass ASTM B 36
11. Gland Follower	Ductile Iron ASTM A 536
12. Packing Gland	Brass or Iron
13. Packing	TFE Braided
14. Gland Follower Bolt	Steel ASTM A 307
15. Backseat Bushing	Bronze ASTM B 584
16. Body Nut	Steel ASTM A 307
17. Body Bolt	Steel ASTM A 307
18. Wedge Pin	Bronze ASTM B 371
19. Body	Ductile Iron ASTM A 395
20. ³ Seat Ring	Bronze ASTM B 584
21. Wedge Face Ring	Bronze ASTM B 584
22. ² Wedge	Ductile Iron ASTM A 395
23. Body Gasket	Synthetic Fibres
24. Stem Collar	Bronze ASTM B 371
25. Grease Fitting	Alemite 1743B (not shown)

¹ Sizes thru 8" made with Yoke Integral with Bonnet. 10" and 12" sizes made with separate Yoke Bolted to Bonnet.

² Sizes 2" thru 6" are all Bronze (31 Trim).

Sizes 8" thru 12" Ductile Iron Wedge with Bronze Wedge Face Rings (31 Trim).

³ Lugs may be removed at customer's request – POA.

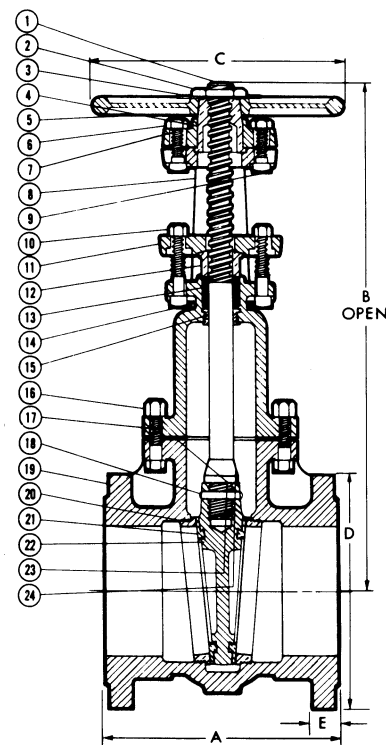
DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions										F-637-31 Weight Lbs. Kg.	
		A		B		C		D		E			
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
2	50	7.00	178	16.31	414	8.00	203	6.00	152	.63	16	41	19
2½	65	7.50	191	17.19	437	8.00	203	7.00	178	.69	17	55	25
3	80	8.00	203	19.50	495	8.00	203	7.50	191	.75	19	67	30
4	100	9.00	229	24.00	610	10.00	254	9.00	229	.94	24	107	48
5	125	10.00	254	27.13	689	10.00	254	10.00	254	.94	24	145	66
6	150	10.50	267	31.06	789	12.00	305	11.00	279	1.00	25	178	81
8	200	11.50	292	40.19	1021	14.00	356	13.50	343	1.13	29	309	140
10	250	13.00	330	48.25	1226	16.00	406	16.00	406	1.19	30	481	218
12	300	14.00	356	56.88	1445	18.00	457	19.00	483	1.25	32	706	320



F-637-31

Flanged-Raised Face



F-637-31
Flg x Flg

FREEZING WEATHER PRECAUTION: Subsequent to testing a piping system, valves should be left in an open position to allow complete drainage.

500 lb. WWP Iron Body Gate Valves

Fire Protection Valve • Bolted Bonnet • Outside Screw and Yoke •
Solid Wedge • Bronze Mounted

250 PSI/17.2 Bar Saturated Steam to 406° F/207° C

500 PSI/34.5 Bar Non-Shock Cold Working Pressure

to -20° F to 150° F/-29° C to 66° C

CONFORMS TO MSS SP-70 •

APPROVED BY THE NEW YORK CITY B/S/A/ 143-69-SA

AT 350 PSI NON-SHOCK COLD WATER

MATERIAL LIST

PART	SPECIFICATION
1. Stem	Brass ASTM B 16 Alloy C36000
2. Handwheel Nut	Cast Bronze ASTM B 584 Alloy C84400
3. Identification Plate	Aluminum
4. Yoke Bushing	Cast Bronze ASTM B 584 Alloy C84400
5. Handwheel	Cast Iron ASTM A 126 Class B
6. Bonnet Cap Nut	Steel ASTM A 307
7. Bonnet Cap	Cast Iron ASTM A 126 Class B or Ductile Iron ASTM A 536
8. ¹ Bonnet	Cast Iron ASTM A 126 Class B
9. Bonnet Cap Bolt	Steel ASTM A 307
10. Gland Follower Nut	Brass ASTM F 467 Alloy C27000
11. Gland Follower	Cast Iron ASTM A 126 Class B or Ductile Iron ASTM A 536
12. Packing Gland	Zinc Plated Powdered Iron ASTM B 783 or Brass ASTM B 16
13. Packing	TFE Braided
14. Gland Follower Bolt	Steel ASTM A 307
15. Backseat Bushing	Cast Bronze ASTM B 584 Alloy C84400
16. Body Nut	Steel ASTM A 307
17. Body Gasket	Reinforced Graphite
18. Body Bolt	Steel ASTM A 307
19. Body	Cast Iron ASTM A 126 Class B
20. Stem Collar	Brass ASTM B 16 Alloy C36000
21. ² Wedge	Cast Iron ASTM A 126 Class B
22. ³ Wedge Nut	Cast Bronze ASTM B 584 Alloy C84400
23. Wedge Pin	Silicon Bronze ASTM B 371 Alloy C69400 or ASTM B 140 Alloy C31400
24. Seat Ring	Cast Bronze ASTM B 584 Alloy C84400
25. ³ Wedge Face Ring	Cast Bronze ASTM B 584 Alloy C84400

¹ Sizes 2" thru 8" made with Yoke Integral with Bonnet. Sizes 8" thru 12" made with separate Yoke Bolted to Bonnet.

² Wedge construction – 2" thru 3" all bronze.
– 4" thru 12" Cast Iron with Bronze Wedge Face Rings.

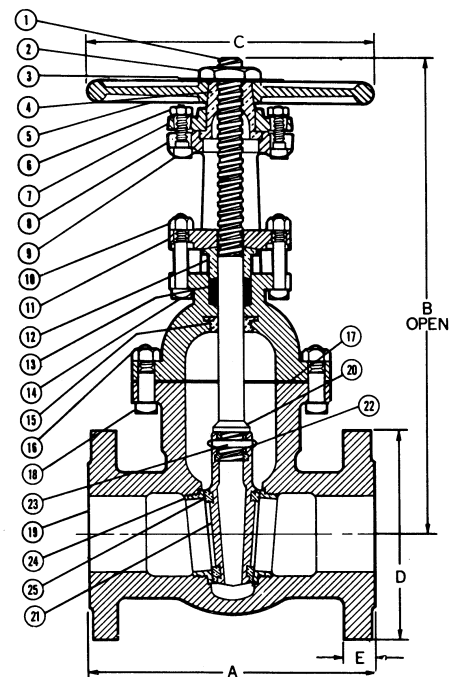
³ Bronze Wedge Nuts used on sizes 5" thru 12".

DIMENSIONS—WEIGHTS—QUANTITIES

Size	Dimensions										F-667-O Weight	
	A	B	C	D	E							
In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.						Lbs.	Kg.
2 50	8.50 216	16.00 406	8 203	6.50 165	.88 22	56	25					
2½ 65	9.50 241	18.44 468	8 203	7.50 191	1.00 25	74	34					
3 80	11.13 283	20.50 521	10 254	8.25 210	1.13 29	122	55					
4 100	12.00 305	27.00 686	12 305	10.00 254	1.25 32	193	87					
5 125	15.00 381	31.50 800	12 305	11.00 279	1.38 35	297	135					
6 150	15.88 403	33.00 838	16 406	12.50 318	1.44 37	411	187					
8 200	16.50 419	45.50 1156	16 406	15.00 381	1.63 41	637	289					
10 250	18.00 457	56.00 1422	20 508	17.50 445	1.88 48	897	407					
12 300	19.75 502	60.00 1524	20 508	20.50 521	2.00 51	1172	532					



F-667-O
Flanged



F-667-O
Flg x Flg

FREEZING WEATHER PRECAUTION: Subsequent to testing a piping system, valves should be left in an open position to allow complete drainage.

300 lb. WWP Iron Body Gate Valves

Fire Protection Valve • Bolted Bonnet • Outside Screw and Yoke • Solid Wedge • Class 250 Flanges

300 PSI/20.7 Bar Non-Shock Cold Water

 CONFORMS TO MSS SP-70 • UL LISTED • FMRC APPROVED •
 APPROVED BY NEW YORK CITY M.E.A. 420-92-E

MATERIAL LIST

PART	SPECIFICATION
1. Stem	Brass ASTM B 16 Alloy C36000
2. Handwheel Nut	Cast Bronze ASTM 584 Alloy C84400
3. Identification Plate	Aluminum
4. Yoke Bushing	Cast Bronze ASTM 584 Alloy C84400
5. Handwheel	Cast Iron ASTM A 126 Class B
6. Bonnet Cap Nut	Steel ASTM A 307
¹ 7. Bonnet Cap	Ductile Iron ASTM A 536
¹ 8. Bonnet	Cast Iron ASTM A 126 Class B
9. Bonnet Cap Bolt	Steel ASTM A 307
10. Gland Follower Nut	Brass ASTM B 36
11. Gland Follower	Ductile Iron ASTM A 536
12. Packing Gland	Zinc Plated Powdered Iron ASTM B 310 or Brass ASTM B 16
13. Packing	Non Asbestos
14. Gland Follower Bolt	Steel ASTM A 307
15. Backseat Bushing	Cast Bronze ASTM 584 Alloy C84400
16. Body Nut	Steel ASTM A 307
17. Body Gasket	Non Asbestos
18. Body Bolt	Steel ASTM A 307
19. Body	Cast Iron ASTM A 126 Class B
20. Stem Collar	Cast Bronze ASTM 584 Alloy C84400
² 21. Wedge	Cast Iron ASTM A 126 Class B
³ 22. Wedge Nut	Cast Bronze ASTM 584 Alloy C84400
23. Wedge Pin	Silicon Bronze B 140 Alloy C31600
24. Seat Ring	Cast Bronze ASTM 584 Alloy C84400
² 25. Wedge Face Ring	Cast Bronze ASTM 584 Alloy C84400

¹ Sizes 2½" thru 6" made as shown using bonnet cap.
 8" thru 10" made with separate yoke bolted to bonnet.

² Wedge construction - 2½" thru 3" all bronze.
 4" thru 10" cast iron with bronze wedge face rings.

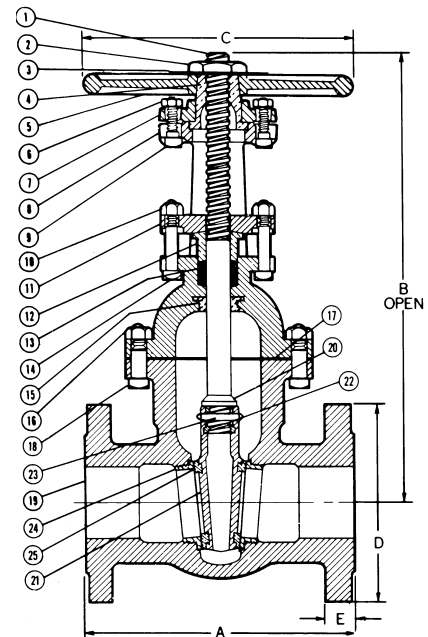
³ Bronze wedge nuts used on sizes 6" thru 10".

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions										Weight	
		A		B		C		D		E			
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.
2½	65	9.5	241	18.44	468	8.00	203	7.50	191	1.00	25	74	34
3	80	11.13	283	20.50	521	10.00	254	8.25	210	1.13	29	122	55
4	100	12.00	305	27.00	686	12.00	305	10.00	254	1.25	32	193	88
6	150	15.88	403	33.00	838	16.00	406	12.50	318	1.44	37	411	186
8	200	16.50	419	45.50	1156	16.00	406	15.00	381	1.63	41	637	290
10	250	18.00	457	56.00	1422	20.00	508	17.50	445	1.88	48	897	408



F-697-O
Flanged



F-697-O
Flg x Flg



FREEZING WEATHER PRECAUTION: Subsequent to testing a piping system, gate valves should be left in an open position to allow complete drainage.

285 lb. WWP Ductile Iron Body Swing Check Valves

Fire Protection Valve • Raised Face Flanges • Bolted Bonnet • B 584 Bronze Trim

285 PSI/19.7 Bar Non-Shock Cold Working Pressure
 to -20° F to 100° F/-29° C to 38° C

TESTING SPECIFICATION TO MSS SP-71

MATERIAL LIST

PART	SPECIFICATION
1. Bolt	Steel ASTM A 307
2. Identification Plate	Aluminum
3. Bonnet	Ductile Iron ASTM A 395
4. Body Gasket	Synthetic Fibres
5. Nut	Steel ASTM A 307
6. Side Plug	Bronze ASTM B 584
7. Hanger Pin	Bronze ASTM B 371
8. Hanger	Bronze ASTM B 584 or Ductile Iron ASTM A 536
9. Disc	Bronze ASTM B 584
10. Seat Ring	Bronze ASTM B 584
11. Disc Nut	Bronze ASTM B 371
12. Body	Ductile Iron ASTM A 395

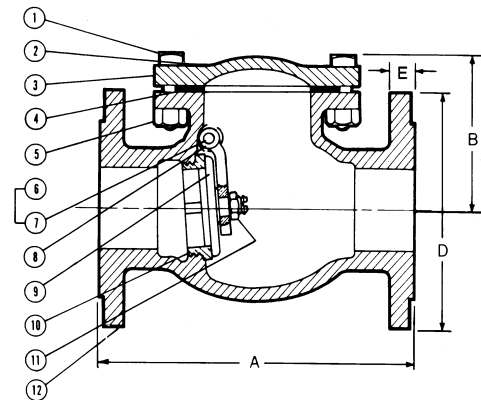


F-938-31
 Flanged-Raised Face

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions								F-938-31 Weight	
		A		B		D		E			
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.
2	50	8.00	203	3.94	100	6.00	152	.63	16	24	11
2½	65	8.50	216	4.50	114	7.00	178	.69	17	35	16
3	80	9.50	241	5.13	130	7.50	191	.75	19	47	21
4	100	11.50	292	6.13	156	9.00	229	.94	24	81	37
5	125	13.00	330	6.81	173	10.00	254	.94	24	100	45
6	150	14.00	356	8.00	203	11.00	279	1.00	25	146	66
8	200	19.50	495	9.44	240	13.50	343	1.13	29	255	116
10	250	24.50	622	12.06	306	16.00	406	1.19	30	426	193
12	300	27.50	699	16.13	410	19.00	483	1.25	32	660	299

Lever and Weight/Spring Options available.



F-938-31
 Flg x Flg

NIBCO Check Valves may be installed in both horizontal and vertical lines with upward flow or in any intermediate position.

WARNING: Do not use for Reciprocating Air Compressor Service.

500 lb. WWP Iron Body Check Valves

Fire Protection Valve • Bolted Bonnet • Horizontal Swing • *Renewable Bronze Seat and Disc

250 PSI/17.2 Bar Saturated Steam to 406° F/207° C
500 PSI/34.5 Bar Non-Shock Cold Working Pressure
to -20° F to 150° F/-29° C to 66° C

CONFORMS TO MSS SP-71 TYPE 1

MATERIAL LIST

PART	SPECIFICATION
1. Body Bolt	Steel ASTM A 307
2. Identification Plate	Aluminum
3. Bonnet	Cast Iron ASTM A 126 Class B
4. Body Gasket	Reinforced Graphite
5. Body Nut	Steel ASTM A 307
6. Side Plug	Brass ASTM B 16 Alloy C36000
7. Hanger Pin	Brass ASTM B 16 Alloy C36000
8. Hanger	Cast Bronze ASTM B 584 Alloy C84400
9. Disc Nut	Cast Bronze ASTM B 584 Alloy C84400
10. Disc	Cast Bronze ASTM B 584 Alloy C84400
11. Seat Ring	Cast Bronze ASTM B 584 Alloy C84400
12. Body	Cast Iron ASTM A 126 Class B

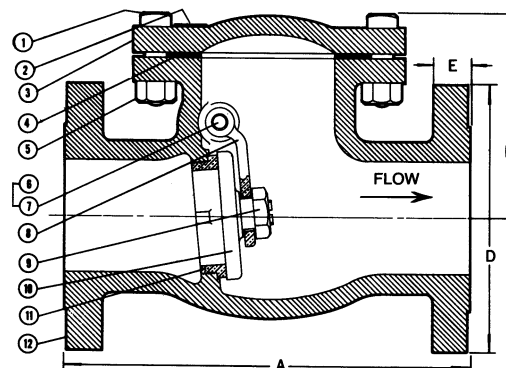


F-968-B
Flanged

DIMENSIONS—WEIGHTS—QUANTITIES

Dimensions											
Size		Dimensions								F-968-B Weight	
		A		B		D		E			
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.
2½	65	11.50	292	5.83	149	7.50	191	1.00	25	62	28
3	80	12.50	318	6.31	160	8.25	210	1.13	29	77	35
4	100	14.00	356	7.56	192	10.00	254	1.25	32	129	58
6	150	17.50	445	8.50	216	12.50	318	1.44	37	225	102

* Proper machining facilities required.



F-968-B
Flg x Flg

WARNING: Do not use for Reciprocating Air Compressor Service.

NIBCO Iron Body Check Valves may be installed in both horizontal and vertical lines with upward flow or in any intermediate position.

Iron UL/FM Butterfly Valves

Illustrated Index

UL Listed FMRC Approved
Ductile Iron Butterfly Valve
Gear Operator with Flag
250 lb. WWP



WD-3510-4/8
Water Style Body
Sizes 2" thru 12"
Page 37

UL Listed FMRC Approved
Ductile Iron Butterfly Valve
Gear Operator with Flag
250 lb. WWP



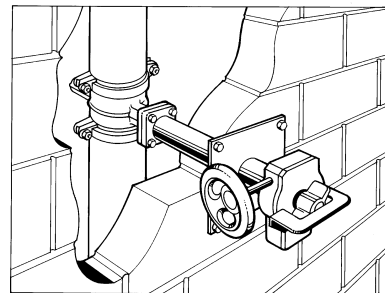
LD-3510-4/8
Lug Style Body
Sizes 2" thru 12"
Page 37

UL Listed FMRC Approved
Nylon Coated Ductile Iron Body
Gear Operator with Flag
300 lb. WWP



GD-4765-4/8
Grooved Mechanical Style
Sizes 2½" thru 10"
Page 38

UL Listed
Gear Operator with Target
Use with Wafer or Grooved Valve



Upright Indicator Post - GP
Wall Indicator Post - WP
Page 39

250 lb. WWP UL/FM Butterfly Valves

Fire Protection Valve • Wafer or Lug style body • Molded in seat •
Accepts internal and external supervisory switches

250 PSI/17.2 Bar Non-Shock Cold Water

CONFORMS TO MSS SP-67 • UL LISTED • FMRC APPROVED • 2" - 8" UL
LISTED FOR INDOOR AND OUTDOOR SERVICE •
10" & 12" FOR INDOOR SERVICE ONLY •
APPROVED BY NEW YORK CITY B.S.A. 612-87-SM • CALIFORNIA STATE
FIRE MARSHAL LISTING NO. 7770-1243:104

MATERIAL LIST

PART	SPECIFICATION
1. Stem	Stainless Steel ASTM 582 Type 416
2. Collar Bushing	Brass ASTM B 124
3. Upper Bushing	Copper Alloy CDA 122
4. Stem Seal	Nitrile (Buna-N)
5. Body Seal	Nitrile (Buna-N)
6. Disc	Ductile Iron ASTM 395 (Nickel Plated)
7. Liner	Nitrile (Buna-N)/EPDM
8. Lower Bushing	Copper Alloy CDA 122
9. Nameplate	Aluminum
10. Body	Ductile Iron ASTM A 536
11. Gear Operator	Cast Iron and Steel
12. Indicator Flag	Cast Iron
13. Handwheel	Cast Iron
14. Switch Box	Aluminum (10" and 12" only) (not shown)

******-8 version has two factory mounted internal supervisory switches. 2" thru 8" uses switch TS-3. 10" thru 12" uses switch TS-1.
Refer to pages 40 and 42 for detailed specifications.
-4 version less switches.

NOTE: Wafer body will mate with ANSI or ISO flanges. O.D. of wafer body notched to fit ISO bolt circle. See page 50.

Lug body available with ISO flange dimensions and metric bolt hole threads. See page 50.

See page 39 for indicator post accessory.

For dead-end service use lug style (rated 200 PSI for this service).

DIMENSIONS—WEIGHTS—QUANTITIES

Dimensions																					
Size		A		B		C		D		E		F		G		H		I		J	
In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	
2	50	2.53	64	4.88	124	4.62	117	5.38	137	2.88	73	6.63	168	13.75	349	1.68	43	1.81	46	3.62	92
2½	65	2.90	74	5.62	143	5.12	130	5.88	149	3.25	83	7.15	182	14.62	371	1.81	46	1.94	49	3.62	92
3	80	3.17	81	6.12	155	5.50	140	6.12	155	3.38	86	7.37	187	15.00	381	1.81	46	1.94	49	3.62	92
4	100	4.17	106	7.00	178	8.25	210	6.88	175	4.00	102	8.13	207	16.38	416	2.06	52	2.19	56	3.62	92
5	125	5.17	131	8.25	210	9.38	238	7.38	187	4.75	121	8.63	219	17.61	447	2.19	56	2.31	59	3.62	92
6	150	6.17	157	9.25	235	10.25	260	8.00	203	5.25	133	9.25	235	18.75	476	2.19	56	2.31	59	3.62	92
8	200	8.17	208	11.62	295	12.38	314	9.25	235	6.50	165	10.50	267	21.25	540	2.38	60	2.50	64	3.62	92
10	250	10.17	258	14.25	362	15.50	394	10.50	267	8.00	203	12.13	308	24.62	625	2.68	69	2.81	71	4.38	111
12	300	12.17	309	16.75	425	18.25	464	12.00	305	9.25	235	13.63	346	27.44	697	3.00	76	3.12	79	4.38	111

Dimensions								Flange/Stud Data								Weight						
Size		K		M		N		P		Dia.		Wafer		Lug		BC		Lug		Wafer		
In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	No.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	Lbs.	kg.	Lbs.	kg.		
2	50	4.18	106	7.81	198	2.56	65	6.0	152	4	⅝	16	4.00	101	1.25	32	4.75	121	23	11	21	10
2½	65	4.18	106	7.81	198	2.56	65	6.0	152	4	⅝	16	4.25	108	1.50	38	5.50	140	25	11	24	11
3	80	4.18	106	7.81	198	2.56	65	6.0	152	4	⅝	16	4.25	108	1.50	38	6.00	152	26	12	24	11
4	100	4.18	106	7.81	198	2.56	65	6.0	152	8	⅝	16	5.00	127	2.00	51	7.50	191	31	14	27	12
5	125	4.18	106	7.81	198	2.56	65	6.0	152	8	¾	20	5.25	133	2.00	51	8.50	216	37	17	31	14
6	150	4.18	106	7.81	198	2.56	65	6.0	152	8	¾	20	5.25	133	2.00	51	9.50	241	40	18	34	15
8	200	4.18	106	7.81	198	2.56	65	6.0	152	8	¾	20	5.75	146	2.25	57	11.75	298	55	25	49	22
10	250	3.00	76	8.00	203	2.78	71	9.0	229	12	7/8	22	6.25	159	2.50	64	14.25	362	95	43	78	35
12	300	3.00	76	8.00	203	2.78	71	14.0	356	12	7/8	22	6.75	171	2.50	64	17.00	432	123	56	103	47

Note - For use with cast iron class 125/steel class 150 flanges

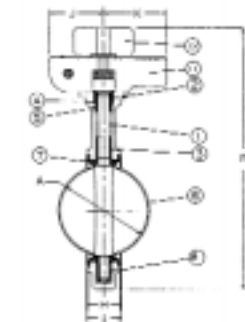
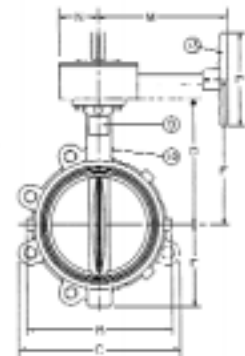


WD-3510-8**

Wafer
(4" Shown)

LD-3510-8**

Lug
(Not Shown)



(10" Shown)



300 lb. WWP UL/FM Butterfly Valves

Fire Protection Valve • Grooved Mechanical Style • Nylon Coated Ductile Iron • Extended Neck • Elastomer Encapsulated Disc • Accepts Internal and External Supervisory Switches

300 PSI/20.7 Bar Non-Shock Cold Water 2½" - 8"

175 PSI/12.1 Bar Non-Shock Cold Water 10"

UL LISTED • FMRC APPROVED • 2½" - 8" UL LISTED FOR INDOOR AND OUTDOOR SERVICE • 10" FOR INDOOR SERVICE ONLY •

CALIFORNIA STATE FIRE MARSHALL APPROVAL NO. 7770-1243:101

• APPROVED BY THE NEW YORK CITY MEA 9-97-E

MATERIAL LIST

PART	SPECIFICATION
1. Upper Stem	Stainless Steel ASTM A 582 Type 416
2. Upper Bushing	PTFE Bronze Sintered on Steel
3. "O" Ring	Buna-N
4. Body	Ductile Iron ASTM A 395 with Polymid Coating
5. Disc	Ductile Iron ASTM A 395 with EPDM Encapsulation
6. Lower Bushing	PTFE Bronze Sintered on Steel
7. Lower Stem	Stainless Steel ASTM A 582 Type 416
8. Dust Plug	PVC
9. Nameplate	Aluminum
10. Gear Operator	Cast Iron and Steel
11. Indicator Flag	Cast Iron
12. Handwheel	Cast Iron

*-8N version has two factory mounted internal supervisory switches.

-4N version is gear operated only — no switches

Uses NIBCO model #TS-3 Switch Kit. Refer to page 42 for specifications.

Polymid coating has NSF certification.

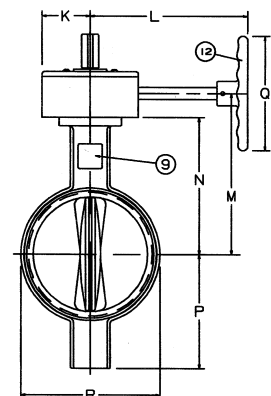
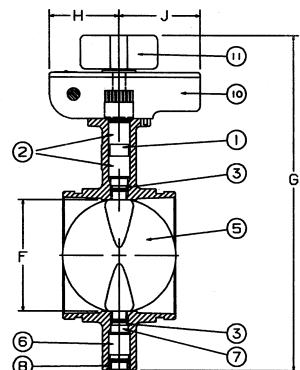
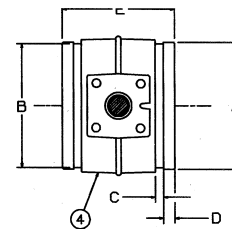
GD-1765-8N

10"
(not shown)



GD-4765-8N*

Grooved
2½" thru 8"



DIMENSIONS—WEIGHTS—QUANTITIES

Dimensions																
Size	A		B		C		D		E		F		G		H	
In. mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
2½ 65	2.88	73	2.72	69	0.31	8	0.63	16	3.85	98	2.42	61	11.71	297	3.63	92
3 O.D. 80	3.00	76	2.84	72	0.31	8	0.63	16	3.85	98	2.42	61	11.71	297	3.63	92
3 80	3.50	89	3.34	85	0.31	8	0.63	16	3.85	98	2.86	73	12.25	311	3.63	92
4 100	4.50	114	4.33	110	0.38	10	0.63	16	4.56	116	3.84	98	13.95	354	3.63	92
5 125	5.56	141	5.39	137	0.38	10	0.63	16	5.86	149	4.79	122	14.93	379	3.63	92
6 150	6.63	168	6.45	164	0.38	10	0.63	16	5.86	149	5.73	146	17.31	440	3.63	92
8 200	8.63	219	8.44	214	0.44	11	0.75	19	5.26	134	7.71	196	19.20	488	3.63	92
10 250	10.75	273	10.56	268	0.50	13	0.75	19	6.29	160	9.56	243	25.11	638	4.38	111

Dimensions																		
Size		J		K		L		M		N		P		Q		R		Weight
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs. Kg.
2½	65	4.18	106	2.50	64	7.81	198	5.43	138	4.19	106	3.25	83	6.00	152	3.46	88	22 10.0
3 O.D.	80	4.18	106	2.50	64	7.81	198	5.43	138	4.19	106	3.25	83	6.00	152	3.46	88	22 10.4
3	80	4.18	106	2.50	64	7.81	198	5.68	144	4.44	113	3.54	90	6.00	152	3.97	101	23 10.4
4	100	4.18	106	2.50	64	7.81	198	6.58	167	5.33	135	4.35	110	6.00	152	5.03	128	28 12.7
5	125	4.18	106	2.50	64	7.81	198	7.07	180	5.83	148	4.84	123	6.00	152	6.27	159	31 14.1
6	150	4.18	106	2.50	64	7.81	198	8.35	212	7.11	181	5.93	151	6.00	152	7.25	184	41 18.6
8	200	4.18	106	2.50	64	7.81	198	9.29	236	8.05	204	6.87	174	6.00	152	9.25	235	53 24.1
10	250	3.00	76	3.00	76	7.68	195	11.50	292	9.86	250	9.17	233	9.00	229	11.25	286	88 40.0

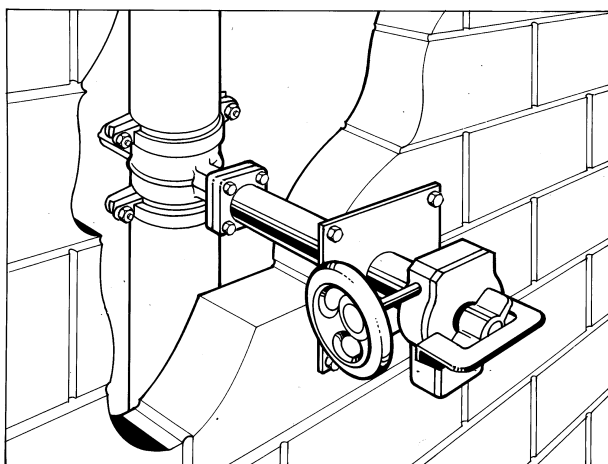


Butterfly Valves Indicator Post Assemblies

Available as Wall Post (WP*) or Underground (GP**)

Available with Internal Supervisory Switch 2" - 8" (UL Listed Indoor/Outdoor)

Available with Grooved, Wafer or Lug Style Valves (UL Listed, Not FM Approved)

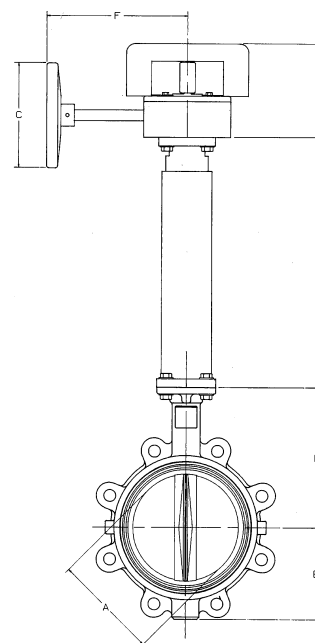


GD-4765-4WP*

Grooved Butterfly
Wall Post Assembly

LD-3510-4GP

Lug/Wafer Butterfly
Underground Post Assembly **



Butterfly Post Assembly

DIMENSIONS—WEIGHTS—QUANTITIES

DIMENSIONS—WEIGHTS—QUANTITIES													
Valve Size	A		C	D		E		F	G	M	Approx. Net Wt. 22" WP Incl. Wall Plate		
	Grooved	Wafer/ Lug		Grooved	Wafer/ Lug	Grooved	Wafer/ Lug				Grooved	Wafer	Lug
2	—	2.50	6	—	5.38	—	2.88	8	A S R E Q U I R E D	5.31	—	50	51
2½	2.50	2.88	6	4.21	5.88	3.24	3.25	8		5.31	51	52	53
3	2.93	3.13	6	4.42	6.13	3.53	3.38	8		5.31	53	53	54
4	3.93	4.13	6	5.30	6.88	4.34	4.00	8		5.31	56	56	59
5	—	5.13	6	—	7.38	—	4.75	8		5.31	—	59	63
6	5.89	6.13	6	7.07	8.00	5.92	5.25	8		5.31	—	62	68
8	7.87	8.13	9	8.00	9.25	7.86	6.50	8		5.31	76	74	80
10	—	10.13	9	—	10.50	—	8.00	7.5		7.25	—	91	104
12	—	12.13	14	—	12.00	—	9.25	7.5		7.25	—	108	128

* 9" x 9" painted steel wall plate included with wall post assembly.

** Ground line to top of indicator should be at least 36".



TS1 Replacement Instructions

CSA Approved • UL Listed • FMRC Approved

Factory Installed Supervisory Switches

For Valve Figure Nos. WD/LD-3510-8 10" and 12" Wafer/Lug Butterfly Valves

Tools Required:

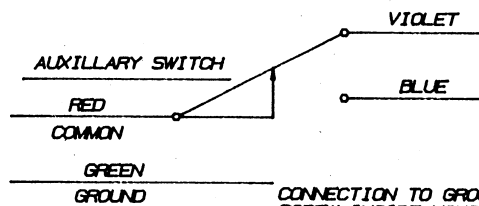
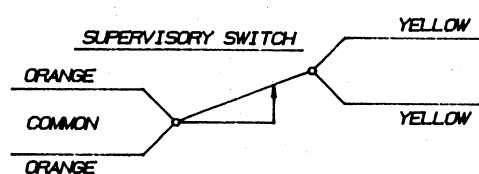
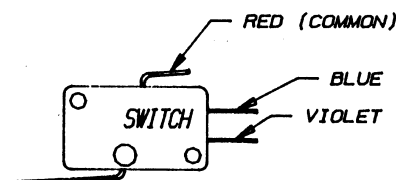
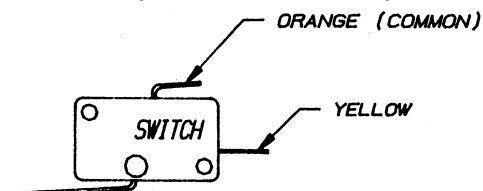
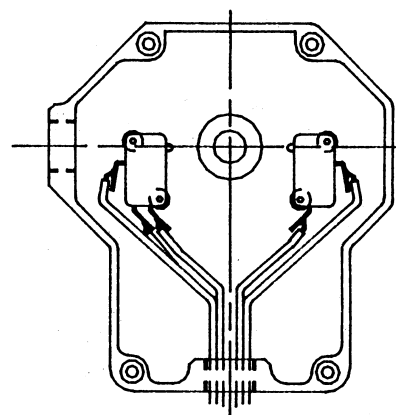
- 3/16" Hex (Allen Wrench)
- #2 Pin Head Phillips Screwdriver

- 1 Loosen 1/4" Allen-head set screw on indicator flag. Remove flag by pulling it off of valve stem.
- 2 Remove four Phillips Pin Head tamper-resistant screws from cover and remove cover from gear operator (flat-head screws used prior mid-1994).
- 3 Turn cover over and note mounting pads with tapped holes for #4-40 screws. Place one die-cut insulation on mounting pad, line up holes and assemble switch with wire leads using two #4-40 screws. Tighten screws. Whether one or two switches used, run wire leads out of 1/2" NPT hole in side of cover closest to padlock ear. Refer to diagram. (This hole can also be used for exterior supervisory switch installation.)
- 4 Before reassembling cover to gear operator, make sure disc is approximately 30 degrees away from full open position. (This will allow switch button to clear the cam lobe when replacing cover.) Position cover over stem and align four holes for screws, assemble and tighten screws.
- 5 Assemble flag on stem and tighten 1/4" set screw to secure.

TS1 Switch Specifications:

- 1 - S.P.S.T.
 - 15 amp @ 125 VAC 60 Hz or
 - 1/2 amp @ 125 VDC
- 1 - S.P.D.T.
 - 11 amp @ 125 VAC 60 Hz or
 - 1 amp @ 28 VDC non-conductive

Wiring: All lead wires are 18 AWG, 18 inches long and exit actuator housing through a single hole designed for 1/2" conduit fittings.



S.P.S.T. N.C. SWITCH
W/DUAL LEADS SOLDERED
TO SWITCH TABS.
(SWITCH SHOWN WITH VALVE
IN "NON-OPEN" POSITION.)

S.P.D.T. SWITCH WITH
SINGLE LEADS SOLDERED
TO SWITCH TABS.
(SWITCH SHOWN WITH VALVE
IN "NON-OPEN" POSITION.)

CONNECTION TO GROUND
SCREW INSIDE HOUSING



TS-2M Replacement Instructions

CSA Approved • SEV Approved • UL Listed • FMRC Approved

Factory Installed Supervisory Switches For Figure No. 505 Ball Valve

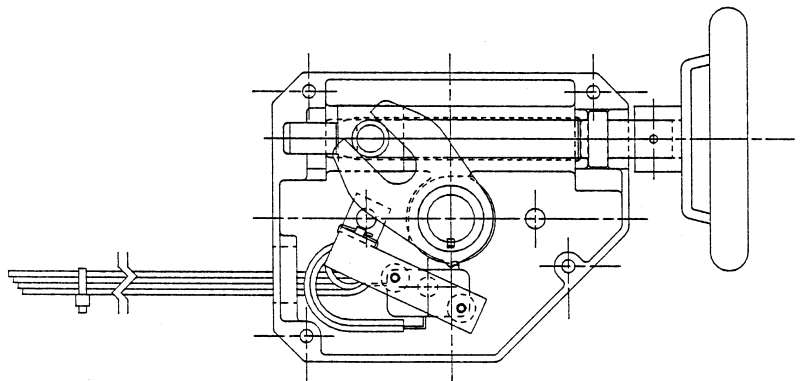
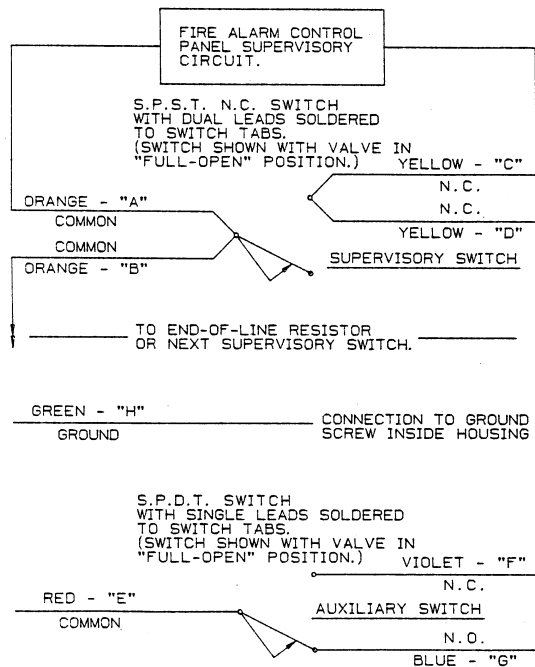
Supervisory / tamper switch voltage and current ratings:

S.P.S.T. - for valve position supervisory / tamper indication used with U.L. listed fire alarm control panel - two (2) leads per terminal; 6 amps @ 125 volts AC 60 Hz, or 1 amp @ 28 volts DC non-inductive. **See Note 2.**

S.P.D.T. - auxiliary switch which may be connected per authority having jurisdiction of auxiliary devices - one (1) lead per terminal; 6 amps @ 125 volts AC 60 Hz, or 1 amp @ 28 volts DC non-inductive.

NOTES:

- 1) Circuit shown in set condition when valve is in full open position.
- 2) For connection to system meeting current N.F.P.A. requirements, leads "A," "B," "C," and "D" are used. Connections "E," "F," and "G" are for proprietary use only - **NOT intended for electrical supervision**. Please consult local authority for acceptable connection.
- 3) Refer to N.F.P.A. 13 (Installation of Sprinkler Systems), 70 (National Electrical Code), 72 (Installation, Maintenance, and Use of Protective Signaling Systems), and any other applicable standards prior to installation.
- 4) Supervisory switch is preset and tested in accordance with all applicable agency requirements at the factory. No adjustment is possible once the valve is assembled.
- 5) All lead wires are 18 AWG, 18 inches long and exit the actuator housing through a single threaded hole designed for 1/2-inch conduit fittings.



TS3 Replacement Instructions

CSA Approved • UL Listed • FMRC Approved

Factory Installed Supervisory Switches

For Figure No. GD-4765-8N Grooved Butterfly Valves and
2" - 8" WD/LD-3510-8, 1991 and later Wafer/Lug Butterfly Valves

Tools Required:

3/16" Hex (Allen Wrench)

T-25-B Torx Pin Head Wrench (5/16" wrench for valves manufactured prior mid-1994)

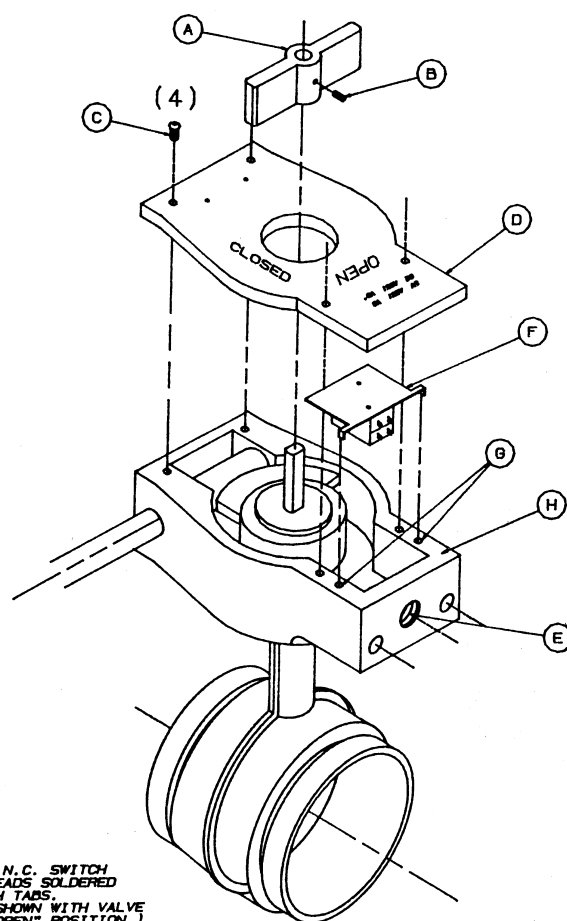
- 1 Remove flag (A) by backing out (approx. 2 turns) hex socket set screw (B)
- 2 Remove (4) Torx Pin Head screws (C) and gear operator cover (D) (Cap screws used prior mid-1994)
- 3 Pull electrical leads through conduit connection (E)
- 4 Put switch assembly (F) into gear case with tabs (down) in 1/4" diameter holes (G)
- 5 Press switch assembly down to seat against gear case. Check to insure that switch plate does not rest on gasket (H)
- 6 Reinstall cover plate (D)
- 7 Reinstall flag (A)

TS-3 Switch Specifications:

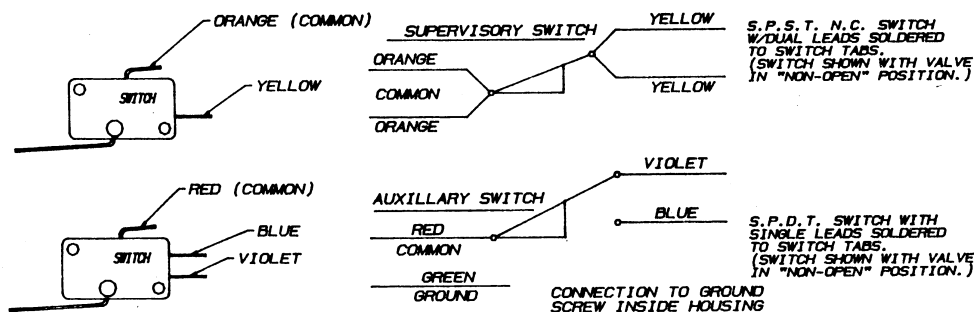
1 - S.P.S.T. / 1 - S.P.D.T.

Rating: 11 amps @ 125 VAC 60 Hz or
1 amp @ 28 VDC non-inductive.

Wiring: All lead wires are 18 AWG, 18 inches long and exit actuator housing through a single hole designed for 1/2" conduit fittings.



NOTE: Grooved end valve shown for illustration purposes only.



Iron Valve Tapping/By-Pass Data

Wall Tapping

MAXIMUM PIPE SIZE THAT MAY BE TAPPED IN VALVE WALL WITHOUT ANY BOSSES

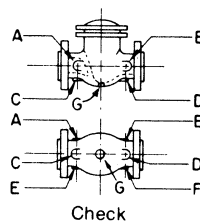
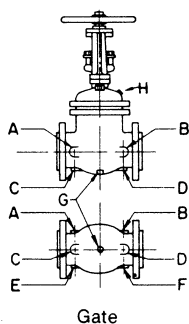
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
Size of Valve	2	50	2½	65	3	80	4	100	5	125	6	150	8	200	10	250	12	300
Size of Tapping	.38	10	.38	10	.38	10	.50	13	.75	19	.75	19	.75	19	1.25	32	1.50	40

Tapping of Boss Locations

All NIBCO iron valves are available with tapping for drain and special tapping. Boss locations and symbols and tapping procedures are in accordance with MSS By-Pass and Drain Connection Standard SP 45. When tapplings are needed at any other than the standard boss locations, a sketch must be provided clearly showing the exact location on the valve. NIBCO will review the request and advise if request can be met. All tapplings are plugged at no extra charge.

When bosses are ordered tapped, the standard size of tapping is in accordance with the following table taken from MSS Specification SP 45, table 1.

Size of Valve (in.)	2	3	4	5	6	8	10	12
Size of Drain Tapping (in.)								
Series A (steam)	½	½	½	¾	¾	¾	1	1
Series B (UL-FM)	-	-	1	1¼	1¼	1½	1½	2



By-Passes

A By-Pass can be used to equalize pressure at inlet and outlet before opening main valve; facilitating easy valve operation. The built-up type By-Pass is available on all NIBCO iron valves and is attached in accordance with MSS By-Pass and Drain Connection Standard SP 45. The By-Pass valve used on standard iron valves is a globe valve. On Underwriter's & Factory Mutual iron valves, the By-Pass valve is a UL-FMRC bronze gate valve. Specify by adding a (Z) to Figure Number, i.e. F-000-Z.

SIZES OF BY-PASS VALVES FOR UL/FMRC

Main Valve Sizes, Inches	4	5	6	8	10	12
By-Pass Valve Size for						
UL-FM, Inches	1	1½	1½	1½	1½	2

Sizes of by-pass valves on NIBCO Iron Gate, Globe, Angle and regular Swing Check valves conform to MSS Specification SP 45 Table II Series A for steam service. UL-FM approved valves conform to MSS Specification SP 45 Table II Series B.



Properties of Valve Materials

			NOMINAL OR MAXIMUM CHEMICAL COMPOSITION								
			CARBON		CHROME	COBALT	COPPER	IRON	LEAD	MANGA-NESE	MOLYB-DENUM
ALLOY	ASTM NO.	OTHER ALLOY DESIGNATION	AL	C	Cr	Co	Cu	Fe	Pb	Mn	Mo
Bronze & Brass	Commercial Aluminum 380	SC 84 A (modified)	87.0				1.0	1.3		.35	
	Free Cutting Brass	B 16	UNS C36000				61.5		3.0		
	Navy "M" (Steam Bronze)	B 61	UNS C92200	.005			88.0	.25	1.5		
	Composition Bronze (Ounce Metal)	B 62	UNS C83600	.005			85.0	.30	5.0		
	Copper-Silicon Alloy B	B 98/B 99	UNS C65100				96.0	.8	.05	.7	
	Forging Brass	B 124	UNS C37700				60.0	.3	2.0		
	Brass Wire (Red Brass)	B 134	UNS C23000				85.0	.05	.05		
	Leaded Red Brass	B 140	UNS C31400				89.0	.10	1.9		
	Aluminum Bronze (Cast)	B 148	UNS C95400	11.0			85.0	4.0			
	Aluminum Bronze (Rod)	B 150	UNS C64200	7.0			91.0	.30	.05	.10	
	Silicon Red Brass	B 371	UNS C69400				81.5	.20	.30		
	Leaded Semi-Red Brass	B 584	UNS C84400	.005			81.0	.40	7.0		
	Leaded Red Brass		UNS C84500	.005			78.0	.40	7.0		
	Leaded Nickel Bronze	B 584	UNS C97600				64.0		4.0		
	Copper	Copper (Wrot)	B 75	UNS C12200				99.9			
Gray Iron		A 126	Class B								
3% Ni Grey Iron		A 126 (modified)	Class B								
Iron	Austenitic Grey Iron (Ni-Resist)	A 436	Type 2		3.00	2.0		.5		1.0	
	Ductile Iron (Ferritic)	A 395			3.20						
	Austenitic Ductile Iron (Ductile) (Ni-Resist)	A 536 A 439 D2C			2.9	.5				2.4	1.0

NOMINAL OR MAXIMUM CHEMICAL COMPOSITION								NOMINAL PHYSICAL PROPERTIES			
NICKEL Ni	PHOS P	SILICON Si	SULFUR S	TIN Sn	TITAN- IUM Ti	TUNG- STEN W	ZINC Zn	TENSILE STRENGTH Psi	YIELD STRENGTH Psi	% ELONGATION	HARDNESS
.50		12.0		.15			.50	42,000	19,000	3.5	
							35.5	50,000	20,000	15	75 HRB
1.0	.05	.005	.05	6.0			4.5	34,000	16,000	22	65 HB *500 kg
1.0	.05	.005	.08	5.0			5.0	30,000	14,000	20	60 HB 500 kg
		1.6					1.5	86,000**	20,000	11	65 HRB
							38.0	52,000	20,000	45	80 HRB
							15.0	56,000			60 HRB
.7							9.1	50,000	30,000	7	60 HRB
								75,000	30,000	12	170 HB *3000 kg
.25		2.0		.20			.50	90,000	45,000	9	80 HRB
		4.0					14.5	80,000	40,000	15	85 HRB
	.02	.005	.08	3.0			9.0	29,000	13,000	18	55 HB *500 kg
1.0	.02	.005	.08	3.0			12.0	29,000	13,000	16	55 HB *500 kg
20.0				4.0			8.0	40,000	17,000	10	80 HB
	.02							36,000	30,000	25	45 T
	.75		.15					31,000			195 HB
3.00	.75		.15					31,000			195 HB
20.0		2.0	.12					25,000			118 HB
	.08	2.50						60,000	40,000	18	167 HB
	.08	2.50						80,000	55,000	6	160 HB
24.0	.08	3.0						58,000	28,000	20	146 HB

*Load Applied During Testing

**Allowable Range is 75,000 to 95,000

Flow Data

Cv Values for Valves

Liquid Flow:

$$Q = C_v \sqrt{\frac{\Delta P}{S}} \quad \text{or} \quad \Delta P = S \left(\frac{Q}{C_v} \right)^2$$

where . . . Q = flow rate (gallons per minute)
 ΔP = pressure drop across valve (psi)
S = specific gravity of media

This equation is good for turbulent flow and for liquids with viscosities near that of water.
(Cv is defined as the flow in GPM that a valve will carry with a pressure drop of 1.0 PSI when the media is water at 60° F.)
(The specific gravity of water is 1 (one).)

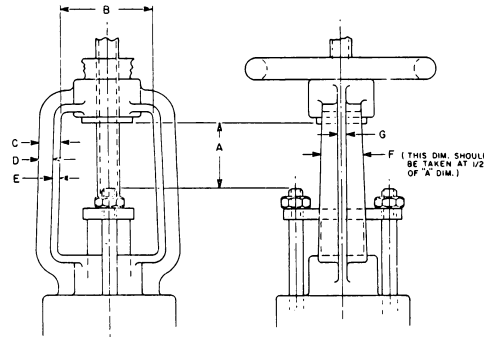
WARNING

The Fluid Flow factors contained herein are calculated values. They are, therefore, approximations and cannot be used for highly critical flow or pressure drop calculations. For very precise flow measurements, tests must be conducted on any valve mentioned within this catalog. Throttling of Ball Valves is not recommended when valves are less than 45° open.

VALVE SIZE

Fig. Nos.	1/4	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
GATES															
T-103-HC/104-0	5.6	17.6	32	54	97	135	230	337							
F-607-609-637															
-667-697															
M-609							215	335	510	945	1,525	2,250	4,150	6,700	9,925
GLOBES															
KT-211-WUL/															
KT-65-UL	1.16	3.64	6.65	11.1	20	28	48	70	111						
CHECKS															
KT-403-W(SWING)	2.5	4.8	14.3	24	43	60	102	150	238						
T-480(POPPET)	3.70	6.86	16.3	30	49	72	130								
F-908-938-968															
(SWING)								243	356	665	1,073	1,584	2,937	4,730	6,985
KW-900-W (WAFER)								60	184	354	577	801	1,500	2,357	3,742
BALL															
KT-505W	—	—	—	57	103	143	245	183							
KG-505W	—	—	—	—	—	143	245	183							
T-580	—	5.84	13.9	27	44	64	100	—							
T-580-70	—	—	—	—	44	76.1	101.4	183	390						
T-585-70	5.6	18.7	34	57	103	143	245	310							
KT-580-70UL	—	—	—	—	44	76.1	101.4	—							
KT-585-70UL	5.6	18.7	34	57	—	—	—	—							
BUTTERFLY															
WD/LD-3510							166	247	340	660	1,080	1,613	3,759	5,300	7,969
GD-4765							145	195	290	600	—	1,600	3,450	—	—
GD-1765							—	—	—	—	—	—	—	5,800	—

Gate Valve Dimensions for Supervisory Switch Application

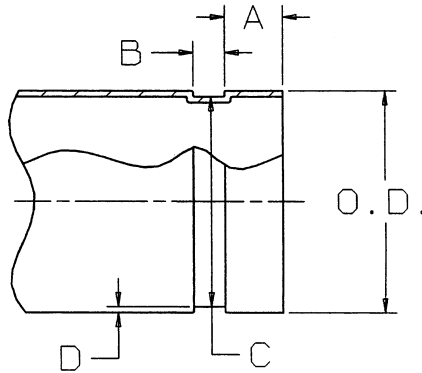


Valve	Size	A	B	C	D	E	F	G	Pitch	Stem Dia. and Thds/in	Lead	Thread Type
T-104-O	1/2	0.33	1.50	0.28	—	—	0.63	—	.08	0.44-12.00	Dble.	60° STUB
	3/4	0.33	1.50	0.31	—	—	0.63	—	.08	0.44-12.00	Dble.	60° STUB
	1	0.70	1.63	0.31	—	—	0.75	—	.08	0.50-12.00	Dble.	60° STUB
	1 1/4	0.35	2.63	0.31	—	—	0.81	—	.11	0.56-9.00	Dble.	60° STUB
	1 1/2	0.35	2.63	0.31	—	—	0.88	—	.11	0.56-9.00	Dble.	60° STUB
	2	0.84	2.50	0.44	—	—	0.88	—	.13	0.69-8.00	Dble.	60° STUB
F-607-OTS	2 1/2	1.13	2.38	0.88	0.44	0.44	1.19	0.38	.17	0.75-6.00	Dble.	STUB ACME
	3	1.75	2.50	0.88	0.50	0.38	1.63	0.38	.17	0.75-6.00	Dble.	STUB ACME
	4	1.63	3.13	1.50	0.75	0.75	2.00	0.50	.25	1.00-4.00	Dble.	STUB ACME
	5	2.50	3.38	1.50	0.75	0.75	2.25	0.75	.25	1.00-4.00	Dble.	STUB ACME
	6	2.50	3.38	1.50	0.75	0.75	2.25	0.75	.25	1.13-4.00	Dble.	STUB ACME
	8	4.75	4.50	1.63	0.75	0.88	2.03	0.75	.25	1.25-4.00	Dble.	STUB ACME
	10	6.63	4.50	2.25	1.25	1.00	3.00	0.75	.33	1.38-3.00	Sggle.	STUB ACME
	12	6.63	4.50	2.25	1.00	1.00	3.00	0.75	.33	1.50-3.00	Sggle..	STUB ACME
F-667-O/F-697-0	2 1/2	1.13	2.25	0.50	—	—	2.00	—	.17	0.75-6.00	Dble.	STUB ACME
	3	1.56	2.75	1.00	0.50	0.50	2.25	0.50	.25	1.00-4.00	Dble.	STUB ACME
	4	1.63	3.75	1.50	0.75	0.75	2.00	0.50	.25	1.13-4.00	Dble.	STUB ACME
	5	1.25	4.50	1.63	0.75	0.88	3.00	0.75	.25	1.25-4.00	Dble.	STUB ACME
	6	1.25	4.38	1.63	0.75	0.88	2.88	0.75	.33	1.38-3.00	Dble.	STUB ACME
	8	7.63	4.50	2.44	1.38	1.63	4.75	0.75	.33	1.50-3.00	Dble.	STUB ACME
	10	8.25	4.50	2.50	1.75	0.75	4.75	0.75	.50	1.88-2.00	Sggle.	STUB ACME
	12	8.88	4.50	2.50	1.75	0.75	4.00	0.75	.50	1.88-2.00	Sggle.	STUB ACME
F-607-RW	2 1/2	1.55	2.56	0.76	0.45	0.31	1.43	0.31	.16	0.79 X 6.25	Sggle.	ACME
	3	2.04	2.56	0.75	0.43	0.31	1.42	0.31	.16	0.79 X 6.25	Sggle.	ACME
	4	2.55	2.95	0.79	0.39	0.39	1.67	0.39	.20	0.98 X 5.00	Sggle.	ACME
	6	4.04	3.54	0.81	0.38	0.43	1.73	0.43	.20	1.70 X 5.00	Sggle.	ACME
	8	6.04	3.98	0.92	0.45	0.47	2.11	0.47	.24	1.26 X 4.20	Sggle.	ACME
	10	7.84	4.33	0.99	0.44	0.55	2.52	0.55	.24	1.42 X 4.20	Sggle.	ACME
	12	9.84	4.33	0.94	0.39	0.55	2.48	0.55	.24	1.57 X 3.60	Sggle.	ACME

Note: All valves have left hand thread.

Grooved Pipe Specification

Conforms to ANSI/AWWA C-606



1 Nominal Size Inches	2 Pipe Outside Diameter O.D.		3 Gasket Seal A +/-0.03	4 Groove Width B +/-0.03		5 Groove Diameter		6 Groove Depth (Ref.) D	7 Min. Allowable Wall Thickness		8 Maximum Allow Flare Diameter Roll Groove
	Actual O.D.	Tolerance		Roll Groove	Cut Groove	Actual	Tolerance +0.000		Roll Groove TR	Cut Groove TC	
1 1/4	1.600	+0.016 -0.016	0.625	0.281	0.313	1.535	-0.015	0.063	0.065	0.140	1.77
1 1/2	1.900	+0.019 -0.019	0.625	0.281	0.313	1.775	-0.015	0.063	0.065	0.145	2.01
2	2.375	+0.024 -0.024	0.625	0.344	0.313	2.250	-0.015	0.063	0.065	0.154	2.48
2 1/2	2.875	+0.029 -0.029	0.625	0.344	0.313	2.720	-0.018	0.078	0.083	0.188	2.98
3	3.500	+0.035 -0.031	0.625	0.344	0.313	3.344	-0.018	0.078	0.083	0.188	3.60
4	4.500	+0.045 -0.031	0.625	0.344	0.375	4.344	-0.020	0.083	0.083	0.203	4.60
5	5.563	+0.056 -0.031	0.625	0.344	0.375	5.395	-0.022	0.084	0.109	0.203	5.66
6	6.625	+0.063 -0.031	0.625	0.344	0.375	6.455	-0.022	0.085	0.109	0.219	6.73
8	8.625	+0.063 -0.031	0.750	0.469	0.438	8.441	-0.025	0.092	0.019	0.238	8.80
10	10.750	+0.063 -0.031	0.750	0.469	0.500	10.562	-0.027	0.094	0.134	0.250	10.92
12	12.750	+0.063 -0.031	0.750	0.469	0.500	12.531	-0.030	0.109	0.156	0.279	12.92

COLUMN 1:

-Normal IPS pipe size outside diameter.

COLUMN 2:

-Maximum Deviation from square-cut ends for 1.25" thru 3" is 0.03"; for 4" thru 6" is 0.045" and for 8" and above is 0.06".

COLUMN 3:

-To provide a leak-tight seal, the gasket seating area pipe shall be free from roll marks, indentations, paint scale, dirt, chips, grease and rust, etc.

COLUMN 4:

-Groove Width: Groove bottom to be free from loose dirt, chips, rust and scales. Bottom and grooves to be radiused and the vertical wall of grooves must provide at least 0.03" vertical side for proper assembly and coupling.

COLUMN 5:

-Groove Outside Diameter: The groove must be concentric to the pipe circumference. Groove must be within the diameter tolerance indicated.

COLUMN 6:

-Groove Depth: For reference only. (Refer to Column 5)

COLUMN 7:

-Minimum allowable wall thickness to which the pipe may be roll grooved or cut grooved.

COLUMN 8:

-Maximum allowable pipe end flare diameter. Measured at the most extreme pipe ends.

Metric Equivalent Charts

Metric					
Length					
	Symbol	Multiply	By	To Obtain	Symbol
	In.	Inches	2.5	Centimeters	Cm.
	Ft.	Feet	30.5	Centimeters	Cm.
	Mm.	Millimeters	.04	Inches	In.
	Cm.	Centimeters	.4	Inches	In.
	m.	Meters	3.3	Feet	Ft.
Mass					
	Symbol	Multiply	By	To Obtain	Symbol
	Oz.	Ounces	28	Grams	G.
	Lb.	Pound	0.45	Kilograms	Kg.
	G.	Grams	.035	Ounces	Oz.
	Kg.	Kilograms	2.2	Pounds	Lb.
Temperature					
	Symbol	Multiply	By	To Obtain	Symbol
	°F	Fahrenheit	5/9 (after subtracting 32)	Celsius	° C
	°C	Celsius	9/5 (then add 32)	Fahrenheit	° F
Area					
	Symbol	Multiply	By	To Obtain	Symbol
	In. ²	Square Inches	6.5	Square Centimeters	Cm. ²
	Ft. ²	Square Feet	.09	Square Meters	M. ²
	Cm. ²	Square Centimeters	.16	Square Inches	In. ²
Volume					
	Symbol	Multiply	By	To Obtain	Symbol
	Fl. Oz.	Fluid Ounces	30.0	Milliliters	ML.
	Qt.	Quart	.95	Liters	L.
	Gal.	Gallons	3.8	Liters	L.
	Ft. ³	Cubic Feet	.03	Cubic Meters	Cm. ³
	ML.	Milliliters	.03	Fluid Ounces	Fl. Oz.
	L.	Liters	1.06	Quarts	Qts.
	L.	Liters	0.26	Gallons	Gal.
	M. ³	Cubic Meters	35	Cubic Feet	Ft. ³
Pressure					
	Symbol	Multiply	By	To Obtain	Symbol
	PSI	Pounds Per Sq. In.	.069	Bar	(no symbol)
	PSI	Pounds Per Sq. In.	6.89	Kilopascals	Kpa
	PSI	Pounds Per Sq. In.	.07	Kilogram Per Sq. Centimeter	Kg/Cm. ²
	Lb./Ft. ²	Pounds Per Sq. Ft.	4.88	Kilogram Per Sq. Meter	Kg/m. ³
	Kpa	Kilopascals	.145	Pounds Per Sq. In.	PSI
	Kg/Cm. ²	Kilograms Per Centimeters	14.22	Pounds Per Sq. In.	PSI
	(no Symbol)	Bar	14.5	Pounds Per Sq. In.	PSI
General Factors					
Pressure			Volume		
	Multiply	By	To Obtain	Multiply	By
	Atmospheres	29.92	Inches of Mercury (at 0° C)	Cubic Inches	5.787 x 10 ⁻⁴
	Atmospheres	14.7	Pounds Per Sq. In.	Cubic Feet	1728
	Feet of Water	.4335	Pounds Per Sq. In.	Cubic Feet	7.48052
	Inches of Mercury	0.4912	Pounds Per Sq. In.		
	Pounds Per Sq. In.	2.307	Feet of Water		
	Pounds Per Sq. In.	2.036	Inches of Mercury		
Power			Flow		
	Multiply	By	To Obtain	Multiply	By
	Horsepower	33,000	Ft.-Lb./Min.	Cubic Feet/Min.	62.43
	Horsepower	550	Ft.-Lb./Sec.	Cubic Feet/Sec.	448.831
	Horsepower	745.7	Watts		
	Ft.-Lb./Sec.	4.6263	BTU/Hr.		
	Kilowatts	1.341	Horsepower		
Energy			Flow		
	Multiply	By	To Obtain	Multiply	By
	BTU	778.3	Ft. Lbs.		
	Kilowatts-Hrs.	3413	BTU		

Flange Dimensions

Class 125 cast iron flanges - ANSI Standard B16.1

Mate with 150-lb. steel flanges ANSI Standard B16.5

DIMENSIONS IN INCHES

Size	Diameter of Flange	Thickness of Flange	Diameter of Bolt Circle	Bolt Hole Diameter	Number of Bolts	Diameter of Bolts	Length of Bolts
2	6	$\frac{5}{8}$	$4\frac{3}{4}$	$\frac{3}{4}$	4	$\frac{5}{8}$	$2\frac{1}{4}$
2½	7	$1\frac{1}{16}$	$5\frac{1}{2}$	$\frac{3}{4}$	4	$\frac{5}{8}$	$2\frac{1}{2}$
3	$7\frac{1}{2}$	$\frac{3}{4}$	6	$\frac{3}{4}$	4	$\frac{5}{8}$	$2\frac{1}{2}$
3½	$8\frac{1}{2}$	$1\frac{3}{16}$	7	$\frac{3}{4}$	8	$\frac{5}{8}$	$2\frac{3}{4}$
4	9	$1\frac{5}{16}$	$7\frac{1}{2}$	$\frac{3}{4}$	8	$\frac{5}{8}$	3
5	10	$1\frac{9}{16}$	$8\frac{1}{2}$	$\frac{7}{8}$	8	$\frac{3}{4}$	3
6	11	1	$9\frac{1}{2}$	$\frac{7}{8}$	8	$\frac{3}{4}$	$3\frac{1}{4}$
8	$13\frac{1}{2}$	$1\frac{1}{8}$	$11\frac{3}{4}$	$\frac{7}{8}$	8	$\frac{3}{4}$	$3\frac{1}{2}$
10	16	$1\frac{3}{8}$	$14\frac{1}{4}$	1	12	$\frac{7}{8}$	$3\frac{3}{4}$
12	19	$1\frac{1}{4}$	17	1	12	$\frac{7}{8}$	$3\frac{3}{4}$

Class 250 cast iron flanges - ANSI Standard B16.1

Mate with 300-lb. steel flanges ANSI Standard B16.5

DIMENSIONS IN INCHES

Size	Diameter of Flange	Thickness of Flange	Diameter of Bolt Circle	Bolt Hole Diameter	Number of Bolts	Diameter of Bolts	Length of Bolts
2	6	$\frac{7}{8}$	5	$\frac{3}{4}$	8	$\frac{5}{8}$	$2\frac{3}{4}$
2½	$7\frac{1}{2}$	1	$5\frac{5}{8}$	$\frac{7}{8}$	8	$\frac{3}{4}$	$2\frac{3}{4}$
3	$8\frac{1}{4}$	$1\frac{1}{8}$	$6\frac{5}{8}$	$\frac{7}{8}$	8	$\frac{3}{4}$	$3\frac{1}{2}$
3½	9	$1\frac{3}{16}$	$7\frac{1}{4}$	$\frac{7}{8}$	8	$\frac{3}{4}$	$3\frac{1}{2}$
4	10	$1\frac{1}{4}$	$7\frac{7}{8}$	$\frac{7}{8}$	8	$\frac{3}{4}$	$3\frac{3}{4}$
5	11	$1\frac{3}{8}$	$9\frac{1}{4}$	$\frac{7}{8}$	8	$\frac{3}{4}$	4
6	$12\frac{1}{2}$	$1\frac{7}{16}$	$10\frac{5}{8}$	$\frac{7}{8}$	12	$\frac{3}{4}$	4
8	15	$1\frac{5}{8}$	13	1	12	$\frac{7}{8}$	$4\frac{1}{2}$
10	$17\frac{1}{2}$	$1\frac{7}{8}$	$15\frac{1}{4}$	$1\frac{1}{8}$	16	1	$5\frac{1}{4}$
12	$20\frac{1}{2}$	2	$17\frac{3}{4}$	$1\frac{1}{4}$	16	$1\frac{1}{8}$	$5\frac{1}{2}$

Alternative Flange Dimensions

(Approximates ISO 2084, DIN 2501 and B.S. 4504 Dimensions)

Pressure Rating		Pipe Size		Diameter of Flange		Thickness of Flange		Diameter of Bolt Circle		Bolt Hole Diameter		Number of Bolts
Bar	PSI	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	
10/16	150/230	50	2	165	6.50	20	.787	125	4.92	18	.709	4
		65	2.5	185	7.28	20	.787	145	5.71	18	.709	4
		80	3	200	7.87	22	.866	160	6.30	18	.709	8
		100	4	220	8.66	24	.945	180	7.09	18	.709	8
		125	5	250	9.84	26	1.024	210	8.27	18	.709	8
		150	6	285	11.22	26	1.024	240	9.45	22	.866	8
10	150	200	8	340	13.39	26	1.024	295	11.61	22	.866	8
		250	10	395	15.55	28	1.102	350	13.78	22	.866	12
		300	12	445	17.52	28	1.102	400	15.75	22	.866	12
16	230	200	8	340	13.39	26	1.024	295	11.61	22	.866	12
		250	10	395	15.55	28	1.102	355	13.98	26	1.024	12
		300	12	445	17.52	28	1.102	410	16.14	26	1.024	12

Figure Number Comparisons

GATE, GLOBE, CHECK AND INDICATOR POST

NIBCO	KENNEDY	MUELLER	STOCKHAM	WATEROUS	UNITED	CLOW
T-103-HC	39NS	---	---	---	---	---
T-104-0	66	---	B133	---	18	---
KT-65-UL, KT-211-UL	97SD*	---	B13T*	---	45S*	---
KT-291-W3*	220*	---	---	---	76*	---
KT-67-UL, T-301-W	98SD	---	B222*	---	46S* 126S 2"	---
T-331-HC	936	---	---	---	88H/88 CPCH	---
KT-403-W*	440SD*	---	B320B*	---	62	---
F-607-OTS	68	A2073-6	G634	---	---	F5733
F-607-RW	4068	A2078	G610	500	---	F6136
F-609	701	A2052-6	G632-0	---	---	F5722
F-609-RW	4701	A2074-6	G600	500	---	F6130
M-609	71	A2052-20	G635-0	---	---	F5725
M-609-RW	4071	A2074-20	G601	500	---	F6140
F-697-0	3068	---	F670	---	---	---
F-908W	126A	A2122-6	G940	600	---	F5347R
KW-900-W	706	A2102	WG990	---	90	---
NIP-1AJ	741-25	A20804	G951	A240	---	F5760
NIP-2AJ	641-13	A20810	G950	A280	---	F5761

*Not UL Listed

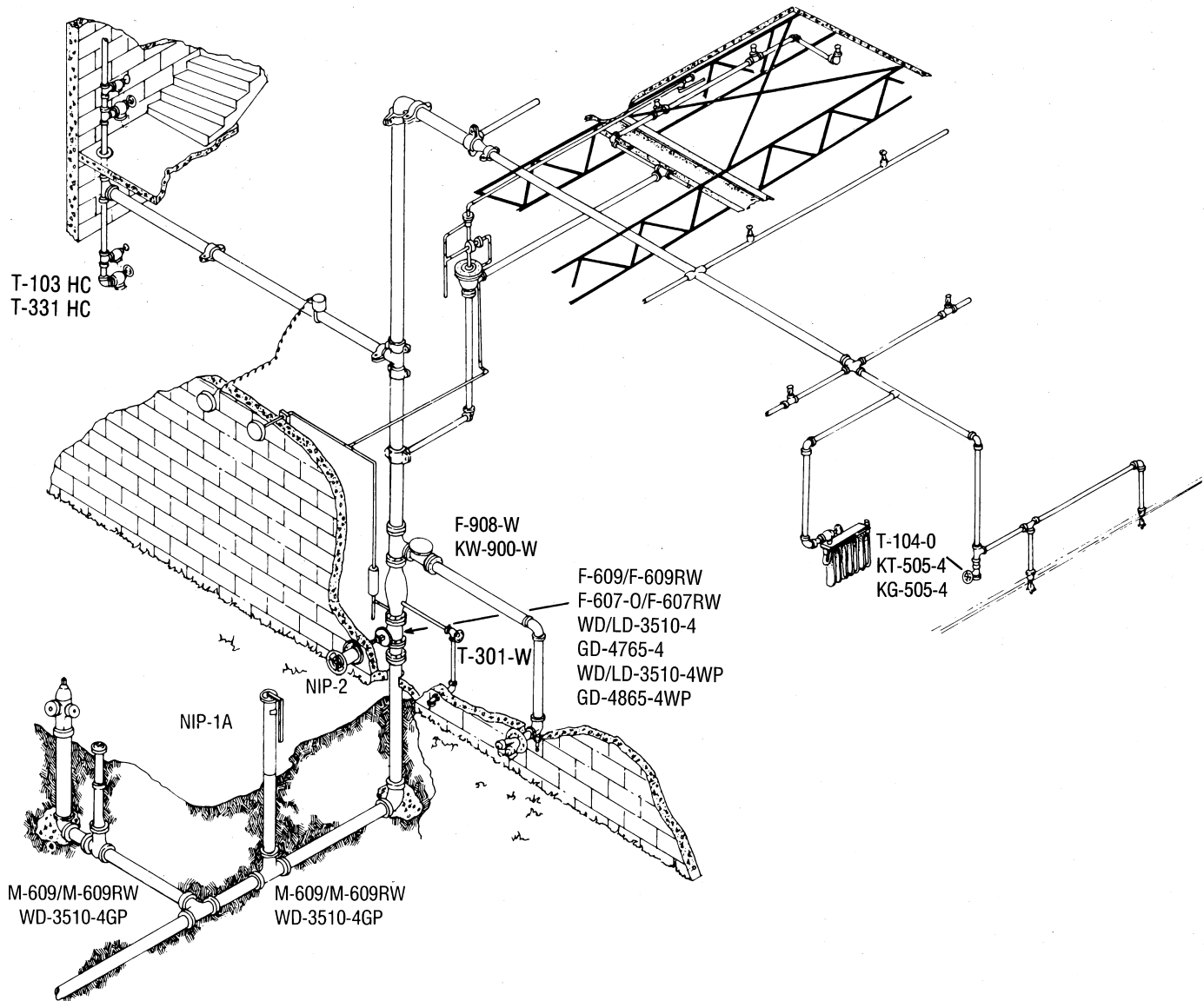
BALL & BUTTERFLY

NIBCO	MILWAUKEE	VICTAULIC	GRINNELL	STOCKHAM	UNITED	KENNEDY
T-580/*†	BA100*†	—	3500*†	S214*†	80WBC*†	775*†
T585-70*†			3700*†	S206*†		
KT-505W-8	—	727	—	—	—	—
KG-505W-8						
WD3510-8	—	—	WC82823FP	LG52UF	—	—
LD3510-8	—	—	LC82823FP	LG72UF	—	93WI
GD-4765-8N	—	708	GRUVLOCK	LG82UF	—	83M
KT-580/585-70UL	—	722	U1550†	US124†	—	—

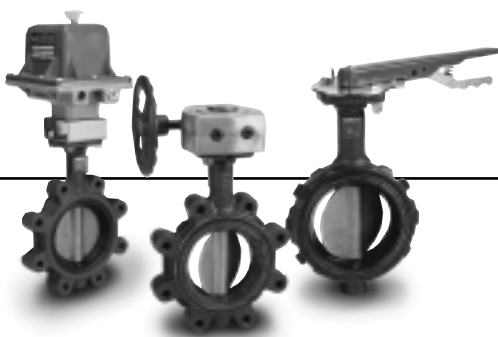
*Not UL Listed

†Not FM Approved

A Typical Fire Protection Sprinkler System

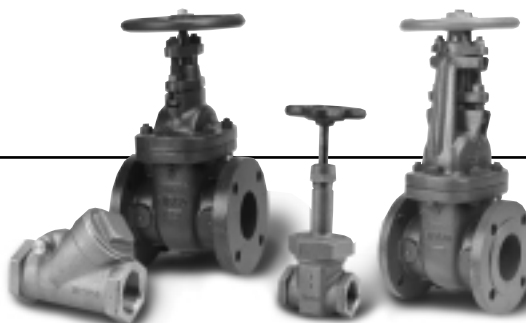


Schematic courtesy of Rick Perella



Butterfly Valves

- Full rated dead end service (no blind flange required)
- Durable ductile iron body - High tensile and yield strength
- Geometric stem/disc connection - no pins or bolts in waterway
- Threaded double seal stem collar bushing - blow-out proof stem design
- Complies with all primary industry specification requirements - MSS SP-67, API 609
- Economy line of cast iron body butterfly valves



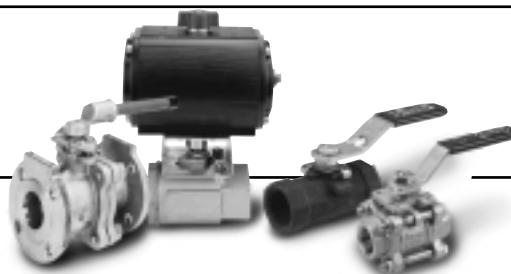
Multi-Turn Valves

- Comprehensive line of domestically manufactured bronze and cast iron gate, globe, and check valves
- Exclusive Class 150 ductile iron gate, globe, and check valves featuring bronze or 316SS trim
- Complies with industry specification requirements - MSS SP-80, 70, 71, 85
- Complete line of UL listed /FMRC approved gate and check valves



Bronze Ball Valves

- Dezincification resistant cast bronze construction for commercial and industrial applications
- Full port or conventional port design
- 2 and 3-piece design accepts NIBCO's patented NIB-SEAL® insulated handle system
- Multiple options: memory stops, extended handles, 316SS ball and stem, locking levers
- Complies with all primary industry specification requirements - MSS SP-110, AGA, CGA, UL
- Full line of cast bronze and forged brass valves



Carbon & Stainless Ball Valves

- NIBCO's 1, 2, & 3-piece valves and flanged ball valves provide exceptional performance and value for industrial and general service applications
- Standard integral mounting pads for pneumatic or electric actuation
- Multiple handle configurations - locking lever, oval and oval locking handles for safety requirements
- Complies with all primary industry specification requirements - MSS SP-110, MSS SP-72, API 607 4th edition, API 598, ANSI/ASME B16.34
- 3-piece carbon and stainless ball valves available with threaded or socket weld ends
- Flange ball valves in ANSI Class 150, 300 and 600, Unibody or Split body full port design

NIBCO INC. 125% LIMITED WARRANTY*Applicable to NIBCO INC. Pressure Rated Metal Valves*

NIBCO INC. warrants each NIBCO pressure rated metal valve to be free from defects in materials and workmanship under normal use and service for a period the lesser of one (1) year from the date put in service, or two (2) years from the date of purchase.

In the event any defect occurs which the owner believes is covered by this warranty, the owner should immediately contact NIBCO Technical Services, either in writing or by telephone at (888) 446-4226 or (574) 295-3000. The owner will be instructed to return said product, at the owner's expense, to NIBCO INC., or an authorized representative for inspection. In the event said inspection discloses to NIBCO INC.'s satisfaction that said valve is defective, it will be replaced at NIBCO INC.'s expense. Replacements shall be shipped free of charge to the owner. In the event of the replacement of any valve, NIBCO INC. shall further pay the owner the greater of Twenty-Five (25%) Percent of the price of the valve according to NIBCO INC.'s published suggested list price schedule in effect at the time of purchase, or Ten (\$10.00) Dollars, to apply on the cost of the installation of said replacement valve.

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NIBCO INC.
World Headquarters
1516 Middlebury Street
Elkhart, IN 46516-4740
USA

Phone: 1.574.295.3000

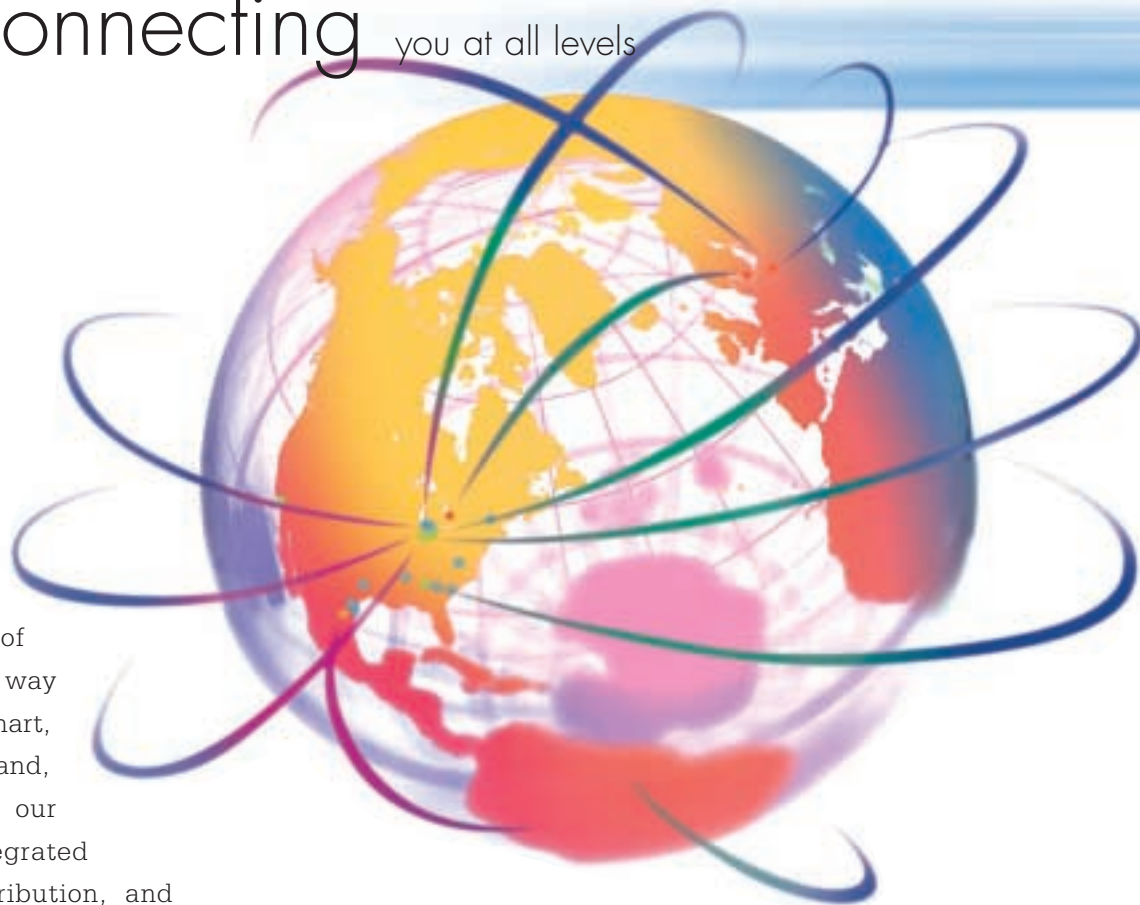
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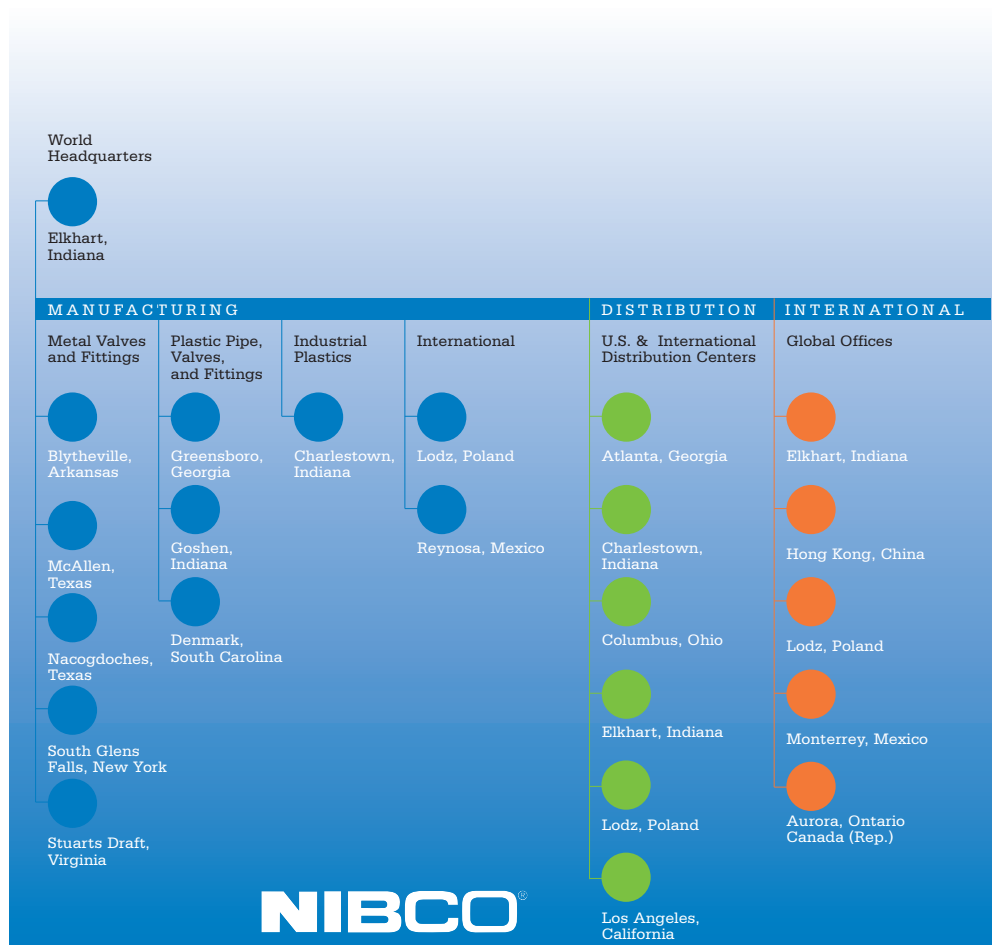
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globally connecting you at all levels



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Wrot and cast copper pressure fittings • Wrot and cast copper drainage fittings • Wrot copper PEXlink® fittings • Cast copper alloy flared fittings • Cast copper alloy flanges • ABS and PVC DWV fittings • Schedule 40 PVC pressure fittings • CPVC CTS fittings • CPVC CTS-to-metal transition fittings • Schedule 80 PVC and CPVC systems • CPVC metric piping systems.

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Pressure-rated bronze, iron and alloy-iron gate, globe and check valves • Pressure-rated bronze ball valves • Boiler specialty valves • Commercial and industrial butterfly valves • Circuit balancing valves • Carbon and stainless steel ball valves • ANSI flanged steel ball valves • Pneumatic and electric actuators and controls • Grooved ball and butterfly valves • UL/FM fire protection valves • Low-pressure gate, globe, check and ball valves • Bronze specialty valves • Frostproof sillcocks • MSS specification valves • PVC ball valves • CPVC CTS ball valves.



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