

Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
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Little Rock, AR 72231
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Date: 5/17/2024

Return Request: 5/27/2024

Project: CALS Main Library Renovations

Supplier: Comfort Systems USA (Arkansas), Inc.

Manufacturer: Nibco

Submittal: General Duty Valves (HVAC)

Submittal Number: 23 05 23-01

Drawing # and Installation: Mechanical Drawings

ARCHITECT

Polk Stanley Wilcox
801 South Spring St.
Little Rock, AR 72201
501-378-0878

ENGINEER

Bernhard
1 Allied Drive, Bldg. 2, Suite 2600
Little Rock, AR 72202
501-666-6776

GENERAL CONTRACTOR

CDI
3000 Cantrell Rd.
Little Rock, AR 72202
501-5666-4300

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

CSUSA PROJECT NO.

23-8016

dpierce@comfortar.com

9924 Landers Rd.
No. Little Rock, AR 72117

Class 125 Bronze Gate Valves

Screw-In Bonnet • Rising Stem • Solid Wedge

125 PSI/8.6 bar saturated steam to 353° F/178° C
200 PSI/13.8 bar non-shock cold working pressure

CONFORMS TO MSS SP-80

MATERIAL LIST

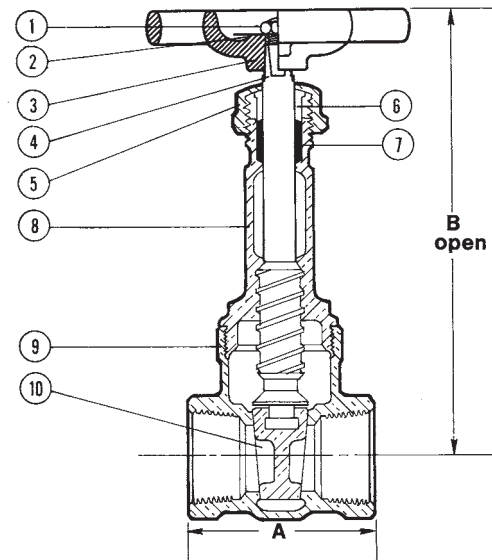
PART	SPECIFICATION
1. Handwheel Nut	300 Series Stainless Steel
2. Identification Plate	Aluminum
3. Handwheel	Malleable Iron ASTM A 47
4. Stem	Silicon Bronze ASTM B 371 Alloy C69400/C69430 or ASTM B 99 Alloy C65100
5. Packing Nut	Bronze ASTM B 62 or ASTM B584 Alloy C84400 or Brass ASTM B 16
6. Packing Gland	Bronze ASTM B 62 or ASTM B584 Alloy C84400 or Brass ASTM B16
7. Packing	Aramid Fibers with Graphite
8. Bonnet	Bronze ASTM B 62
9. Body	Bronze ASTM B 62
10. Wedge	Bronze ASTM B 62



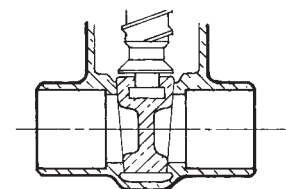
T-111
Threaded



S-111
Solder



T-111
NPT x NPT



S-111
C x C

DIMENSIONS—WEIGHTS—QUANTITIES

Size	Dimensions						T-111		S-111		Master Ctn. Qty.		
	A		B		C		Lbs.	Kg.	Lbs.	Kg.	T-111	S-111	
In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.	Lbs.	Kg.	T-111	S-111
† ¼	8	1.69	43	4.63	117	x	x	0.79	0.36	x	x	50	x
† ⅜	10	1.69	43	4.63	117	.69	18	0.76	0.35	0.70	0.32	50	50
† ½	15	1.94	49	4.81	122	.75	19	0.87	0.40	0.73	0.33	50	50
¾	20	2.06	54	5.81	148	.88	22	1.19	0.54	1.07	0.49	50	50
1	25	2.44	62	7.09	180	1.00	25	1.98	0.90	1.77	0.80	30	30
1¼	32	2.63	67	8.13	206	1.19	32	2.66	1.21	2.52	1.14	20	20
1½	40	2.88	72	9.81	249	1.25	33	3.76	1.70	3.42	1.55	10	10
2	50	3.06	78	11.56	294	1.31	34	5.56	2.52	5.23	2.37	10	10
2½	65	4.13	105	14.31	364	1.81	46	10.81	4.90	9.63	4.37	4	4
3	80	4.50	114	16.50	419	1.94	49	15.49	7.02	13.92	6.31	2	4

† No packing gland, packing only in these sizes.

x Not available this size.

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

◆ For detailed Operating Pressure, refer to Pressure Temperature Chart on page 116.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Visit our website for the most current information.

Class 125 Iron Body Gate Valves

Bolted Bonnet • Outside Screw and Yoke • Solid Wedge • Bronze Mounted • Stem Pack Ring Material Options

200 PSI/13.8 bar non-shock cold working pressure to -20°F to 150°F/-29°C to 66°Ct

Maximum working temperature 450°F/232°C at 125 PSI/8.6 bar

125 PSI/8.6 bar saturated steam to 353°F/178°C

CONFORMS TO MSS SP-70

MATERIAL LIST

PART	SPECIFICATION
1. Stem	Copper Alloy, ASTM B16 C36000
2. Nut, Handwheel	Cast Copper Alloy, ASTM B584 C84400
3. Nameplate, I.D.	Aluminum
4. Handwheel, Blue	Cast Iron, ASTM A126-B
5. Bushing, Yoke	Cast Copper Alloy, ASTM B584 C84400
6. Screw, Hex - Bonnet Cap	Steel, ASTM A307 / SAE J429
7. Cap, Bonnet	Ductile Iron, ASTM A536
8. Nut, Square - Bonnet Cap	Steel, ASTM A563
9. Bonnet ¹	Cast Iron, ASTM A126-B
10. Nut, Heavy Hex - GLD Follow	Steel, ASTM A563
11. Gland Follower	Ductile Iron, ASTM A536
12. Pack Gland	Powdered Metal, ASTM B783
13. Pack Ring	F617-O: Aramid Fibers/Graphite F617-OTP: Synthetic Fibers/PTFE
14. Bolt, SQ Head - GLD Follow	Steel, ASTM A307 / SAE J429
15. Screw, Hex - Body	Steel, ASTM A307 / SAE J429
16. Gasket, Body	Graphite/SST
17. Nut, Hex - Body	Steel, ASTM A563
18. Collar, Stem	Copper Alloy, ASTM B16 C36000
19. Pin, Wedge	Copper Alloy, ASTM B140 C31600
20. Ring, Seat - Wedge	Cast Copper Alloy, ASTM B584 C84400
21. Wedge ²	Cast Iron, ASTM A126-B
22. Ring, Seat - Body	Cast Copper Alloy, ASTM B584 C84400
23. Body	Cast Iron, ASTM A126-B

¹ Sizes thru 8", Yoke and Bonnet are intergral. 10" and 12" sizes separate. Yoke is bolted to Bonnet.

² Sizes 2" thru 6" have Cast Copper Alloy Wedges. Sizes 8" thru 12" made with Cast Iron Wedge with Cast Copper Alloy Face Rings.

NOTE: 1. F-617-O available 2"-24". F-617-OTP available 2"-12".

2. NIBCO may substitute Ductile Iron ASTM A395 (60-40-18) for ASTM A126 Class B Cast Iron for the Body, Bonnet, Wedge, or Disc. NIBCO may substitute Ductile Iron ASTM A395 (60-40-18) or ASTM A536 (65-45-12) for all other ASTM A126 Class B Cast Iron components.

DIMENSIONS—WEIGHTS—QUANTITIES

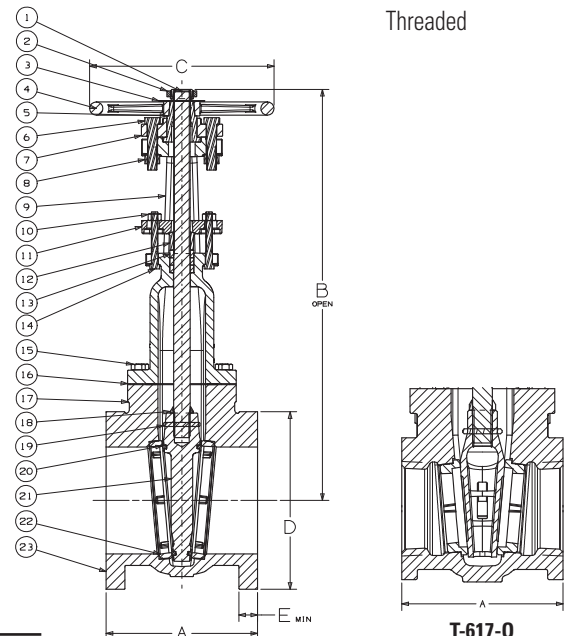
		Dimensions															
		F-617-O/OTP		T-617-O		B		C		D		E		F-617-O/OTP		T-617-O	
Size		A	A	B	C	D	E	F-617-O/OTP	T-617-O	Lbs.	Kg.	Lbs.	Kg.				
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.				
2	50	7.00	178	5.63	143	16.26	413	8.00	203	6.00	152	0.62	16	41	19	30	14
2½	65	7.50	191	5.88	149	17.26	438	8.00	203	7.00	178	0.69	18	55	25	39	18
3	80	8.00	203	6.13	156	19.44	494	8.00	203	7.50	114	0.75	19	67	30	47	21
4	100	9.00	229	6.50	165	23.54	598	10.25	260	9.00	229	0.94	24	107	49	77	35
5	125	10.00	254	—	—	27.01	686	10.25	260	10.00	254	0.94	24	145	66	—	—
6	150	10.50	267	—	—	30.73	781	12.00	305	11.00	279	1.00	25	178	81	—	—
8	200	11.50	292	—	—	40.29	1023	14.00	356	13.50	343	1.12	28	309	140	—	—
10	250	13.00	330	—	—	48.45	1231	16.25	413	16.00	406	1.19	30	481	219	—	—
12	300	14.00	356	—	—	56.26	1429	18.00	457	19.00	483	1.25	32	706	321	—	—



F-617-O
F-617-OTP
Flanged



T-617-O
Threaded



F-617-O
F-617-OTP
Flg x Flg

T-617-O
NPT x NPT

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

◆ For detailed Operating Pressure, refer to Pressure Temperature Chart on page 116.

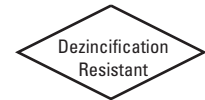


WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Visit our website for the most current information.

Class 125 Bronze Check Valves

Horizontal Swing • Grinding Type • Y-Pattern • Renewable Seat and Disc



125 PSI/8.6 Bar Saturated Steam to 353°F/178°C
200 PSI/13.8 Bar Non-Shock Cold Working Pressure

CONFORMS TO MSS SP-80

MATERIAL LIST

PART	SPECIFICATION
1. Bonnet	Bronze ASTM B 62
2. Body	Bronze ASTM B 62
3. Hinge Pin	316 SS or 304 SS
4. Disc Hanger	Bronze ASTM B 62 or MPIF SS-316NI-25
5. Hanger Nut	Bronze ASTM B 16
6. Disc Holder	Bronze ASTM B 62
7. Seat Disc	Petroleum or Water (Buna-N) (W) Steam (PTFE) (Y) Bronze ASTM (B) FKM (V) B 62 C83600
8. Seat Disc Nut	Bronze ASTM B 16 or B 62
9. Hinge Pin Plug	Bronze ASTM B140 Alloy C31400 (not shown)
10. Seat Disc Washer*	ASTM B 98 Alloy C65500 or ASTM B 103

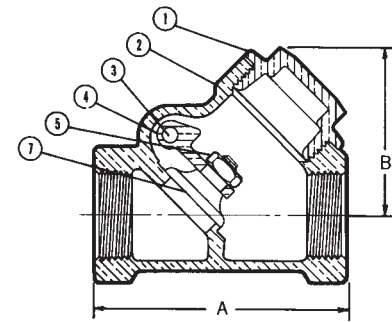
*Sizes ¾", 1", 1¼", 1½" and 2" only.



T-413
Threaded



S-413
Solder



T-413-B
NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size	Dimensions						T-413		S-413		Master Ctn. Qty.	
	A		B		C		Lbs.	Kg.	Lbs.	Kg.		
In.	mm.	In.	mm.	In.	mm.	In.	mm.					
¼	8	2.13	54	1.63	41	1.38	35	0.50	0.23	0.51	0.23	50
⅝	10	2.13	54	1.63	41	1.31	33	0.47	0.22	0.48	0.22	50
½	15	2.44	62	1.69	43	1.50	38	0.55	0.25	0.55	0.25	50
¾	20	2.94	75	1.88	48	1.88	48	0.90	0.41	0.88	0.40	10
1	25	3.56	90	2.31	59	2.25	57	1.46	0.66	1.48	0.67	5
1¼	32	4.19	106	2.69	68	2.75	70	2.17	0.99	2.22	1.01	20
1½	40	4.50	114	2.94	75	3.11	79	2.95	1.34	3.00	1.36	10
2	50	5.25	133	3.94	100	3.75	95	4.79	2.17	4.87	2.21	10
2½*	65	8.00	203	5.06	129	5.06	129	11.48	5.21	10.48	4.76	5
3*	80	9.25	235	6.25	159	6.25	159	17.53	7.96	15.29	6.94	4

Ordering: T-413 and S-413 normally furnished with Bronze Disc (T-413-B) or (S-413-B).
Both available with PTFE Steam Disc (T-413-Y), (S-413-Y), or CWP Disc (T-413-W), (S-413-W) or 300° F 67 PSI steam FKM Disc (T-413-V).

*Class 150 (433) furnished for these sizes.

Install 5 pipe diameters minimum downstream from pump discharge or changes in direction to avoid flow turbulence. Flow straighteners may be required in extreme cases.

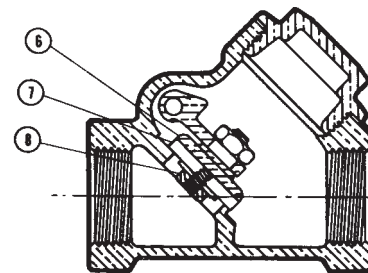
Note: On pump discharge, the preferred check valves are: inline, spring assisted, center-guided, lift checks.

NIBCO® Check Valves may be installed in both horizontal and vertical lines with upward flow or in any intermediate position. They will operate satisfactorily in a declining plane (no more than 15°).

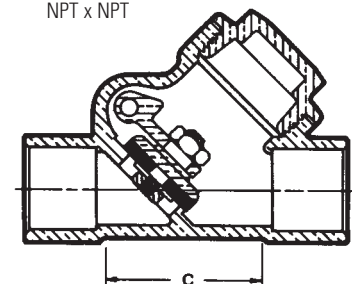
Warning – Do Not Use For Reciprocating Air Compressor Service.

♦ For detailed Operating Pressure, refer to Pressure Temperature Chart on page 116.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



T-413-Y
NPT x NPT



S-413-W
C x C

Visit our website for the most current information.

Class 125 Iron Body Check Valves

Bolted Bonnet • Horizontal Swing • Renewable Seat and Disc*

200 PSI/13.8 bar non-shock cold working pressure to -20°F to 150°F/-29°C to 66°C*

Maximum working temperature 450°F/232°C at 125 PSI/8.6 bar

125 PSI/8.6 bar saturated steam to 353°F/178°C

CONFORMS TO MSS SP-71 TYPE 1

MATERIAL LIST

PART	SPECIFICATION
1. Body Bolt	Steel ASTM A307
2. Identification Plate	Aluminum
3. Bonnet	Cast Iron ASTM A126 Class B
4. Body Gasket	Synthetic Fibers
5. Body Nut	Steel ASTM A563
6. Side Plug	Brass ASTM B16 Alloy C36000
7. Hanger Pin	Brass ASTM B16 Alloy C36000
8. Hanger	Ductile Iron ASTM A536
9. ¹ Disc	Brass ASTM B584 Alloy C84400 or ASTM A536 Ductile Iron with Brass Face Ring
10. Seat Ring	Brass ASTM B584 Alloy C84400
11. Disc Nut	Brass ASTM B16 Alloy C36000
12. Body	Cast Iron ASTM A126 Class B
13. ¹ Disc Bolt	Brass ASTM B16 Alloy C36000
14. Disc Plate**	Cast Iron ASTM A126 Class B
15. Disc Cage**	Cast Iron ASTM A126 Class B

¹2" thru 4" have Bronze ASTM B584 Disc.

¹5" thru 12" have Iron Disc with Bronze Disc Face Rings and Disc Bolt.

**These items are not in the -B, only the -W and -Y.

DIMENSIONS—WEIGHTS—QUANTITIES

Dimensions															
Size	F-918-B		T-918-B		B	D	E	F-918-B	T-918-B	F-918-B	T-918-B	F-918-B	T-918-B		
	A	A	A	A										Lbs.	Kg.
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.	Lbs.	Kg.		
2	50	8.00	203	6.50	165	3.94	100	6.00	152	.63	16	24	11	15	7
2½	65	8.50	216	7.50	191	4.50	114	7.00	178	.69	17	35	16	26	12
3	80	9.50	241	8.00	203	5.13	130	7.50	191	.75	19	47	21	31	14
4	100	11.50	292	9.38	238	6.13	156	9.00	229	.94	24	80	36	54	24
5	125	13.00	330	x	x	6.81	173	10.00	254	.94	24	100	45	80	36
6	150	14.00	356	x	x	8.00	203	11.00	279	1.00	25	146	66	121	54
8	200	19.50	495	x	x	9.44	240	13.50	343	1.13	29	274	124	x	x
10	250	24.50	622	x	x	12.06	306	16.00	406	1.19	30	426	193	x	x
12	300	27.50	699	x	x	16.13	410	19.00	483	1.25	32	675	306	x	x

Note: On pump discharge, the preferred check valves are:

- inline, spring assisted, center-guided, lift checks
- spring assisted twin (double) disc
- swing design with lever and weight or lever and spring

*Proper machining facilities required.

x Not available this size.

¹2½" thru 12" are available with lever and weight or lever and spring.

Install 5 pipe diameters minimum downstream from pump discharge or changes in direction to avoid flow turbulence. Flow straighteners may be required in extreme cases.

NIBCO Iron Body 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.

◆ For detailed Operating Pressure, refer to Pressure Temperature Chart on page 114.



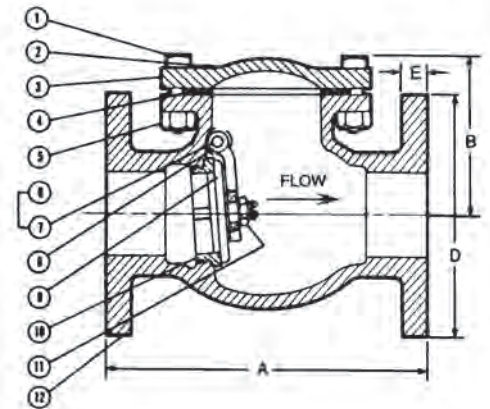
F-918-B

Flanged

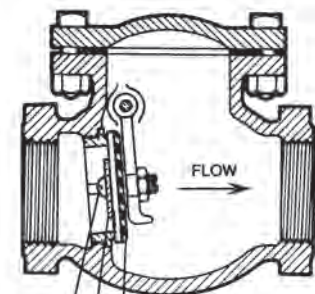


T-918-B

Threaded



F-918-B
Flg x Flg



T-918
NPT x NPT
Buna-N Disc Shown



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