

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
Little Rock, AR 72231
Phone 501-834-3320
Fax 501-834-5416

Date: 07/09/2026
Return Request: 07/30/2026
Project: Highlands Building at Pinnacle Hills
Supplier: Comfort Systems USA
Manufacturer: Various
Submittal: General Duty Valves for Plumbing
Submittal Number: 22 05 23 -01
Drawing # and Installation: Plumbing

ARCHITECT

Crafton Tull
Fayetteville, Ar

ENGINEER

IMEG

GENERAL CONTRACTOR

Clark Contractors
Rogers, Ar.

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
116 Commercial Ave.
Lowell, AR 72745
(479) 770.8992

NOTES:

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CSUSA PROJECT NO.
26-5034

jzuber@comfortar.com

Lead-Free* Bronze Ball Valves

Silicon Performance Bronze™ Alloy • Two-Piece Body • Full Port •
Blowout-Proof Stem • MSS SP-110 • IAPMO IGC-157 •
NSF/ANSI-61-8 Commercial Hot 180°F (includes Annex F and G) and NSF/ANSI-372

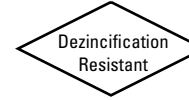
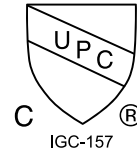
Size Range: 1/4" - 2"

Pressure Rating: 600 PSI Non-Shock Cold Working Pressure

Maximum Pressure / Temperature: 100 PSI at 300° F

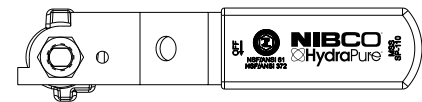
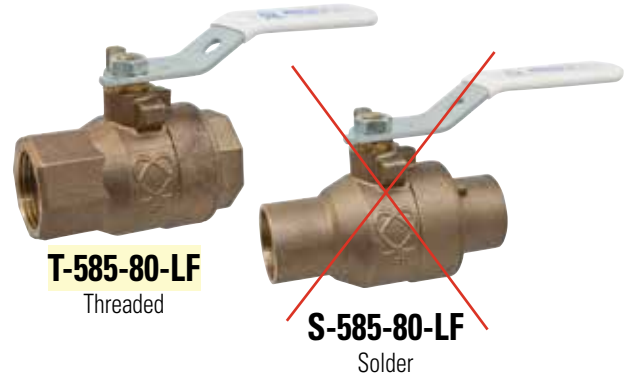
Lead-Free* markings:

Double oval in body casting, white handle and blue hang tag

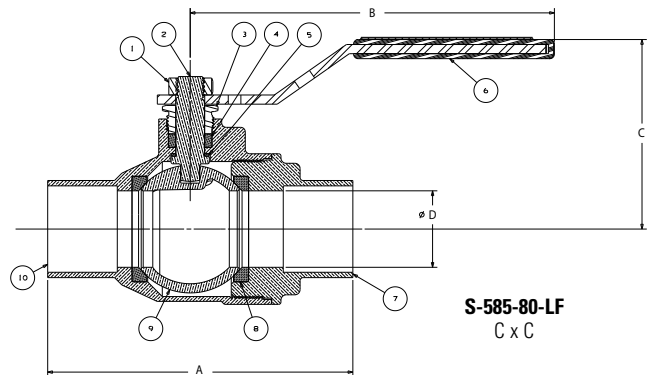
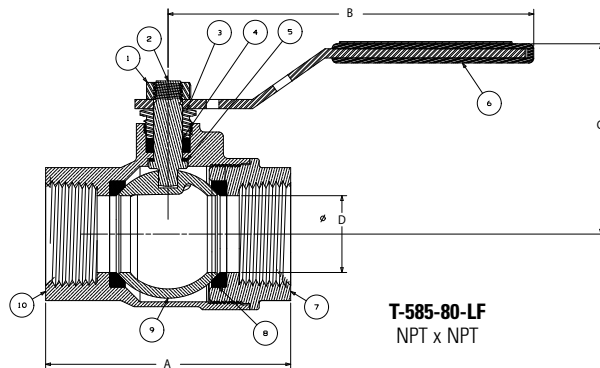


MATERIAL LIST

PART	SPECIFICATION
1. Nut, Handle	Steel, Plated
2. Stem	Silicon Bronze ASTM B371 Alloy C69300
3. Pack Gland	Brass ASTM B16 Alloy C36000
4. Packing, Stem	Virgin PTFE
5. Washer, Thrust	Reinforced PTFE
6. Handle	Steel, Plated Plastisol Coated
7. End Piece	Silicon Bronze ASTM B584 Alloy C87600
8. Seat Ring	Reinforced PTFE
9. Ball	Silicon Bronze ASTM B283 Alloy C69300
10. Body	Silicon Bronze ASTM B584 Alloy C87600



Handle Markings



DIMENSIONS—WEIGHTS—QUANTITIES

Dimensions														
Size	T-585-80-LF					S-585-80-LF					Port			
In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	In. mm.	Lbs.	Kg.	Master Ctn. Qty.
1/4 8	1.78 45	1.87 47	3.96 101	1.85 47	0.31 8	0.43 10	0.19 4	0.40 10	0.18 4	24				
3/8 10	1.79 45	2.01 51	3.96 101	1.85 47	0.38 10	0.44 10	0.20 5	0.41 10	0.19 4	24				
1/2 15	2.19 56	2.40 61	3.96 101	1.96 50	0.50 13	0.65 16	0.30 7	0.56 14	0.25 6	80				
3/4 20	2.58 66	3.32 84	4.76 121	2.28 58	0.75 19	1.20 30	0.55 12	1.02 26	0.46 10	60				
1 25	3.19 81	3.99 101	4.76 121	2.48 63	1.00 25	1.63 36	0.74 17	1.50 38	0.68 15	40				
1 1/4 32	3.55 90	4.19 106	6.76 172	3.10 79	1.25 32	2.87 66	1.30 29	2.41 53	1.09 24	4				
1 1/2 40	4.26 108	5.00 127	6.76 172	3.32 84	1.50 38	3.83 85	1.74 39	3.62 80	1.64 36	2				
2 50	4.80 122	6.05 154	6.76 172	3.56 90	2.00 51	5.57 124	2.53 56	5.54 124	2.51 55	8				

Conventional port valves offered in 2 1/2" and 3" sizes

Handle Options:

- Stainless Steel Lever
- NIB-Seal®
- Locking lever
- Stainless Steel Locking Lever
- Memory stop
- Extended lever w/ memory stop
- Round
- Wing
- Horizontal and vertical chain

*Lead Free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content ≤ 0.25% per the Safe Drinking Water Act (Sec. 1417) amended 1-4-2011 and other equivalent state regulations.

200 PSI Butterfly Valves

Ductile Iron Body • Extended Neck • Geometric Drive
Molded-in Seat Liner • Lug and Wafer Style

Sizes 2" through 12"

Install between Std. ANSI Class 125/150 Flanges
Lug Style 200 PSI bi-directional dead end service rating without a downstream flange required.

CONFORMS TO MSS-SP67 • MSS-SP25 • API-609
U.S. Coast Guard "Category A"

MATERIAL LIST

PART	SPECIFICATION
1. Stem	Stainless Steel ASTM A 582 Type 416
2. Collar Bushing	Brass ASTM B 124
3. Stem Seal	EPDM Rubber
4. Body Seal	EPDM Rubber
5. Nameplate	Aluminum
6. Upper Bushing	Copper CDA 122
7. Liner	EPDM Rubber
8. Disc	Alum. Brz. ASTM B 148 Alloy 954/955
9. Lower Bushing	Copper CDA 122
10. Body Wafer	Ductile Iron ASTM A 536
11. Body Lug	Ductile Iron ASTM A 536

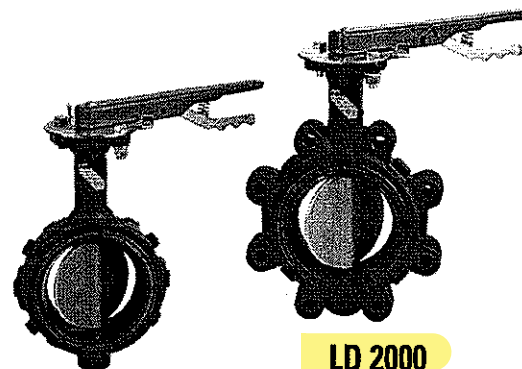
DIMENSIONS — WEIGHTS

Size	In. mm.	A	B	C	D	E	F	G Flat	Metal H	Rubber I	J Square	N Dia.
2	50	2.53	4.00	1.25	5.38	2.88	.38	.312	1.688	1.812	3.25	.500
2½	65	2.90	4.69	1.25	5.88	3.27	.38	.370	1.812	1.938	3.25	.562
3	80	3.15	5.12	1.25	6.12	3.40	.38	.370	1.812	1.938	3.25	.562
4	100	4.09	6.12	1.25	6.88	4.00	.38	.403	2.062	2.188	3.25	.625
5	125	5.13	7.25	1.25	7.38	4.75	.38	.496	2.188	2.312	3.25	.750
6	150	6.13	8.25	1.25	8.00	5.29	.38	.496	2.188	2.312	3.25	.750
8	200	8.13	10.41	1.25	9.25	6.50	.50	.560	2.375	2.500	3.25	.875
10	250	10.13	12.52	1.25	10.50	8.00	.50	.686	2.688	2.812	4.75	1.125
12	300	12.13	15.00	1.25	12.00	9.25	.50	.748	3.000	3.125	4.75	1.250

Capscrew/Stud Data

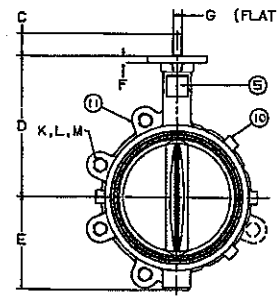
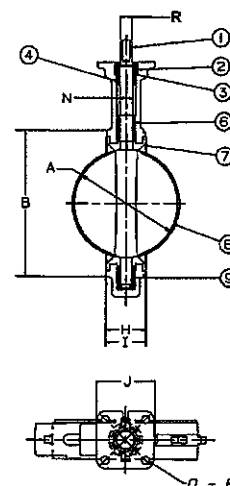
Size	O	P	R	K	L	Wafer	Lug	M	Lug	Wafer
In. mm.	B.C.	Dia.	Dia.	No.	Dia.	Length	Length	B.C.	Lbs. Kg.	Lbs. Kg.
2	50	3.25	.437	.437	4	⅝-11unc		4¾	7 3.2	5.5 2.5
2½	65	3.25	.437	.500	4	⅝-11unc		5½	9 4.1	7.5 3.4
3	80	3.25	.437	.500	4	⅝-11unc		6	9.5 4.3	8 3.6
4	100	3.25	.437	.562	8	⅝-11unc		7½	15 6.8	11 5.0
5	125	3.25	.437	.656	8	¾-10unc		8½	21 9.5	15 6.8
6	150	3.25	.437	.656	8	¾-10unc		9½	24 10.9	18 8.2
8	200	3.25	.437	.781	8	¾-10unc		11¾	34 15.4	28 12.7
10	250	5.00	.562	1.000	12	⅞-9unc		14¾	62 28.1	45.5 20.7
12	300	5.00	.562	1.062	12	⅞-9unc		17	90 40.9	70 31.8

Refer to butterfly valve technical information for bolt lengths



WD 2000
Wafer Style
EPDM Liner
and Aluminum
Bronze Disc

LD 2000
Lug Style
EPDM Liner
and Aluminum
Bronze Disc



For actuated service where a lower torque is required use NIBCO Fig. No. WDLXXX-O or LDLXXX-O series, sizes 2" thru 12" only. Maximum pressure rating of 100 PSI for wet application and 50 PSI for dry application

NOT RECOMMENDED
FOR STEAM SERVICE

For Liquid and Steam Service

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE*

Series LF777, LFS777 Wye-Pattern Lead Free* Bronze Strainers

Sizes: 1/4" – 4" (8-100mm)

Series LF777, LFS777 Wye-Pattern Lead Free* cast copper silicon alloy Strainers are designed to protect system components from dirt, rust and other damaging debris in the piping system. This series features a solid retainer cap with gasket. The LF777 and LFS777 features Lead Free* construction to comply with Lead Free* installation requirements.

Features

- Lead Free* cast copper silicon alloy body
- Wye-pattern
- Solid retainer cap with gasket

Models

LF777 – 1/4" – 4" (8 – 100mm) threaded connections

LFS777 – 1/2" – 2" (15 – 50mm) solder connections

Specifications

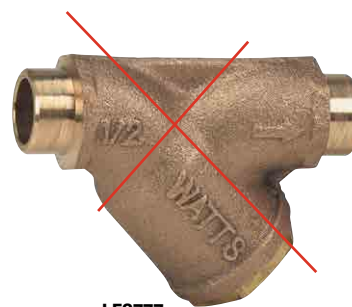
A wye-pattern Lead Free* cast copper silicon alloy strainer to be installed as indicated on the plans. The strainer must have a solid retainer cap with gasket. Strainer shall be rated to 400psi (27.6 bar) WOG @ 210°F (99°C); 125psi (8.6 bar) WSP @ 353°F (178°F) for sizes 1/4" – 3" (8 – 75mm) and 300psi (20.7 bar) WOG @ 210°F (99°C); 125psi (8.6 bar) @ 353°F (178°C) for size 4" (100mm). Lead Free* Wye-Pattern cast copper silicon alloy Strainers shall be constructed using Lead Free* materials. Lead Free strainers shall comply with state codes and standards, where applicable, requiring reduced lead content. Strainer shall be a Watts Series LF777 (threaded ends) or LFS777 (solder ends).

Materials

Body:	Lead Free* cast copper silicon alloy
Retainer Cap:	1/4" – 4" (8-100mm): Lead Free copper silicon alloy
Cap Gasket:	1/2" – 2" (15-50mm): EPDM Other sizes consult factory
Standard Screen:	1/2" – 2 1/2" (8-65mm): 304 stainless steel #20 mesh, 3" (75mm): 3/64" (1.2mm) 304 stainless steel per- forated screen 4" (100mm): 1/8" (3mm) 304 stainless steel perforated screen



LF777



LFS777

BAA/ARRA Compliant**

**This product complies with the Buy American Act and The American Recovery and Reinvestment Act. For more information, visit watts.com.

Pressure – Temperature

Maximum Working Pressure:

1/4" – 3" (8-75mm)

400psi (27.6 bar) WOG @ 210°F (99°C)

125psi (8.6 bar) WSP @ 353°F (178°F)

4" (100mm)

300psi (20.7 bar) WOG @ 210°F (99°C)

125psi (8.6 bar) WSP @ 353°F (178°F)

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



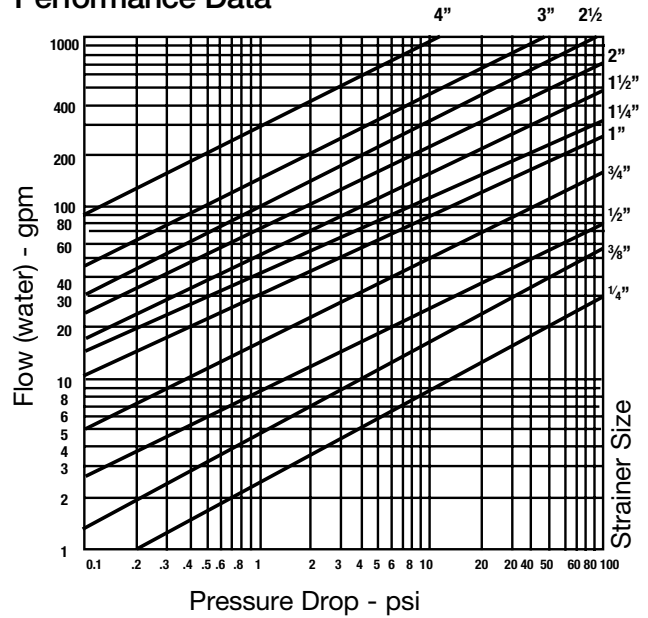
Screen Options

304 Stainless Steel Wire Mesh Liners:
(#30, #40, #60, #80, #100)

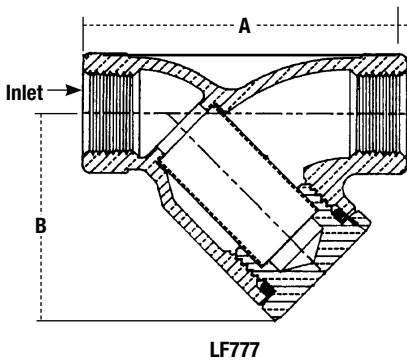
304 Stainless Steel Perforated Screens:
($\frac{1}{32}$ " , $\frac{3}{64}$ " , $\frac{1}{16}$ " , $\frac{1}{8}$ " , $\frac{3}{16}$ " , $\frac{1}{4}$ ")

Consult factory for ordering codes

Performance Data

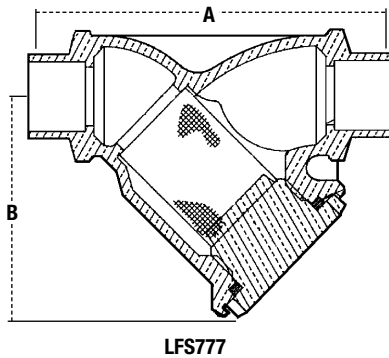


Dimensions – Weights



LF777

SIZE (DN)		DIMENSIONS				WEIGHT	
		A		B			
<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>
$\frac{1}{4}$	8	$2\frac{1}{16}$	68	$1\frac{1}{16}$	43	1.7	0.77
$\frac{3}{8}$	10	$2\frac{1}{16}$	68	$1\frac{1}{16}$	43	1.7	0.77
$\frac{1}{2}$	15	3	76	2	51	1.7	0.77
$\frac{3}{4}$	20	$3\frac{5}{16}$	84	$2\frac{5}{16}$	59	1.7	0.77
1	25	$4\frac{1}{2}$	114	$2\frac{5}{16}$	59	2.7	1.22
$1\frac{1}{4}$	32	$5\frac{1}{8}$	130	$3\frac{1}{8}$	79	3.0	1.36
$1\frac{1}{2}$	40	$5\frac{1}{8}$	149	$3\frac{3}{4}$	95	4.0	1.81
2	50	$6\frac{3}{16}$	157	$4\frac{7}{8}$	124	7.4	3.36
$2\frac{1}{2}$	65	$8\frac{1}{8}$	206	$4\frac{15}{16}$	125	12.0	5.44
3	75	$10\frac{1}{8}$	257	$6\frac{1}{16}$	170	24.0	10.90
4	100	13	325	$10\frac{1}{2}$	267	41.0	18.60



LFS777

SIZE (DN)		DIMENSIONS				WEIGHT	
		A		B			
<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>
$\frac{1}{2}$	15	$3\frac{3}{8}$	86	$2\frac{1}{16}$	52	1.5	0.68
$\frac{3}{4}$	20	$3\frac{3}{4}$	95	$2\frac{7}{16}$	63	1.6	0.73
1	25	5	127	3	76	2.5	1.13
$1\frac{1}{4}$	32	$5\frac{5}{8}$	143	$3\frac{1}{4}$	82	2.8	1.25
$1\frac{1}{2}$	40	$6\frac{7}{16}$	164	$3\frac{13}{16}$	97	4.0	1.81
2	50	$7\frac{1}{2}$	191	$4\frac{5}{8}$	118	7.4	3.39



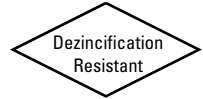
A Watts Water Technologies Company



USA: Tel: (978) 688-1811 • Fax: (978) 794-1848 • www.watts.com
Canada: Tel: (905) 332-4090 • Fax: (905) 332-7068 • www.watts.ca

Lead-Free* Bronze Check Valves

Silicon Performance Bronze™ Alloy • Horizontal Swing • Regrinding Type • Y-Pattern •
Renewable Seat and Disc • Conforms to MSS SP-139 •
NSF/ANSI-61-8 Commercial Hot 180°F (includes Annex F and G) and NSF/ANSI-372



Size Range: 1/2" - 2"

Pressure Rating: 200 PSI Non-Shock Cold Working Pressure

Maximum Pressure / Temperature: 100 PSI at 300° F

Lead-Free* marking:
Double oval in body casting



T-413-Y-LF
Threaded

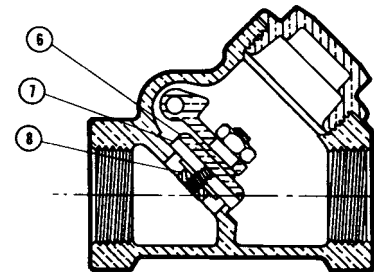


S-413-Y-LF
Solder

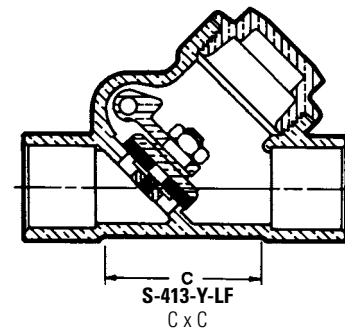
MATERIAL LIST

PART	SPECIFICATION
1. Bonnet	Silicon Bronze ASTM B584 Alloy C87850
2. Body	Silicon Bronze ASTM B584 Alloy C87850
3. Hinge Pin	316SS or 304SS
4. Disc Hanger	Silicon Bronze ASTM B584 Alloy C87850
5. Hanger Nut	316SS or 304SS
6. Disc Holder	Silicon Bronze ASTM B283 Alloy C69300
7. Seat Disc	PTFE
8. Seat Disc Nut	304SS or 416SS
9. Hinge Pin Plug	Silicon Bronze ASTM B283 Alloy C69300
*10. Seat Disc Washer	304SS or 316SS

*Sizes 3/4", 1", 1 1/4", 1 1/2" and 2" only.



T-413-Y-LF
NPT x NPT



S-413-Y-LF
C x C

DIMENSIONS—WEIGHTS—QUANTITIES

Dimensions												
Size		A		B		C		T-413-LF		S-413-LF		Master Ctn. Qty
In.	mm.	In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.	Lbs.	Kg.	
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	50
1	25	3.56	90	2.31	59	2.25	57	1.46	0.66	1.48	0.67	30
1 ¼	32	4.19	106	2.69	68	2.75	70	2.17	0.99	2.22	1.01	20
1 ½	40	4.50	114	2.94	75	1.13	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

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°). Install check valves as far from pump discharge or line direction change as possible and at a minimum length of 5 times the pipe diameter.

Do not use for Reciprocating Air Compressor Service.

*Lead Free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content ≤ 0.25% per the Safe Drinking Water Act (Sec. 1417) amended 1-4-2011 and other equivalent state regulations.