



This review is for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions and quantities, confirming and correlating dimensions and quantities at the job site, for fabrication processes and techniques of construction, for coordination of his work with that of all other trades, and for the satisfactory performance of work done by the Contractor. Items marked "Approved" or "Exceptions Noted" do not need to be resubmitted.

DATE: 10/26/2016 **REVIEWED BY:** Jasmine Kinard
PROJECT#: 215044 **PROJECT NAME:** Crescent Perimeter

ITEM	REVIEW COMMENTS	NO EXCEPTIONS TAKEN	EXCEPTIONS NOTED	REVISE & RESUBMIT	REJECTED
General	Plumbing Contractor shall coordinate all electrical requirements for all Plumbing Devices with the Electrical/Low Voltage Contractor prior to ordering any equipment. No Exceptions to this comment will be acceptable.		X		
General	All models and finishes shall be approved by the Owner or Interior Designer prior to purchase or installation. Architect to approve all tub, shower and sink dimensions		X		
Expansion Joints	Provide expansion joints for all size pipes.		X		
FS	Provide vandal proof secured grate and 1/2" trap primer connection.		X		
Floor drain general purpose	Provide adjustable strainer		X		
FD-2	In addition provide FD-2 with 3" pipe outlet and 1/2" trap primer connection		X		
AD-1	Provide sediment bucket, no hub outlet, and self closing hinged grate.		X		
Building 6" RPZ	Backflow preventer is located outside by Civil.		X		
L2	Provide aerator to limit flow to 0.5 GPM to meet GA requirements.		X		
WC ADA	Provide open front lid with cover for handicap toilets in the apartment units per ADA requirements.		X		
Shower base	Owner to approve Fiberglass shower base.		X		
ADA Shower base	Handicap shower threshold shall be no greater than 1/4". Provide 3 way diverter and a hand wand with a non-positive shut off.		X		
WMB non rated / IMB non rated	Boxes shall be rated when in rated walls, provide water hammer arresters		X		



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DATE: **10/26/2016**

REVIEWED BY: **Jasmine Kinard**

PROJECT#: **215044**

PROJECT NAME: **Crescent Perimeter**

ITEM	REVIEW COMMENTS	NO EXCEPTIONS TAKEN	EXCEPTIONS NOTED	REVISE & RESUBMIT	REJECTED
WH1, WH2, WH4, WH6, WH6	Voltage is 208V- Water heaters must provide 4.5KW of heating at supplied voltage. De-rating of water heating capacity due to mis-matched voltage is not allowed		X		
EHW3	Voltage is 208V- Water heaters must provide 6.0KW of heating at supplied voltage. De-rating of water heating capacity due to mis-matched voltage is not allowed		X		
P-2	Owner to verify sink depth with counter heights meet ADA requirements		X		
P-5 ADA Faucet	Provide aerator to limit flow to 0.5 GPM to meet GA requirements.		X		
WH7	Voltage is 208V- Water heaters must provide 4.5KW of heating at supplied voltage. De-rating of water heating capacity due to mis-matched voltage is not allowed		X		
Other Items	The following items have also been reviewed: Domestic Water and Fire Stub in, Below and Above grade Sanitary, Domestic Water Pipe 2-1/2" and larger, Domestic Water Pipe 1/2" thru 2", Floor cleanout, Wall cleanout, wall hydrant, HB, trash room RPZ, Roof hydrant, trap primer, WC STD, L1, Garden tub , kitchen faucet, P-1 Drinking fountain, p-2 Kitchen sink, P-3 Kitchen Faucet, P-4 Restroom Sink, P-6 toilet, P-7 urinal, P-8 Service sink, P-9 service sink Faucet, P-12 water dispenser, P-13 workroom faucet, P-14 workroom sink, Gas piping, Sump pump EL290,	X			

PHILLIPS GRADICK ENGINEERING, P.C. 500 SUGAR MILL ROAD, BUILDING A SUITE 105 ATLANTA, GA
PHONE (770) 650-9061, FAX (770) 642-2410, E-MAIL jkinard@pgeng.net



dwell design studio	
<small>www.dwelldesignstudio.com Atlanta - Washington D.C.</small>	
<input type="checkbox"/> No Exceptions	<input type="checkbox"/> Rejected
<input type="checkbox"/> Exceptions Noted	<input checked="" type="checkbox"/> Revise and Resubmit
<input type="checkbox"/> Submit Specified Item	
Project # 155602	Submittal# 10
By kosborne	Date 10/27/2016
<small>This review is only for general conformance of the project and general compliance with the information provided in the Contract Documents. Corrections or comments made on these drawings during this review do not relieve Contractor/Subcontractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: all dimensions and fabrication to be confirmed and correlated at the job site; information that pertains solely to the fabrication, processes, or to the means, methods, techniques, sequences, and procedures of construction; coordination of the work of all trades; and for performing all work in a safe and satisfactory manner.</small>	
Refer to engineer's and interior's comments. -DDS	

CRESCENT PERIMETER 5775 GLENRIDGE DRIVE SANDY SPRINGS, GEORGIA 30328



JOB # 10277

Crescent Perimeter
Sandy Springs, GA
Submittal / Shop Drawing Review

Review of shop drawings and other submittals by General Contractor, Architect or Engineer will not relieve supplier of responsibility for dimensional accuracy, quantities or conformance to the Contract Documents. Requests for variance must be made in writing at the time the submittal is furnished to the General Contractor.

Reviewed as Noted

X Reviewed

James S. Ellis

October 6, 2016

1976 Airport Industrial Park Drive Marietta, GA

PHILLIPS GRADICK ENGINEERING, P.C.			
<input checked="" type="checkbox"/> No Exceptions Taken	<input type="checkbox"/> Revise & Resubmit		
<input type="checkbox"/> Rejected	<input type="checkbox"/> Submit Specified Item		
<input checked="" type="checkbox"/> Exceptions Noted	<input type="checkbox"/> Not Reviewed		
<small>Checking is for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions and quantities, confirming and correlating dimensions and quantities at the job site, for fabrication processes and techniques of construction, for coordination of his work with that of all other trades, and for the satisfactory performance of work done by the contractor. Items marked "No Exceptions Taken" or "Exceptions Noted" do not need to be resubmitted.</small>			
Reviewed by: J.Kinard		Date: 10-26-16	

See attached for PGE comments

VIGNETTE INTERIOR DESIGN	
SHOP DRAWING/ SUBMITTAL REVIEW	
APPROVED	APPROVED WITH CHANGES NOTED
REVISE AND RESUBMIT	REJECTED
SUBMITTAL WAS REVIEWED FOR DESIGN CONFORMITY AND GENERAL CONFORMANCE TO CONTRACT DOCUMENTS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING DIMENSIONS AT JOB-SITE FOR TOLERANCE, CLEARANCE, QUANTITIES, FABRICATION, PROCESSES, AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH OTHER TRADES AND FULL COMPLIANCE WITH CONTRACT DOCUMENTS.	
SIGNED BY: <i>Rosarae Drury</i>	DATE: 10.18.16
ROSARAE DRURY	

PLUMBING SUBMITTALS

INDEX

1. PIPE SPECIALTIES
2. DRAINAGE SPECIALTIES
3. WATER SPECIALTIES
4. PLUMBING FIXTURE
5. AMENITY FIXTURE
6. GAS PIPING
7. PUMP

1



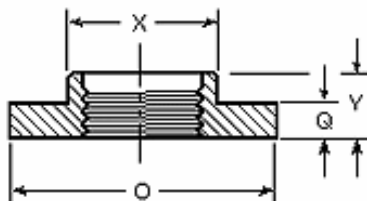
American Ductile Iron Pipe

MENU CATEGORIES

Dimensions, Weights, and Short Lengths

AMERICAN Flanged Pipe Companion Flanges for Use On Ductile Iron Pipe ANSI/AWWA C115/A21.15

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Ductile Companion Flange

ADIP Table No. 8-4

Size in.	Pipe O.D. in.	AWWA C115			
		O Dia. Of Flange in.	Q Thickness in.	X Dia. Hub in.	Y Length Incl. Hub in.
4	4.8	9	0.94	6.00	1.88
6	6.9	11	1.00	7.78	2.06
8	9.05	13.5	1.12	10.01	2.25
10	11.1	16	1.19	12.31	2.44
12	13.2	19	1.25	14.75	2.68
14	15.3	21	1.38	16.59	2.87
16	17.4	23.5	1.44	18.94	3.06
18	19.5	25	1.56	20.38	3.31
20	21.6	27.5	1.69	22.62	3.50
24	25.8	32	1.88	26.91	3.93
30	32	38.75	2.12	33.31	4.50
36	38.3	46	2.38	39.62	5.12
42	44.5	53	2.62	46.00	5.75
48	50.8	59.5	2.75	52.31	6.38
54	57.56	66.25	3.00	58.75	7.00
60	61.61	73	3.12	63.76	7.00
64	65.67	80	3.38	70.32	7.00

Notes:

Hub diameter and length are AMERICAN Design. See Table No. 8-3 for data on bolt holes and bolt circle.

When ordering Companion Flanges for Ductile Iron Pipe specify the outside diameter of the pipe.

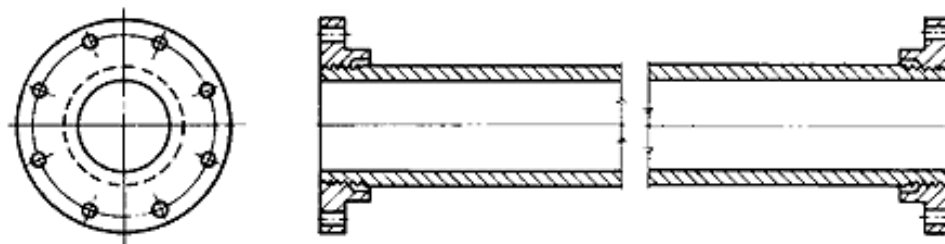
"X" and "Y" dimensions may vary depending on foundry equipment.



- > Companion Flange for Use On Ductile Iron Pipe ANSI/AWWA C115/A21.15
- > Flange and Flange
- > Flange and Plain End
- > Flange and MJ
- > Flange and Fastite
- > Companion Flanges for Use On Ductile Iron Pipe Faced and Drilled Per ANSI B16.1 Class 250
- > Flanges Faced and Drilled ANSI B16.1 Class 250

**AMERICAN Flanged Pipe
AMERICAN Ductile Iron Flanged Pipe
ANSI/AWWA C115/A21.15**

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Flange and Flange

For more information, see the [Short Body Flange Static Castings](#) page.

ADIP Table No. 8-5

Size in.	Pressure* Rating psi	Nominal Wall Thickness in.	Pipe O.D. in.	Minimum Length** in.	Maximum Length** ft.-in.	Weight in Pounds		
						Per Foot Plain End	One Flange	Per Maximum Length with Two Flanges
4	350+	0.32	4.8	4 1/2	17'-6"	13.8	13	266
6	350+	0.34	6.9	4 1/2	20'-0"	21.4	17	460
8	350+	0.36	9.05	4 1/2	20'-0"	30.1	27	655
10	350+	0.38	11.1	6	20'-0"	39.2	38	860
12	350+	0.4	13.2	6	20'-0"	49.2	59	1100
14	350+	0.42	15.3	7	20'-0"	60.1	70	1340
16	350+	0.43	17.4	7	20'-0"	70.1	90	1580
18	350+	0.44	19.5	7	20'-0"	80.6	88	1790
20	350+	0.45	21.6	7	20'-0"	91.5	112	2060
24	350+	0.47	25.8	8	20'-0"	114.4	155	2600
30	250	0.51	32	12	19'-6"	154.4	245	3500
36	250	0.58	38.3	14	19'-6"	210.3	354	4810
42	250	0.65	44.5	18	19'-6"	274	512	6370
48	250	0.72	50.8	18	19'-6"	346.6	632	8020
54	250	0.81	57.56	20	19'-6"	441.9	716	10050
60	250	0.83	61.61	20	19'-6"	485	1113	11680
64	250	0.87	65.67	21	19'-0"	542	1824	13950

Notes:

*Pressure rating designated is maximum water working pressure. Contact AMERICAN on higher pressure requirements.

**Check AMERICAN if longer or shorter lengths required.

+This rating is only applicable to flanged joints utilizing AMERICAN Toruseal® gaskets as per

Flanged Pipe description.

Pipe is available with greater wall thickness than shown. Thicknesses above correspond to Special Class 53 for 4"-54" diameters, and Pressure Class 350 for 60" and 64" diameters as shown in AWWA C151.

Any length between minimum and maximum shown can be furnished.

Tolerance on length is ±0.12 in.

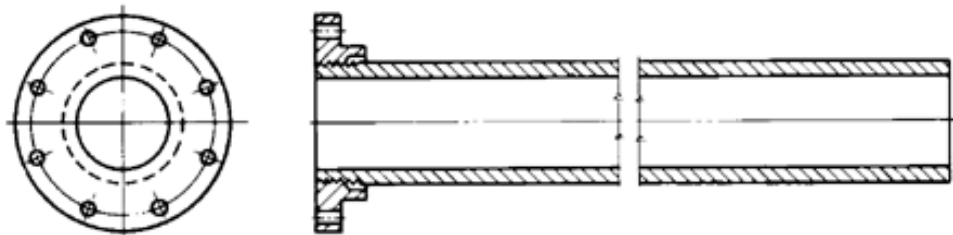
Standard drilling is with bolt holes aligned, straddling a common centerline. Special drilling can be furnished on request.

Where required, specify flanges "Tap for Studs."

The bolt circle and bolt holes of AWWA C115 flanges, AWWA C110 flanges and ANSI B16.1 Class 125 flanges are identical, and these flanges can be joined. AWWA C115 and AWWA C110 flanges are rated for 250-350 psi water working pressure depending on size and specified gasketing system.

AMERICAN Flanged Pipe
AMERICAN Ductile Iron Flanged Pipe
ANSI/AWWA C115/A21.15

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Flange and Plain End

ADIP Table No. 8-6

Size in.	Pressure* Rating psi	Nominal Wall Thickness in.	Pipe O.D. in.	Minimum Length** in.	Maximum Length** ft.-in.	Weight in Pounds		
						Per Foot Plain End	One Flange	Per Maximum Length with One Flange
4	350+	0.32	4.8	1 3/4	17'-6"	13.8	13	251
6	350+	0.34	6.9	2	20'-0"	21.4	17	445
8	350+	0.36	9.05	2 1/2	20'-0"	30.1	27	630
10	350+	0.38	11.1	2 1/2	20'-0"	39.2	38	820
12	350+	0.4	13.2	2 1/2	20'-0"	49.2	59	1045
14	350+	0.42	15.3	2 3/4	20'-0"	60.1	70	1270
16	350+	0.43	17.4	3	20'-0"	70.1	90	1490
18	350+	0.44	19.5	3	20'-0"	80.6	88	1700
20	350+	0.45	21.6	3	20'-0"	91.5	112	1950
24	350+	0.47	25.8	3 1/4	20'-0"	114.4	155	2450
30	250	0.51	32	8	19'-6"	154.4	245	3260
36	250	0.58	38.3	10	19'-6"	210.3	354	4450
42	250	0.65	44.5	10	19'-6"	274	512	5850

48	250	0.72	50.8	10	19'-6"	346.6	632	7390
54	250	0.81	57.56	12	19'-6"	441.9	716	9330
60	250	0.83	61.61	12	19'-6"	485	1113	10570
64	250	0.87	65.67	12	19'-0"	542	1824	12120

Notes:

*Pressure rating designated is maximum water working pressure. Contact AMERICAN on higher pressure requirements.

**Check AMERICAN if longer or shorter lengths required. All minimum lengths assume a "no-gauge" plain end (no joint will be made at the plain end).

+This rating is only applicable to flanged joints utilizing AMERICAN Toruseal® gaskets as per [Flanged Pipe description](#).

Plain ends to be assembled in a joint (MJ, Fastite, coupling, etc.) must be ordered gauged for the specific joint.

Pipe is available with greater wall thickness than shown. Thicknesses above correspond to Special Class 53 for 4"-54" diameters, and Pressure Class 350 for 60" and 64" diameters as shown in AWWA C151.

Any length between minimum and maximum shown can be furnished.

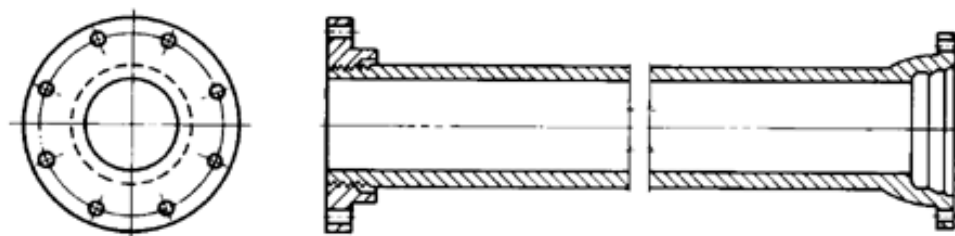
Tolerance on length is ± 0.25 in.

Where required, specify flanges "Tap for Studs."

The bolt circle and bolt holes of AWWA C115 flanges, AWWA C110 flanges and ANSI B16.1 Class 125 flanges are identical, and these flanges can be joined. AWWA C115 and AWWA C110 flanges are rated for 250-350 psi water working pressure depending on size and specified gasketing system.

AMERICAN Flanged Pipe AMERICAN Ductile Iron Flanged Pipe ANSI/AWWA C115/A21.15 and AMERICAN Standard

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Flange and MJ

ADIP Table No. 8-7

Size in.	Pressure Rating psi*	Nominal Wall Thickness in.	Pipe O. D. in.	Minimum Laying Length** in.	Maximum Laying Length** ft.-in.	Weight in Pounds			
						Per Foot Plain End	Flange	MJ Bell	Maximum Length
4	350+	0.32	4.8	3 1/2	17'-6"	13.8	13	14	267
6	350+	0.34	6.9	3 1/2	19'-6"	21.4	17	19	455
8	350+	0.36	9.05	3 1/2	19'-6"	30.1	27	25	640
10	350+	0.38	11.1	6	19'-6"	39.2	38	31	835
12	350+	0.4	13.2	6	19'-6"	49.2	59	38	1055

Notes:

- *Pressure rating designated is maximum water working pressure. Contact AMERICAN on higher pressure requirements.
- **Check AMERICAN if longer or shorter lengths required.
- + This rating is only applicable to flanged joints utilizing AMERICAN Toruseal® gaskets as per [Flanged Pipe description](#).

14"-64" pipe is not available with integrally cast MJ Bell. See Table 8-8 (below) for Flange and Fastite Pipe.

Pipe is available with greater wall thickness than shown. Thicknesses above correspond to Special Class 53.

Any length between minimum and maximum shown can be furnished.

Tolerance on length is ±0.25 in.

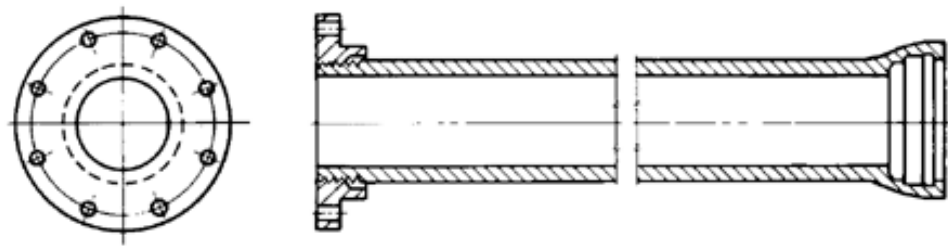
If specified, bolt holes both ends can be drilled, straddling a common centerline.

Where required, specify flanges or MJ Bells "Tap for Studs."

The bolt circle and bolt holes of AWWA C115 flanges, AWWA C110 flanges and ANSI B16.1 Class 125 flanges are identical, and these flanges can be joined. AWWA C115 and AWWA C110 flanges are rated for 250-350 psi water working pressure depending on size and specified gasketing system.

AMERICAN Flanged Pipe
AMERICAN Ductile Iron Flanged Pipe
ANSI/AWWA C115/A21.15 and AMERICAN Standard

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Flange and Fastite

ADIP Table No. 8-8

Size in.	Pressure Rating psi*	Nominal Wall Thickness in.	Pipe O. D. in.	Minimum Laying Length** in.	Maximum Laying Length** ft.-in.	Weight in Pounds			
						Per Foot Plain End	Flange	Fastite Bell	Maximum Length
4	350+	0.32	4.8	2 1/2	17'-6"	13.8	13	10	262
6	350+	0.34	6.9	2 1/2	19'-6"	21.4	17	15	450
8	350+	0.36	9.05	3	19'-6"	30.1	27	21	635
10	350+	0.38	11.1	2	19'-6"	39.2	38	27	830
12	350+	0.4	13.2	2	19'-6"	49.2	59	32	1050
14	350+	0.42	15.3	2 3/4	19'-6"	60.1	70	57	1300
16	350+	0.43	17.4	2 3/4	19'-6"	70.1	90	64	1520
18	350+	0.44	19.5	3	19'-6"	80.6	88	73	1735
20	350+	0.45	21.6	3	19'-6"	91.5	112	81	1980
24	350+	0.47	25.8	2 3/4	19'-6"	114.4	155	96	2480

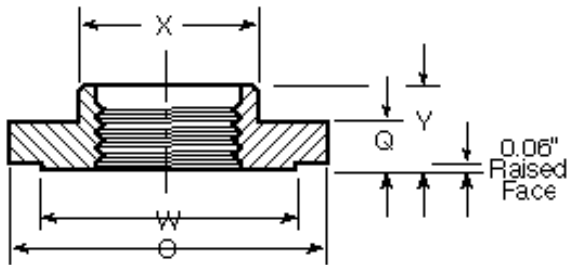
30	250	0.51	32	12	19'-6"	154.4	245	164	3420
36	250	0.58	38.3	14	19'-6"	210.3	354	214	4670
42	250	0.65	44.5	14	19'-6"	274	512	289	6140
48	250	0.72	50.8	16	19'-6"	346.6	632	354	7745
54	250	0.81	57.56	16	19'-6"	441.9	716	439	9770
60	250	0.83	61.61	16	19'-6"	485	1113	819	11390
64	250	0.87	65.67	16	19'-6"	542	1824	932	13320

Notes:
*Pressure rating designated is maximum water working pressure. Contact AMERICAN on higher pressure requirements.
**Check AMERICAN if longer or shorter lengths required.
+This rating is only applicable to flanged joints utilizing AMERICAN Toruseal® gaskets as per [Flanged Pipe description](#).

Pipe is available with greater wall thickness than shown. Thicknesses above correspond to Special Class 53 for 4"-54" diameters, and Pressure Class 350 for 60" and 64" diameters as shown in AWWA C151.
Any length between minimum and maximum shown can be furnished.
Tolerance on length is ±0.25 in.
Where required, specify flanges "Tap for Studs."
The bolt circle and bolt holes of AWWA C115 flanges, AWWA C110 flanges and ANSI B16.1 Class 125 flanges are identical, and these flanges can be joined. AWWA C115 and AWWA C110 flanges are rated for 250-350 psi water working pressure depending on size and specified gasketing system.

**AMERICAN Flanged Pipe Companion Flanges for Use On Ductile Iron Pipe
Faced and Drilled Per ANSI B16.1 Class 250**

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ADIP Table No. 8-12

Size in.	Pipe O.D. in.	Flanges Faced and Drilled Per ANSI B16.1 Class 250				
		O Dia. of Flange in.	Q Thickness in.	W Dia. Of Raised Face in.	X Dia. of Hub in.	Y Length incl. Hub in.
4	4.8	10	1.25	6.94	6	2.12
6	6.9	12.5	1.44	9.69	8.5	2.31
8	9.05	15	1.62	11.94	10.78	2.5
10	11.1	17.5	1.88	14.06	12.81	2.68
12	13.2	20.5	2	16.44	15.13	2.93

14	15.3	23	2.12	18.94	17.5	3.12
16	17.4	25.5	2.25	21.06	19.56	3.31
18	19.5	28	2.38	23.31	21.75	3.56
20	21.6	30.5	2.5	25.56	24	3.75
24	25.8	36	2.75	30.31	28.5	4.18
30	32	43	3	37.19	35	4.75
36	38.3	50	3.38	43.69	41.25	5.37
42	44.5	57	3.69	50.44	48.5	6
48	50.8	65	4	58.44	56.55	6.63

Notes:

Flanges faced and drilled per ANSI B16.1 Class 250 have a 0.06" raised face; they do not match AWWA C110 or C115 flanges.

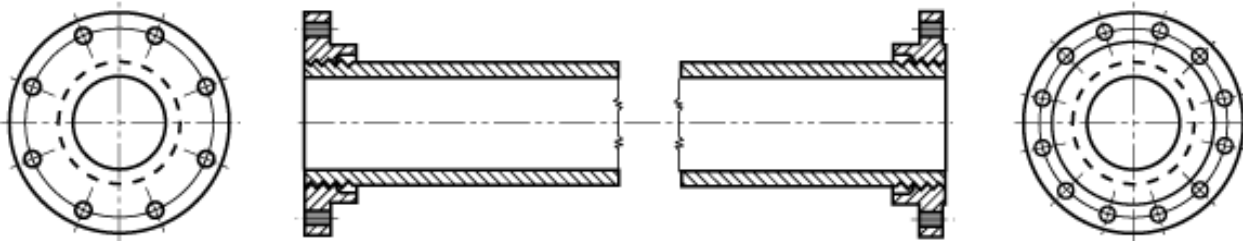
Flanges may be furnished with a flat face upon special request.

Hub diameter and length are AMERICAN Design. See Table No. 8-11 (short lengths) for data on bolt holes and bolt circle.

When ordering Companion Flanges for Ductile Iron Pipe specify the outside diameter of the pipe.

AMERICAN Flanged Pipe AMERICAN Ductile Iron Flanged Pipe Flanges Faced and Drilled ANSI/AWWA C115/A21.15 & ANSI B16.1 Class 250

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Flange and Flange
C115 to B16.1 Class 250 Transition Pipe

ADIP Table No. 8-13

Size in.	Pressure Rating** psi	Nominal Wall Thickness in.	Pipe O.D. in.	Minimum Laying Length in.*	Maximum Laying Length ft.-in.	Weight in Pounds			
						Per Foot Plain End	C115 Flange	B16.1 250 Flange	Min. Length Total Wt.
4	250	0.32	4.8	6	17'-6"	13.8	13	20	40
6	250	0.34	6.9	6	20'-0"	21.4	17	32	60
8	250	0.36	9.05	6	20'-0"	30.1	27	49	91
10	250	0.38	11.1	8	20'-0"	39.2	38	68	132
12	250	0.4	13.2	8	20'-0"	49.2	59	99	191
14	250	0.42	15.3	10	20'-0"	60.1	70	127	247

16	250	0.43	17.4	10	20'-0"	70.1	90	157	305
18	250	0.44	19.5	10	20'-0"	80.6	88	194	349
20	250	0.45	21.6	10	20'-0"	91.5	112	239	427
24	250	0.47	25.8	10	20'-0"	114.4	155	358	608
30	250	0.51	32	12	19'-6"	154.4	245	508	907
36	250	0.58	38.3	14	19'-6"	210.3	354	697	1296
42	250	0.65	44.5	18	19'-6"	274	512	1010	1933
48	250	0.72	50.8	18	19'-6"	346.6	632	1545	2697

Notes:

*The minimum lengths shown may not allow clearance in all cases for installation of bolts between flanges requiring bolt clearance from the other direction. Very short (shorter than the minimums as per above table) fabricated steel adapters are also available for connecting AWWA C115 flanged pipe or AWWA C110 fittings to ANSI B16.1 Class 250 flanged items. Contact AMERICAN for details.

Pressure rating designated is maximum water working pressure.

Flanges faced and drilled per ANSI B16.1 Class 250 have 0.06" raised face; they do not match AWWA C110 or C115 flanges. Flanges may be furnished with a flat face upon special request.

Pipe is available with greater wall thickness than shown.

Tolerance on length for Flange and Flange pipe is ± 0.12 in.

Standard drilling is with bolt holes aligned, straddling a common centerline. Class 250 is special drilling and all connecting equipment must have flanges faced and drilled per ANSI B16.1 Class 250.

Where required, specify flanges "Tap for Studs."

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AMERICAN DUCTILE IRON PIPE

Domestic and Fire Service stub
Inn's only

AMERICAN Ductile Iron Pipe provides ...

High Impact Resistance

AMERICAN Ductile Iron Pipe has the high impact strength and toughness to withstand shocks usually encountered in transportation, handling and installation. These characteristics also provide added security against stresses induced by water hammer, highway traffic and unexpected adverse forces. Excellent impact resistance is confirmed by tests made at regular intervals in accordance with ANSI/AWWA C151/A21.51 Standard.

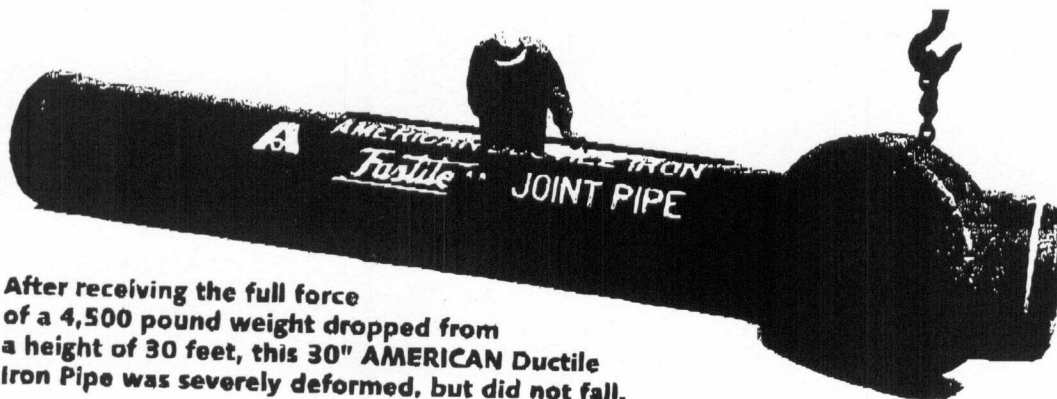
Superior Strength

AMERICAN utilizes the ideal combination of chemical analysis and heat treatment to produce a pipe with the most

desirable combination of high strength and excellent ductility ... a pipe that will withstand high internal pressure and deep cover ... a pipe providing added reliability and additional factors of safety for normal and for unusual conditions such as expansive soils and earth movement due to freezing and thawing.

Assured, Proven Long Life

Historical records document the proven service for centuries of gray cast iron pipe. Extensive laboratory and field tests conducted by many authorities under various installation conditions prove the superiority of ductile iron for soil corrosion resistance over gray cast iron. The outstanding resistance of Ductile Iron Pipe to soil corrosion has been verified by more than four decades of service.



After receiving the full force of a 4,500 pound weight dropped from a height of 30 feet, this 30" AMERICAN Ductile Iron Pipe was severely deformed, but did not fall.

Design of AMERICAN Ductile Iron Pipe

The principal standards covering ductile iron pipe are ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51. These and other standards are referenced throughout this Section either by the full ANSI/AWWA designation or by only the AWWA numbering, such as AWWA C150.

AMERICAN Ductile Iron Pipe is designed for combinations of internal pressure, water hammer, earth load and truck load. Thicknesses are determined in accordance with ANSI/AWWA C150/A21.50, employing design methods applicable to flexible pipe. Utilizing the principal mechanical properties of high

tensile strength, ductility and impact resistance, the design of ductile iron pipe is conservative in all respects and embodies high factors of safety. For qualification of pipe these properties are confirmed during production by frequent tensile and impact tests of specimens from the wall of pipe.

AMERICAN DUCTILE IRON PIPE



AMERICAN Ductile Iron Fastite Joint and Mechanical Joint Pipe

ANSI/AWWA C151/A21.51

Weights for Special Classes

Table No. 3-13

Size In.	Thickness Class	Wall Thickness In.	Weight in Pounds				
			Per Foot Plain End	Fastite Joint		Mechanical Joint	
				Per Foot inc. Bell	Per 20' Nominal Length	Per Foot inc. Bell	Per 20' Nominal Length
4	51	.26	11.3	11.8	235	12.0	240
	52	.29	12.6	13.1	265	13.3	270
	53	.32	13.8	14.3	285	14.5	290
	54	.35	15.0	15.5	310	15.7	315
	55	.38	16.1	16.6	335	16.8	340
	56	.41	17.3	17.8	355	18.0	365
6	50	.25	16.0	16.7	335	16.9	340
	51	.28	17.8	18.5	370	18.8	380
	52	.31	19.6	20.3	410	20.5	415
	53	.34	21.4	22.1	445	22.3	450
	54	.37	23.2	23.9	480	24.1	485
	55	.40	25.0	25.7	515	26.0	525
8	56	.43	26.7	27.4	550	27.6	555
	50	.27	22.8	23.8	480	24.0	485
	51	.30	25.2	26.2	525	26.5	535
	52	.33	27.7	28.7	575	28.9	585
	53	.36	30.1	31.1	625	31.3	630
	54	.39	32.5	33.5	675	33.7	680
10	55	.42	34.8	35.8	720	36.0	725
	56	.45	37.2	38.3	770	38.4	775
	50	.29	30.1	31.4	630	31.7	640
	51	.32	33.2	34.5	695	34.7	700
	52	.35	36.2	37.5	755	37.7	760
	53	.38	39.2	40.5	815	40.7	820
12	54	.41	42.1	43.5	875	43.6	880
	55	.44	45.1	46.5	935	46.6	940
	56	.47	48.0	49.3	990	49.5	1000
	50	.31	38.4	40.0	805	40.2	810
	51	.34	42.0	43.6	875	43.9	885
	52	.37	45.6	47.2	950	47.5	960
14	53	.40	49.2	50.8	1020	51.1	1030
	54	.43	52.8	54.3	1090	54.7	1105
	55	.46	56.3	57.9	1165	58.2	1175
	56	.49	59.9	61.5	1235	61.8	1245
	50	.33	47.5	50.3	1010	50.4	1015
	51	.36	51.7	54.6	1095	54.6	1100
16	52	.39	55.9	58.7	1175	58.8	1185
	53	.42	60.1	62.9	1260	63.0	1270
	54	.45	64.2	67.0	1345	67.1	1350
	55	.48	68.4	71.3	1430	71.3	1435
	56	.51	72.5	75.3	1510	75.4	1515
	50	.34	55.8	59.0	1180	59.1	1190
18	51	.37	60.6	63.8	1280	63.9	1285
	52	.40	65.4	68.6	1375	68.7	1385
	53	.43	70.1	73.3	1470	73.5	1480
	54	.46	74.9	78.1	1565	78.2	1575
	55	.49	79.7	82.9	1660	83.0	1670
	56	.52	84.4	87.6	1755	87.7	1765
	50	.35	64.4	68.0	1365	68.3	1380
	51	.38	69.8	73.4	1470	73.7	1490
	52	.41	75.2	78.8	1580	79.1	1600
	53	.44	80.6	84.2	1690	84.5	1710
	54	.47	86.0	89.6	1795	89.9	1815
	55	.50	91.3	95.0	1905	95.2	1925
	56	.53	96.7	100.3	2010	100.6	2035



AMERICAN DUCTILE IRON PIPE

AMERICAN Ductile Iron Fastite Joint and Mechanical Joint Pipe
ANSI/AWWA C151/A21.51
Weights for Special Classes

Table No. 3-13—Continued

Size in.	Thickness Class	Wall Thickness in.	Weight in Pounds				
			Per Foot Plain End	Fastite Joint		Mechanical Joint	
				Per Foot inc. Bell	Per 20' Nominal Length	Per Foot inc. Bell	Per 20' Nominal Length
20	50	.36	73.5	77.5	1555	78.1	1580
	51	.39	79.5	83.5	1675	84.1	1700
	52	.42	85.5	89.5	1795	90.1	1820
	53	.45	91.5	95.5	1915	96.1	1940
	54	.48	97.5	101.5	2035	102.1	2065
	55	.51	103.4	107.5	2155	108.0	2185
	56	.54	109.3	113.3	2270	113.9	2300
24	50	.38	92.9	97.7	1960	98.9	2000
	51	.41	100.1	104.9	2100	106.1	2145
	52	.44	107.3	112.1	2245	113.3	2290
	53	.47	114.4	119.2	2390	120.4	2435
	54	.50	121.6	126.4	2535	127.6	2580
	55	.53	128.8	133.5	2675	134.8	2725
	56	.56	135.9	140.7	2820	141.9	2870
30	50	.39	118.5	126.7	2540	-	-
	51	.43	130.5	138.7	2780	-	-
	52	.47	142.5	150.7	3020	-	-
	53	.51	154.4	162.6	3260	-	-
	54	.55	166.3	174.5	3495	-	-
	55	.59	178.2	186.4	3735	-	-
	56	.63	190.0	198.2	3970	-	-
36	50	.43	156.5	167.2	3350	-	-
	51	.48	174.5	185.2	3710	-	-
	52	.53	192.4	203.1	4070	-	-
	53	.58	210.3	221.0	4430	-	-
	54	.63	228.1	238.8	4785	-	-
	55	.68	245.9	256.5	5140	-	-
	56	.73	263.7	274.4	5500	-	-
42	50	.47	198.9	213.3	4265	-	-
	51	.53	224.0	238.4	4770	-	-
	52	.59	249.1	263.5	5270	-	-
	53	.65	274.0	288.5	5770	-	-
	54	.71	298.9	313.3	6265	-	-
	55	.77	323.7	338.2	6765	-	-
	56	.83	348.4	362.8	7255	-	-
48	50	.51	246.6	264.3	5285	-	-
	51	.58	280.0	297.7	5955	-	-
	52	.65	313.4	331.1	6620	-	-
	53	.72	346.6	364.3	7285	-	-
	54	.79	379.8	397.5	7950	-	-
	55	.86	412.9	430.6	8610	-	-
	56	.93	445.9	463.6	9270	-	-
54	50	.57	312.3	334.3	6685	-	-
	51	.65	355.6	377.5	7550	-	-
	52	.73	398.8	420.8	8415	-	-
	53	.81	441.9	463.8	9275	-	-
	54	.89	484.9	506.8	10135	-	-
	55	.97	527.7	549.7	10995	-	-
	56	1.06	570.4	592.3	11845	-	-

60" and 64" sizes are not available in Special Classes.

RECOMMENDED PRODUCT SPECIFICATION

Suggested Specification

System: PVC Schedule 40 Solid Wall Pipe and PVC DWV Fitting **System**

Scope: This specification covers PVC Schedule 40 solid wall pipe and PVC DWV fittings used in sanitary drain, waste, and vent (DWV), sewer, and storm drainage applications. This system is intended for use in non-pressure applications where the operating temperature will not exceed 140°F.

Specification: Pipe and fittings shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a Cell Class of 12454-B as identified in ASTM D 1784.

PVC Schedule 40 pipe shall be Iron Pipe Size (IPS) conforming to ASTM D 1785 and ASTM D 2665. PVC DWV fittings shall conform to ASTM D 2665. Pipe and fittings shall be manufactured as a system and be the product of one manufacturer. All pipe and fittings shall be manufactured in the United States. All systems shall utilize a separate waste and vent system. Pipe and fittings shall conform to National Sanitation Foundation Standard 14.

Installation shall comply with the latest installation instructions published by Charlotte Pipe and Foundry and shall conform to all local plumbing, building, and fire code requirements. Solvent cement joints shall be made in a two step process with primer manufactured for thermoplastic piping systems and solvent cement conforming to ASTM D 2564. The system shall be protected from chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agents not compatible with PVC compounds. Systems shall be hydrostatically tested after installation. Testing with compressed air or gas is not recommended.

Referenced Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 1785	PVC Plastic Pipe, Schedule 40
ASTM D 2665	PVC Drain, Waste, and Vent Pipe & Fittings
ASTM D 2564	Solvent Cements for PVC Pipe and Fittings
NSF Standard 14	Plastic Piping Components and Related Materials

Note: Latest revision of all standards apply.



PRODUCT SPECIFICATION

Corzan® CPVC pipe and fittings

SCOPE:

This specification covers the manufacturing requirements for CPVC Schedule 80 Iron Pipe Size (IPS) pipe and fittings. Both the pipe and fittings are manufactured in North America and meet or exceed the requirements set forth by the American Society for Testing Materials (ASTM) and ANSI/NSF Standards 14 and 61.

CPVC Materials:

Corzan® CPVC pipe and fittings are extruded/molded from CPVC compounds manufactured by Noveon. The pipe compound meets cell class 24448 and the fitting compound meets cell class 23447 as defined by ASTM D1784. Both the pipe and the fitting compounds are certified by NSF International for use with potable water.

DIMENSIONS AND PROPERTIES:

Dimensions, tolerances and physical properties meet or exceed the requirements of ASTM Standards F441 for pipe, F439 for socket fittings and ASTM F437 or F439 for threaded fittings. Threaded fittings have taper pipe threads in accordance with ASTM F1498. Unions and flanges meet or exceed the requirements of ASTM F1970.

SOLVENT CEMENT:

All socket type joints shall be assembled employing solvent cements that meet or exceed the requirements of ASTM F493. The standard practice for safe handling of solvent cements shall be in accordance with ASTM F402. Solvent cement shall be listed by NSF International for use with potable water, and approved by the Corzan® pipe and fittings manufacturers.

FLAME AND SMOKE REQUIREMENTS:

Water filled Corzan® pipe and fittings (1/2" through 6") tested in general accordance with UL 723/ASTM E 84 (NFPA 255 and UBC 8-1) meets the 25/50 flame and smoke requirement and shall be permitted to be installed in return air plenums. Test reports from a third party testing laboratory shall be obtained and made available upon request.

MARKING:

The marking on the CPVC pipe meet the requirements of ASTM F441 and the marking on the fittings meets the requirements of ASTM Standards F437, F438 or F1970. The pipe and fittings markings state the pipe/fitting manufacture's name or trademark, the material designation, the size, the NSF mark for potable water and the ASTM designation.

RECOMMENDED PRODUCT SPECIFICATION

Domestic Water Pipe
1/2" thru 2"

CHARLOTTE
PIPE AND FOUNDRY COMPANY

Suggested Specification

System: FlowGuard Gold® CPVC Copper Tube Size (CTS) Hot and Cold Domestic Water Distribution System

Scope: This specification covers Copper Tube Size (CTS) CPVC manufactured to standard dimensional ratio (SDR) 11 for hot and cold domestic water distribution. This system is intended for pressure applications where the operating temperature will not exceed 180°F at 100 psi.

Specification: Pipe and fittings shall be manufactured from virgin rigid CPVC (chlorinated polyvinyl chloride) vinyl compounds with a Cell Class of 23447-B as identified in ASTM D 1784.

FlowGuard Gold CTS CPVC pipe and fittings shall conform to ASTM D 2846. Pipe and fittings shall be manufactured as a system and be the product of one manufacturer. All pipe and fittings shall be manufactured in the United States. Pipe and fittings shall conform to National Sanitation Foundation (NSF) Standard 61.

Installation shall comply with the latest installation instructions published by Charlotte Pipe and Foundry and shall conform to all local plumbing, building, and fire code requirements. Solvent cement joints shall be made in a two step process with primer manufactured for thermoplastic piping systems and solvent cement conforming to ASTM F 493. The system shall be protected from chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agents not compatible with CPVC compounds. Systems shall be hydrostatically (water) tested after installation. Testing with compressed air or gas is not recommended.

Referenced Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 2846	CPVC Plastic Hot and Cold Water Distribution System
ASTM F 493	Solvent Cements for CPVC Pipe and Fittings
NSF Standard 61	Drinking Water System Components - Health Effects

Note: Latest revision of all standards apply.

FlowGuard Gold is a registered trademark of Noveon, Inc.

2

Expansion Joints Repair Couplings



(S119) Socket x Socket



(S118) Spigot x Socket

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
-------------	------	--------	----------	-----------	------------

PVC - Spig x Soc

PVC White with EPDM O-ring



Can be used as short-stroke Expansion Joint

S118-05	1/2	25	0	025	5.56
S118-07	3/4	30	0	025	6.32
S118-10	1	15	0	025	7.29
S118-12	1-1/4	23	0	025	13.74
S118-15	1-1/2	25	0	025	14.96
S118-20	2	12	0	025	23.14
S118-25	2-1/2	5	0	025	33.57
S118-30	3	4	0	025	41.94
S118-40	4	2	0	025	73.40
S118-60	6	1	0	025	179.60

PVC - Spig x Soc

PVC Gray with EPDM O-ring



Can be used as short-stroke Expansion Joint

S118E-05G	1/2	25	0	025	6.46
S118E-07G	3/4	24	0	025	7.34
S118E-10G	1	15	0	025	8.49
S118E-12G	1-1/4	12	0	025	15.97
S118E-15G	1-1/2	25	0	025	17.39
S118E-20G	2	12	0	025	26.92
S118E-25G	2-1/2	5	0	025	39.48
S118E-30G	3	4	0	025	49.33
S118E-40G	4	2	0	025	86.36
S118E-60G	6	1	0	025	230.85

PVC - Spig x Soc

PVC Gray with FKM O-ring



Can be used as short-stroke Expansion Joint

S118V-05G	1/2	25	0	025	7.06
S118V-07G	3/4	24	0	025	8.05
S118V-10G	1	15	0	025	9.31
S118V-12G	1-1/4	12	0	025	17.49
S118V-15G	1-1/2	25	0	025	19.07
S118V-20G	2	12	0	025	29.51
S118V-25G	2-1/2	5	0	025	44.37
S118V-30G	3	4	0	025	55.42
S118V-40G	4	2	0	025	97.02
S118V-60G	6	1	0	025	262.34

PVC - Soc x Soc

PVC White with EPDM O-ring



Can be used as short-stroke Expansion Joint

S119-05	1/2	30	0	025	5.56
S119-07	3/4	24	0	025	6.32
S119-10	1	20	0	025	7.29
S119-12	1-1/4	10	0	025	13.74
S119-15	1-1/2	16	0	025	14.96
S119-20	2	10	0	025	23.14

- Multi-function Telescoping Design
- Socket x Socket Configuration for Pipe Repair or Use as a Short-Stroke Expansion Joint
- Spigot x Socket Configuration for Replacing Damaged Fittings
- Both Configurations can be Easily Modified for Opposite Use
- Available in PVC White and PVC Gray
- Double O-ring Seal in EPDM or high-grade FKM
- 1/2" - 2" Pressure Rated to 235 PSI @ 73°F (23°C)
- 2-1/2" - 4" Pressure Rated to 200 PSI @ 73°F (23°C)
- 6" Pressure Rated to 150 PSI @ 73°F (23°C)
- NSF® Certified for Potable Water Use

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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PVC - Soc x Soc (continued)

PVC White with EPDM O-ring

S119-25	2-1/2	5	0	025	33.57
S119-30	3	4	0	025	41.94
S119-40	4	2	0	025	73.40
S119-60	6	1	0	025	179.60

PVC - Soc x Soc

PVC Gray with FKM O-ring



Can be used as short-stroke Expansion Joint

S119V-05G	1/2	28	0	025	7.06
S119V-07G	3/4	24	0	025	8.05
S119V-10G	1	20	0	025	9.31
S119V-12G	1-1/4	10	0	025	17.49
S119V-15G	1-1/2	16	0	025	19.07
S119V-20G	2	10	0	025	29.51
S119V-25G	2-1/2	5	0	025	44.37
S119V-30G	3	4	0	025	55.42
S119V-40G	4	2	0	025	97.02
S119V-60G	6	1	0	025	262.34

PVC - Soc x Soc

PVC Gray with EPDM O-ring



Can be used as short-stroke Expansion Joint

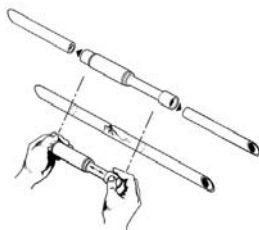
S119E-05G	1/2	28	0	025	6.46
S119E-07G	3/4	24	0	025	7.34
S119E-10G	1	20	0	025	8.49
S119E-12G	1-1/4	10	0	025	15.97
S119E-15G	1-1/2	16	0	025	17.39
S119E-20G	2	10	0	025	26.92
S119E-25G	2-1/2	5	0	025	39.48
S119E-30G	3	4	0	025	49.33
S119E-60G	6	1	0	025	230.85



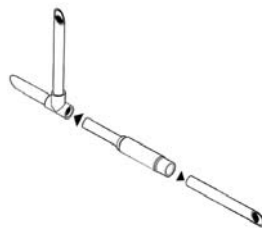
Expansion Joints Repair Couplings

Versatile Repair Capability

Spears® Repair Couplings provide a variety of system repair and alteration solutions. Use Socket x Socket configurations for quick pipe damage repair - can also be used as a short-stroke expansion joint to compensate for thermal expansion & contraction. Spigot x Socket configurations are excellent for lateral and riser add-ons, damaged fitting replacement, or for installing valves in existing piping systems. Order the wrong configuration? Simply cut coupling from Socket shaft end to function as a spigot or add a coupling to Spigot shaft end for Socket connections.



Pipe Damage Repair
Or Use as Expansion Joint



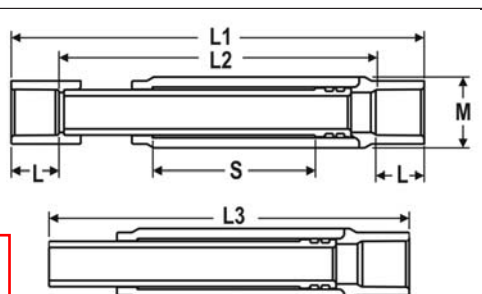
Lateral Add-on Or Fitting Replacement



Valve Retrofit Installation

Dimensions

Size	L	L1	L2	L3	S	M
1/2	7/8	7-5/8	5-7/8	6-3/4	3	1-7/16
3/4	1	9-3/8	7-3/8	8-1/4	4	1-3/4
1	1-1/8	10-1/8	7-7/8	8-7/8	4	2-1/16
1-1/4	1-1/4	10-7/8	8-3/8	9-5/8	4	2-7/16
1-1/2	1-3/8	11-3/8	8-5/8	9-7/8	4	2-11/16
2	1-1/2	12-1/4	9-1/4	10-5/8	4	3-3/16
2-1/2	1-3/4	15-7/8	12-3/8	13-7/8	6	3-15/16
3	1-7/8	16-1/8	12-3/8	14-1/8	6	4-9/16
4	2-1/4	17-3/4	13-1/4	15-1/4	6	5-11/16
6	3	22	16	18-3/4	6	8-3/8



INSTALLATION NOTE: For expansion joint applications, install with unit 1/2 extended. System must be supported and blocked against thrusts and movement under pressure. May be installed with flow in either direction.

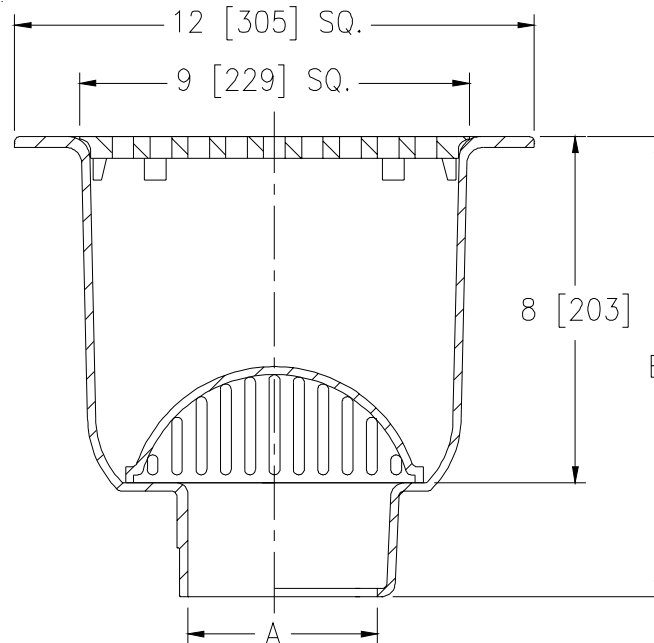
**Z1901**

SPECIFICATION SHEET

12 X 12 [305 X 305] A.R.E. SANI-FLOR RECEPTOR**8 [203] SUMP DEPTH**

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



A- Pipe Size In.	Approx Wt. Lbs. [kg]	Grate Open Area Sq. In. [cm ²]
2-3-4 [50-75-100]	34 [15]	31 [200]

ENGINEERING SPECIFICATION: ZURN Z1901 Sani-Flor Receptor 12 x 12 x 8 [305 x 305 x 203] deep cast iron body and square slotted light duty grate, with white acid resisting porcelain enamel interior and top, complete with white ABS anti-splash interior bottom dome strainer.

OPTIONS (Check/specify appropriate options)

PIPE SIZE

2-3-4 [50-75-100]
2-3-4 [50-75-100]
2-3-4 [50-75-100]

(Specify size/type) **OUTLET**

_____ IC Inside Caulk
_____ NH No-Hub
☒ NL Neo-Loc

'E' BODY HT. DIMENSION

Z	ZN
10 5/8 [270]	11 1/8 [283]
10 5/8 [270]	11 1/8 [283]
10 [254]	10 1/2 [267]

PREFIXES

_____ Z Cast Iron Body with White A.R.E. Interior*
_____ ZN Cast Iron Body with White A.R.E. Interior, 12 1/2 [318] Square N.B. Frame and Full Grate with 1/2 [13] Square Openings (Add 1/2 [13] to 12 [305] and 'E' Dim.)

SUFFIXES

_____ -DX Dex-o-Tex Flange	_____ -9 Angle Frame and Grate
_____ -HD Nickel Bronze Frame w/ X-Heavy Duty Stainless Steel Grate	_____ -11 Vandal-Proof Secured Grate
_____ -HP Heel-Proof Grate	_____ -12 Depressed Aluminum Grate
_____ -K Anchor Flange	_____ -15 Solid Loose Set Cover
_____ -KC Anchor Flange with Seepage Holes and Clamp Collar	_____ -16 1/2 Solid Loose Set Cover
_____ -LD (Less) Bottom Dome Strainer	_____ -17 3/4 Solid Loose Set Cover
_____ -P 1/2 [13] Trap Primer Connection (See Z1023)	_____ -18 Solid Loose Set Cover with Square Center Opening
_____ -TC Neo-Loc Test Cap Gasket (2 - 4 [50 - 100] NL Bottom Outlet Only)	_____ -19 Full Hinged Grate
_____ -1 (Less) Grate	_____ -23 Aluminum Bucket
_____ -2 1/2 Grate	_____ -25 White A.R.E. Bucket
_____ -3 3/4 Grate	_____ -31 Stainless Steel Mesh Liner for Bucket
_____ -4 Full Grate with Square Center Opening	_____ -32 Aluminum Dome Strainer
_____ -5 Grate w/ 4 [102] Dia. x 3 3/4 [95] High Funnel	_____ -33 White A.R.E. Anti-Splash Bottom Dome Strainer
_____ -6 Grate w/ 6 [152] Dia. x 6 [152] High Funnel	_____ -34 N.B. Anti-Splash Bottom Dome Strainer
_____ -7 Grate w/ 6 3/4 x 3 x 1 [171 x 76 x 25] High Oval Funnel	
_____ -8 Grate w/ 8 7/8 x 3 5/8 x 3 3/4 [225 x 92 x 95] High Oval Funnel	

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

REV. E DATE: 11/17/03 C.N. NO. 91656**DWG. NO. 59342 PRODUCT NO. Z1901**

FD1- Floor Drain, General Purpose Type

Zurn ZN415-5B-P NB Floor Drain

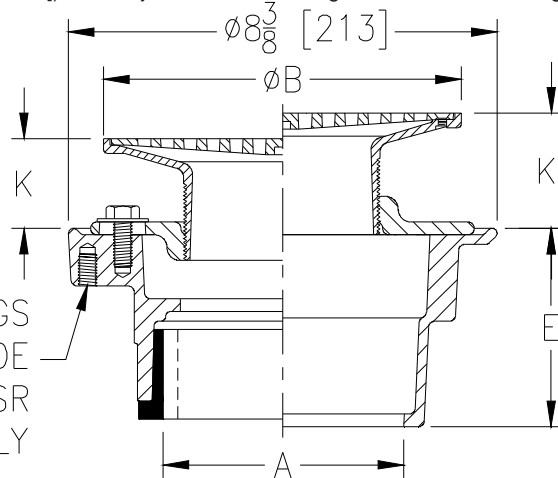
**Z415B****BODY ASSEMBY W/ "TYPE B" STRAINER**

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

FOUR 3/8-16NC TAPPINGS
PROVIDED ON UNDERSIDE
FOR -SA, -SQ, AND -SR
SUFFIX OPTIONS ONLY



Dimensions In Inches						Approx. Wt. Lbs. [kg]	Strainer Open Area Sq. In. [cm ²]
A Pipe Size	B Strainer Dia.	Min.	Max.	Min.	Max.		
2-3 [51-76]	5 [127]	1 [25]	1-1/2 [38]	1-3/32 [28]	2-1/4 [57]	11 [5]	6-1/4 [40]
2-3-4 [51-76-102]	6 [152]	1 [25]	1-25/32 [45]	1-13/32 [36]	2-17/32 [64]	13 [6]	9 [58]
2-3-4 [51-76-102]	7 [178]	1 [25]	2-1/8 [54]	1-23/32 [44]	2-7/8 [73]	14 [6]	12 [77]
3-4 [76-102]	8 [203]	1-5/32 [30]	2-1/8 [54]	1-3/4 [44]	2-7/8 [73]	16 [7]	19 [123]
6 [152]	8 [203]	1-5/32 [30]	2-1/8 [54]	1-3/4 [44]	2-7/8 [73]	18 [8]	19 [123]
6 [152]	10 [254]	1-7/16 [37]	2-1/2 [64]	2 [51]	3-1/4 [83]	22 [10]	23 [148]

ENGINEERING SPECIFICATION: ZURNZ415B

Floor and shower drain, Dura-Coated cast iron body with bottom outlet, combination invertible membrane clamp and adjustable collar with seepage slots and "TYPE B" polished nickel bronze, light-duty strainer.

OPTIONS (Check/specify appropriate options)**PIPE SIZE**

2-3-4 [51-76-102]
2-3-4 [51-76-102]
2 [51]
3 [76]
4 [102]
6 [152]
2-3-4 [51-76-102]
2-3-4 [51-76-102]

(Specify size/type) OUTLET

____ IC Inside Caulk
____ IG Inside Gasket
____ IP Threaded
____ IP Threaded
____ IP Threaded
____ IP Threaded
____ NH No-Hub
✓ **NL Neo-Loc**

'E' BODY HT. DIM.

3-7/8 [98]
3-7/8 [98]
2-3/8 [60]
2-5/8 [67]
2-7/8 [73]
2-3/4 [70]
3-7/8 [98]
3-3/4 [95]

PREFIXES

____ ZB D.C.C.I. Body Assembly w/ Polished Bronze Top
____ **ZN D.C.C.I. Body Assembly w/ Polished Nickel Bronze Top***

SUFFIXES

✓ -AA All Acid Resisting Epoxy
____ -AR Acid Resisting Epoxy Coated Cast Iron
____ -C Clamp Collar for -90 Side Outlet Body
____ -CP Chrome-Plated Bronze Top
____ -DP Decorative Polished Top
____ -EF 3/8 [16] Extension Frame
____ -G Galvanized Cast Iron
____ -HD Heavy-Duty Slotted Grate (ZN 5 [127] & 6 [152] Sizes Only)
____ -OF Oval Funnel (Z329-7) (6-10 [152-254] Strainers Only)
✓ **-P Trap Primer Connection (Specify 1/2 [13] or 3/4 [19])**
____ -PC Protective Cover
____ -SA Stabilizer Assembly (See Z1035)
____ -SQ Stabilizer Q-Deck (See Z1035-Q)
____ -SR Stabilizer Ring
____ -TC Neo-Loc Test Cap Gasket (2-4 [51-102] NL Outlet Only)
____ -U 1-3 [25-76] High Extension Adapter
____ -V Backwater Valve
____ -VP Vandal-Proof Secured Top
____ -W Winter Closure Plug
____ -Y Sediment Bucket
____ -4 4 [102] Diameter Funnel (Z328)
____ -18 Leveling Ring (See Z400-18)
____ -90 90° Threaded Side Outlet Body Assembly (2 [51], 3 [76] Only)

* Regularly furnished unless otherwise specified.

FD2- Floor Drain, General Purpose Type

Zurn ZN415-7B-HD-P NB Floor Drain

**Z415B**

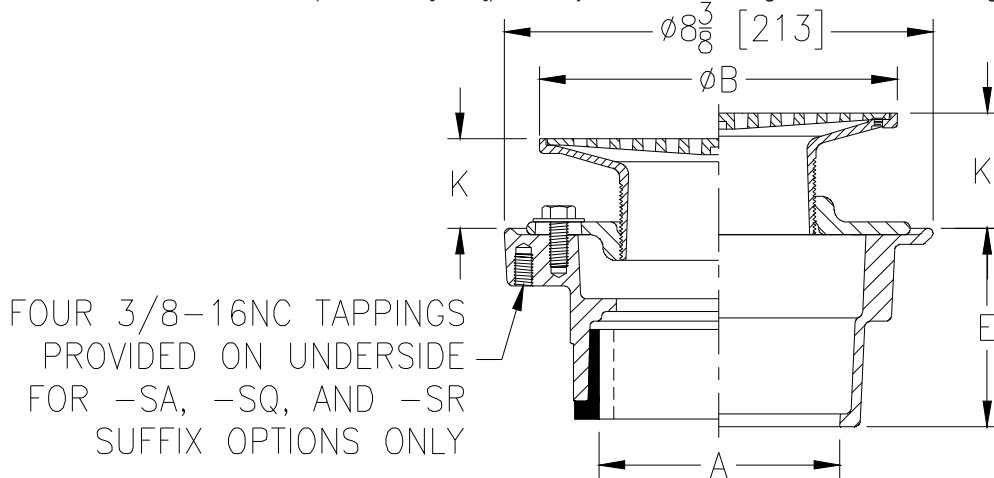
BODY ASSEMBY W/ "TYPE B" STRAINER

FD-2 FLOOR DRAIN

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Dimensions In Inches						Approx. Wt. Lbs. [kg]	Strainer Open Area Sq. In. [cm²]
A Pipe Size	B Strainer Dia.	K		K'			
		Min.	Max.	Min.	Max.		
2-3 [51-76]	5 [127]	1 [25]	1-1/2 [38]	1-3/32 [28]	2-1/4 [57]	11 [5]	6-1/4 [40]
2-3-4 [51-76-102]	6 [152]	1 [25]	1-25/32 [45]	1-13/32 [36]	2-17/32 [64]	13 [6]	9 [58]
2-3-4 [51-76-102]	7 [178]	1 [25]	2-1/8 [54]	1-23/32 [44]	2-7/8 [73]	14 [6]	12 [77]
3-4 [76-102]	8 [203]	1-5/32 [30]	2-1/8 [54]	1-3/4 [44]	2-7/8 [73]	16 [7]	19 [123]
6 [152]	8 [203]	1-5/32 [30]	2-1/8 [54]	1-3/4 [44]	2-7/8 [73]	18 [8]	19 [123]
6 [152]	10 [254]	1-7/16 [37]	2-1/2 [64]	2 [51]	3-1/4 [83]	22 [10]	23 [148]

ENGINEERING SPECIFICATION: ZURNZN415B

Floor and shower drain, Dura-Coated cast iron body with bottom outlet, combination invertible membrane clamp and adjustable collar with seepage slots and "TYPE B" polished nickel bronze, light-duty strainer.

OPTIONS (Check/specify appropriate options)**PIPE SIZE**

2-3-4 [51-76-102]
2-3-4 [51-76-102]
2 [51]
3 [76]
4 [102]
6 [152]
2-3-4 [51-76-102]
2-3-4 [51-76-102]

(Specify size/type) OUTLET

____ IC Inside Caulk
____ IG Inside Gasket
____ IP Threaded
____ IP Threaded
____ IP Threaded
____ IP Threaded
____ NH No-Hub
____ NL Neo-Loc

'E' BODY HT. DIM.

3-7/8 [98]
3-7/8 [98]
2-3/8 [60]
2-5/8 [67]
2-7/8 [73]
2-3/4 [70]
3-7/8 [98]
3-3/4 [95]

PREFIXES

____ ZB D.C.C.I. Body Assembly w/ Polished Bronze Top
____ ZN D.C.C.I. Body Assembly w/ Polished Nickel Bronze Top*

SUFFIXES

____ -AA All Acid Resisting Epoxy
____ -AR Acid Resisting Epoxy Coated Cast Iron
____ -C Clamp Collar for -90 Side Outlet Body
____ -CP Chrome-Plated Bronze Top
____ -DP Decorative Polished Top
____ -EF 3/8 [16] Extension Frame
____ -G Galvanized Cast Iron
✓ -HD Heavy-Duty Slotted Grate (ZN 5 [127] & 6 [152] Sizes Only)
____ -OF Oval Funnel (Z329-7) (6-10 [152-254] Strainers Only)
____ -P Trap Primer Connection (Specify 1/2 [13] or 3/4 [19])
____ -PC Protective Cover
____ -SA Stabilizer Assembly (See Z1035)
____ -SQ Stabilizer Q-Deck (See Z1035-Q)
____ -SR Stabilizer Ring
____ -TC Neo-Loc Test Cap Gasket (2-4 [51-102] NL Outlet Only)
____ -U 1-3 [25-76] High Extension Adapter
____ -V Backwater Valve
____ -VP Vandal-Proof Secured Top
____ -W Winter Closure Plug
____ -Y Sediment Bucket
____ -4 4 [102] Diameter Funnel (Z328)
____ -18 Leveling Ring (See Z400-18)
____ -90 90° Threaded Side Outlet Body Assembly (2 [51], 3 [76] Only)

* Regularly furnished unless otherwise specified.

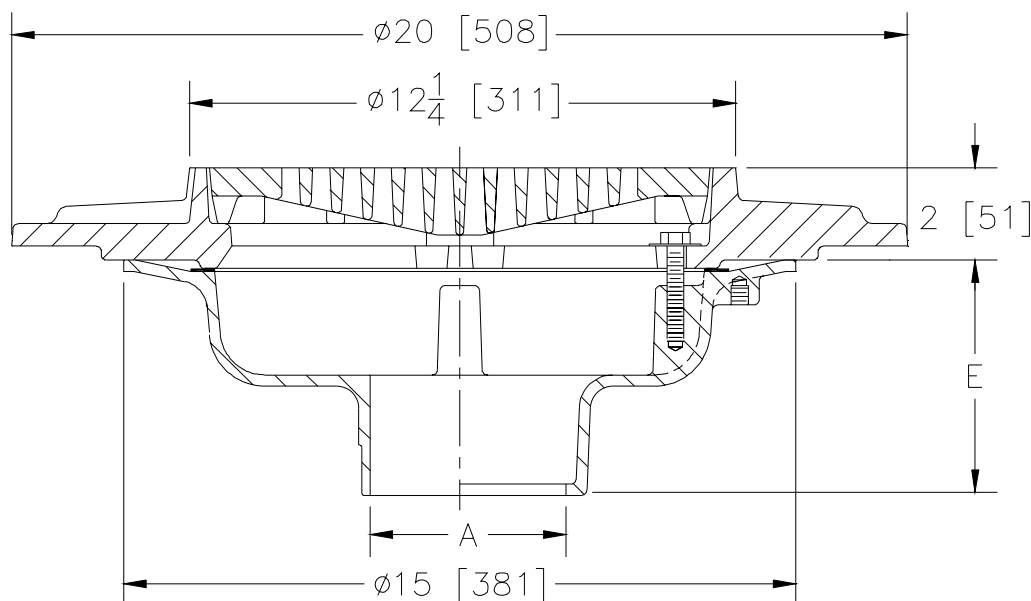
AD – Area Drain, Parking Structure Type

Zurn Z534-CI Area Drain

**12 [305] DIAMETER HEAVY-DUTY
PARKING DECK DRAIN WITH SUPPORT FLANGE**

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



A- Pipe Size In.	Approx. Wt. Lbs. [kg]	Grate Open Area Sq. In. [cm ²]
2-3-4-5-6 [51-76-102-127-152]	78 [35]	30 [194]
8-10 [203-254]	80 [36]	

ENGINEERING SPECIFICATION: ZURN Z534

12 [305] Diameter Parking Deck Drain, Dura-Coated cast iron body with bottom outlet, heavy duty gasketed drain support flange, with heavy-duty slotted grate.

OPTIONS (Check/specify appropriate options)**PIPE SIZE**

2 thru 6-8-10 [51 thru 152-203-254]
2 thru 4-6 [51 thru 102-152]
2 thru 6-8-10 [51 thru 152-203-254]
2 thru 6-8-10 [51 thru 152-203-254]
2 thru 4 [51 thru 102]

(Specify size/type) **OUTLET**

___ IC Inside Caulk
___ IG Inside Gasket
___ IP Threaded
___ NH No-Hub
X **NL** **Neo-Loc**

'E' BODY HT. DIM.

5-1/4 [133]
5-1/4 [133]
3-3/4 [95]
5-1/4 [133]
4-5/8 [117]

PREFIXES

X Z **D.C.C.I. Body and Top***
___ ZB D.C.C.I. Body with Polished Bronze Top (Add 3/16 [5] to 2 [51] Dim and 3/4 [19] To 12-1/4 [311] Dim.)
___ ZN D.C.C.I. Body with Polished Nickel Bronze Top (Add 3/16 [5] to 2 [51] Dim and 3/4 [19] To 12-1/4 [311] Dim.)

SUFFIXES

___ -C Underdeck Clamp
___ -G Galvanized Cast Iron
___ -HP Heel-Proof Grate
___ -SA Stabilizer Assembly (See Z1036)
___ -TC Neo-Loc Test Cap Gasket
(2 [51]-4 [102] NL Bottom Outlet Only)
___ -TS Top Secured with Slotted Screws
___ -VP Vandal-Proof Secured Top
___ -XJ Expansion Joint (See Z190) (Use with IP Type Outlets)
___ -Y Sediment Bucket

REV. E DATE: 11/16/10 C.N. NO. 120454

DWG. NO. 58939 PRODUCT NO. Z534

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

C.0- SIOUX CHIEF CLEAN OUT
834 SERIES ADJUSTABLE TOP

ADJUSTABLE ON-GRADE CLEANOUT

» 834 SERIES

FinishLine™

SPECIFICATION

Sioux Chief 834 series FinishLine™ adjustable on-grade cleanout shall be used where necessary in drainage systems. Cleanout shall allow adjustment before and AFTER the concrete pour. Scoriated cleanout cover shall meet applicable load requirements for intended use. Cleanout shall include a slotted, polypropylene or brass cleanout plug, situated in base adapter. Designed in accordance with ASME A112.36.2M-2002.

MATERIALS

Ring/cover: Nickel-bronze, stainless steel, tenzalloy

Coring plug: High-impact polymer

Head adapter/coring sleeve: Gray ABS

Base adapter: ABS, **PVC**

Cleanout plug: Polypropylene, brass

STRAINER LOAD RATING

Nickel-bronze: 4,000 lbs. (Medium duty)

Stainless steel: 4,000 lbs. (Medium duty)

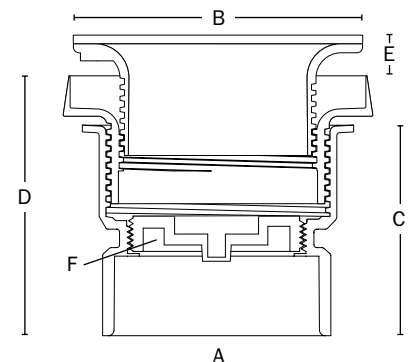
Tenzalloy: 1,250 lbs. (Light duty)

DIMENSIONS

A: Connection	3×4", 4" Sch. 40 hub
B: Ring/strainer diameter	
Round	6½"
Square	6⅝"
C: Base adapter height	4½"
D: Pre-pour height	5⅜" – 6⅝"
E: After-pour height	
Round	0" – 1¼"
Square	⅝" – 1¼"
F: Cleanout plug	3½" male thread



834-4PNQ



Create Item Number

834-ABCD

e.g. **834-4PNRV**: FinishLine™ cleanout with 4" PVC hub connection and vandal-resistant nickel-bronze cover

CONNECTION **A**

- ☐ **3** = 3×4" Sch. 40 hub
- ☐ **4** = 4" Sch. 40 hub

CONNECTION TYPE **B**

- ☐ **A** = ABS base adapter
- ☐ **P** = PVC base adapter

RING/COVER **C**

- ☒ **NR** = Round nickel-bronze
- ☐ **NQ** = Square nickel-bronze
- ☐ **SR** = Round stainless steel
- ☐ **SQ** = Square stainless steel
- ☐ **TR** = Round tenzalloy

INSTALLED OPTIONS **D**

- ☐ **V** = Vandal-resistant cover screws
- ☐ **S** = Stamping: specify letters
- ☐ **C** = Carpet marker
- ☐ **Z** = Complies with Buy American Act¹

ACCESSORIES (ordered separately)

- ☐ **832-S4** = Leveling shim kit
- ☐ **832-EX4** = Ductile extension adapter
- ☐ **832-W** = Flexible locating bristle kit

¹ Available for round nickel-bronze covers only

WCO- Wall Cleanout

Zurn ZS1468 Wall Cleanout with SS Cover

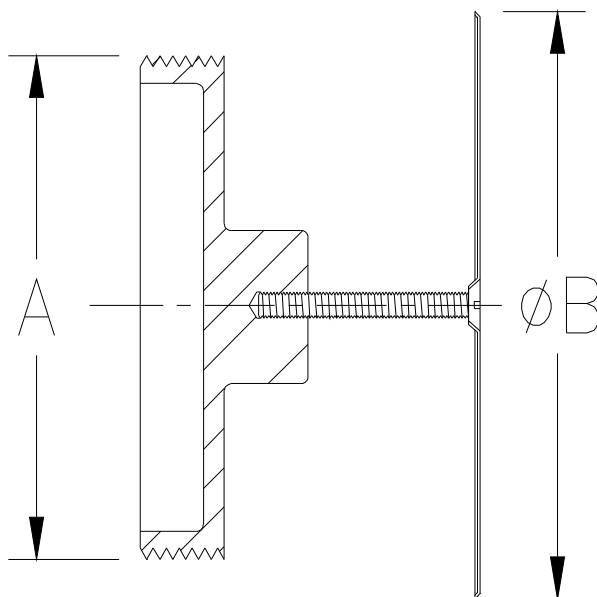


Z1468 ACCESS COVER AND PLUG

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Product Designation	Dimensions In Inches		Approx. Wt. Lbs. [kg]
	A-Pipe Size	B	
-1.25	1-1/4 [32]	4 [102]	4 [2]
-1.5	1-1/2 [38]		
-2	2 [51]	5 [127]	5 [2]
-2.5	2-1/2 [64]		
-3	3 [76]		
-3.5	3-1/2 [89]		
-4	4 [102]	7 [178]	8 [4]
-5	5 [127]		11 [5]
-6	6 [152]	9 [229]	14 [6]
-8	8 [203]	11 [279]	25 [11]

ENGINEERING SPECIFICATION: ZURN ZS1468

Round stainless steel wall access cover complete with securing screw and bronze raised hex head plug.

OPTIONS (Check/specify appropriate options)**PREFIXES**

____ ZAB Bronze Plug with Polished Bronze Cover
____ **ZS Bronze Plug with Stainless Steel Cover***

SUFFIXES

____ -SL Screw Longer Than 3 1/2 [89]
____ -VP Vandal-Proof Screw

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

REV. D DATE: 11/5/10 C.N. NO. 120267

DWG. NO. 58781 PRODUCT NO. Z1468

ZURN INDUSTRIES, LLC ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514

Phone: 814/455-0921 ♦ Fax: 814/454-7929 ♦ World Wide Web: www.zurn.com

In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

3

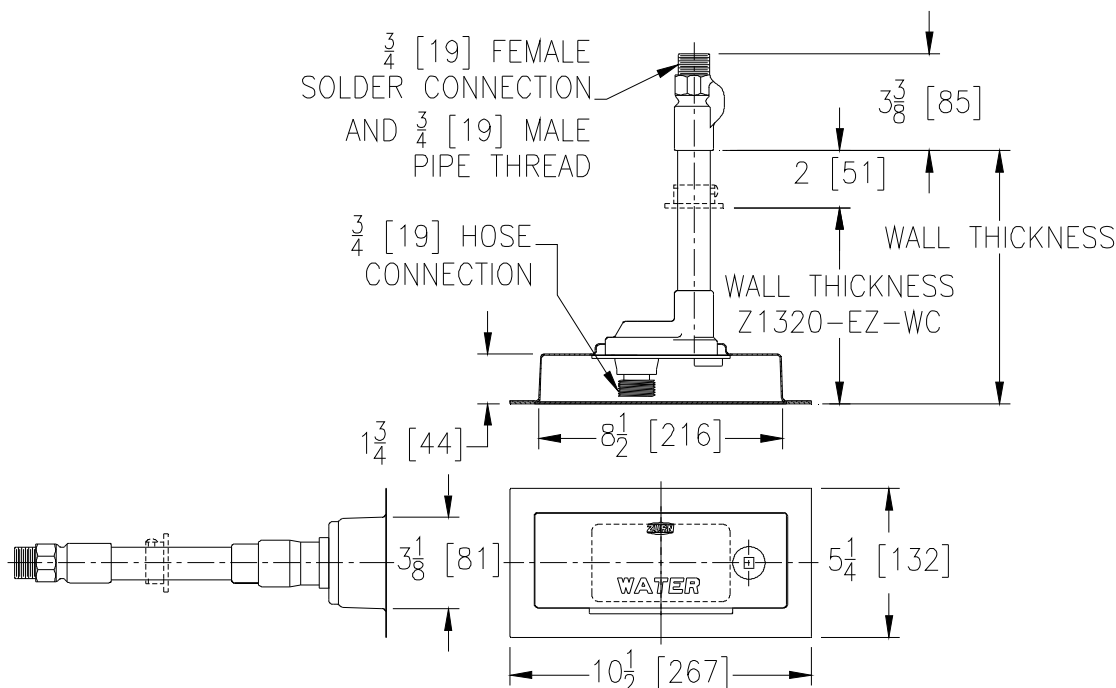
WHYD- Non Freeze Wall Hydrant

Zurn Z1320-EZ Non Freeze Wall Hydrant

**ECOLOTROL CERAMIC DISC WALL HYDRANT**
Encased, Non-Freeze, Anti-Siphon, Automatic Draining

TAG _____

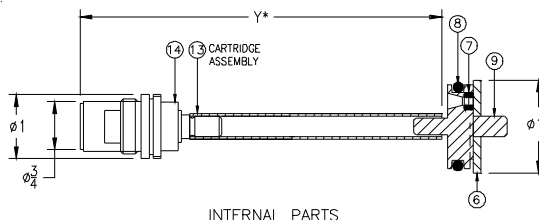
Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Wall Thickness Inches	Approx. Wt. Lbs. [kg]
6-8 [152-203]	5 [2]
10-12-14 [254-305-356]	6 [3]
16-18 [406-457]	7 [3]
20-22-24 [508-559-610]	8 [4]
26 [660]	10[5]

ENGINEERING SPECIFICATION: ZURN Z1320-EZ Encased Ecolotrol "anti-siphon" automatic draining wall hydrant for flush installation. Complete with integral backflow preventer, copper casing, all bronze interior parts with 1/2 turn ceramic disc cartridge and combination 3/4 [19] female solder and 3/4 [19] male pipe thread inlet. Stainless steel box and hinged cover with operating key lock and "WATER" stamped on cover. (All solder connections are lead free). Recommended wall opening 3-3/16 [81] X 8-1/2 [216]. Hydrant box fits in one standard modular masonry course.

Note: During normal operation, the hydrant may take as long as one minute to complete the self-draining process. This drainage feature should not be mistaken for an unsealed shut-off of the hydrant, and over-tightening of the operating coupling is not necessary.

**OPTIONS** (Check/specify appropriate options)**SUFFIXES**

___ -CL	Cylinder Lock
___ -RK	Hydrant Parts Repair Kit
___ -RT12	Ceramic Cartridge Removal Tool (Up to 12 [305] Wall)
___ -RT24	Ceramic Cartridge Removal Tool (Up to 24 [610] Wall)
___ -RT36	Ceramic Cartridge Removal Tool (Up to 36 [915] Wall)
___ -WC	Wall Clamp
___ -34EL	3/4 [19] IP 90° Solder Inlet Elbow
___ -34FIP	3/4 [19] IP Straight Female Inlet Adapter

PARTS LIST

Item	Name	Quan.
14	Cartridge	1
13	Operating Tube	1
9	Operating Coupling	1
8	O' Ring	1
7	O' Ring	2
6	Retaining Washer	1

*WHEN ORDERING REPLACEMENT CARTRIDGE ASSEMBLY SPECIFY Y DIM.

REV. C DATE: 10/22/10 C.N. NO. 111935

DWG. NO. 82548 PRODUCT NO. Z1320-EZ

HB

Zurn Z1310 Hose Bibb

**Z1310**

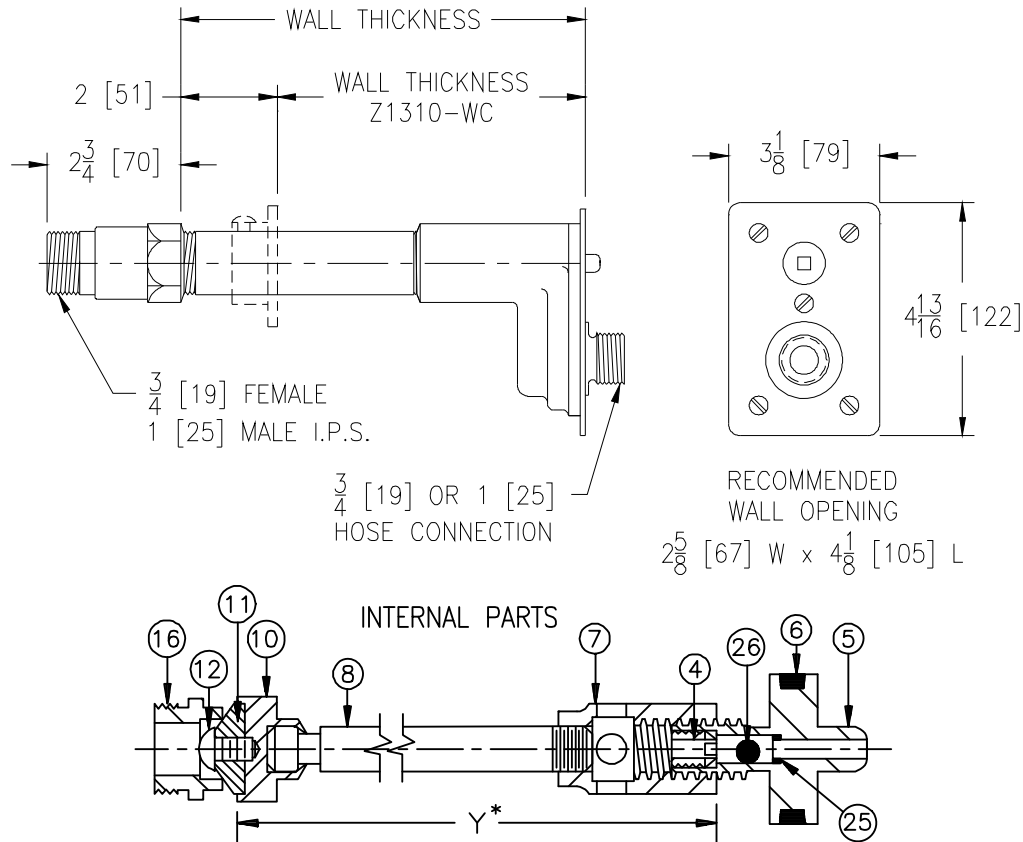
HOSE BIB

ECOLOTROL WALL HYDRANT**Exposed, Non-Freeze, Anti-Siphon, Automatic Draining**

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Wall Thickness Inches	Approx. Wt. Lbs. [kg]
4-6-8 [102-152-203]	5 [2]
10-12-14 [254-305-356]	8 [4]
16-18 [406-457]	11 [5]
20-22-24 [508-559-610]	14 [6]

ENGINEERING SPECIFICATION: ZURN Z1310 Exposed Ecolotrol "anti-siphon" automatic draining wall hydrant. Complete with non-freeze integral backflow preventer, bronze casing, all bronze interior parts, non-turning operating rod with free-floating compression closure valve, replaceable bronze seat and seat washer, and combination 3/4 [19] female or 1 [25] male straight IP inlet. Stainless steel face with operating key.

OPTIONS (Check/specify appropriate options)**SUFFIXES**

___ -PB	Polished Bronze Face
___ -RA2	12 [305] Replacement Rod Assembly with Repair Kit (-RK)
___ -RA4	24 [610] Replacement Rod Assembly with Repair Kit (-RK)
___ -RK	Hydrant Parts Repair Kit
___ -SB	Statuary Bronze Face (Specify light, medium or dark finish)
___ -WC	Wall Clamp
___ -34FS	3/4 [19] Solder Female Inlet Adapter
___ -34UN	3/4 [19] IP 90° Inlet Elbow w/Union Nut

PARTS LIST

Item	Name	Quan.
6	O-Ring	1
4	Screw	1
5	Operating Screw	1
7	Operating Coupling	1
8	Operating Rod	1
10	Washer Guide	1
11	Washer (neoprene)	1
12	Screw	1
16	Removable Seat	1
25	O-Ring	1
26	Ball	1

*WHEN ORDERING REPLACEMENT PARTS SPECIFY Y DIM.

REV. F DATE: 10/22/10 C.N. NO. 111932

DWG. NO. 58869 PRODUCT NO. Z1310

ZURN INDUSTRIES, LLC ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514

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In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

For Health Hazard Applications

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

LEAD FREE*

TRASH CHUTE 3/4''

Series LF909

Reduced Pressure Zone Assemblies

LF909 Sizes: 3/4", 1" (20, 25mm)

LF909M1 Sizes: 1 1/4", 1 1/2", 2" (32, 40, 50mm)

Series LF909 Reduced Pressure Zone Assemblies are designed to provide superior cross-connection control protection of the potable water supply in accordance with national plumbing codes and containment control for water authority requirements. This series can be utilized in a variety of installations, including health hazard cross-connections in plumbing systems or for containment at the service line entrance. The LF909 features Lead Free* construction to comply with Lead Free* installation requirements. With its exclusive design incorporating the "air-in/water-out" principle it provides maximum relief valve discharge during the emergency conditions of combined backsiphonage and backpressure with both checks fouled. Model LF909QT, standardly furnished with full port, resilient seated and Lead Free* cast copper silicon alloy ball valve shutoffs. Sizes 3/4" and 1" (20 and 25mm) shutoffs have tee handles.

Features

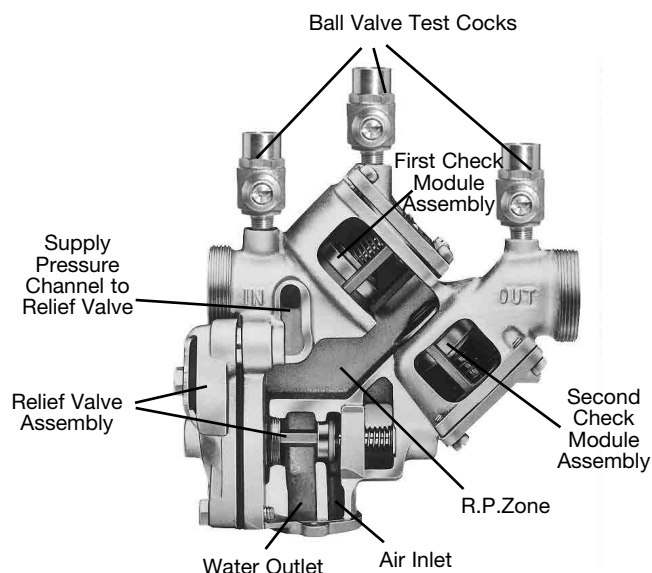
- Modular design
- Replaceable seats
- Compact for installation ease
- Horizontal or vertical (up or down) installation
- No special tools required for servicing

Specifications

A Reduced Pressure Zone Assembly shall be installed at each cross-connection to prevent backsiphonage and backpressure of hazardous materials into the potable water supply. The assembly shall consist of a pressure differential relief valve located in a zone between two positive seating check valves. Backsiphonage protection shall include provision to admit air directly into the reduced pressure zone via a separate channel from the water discharge channel, or directly into the supply pipe via a separate vent. The assembly shall be constructed using Lead Free* cast copper silicon materials. The Lead Free* reduced pressure zone assembly shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall include two tightly closing shutoff valves before and after the assembly, test cocks and a protective strainer upstream of the No. 1 shutoff valve. The assembly (specify Model LF909 for temperatures up to 140°F (60°C) or Model LF909HW for temperatures up to 210°F (99°C)) shall meet the requirements of ASSE Std. 1013; AWWA Std. C-511-92 CSA B64.4; FCCCHR of USC Manual Section 10. Listed by IAPMO (UPC). SBCCI (Standard Plumbing Code). The assembly shall be a Watts LF909QTS or LF909QTSHW.



Model LF909M1QT-S
1 1/2" (40mm)



Now Available WattsBox Insulated Enclosures.

For more information, send for literature ES-WB.

*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.

WATTS®

Models

Suffix

QT	Quarter-turn ball valves
S	Bronze strainer
HW	Stainless steel check modules for hot and harsh water conditions

NOTICE

The installation of a drain line is recommended. When installing a drain line, an air gap is necessary.

Materials

Body: Lead Free* Cast Copper Silicon Alloy

Check Seats: 909 Celcon®

Relief Valve Seats: Stainless Steel 909HW

Test Cocks: Lead Free* Cast Copper Silicon Alloy

Celcon® is a registered trademark of Celanese, Limited

Connections

¾" – 1" (19 – 25mm) 909-NPT Female threaded body connection

1¼" – 2" (32 – 50mm) 909-M1-NPT Male threaded body connection

Standards

AWWA C-511-92

FCCCHR of USC Manual Section 10

IAPMO (UPC), SBCCI (Standard Plumbing code)

Approvals

Listed by IAPMO

Listed by SBCCI



‡Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. (QT and S Models)

Horizontal and vertical "flow-up" approval on ¾" (20mm) and 1" (25mm) sizes (model LF909QT).

Pressure — Temperature

Temperature Range: 33°F – 140°F (0.5°C – 60°C) continuous, 180°F (82°C) intermittent

Maximum Working Pressure: 175psi (12.1 bar)

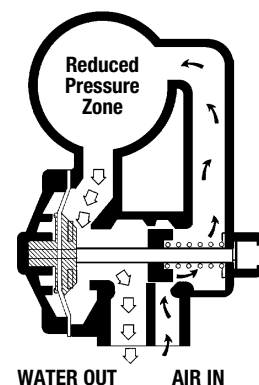
Series LF909HW:

Temperature Range: 33°F – 210°F (0.5°C – 99°C)

Maximum Working Pressure: 175psi (12.1 bar)

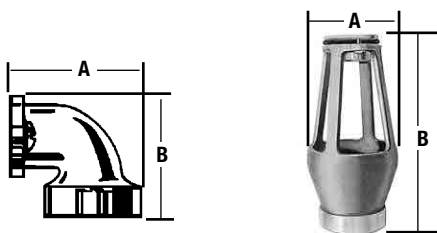
How it Operates

The unique relief valve construction incorporates two channels: one for air, one for water. When the relief valve opens, as in the accompanying air-in/water-out diagram, the right-hand channel admits air to the top of the reduced pressure zone, relieving the zone vacuum. The channel on the left then drains the zone to atmosphere. Therefore, if both check valves foul, and simultaneous negative supply and positive backpressure develop, the relief valve uses the air-in/water-out principle to stop potential backflow.



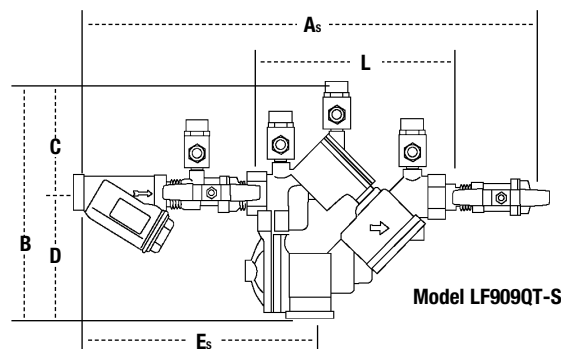
Dimensions — Weights

When installing a drain line use 909AG series Air Gaps on Series 909 backflow preventers. ††909EL series elbows are for air gaps on backflow preventers in vertical installations.

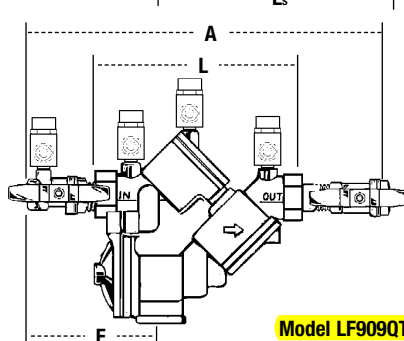


Series 909AG Air Gaps

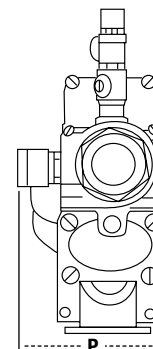
Iron Body No.	Desc.	909 DRAIN		OUTLET		DIMENSIONS				WEIGHTS	
		Sizes		Sizes		A		B		lbs.	kg.
		in.	mm	in.	mm	in.	mm	in.	mm		
909AG-C	Air Gap	¾, 1	19, 25	1	25	3¼	83	4¾	124	1½	.7
909EL-C	Elbow††	¾, 1	19, 25	—	—	2¾	60	2¾	60	¾	.2
909AG-F	Air Gap	1¼-2	32-50	2	50	4¾	111	6¾	171	3¼	1.5
909EL-F	Elbow††	1¼-2	32-50	—	—	3¾	92	3¾	92	2	.9



Model LF909QT-S



Model LF909QT

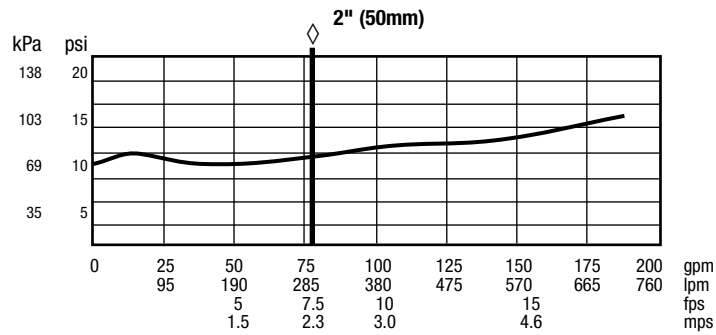
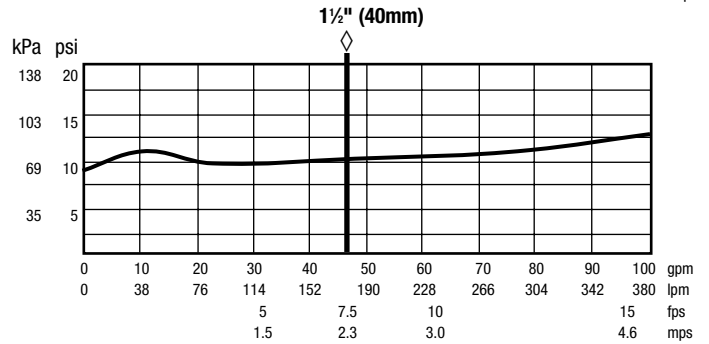
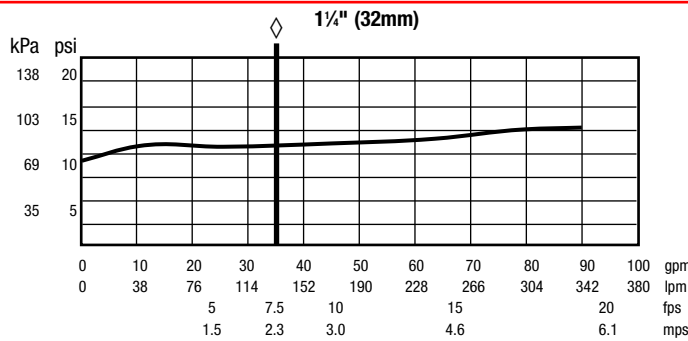
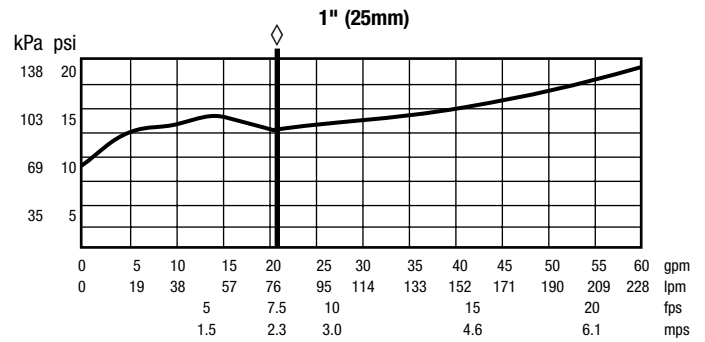
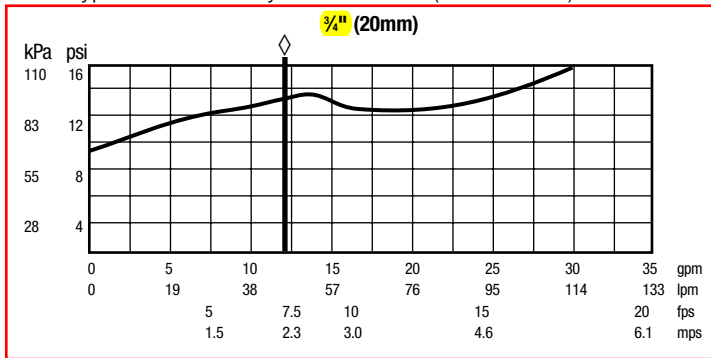


P

Capacity

As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California lab tests.

♦Typical maximum system flow rate (7.5 feet/sec.)



LF909QT, LF909QT-S

SIZE (DN)		DIMENSIONS														WEIGHT							
		A		As		B		C		D		E		Es		L		P		QT		QT-S	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	lbs.	kgs.
¾"		14%	365	18⅞	459	8%	222	4	102	4%	121	6%	171	10⅞	259	7⅞	186	3%	98	14	6.4	15.6	7.1
1"		15⅞	391	19⅞	498	8%	222	4	102	4¾	121	7	178	11	279	7⅞	186	3%	98	15	6.8	17.5	7.9
1¼"M1		18½	470	23⅞	595	11%	295	5½	140	6½	165	7½	191	12⅞	310	10%	264	5¼	133	40	18.1	42.8	19.4
1½"M1		19	483	24%	619	11%	295	5½	140	6½	165	7½	191	12%	321	10%	264	5¼	133	40	18.1	44.0	20.0
2"M1		19½	495	25⅞	659	11%	295	5½	140	6½	165	7¾	197	13⅞	354	10%	264	5¼	133	40	18.1	47.4	21.5

Subscript 'S' = strainer model



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For Commercial, Institutional and Industrial Applications

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Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

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LEAD FREE*

Series LF223, LF223S

High Capacity Water Pressure Reducing Valves**

Sizes: 1/2" – 2 1/2" (15 – 65mm)

Series LF223 and LF223S High Capacity Water Pressure Reducing Valves are designed to reduce incoming water pressure to a sensible level to protect plumbing system components and reduce water consumption. The LF223/LF223S features Lead Free* construction to comply with Lead Free* installation requirements. This series is suitable for water supply pressures up to 300psi (20.7 bar) and may be adjusted from 25 – 75psi (172 – 517 kPa). The standard setting is 50psi (345 kPa). Series LF223 features an enlarged diaphragm, spring cage and seat orifice for high capacity performance. Series LF223S has the same options as the LF223, except it is furnished with a strainer. All parts are quickly and easily serviceable without removing the valve from the line. The optional bypass feature permits the flow of water back through the valve into the main when pressures, due to thermal expansion on the outlet side of the valve, exceed the pressure in the main supply.

Features

- Enlarged diaphragm, spring cage and seat orifice for super capacity performance
- Lead Free* brass body construction (except 2 1/2" (65mm) which is iron)
- Serviceable in line
- Series LF223S furnished with separate strainer
- Optional bypass feature controls thermal expansion pressure***
- Sealed spring cage on all models for accessible outdoor or pit installations.

Models

LF223 NPT threaded female inlet x NPT threaded female outlet

LF223-S NPT threaded female inlet with strainer x NPT threaded female outlet

For 2 1/2" – 3" (65 – 80mm) bronze threaded valves, refer to literature ES-LFN223B.

For 3" (80mm) flanged connections, refer to literature ES-LFN223F.

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

**A water saving test program concluded that reducing the supply pressure from 80-50psi (551-345 kPa) resulted in a water savings of 30%.

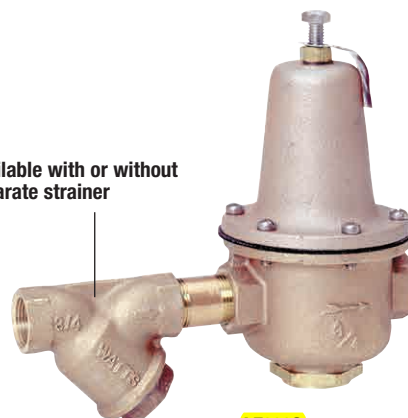
***The bypass feature will not prevent the pressure relief valve from opening on the hot water supply system with pressure above 150psi (10.3 bar).

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

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.

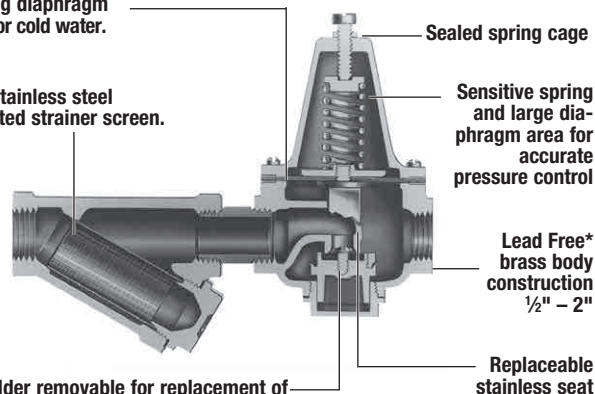
Available with or without separate strainer



LF223S

High temperature resisting diaphragm for hot or cold water.

Large stainless steel perforated strainer screen.



Sealed spring cage

Sensitive spring and large diaphragm area for accurate pressure control

Lead Free* brass body construction 1/2" – 2"

Replaceable stainless seat

Disc holder removable for replacement of disc without dismantling the valve — no special tools required.

Specifications

A Lead Free Water Pressure Reducing Valve shall be installed on the water service pipe near its entrance to the building where supply main pressure exceeds 60psi (413 kPa) to reduce it to 50psi (345 kPa) or lower. The water pressure reducing valve shall be constructed using Lead Free* materials. Lead Free* regulators shall comply with state codes and standards, where applicable, requiring reduced lead content. Sill cocks and outside wall hydrants may be left on full main pressure at the option of the owner. Provision shall be made to permit the bypass flow of water back through the valve into the main when pressures, due to thermal expansion on the outlet side of the valve, exceed the pressure in the main supply. Pressure reducing valves with builtin bypass check valves and strainer will be acceptable. Approved valves shall comply with ASSE 1003. Valve shall be a Watts Series LF223 or LF223S (with strainer).

NOTICE

Inquire with governing authorities for local installation requirements



Materials

Body:	1/2" – 2" (15 – 50mm) Lead Free* Brass
	2 1/2" (65mm) Cast Iron
Spring cage:	Iron
Bottom plug:	Lead free brass
Bottom plug gasket:	Buna-N
Seat:	Stainless steel
Seat gasket:	Buna-N
Adjusting screw:	Steel
Locking nut:	Brass
Spring button:	Cast Iron
Spring:	Zinc-plated wire
O-Ring:	Buna-N
Diaphragm plate:	Cast Iron
Diaphragm:	Reinforced Buna-N
Disc holder:	Lead free copper silicon alloy
Nameplate:	Aluminum

Pressure – Temperature

Temperature Range: 33°F – 160°F (0.5°C – 71°C)

Maximum Working Pressure: 300psi (20.7 bar)

Adjustable Reduced Pressure Range: 25-75psi (172 – 517 kPa)

Standard Reduced Pressure Setting: 50psi (345 kPa)

Standards



1/2" – 2" (15 – 50mm) meets requirements of ASSE Standard 1003; (ANSI A112.26); CSA Standard B356; Southern Standard Plumbing Code, Military Standard MIL-V-18146B and listed by IAPMO.

Options

B	Built-in bypass feature
LP	Low pressure range 10-35psi (69 – 241 kPa)
HP	High pressure range, reduced range shown below:

REDUCED PRESSURE RANGE - SUFFIX HP				
in.	Size	mm	psi	Range
				bar
1/2	15		50-145	3.4-10.0
3/4	20		50-145	3.4-10.0
1	25		50-145	3.4-10.0
1 1/4	32		50-120	3.4-8.3
1 1/2	40		50-95	3.4-6.6
2	50		50-95	3.4-6.6
2 1/2	65		50-95	3.4-6.6

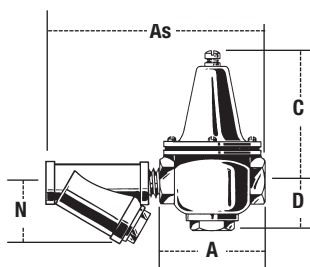
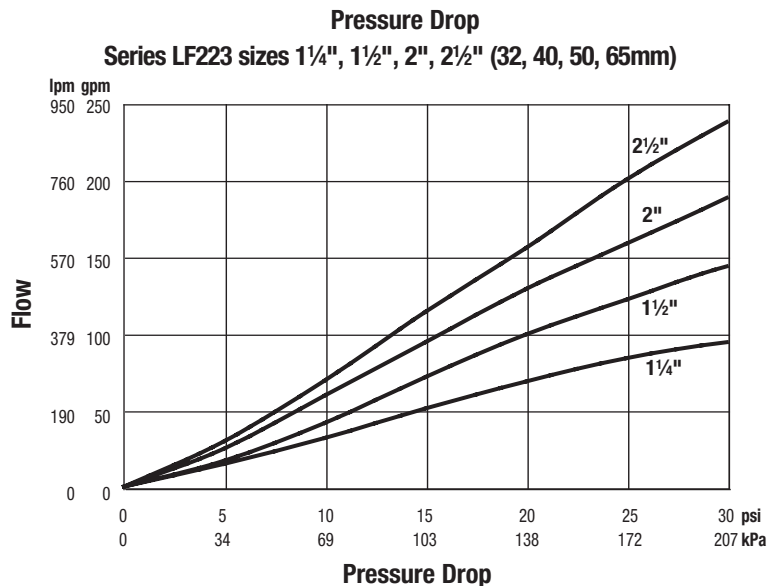
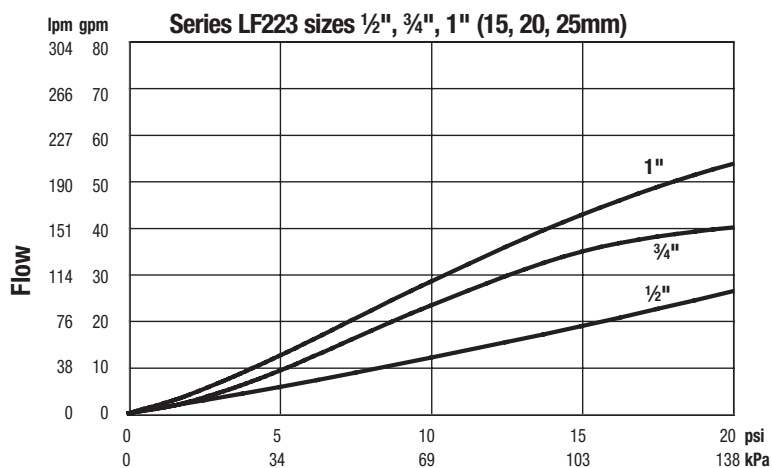
Dimensions – Weights

SIZE (DN)		DIMENSIONS				WEIGHT									
		A (LF223)		As (LF223S)		C		D		N (LF223S)		LF223		LF223S	
<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>	<i>lbs.</i>	<i>kgs.</i>
½	15	4¼	108	9	229	6¼	159	2	50	2½	64	4.5	2.0	6	2.7
¾	20	4¼	108	9	229	6¼	159	2	50	2½	64	5	2.3	6.5	2.9
1	25	4¾	121	10 ¹⁵ / ₁₆	262	6½	165	2⅞	54	2 ¹⁵ / ₁₆	75	7	3.2	9.5	4.3
1¼	32	5	127	11 ¹⁵ / ₁₆	287	6¾	172	2¾	70	3	76	9	4.1	12	5.4
1½	40	6¾	171	14¾	375	9⅞	251	2¾	70	3⅞	87	19.5	8.8	23.5	10.7
2	50	8	203	16¾	425	10¾	273	3⅝	86	4	102	30	13.6	37.5	17.0
2½	65	9	229	20⅞	511	10¾	273	3⅝	86	5	127	32.5	14.8	59	26.8



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Canada: Tel: (905) 332-4090 • Fax: (905) 332-7068 • Watts.ca

Latin America: Tel: (52) 81-1001-8600 • Fax: (52) 81-8000-7091 • Watts.com

For Health Hazard Applications

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Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE***Series 957, 957N, 957Z**
Reduced Pressure Zone Assemblies**Sizes: 2½" – 10" (65 – 250 mm)**

Series 957, 957N, 957Z Reduced Pressure Zone Assemblies provide protection to the potable water system from contamination in accordance with national plumbing codes. Series 957, 957N, 957Z are normally used in health hazard applications for protection against backsiphonage or backpressure.

Features

- 2½", 3" and 4" (65, 80 and 100mm) sizes available with quarter-turn ball valve shutoffs
- Replaceable check disc rubber
- Extremely compact design
- 70% Lighter than traditional designs
- 304 (Schedule 40) stainless steel housing & sleeve
- Groove fittings allow integral pipeline adjustment
- Patented torsion spring checks provide lowest pressure loss
- Unmatched ease of serviceability
- Bottom mounted cast stainless steel relief valve
- Available with grooved butterfly valve shutoffs

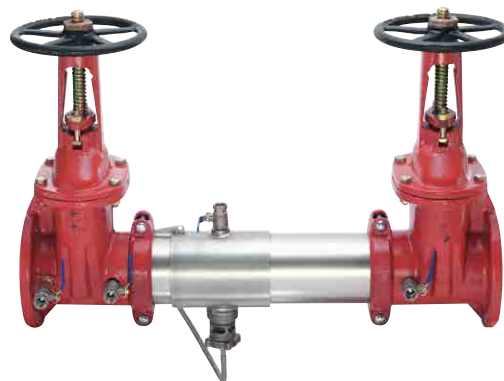
Specifications

The Reduced Pressure Zone Assembly shall consist of two independent torsion spring check modules, a differential pressure relief valve located between and below the two modules, two drip tight shutoff valves, and required torsion spring check modules and relief valve shall be contained with a sleeve accessible single housing constructed from 304 (Schedule 40) stainless steel pipe with groove end connections. Torsion spring checks shall have replaceable elastomer discs and in operation produce drip tight closure against the reverse flow of liquid caused by backpressure or backsiphonage. Assembly shall be a Watts Regulator Company Series 957, 957N, 957Z.

NOTICE

Inquire with governing authorities for local installation requirements

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

**957OSY****957ZBFG****957QT****NOTICE**

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

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.

Available Models

Suffix:

NRS – non-rising stem, resilient seated gate valves

OSY – UL/FM outside stem and yoke resilient seated gate valves

BFG – UL/FM grooved gear operated butterfly valves with tamper switch

QT – 2½" - 4" (65 - 100mm) quarter-turn ball valves

**OSY FxG – Flanged inlet gate connection and grooved outlet gate connection

**OSY GxF – Grooved inlet gate connection and flanged outlet gate connection

**OSY GxG – Grooved inlet gate connection and grooved outlet gate connection

Available with grooved NRS gate valves - consult factory**

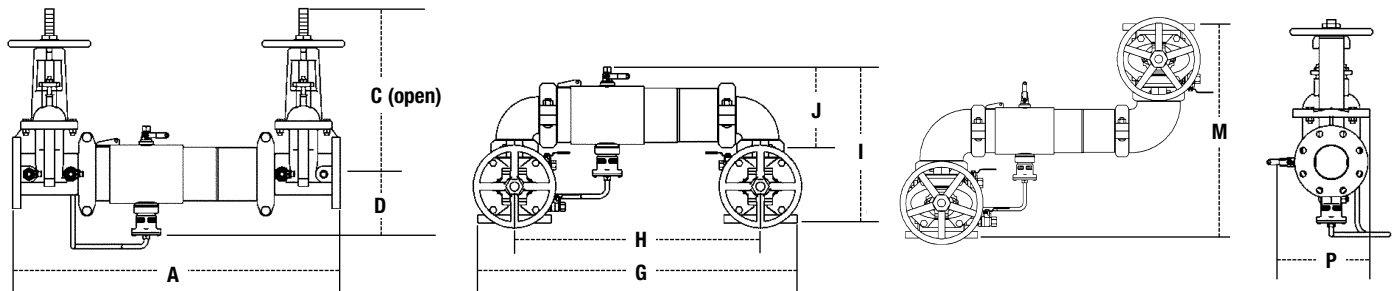
Post indicator plate and operating nut available - consult factory**

**Consult factory for dimensions

NOTICE

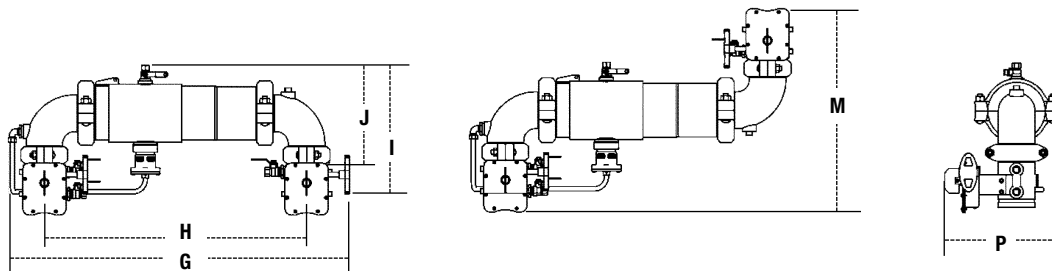
When installing a drain line on Series 957 backflow preventers, use 957AG air gaps. See ES-AG/EL/TC for additional information.

Dimensions — Weight



957, 957N, 957Z

SIZE (DN)				DIMENSIONS												WEIGHT													
		A		C (OSY)		C (NRS)		D		G		H		I		J		M		P		957NRS		957OSY		957N NRS		957N OSY	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.
2½	65	30¾	781	16¾	416	9¾	238	6½	165	29⅞	738	21½	546	15½	393	8⅜	223	21¼	540	9⅞	234	118	54	128	58	126	57	136	62
3	80	31¾	806	18¾	479	10¼	260	6⅞	170	30¼	768	22¼	565	17⅞	435	9⅞	233	23	584	10½	267	134	61	148	67	147	67	161	73
4	100	33¾	857	22¾	578	12⅞	310	7	178	33	838	23½	597	18½	470	9⅞	252	26¼	667	11⅞	284	164	74	164	74	187	85	187	85
6	150	43½	1105	30¾	765	16	406	8½	216	44¾	1137	35¼	895	23⅞	589	13⅞	332	34¼	870	15	381	276	125	298	135	317	144	339	154
8	200	49¾	1264	37¾	959	19⅞	506	9⅞	246	54⅞	1375	40⅞	1019	27⅞	697	15⅞	399	36⅞	937	17⅞	437	441	200	483	219	516	234	558	253
10	250	57¾	1467	45¾	1162	23⅞	605	11⅞	285	66	1676	49½	1257	32½	826	17⅞	440	44½	1124	20	508	723	328	783	355	893	405	950	431



957NBF, 957ZBFG

SIZE (DN)		DIMENSIONS										WEIGHT			
		G		H		I		J		M		P		957N/957Z	
<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>
2½	65	32½	826	23	584	15½	394	9½	241	19¾	502	11 ¹³ / ₁₆	300	67	30
3	80	34	864	24	610	16 ⁵ / ₁₆	414	10 ¹⁰ / ₁₆	256	21¼	540	12 ² / ₈	308	70	32
4	100	35 ⁵ / ₈	905	25½	648	17 ⁷ / ₁₆	437	10 ¹⁵ / ₁₆	279	23½	597	12 ⁵ / ₈	321	87	39
6	150	46½	1181	35¼	895	20½	521	13½	343	27¼	692	15	382	160	73

Noryl® is a registered trademark of SABIC Innovative Plastics Holding BV.

Materials

Housing & Sleeve: 304 (Schedule 40) Stainless Steel

Elastomers: EPDM, Silicone and Buna-N

Torsion Spring Checks: Noryl®, Stainless Steel

Check Discs: Reversible Silicone or EPDM

Test Cocks: Bronze Body Nickel Plated

Pins & Fasteners: 300 Series Stainless Steel

Springs: Stainless Steel

Pressure — Temperature

Temperature Range: 33°F – 140°F (0.5°C – 60°C)

Maximum Working Pressure: 175psi (12.1 bar)

Capacity

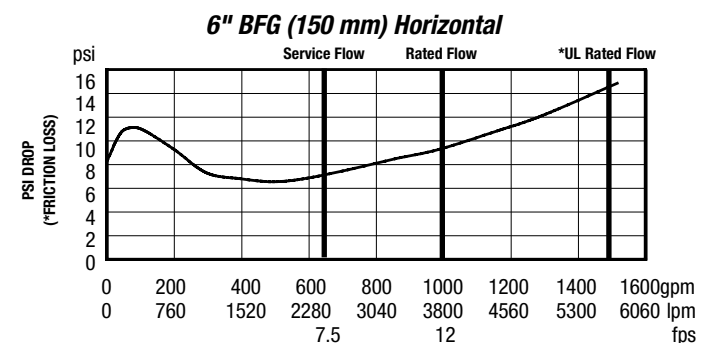
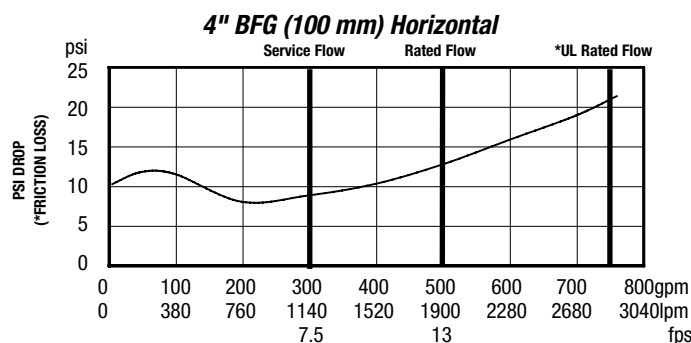
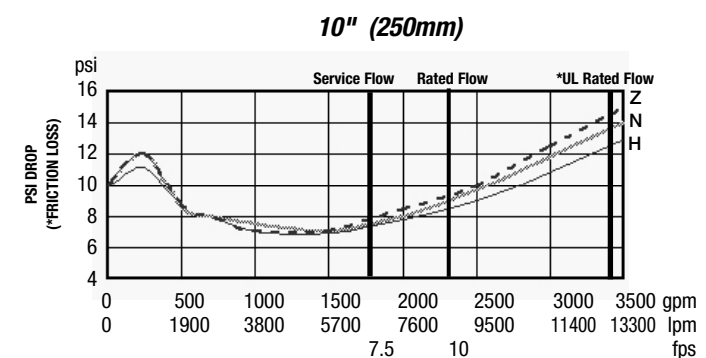
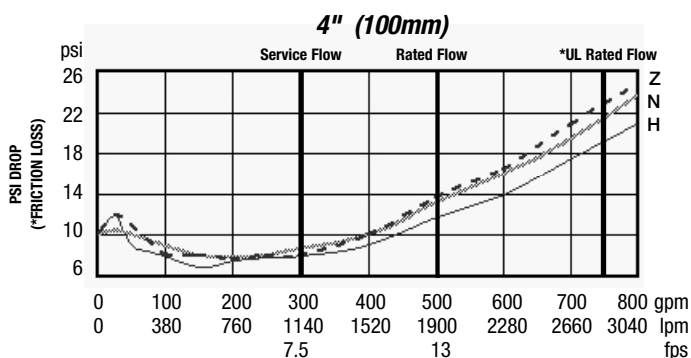
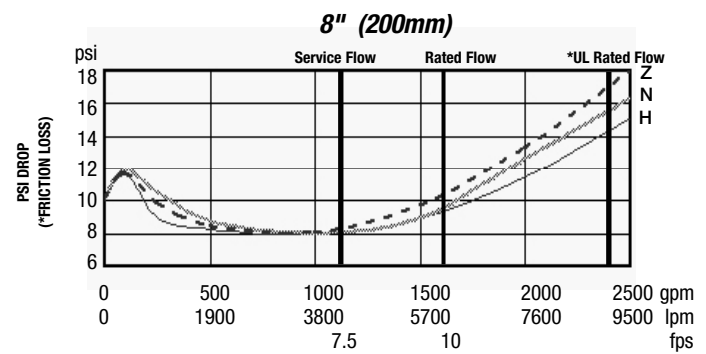
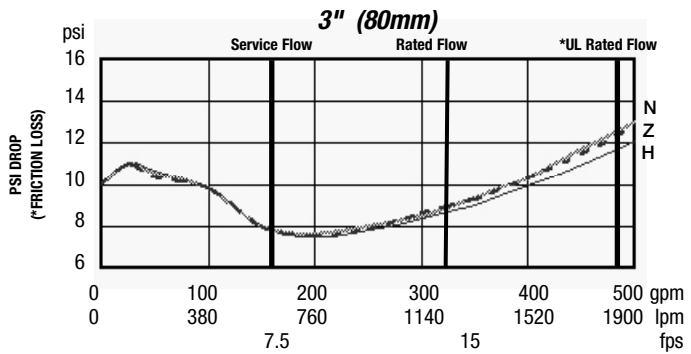
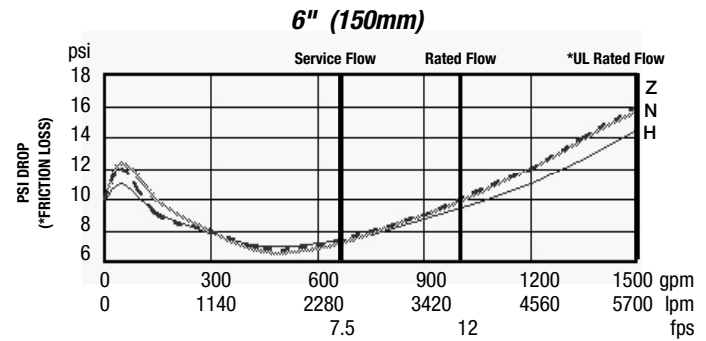
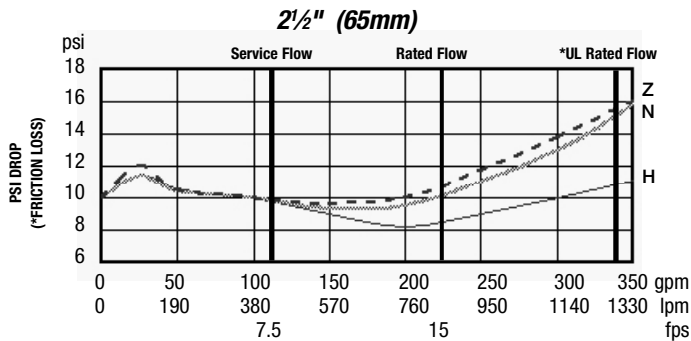
Series 957, 957N, 957Z flow curves as tested by Underwriters Laboratory.

Flow characteristics collected using butterfly shutoff valves

—— Horizontal ——— N-Pattern - - - - Z-Pattern

Flow capacity chart identifies valve performance based upon rated water velocity up to 25fps

- Service Flow is typically determined by a rated velocity of 7.5fps based upon schedule 40 pipe.
- Rated Flow identifies maximum continuous duty performance determined by AWWA.
- UL Flow Rate is 150% of Rated Flow and is not recommended for continuous duty.
- AWWA Manual M22 [Appendix C] recommends that the maximum water velocity in services be not more than 10fps.



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Freezeless Sanitary Roof Hydrant **No Drain Line Required!** Model SRH-MS


Can be ordered with or without Mounting System (MS).

The Woodford, ASSE 1057 listed, SRH Roof Hydrant is intended for irrigation purposes and to provide water, in any weather condition, on commercial building roofs. Applications include window washing, cleaning of condenser coils, cooling towers, green roofs and other types of roof top equipment. The SRH is backflow protected with a field testable ASSE 1052 double check backflow preventer.


The SRH does not require a drain line from the valve body located inside the building.

The SRH-MS with Mounting System allows for installation flexibility. It is not necessary to install hydrant when hydrant support is mounted to the roof. The hydrant support utilizes a 3" diameter opening that allows the hydrant to be installed or easily removed at a later time. All necessary mounting hardware for proper installation on a commercial roof is supplied, including a 2 degree shim for pitch adjustment.

Hydrant Features:

- ASSE 1057 Listed 
- No Drain Line Required - *With the hose removed, a venturi action draws water out of the internal reservoir and discharges out the backflow preventer.*
- Superior reservoir evacuation times without removing the backflow preventer.
- Variable flow plunger for longer life is not easily damaged and assures proper shut-off.
- Large easy to open lift handle.
- Adjustable link for easy adjustment and positive lever lock tension.
- All hydrant repairs can be made from top without removing hydrant.

Specifications:

- Hose Connection Backflow Preventer:
 - Model 50H with 3/4" hose connection
 - ASSE 1052 Listed 
 - Field Testable Dual Check holds against 125 psi backflow pressure
- 3/4" NPT female inlet connection.
- 1 1/2" U.S. made galvanized pipe.
- **Maximum Working Pressure:** 100 p.s.i.
- **Maximum Temperature:** 120° F

SRH WARNING

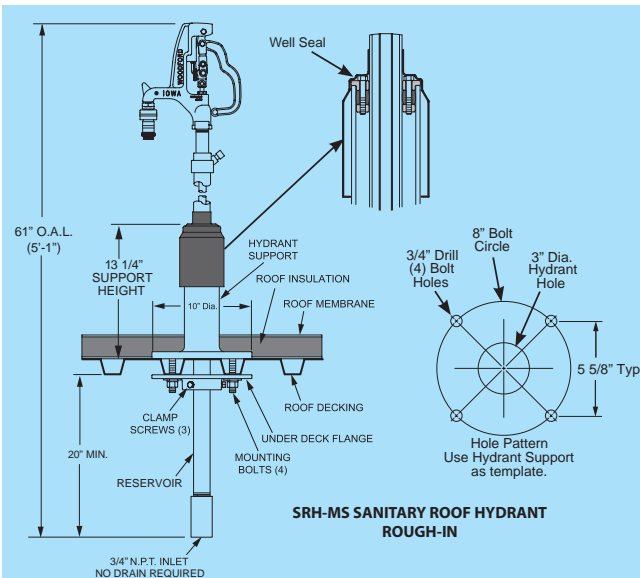
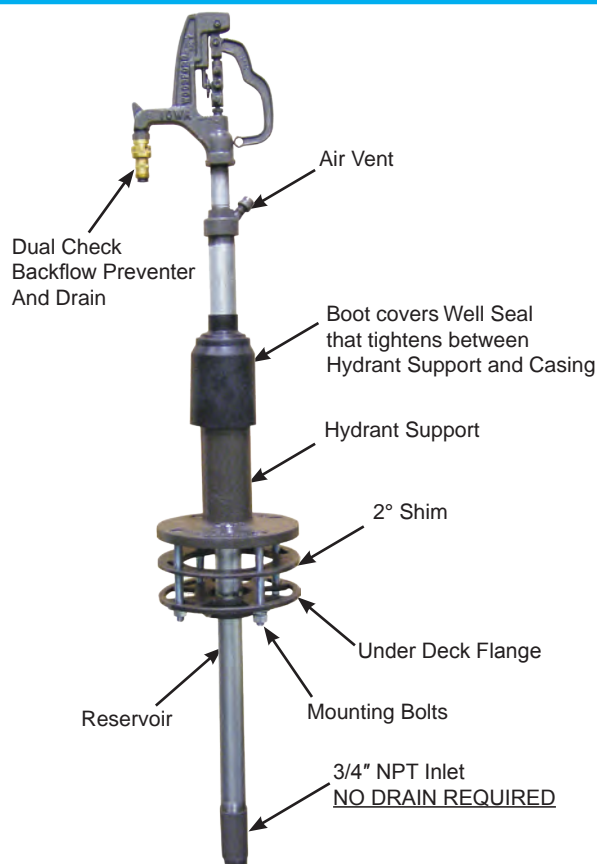
	Supply PSI	Run Time
After each use, run hydrant without a hose to ensure proper evacuation.	60	5 seconds
	25	15 seconds

Mounting System: *(Can be ordered Separately)*

- Cast iron Hydrant Support
- Cast iron Under Deck Flange
 - 4 bolts draw tight against the roof decking and the hydrant support.
 - 3 clamp screws tighten against the hydrant pipe to secure the hydrant's vertical position through the roof.
- Well Seal seals tight between the hydrant support and hydrant pipe.
- EPDM Boot covers well seal and top of hydrant support.
- 2° Shim is supplied, if needed, for installation on pitched roofs.

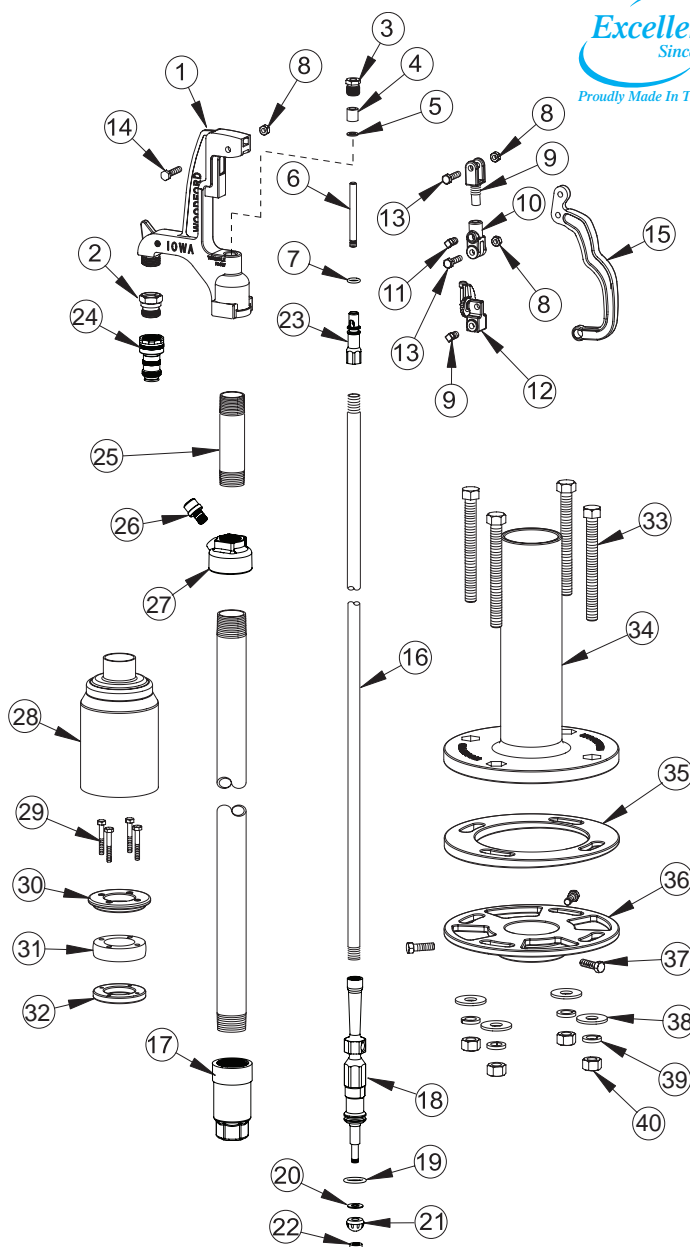
Manufactured under U.S. patent 7,472,718; 7,730,901 and patents pending.

For Installation / Troubleshooting Instructions go to www.woodfordmfg.com or call 1-800-621-6032



MODEL SRH-MS PARTS LIST

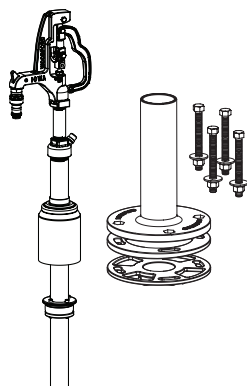
ITEM	PART#	DESCRIPTION
	15126	SRH Head Assembly (Includes Items 1-15, 23 & 24)
1	10632	SRH Head
2	10004	3/4" Brass Hose Nozzle
3	10100	Packing Nut
4	10101	Packing
5	10102	Packing Support Washer
6	15121	Brass Rod Stem
7	10117	O-Ring - 206
8	10206	Hex Nut (3)
9	10614	RH Upper Link
10	15242	RH Lower Link (Includes Item 11)
11	10019	Set Screw (2)
12	15243	RH Cam & Clevis Assembly
13	10020	Link Bolt (2)
14	10021	Lever Bolt
15	10613	RH Lever
16	10024	Operating Pipe
17	15122	Valve Body (3/4" NPT Inlet)
18	15123	Venturi Assembly
19	10118	Valve Body O-Ring
20	50027	Support Washer
21	51013	Ball Valve Rubber
22	50028	Round Brass Nut
23	10116	Sealing Head Coupling
24	50H-BR	50H Backflow Preventer
25	15120	Upper Pipe Assembly
26	15124	SRH Vent Assembly
27	15125	SRH Casing Cover
28	10608	RH Boot, EPDM
29	10625	Bolt, Allen Head 1/4-20 X 1 3/4" (4)
30	10626	Well Seal-1 1/2", Top
31	10119	Well Seal-1 1/2", EPDM
32	10627	Well Seal-1 1/2", Bottom
33	10584	Bolt, Hex Head 5/8-11 X 6" (4)
34	10579	Hydrant Support, Casting
35	10581	2" Shim, Casting
36	10580	Under Deck Flange
37	10607	Screw, Clamp 3/8-16 Hex Head X 1 3/4" (3)
38	10604	Washer, Plain 5/8 (4)
39	10605	Washer, Lock 5/8 (4)
40	10585	Nut, Hex 5/8-11 UNC (4)
	RK-SRH	Repair Kit (Includes items 3-7, 19-22)
	RK-RHL	Repair Kit (Includes items 8-15)



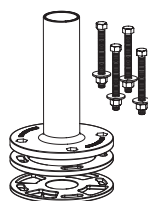
When ordering, specify SRH part number option listed below.

Part# SRH-MS Consists of the complete Roof Hydrant system:
Qty. 1 SRH Hydrant shipped in 1 carton.
Qty. 1 RH-MS Mounting System shipped in 1 carton.

Total Shipping Wt.
 2 cartons: 50 lbs

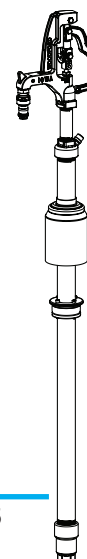


Part# RH-MS Carton contents consists of:
 Mounting System/
 Rough-In Components (Parts 33-40 above)
 • Hydrant Support
 • 2" Shim,
 • Under Deck Flange
 • Mounting Bolts, Nuts, Washers.
 Shipped in 1 Carton.
 Shipping Wt. - 30 lbs



Part# SRH Carton contents consists of:
 • Hydrant Assembly (Parts 1-32 above)
 • Well Seal (Parts 28-32 above)
 • Boot (Part 28 above)

Shipped in 1 Carton.
 Shipping Wt. - 20 lbs



For more information contact...

WOODFORD MANUFACTURING COMPANY

2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (800) 621-6032 • Fax: (800) 765-4115
 To view our complete product line visit: www.woodfordmfg.com or email: sales@woodfordmfg.com
 A Division Of WCM Industries, Inc.

TP – Automatic Trap Primer

Proflo PFPR500 Trap Primer

PFPR500

Trap Primer Valve



Product Features

- Automatically primes up to two drain traps when distribution unit is used
- Must install on cold water line of 1-1/2" (38mm) diameter or less
- Automatically activates with a pressure drop of 10 PSIG (70 Kpa)
- Operating range is 20 to 80 PSIG (138 to 552 Kpa)
- No adjustment required
- Includes #60 mesh stainless steel screen
- Machined from CDA 360 corrosion resistant brass
- Contains no springs, diaphragms, or plastic parts
- Metered amount of water from the floor drain trap primer is distributed to as many as two (2) floor drain traps by means of the patented distribution unit
- Priming valve must have a minimum elevation of 12" (305mm) above the finished floor



PFPR500

Floor Drain Primer Distribution

No. Drains	Dist. Units
1	N/A
2	PFPDUU

Distribution Unit Installation

- Must be installed level
- Must be installed with clear plastic cover
- Must be installed with access for periodic inspection
- For further detail see information sheet specific for the distribution units
- No adjustment required

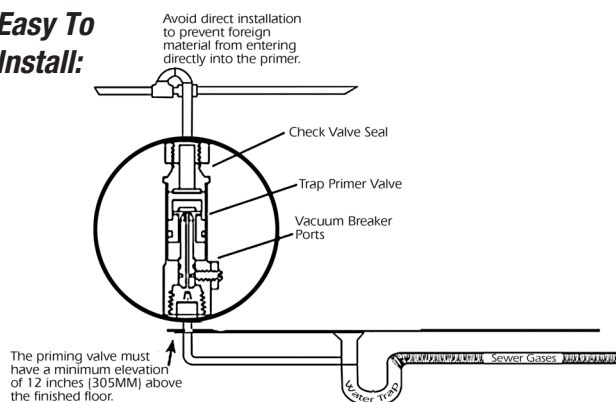
Warranty and Codes

This PROFLO product carries a 1-year limited warranty.



Made in U.S.A.

Easy To Install:



4



			<u>Page</u>
**** WC STD ****			4
B4865WH	BRIGGS	WHIT 12 EB BOWL	5
B4800WH	BRIGGS	WHIT EB TURBOFLUSH	
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AEJC10261411000	AO SMITH	10 GALLON 1.65KW 120 VOLTS 1PH WATER HEATER ALUMINUM	59



B4865WH
B4800WH
PFTSE2000WH

BRIGGS
BRIGGS
PROFLO

****** WC STD ******

WHIT 12 EB BOWL
WHIT EB TURBOFLUSH
ELONGATED CLOSET SEAT PLASTIC ECONOMY WHITE

BRIGGS®

ABINGDON™ HET

4832/4833/4834

Two Piece Toilet, 1.28 gpf/ 4.8 lpf

FEATURES

- Vitreous china
- Boxed rim, jetted bowl
- 12" (305 mm) rough-in
- High efficiency-consumption 1.28 gpf/4.8 Lpf
- Includes color matched plastic trip lever
- Sanitary bar on all bowls
- Toilet seat sold separately

MODEL & DESCRIPTION

4832 Combination consists of:

4860 Abingdon HET Round front bowl
Shipping weight: 35 lb (15.9 kg)

4800 Abingdon HET 12" Rough-In tank
Shipping weight: 34 lb (15.4 kg)



4833 Combination consists of:

4865 Abingdon HET Elongated front bowl
Shipping weight: 38 lb (17.2 kg)

4800 Abingdon HET 12" Rough-in tank
Shipping weight: 34 lb (15.4 kg)

4834 Combination consists of:

4868 Abingdon HET ComfortFit ADA front bowl
Shipping weight: 43 lb (kg)

4800 Abingdon HET 12" Rough-in tank
Shipping weight: 34 lb (15.4 kg)

Optional Tanks:

4802 12" R.I. with Right Hand Flush Lever

4804 10" Rough-in Tank

4805 14" Rough-in Tank

CODES & STANDARDS

Meets or exceeds the following:

- ASME A112.19.2
- CSA B45.1
- IAPMO/cUPC



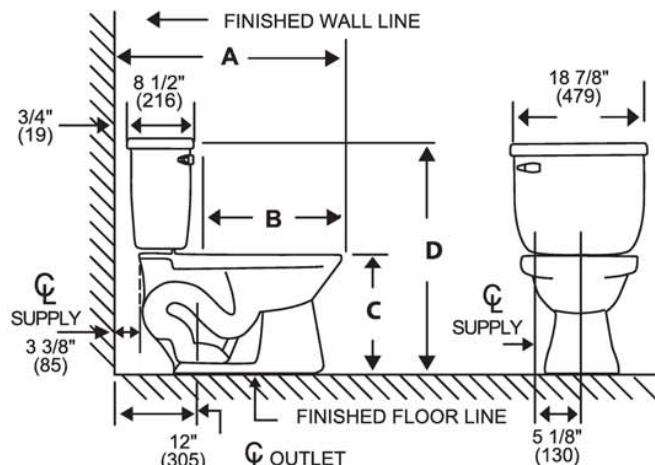
Dimensions may vary (+) or (-) 1/4". Dimensions shown in parentheses are in millimeters: 25.4 mm = 1 inch. Note: Fixture dimensions are nominal and conform with dimension and performance requirements of ASME A112.19.2-2008/CSA B45.1-08 standards. PSI rating: 20 minimum to 80 maximum per ASME A112.19.2-2008/CSA B45.1-08 standards. Dimensions subject to change or cancellation without notice. Briggs is not responsible for the use of superseded or voided specification information.



COLORS:

- ☐ WHITE (130)
- ☐ BISCUIT (235)
- ☐ BONE(733)

SPECIFICATIONS



	4832	4833	4834
A	27 1/2" (699)	29 1/2" (749)	30 1/2" (775)
B	16 1/2" (419)	18 1/2" (470)	18 1/2" (470)
C	14 3/4" (375)	14 3/4" (375)	17" (432)
D	29" (737)	29" (737)	31 1/2" (802)

BRIGGS®

High Efficiency Toilets

(800) 888-4458

www.briggsplumbing.com

PFTSE2000WH

Plastic Toilet Seats



Product Features

- Impact resistant plastic construction
- Available in round or elongated
- Closed front with cover
- Conforms to ANSI Z124.5
- White only

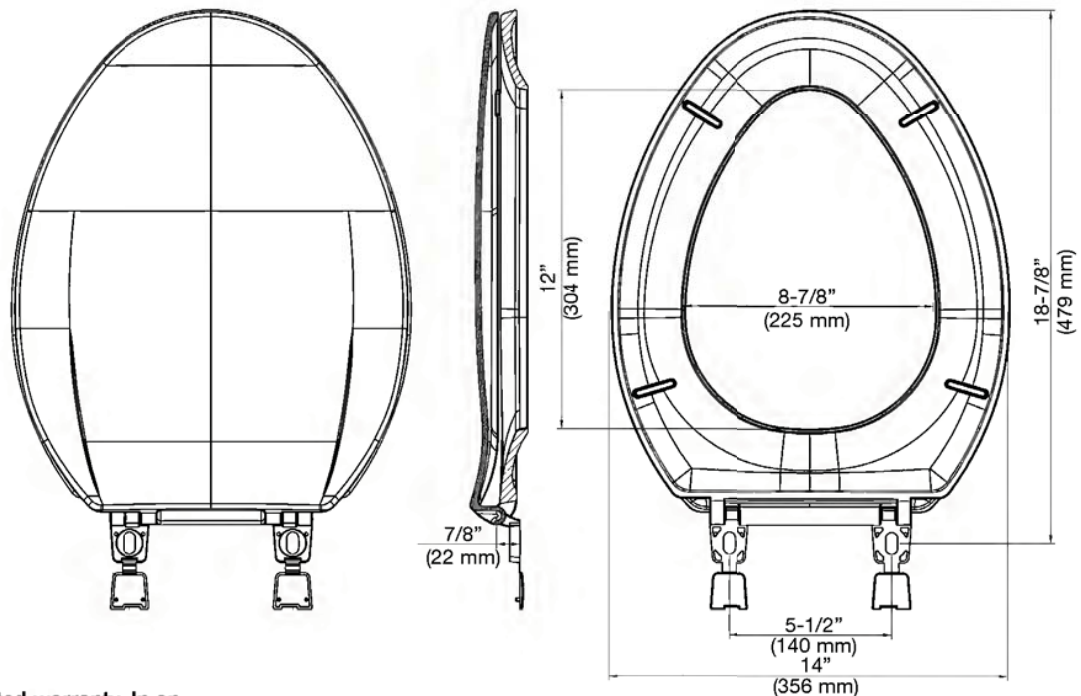
Model Numbers

✓ PFTSE2000WH Elongated plastic toilet seat, white



PFTSE2000WH

Product Specifications



Warranty and Codes

PROFLO toilet seats carry a 1-year limited warranty. In an effort to continually improve our products, FEI will make design changes from time to time. We reserve the right to ship newly designed product to fill any order unless we agree in writing to do otherwise. Conforms to ANSI Z124.5



****** WC ADA ******

B4868WH
B4800WH
PFTSE2000WH

BRIGGS
BRIGGS
PROFLO

BRIGGS EL ADA BOWL
WHIT EB TURBOFLUSH
ELONGATED CLOSET SEAT PLASTIC ECONOMY WHITE

BRIGGS®

ABINGDON™ HET

4832/4833/4834

Two Piece Toilet, 1.28 gpf/ 4.8 lpf

FEATURES

- Vitreous china
- Boxed rim, jetted bowl
- 12" (305 mm) rough-in
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- Sanitary bar on all bowls
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- 4804 10" Rough-in Tank
- 4805 14" Rough-in Tank

CODES & STANDARDS

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- ASME A112.19.2
- CSA B45.1
- IAPMO/cUPC



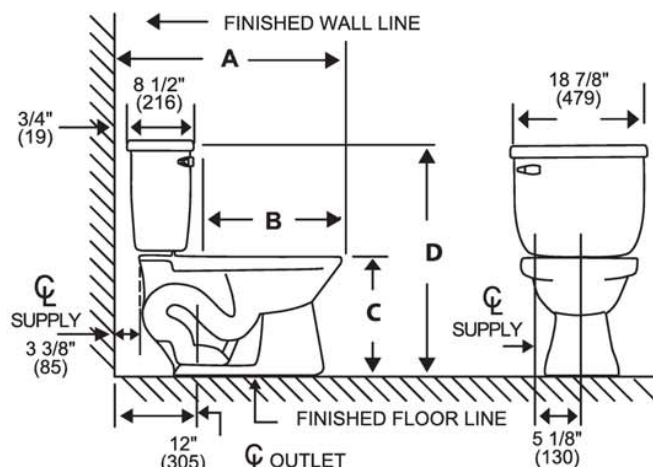
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High Efficiency Toilets

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PFTSE2000WH

Plastic Toilet Seats



Product Features

- Impact resistant plastic construction
- Available in round or elongated
- Closed front with cover
- Conforms to ANSI Z124.5
- White only

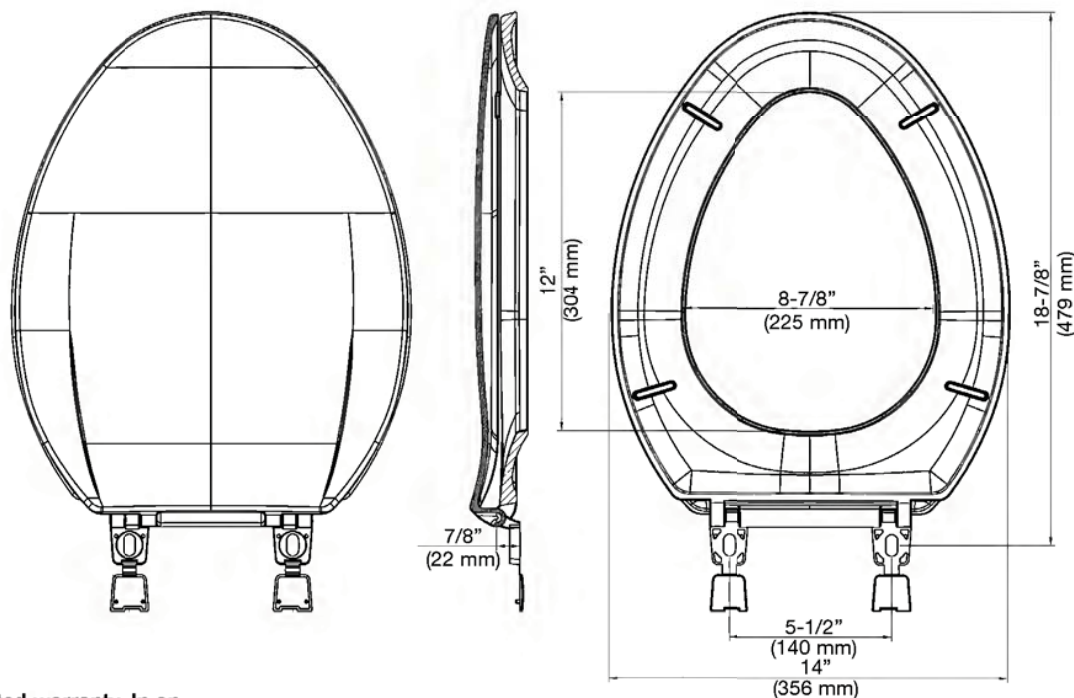
Model Numbers

✓ PFTSE2000WH Elongated plastic toilet seat, white



PFTSE2000WH

Product Specifications



Warranty and Codes

PROFLO toilet seats carry a 1-year limited warranty. In an effort to continually improve our products, FEI will make design changes from time to time. We reserve the right to ship newly designed product to fill any order unless we agree in writing to do otherwise. Conforms to ANSI Z124.5



PLG42LPMC

PFISTER

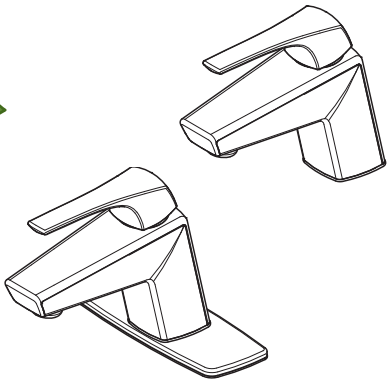
**** L1 ****

LEAD LAW COMPLIANT NOT CERTIFIED 1.2 GALLONS PER MINUTE
SINGLE CONTROL 4 CENTER SET LAVATORY FAUCET



Arkitek™ Single Control Lavatory Faucet

LG42-LPMC Finish(C) ☒
LG42-LPMK Finish(K) ☐



- Temperature Limit Stop

Specifications

Features

- 1.2 GPM Flow Rate
- 3 Hole Deckplate, Sold Separately
- Mounting Hardware Included
- Push and Seal™ Pop-Up
- PVD Finish (K Finish Only)
- Temperature Limit Stop
- Pforever Seal Ceramic Disc Valve
- Pforever Warranty®

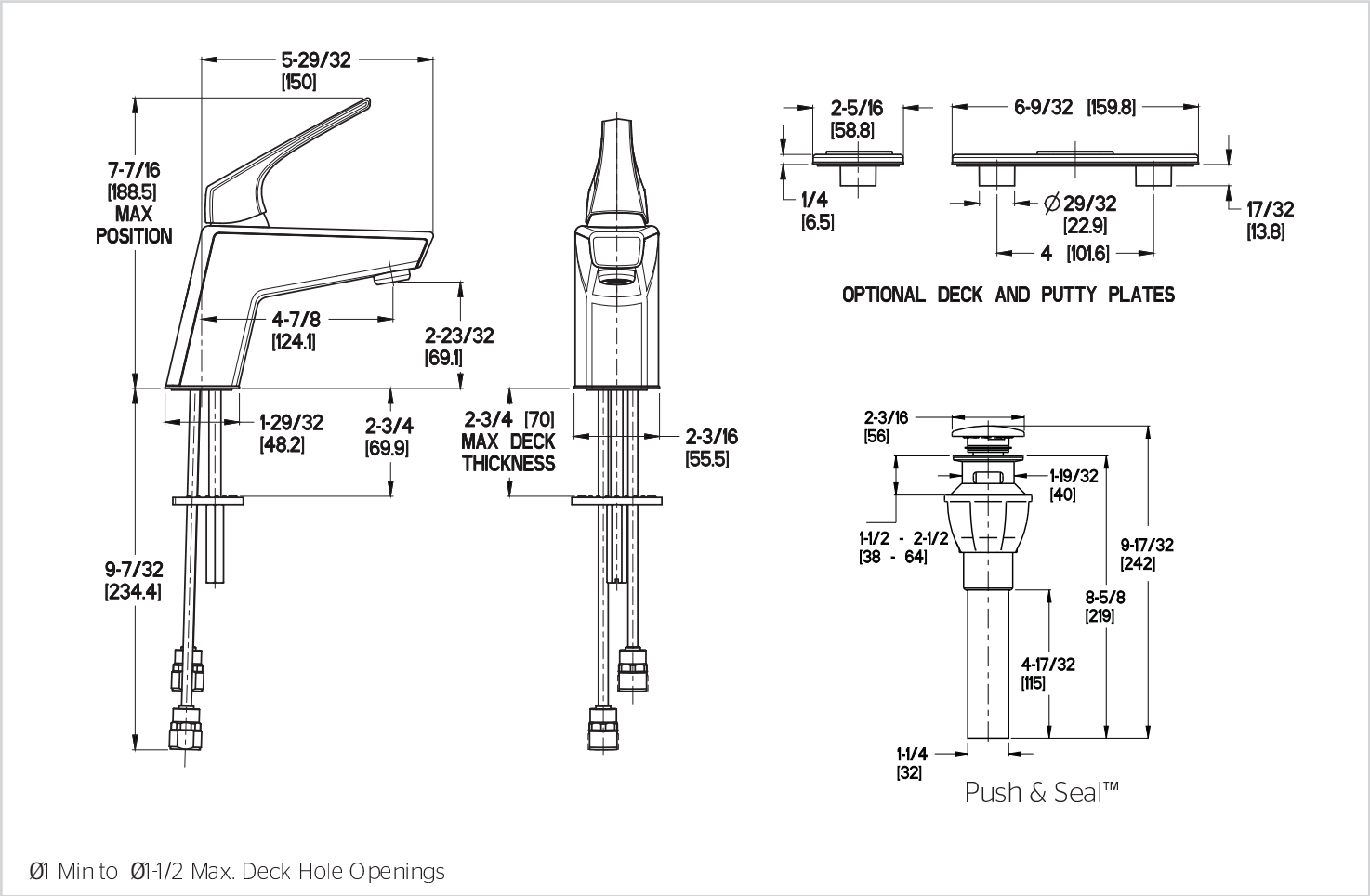
Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- NSF 61/9 Annex G (Low lead)
- Cal Green Compliant
- EPA WaterSense Certification 1.2 gpm, 4.5 L/Min
- ADA Compliant-ANSI A117.1 (Lever handles only)



Dimensions





PLG42LPMC

PFISTER

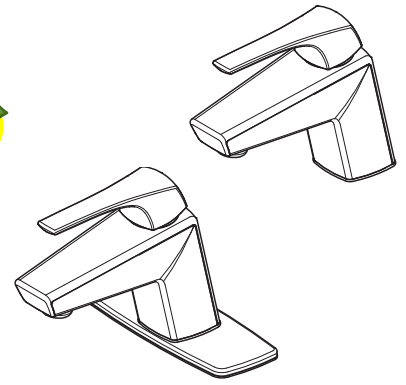
**** L2 ****

LEAD LAW COMPLIANT NOT CERTIFIED 1.2 GALLONS PER MINUTE
SINGLE CONTROL 4 CENTER SET LAVATORY FAUCET

Pfister

Arkitek™ Single Control Lavatory Faucet

LG42-LPMC Finish(C) ☒
LG42-LPMK Finish(K) ☐



Specifications

- Temperature Limit Stop

Features

- 1.2 GPM Flow Rate
- 3 Hole Deckplate, Sold Separately
- Mounting Hardware Included
- Push and Seal™ Pop-Up
- PVD Finish (K Finish Only)
- Temperature Limit Stop
- Pforever Seal Ceramic Disc Valve
- Pforever Warranty®

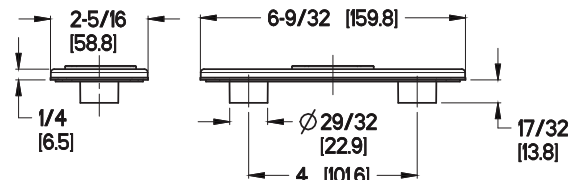
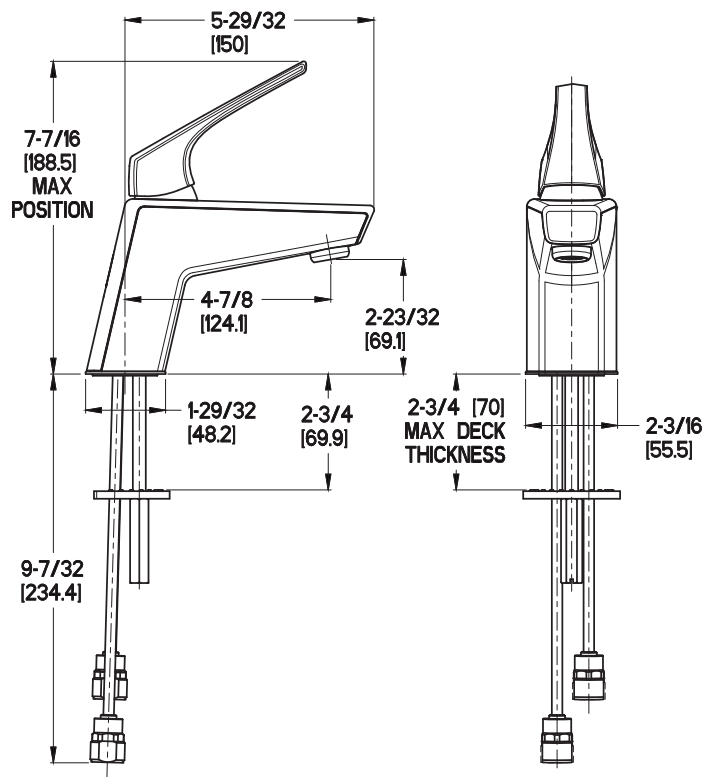
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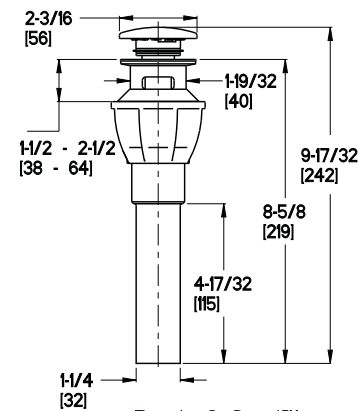
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- CSA B125 Certified
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- NSF 61/9 Annex G (Low lead)
- Cal Green Compliant
- EPA WaterSense Certification 1.2 gpm, 4.5 L/Min
- ADA Compliant-ANSI A117.1 (Lever handles only)



Dimensions



OPTIONAL DECK AND PUTTY PLATES



Push & Seal™

Ø1 Min to Ø1-1/2 Max. Deck Hole Openings



***** 60X36 GARDEN TUB *****

S711011100	STERLING	60X36 LH VIKRELL BATH ENSEMBLE WHITE
PJX8310A	PFISTER	SINGLE CONTROL PRESSURE BALANCE VALVE CERAMIC L/STP
		JOB PACK
PG890300	PFISTER	CCY 2.0 1 HANDLE TUB AND SHOWER TRIM KIT POLISHED
		CHROME
PFWO355	PROFLO	W&O PVC SCH40 L&T H/KIT BRS BODY CP



ENSEMBLE™

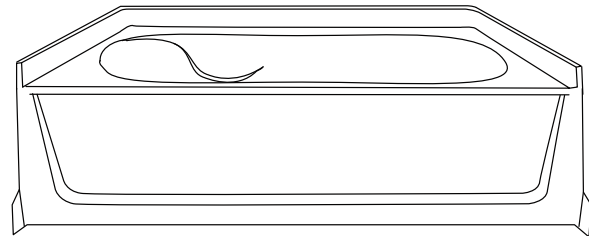
Features

- Compression molded from Sterling's exclusive solid Vikrell® material
- Gentle sloping back, neck, and armrest in bath design
- Bath and integral apron eliminates installation step
- Lightly pebbled bottom surface for sure footing
- Durable high gloss finish
- 10 year consumer/3 year commercial limited warranty
- 16" (40.6 cm) bath depth (floor to top of dam)
- 3" (7.6 cm) wainscot/tile ledge
- 60" (152.4 cm) x 37-1/2" (95.3 cm) x 20" (50.8 cm) rough-in dimensions include flanges
- 60" (152.4 cm) x 36" (91.4 cm) x 19" (48.3 cm) finished dimensions

36" (91.4 cm) OVAL BATH

71101110

ALSO 71101120



Codes/Standards Applicable

Specified model meets or exceeds the following:

- ASTM E162
- ASTM E662
- ANSI Z124.1.2
- IAPMO/UPC
- HUD, UM Bulletin 73A
- NAHB Research Foundation, Inc.

Colors/Finishes

- 0: White

• Other: Refer to Price Book for additional colors/finishes

Specified Model

Model	Description	Colors/Finishes	
71101110	36" (91.4 cm) oval bath, left drain	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> Other _____
71101120	36" (91.4 cm) oval bath, right drain	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
71101310	36" (91.4 cm) oval bath, 3 pack, right drain	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
71101320	36" (91.4 cm) oval bath, 3 pack, right drain	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____

SterlingPlumbing.com

Visit us online for fixture color choices, detailed product information, color photos, installation instructions, care guides, and warranties. Sterling offers additional lines of plumbing products to complement the Sterling product you've chosen. Sign up for the Sterling monthly e-newsletter which showcases our latest product innovations. You may also call our Sterling Plumbing Answer Center from within the USA at 1-888-STERLING in addition to consulting with your local dealer. Sterling. Strong. Professional. Design.

ENSEMBLE™

Technical Information

Fixture*:	basin area	top area
Bathing well	40" (101.6 cm) x 21" (53.3 cm)	52" (132.1 cm) x 29" (73.7 cm)
To overflow	water depth	capacity
	11" (27.9 cm)	40 gal (151.4 L)
* Approximate measurements for comparison only.		

Model	door maximum width	door maximum height
71101110	58-1/2" (148.6 cm)*	NA*
71101120		
* Varies with alternative walls.		

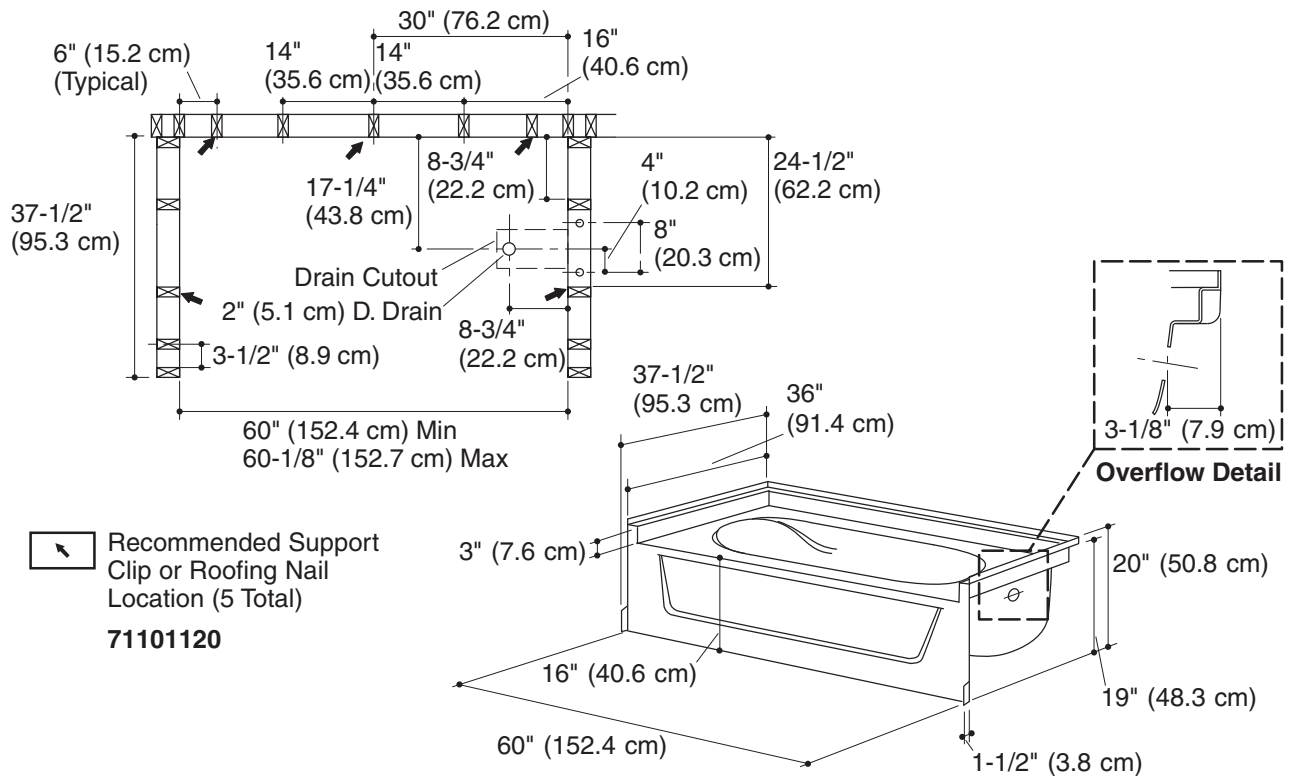
Installation Notes

Install this product according to the installation guide.

Size the drain cutout to fit the drain assembly that will be used.

Stud positioning is critical.

Studs should be positioned roughly as shown for support clip or roofing nail installation.



Product Diagram

Pfirst Series™ Tub And Shower Valve

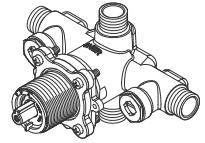
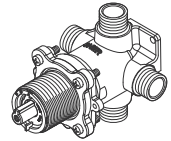
OX8-310A Finish(XX) ☐

OX8-340A Finish(XX) ☐

JX8-310A Finish(XX) ☒

JX8-340A Finish(XX) ☐

- Single Handle
- Valve Only
- Pforever Seal



Specifications

Features

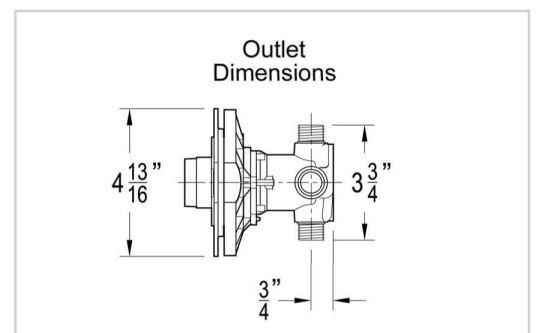
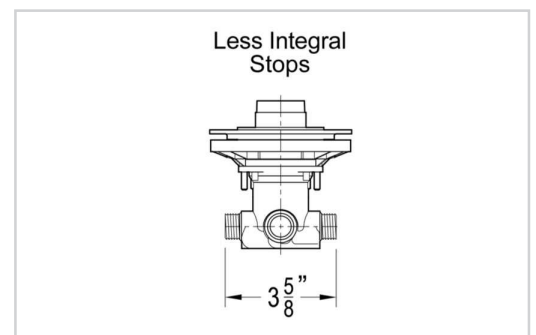
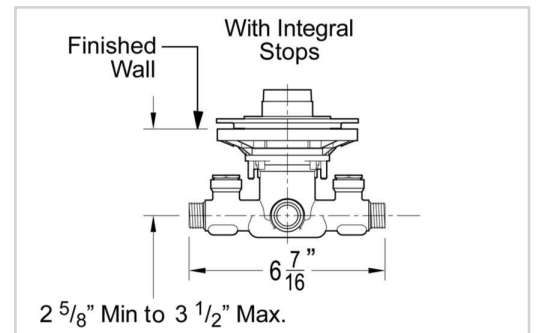
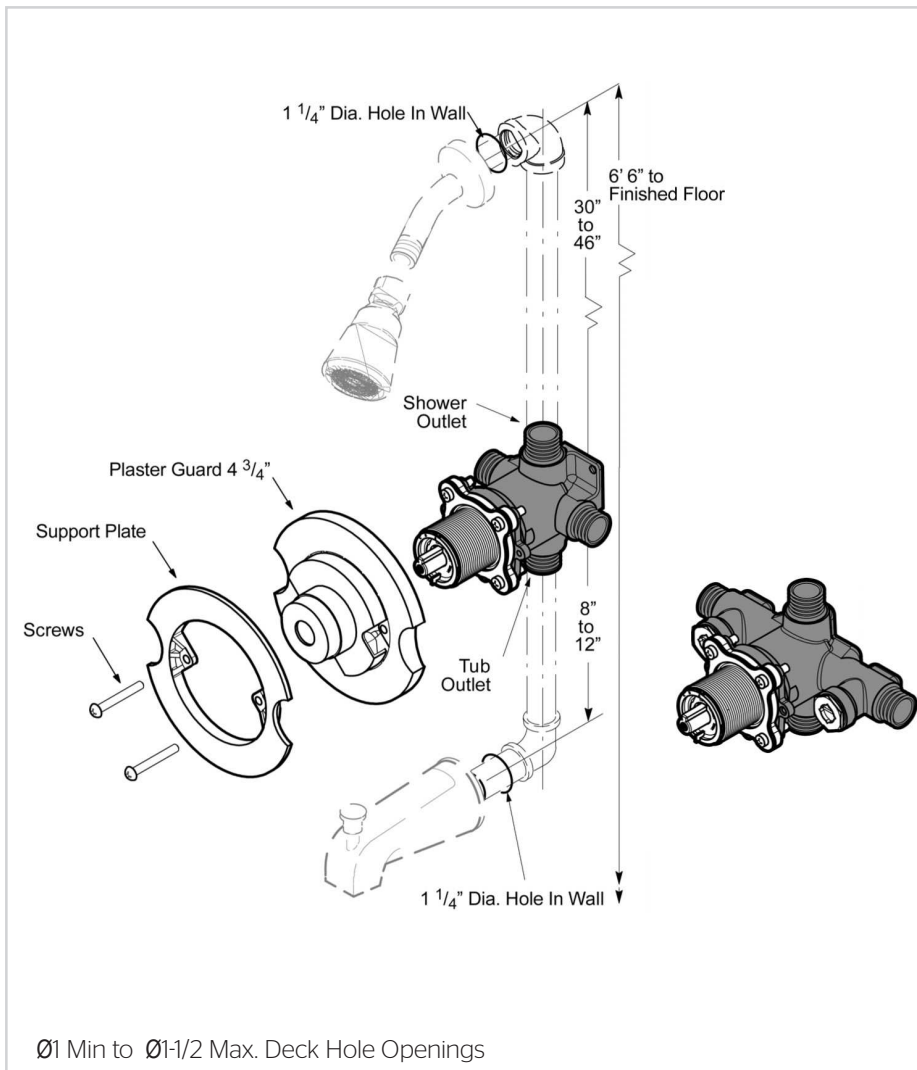
- Solid Brass Construction
- Back-to-Back Installation
- Includes Plug for Shower Only
- Dual 1/2" I.P. or 1/2" Copper Sweat Connections
- Job Pack Quantities (JX8 Only)
- Diaphragm Pressure Balance Valve
- Temperature Limit Stop Included
- Anti-Scald Shower Cartridge
- Integral Stops (340A Only)
- Valve Only
- Pforever Warranty®

Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- ASSE 1016

Dimensions



Pfirst Series™ Tub And Shower Trim

G89-0200 Finish(PC) ☐
G89-020K Finish(KK) ☐
G89-020Y Finish(Y) ☐

G89-0300 Finish(PC) ☒
G89-030K Finish(KK) ☐
G89-030Y Finish(Y) ☐



- Single Control
- Tub and Shower
- Trim Only, Valve Not Included

Specifications

Features

- Round Flange
- Lever Handle
- Quick Trim Installation- Attaches Without Tools, No Exposed Screws
- Fits OX8 and JX8 Valve Bodies
- **Tub & Shower (O30* Only)**
- **Shower Only (O20* Only)**
- Trim Only, Valve Not Included
- **2.0 GPM Shower Head**
- Metal Shower Arm and Flange
- Quick Connect Tub Spout
- Easy Clean Nozzles
- Pforever Warranty®

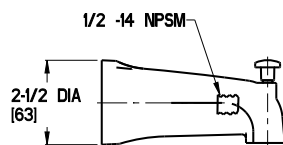
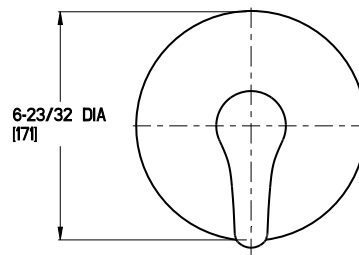
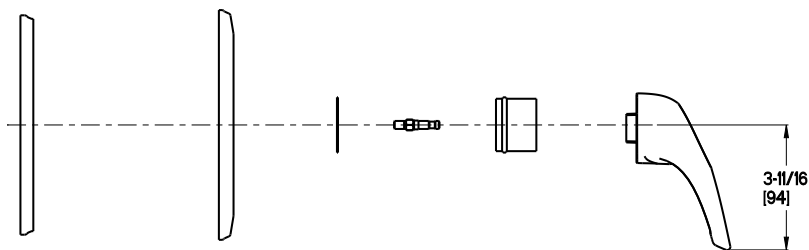
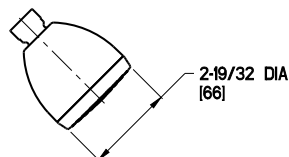
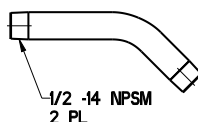
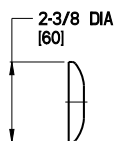
Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- Cal Green Compliant
- EPA WaterSense Certification 2.0 gpm, 7.8 L/Min
- ADA Compliant-ANSI A117.1 (Lever handles only)



Dimensions



PFW0320 /PFW0350 Series



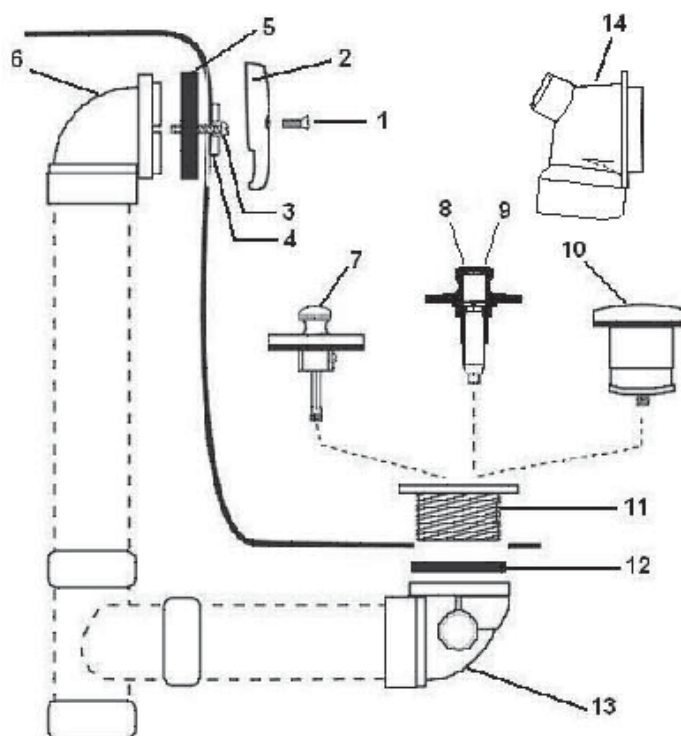
W&O Half Kit - SCH40

✓ For Submittal	Model Number	Description	Style	Drain Body	Finish
	PFW0320	W&O Half Kit - ABS SCH40	Lift & Turn	Zinc	Chrome plated trim
	PFW0321	W&O Half Kit - ABS SCH40	Toe Tap	Brass	Chrome plated trim
	PFW0322	W&O Half Kit - ABS SCH40	Lift & Turn	Brass	Chrome plated trim
	PFW0350	W&O Half Kit - PVC SCH40	Lift & Turn	Zinc	Chrome plated trim
	PFW0351	W&O Half Kit - PVC SCH40	Toe Tap	Brass	Brushed nickel trim
	PFW0352	W&O Half Kit - PVC SCH40	Toe Tap	Brass	Chrome plated trim
	PFW0353	W&O Half Kit - PVC SCH40	Toe Tap	Brass	Polished brass trim
✓	PFW0354	W&O Half Kit - PVC SCH40	Lift & Turn	Brass	Brushed nickel trim
	PFW0355	W&O Half Kit - PVC SCH40	Lift & Turn	Brass	Chrome plated trim
	PFW0356	W&O Half Kit - PVC SCH40	Lift & Turn	Brass	Polished brass trim



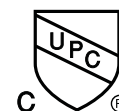
PFW0320

No.	Model Number	Part name	Material
1	PF402	Overflow plate screw	Brass
2		Overflow plate	Zinc
3	PF402BS	Adapter screw	Brass
4		Adapter bar	Aluminum
5	N/A	Overflow gasket	Rubber
6	N/A	Overflow elbow	PVC/ABS
7	PFW0900	Lift & Turn Stopper 3/8	Zinc
8	PFW0902	Push/Pull Stopper 3/8	Zinc
9	PFW0903	Push/Pull Stopper 3/8 & 5/16	Zinc
10	PFW0901	Toe Tap Stopper 3/8	Plastic
11	PFW0904	Strainer body	Brass
12		Strainer body gasket	Rubber
13	N/A	Waste elbow	PVC/ABS
14	PFW0950	Condensate elbow	PVC



Warranty and Codes

This PROFLO product carries a 1-year limited warranty.





****** SHOWER BASE ******

PJX8310A	MUSTEE	3660M SHOWER RECEPTOR WHT
	PFISTER	SINGLE CONTROL PRESSURE BALANCE VALVE CERAMIC L/STP
		JOB PACK
PG890200	PFISTER	CCY 2.0 SHOWER TRIM KIT 1 HANDLE E
PFP600	PROFLO	2PC PVC SW SHOWER DRAIN



MUSTEE

Preferred by the "Pros"

DURABASE® Fiberglass Shower Floors Rectangular, Single Threshold

SEE PAGES 2-3 FOR A LIST OF ACCESSORIES!



Design features:

- Sturdy, 1-piece molded fiberglass construction — ribbed underbody for extra strength, slip resistant Starburst® surface
- Integral molded drain with seal for connection to 2" Sch. #40 ABS, PVC or iron DWV sanitary drain pipe. See optional drain seals for 1-1/2" pipe and 2" copper — removable strainer
- Available in White, Biscuit and Bone (see chart below)
- Semi-gloss surface — resistant to mold and mildew, easy to clean
- Designed to be used with Mustee's DURAWALL® shower walls, ceramic tile or preformed wall kit

Code Accepted

- International Association of Plumbing and Mechanical Officials® (IAPMO®)
- Warnock Hersey® (Canada) Listed – CSA test standards Shower Floor
- American National Standards Institute (ANSI) - Specification ANSI Z 124-2011
- American Society of Testing and Materials (ASTM) – D.635, E-84 and E-162
- CAN/ULC S102-07 Burn and Smoke Test

Specifications

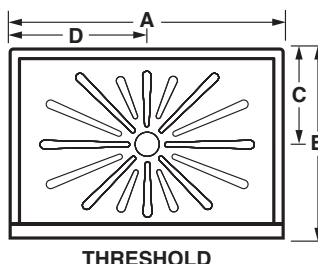
Model	Nom. Size	Color	UPC	A	B	C	D
3248M	32" x 48"	White	6 71031 00085 9	48"	32"	16"	24"
3248BN	32" x 48"	Bone	6 71031 00083 5	48"	32"	16"	24"
3248BT	32" x 48"	Biscuit	6 71031 00351 5	48"	32"	16"	24"
3254M	32" x 54"	White	6 71031 00091 0	54"	32"	16"	27"
3260M	32" x 60"	White	6 71031 00094 1	60"	32"	16"	30"
3442M	34" x 42"	White	6 71031 00105 4	42"	34"	17"	21"
3442BN	34" x 42"	Bone	6 71031 00103 0	42"	34"	17"	21"
3442BT	34" x 42"	Biscuit	6 71031 00369 0	42"	34"	17"	21"
3448M	34" x 48"	White	6 71031 00112 2	48"	34"	17"	24"
3448BN	34" x 48"	Bone	6 71031 00108 5	48"	34"	17"	24"
3448BT	34" x 48"	Biscuit	6 71031 00352 2	48"	34"	17"	24"
3454M	34" x 54"	White	6 71031 00118 4	54"	34"	17"	27"
3460M	34" x 60"	White	6 71031 00123 8	60"	34"	17"	30"
3460BN	34" x 60"	Bone	6 71031 00121 4	60"	34"	17"	30"
3460BT	34" x 60"	Biscuit	6 71031 00376 8	60"	34"	17"	30"
3648M	36" x 48"	White	6 71031 0050 52	48"	36"	18"	24"
3660M	36" x 60"	White	6 71031 0050 69	60"	36"	18"	30"
4236M	42" x 36"	White	6 71031 00344 7	36"	42"	21"	18"

Drain assembly sold separately for the following Shower Floors:

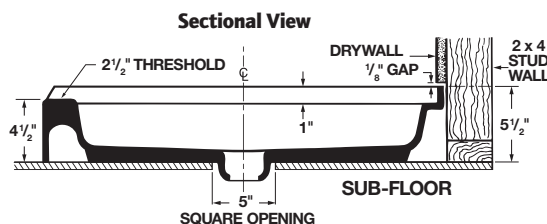
3060L	30" x 60"	White	6 71031 00357 7	60"	30"	15"	8-1/2"
3060R	30" x 60"	White	6 71031 00355 3	60"	30"	15"	8-1/2"
3060LBN	30" x 60"	Bone	6 71031 00358 4	60"	30"	15"	8-1/2"
3060RBN	30" x 60"	Bone	6 71031 00356 0	60"	30"	15"	8-1/2"

General: Furnish and install as shown on plans.

DURABASE® rectangular, single threshold shower floor model _____ as manufactured by E.L. Mustee & Sons, Inc. Floor to be one-piece, molded fiberglass, made with matched metal molds. Surface to be slip-resistant Starburst® design that does not interfere with the flow of water. Size ____" x ____". Shoulder will be no less than 3" high or less than 1" wide. Tiling flange will extend not less than 1" higher than the threshold which provides an integral molded water barrier. Threshold will be not less than 4 1/2" high. Molded-in drain and drain seal for installation of 2" iron DWV (Sch. 40) PVC or ABS sanitary drain pipe. Removable strainer. Shall meet ANSI Z 124-2011. Color: _____ (White, Bone, Biscuit)



THRESHOLD



SUB-FLOOR



MUSTEE

E.L. Mustee & Sons, Inc. • 5431 West 164th Street • Brook Park, OH 44142 • Phone: 216.267.3100 • Fax: 216.267.9997
E-mail: info@mustee.com • Web: www.mustee.com • Proudly made in the USA

Notice: Our continuous commitment to product improvement may result in changes to product specifications without notice.
Patents pending. Made and Printed in U.S.A.



MUSTEE
Preferred by the "Pros"

DURABASE® Fiberglass Shower Floors Rectangular, Single Threshold Accessories

MORE ON PAGE 3 ►

Mustee's DURABASE® Shower Floors are just the beginning of a beautiful shower space that can be created in virtually any location. The accessory products presented here will help you build the shower of your dreams, starting with Mustee's renowned DURABASE® Shower Floors.

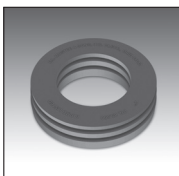
GapSeal-Pro™ — FOR ALL SHOWER FLOORS AND BATHTUBS



Model No.	Description	UPC
60.320A	132" long x 2" tall	6 71031 00496 3

The flexible PVC GapSeal-Pro™ features a strong adhesive strip that allows it to be easily positioned to "extend" tile flange and effectively seal the gap between drywall or like-surfaces on shower floors or bathtubs. Patent pending.

Drain Seals



Model No.	Description	UPC
32.404	Drain Seal for 2" copper pipe	6 71031 00313 3
32.405	Drain Seal for 1-1/2" ABS/PVC pipe	6 71031 00397 3

Designed to effectively seal the connection between DWV piping and the molded-in drain for all DURABASE® shower floors.

Strainers



Model No.	Description	
34.301	Strainer – Stainless steel	
42.322	Strainer – Molded plastic - White	
42.323	Strainer – Molded plastic - Bone	
42.326	Strainer – Molded plastic - Chrome	
42.327	Strainer – Molded plastic - Gold	

Premium grade, removable strainers.

572T VARISTONE™ — 5 PANEL SQUARE SHOWER WALLS, ADHESIVE-MOUNT



Model No.	Description	Fits DURABASE®	UPC (for wall)
572TWHT	Widths to 60"; Depths to 34" or widths to 39"; Depths to 42"	3248M, 3254M, 3260M, 3442M, 3448M, 3454M, 3460M, 4236M, 3060L, 3060R	6 71031 00420 8
572TBN	Widths to 60"; Depths to 34" or widths to 39"; Depths to 42"	3248BN, 3442BN, 3448BN, 3454BN, 3460BN, 3060LBN, 3060RBN	6 71031 00421 5

748-32 DURAWALL® — PREMIUM FIBERGLASS 3-PANEL RECTANGULAR SHOWER WALLS, DIRECT TO STUDWALL MOUNT



Model No.	Description	Fits DURABASE®	UPC (for wall)
748-32WHT	48" wide; 32" deep	3248M	6 71031 00338 6
748-32BN	48" wide; 32" deep	3248BN	6 71031 00339 3

748-34 DURAWALL® — PREMIUM FIBERGLASS 3-PANEL RECTANGULAR SHOWER WALLS, DIRECT TO STUDWALL MOUNT



Model No.	Description	Fits DURABASE®	UPC (for wall)
748-34WHT	48" wide; 34" deep	3448M	6 71031 00213 6
748-34BN	48" wide; 34" deep	3448BN	6 71031 00211 2



MUSTEE

E.L. Mustee & Sons, Inc. • 5431 West 164th Street • Brook Park, OH 44142 • Phone: 216.267.3100 • Fax: 216.267.9997
E-mail: info@mustee.com • Web: www.mustee.com • Proudly made in the USA

Notice: Our continuous commitment to product improvement may result in changes to product specifications without notice.
Patents pending. Made and Printed in U.S.A.

Pfirst Series™ Tub And Shower Valve

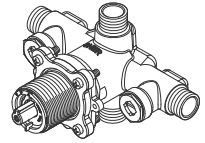
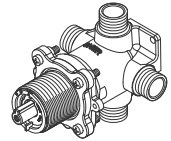
OX8-310A Finish(XX) ☐

OX8-340A Finish(XX) ☐

JX8-310A Finish(XX) ☒

JX8-340A Finish(XX) ☐

- Single Handle
- Valve Only
- Pforever Seal



Specifications

Features

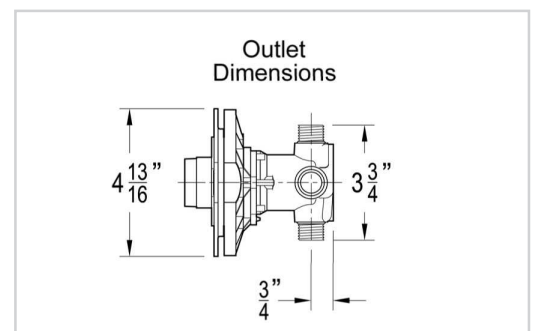
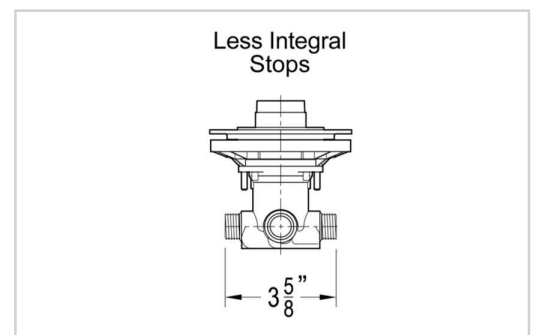
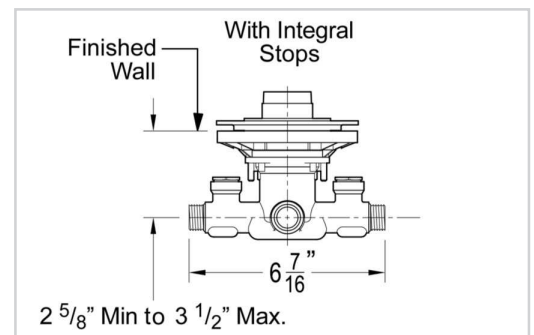
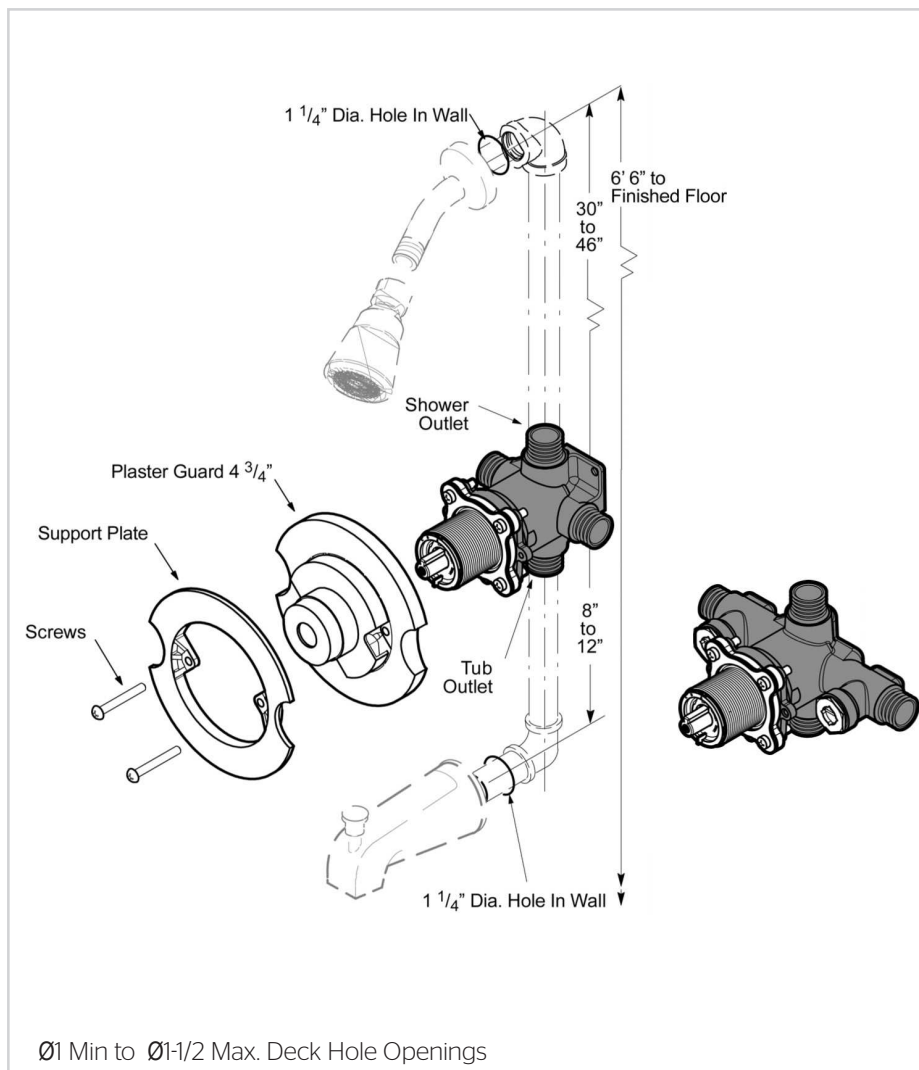
- Solid Brass Construction
- Back-to-Back Installation
- Includes Plug for Shower Only
- Dual 1/2" I.P. or 1/2" Copper Sweat Connections
- Job Pack Quantities (JX8 Only)
- Diaphragm Pressure Balance Valve
- Temperature Limit Stop Included
- Anti-Scald Shower Cartridge
- Integral Stops (340A Only)
- Valve Only
- Pforever Warranty®

Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- ASSE 1016

Dimensions



Pfirst Series™ Tub And Shower Trim

G89-O200 Finish(PC) ☐

G89-O20K Finish(KK) ☐

G89-O20Y Finish(Y) ☐

G89-O300 Finish(PC) ☐

G89-O30K Finish(KK) ☐

G89-O30Y Finish(Y) ☐



- Single Control
- Tub and Shower
- Trim Only, Valve Not Included

Specifications

Features

- Round Flange
- Lever Handle
- Quick Trim Installation- Attaches Without Tools, No Exposed Screws
- Fits OX8 and JX8 Valve Bodies
- Tub & Shower (O30* Only)
- Shower Only (O20* Only)
- Trim Only, Valve Not Included
- 2.0 GPM Shower Head
- Metal Shower Arm and Flange
- Quick Connect Tub Spout
- Easy Clean Nozzles
- Pforever Warranty®

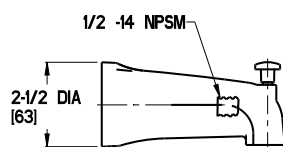
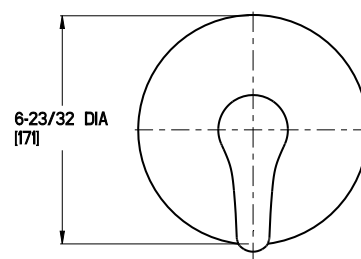
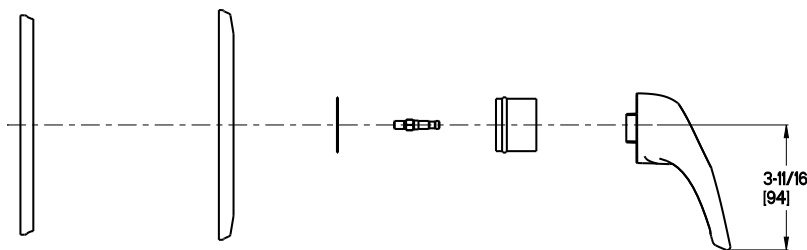
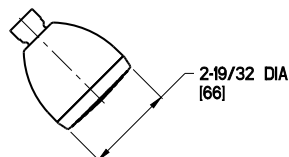
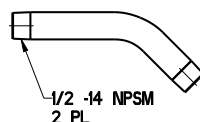
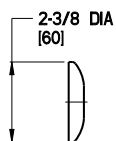
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- CSA B125 Certified
- ASME A112.18.1
- Cal Green Compliant
- EPA WaterSense Certification 2.0 gpm, 7.8 L/Min
- ADA Compliant-ANSI A117.1 (Lever handles only)



Dimensions



PFP600 & PFA600

Solvent Weld Shower Drains



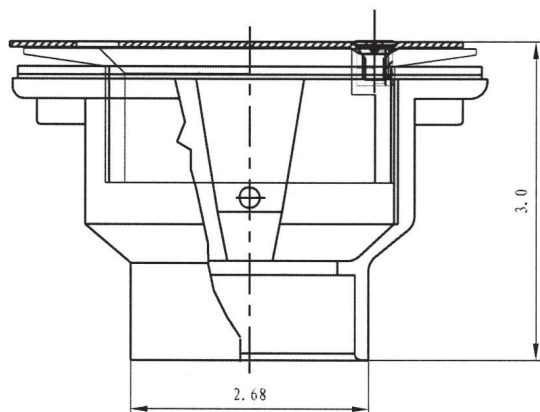
Model Numbers

- ✓ PFA600 2pc ABS Solvent weld shower drain
 PFP600 2pc PVC Solvent weld shower drain

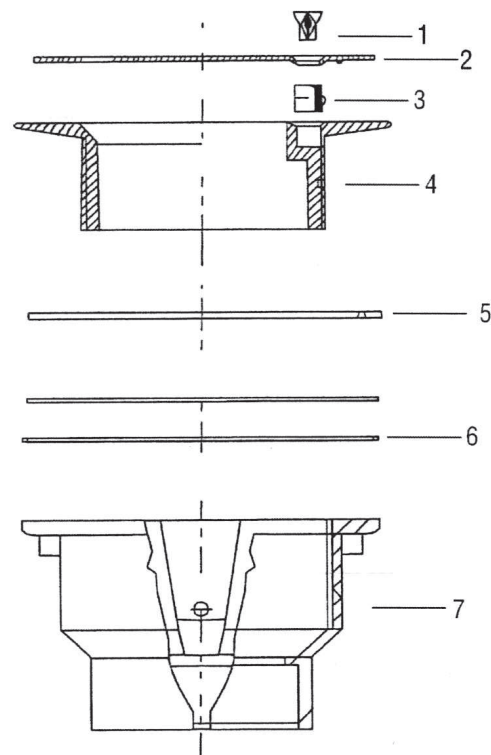
CAUTION: do not use oil-based putty with plastic drain



PFP600



Product Specifications



No.	Part	Qty.
1	Screw	1
2	SS Grid	1
3	Brass Nut	2
4	Drain Body	1
5	Rubber Washer	1
6	Paper Washer	1
7	Body	1

Warranty and Codes

This PROFLO product carries a 1-year limited warranty.



***** ADA SHOWER BASE *****

S620611000	STERLING	63 ADA SHOWER BASE ONLY WHITE
PJX8310A	PFISTER	SINGLE CONTROL PRESSURE BALANCE VALVE CERAMIC L/STP
		JOB PACK
PG890200	PFISTER	CCY 2.0 SHOWER TRIM KIT 1 HANDLE E
PG16300C	PFISTER	CCY 2.0 3F HAND SHOWER POLISHED CHROME



OC-S-63
63" Shower Base
62061100



Features

- Durable swirl gloss finish.
- Suitable for tile down application or with STERLING wall surround.
- 1/2" (13 mm) threshold with 1/2" (13 mm) finished floor.
- 63-1/4" (1067 mm) x 39-3/8" (1000 mm) x 7" (177 mm) base finished dimensions.

Material

- Compression molded from our exclusive Vikrell® material.



ADA

Codes/Standards



CSA B45.5/IAPMO Z124
 ASTM E162
 ASTM E662
 Greenguard UL 2818 - Gold
 ADA

STERLING® Warranty - Fixtures Made of Solid Vikrell Material

See website for detailed warranty information.

Available Color/Finishes

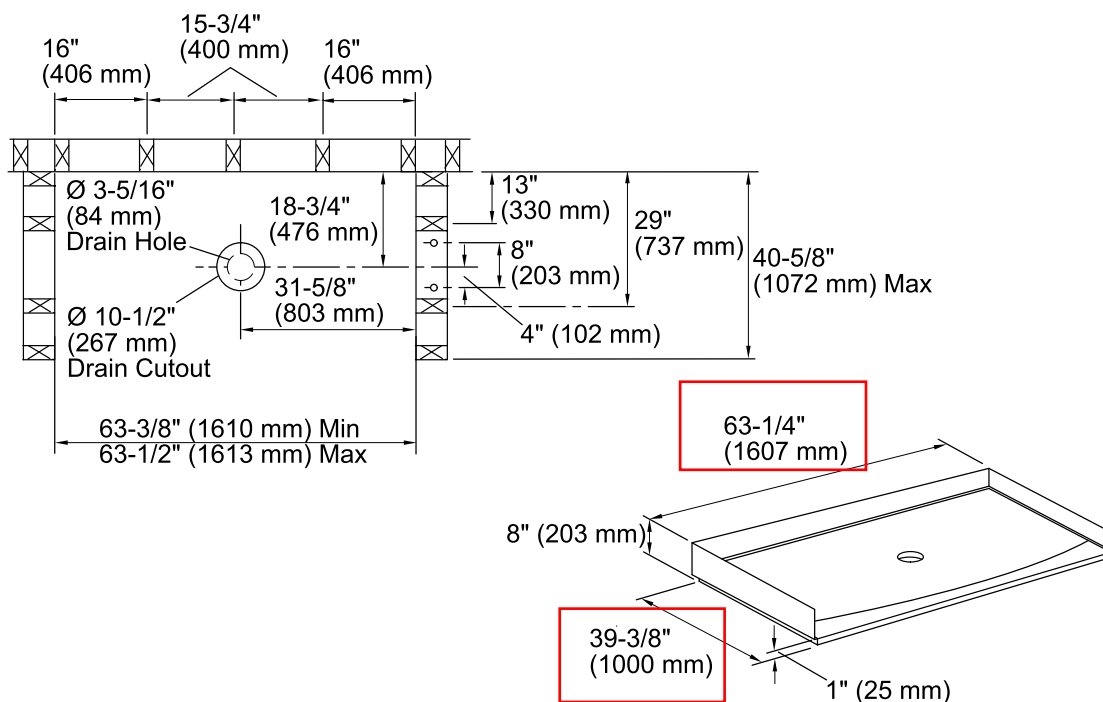
Color tiles intended for reference only.

Color	Code	Description
	0	White
	96	Biscuit



OC-S-63

63" Shower Base
62061100



Technical Information

All product dimensions are nominal.

Installation: 3-Wall Alcove

Drain location: Center

Notes

Install this product according to the installation guide.

Drain cutout in subfloor to be 10-1/2" (267 mm) per rough-in illustration below to allow the backside of the drain to sit below the subflow surface.

Studs should be positioned roughly as shown.

Backer boards and fasteners protrude beyond the back wall 1-1/2" (38 mm). If installing this product against wall board, 1-1/2" (38 mm) furring strips installed over the wall board are recommended. The stud pocket depth of 40-5/8" (1032 mm) will need to be increased by the combined thickness of the wall board and furring strips.

ADA compliant when installed to the specific requirements of these regulations.

Pfirst Series™ Tub And Shower Trim

G89-O200 Finish(PC) ☒

G89-O20K Finish(KK) ☐

G89-O20Y Finish(Y) ☐

G89-O300 Finish(PC) ☐

G89-O30K Finish(KK) ☐

G89-O30Y Finish(Y) ☐



- Single Control
- Tub and Shower
- Trim Only, Valve Not Included

Specifications

Features

- Round Flange
- Lever Handle
- Quick Trim Installation- Attaches Without Tools, No Exposed Screws
- Fits OX8 and JX8 Valve Bodies
- Tub & Shower (O30* Only)
- Shower Only (O20* Only)
- Trim Only, Valve Not Included
- 2.0 GPM Shower Head
- Metal Shower Arm and Flange
- Quick Connect Tub Spout
- Easy Clean Nozzles
- Pforever Warranty®

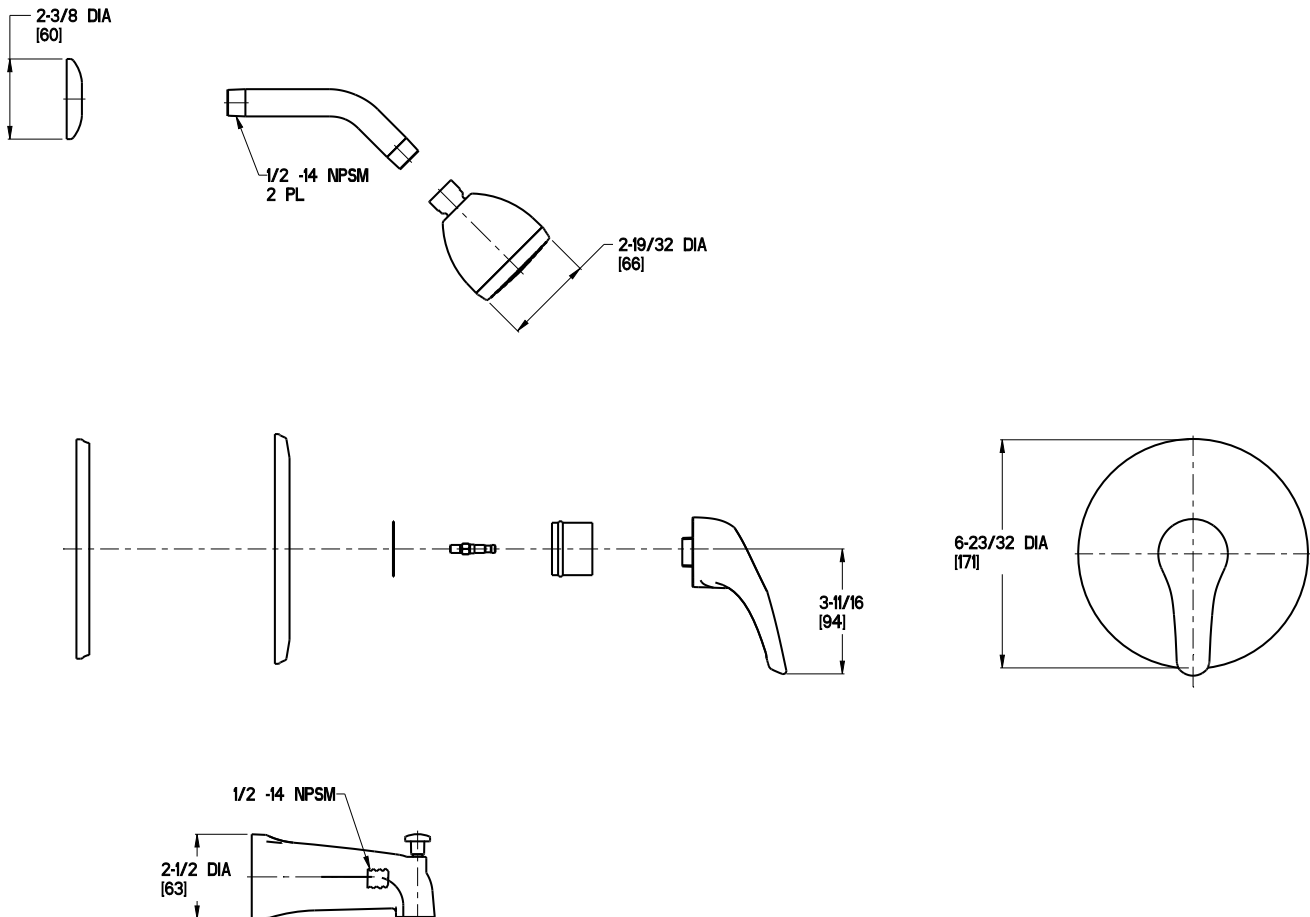
Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- Cal Green Compliant
- EPA WaterSense Certification 2.0 gpm, 7.8 L/Min
- ADA Compliant-ANSI A117.1 (Lever handles only)



Dimensions



Pfirst Series™ Tub And Shower Valve

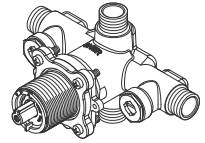
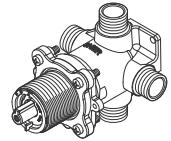
OX8-310A Finish(XX) ☐

OX8-340A Finish(XX) ☐

JX8-310A Finish(XX) ☒

JX8-340A Finish(XX) ☐

- Single Handle
- Valve Only
- Pforever Seal



Specifications

Features

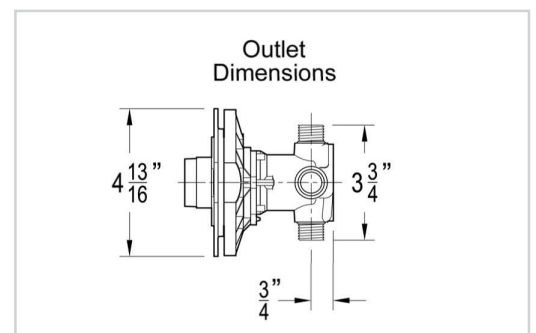
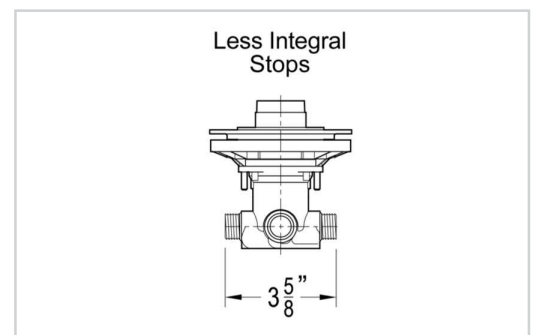
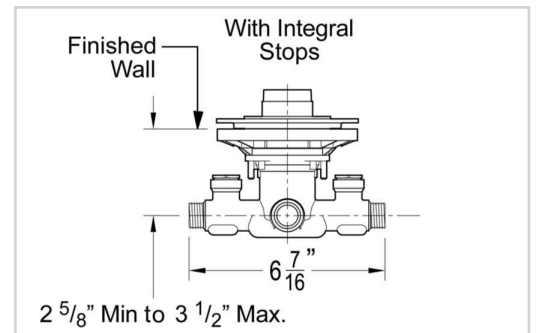
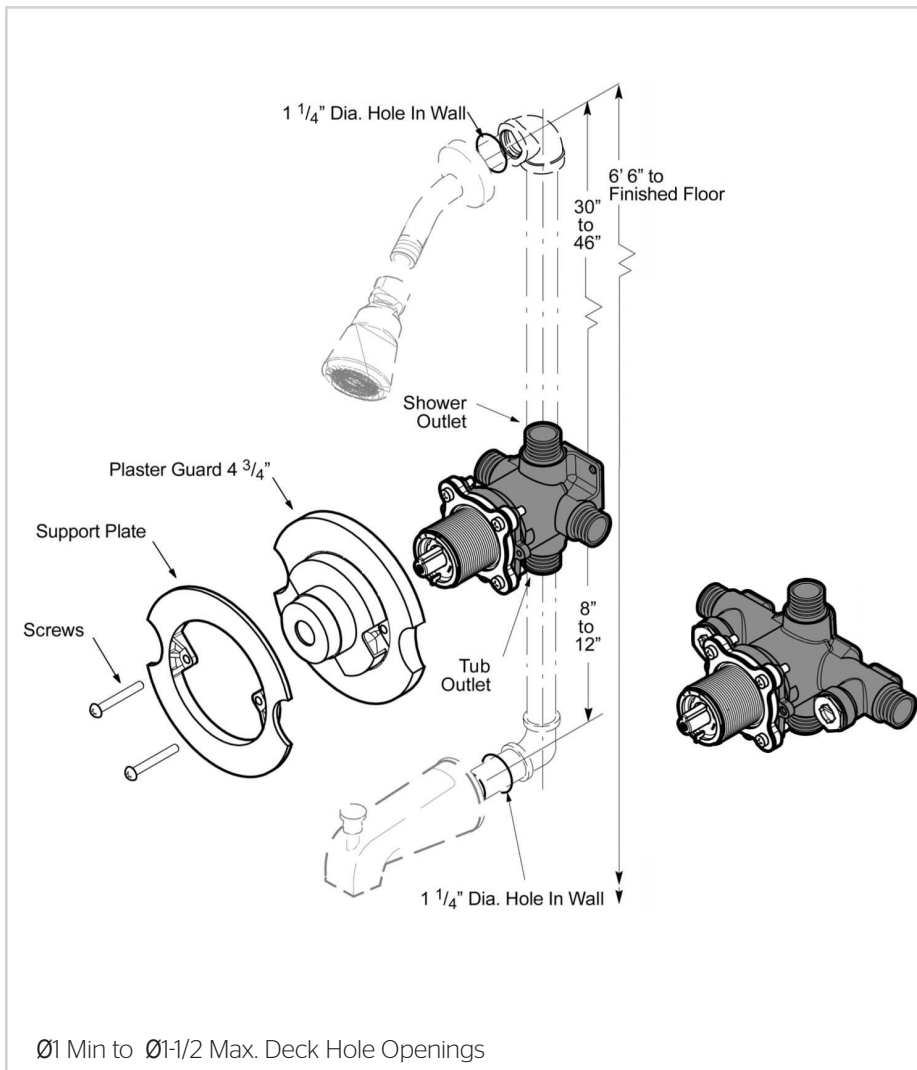
- Solid Brass Construction
- Back-to-Back Installation
- Includes Plug for Shower Only
- Dual 1/2" I.P. or 1/2" Copper Sweat Connections
- Job Pack Quantities (JX8 Only)
- Diaphragm Pressure Balance Valve
- Temperature Limit Stop Included
- Anti-Scald Shower Cartridge
- Integral Stops (340A Only)
- Valve Only
- Pforever Warranty®

Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- ASSE 1016

Dimensions

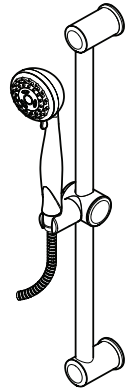


Pfister

Pfirst Series™ Hand-Held Shower

O16-300C Finish(CC) <input type="checkbox"/>	G16-300C Finish(CC) <input checked="" type="checkbox"/>
O16-300K Finish(KK) <input type="checkbox"/>	G16-300K Finish(KK) <input type="checkbox"/>
O16-300U Finish(UU) <input type="checkbox"/>	G16-300U Finish(UU) <input type="checkbox"/>
O16-300Y Finish(YY) <input type="checkbox"/>	G16-300Y Finish(YY) <input type="checkbox"/>

- Valve Not Included
- 3 Function Hand Shower
- Includes Back Flow Prevention System
- 60" Metal Hose with Matching Finish



Specifications

Features

- 28" Brass Slide Bar
- 3 Function Hand Shower with Dual Check Valves
- 60" Metal Hose with Matching Finish
- Includes Back Flow Prevention
- Includes Hand Shower, Hose, Slide Bar, and Drop Elbow
- Self-Cleaning Spray Head
- 2.5 GPM Shower Head (O16 Only)
- 2.0 GPM Shower Head (G16 Only)
- Pforever Warranty®

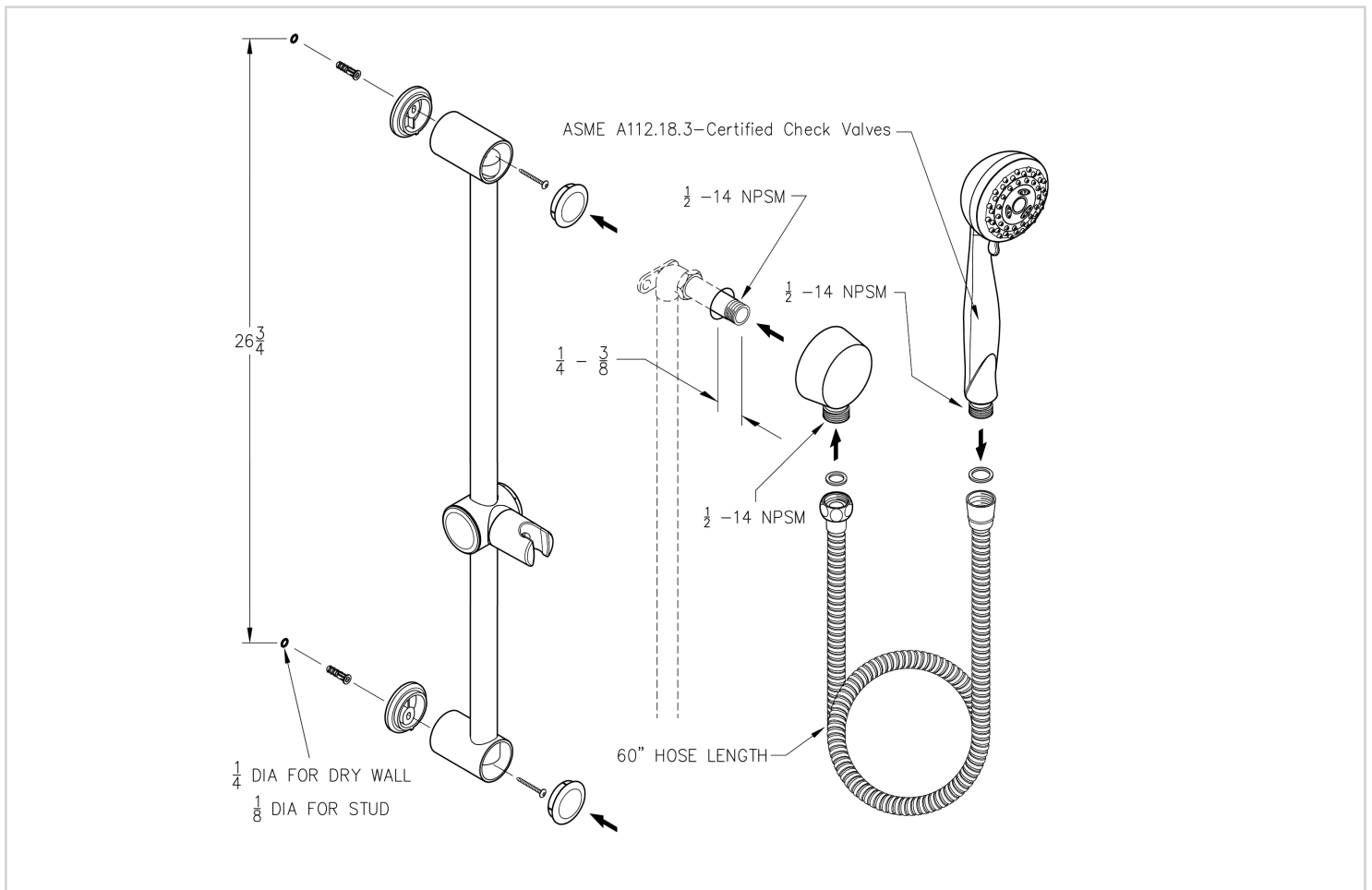
Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- Cal Green Compliant (O16 Only)



Dimensions





PG529PFCC

PFISTER

****** KITCHEN FAUCET ******

LEAD LAW COMPLIANT 1.75 GPM SINGLE HANDLE PULL DOWN
KITCHEN FAUCET POLISHED CHROME

Pfister

*** KITCHEN FAUCET ***

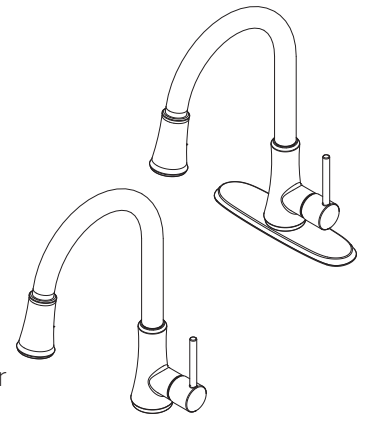
Pfirst Series™

Pull Down Kitchen Faucet

G529-PF1C Finish(C) ☒

G529-PF1S Finish(S) ☐

G529-PF1Y Finish(Y) ☐



Specifications

Features

- 1.8 GPM Flow Rate
- 1 or 3-Hole Installation; Deck Plate or Single Hole Mounting Option
- 3 Function Pull-Down Sprayer
- Forward Handle Operation
- Pforever Warranty®

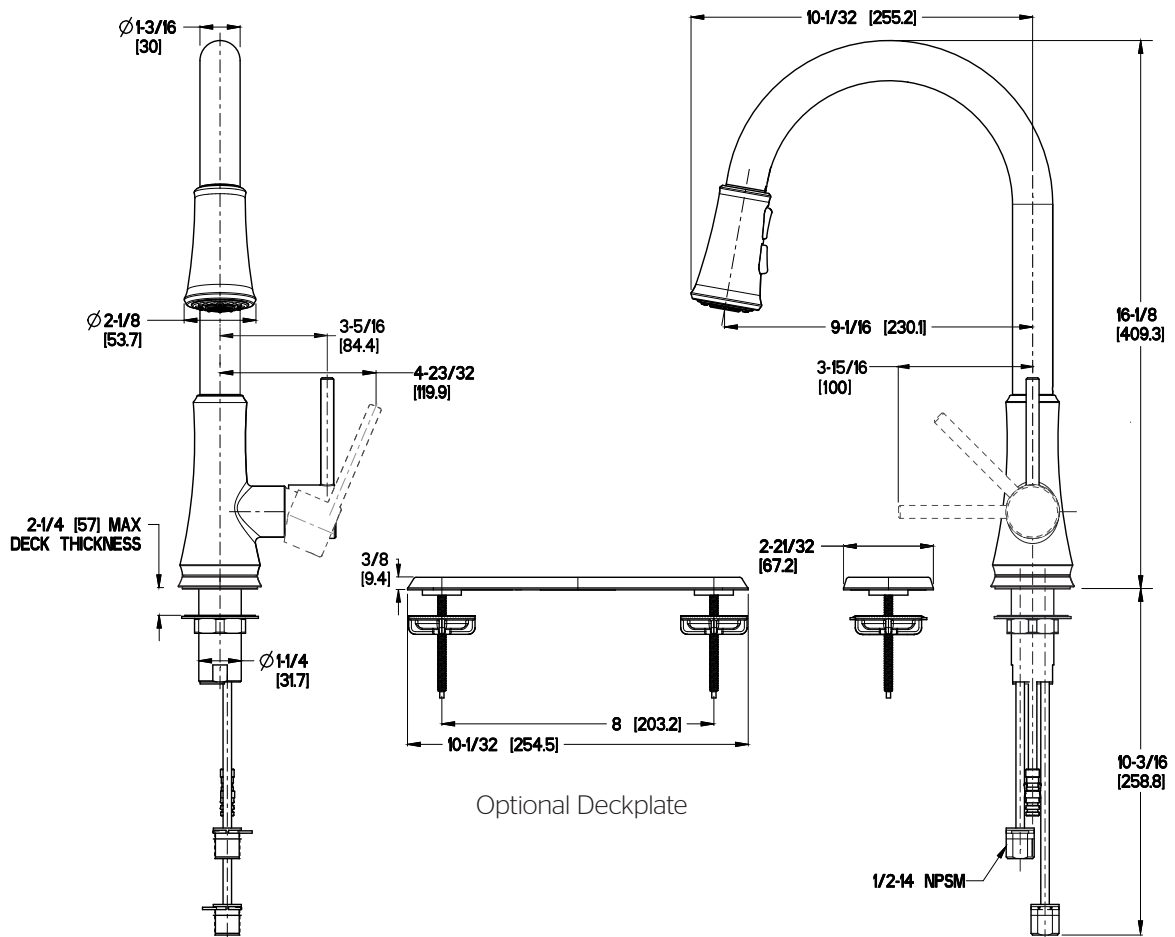
Code Compliance

Pfister products are designed and manufactured in compliance with the following standards and codes:

- IAPMO Certified
- CSA B125 Certified
- ASME A112.18.1
- NSF 61/9 Annex G (Low lead)
- Cal Green Compliant
- CEC Compliant
- ADA Compliant-ANSI A117.1 (Lever handles only)



Dimensions



Ø1-3/8 Min to Ø1-1/2 Max. Deck Hole Openings



O38103

OATEY

**** WMB NON FIRE RATED ****
CENTROII CPVC HAMM

Oatey® 4700 W. 160th St.
Cleveland, OH 44135
1-800-321-9532
1-800-321-9535
www.oatey.com
TECHNICAL SPECIFICATION

CENTRO II WASHING MACHINE OUTLET BOX



TECHNICAL SPECIFICATION: Oatey's Centro II Washing Machine Box is used for commercial and residential washing machine applications. Oatey's Centro WMOB can be mounted with the valves on the top or bottom. Oatey's WMOB comes with two support brackets and two piece uninstalled valves.



- Takes up less space and will fit almost anywhere
- WMOB made of PVC
- Brackets and Faceplate made of HIPS
- 2 knockout drain caps
- 2" Socket Hubs
- Mountable with valves on top or bottom
- 2 piece valves come uninstalled or installed
- Two support brackets
- Available in a wide variety of tailpiece configurations and packaging options
- Dimensions:
 - WMOB-8"W x 4-3/4"H x 3"D
 - Faceplate- 10"W x 6-3/4"H

PRODUCT NUMBER	DESCRIPTION	CTN. QTY.
No Hammer Assembled		
38100	¼ Turn, Copper, No Hammer, Assembled, Standard Pack	12
38102	¼ Turn, CPVC, No Hammer, Assembled, Standard Pack	12
38104	¼ Turn, ASTM F1807, No Hammer, Assembled, Standard Pack	12
38106	¼ Turn, ASTM F1960, No Hammer, Assembled, Standard Pack	12
38150	¼ Turn, Copper, No Hammer, Assembled, Contractor Pack	12
38153	¼ Turn, CPVC, No Hammer, Assembled, Contractor Pack	12
38151	¼ Turn, ASTM F1807, No Hammer, Assembled, Contractor Pack	12
38152	¼ Turn, ASTM F1960, No Hammer, Assembled, Contractor Pack	12
Hammer Assembled		
38101	¼ Turn, Copper, Hammer, Assembled, Standard Pack	12
✓ 38103	¼ Turn, CPVC, Hammer, Assembled, Standard Pack	12
38105	¼ Turn, ASTM F1807, Hammer, Assembled, Standard Pack	12
38107	¼ Turn, ASTM F1960, Hammer, Assembled, Standard Pack	12
38154	¼ Turn, Copper, Hammer, Assembled, Contractor Pack	12
38157	¼ Turn, CPVC, Hammer, Assembled, Contractor Pack	12
38155	¼ Turn, ASTM F1807, Hammer, Assembled, Contractor Pack	12
38156	¼ Turn, ASTM F1960, Hammer, Assembled, Contractor Pack	12

Oatey® 4700 W. 160th St.
Cleveland, OH 44135
1-800-321-9532
1-800-321-9535
www.oatey.com
TECHNICAL SPECIFICATION

CENTRO II WASHING MACHINE OUTLET BOX



No Hammer Unassembled		
38108	¼ Turn, Copper, No Hammer, Unassembled, Standard Pack	12
38110	¼ Turn, CPVC, No Hammer, Unassembled, Standard Pack	12
38112	¼ Turn, ASTM F1807, No Hammer, Unassembled, Standard Pack	12
38114	¼ Turn, ASTM F1960, No Hammer, Unassembled, Standard Pack	12
Hammer Unassembled		
38109	¼ Turn, Copper, Hammer, Unassembled, Standard Pack	12
38111	¼ Turn, CPVC, Hammer, Unassembled, Standard Pack	12
38113	¼ Turn, ASTM F1807, Hammer, Unassembled, Standard Pack	12
38115	¼ Turn, ASTM F1960, Hammer, Unassembled, Standard Pack	12
Plain Boxes		
38120	Plain Box, Display Pack	4
38121	Plain Box, Standard Pack	12
Accessories		
38381	Centro II, Plastic Faceplate	12
38382	Brackets 4" Long Plastic	12
38383	Brackets 12" Long Plastic	12
38294	Hot/Cold Temperature Indicator Clips for Supply Valves (12 Red, 12 Blue)	24



O39148

OATEY

**** IMB NON FIRE RATED ****

LF IMB QT HAMMER BV CPVC



4700 W. 160th St.
Cleveland, Ohio 44135
Ph: (800) 321-9532
Fax: (800) 321-9535
www.oatey.com

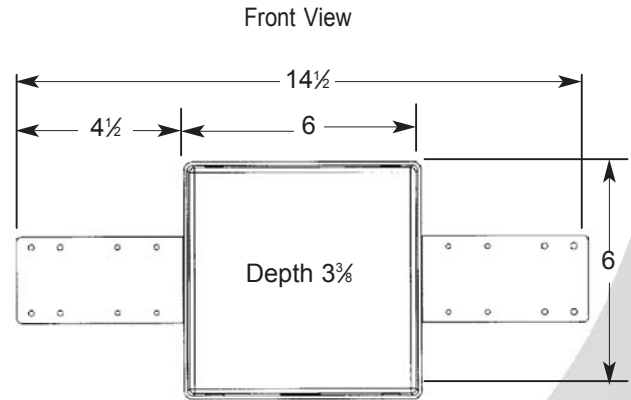
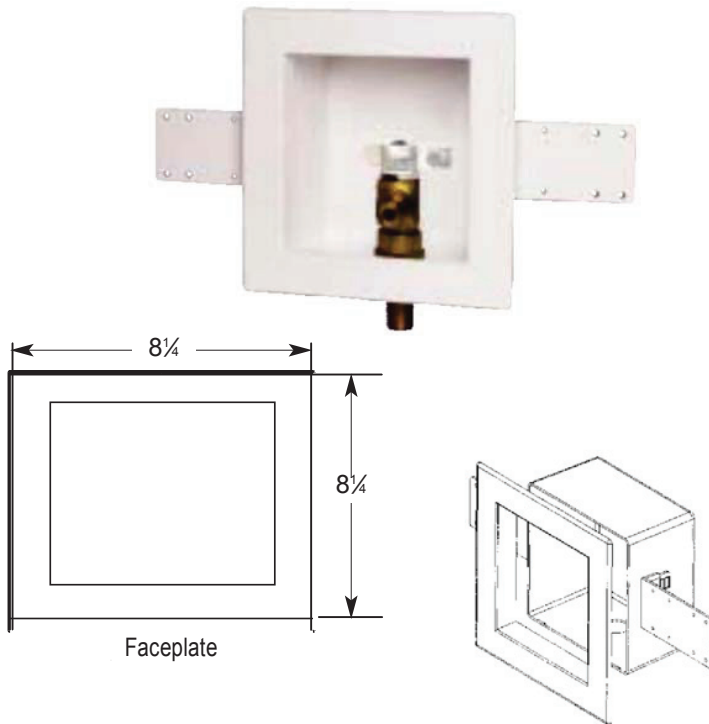
Ice Maker Outlet Boxes



SUBMITTAL SPECIFICATION

Engineering Specification: Oatey Ice Maker boxes can be used in commercial or residential applications which require supply valves recessed into the wall. Available water hammer arrestor option provides water pressure shock arrestors required for installation on supply lines to quick closing valves.

Job Reference



(All dimensions in inches)

- Provides quick, safe water supply and shut-off for refrigerator ice maker and water dispenser
- Box made of high impact polystyrene
- 2 support brackets
- Snap-on faceplate frame accommodates up to 1" drywall
- Valves comply with requirements of NSF 61, Section 9

✓	Prod. No	Description
	38574	1/4 Turn Brass Ball Valve - Copper Sweat - Standard Pack w/6' Stainless Steel Hose
	38570	1/4 Turn Brass Hammer Ball Valve - Copper Sweat - w/6' Stainless Steel Hose
	38575	1/4 Turn Brass Ball Valve - 1/2" ASTM F1807 PEX- Standard Pack
	38572	1/4 Turn Brass Hammer Ball Valve - 1/2" ASTM F1807 PEX- Standard Pack
	38578	1/4 Turn Brass Hammer Ball Valve - ASTM F1807 PEX
	38579	1/4 Turn Brass Hammer Ball Valve - 3/8" PEX
	38602	1/4 Turn Brass Hammer Ball Valve - CPVC - Standard Pack (6 per)
	38604	1/4 Turn Brass Hammer Ball Valve - ASTM F1807 PEX - Standard Pack (6 per)
	38605	1/4 Turn Brass Hammer Ball Valve - ASTM F1960 - Standard Pack (6 per)
	38607	1/4 Turn Brass Hammer Ball Valve - Copper Sweat - Display Pack (6 per)
	38608	1/4 Turn Brass Hammer Ball Valve - Copper Sweat - Standard Pack (6 per)
	38623	1/4 Turn Brass Ball Valve - CPVC - Standard Pack w/6' Stainless Steel Hose
	38624	1/4 Turn Brass Ball Valve - ASTM F1960 PEX - w/6' Stainless Steel Hose
	38571	1/4 Turn Brass Hammer Ball Valve - CPVC - Standard Pack w/6' Stainless Steel Hose
	38680	1/4 Turn Brass Ball Valve - CPVC - Standard Pack (6 per)
	38681	1/4 Turn Brass Ball Valve - Copper Sweat - Standard Pack (6 per)
	38683	1/4 Turn Brass Ball Valve - Copper Sweat - Contractor Pack (12 per)
	38684	1/4 Turn Brass Ball Valve - ASTM F1807 PEX - Standard Pack (6 per)
	38685	1/4 Turn Brass Ball Valve - CPVC - Contractor Pack (12 per)
	38690	1/4 Turn Brass Ball Valve - Copper Sweat - No Faceplate - Tract Pack (6 per)
	38691	1/4 Turn Brass Ball Valve - ASTM F1807 PEX - Contractor Pack (12 per)
	38692	1/4 Turn Brass Ball Valve - ASTM F1974 PEX - Standard Pack (6 per)
	38693	1/4 Turn Brass Ball Valve - ASTM F1960 PEX - Standard Pack (6 per)
	38739	Boiler Drain Valve - Copper Sweat - Contractor Pack (12 per)
	38805	Plain Box - No Valve - No Hole - Standard Pack (6 per)
	38806	Plain Box - No Valve - No Hole - Standard Pack - With Grommet (6 per)
	38807	North American Boiler Drain Valve - Copper Sweat - Standard Pack (6 per)
	38808	1/4 Turn Brass Ball Valve - Copper Sweat - Display Bag
	38810	Plain Box - No Valve - Standard Pack (6 per)
	38812	Plain Box - No Valve - No Faceplate - Tract Pack (6 per)
	38823	1/4 Turn Brass Ball Valve - Copper Sweat - Display Box
	38950	1/4 Turn Brass Ball Valve - ASTM F1807 PEX - Display Bag
	38951	Boiler Drain Valve - CPVC - Standard Pack (6 per)

Valves meet ASME A112.18.1 Water Hamn.
Data is subject to manufacturing tolerances.

Visit www.oatey.com for updates.



✓	Prod. No	Description
	38952	FlowGuard Gold ALL-CPVC Valve - CPVC - Standard Pack
	39142	1/4 Turn Brass Hammer Ball Valve Low Lead - Copper Sweat - w/6' Stainless Steel Hose
	39143	1/4 Turn Brass Hammer Ball Valve Low Lead - CPVC - w/6' Stainless Steel Hose
	39144	1/4 Turn Brass Hammer Ball Valve Low Lead-1/2" ASTM F1807 PEX-w/6' Stainless Steel Hose
	39145	1/4 Turn Brass Valve Low Lead - Copper Sweat - w/6' Stainless Steel Hose
	39146	1/4 Turn Brass Valve Low Lead - 1/2" ASTM F1807 PEX - w/6' Stainless Steel Hose
✓	39147	1/4 Turn Brass Hammer Ball Valve Low Lead - 3/8 ASTM F1807 PEX- Standard Pack
	39148	1/4 Turn Brass Hammer Ball Valve Low Lead - CPVC - Standard
	39149	1/4 Turn Brass Hammer Ball Valve Low Lead - 1/2" ASTM F1807 PEX - Standard Pack
	39150	1/4 Turn Brass Hammer Ball Valve Low Lead - 1/2" ASTM F1960 PEX - Standard Pack
	39151	1/4 Turn Brass Hammer Ball Valve Low Lead - Copper Sweat - Display Box
	39152	1/4 Turn Brass Hammer Ball Valve Low Lead - Copper Sweat - Standard Pack
	39153	1/4 Turn Brass Ball Valve Low Lead - CPVC - w/6' Stainless Steel Hose
	39154	1/4 Turn Brass Ball Valve Low Lead - 1/2" ASTM F1960 PEX - w/6' Stainless Steel Hose
	39155	1/4 Turn Brass Ball Valve Low Lead - CPVC - Standard Pack
	39156	1/4 Turn Brass Ball Valve Low Lead - Copper Sweat - Standard Pack
	39157	1/4 Turn Brass Ball Valve Low Lead - Copper Sweat - Contractor Pack
	39158	1/4 Turn Brass Ball Valve Low Lead - 1/2" ASTM F1807 PEX - Standard Pack
	39160	1/4 Turn Brass Ball Valve Low Lead - 1/2" ASTM F1807 PEX - Contractor Pack
	39161	1/4 Turn Brass Ball Valve Low Lead - 1/2" ASTM F1960 PEX - Standard Pack
	39162	North America Brass Boiler Drain Valve Low Lead - Copper Sweat - Standard Pack
	39259	1/4 Turn Brass Ball Valve - CPVC - Contractor Pack
	385961	Square 1/4 Turn F1960 - Standard Pack, 6' SS Hose
	39159	Square 1/4 Turn CPVC Low Lead - Contractor Pack
	38942	Square, Plastic Faceplate
	38768	Brackets 4" Long Plastic
	38648	Brackets 12" Long Plastic



AENL40202172000 AO SMITH **** WH1 ****
4.5KW 240V 1PH LB WHTR ALUM



Residential Electric Water Heaters

ProMax®



ENHANCED HEATING ELEMENTS

- Dual 4500 watt elements for fast recovery and reliable operation.
- Incoloy stainless steel lower element lasts longer than a standard copper element.

DYNACLEAN™ DIFFUSER DIP TUBE

- Helps reduce lime and sediment buildup and maximizes hot water output. Made from long-lasting PEX cross-linked polymer.

HIGH ENERGY FACTORS

- Eco-friendly non-CFC foam insulation, heat traps and other features combine to yield a higher Energy Factor that maximizes savings on operating costs.

COREGARD™ ANODE ROD

- Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.

BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry standard glass lining.

ENHANCED-FLOW BRASS DRAIN VALVE

- Our residential water heaters have a solid brass, tamper resistant, enhanced-flow, ball type, drain valve.
- Uses a standard female hose fitting that allows for fast and easy draining during maintenance.
- Designed for easy operation, this valve includes an integral screwdriver slot that features a ¼ turn (open/close) radius, which not only permits full straight-through water flow but also a quick and positive shut off.

CODE COMPLIANCE

- Meets UBC, CEC and HUD National Codes.
- Meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1.
- Complies with the Federal Energy Conservation Standards effective April 16, 2015, in accordance with the Energy Policy and Conservation Act (EPCA), as amended.

APPROVED FOR MANUFACTURED HOUSING

- All residential electric water heaters are compliant with HUD Standards for mobile homes/manufactured housing.

CERTIFIED TO UL 174 FOR HOUSEHOLD ELECTRIC WATER HEATERS

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

DESIGN-LISTED BY UNDERWRITERS LABORATORIES

- Certified at 300 PSI test pressure and 150 PSI working pressure.
- Listed according to UL 174 standards governing storage tank-type electric water heaters.

6-YEAR LIMITED TANK AND PARTS WARRANTY

- For complete information, consult written warranty or go to hotwater.com.



ENL40202172000 ✓



Residential Electric Water Heaters

Model Number	Gallon Capacity	First Hour Rating Gallon	Energy Factor	Recovery @ 90° F Rise Gallon Per Hour	Element Wattage 240V		Dimensions in Inches			Approx. Shipping Weight (lbs)
					Standard	Maximum	A	B	C	
Tall Models										
ENT-30†	30	47	0.95	21	4500	6000	46-1/2	39-1/2	19	95
ENT-40†	40	51	0.95	21	4500	6000	60-1/4	53-1/4	20	118
ENTB-50*	50	70	0.95	21	4500	6000	60-1/4	51-1/4	21	131
ENT-50†	50	71	0.95	21	4500	6000	60-1/2	51-1/4	22	134
ENT-55†	55	76	0.94	21	4500	6000	56-1/2	48-1/2	24	145
Short Models										
ENSB-30*	30	48	0.95	21	4500	6000	39	30-1/2	20	95
ENS-30†	30	49	0.95	21	4500	6000	39-3/4	30-1/2	22	94
ENS-40†	40	55	0.95	21	4500	6000	50	40-3/4	22	109
ENS-50†	50	62	0.95	21	4500	6000	49-3/4	40-3/8	24	161
Lowboy Top Connect Models										
ENLB-30*	28	40	0.95	21	4500	6000	30	21-3/4	22	96
ENL-30†	28	43	0.95	21	4500	6000	31-1/4	21-3/4	24	115
ENLB-40*	38	46	0.95	21	4500	6000	31-3/4	24	24	118
ENL-40†	38	44	0.95	21	4500	6000	33-1/2	24	26	118

3/4" water connections on 8" center.

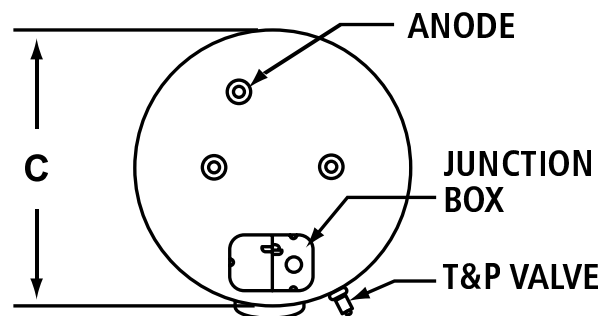
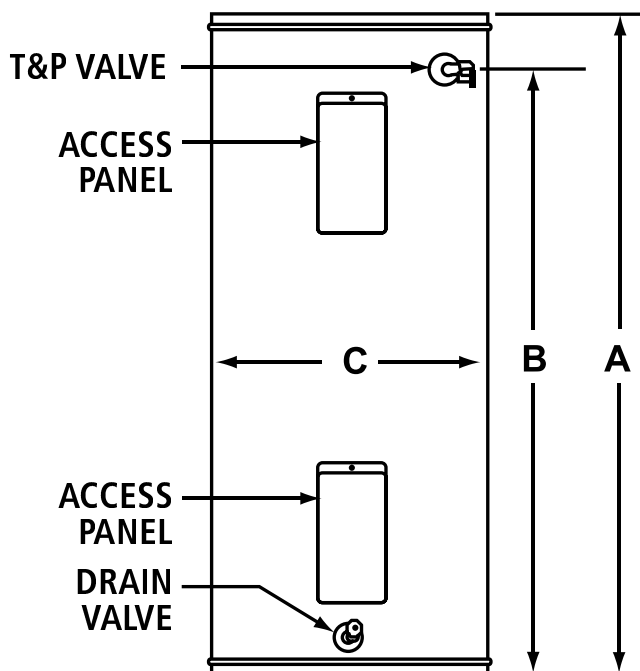
*Models ship with supplied insulation blanket.

†For 10-year tank and 6-year parts warranty, change "E" to "P" in the model number (example: ENT-30 becomes PNT-30).

+ Top T&P option not available on this model.

Only available for 240V or 208V applications.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



4.5KW 240V 1PH L/B ALUM

For technical information call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.



**** WH2 ****

AENLB50202172000 AO SMITH

48G 4.5KW 240V 1PH LB WHTR ALUM (WITH BLANKET)



Residential Electric Water Heaters

ProMax®



ENHANCED HEATING ELEMENTS

- Dual 4500 watt elements for fast recovery and reliable operation.*
- Incoloy stainless steel lower element lasts longer than a standard copper element.

DYNACLEAN™ DIFFUSER DIP TUBE

- Helps reduce lime and sediment buildup and maximizes hot water output. Made from long-lasting PEX cross-linked polymer.

HIGH ENERGY FACTORS

- Eco-friendly non-CFC foam insulation, heat traps and other features combine to yield a higher Energy Factor that maximizes savings on operating costs.

COREGARD™ ANODE ROD

- Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.

BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry standard glass lining.

ENHANCED-FLOW BRASS DRAIN VALVE

- Our residential water heaters have a solid brass, tamper resistant, enhanced-flow, ball type, drain valve.
- Uses a standard female hose fitting that allows for fast and easy draining during maintenance.
- Designed for easy operation, this valve includes an integral screwdriver slot that features a ¼ turn (open/close) radius, which not only permits full straight-through water flow but also a quick and positive shut off.

*Model ENL-20 has a single element.

CODE COMPLIANCE

- Meets UBC and ICC National Codes and listed with CEC.
- Complies with the Federal Energy Conservation Standards effective April 16, 2015, in accordance with the Energy Policy and Conservation Act (EPCA), as amended.

APPROVED FOR MANUFACTURED HOUSING

- All residential electric water heaters are compliant with HUD Standards for mobile homes/manufactured housing.

CERTIFIED TO UL 174 FOR HOUSEHOLD ELECTRIC WATER HEATERS

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

DESIGN-LISTED BY UNDERWRITERS LABORATORIES

- Certified at 300 psi test pressure and 150 psi working pressure.
- Listed according to UL 174 standards governing storage tank-type electric water heaters.

6-YEAR LIMITED TANK AND PARTS WARRANTY

- For complete information, consult written warranty or go to hotwater.com.





Residential Electric Water Heaters

✓ 4.5KW 240V 1PH LB

Model Number	Gallon Capacity	First Hour Rating Gallon	Energy Factor	Recovery @ 90° F Rise Gallon Per Hour	Element Wattage 240V		Dimensions in Inches			Approx. Shipping Weight (lbs)
					Standard	Maximum	A	B	C	
Tall Models										
ENT-30†	30	47	0.95	21	4500	6000	46-1/2	39-1/2	19	95
ENT-40†	40	51	0.95	21	4500	6000	60-1/4	53-1/4	20	118
ENTB-50*	50	70	0.95	21	4500	6000	60-1/4	51-1/4	21	131
ENT-50†	50	71	0.95	21	4500	6000	60-1/2	51-1/4	22	134
ENT-55†	55	76	0.94	21	4500	6000	56-1/2	48-1/2	24	145
Short Models										
ENSB-30*	30	48	0.95	21	4500	6000	39	30-1/2	20	95
ENS-30†	30	49	0.95	21	4500	6000	39-3/4	30-1/2	22	94
ENS-40†	40	55	0.95	21	4500	6000	50	40-3/4	20-1/2	109
ENS-50†	50	62	0.95	21	4500	6000	49-3/4	40-3/8	23	161
Lowboy Top Connect Models										
ENL-20	19.5	N/A	N/A	21	4500	6000	30	21-1/4	20	65
ENLB-30*	28	40	0.95	21	4500	6000	30	21-3/4	22	96
ENL-30†	28	43	0.95	21	4500	6000	31-1/4	21-3/4	24	115
ENLB-40*	38	46	0.95	21	4500	6000	31-3/4	24	24	118
ENL-40†	38	44	0.95	21	4500	6000	33-1/2	24	26	118
ENLB-50*†	48	57	0.95	21	4500	6000	34	25	26-1/2	172

Male 3/4" water connections on 8" center.

*Models ship with supplied insulation blanket.

†For 10-year tank and 6-year parts warranty, change "E" to "P" in the model number (example: ENT-30 becomes PNT-30).

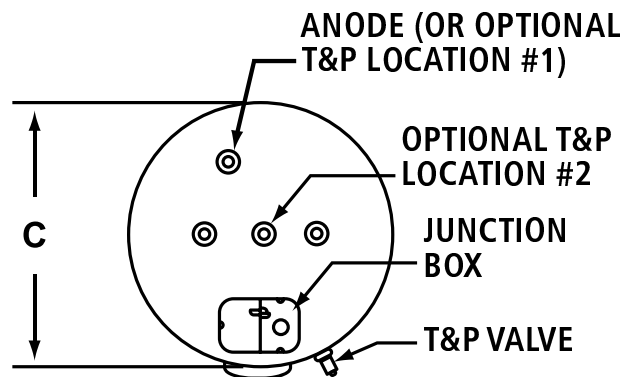
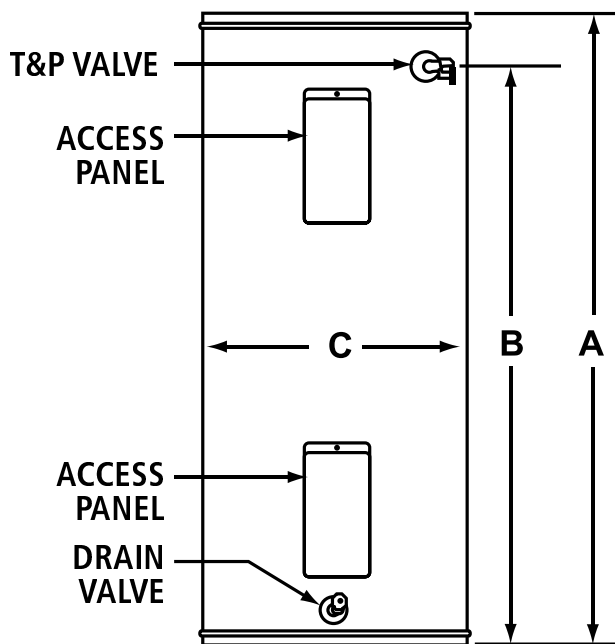
+ Top T&P option not available on this model.

ENL-20 is a single element configuration only.

Optional T&P location #2 is used on the ENT-50, ENTB50, ENT-55, ENS-40 and ENS-50.

Top T&P is not available on the 10 year model PNLB-50.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



For technical information call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.



**** EHW3 ****

AENLB50202772000 AO SMITH

48G 6KW 240V 1PH LB WHTR



Residential Electric Lowboy Water Heater

ProMax®

RESIDENTIAL ELECTRIC LOWBOY

ENHANCED HEATING ELEMENTS

- Dual 4500 watt elements for fast recovery and reliable operation.
- Incoloy stainless steel lower element lasts longer than a standard copper element.

HIGH ENERGY FACTORS

- Eco-friendly non-CFC foam insulation, heat traps and other features combine to yield a higher Energy Factor that maximizes savings on operating costs.

COREGARD™ ANODE ROD

- Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.

3/4" WATER CONNECTIONS

- Top inlet and top outlet

BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry standard glass lining.

ENHANCED-FLOW BRASS DRAIN VALVE

- Our residential water heaters have a solid brass, tamper resistant, enhanced-flow, ball type, drain valve.
- Uses a standard female hose fitting that allows for fast and easy draining during maintenance.
- Designed for easy operation, this valve includes an integral screwdriver slot that features a ¼ turn (open/close) radius, which not only permits full straight-through water flow but also a quick and positive shut off.

CODE COMPLIANCE

- Meets UBC, CEC and ICC National Codes.
- Complies with the current edition of ASHRAE/IES 90.1.
- Complies with the Federal Energy Conservation Standards effective April 16, 2015, in accordance with the Energy Policy and Conservation Act (EPCA), as amended.

APPROVED FOR MANUFACTURED HOUSING

- All residential electric water heaters are compliant with HUD Standards for mobile homes/manufactured housing.

CERTIFIED TO UL 174 FOR HOUSEHOLD ELECTRIC WATER HEATERS

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

DESIGN-LISTED BY UNDERWRITERS LABORATORIES

- Certified at 300 psi test pressure and 150 psi working pressure.
- Listed according to UL 174 standards governing storage tank-type electric water heaters.

6-YEAR LIMITED TANK AND PARTS WARRANTY

- For complete information, consult written warranty or go to hotwater.com.



48G 6KW 240V 1PHLB WHTR



Residential Electric Lowboy Water Heater



Model Number	Gallon Capacity	First Hour Rating Gallon	Energy Factor	Recovery @ 90°F Rise Gallon Per Hour	Element Wattage 240V		Dimensions in Inches			Approx. Shipping Weight (lbs)
					Standard	Maximum	A	B	C	
ENLB-50*+	48	57	0.95	21	4500	6000	34	25	26-1/2	172

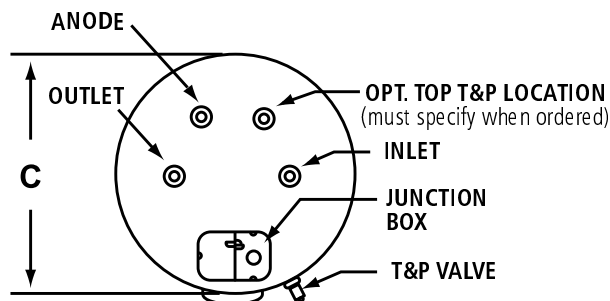
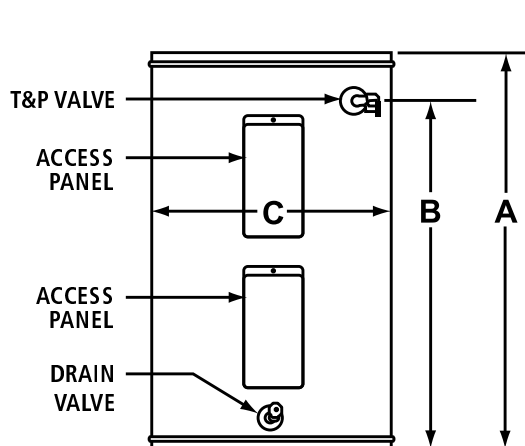
Male 3/4" water connections; top inlet and top outlet.

*Models ship with supplied insulation blanket.

†For 10-year tank and 6-year parts warranty, change "E" to "P" in the model number (example: ENLB-50 becomes PNLB-50).

+ Top T&P option must be specified at time of order and is not available on 10-year warranty models.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



For technical information call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.

5



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P-1

EEHWM217C
M8872CBECO
MLFST09

ELKAY
MCGUIRE
MCGUIRE

P-1 DRINKING FOUNTAIN

DUAL RFT FTN HD
1-1/4 ECO-LINE CST BDY PTRAP W/ CO BRSNUTS BOX FLANGE
LF 1/2" NOM X 3/8" OD, WHEEL HANDLE

ELKAY[®]

SPECIFICATIONS

Heavy Duty 14 Gauge Drinking Fountain Wall Mount, Fully Exposed Barrier-Free Access Models EHWM217C and EHW217C

GENERAL

Two-level wall mounted drinking fountain constructed of #14 gauge, type 304, stainless steel polished to a lustrous satin finish.

Contoured basin minimizes splashing and has vandal-resistant bubbler. Keyed in location to prevent rotation. Easy to operate, fully functional push-buttons are vandal-resistant. Vandal-resistant bottom cover plates included. Patented* valve and in-line flow regulator provides stream from 20 to 105 psi.

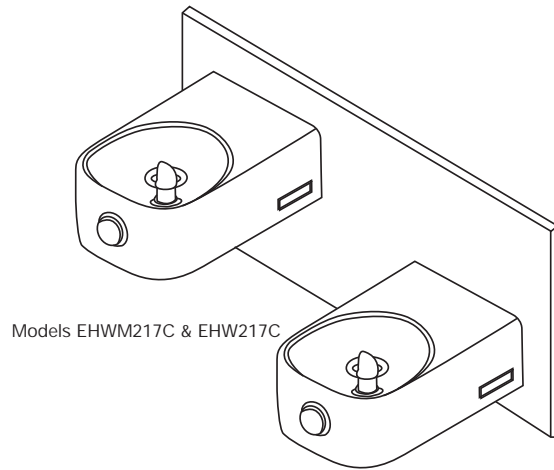
THIS DRINKING FOUNTAIN COMPLIES WITH THE REQUIREMENTS OF A.D.A. (AMERICANS WITH DISABILITIES ACT) WHEN PROPERLY INSTALLED. UNIT IS COMPLIANT IF INSTALLED IN AN ALCOVE AND IS ALSO COMPLIANT WHEN MOUNTED ON AN EXPOSED WALL IF A WING WALL IS LOCATED ON THE LEFT SIDE OR IF A APRON IS INSTALLED UNDER THE UPPER UNIT.

NO LEAD DESIGN

THIS DRINKING FOUNTAIN COMPLIES WITH THE LEAD-FREE DEFINITION IN THE SAFE DRINKING WATER ACT OF 1986 AND LEAD CONTAMINATION CONTROL ACT OF 1988.

Elkay Drinking Fountains are manufactured with a waterway system utilizing copper components and completely lead-free material. These waterways have no lead because all leaded materials, such as leaded brass, have been removed.

This drinking fountain is certified to **NSF/ANSI 61**.

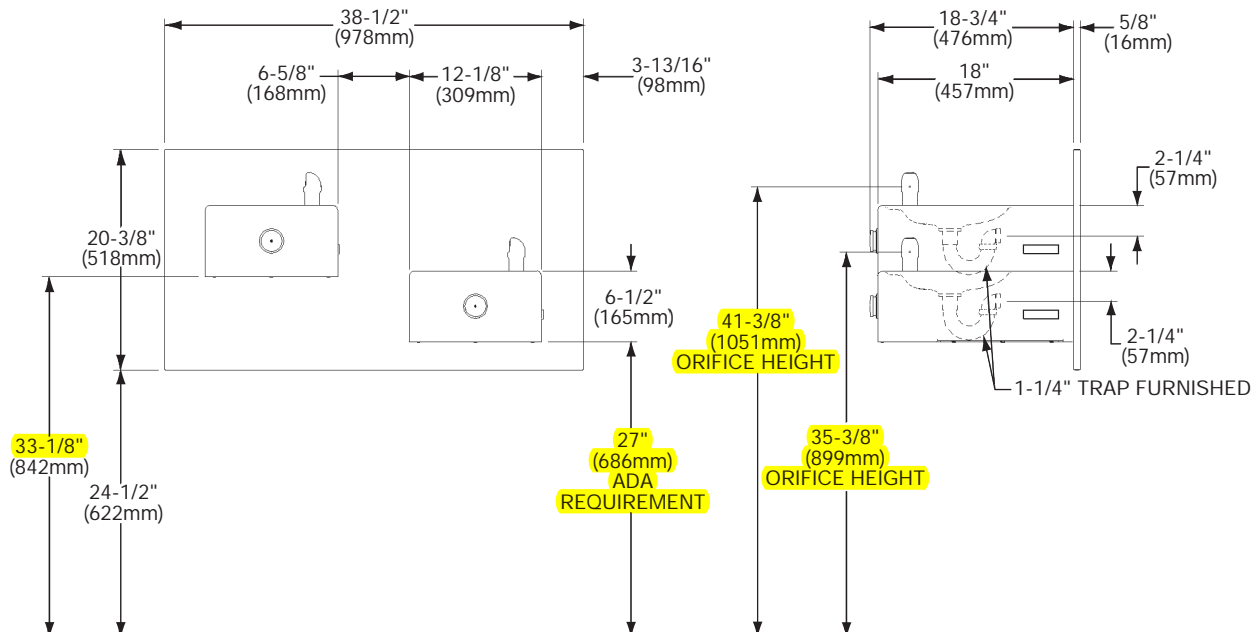


Models EHWM217C & EHW217C

CONSTRUCTION

EHWM217C furnished complete with vandal-resistant bubbler, fully assembled front push-buttons, patented* valve and in-line flow regulator (20 to 105 p.s.i.), and drain, trap assemblies, vandal-resistant 14 gauge bottom cover plates and surface mounting plate. Trap included.

EHW217C does not include the surface mounting plate. To be mounted with MPW200 in-wall mounting plate. ML100 in-wall support legs are optional.



* Patent #4,481,971

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice.

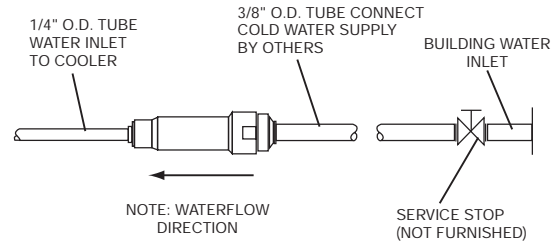
This specification describes an Elkay product with design, quality and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

Heavy Duty 14 Gauge Drinking Fountain
Wall Mount, Fully Exposed
Barrier-Free Access
Model EHWM217C

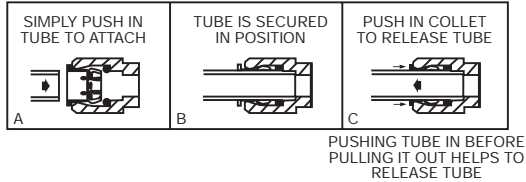
ELKAY®
ROUGH-IN DIMENSIONS

INSTALLER NOTE

THIS DRINKING FOUNTAIN IS FURNISHED WITH A BUBBLER AND VALVE INCLUDING ALL CONNECTING FITTINGS WHICH ARE MANUFACTURED OF COMPLETELY LEAD FREE MATERIAL. IT IS RECOMMENDED THAT SHUT OFF VALVE AND SUPPLY TUBING SUPPLIED BY OTHERS BE NON-METALLIC.



OPERATION OF QUICK CONNECT FITTINGS



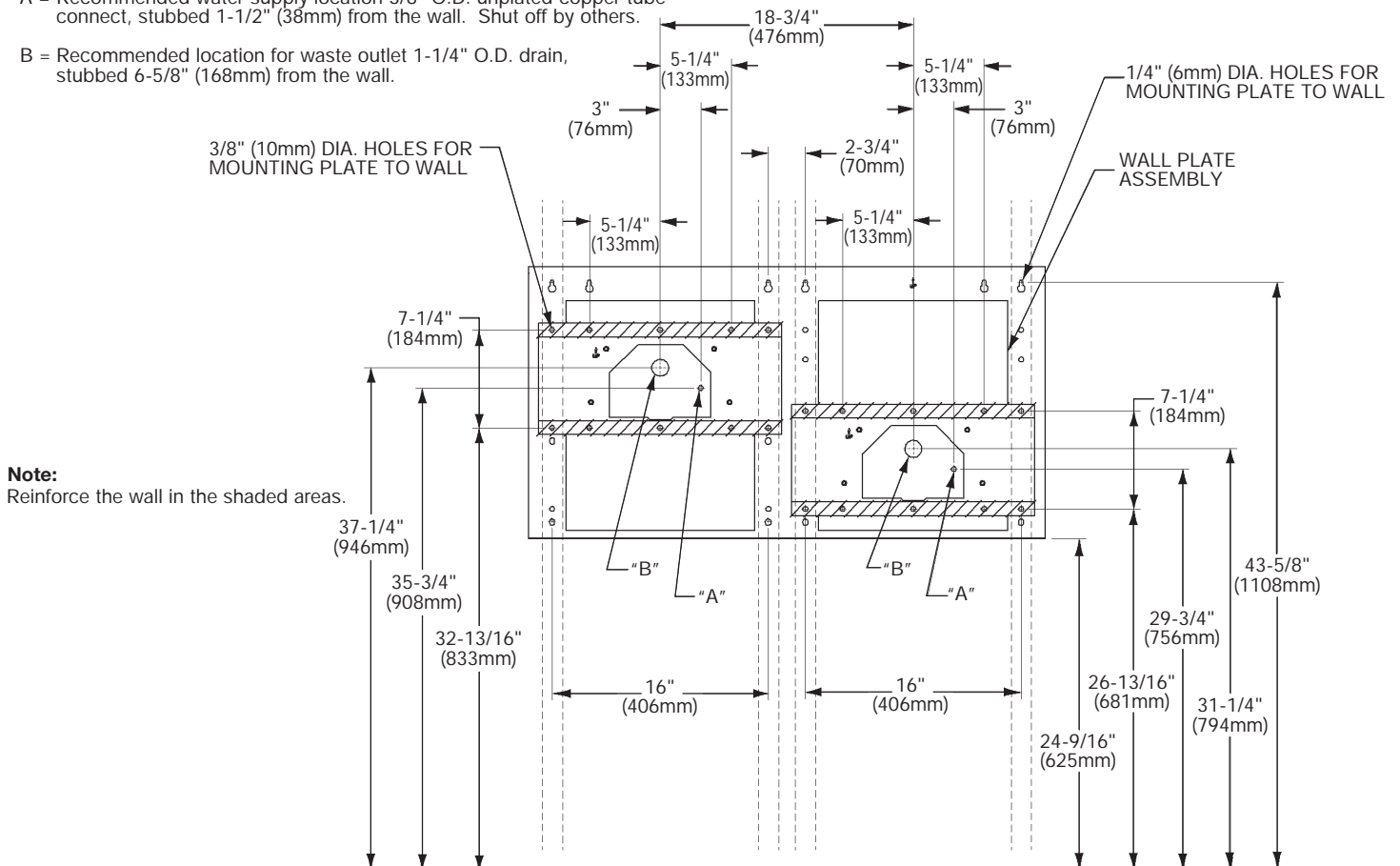
When installing EHWM217C which includes a surface mounting plate, refer to the diagrams shown below.

For electrical, waste, and water supply locations, refer to the Installation/Owners manual.

LEGEND

A = Recommended water supply location 3/8" O.D. unplated copper tube connect, stubbed 1-1/2" (38mm) from the wall. Shut off by others.

B = Recommended location for waste outlet 1-1/4" O.D. drain, stubbed 6-5/8" (168mm) from the wall.



ELKAY®

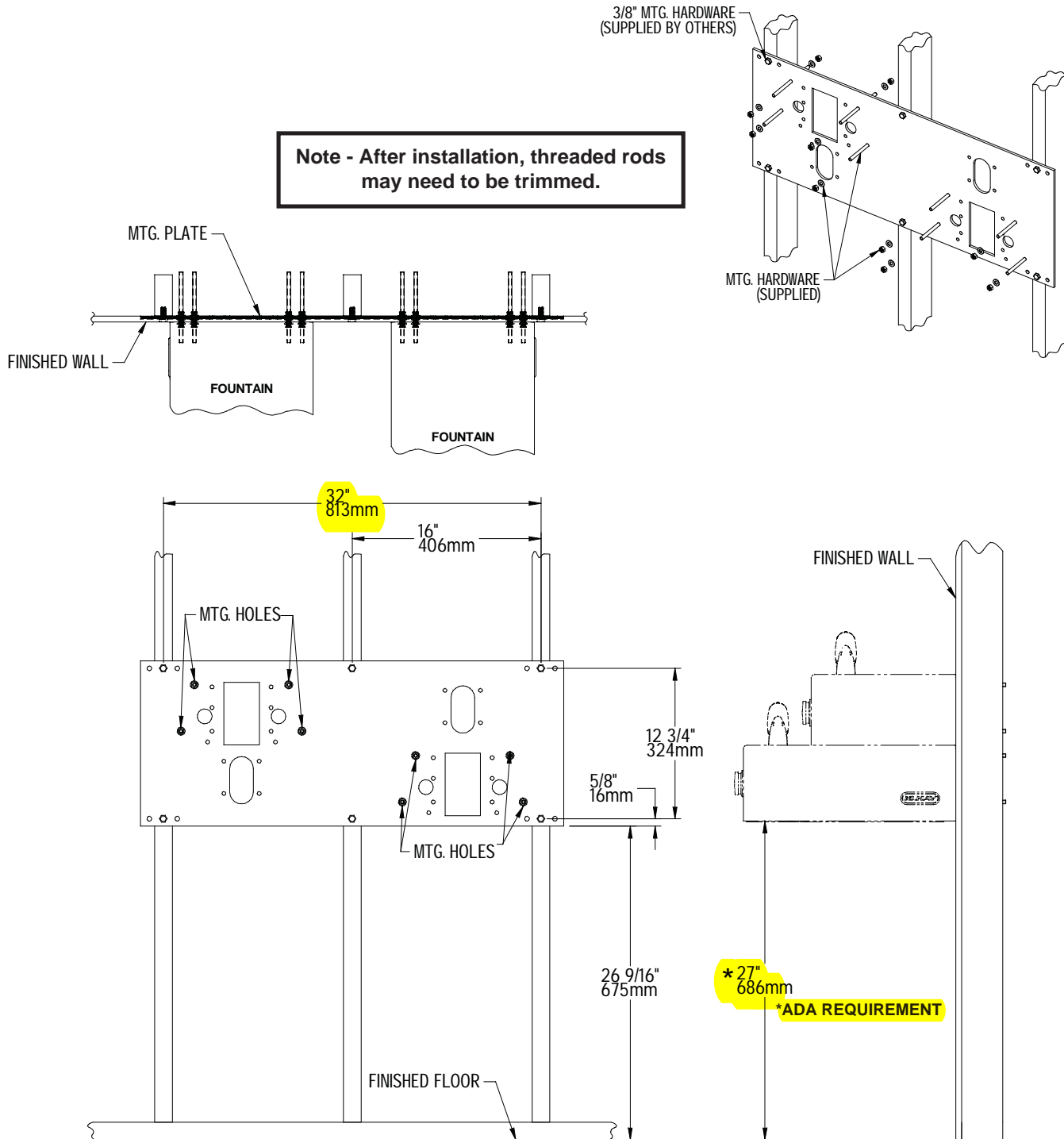
ROUGH-IN DIMENSIONS

Heavy Duty 14 Gauge Drinking Fountain
Wall Mount, Fully Exposed
Barrier-Free Access
Model EHW217C with MPW200

When installing EHW217C with MPW200 in-wall plate mounted directly to wall studs, refer to the diagrams shown below.

For electrical, waste, and water supply locations, refer to the Installation/Owners manual.

Note - After installation, threaded rods may need to be trimmed.



In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice.

This specification describes an Elkay product with design, quality and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

Elkay
elkayusa.com

2222 Camden Court
Oak Brook, IL 60523

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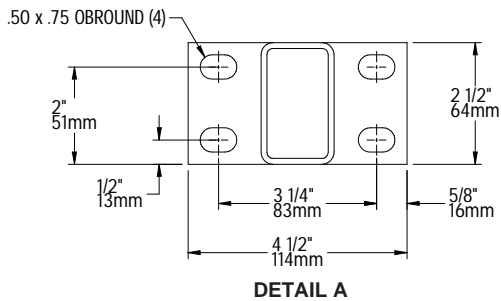
(Rev. 5/08) 14-50B

Heavy Duty 14 Gauge Drinking Fountain
Wall-Mount, Fully Exposed
Barrier Free Access
Model EHW217C with MPW200 & ML100

ELKAY®
ROUGH-IN DIMENSIONS

When installing EHW217C with MPW200 in-wall plate and ML100 support legs, refer to the diagrams shown below.

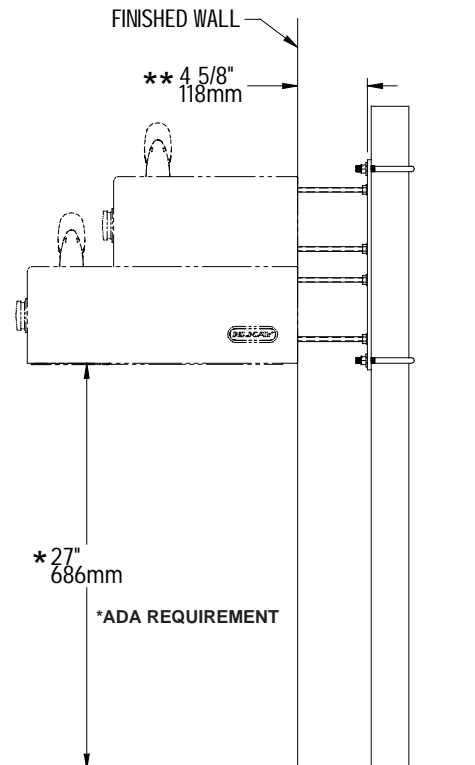
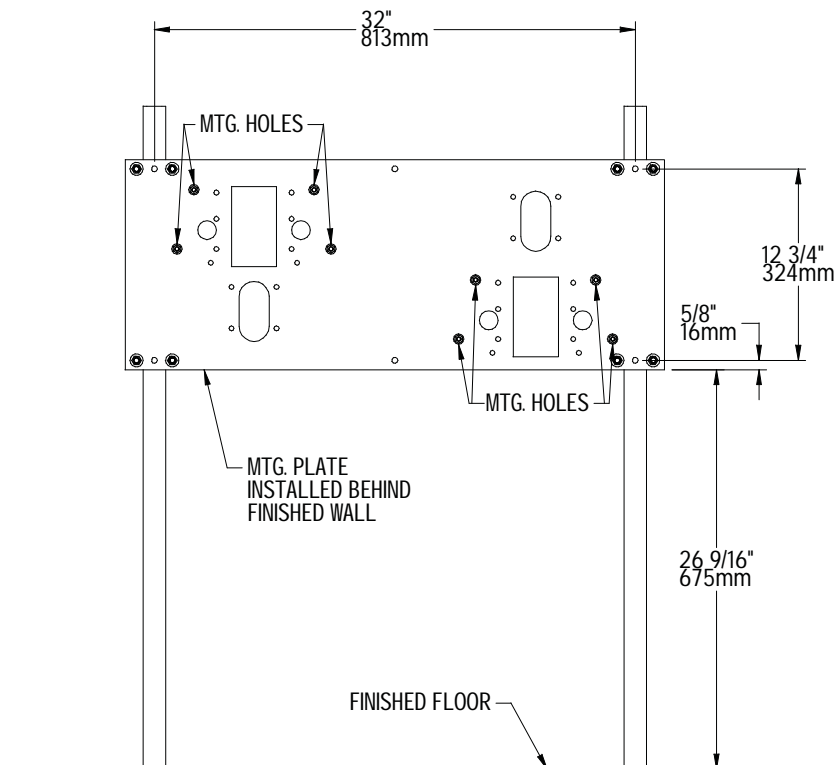
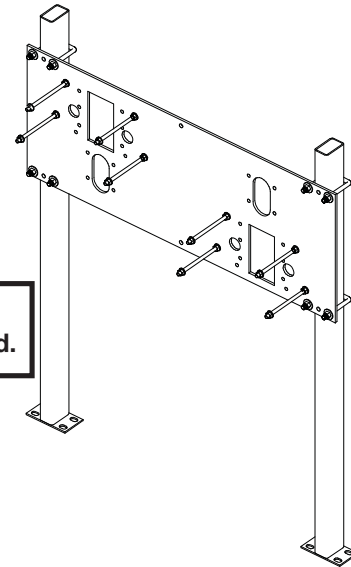
For electrical, waste, and water supply locations, refer to the Installation/Owners manual.



Note - After installation, U-bolts and threaded rods may need to be trimmed.

U-BOLTS ARE INCLUDED WITH ML100 (SUPPORT COLUMNS)

SEE DETAIL A



**WITH STANDARD STUD LENGTH OF 6 INCHES



McGuire Manufacturing Co., Inc.

60 Grandview Court
P.O. Box 746 • Cheshire, CT 06410
203-699-1801 • Fax: 203-699-1813
www.mcguiremfg.com

PRODUCT SPECIFICATION

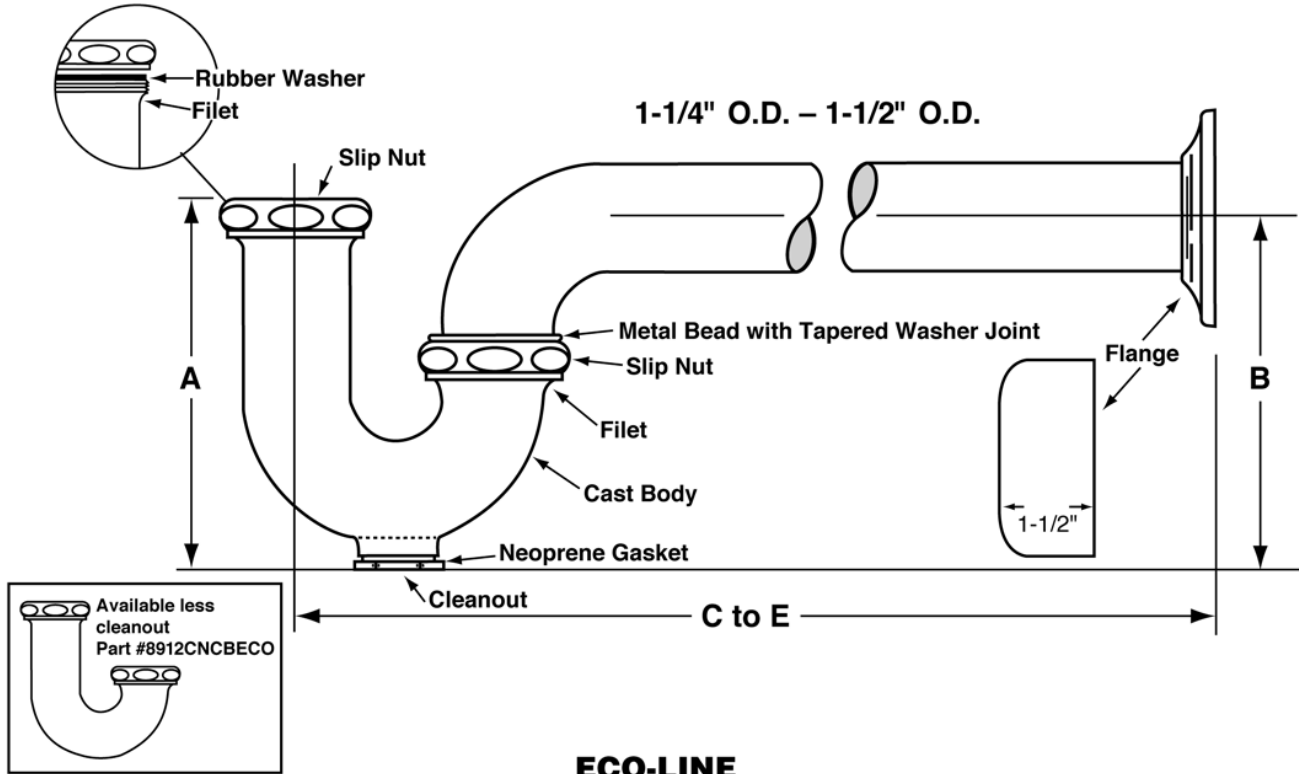
Part No.

8872CBECO, C8872CECO, 8904CBECO
8912CBECO, C8912CECO,
8912CNCBECO, 8912C18BECO

**Cast Body P-Trap With
or Without Cleanout**

Job Name:

Submittal Number:



ECO-LINE

ROUGHING MEASUREMENTS

MODEL NO.	TRAP DIMENSIONS		A	B	C to E	FLANGE	SLIP NUT
	INLET	OUTLET					
✓ 8872CBECO	1-1/4"	1-1/4"	5"	4-1/2"	11"	Box	Brass
C8872CECO	1-1/4"	1-1/4"	5"	4-1/2"	10"	Shallow	Zinc
8904CBECO	1-1/2", 2"	2"	5"	6"	13"	Box	Brass
8912CBECO	1-1/2", 1-1/4"	1-1/2"	5"	4-1/2"	12"	Box	Brass
C8912CECO	1-1/2", 1-1/4"	1-1/2"	5"	4-1/2"	10-1/2"	Shallow	Zinc
8912CNCBECO	1-1/2", 1-1/4"	1-1/2"	4-5/8"	4-1/8"	12"	Box	Brass
8912C18BECO	1-1/2", 1-1/4"	1-1/2"	5"	4-1/2"	18"	Box	Brass

FED SPEC W.W.P. 541
CAST BRASS P-TRAP
MINIMUM SEAL 2"



ASME A112.18.1-2011/CSA B125.2-11

Specifications:

Chrome plated P-Trap shall be cast brass body, with or without cleanout, with 17 gauge seamless tubular wall bend and flange.


McGuire Manufacturing Co., Inc.

60 Grandview Court
P.O. Box 746 • Cheshire, CT 06410
203-699-1801 • Fax: 203-699-1813
www.mcguiremfg.com

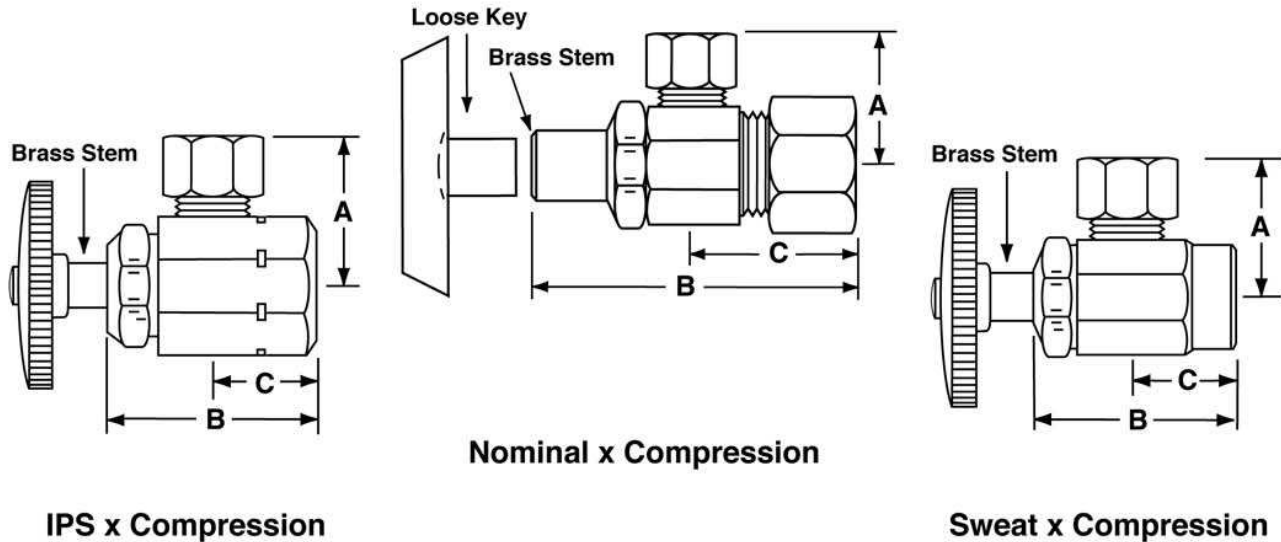
PRODUCT SPECIFICATION
Part No.

**LFST02, LFST02LK, LFST04,
LFST04LK, LFST07, LFST07LK,
LFST09, LFST09LK**

Angle Supply Stop

Job Name:

Submittal Number:



NO.	DESCRIPTION	ROUGHING MEASUREMENTS		
		A	B	C
LFST02	1/2" IPS x 3/8" OD, Wheel Handle	1-3/16"	1-1/2"	3/4"
LFST02LK	1/2" IPS x 3/8" OD, Loose Key	1-3/16"	2-1/4"	3/4"
LFST04	1/2" IPS x 1/2" OD, Wheel Handle	1-5/16"	1-1/2"	3/4"
LFST04LK	1/2" IPS x 1/2" OD, Loose Key	1-5/16"	2-1/4"	3/4"
LFST07	1/2" Sweat x 3/8" OD, Wheel Handle	1"	1-1/2"	3/4"
LFST07LK	1/2" Sweat x 3/8" OD, Loose Key	1"	2-1/4"	3/4"
LFST09	1/2" Nominal x 3/8" OD, Wheel Handle	1"	1-3/4"	1"
LFST09LK	1/2" Nominal x 3/8" OD, Loose Key	1"	2-3/8"	1"

X designates Cross Handle

LK designates *Loose Key*

See options and accessories section for details on product variations.



Specifications:

Chrome plated brass supply stop valve with full turn brass stem. Inlet shall be (3/8, 1/2) inch (IPS, sweat, compression). Outlet shall be (3/8, 1/2) inch (IPS, compression). Supply stop valve shall be McGuire _____. Supply stop valve shall be certified or recognized by testing authority and bear manufacturer and testing mark.

P-2
K5264-5U-0

KOH

See replacement attached.
-VID

DESTALO WHITE

DESIGNATION PF-02 CLUB ROOM

KOHLER®**Cape Dory®****Under-mount Kitchen Sink****K-5864-5U****Features**

- 36-inch minimum base cabinet required.
- KOHLER cast iron.
- Acid-resistant enamel finish.
- Under-mount.
- Single compartment.
- Three oversized faucet holes with two oversized accessory holes to the right.
- 33" (838 mm) x 22" (559 mm)

See replacement attached.
-VID**Recommended Accessories**

K-9000 P-Trap

Optional Accessories

K-6063 Sink Rack
K-6637 Cutting Board
K-8801 Sink Strainer

Components

Additional included component/s: Under-mount sink fit 23" (584 mm).

Codes/Standards

ASME A112.19.1/CSA B45.2

KOHLER® Enameled Cast Iron Kitchen Sink - Lifetime Limited Warranty

See website for detailed warranty information.

Available Color/Finishes*Color tiles intended for reference only.*

Color	Code	Description
	0	White
	FF	Sea Salt™
	96	Biscuit
	47	Almond
	FD	Cane Sugar™
	NY	Dune
	95	Ice™ Grey
	G9	Sandbar
	33	Mexican Sand™
	K4	Cashmere
	FT	Basalt
	58	Thunder™ Grey
	20	Suede
	KA	Black 'n Tan
	FP	Caviar
	7	Black Black™

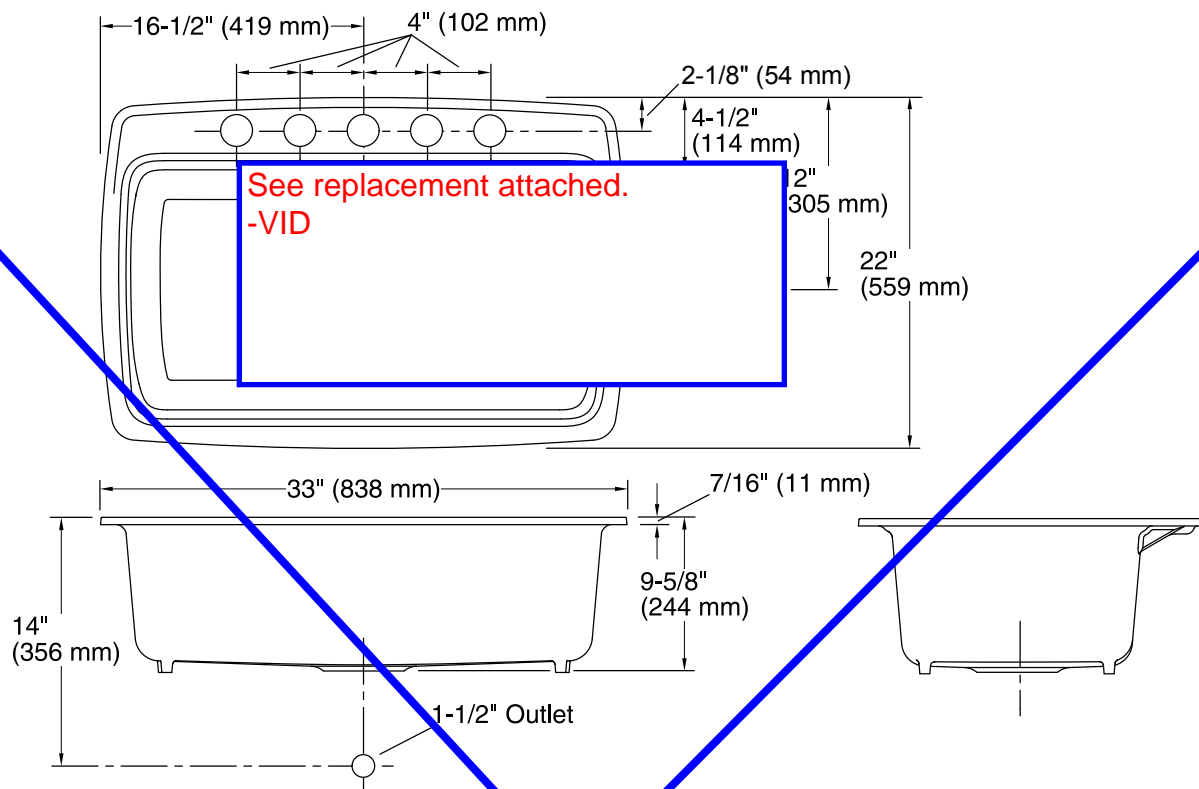
USA/Canada: 1-800-4KOHLER (1-800-456-4537)

Kohler Co. reserves the right to make revisions without notice to product specifications.

For the most current Specification Sheet, go to www.kohler.com.

4-30-2016 05:34

THE BOLD LOOK
OF **KOHLER®**

KOHLER®**Cape Dory®****Under-mount Kitchen Sink****K-5864-5U****Technical Information**

All product dimensions are nominal.

Bowl configuration:	Single
Installation:	Under-mount
Bowl area	Length: 29" (737 mm) Width: 15" (381 mm) Bowl depth: 9" (229 mm)
Number of deck holes:	5
Faucet hole(s):	2-3/8" (60 mm)
Drain hole:	3-5/8" (92 mm)
Template:	Under-mount, 1034873-7, required, included

Notes

Install this product according to the installation instructions.

Faucet holes in under-mount fixture are oversized at $\sim 2\text{-}3/8"$ (60 mm). Drill faucet holes in counter according to fitting roughing-in.

USA/Canada: 1-800-4KOHLER (1-800-456-4537)

Kohler Co. reserves the right to make revisions without notice to product specifications.

For the most current Specification Sheet, go to www.kohler.com.

4-30-2016 05:34

THE BOLD LOOK
OF **KOHLER®**



PF-02

Riverby® Under-mount Kitchen Sink K-8689-5U

Features

- 36-inch minimum base cabinet width.
- Single bowl.
- Three oversized faucet holes with one oversized accessory hole to the right and one oversized accessory hole to the left.
- 5-1/4-inch depth.
- Includes cutout templates.

Material

- KOHLER enameled cast iron.

Installation

- Under-mount.

Recommended Accessories

K-9000 P-Trap

Optional Accessories

K-8801 Sink Strainer



ADA

Codes/Standards

ASME A112.19.1/CSA B45.2

ADA

ICC/ANSI A117.1

KOHLER® Enameled Cast Iron Kitchen Sink - Lifetime Limited Warranty

See website for detailed warranty information.

Available Color/Finishes

Color tiles intended for reference only.

Color	Code	Description
	0	White
	FF	Sea Salt™
	96	Biscuit
	47	Almond
	FD	Cane Sugar™
	NY	Dune
	95	Ice™ Grey
	G9	Sandbar
	33	Mexican Sand™
	K4	Cashmere
	FT	Basalt
	58	Thunder™ Grey
	20	Suede
	KA	Black 'n Tan
	FP	Caviar

USA/Canada: 1-800-4KOHLER (1-800-456-4537)

Kohler Co. reserves the right to make revisions without notice to product specifications.

For the most current Specification Sheet, go to www.kohler.com.

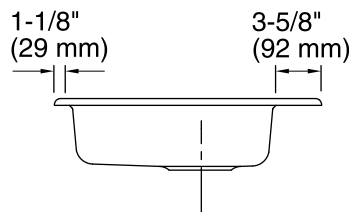
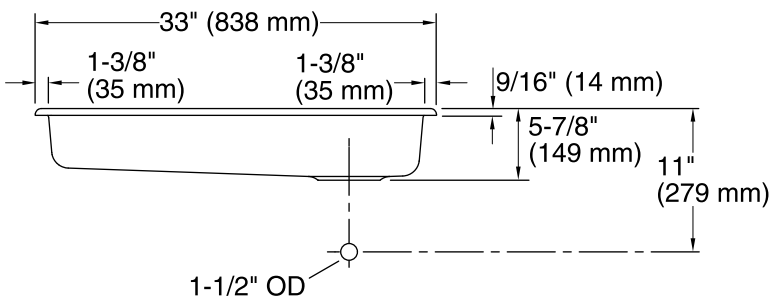
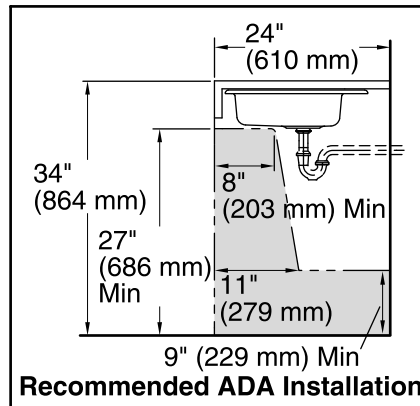
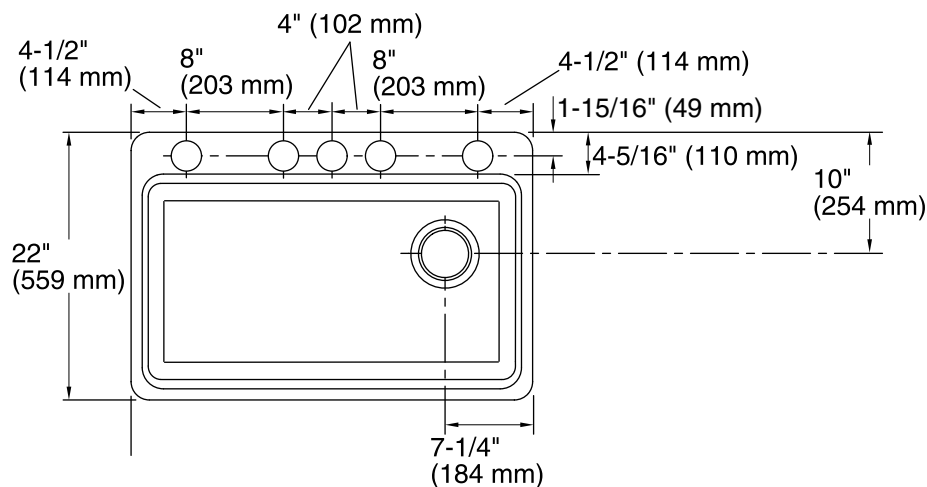
10-3-2016 05:55

THE BOLD LOOK
OF **KOHLER®**

KOHLER®

PF-02

Riverby® Under-mount Kitchen Sink K-8689-5U



Technical Information

All product dimensions are nominal.

Bowl configuration: Single

Installation: Under-mount, Under-mount

Bowl area (Only) Length: 30-1/4" (769 mm)
Width: 17-1/4" (438 mm)
Bowl depth: 5-1/4" (133 mm)
Water depth: 5-1/4" (133 mm)

Template: 1166727-7, required, included

Notes

Install this product according to the installation instructions.

NOTICE: The countertop manufacturer or cutter must use the cut-out template provided with the product, or a current one provided by Kohler Co. (call 1-800-4KOHLER). Kohler Co. is not responsible for cut-out errors when the incorrect cut-out template is used.

ADA compliant when installed to the specific requirements of these regulations.



P-3
G30205000

GROHE

P-3 KITCHEN FAUCET
LFN LADCAF TOUCH 1.75 GPM

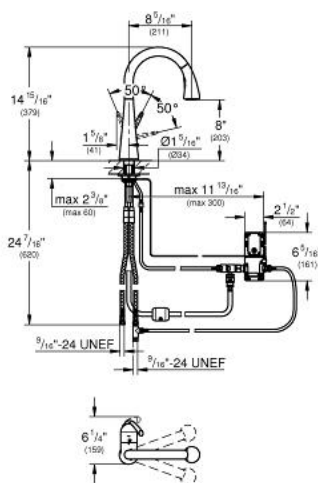
LADYLUX3 CAFÉ TOUCH
Electronic Single handle
MODEL # 30205

DESIGNATION PF-03 CLUB ROOM

Pure Freude an Wasser



GROHE America, Inc | 200 North Gary Avenue, Suite G, Roselle, IL 60172
Phone: +1 (800) 444-7643 | Fax: +1 (800) 225-2778 | us-customerservice@grohe.com



Product Description:
Electronic Single handle

Standard Specification:

- Single hole installation
- **Touch: activation of cold water via skin contact**
- 6 V lithium-battery supply (type CR-P2)
- **CE approved**
- Indication of battery status through different pulses of water
- Safety shut down circuit (when battery nearly empty)
- Solenoid valve
- Automatic safety stop after 60 sec. (factory set)
- Type of protection IP 44
- **GROHE SilkMove®** ceramic cartridge
- **GROHE StarLight®** finish
- **GROHE SuperSteel Infinity Finish™**
- **SpeedClean®** anti-lime system
- Swivel Spout
- Swivel area 360°
- Adjustable flow rate limiter
- **Pull-out locking dual spray control - switches back and forth between regular flow and spray**
- Automatic returning
- Integrated non-return valve
- Locking Push Button Control - to switch from regular flow to spray
- Automatic return to aerator
- Stainless Steel Braided Flexible Supplies
- Quick installation system
- **Protected against backflow**

Applicable Codes & Standards:

- Energy Policy Act of 1992
- NSF 61
- ASME A112.18.1/CSA B125.1
- US Federal and State material regulations
- ICC/ANSI A117.1

Color:

- 30205 001 chrome

Pure Freude an Wasser



GROHE America, Inc | 200 North Gary Avenue, Suite G, Roselle, IL 60172
Phone: +1 (800) 444-7643 | Fax: +1 (800) 225-2778 | us-customerservice@grohe.com

☒ 30205 000 chrome

☐ 30205 DC1 supersteel

☐ 30205 DC0 supersteel



P-4

A0621001020

AMERICAN
STANDARD

P-4 RESTROOM SINK

LAVATORY VESSAL WITH ONE HOLE DRILLING WHITE

In wall Ptraps. Not to be visible.
-VID

American Standard
Style That Works Better

**STUDIO® ABOVE-COUNTER
RECTANGULAR SINK**
VITREOUS CHINA

**STUDIO® ABOVE-COUNTER
RECTANGULAR SINK**



0621.001

- Contemporary above-countertop rectangular sink design
- Integral faucet deck for single hole faucet (2064.101 SERIN® lavatory faucet shown - not supplied)
- Rear overflow
- Fits most standard 22" vanities; separate vanity top not required (9250.024 Studio 22" Vanity recommended - not supplied)

Nominal Dimensions:

22" x 18-1/2" x 4-1/2"
(559 x 470 x 114mm)

Bowl sizes:

19-1/4" x 12-5/8" x 2-5/8"
(487 x 321 x 67mm)

Compliance Certifications -

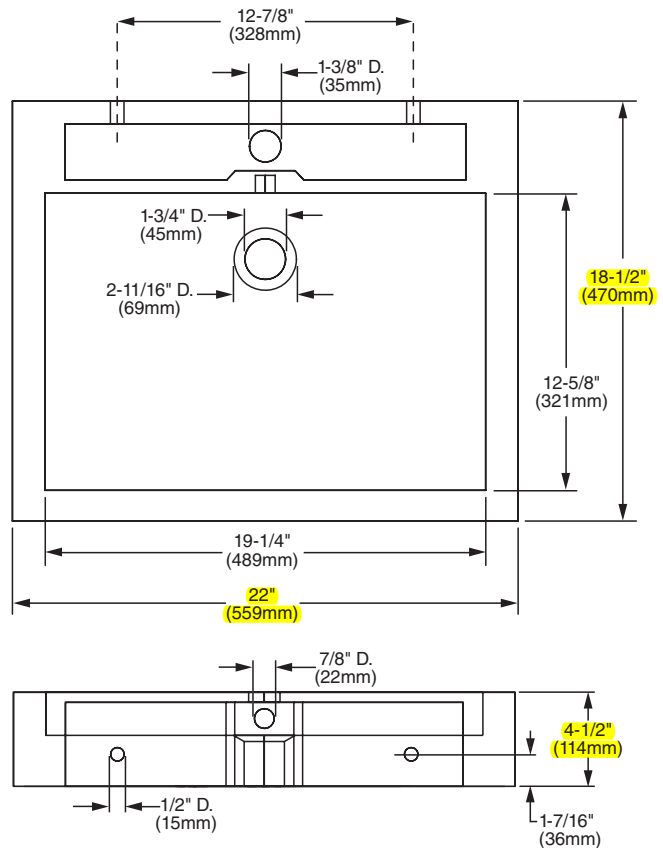
Meets or Exceeds the Following Specifications:

- ASME A112.19.2-2008/CSA B45.1-08 for Vitreous China Fixtures

To Be Specified (Recommended):

- ☐ Vanity Base: Studio 22" Vanity 9205.024 or 22" vanity by others
- ☐ Faucet*: 2064.101 SERIN lavatory faucet
- ☐ Faucet Finish: Polished Chrome (002)
- ☐ Supplies:
- ☐ 1-1/4" Trap:

* See faucet section for additional models available



NOTES:

FITTINGS NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED SEPARATELY.
FOR COUNTERTOP CUTOUT AND INSTALLATION INSTRUCTIONS USE TEMPLATE SUPPLIED WITH SINK.

IMPORTANT: Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.9M. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.



P-5
MS6700

MOEN

P-5 ADA RR FAUCET
LAV SGL MNT 90DEGR CP



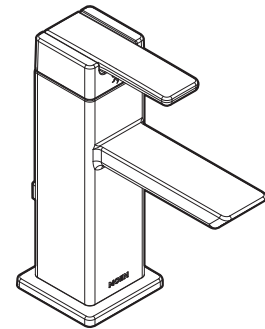
Buy it for looks. Buy it for life.®

*There is more than 1 version of this model.
Page down to identify the version you have.*

DESIGNATION PF-05

**Finish: Brushed Nickel
S6700BN
-VID**

Specifications



**90 DEGREE™
Single-Handle Lavatory Faucet**

✓ **Model: S6700**

NOTE: THIS FAUCET IS DESIGNED TO BE
INSTALLED THRU 1 HOLE, 1-1/8" MIN. DIA.



DESCRIPTION

- Metal construction with various finishes identified by suffix
- Flexible supply lines with 3/8" compression fittings
- Includes metal pop-up waste assembly

OPERATION

- Lever style handle
- Temperature controlled by 100° arc of handle travel

FLOW

- Flow is limited to 1.5 gpm max (5.7L/min) at 60 psi

CARTRIDGE

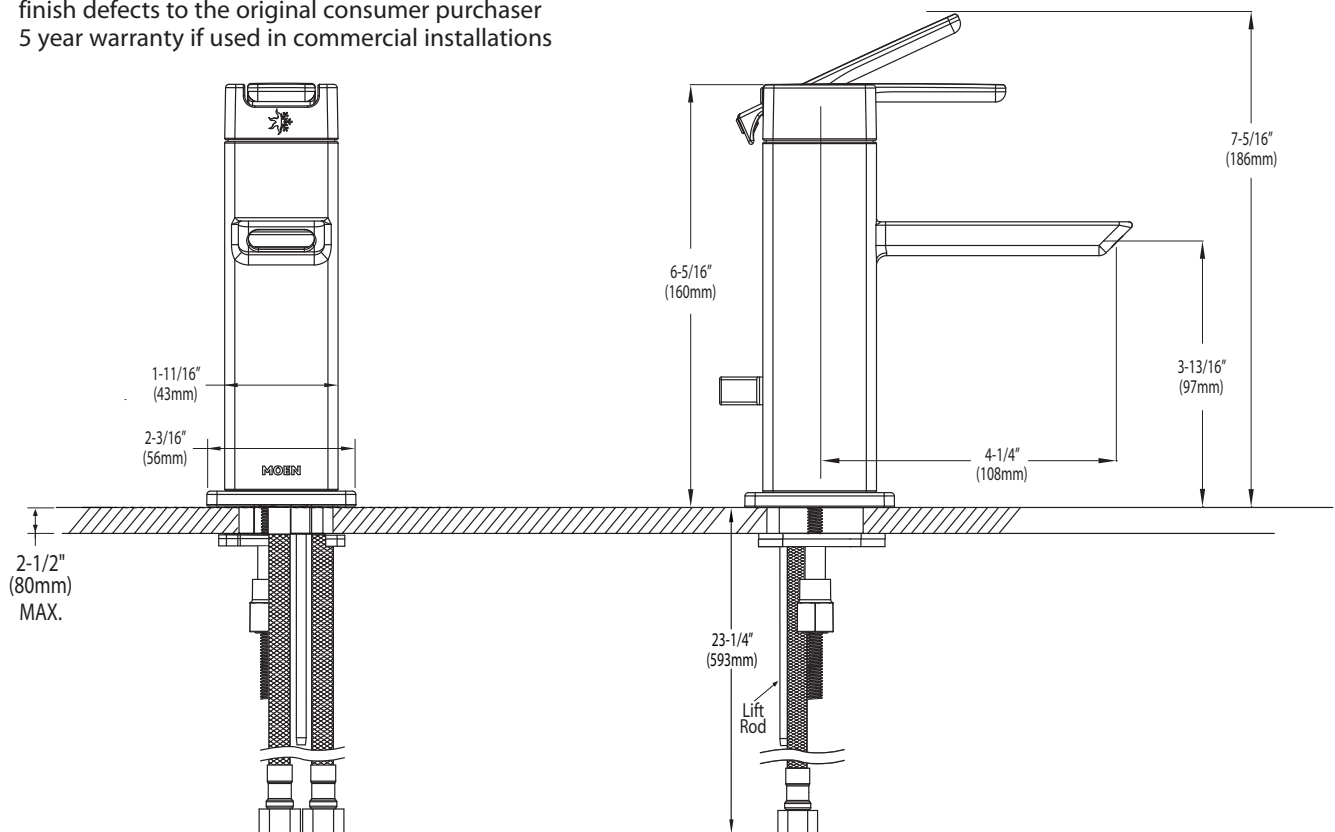
- 1255™ Duralast™ cartridge for Single-Handle Faucets

STANDARDS

- Third party certified to ASME A112.18.1/CSA B125.1, NSF 61/9 and all applicable requirements referenced therein
- Contains no more than 0.25% weighted average lead content
- Third party certified to comply with WaterSense® High Efficiency Bathroom Sink Faucet Specification
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act
- **ADA** for lever handle

WARRANTY

- Lifetime limited warranty against leaks, drips and finish defects to the original consumer purchaser
- 5 year warranty if used in commercial installations



CRITICAL DIMENSIONS

(DO NOT SCALE)

Rev. 4/12

FOR MORE INFORMATION CALL: 1-800-465-6130

www.moen.com



P-6

CCAR810788W
CCAR829108W
CCAR326011W

CAROMA
CAROMA
CAROMA

P-6 TOILET

SOMERTON SMART TANK
SOMERTON EZ HT ELONG BOWL
SOFT CLOSE EB SEAT

Standard elongated seat
-VID

caroma®

CI/SfB

(74.1 | g3 |

Date

July 2014

Supersedes all previous issues

Somerton Smart 270 Easy Height Elongated Bowl #829108 Tank #810788

2.8.19

1.28/0.8 gpf (4.8/3 l) Water Saving Dual Flush High Efficiency Toilet (HET)
Two Piece Ultra Low Flush (ULF) Vitreous China Washdown Toilet

Finish: White
-VID



Somerton Smart 270 Easy Height Elongated 1.28/0.8 gpf (4.8/3 l)

Dual Flush HET

Bowl #829108 Tank #810788

Two Piece Ultra Low Flush (ULF)
Vitreous China Washdown Toilet



A modern concept close coupled 1.28/0.8 gpf (4.8/3 lpf), Somerton Smart 270 Easy Height Elongated dual flush washdown toilet installation designed to provide a seat height of between 17" to 19" (430 to 485mm) measured to the top of the toilet seat. The closet bowl has been designed with rough-in of 10" (255mm) to 12" (305mm) provided by plastic offset outlet connector option. The tank incorporates the high performance outlet valve which has been specially developed with the 270 Easy Height Elongated bowl to ensure optimum reliable flushing performance. Due to the substantial water saving benefits achieved by the 1.28/0.8 gpf (4.8/3 lpf) dual flush system, the toilet is suitable for multi-purpose applications where water conservation is important. Important: The Somerton Smart 270 Easy Height Elongated toilet will comply with the Americans with Disabilities Act when installed to Easy Height Standards for Accessible Design, Section 4.16 Water Closets. Further reference must be made to the relevant sections of Easy Height Standards. For Accessible Design with current amendments to determine clear floor space, grab bar, and operation requirements.

Closet bowl:

Somerton Smart 270 Easy Height Elongated 1.28/0.8 gpf (4.8/3 lpf) dual flush washdown closet bowl with box rim.

Outlet:

Floor mounted suitable for connection to waste outlet with offset plastic outlet connector for 10" (255mm) to 12" (305mm) elongated outlet connection.

Tank:

Somerton Tank - has a free lifting lid and is suitable for domestic and light commercial applications.

Weight:

Bowl Weight 57.2 lbs (26 kg) Tank weight 40 lbs (18.2 kg)

Water Control Valve:

Standard Bottom Entry Tank -- available as left hand inlet and incorporates a super quiet water control assembly. Internal overflow only.

Fixing:

The tank is fixed directly to the closet bowl with a robust base fixing system without the need for wall fixing.

Seat:

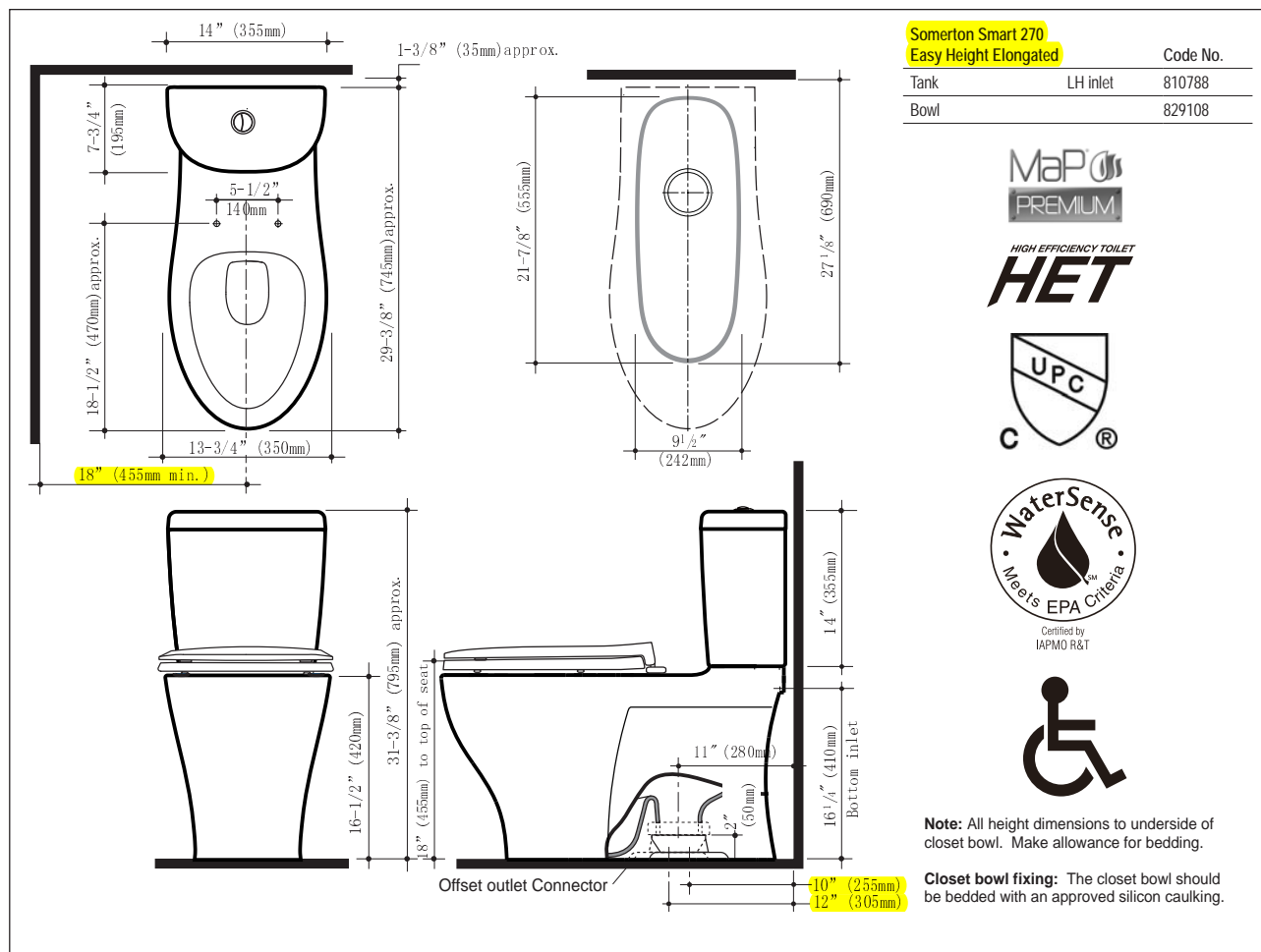
The soft close detachable elongated top fixing seat is included: Code No. 326011W.

Colors:

White.

Dimensions:

All dimensions are in inches and millimetres and are subject to normal manufacturing variations. Caroma pursues a policy of continuing improvement in design and performance of its products. The right is therefore reserved to vary specifications without notice.





P-7

K4991-ET-0
K10668-CP

KOHLER
KOHLER

P-7 URINAL

BARDON URINAL TOP 0.125 GPF WHITE
WAVE TOUCHLESS 0.125 GPF WASHDOWN URINAL FLUSH VALVE
W/ 3/4" SPUD

KOHLER®

DESIGNATION PF-07

Bardon™**High-Efficiency Urinal****K-4991-ET****Features**

- Washout urinal.
- 3/4" top spud.
- 0.125 gpf (0.47 lpf) to 1.0 gpf (3.8 lpf).
- 14" (356 mm) extended rim.
- Will replace K-4904-ET.

Material

- Vitreous china.

Water Conservation & Rebates

- WaterSense-compliant when used with a 0.125 gpf or 0.5 gpf WaterSense flushometer.

Recommended Accessories

K-10668 WAVE DC 1/8 GPF Urinal Flushometer
 K-10949 Tripoint™ DC 1/8 GPF Urinal Flushometer
 K-13520 Manual 1/8 GPF Urinal Flushometer
 K-7528 WAVE HES 1/8 GPF Urinal Flushometer
 K-7546 Tripoint™ HES 1/8 GPF Urinal Flushometer
 K-10675 WAVE DC 0.5 GPF Urinal Flushometer
 K-10958 Tripoint™ DC 0.5 GPF Urinal Flushometer
 K-7537 Tripoint™ HES 0.5 GPF Urinal Flushometer
 K-7526 WAVE HES 0.5 GPF Urinal Flushometer
 K-13519 Manual 0.5 GPF Urinal Flushometer
 K-10676 WAVE DC 1.0 GPF Wshdwn Flushometer
 K-10960 Tripoint™ DC 1.0 GPF Wshdwn Flushometer
 K-13518 Manual 1.0 GPF Wshdwn Flushometer
 K-7539 Tripoint™ HES 1.0 GPF Blwout Flushometer
 K-7542 Tripoint™ HES 1.0 GPF Wshdwn Flushometer
 K-7527 WAVE HES 1.0 GPF Wshdwn Flushometer

Components

Additional included component/s: 3/4" inlet spud, 2" outlet spud, Strainer, and Hangers (2).

**ADA****Codes/Standards**





ASME A112.19.2/CSA B45.1
 DOE - Energy Policy Act 1992
 EPA WaterSense®
 California Energy Commission (CEC)
 ADA
 ICC/ANSI A117.1

KOHLER® One-Year Limited Warranty

See website for detailed warranty information.

Available Color/Finishes

Color tiles intended for reference only.

Color	Code	Description
	0	White
	96	Biscuit
	47	Almond
	7	Black Black™

USA/Canada: 1-800-4KOHLER (1-800-456-4537)

Kohler Co. reserves the right to make revisions without notice to product specifications.

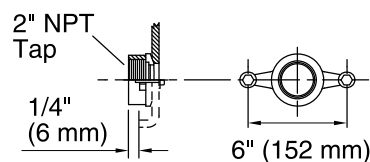
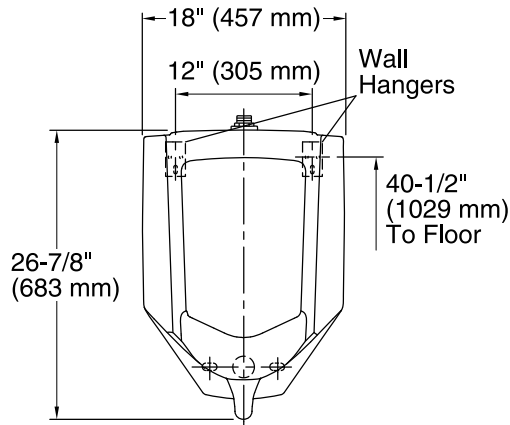
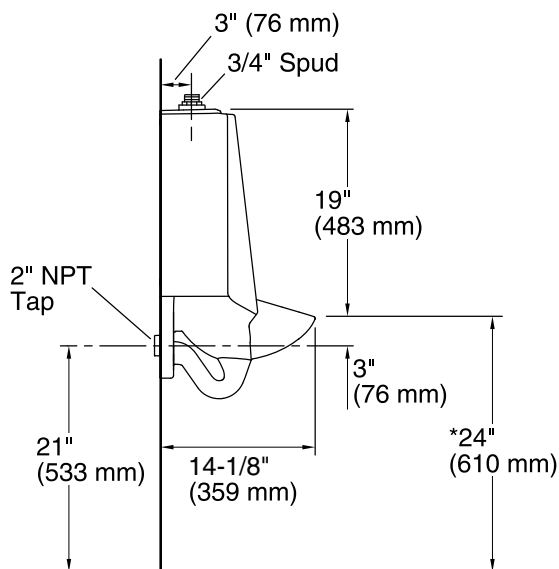
For the most current Specification Sheet, go to www.kohler.com.

4-30-2016 05:20

THE BOLD LOOK
OF **KOHLER®**

KOHLER®
Bardon™
 High-Efficiency Urinal
K-4991-ET

*Urinal complies with ADA requirements when rim is mounted no higher than 17" (432 mm) from finished floor.

**Spud Detail****Technical Information**

All product dimensions are nominal.

Flush outlet Washout
technology:

Spud size: 3/4", Inlet, Top

Min. Water per Flush: 0.125 gal (0.5 L)

Max. Water per Flush: 1 gal (3.8 L)

Designed for the above water use when installed with a water-saving flushometer.

Notes

Install this product according to the installation guide.

Refer to manufacturer's instructions and local codes for flushometer requirements.

ADA compliant when installed to the specific requirements of these regulations.

USA/Canada: 1-800-4KOHLER (1-800-456-4537)

Kohler Co. reserves the right to make revisions without notice to product specifications.

For the most current Specification Sheet, go to www.kohler.com.

4-30-2016 05:20

THE BOLD LOOK
OF **KOHLER®**

Features

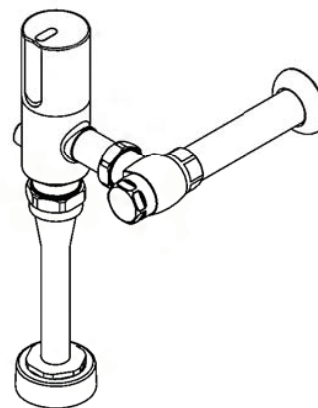
- Brass construction
- Fixture-mount design
- Includes a 9 V lithium battery
- Intended for urinal installations with 3/4" spud coupling connection
- Electronic infrared sensor with WAVE technology for accurate activation
- 0.125 gal (0.47 L) per flush flow rate

Codes/Standards Applicable

Specified model meets or exceeds the following:

- ASSE 1037
- CSA B64
- ADA
- FCC 47, Part 15
- EN 55022
- Canadian ICES-003 class B
- CSA B125.3
- CSA B651
- ICC/ANSI A117.1

EXPOSED FLUSH VALVE K-10668

ADA


Colors/Finishes

- CP: Polished Chrome

Specified Model:

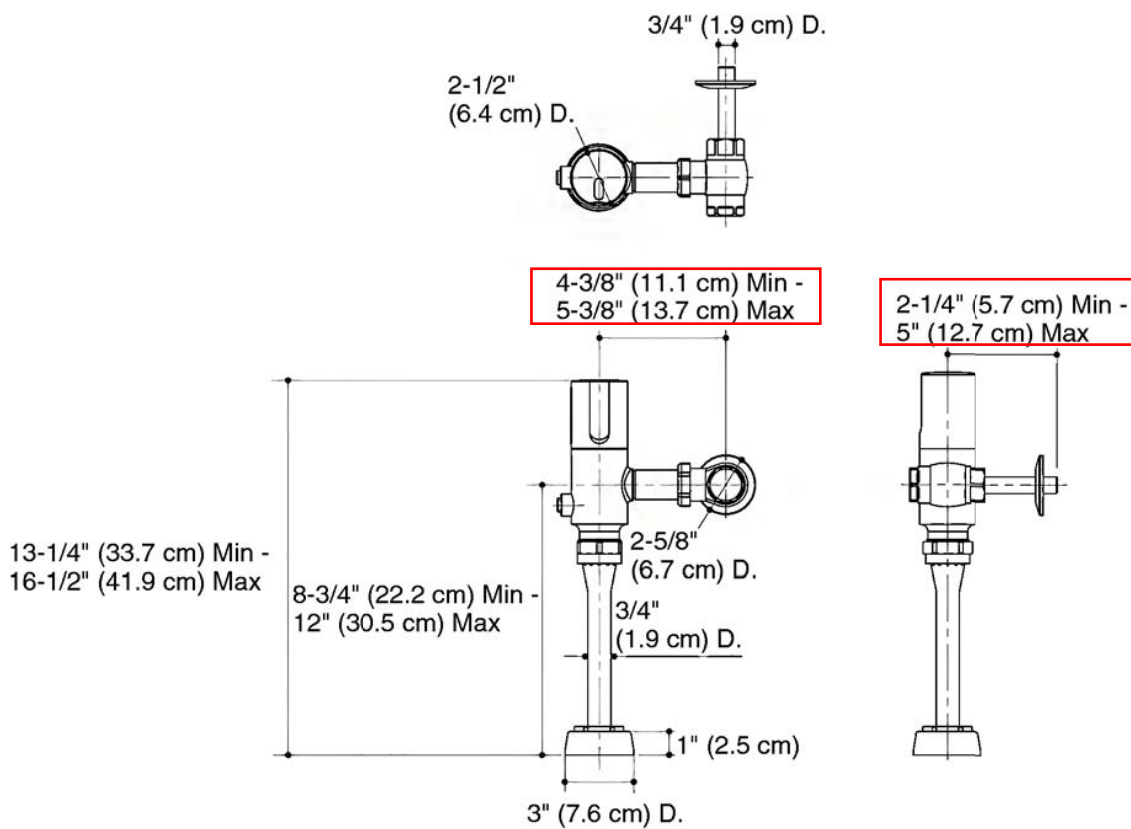
Model	Description	Colors/Finishes
✓ K-10668	Exposed flush valve, washdown	✓ CP

PRODUCT SPECIFICATION

Electronic flush valve shall be made of brass construction. Valve shall feature electronic infrared sensor with WAVE technology for accurate activation. Valve shall be of a fixture-mount design. Product is intended for urinal installations with a 3/4" spud coupling connection. Valve shall have a 0.125 gal (0.47 L) per flush flow rate. Valve includes a 9 V lithium battery. Exposed flush valve shall be Kohler Model K-10668-CP.

Installation Notes

Install this product according to the installation guide.



Product Diagram



P-8
A9OP40DF

P-8 SERVICE SINK
ADVANCEDTABCO SS SERVICE SINK

DESIGNATION PF-08

STAINLESS STEEL



FABRICATED FLOOR MOP SINKS

Item #: _____ Qty #: _____

Model #: _____

Project #: _____



Standard Mop Sink
9-OP-20 Shown

Drop Front Mop Sink
9-OP-40DF Shown



FEATURES:

Floor mounted unit eliminates the need of lifting heavy containers.

Tile edge furnished on the rear.

Bowls rectangular in design for increased capacity.

K-16 Free Flow Drain is included with each mop sink.

-DF models feature a notched out front which allows for ease of emptying mop bucket)

CONSTRUCTION:

All TIG welded.

Welded areas blended to match adjacent surfaces and to a satin finish.

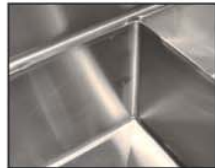
MATERIAL:

16 Gauge type "304" series stainless steel sink bowl.

18 Gauge type "304" series stainless steel sink apron.



Notched Out Front Allows
Ease of Emptying Mop Bucket



Fabricated Bowls are Welded
Together at the Seams

	Model #	Bowl Size (A x B x C)	O.A. Dimension (W x L x H)	Dist. To Drain (E)	Approx. Wt.	Approx. Cu.
STANDARD	9-OP-20	16" x 20" x 6"	21" x 25" x 10"	10-1/2"	26 lbs.	5
	9-OP-28	20" x 28" x 6"	25" x 33" x 10"	12-1/2"	35 lbs.	5
	9-OP-40	16" x 20" x 12"	21" x 25" x 16"	10-1/2"	45 lbs.	7
	9-OP-48	20" x 28" x 12"	25" x 33" x 16"	12-1/2"	63 lbs.	9
LARGE BOWL	9-OP-44	24" x 24" x 12"	29" x 29" x 16"	14-1/2"	70 lbs.	9
DROP FRONT	9-OP-40DF	16" x 20" x 12"	21" x 25" x 16"	10-1/2"	45 lbs.	7
	9-OP-48DF	20" x 28" x 12"	25" x 33" x 16"	12-1/2" 9-OP	63 lbs.	9

MOP SINK ACCESSORIES

*Does not meet Federal Lead Free Standards as it is not intended for potable water.

K-16 Replacement drain for floor mop sinks

K-240 Service Faucet*

K-242 23" wide mop hanger

K-243 Stainless steel mop drainage tray

K-244 Hose and hanger

K-245 8" x 24" utility shelf

K-246 8" x 36" utility shelf



K-243

K-240



K-242



K-245



K-244



K-16



16" HIGH SIDE & BACK SPLASHES FOR 9-OP SERIES MOP SINKS

16 Gauge, 300 Series Stainless Steel
Available with Back & Left Side,
Back & Right Side or Back & Both Sides
(Mounting Hardware Included)

MODEL	Fits Units:	Height Above Finished Floor (A.F.F.)
K-288LorR	9-OP-20	26"
	9-OP-40	32"
K-290LorR	9-OP-28	26"
	9-OP-48	32"
Splashes Available on All 3 Sides		
K-298	9-OP-20	26"
	9-OP-40	32"
K-299	9-OP-28	26"
	9-OP-48	32"



Customer Service Available To Assist You **1-800-645-3166** 8:30 am - 8:00 pm E.S.T.

For Orders & Customer Service:

Email: customer@advancetabco.com or Fax: 631-242-6900

For Smart Fabrication™ Quotes:

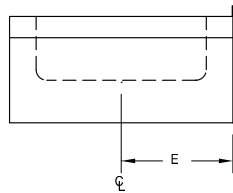
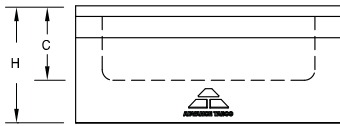
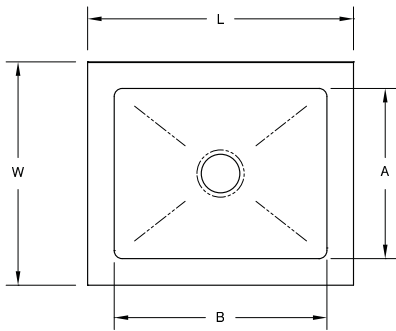
Email: smartfab@advancetabco.com or Fax: 631-586-2933

DIMENSIONS and SPECIFICATIONS

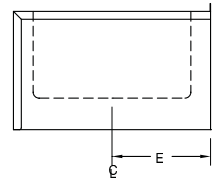
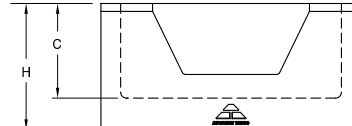
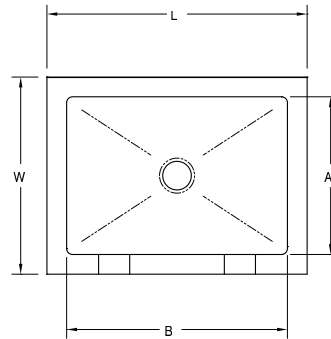
TOL Overall: $\pm .500''$
Interior: $\pm .250''$

ALL DIMENSIONS ARE TYPICAL

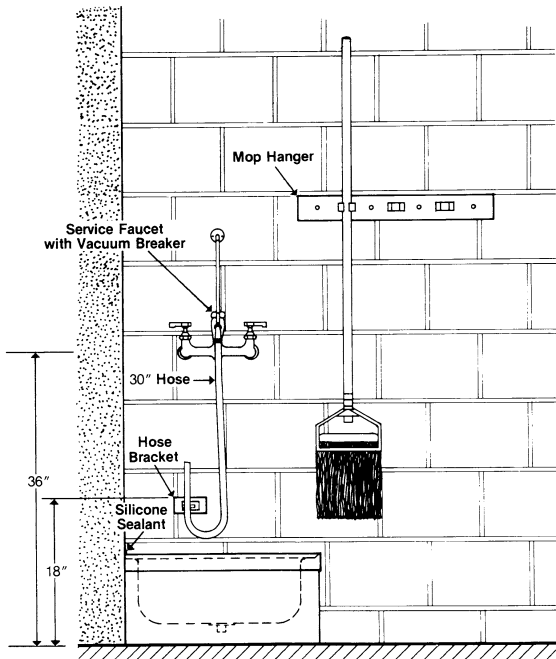
STANDARD MOP SINK



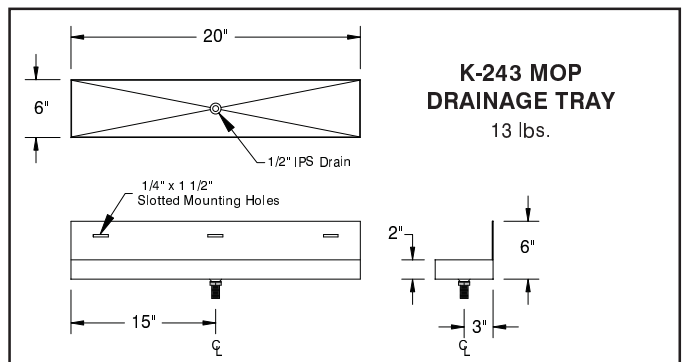
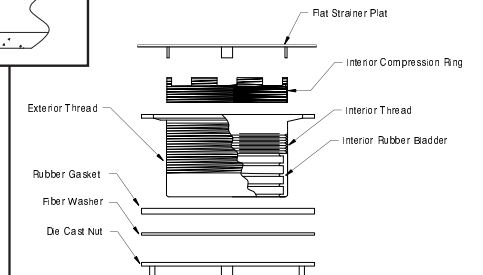
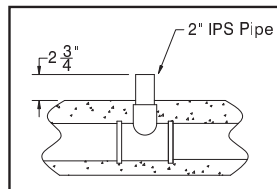
DROP FRONT MOP SINK



SUGGESTED INSTALLATION



MOP SINK DRAIN ASSEMBLY



ADVANCE TABCO is constantly engaged in a program of improving our products. Therefore, we reserve the right to change specifications without prior notice.

© ADVANCE TABCO, FEBRUARY 2016





























P-9
AK240

P-9 SERVICE SINK FAUCET
ADVANCEDTABCO SPLASH MOUNT SERVICE FAUCET



DESIGNATION PF-09

SPLASH MOUNTED FAUCETS

<div>12" Swing Spout</div> <div></div> <div>K-1</div>	<div>14" Swing Spout</div> <div></div> <div>K-11</div>	<div>3-1/2" Gooseneck</div> <div></div> <div>K-59</div>	<div>HEAVY DUTY Gooseneck</div> <div></div> <div>K-69</div>
<div>8" Swing Spout</div> <div></div> <div>K-101</div>	<div>HEAVY DUTY 14" Swing Spout</div> <div></div> <div>K-105</div>	<div>HEAVY DUTY 14" Swing Spout (T&S)</div> <div></div> <div>K-111</div>	<div>HEAVY DUTY 12" Swing Spout (T&S)</div> <div></div> <div>K-112</div>
<div>HEAVY DUTY Pre-Rinse Faucet (T&S)</div> <div></div> <div>K-116</div> <div><div><div>K-114</div><div>Replacement Spray Head & Handle</div></div><div></div></div>	<div>12" Swing Spout Add-A-Faucet</div> <div></div> <div>K-117</div>	<div>16" Swing Spout</div> <div></div> <div>K-119</div>	<div>Splash Mount Swivel Gooseneck</div> <div></div> <div>K-121</div>
<div>6" Extended Spout</div> <div></div> <div>K-123</div>	<div>Eye Wash Attachment</div> <div></div> <div>K-170</div>	<div>AC/DC powered Hands-Free Gooseneck</div> <div>AC & Battery Operated!</div> <div></div> <div>K-175</div>	<div>HEAVY DUTY Extra Long Faucet</div> <div></div> <div>K-211</div>
<div>Service Faucet</div> <div></div> <div>K-240</div>	<div>Wrist handle Gooseneck</div> <div></div> <div>K-316</div> <div><div>Wrist Handles Only</div><div></div><div>K-316-LU</div></div>	<div>Hands-Free Wand</div> <div></div> <div>K-400</div>	<div>HEAVY DUTY Pre-Rinse Faucet</div> <div>DTA-53</div> <div><div><div>K-114</div><div>Replacement Spray Head & Handle</div></div><div></div></div> <div></div>
<div>Repair Kit For K-1, K-11, K-101, K-112, K-119 & K-211</div> <div>Repair Kit can only be used on faucets purchased after 12/03</div> <div>K-00</div> <div></div>	<div>Faucet Wall Mounting Bracket</div> <div></div> <div>K-30</div>	<div>Faucet Mounting Kit K-1, K-11, K-101, K-105, K-112, K-119 & K-211</div> <div></div> <div>K-06</div>	



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TEXAS
Fax: (972) 932-4795

NEVADA
Fax: (775) 972-1578

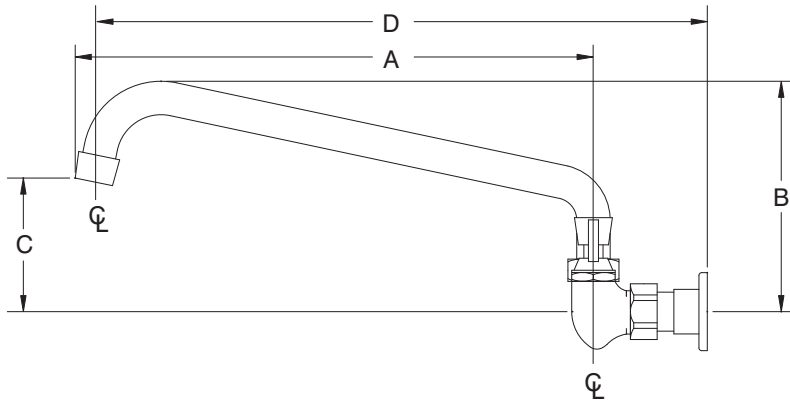
DIMENSIONS and SPECIFICATIONS

TOL ± .125"

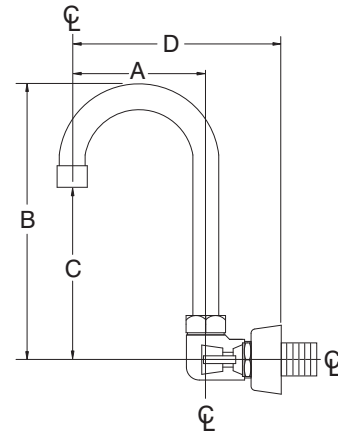
ALL DIMENSIONS ARE TYPICAL

SPLASH MOUNTED FAUCETS

Swing Spout Faucet



Gooseneck Faucet



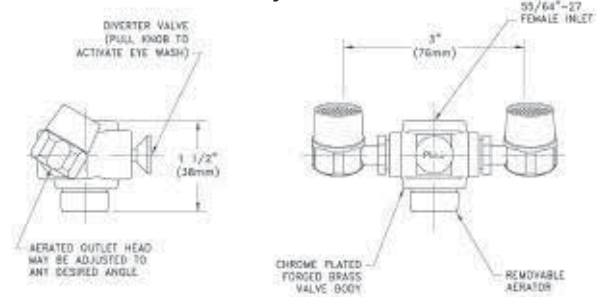
Standard Faucet conforms to NSF 61 Standard 9. An optional faucet upgrade is required for compliance to AB 1953 Standards.

For Replacement Faucets & Upgrades, Drains & Accessories visit our website at www.advancetabco.com

ALL FAUCET AERATORS
CONFORM TO
ASTM.A112.18.1M
2.0 GPM/7.56 LPM
THREAD: 55/64 - 27 FEMALE

K-240 SERVICE FAUCET
9.6 GPM/36.3 LPM
3/4" HOSE END SPOUT

K-170 - Eye Wash Detail



MODEL #	Description	A LENGTH	B HEIGHT	C	D	On Center Dimensions
K-00	Repair Kit For K-1, K-11, K-101, K-119 & 211	N/A	N/A	N/A	N/A	N/A
K-06	Faucet Mt. Kit for K-1, K-11, K-101, K-119 & K-211	N/A	N/A	N/A	N/A	N/A
K-1	12" Swing Spout Faucet	12"	5"	2 1/2"	14"	8" O.C.
K-11	14" Swing Spout Faucet	14"	5 1/2"	3"	16"	8" O.C.
K-59	3 1/2" Gooseneck Faucet	3 1/2"	8"	5"	6"	4" O.C.
K-69	Heavy Duty Gooseneck Faucet	3"	5"	2 3/4"	5 1/2"	4" O.C.
K-101	8" Swing Spout Faucet	8"	4 1/4"	2 1/4"	10"	8" O.C.
K-105	Heavy Duty 14" Swing Spout Faucet	14"	5"	3"	16"	8" O.C.
K-111	Heavy Duty 14" Swing Spout (T&S) Faucet	14"	8 1/4"	5 1/2"	16 1/2"	8" O.C.
K-112	Heavy Duty 12" Swing Spout Faucet	12"	5"	3"	14"	8" O.C.
K-116	Heavy Duty Pre-Rinse (T&S) Faucet	13"	34 1/2"	13 1/2"	15 3/8"	8" O.C.
K-117	Add-A-Faucet with 12" Spout Faucet	12"	N/A	N/A	N/A	N/A
K-119	16" Swing Spout Faucet	18"	16"	4"	18 1/2"	8" O.C.
K-121	Splash Mount Swivel Gooseneck Faucet	3 1/2"	8"	5 1/2"	5 3/4"	Single Hole
K-123	6" Extended Spout Faucet	6"	5"	2 1/2"	8"	4" O.C.
K-170	Eye Wash Attachment (See Above Detail)	N/A	N/A	N/A	N/A	N/A
K-175	Hands Free AC/DC Operated Faucet 6' Cord. INPUT: 100-240VAC 47-6Hz. < 1 Amp Draw. UL LISTED	4 1/2"	7"	3 3/4"	5 1/2"	Single Hole
K-211	Heavy Duty Extra Long Spout Faucet	18"	7 3/4"	5"	21"	8" O.C.
K-240	Service Faucet	6 1/2"	2 1/2"	1 3/8"	9"	8" O.C.
K-316	Wrist Handle Gooseneck Faucet	3 1/2"	8"	5"	6"	4" O.C.
K-400	Hands Free Wand	N/A	N/A	N/A	N/A	N/A
DTA-53	Heavy Duty Pre-Rinse Faucet	15"	34"	5"	34"	8" O.C.

N/A = Not Applicable To Faucet





P-12

EEZWSMDK

ELKAY

P-12 WATER DISPENSER

LF EZH20 IN WALL L/ FLT

DESIGNATION PF-12

ELKAY[®]

SPECIFICATIONS

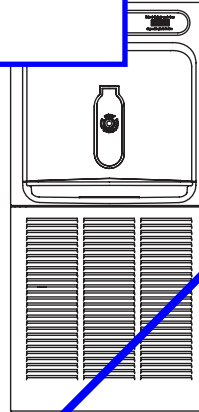
EZH2O™ – In-Wall Recessed Bottle Filling Station Models EZWSM8K & EZWSMDK

PRODUCT

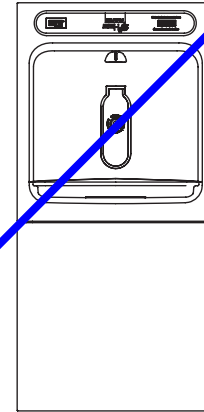
See replacement attached.
-VID

- Designed specifically for use with Elkay[®] Soft Sides[®] and Soft Sides[®] are
- Space saving ADA
- Sanitary, no-touch automatic 20-second shut-off timer
- Silver ion anti-microbial protection
- Quick fill rate is 1.1 gpm for refrigerated units and 1.5 gpm for non-refrigerated units
- Visual user interface display includes:
 - Green Ticker counts the quantity of bottles saved from the landfill
- Includes mounting frame for quick and simple installation
- Hinged door for easy servicing
- Constructed of durable 18 gauge stainless steel and ABS plastic

IMAGES



Model EZWSM8K
(refrigerated)



Model EZWSMDK
(non-refrigerated)

Model EZWSM8K provides 8.0 gph of 50° F water at 90° F ambient and 80° F inlet water. Model EZWSMDK is non-refrigerated and provides ambient water. Shall be recessed design and constructed of 18 gauge Type 300 series stainless steel and ABS plastic. Shall include electronic sensor for no-touch activation with automatic 20-second shut-off timer. Shall provide 1.5 gpm flow rate with laminar flow to minimize splashing. Shall include antimicrobial protected plastic components to prevent mold and mildew. Shall meet ADA guidelines for reach ranges, when properly installed. Shall be lead-free design which meets Safe Drinking Water Act and is certified to NSF/ANSI 61 and California AB1953. Unit shall be certified to UL 999 and CAN/CSA 22.2 No. 120.

- ☐ 36292C Receptacle Adaptor Plug

OPTIONAL ACCESSORIES

Ideal for stand-alone applications or paired with SwirlFlo[®] and Soft Sides[®] fountains in:

- Educational facilities
- Healthcare facilities
- Sport and fitness centers
- Airports
- Office buildings
- Other commercial buildings

SUGGESTED SPECIFICATION

APPLICATIONS

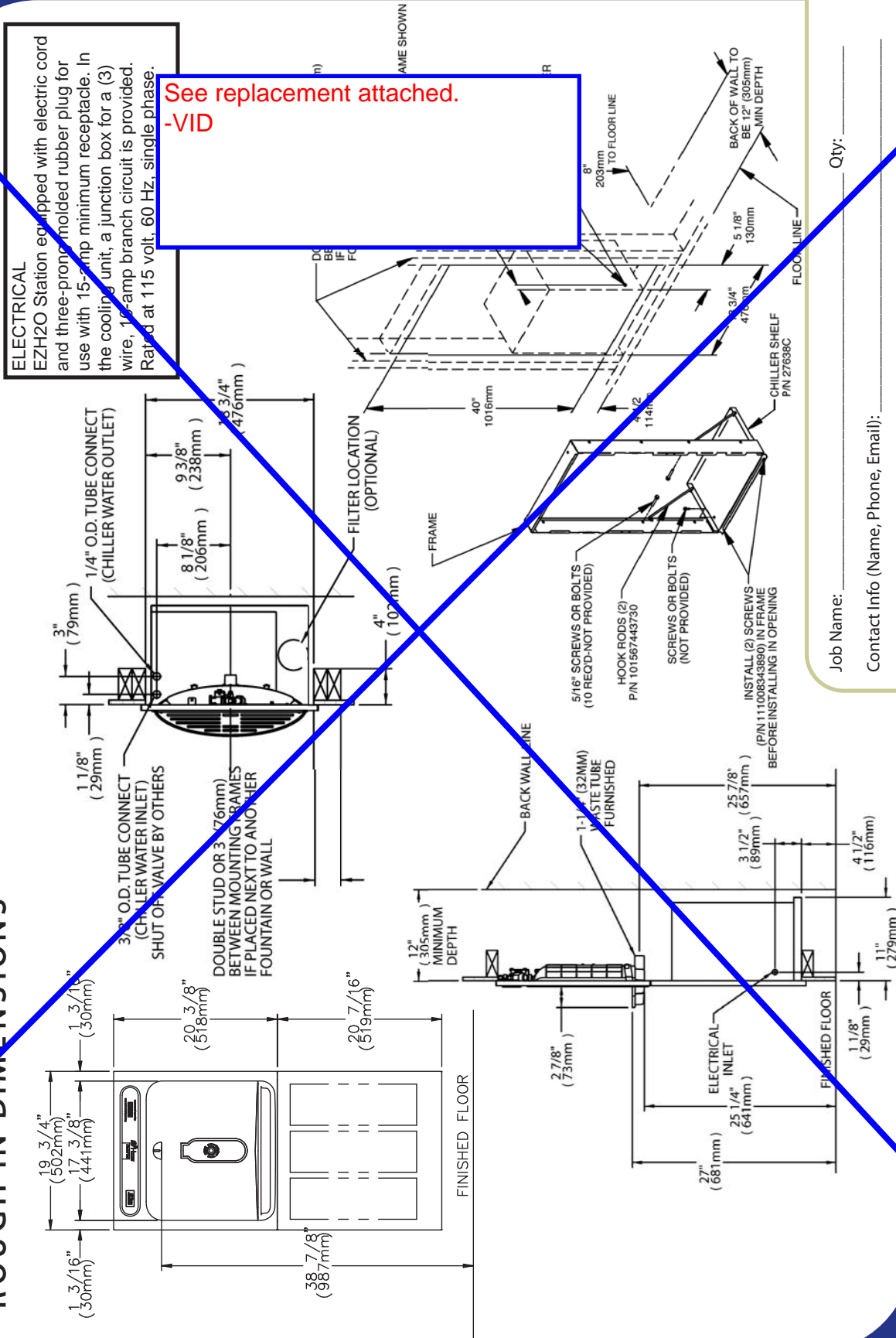
2222 Camden Court
Oak Brook, IL 60523

Phone: 630 -572-3192
Web: Elkayusa.com



Third Party Certified to:

- UL999 and CAN/CSA 22.2 No. 120
- Lead-free compliance including NSF/ANSI 61 and CA AB1953



Job Name: _____ Qty: _____
Contact Info (Name, Phone, Email): _____
Approval for Manufacture — Signature and Date: _____
Comments: _____

2222 Camden Court
Oak Brook, IL 60523
Phone: 630 -572-3192
Web: Elkayusa.com

Specifications and measurements are subject to change without notification.
Please visit elkayusa.com for most current version.



model 1900
Bottle Filler

FEATURES & BENEFITS

UNIVERSAL MOUNTING

This unit is perfect as a stand-alone bottle filling station, or easily located over virtually any wall mounted drinking fountain or water cooler with its quick mount wall frame. The unit connects to the fountain's water line, and naturally drains into the waste so there is no need for new water or drain lines.

CONSTRUCTION

Medium grey ABS plastic construction aesthetically blends in with stainless steel drinking fountain basins, and easily resists stains and fingerprints.

USEABLE FOOTPRINT

With its narrow width dimensions of only 8-1/4" (21 cm), this bottle filler can be mounted above almost any drinking fountain with ease. This compact size does not take away from its large bottle filling area accommodating bottle sizes up to 10" (25.4 cm) high.

REVERSIBLE DRAIN TRAY

Patent pending flexible design allows for outward drain to be reversed inward allowing drain water to be connected to waste inside of wall.

PUSH BUTTON

With its patented stainless steel, push-button activated valve assembly which allows for front access stream adjustment as well as cartridge and strainer access, this bottle filler offers 100% lead free waterways. The valve works at an operating pressure range of 30 to 90 psi (2.1 to 6.2 bar).



SPECIFICATIONS

Model 1900 wall mounted bottle filler shall include 100% lead-free waterways, push-button operated stainless steel valve with front-accessible cartridge and flow adjustment, patent pending reversible waste attachment for over-fountain or in-wall waste drain, medium grey ABS plastic construction, and easy to use mounting frame with easy to follow mounting instructions.

OPTIONS

- ☐ Remote Chiller: Model HCR8, 8 gph (30.3 L) remote water chiller provides instantaneous cooling to meet a continuous demand for chilled water.

To see all options for this model, visit www.hawesco.com

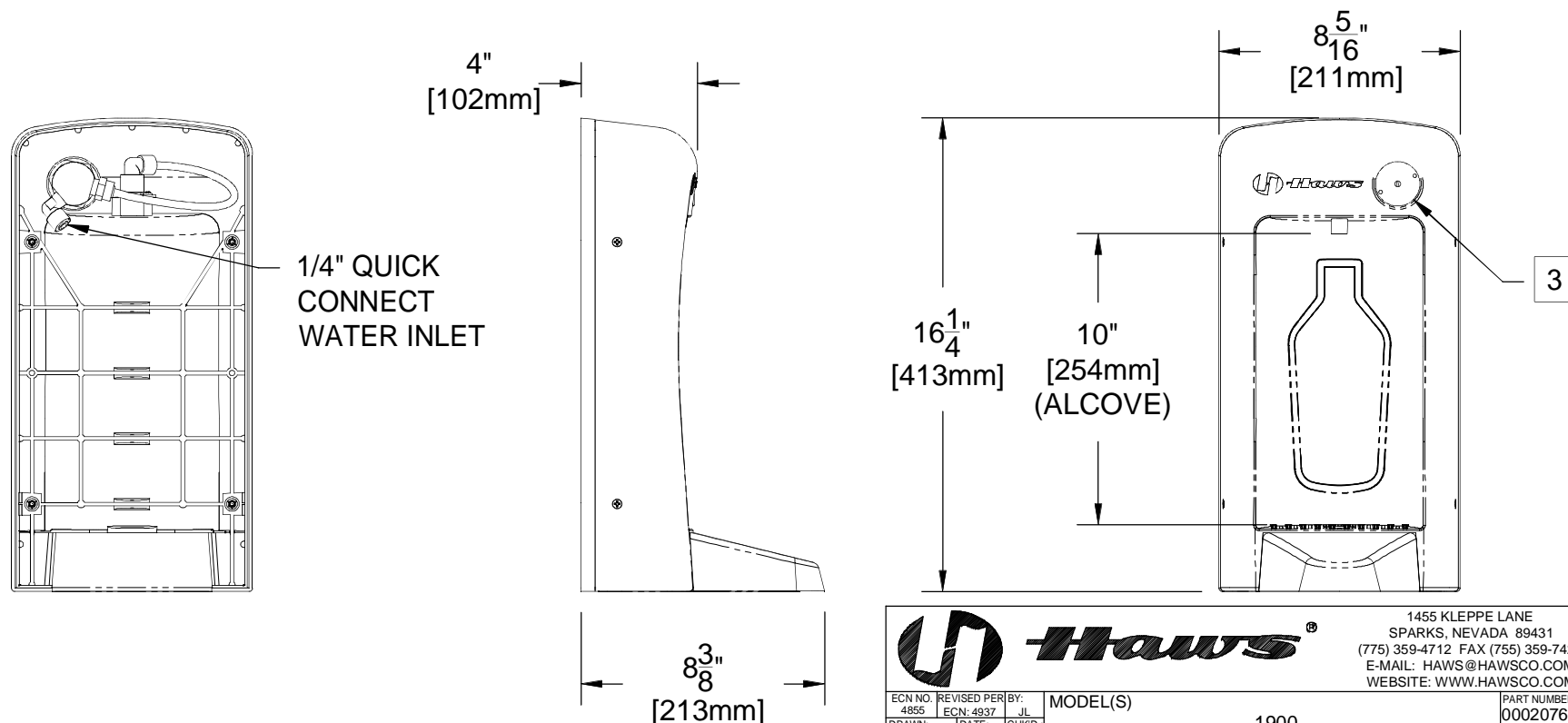
APPLICATIONS


This type of wall mounted bottle filler may be placed in settings such as: schools and other locations in and around office buildings with existing fountain installations where the temperature remains above freezing. Model meets all current Federal Regulations for the disabled including those in the Americans with Disabilities Act. Haws® manufactures drinking fountains and electric water coolers to be lead-free by all known definitions including NSF/ANSI 61, Section 9, NSF/ANSI 372, California Proposition 65, and the Federal Safe Drinking Water Act. Product is compliant to California Health and Safety Code 116875 (AB 1953-2006).



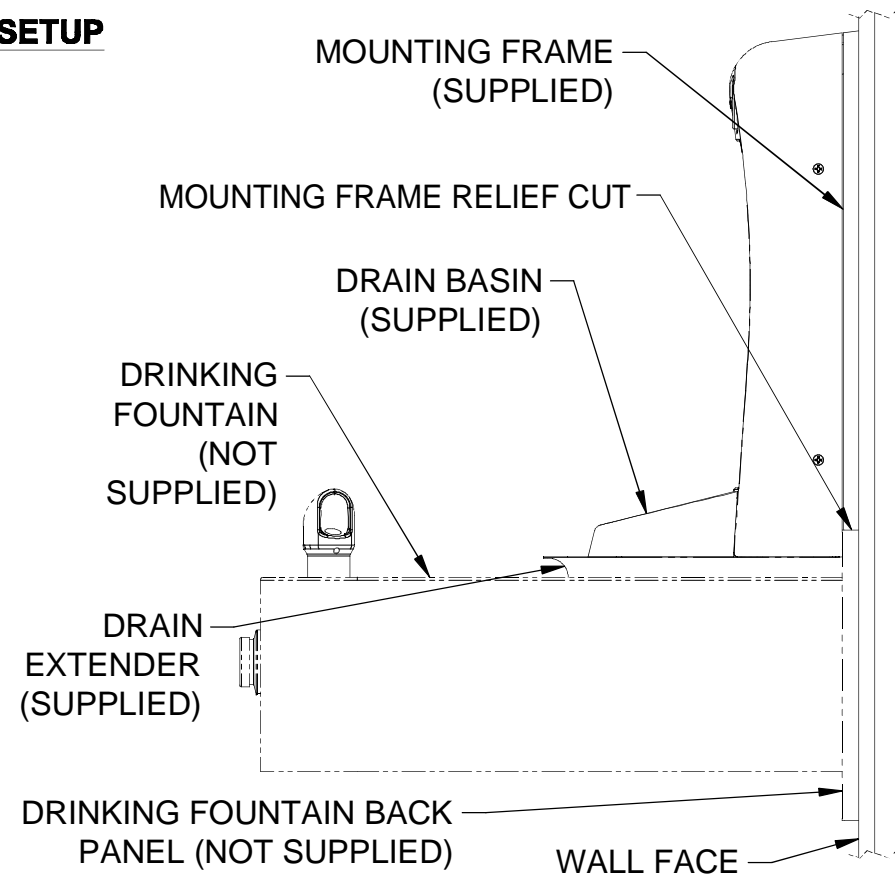
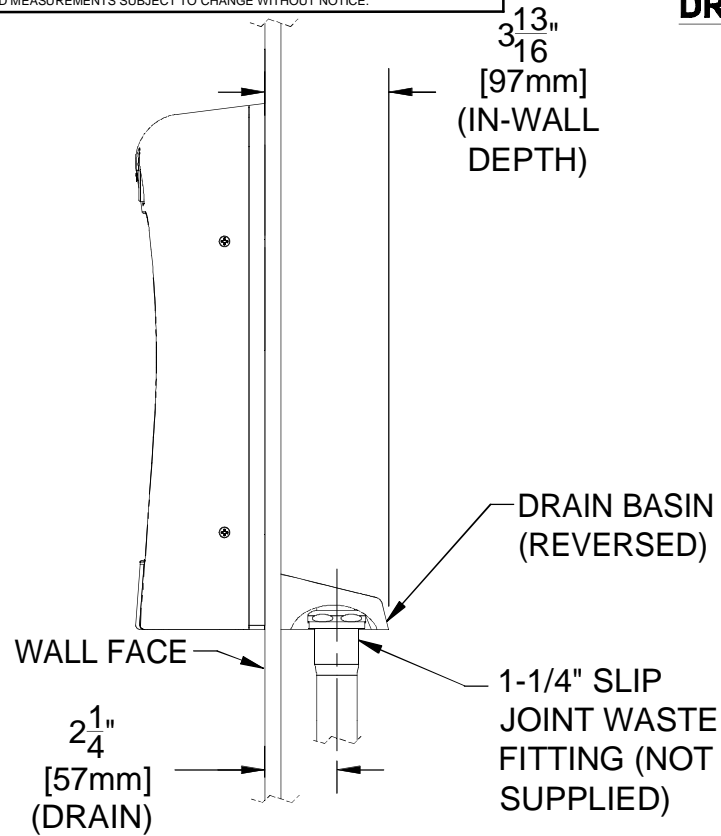
NOTES:

1. HOLD ROUGH-IN DIMENSIONS $\pm 1/4"$ (6.4mm).
2. WHEN INSTALLING THIS UNIT, LOCAL, STATE, OR FEDERAL CODES SHOULD BE ADHERED TO. FOR INSTALLATION HEIGHTS OTHER THAN SHOWN, DIMENSIONS MARKED (*) MUST BE ADJUSTED ACCORDINGLY. INSTALL A TRAP IN THE WASTE LINE AND A SCREWDRIVER STOP IN THE SUPPLY LINE IF REQUIRED.
- 3 REFER TO 5874SS OPERATION & MAINTENANCE MANUAL FOR PUSH BUTTON AND VALVE INSTALLATION & MAINTENANCE INSTRUCTIONS.
- 4 BOTTLE FILLER IS SHOWN INSTALLED AT ADA MAXIMUM OBSTRUCTED FORWARD REACH HEIGHT. FOR ADA OBSTRUCTED SIDE REACH COMPLIANCE, BOTTLE FILLER MUST BE LOWERED 2". ADA COMPLIANCE DEPENDS ON OVERALL SIZE OF WATER COOLER OR DRINKING FOUNTAIN (SEE SHEETS 3 & 4).

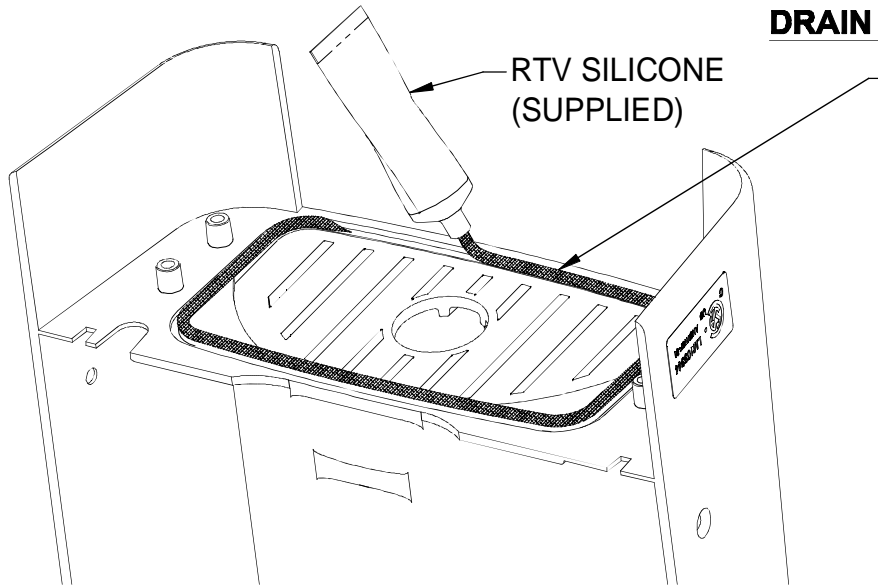


 Haws®		1455 KLEPPE LANE SPARKS, NEVADA 89431 (775) 359-4712 FAX (775) 359-7424 E-MAIL: HAWS@HAWS.CO.COM WEBSITE: WWW.HAWS.CO.COM	
		MODEL(S) 1900 BOTTLE FILLER, EWC RETROFIT	
ECN NO. 4855 DRAWN: J.L. APPROVED:	REVISED PER: J.L. ECN: 4937 DATE: 2/10/14 DATE:	PART NUMBER 0002076963.D DRAWING NO. 16317A REV 2	SCALE: N/A DRAWING TYPE: INSTALLATION SIZE: A SHEET 1 OF 4

DRAIN SETUP

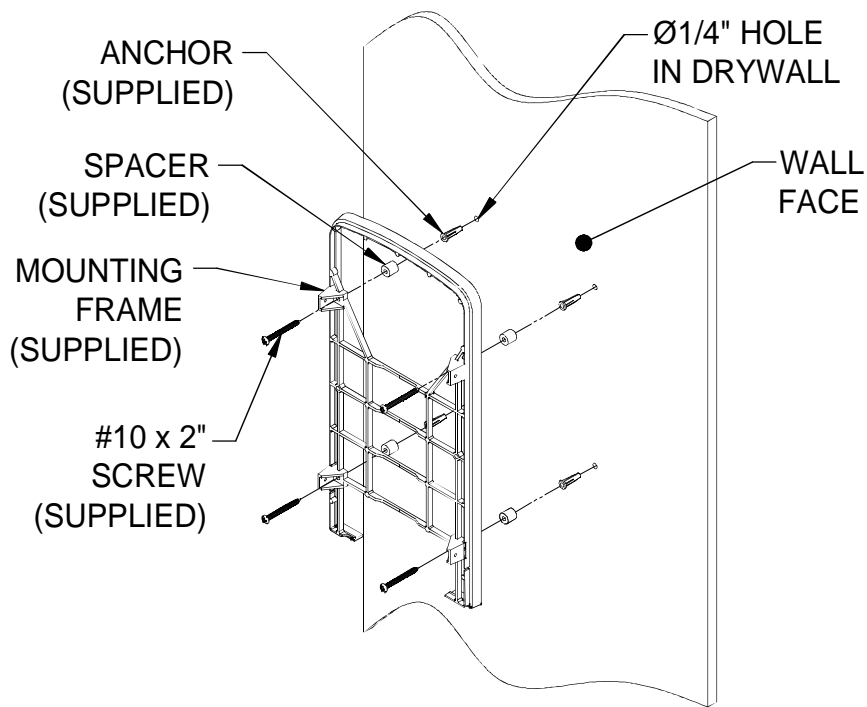


DRAIN SEAL DETAIL

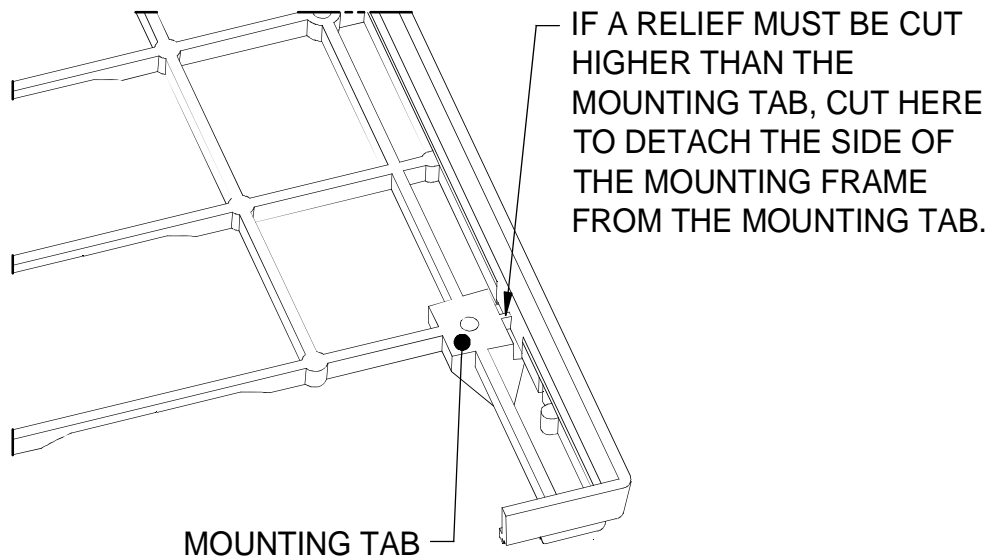


RUN A 1/8"-3/16" DIAMETER BEAD OF RTV RIGHT ALONGSIDE THE GROOVE, BUT NOT IN THE GROOVE. CHECK THE RTV BEAD FOR THIN SECTIONS, GAPS, OR AREAS WHERE THE BEAD DOES NOT TOUCH THE PLASTIC - FILL THESE IN WITH RTV.

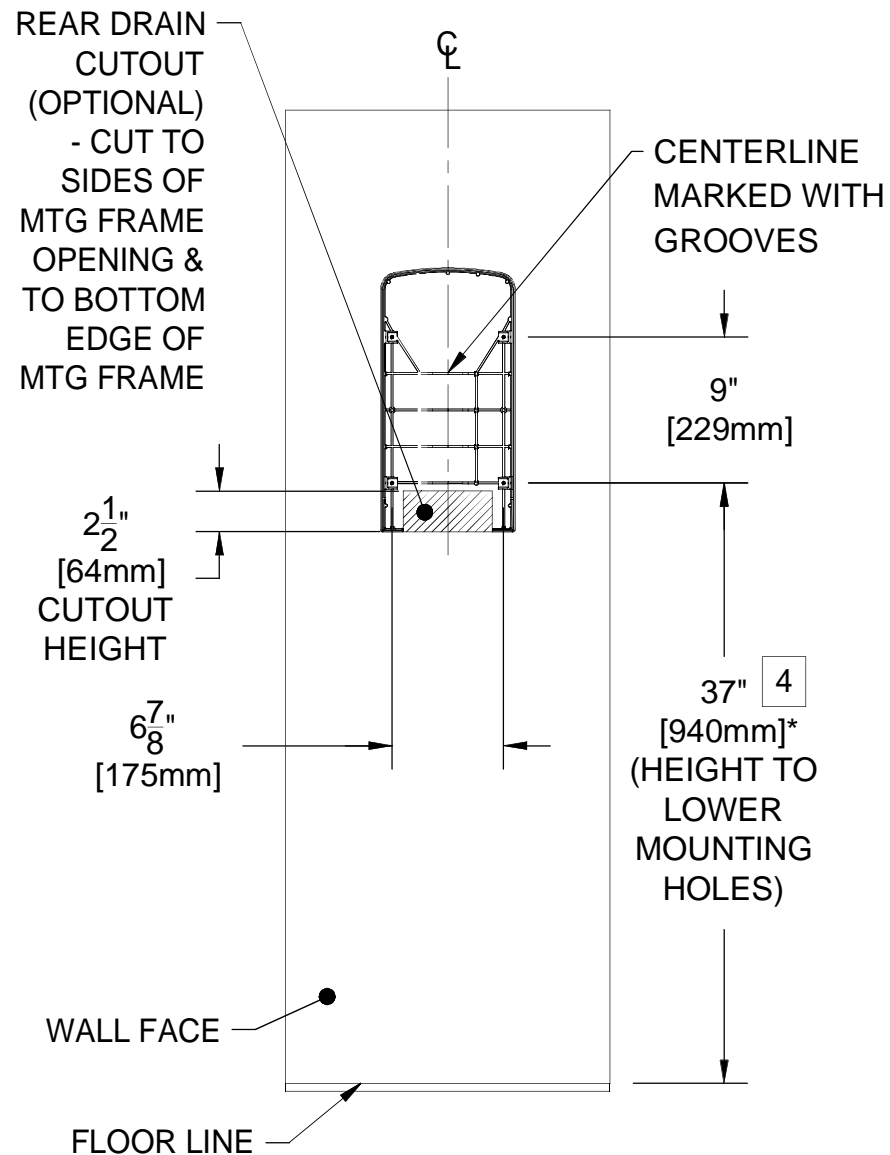
		1455 KLEPPE LANE SPARKS, NEVADA 89431 (775) 359-4712 FAX (775) 359-7424 E-MAIL: HAWS@HAWS.CO.COM WEBSITE: WWW.HAWS.CO.COM	
		ECN NO. 4855 ECN: 4937 DATE: 2/10/14 APPROVED:	REVISED BY: JL CHKD.: DATE:
MODEL(S) 1900 BOTTLE FILLER, EWC RETROFIT		PART NUMBER 0002076963.D DRAWING NO. 16317A REV 2	
SCALE: N/A DRAWING TYPE: INSTALLATION		SIZE: A SHEET 2 OF 4	




MOUNTING FASTENER DETAIL

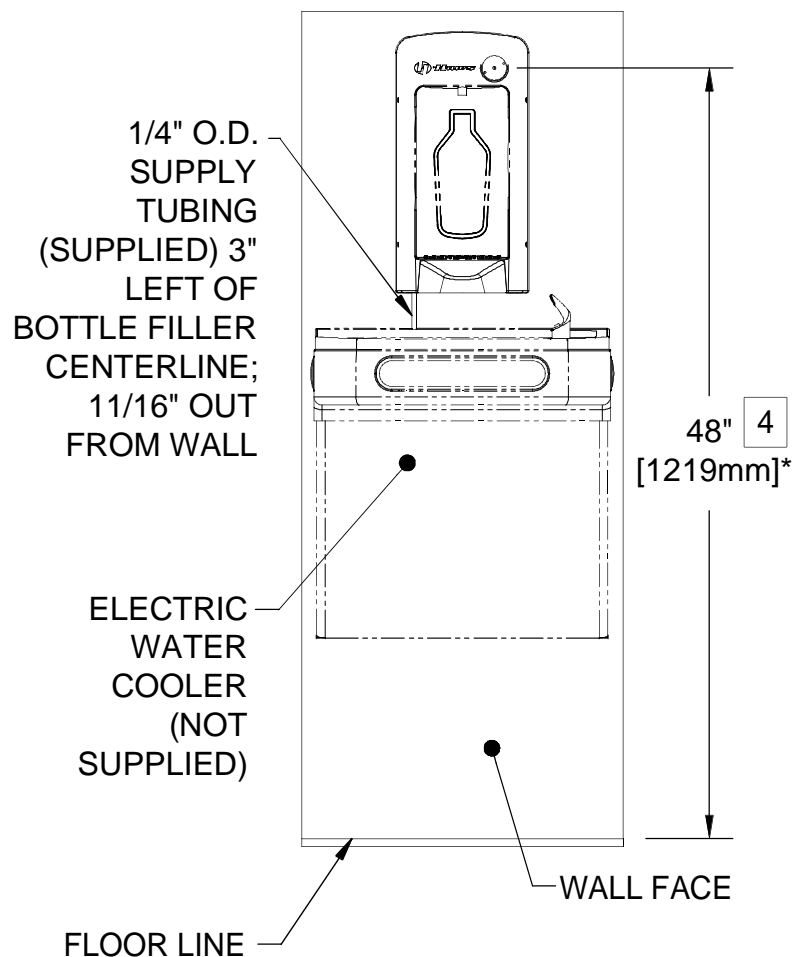


CUTTING THE MOUNTING FRAME RELIEF

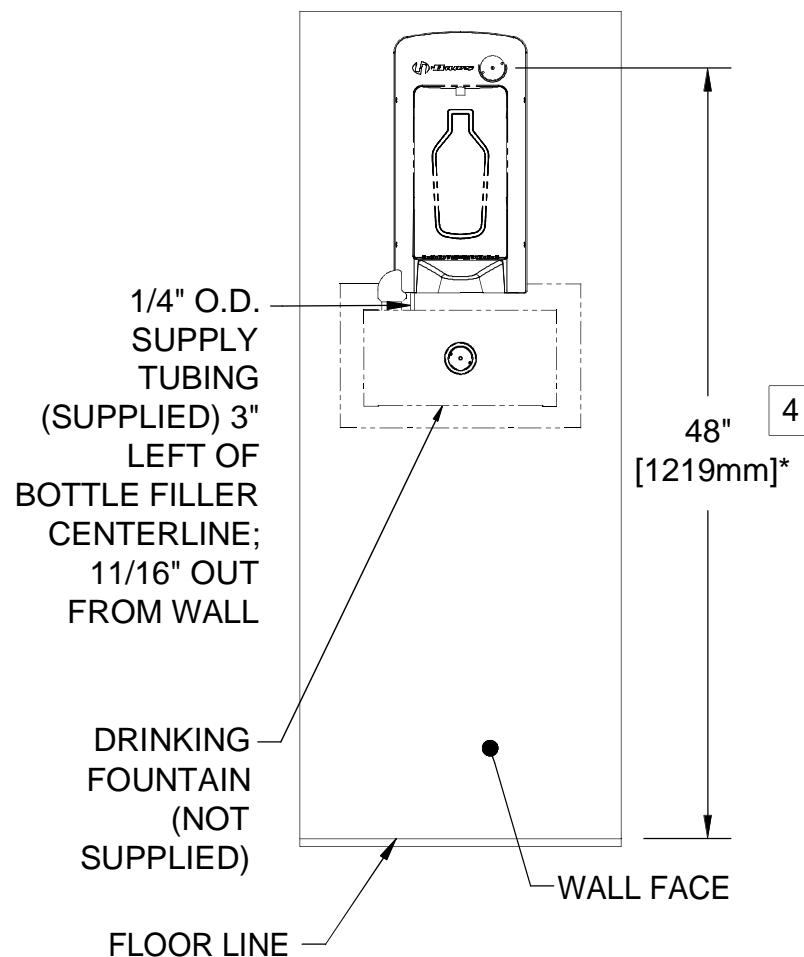


**MOUNTING FRAME & OPTIONAL
REAR DRAIN CUTOUT DETAILS**


				1455 KLEPPE LANE SPARKS, NEVADA 89431 (775) 359-4712 FAX (775) 359-7424 E-MAIL: HAWS@HAWSO.COM WEBSITE: WWW.HAWSO.COM			
ECN NO. 4855	REVISED PER BY: JL	DATE: 2/10/14	CHKD: JL	MODEL(S)	1900	PART NUMBER	0002076963.D
DRAWN: JL	DATE: 2/10/14	CHKD: JL	APPROVED: DATE:	BOTTLE FILLER, EWC RETROFIT		DRAWING NO.	16317A
SCALE: N/A				DRAWING TYPE: INSTALLATION		REV	2
				SIZE: A		SHEET	3 OF 4



TYPICAL WATER COOLER INSTALLATION



TYPICAL DRINKING FOUNTAIN INSTALLATION

		Haws®		1455 KLEPPE LANE SPARKS, NEVADA 89431 (775) 359-4712 FAX (775) 359-7424 E-MAIL: HAWS@HAWS.CO.COM WEBSITE: WWW.HAWS.CO.COM	
				PART NUMBER 0002076963.D	
ECN NO. 4855	REVISED PER ECN: 4937	BY: JL	MODEL(S)	1900	
DRAWN: JL	DATE: 2/10/14	CHKD.:	BOTTLE FILLER, EWC RETROFIT		
APPROVED:	DATE:		SCALE: N/A	DRAWING TYPE: INSTALLATION	SIZE: A SHEET 4 OF 4



P-13

A4101301002

AMERICAN
STANDARD

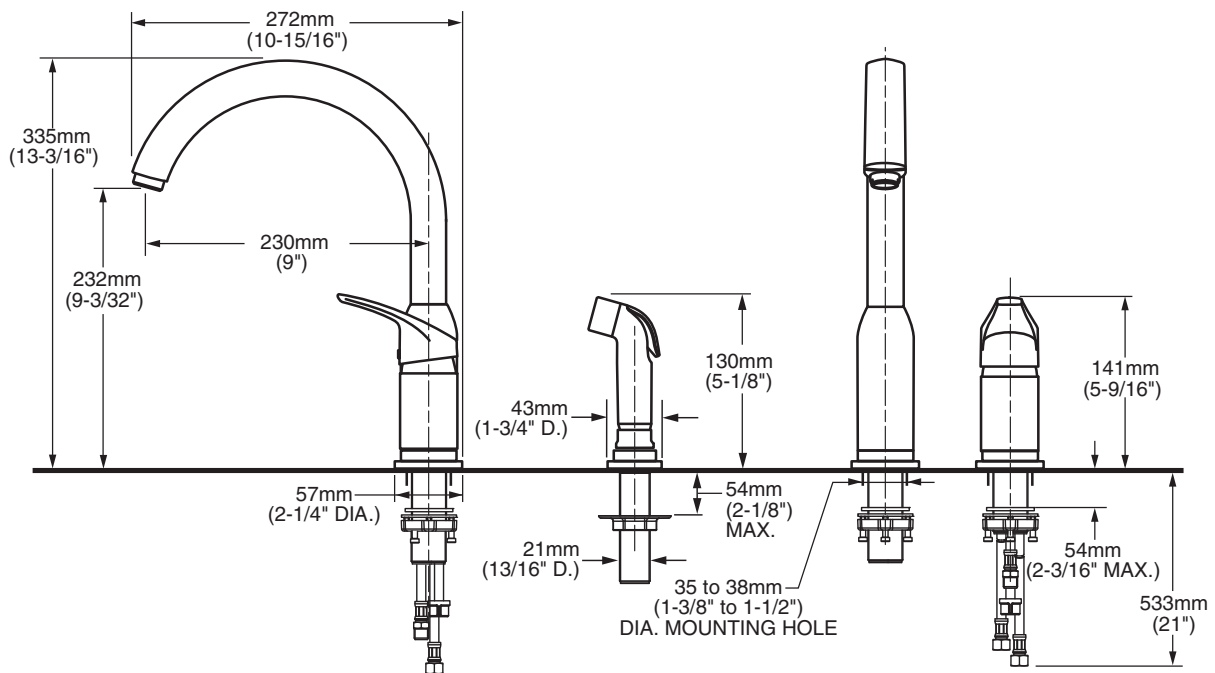
P-13 WORKROOM FAUCET

1 HANDLE LEVER KITCHEN FAUCET WITH SIDE SPRAY CHROME

DESIGNATION PF-13

American Standard

Style That Works Better

ARCH™**SINGLE CONTROL KITCHEN FAUCET
WITH HI-FLOW SPOUT****MODEL NUMBER:****4101.301 Kitchen Faucet With Hi-Flow Spout**
Color-matched Handspray.**GENERAL DESCRIPTION:**

Brass body with metal lever handle. Hi-Flow brass swivel spout (13-3/16" high with 9-3/32" clearance). Washerless 40mm ceramic disc valve cartridge. Braided flexible supply hoses with 3/8" compression connections. 2.2gpm/8.3L/min. maximum flow rate. Color-matched handspray. Cap provided for less spray application. Flexible hose connections allow for variation in placement of handle, spout and spray. Optional deck plate (4101.000P) available.

PRODUCT FEATURES:

Ceramic Disc Valve Cartridge: Assures a lifetime of drip-free performance.

Brass Construction: Highest quality faucet materials for durability & long life.

Memory Position Valving: Allows user to turn valve on and off at preferred temperature setting without readjusting handle position each time.

Lead Free: Faucet contains $\leq 0.25\%$ total lead content by weighted average.

Choice of Finishes: Available in Polished Chrome or Stainless Steel (PVD) finishes.

SUGGESTED SPECIFICATION:

Single control kitchen fitting shall feature a brass body with metal handle and brass swivel spout. Shall also feature washerless ceramic disc valve cartridge, flexible supply hoses. Fitting shall be American Standard Model # 4101.301.____.____.

American Standard

Style That Works Better

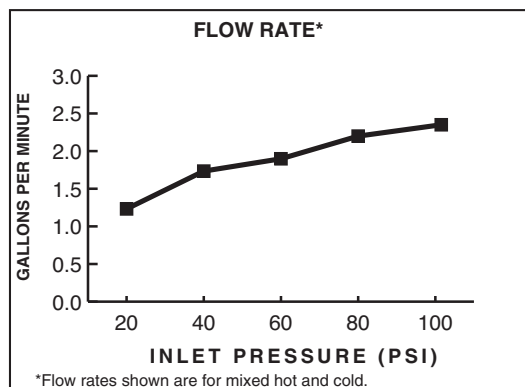
ARCH™

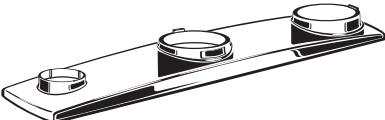

**SINGLE CONTROL KITCHEN FAUCET
WITH HI-FLOW SPOUT**

CODES AND STANDARDS

These products meet or exceed the following codes and standards:

ANSI A117.1
ASME A112.18.1
NSF 61/Section 9 & Annex G
CSA B125



Product Number	Description	Finish Options	
		Polished Chrome	PVD Stainless Steel
		002	075
4101.301	Hi-Flow kitchen faucet	✓	
4101.000P	Optional Deck Plate 		
4101.115	Optional Soap Dish. Can be mounted anywhere on counter. (hardware provided) 		



Meets the American Disabilities Act Guidelines and **ANSI A117.1** Requirements for the physically challenged.



P-14

ELRAD191855MR2 ELKAY

P-14 WORKROOM SINK

SINK BOWL

ELKAY®

SPECIFICATIONS

Lustertone® Single Bowl Sink

Models LRAD and LRADQ Series - A.D.A. Compliant

GENERAL

Highest quality sink seamlessly formed of #18 gauge, type 304 (18-8) nickel bearing stainless steel. Self-rimming.

DESIGN FEATURES

LRAD(Q) Bowl Depth: 4", 4-1/2", 5", 5-1/2" 6" or 6-1/2".

Coved Corners: 1-3/4" vertical and horizontal radius.

Bowl and Faucet Deck Recess: 3/16" below outside edge of sink.

Finish: Exposed surfaces are hand blended to a lustrous high-lighted satin finish.

Underside: Fully undercoated to dampen sound and prevent condensation.

OTHER

Drain Opening: 3-1/2" (see back for locations).

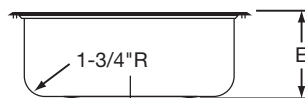
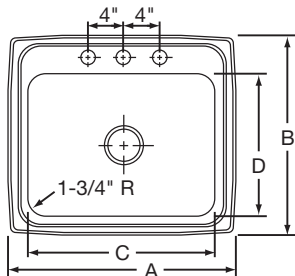
NOTE: Unless otherwise specified, models with one, two, three or OS4 faucet hole option are furnished with 3 faucet holes as shown; models with choice of one, two, three, four or five faucet hole option are furnished with 4 faucet holes standard.

SINK DIMENSIONS (INCHES)*

U-Channel Model Number	Quick-Clip® Model Number	Overall		Inside Bowl			Cutout in Countertop (1½" Radius Corners)		No. of 1½" Dia. Faucet Holes 4" Center	3½" Drain Opening (see back for details)	Minimum Cabinet Size	Ship. Wt. Lbs.
		L	W	L	W	D	L	W				
		A	B	C	D	E						
LRAD1316	LRADQ1316	13	16	10	10	**	12⅜	15⅜	1, 2, MR2 or 3	Centered	18	9½
LRAD1517	LRADQ1517	15	17½	12	12	**	14⅜	16⅞	1, 2, MR2 or 3	Centered	18	9¾
LRAD1522	LRADQ1522	15	22	11½	16	**	14⅜	21⅜	1, 2, MR2 or 3	Off-Centered Rear	18	12
LRAD1716	LRADQ1716	17	16	14	10	**	16⅜	15⅜	1, 2, MR2, 3 or OS4	Centered	21	8½
LRAD1720	LRADQ1720	17	20	14	14	**	16⅜	19⅜	1, 2, MR2, 3 or OS4	Off-Centered Rear	21	12
LRAD1722	LRADQ1722	17	22	13½	16	**	16⅜	21⅜	1, 2, MR2, 3 or OS4	Off-Centered Rear	21	13
LRAD1918	LRADQ1918	19	18	16	11½	**	18⅜	17⅜	1, 2, MR2, 3 or OS4	Off-Centered Rear	24	10½
LRAD1918L	LRADQ1918L	19	18	16	11½	**	18⅜	17⅜	1, 2, MR2, 3 or OS4	Off-Centered Left	24	10½
LRAD1918R	LRADQ1918R	19	18	16	11½	**	18⅜	17⅜	1, 2, MR2, 3 or OS4	Off-Centered Right	24	10½
LRAD1919	LRADQ1919	19½	19	16	13½	**	18⅞	18⅜	1, 2, MR2, 3 or OS4	Off-Centered Rear	24	13
LRAD2022	LRADQ2022	19½	22	16	16	**	18⅞	21⅜	1, 2, MR2, 3 or OS4	Off-Centered Rear	24	14½
LRAD2219	LRADQ2219	22	19½	18	14	**	21⅜	18⅞	1, 2, MR2, 3, 4 or 5	Off-Centered Rear	27	13
LRAD2219L	LRADQ2219L	22	19½	18	14	**	21⅜	18⅞	1, 2, MR2, 3, 4 or 5	Off-Centered Left	27	13
LRAD2219R	LRADQ2219R	22	19½	18	14	**	21⅜	18⅞	1, 2, MR2, 3, 4 or 5	Off-Centered Right	27	13
LRAD2222	LRADQ2222	22	22	19	16	**	21⅜	21⅜	1, 2, MR2, 3, 4 or 5	Off-Centered Rear	27	14
LRAD2521	LRADQ2521	25	21¼	21	15¾	**	24⅜	20⅞	1, 2, MR2, 3, 4 or 5	Off-Centered Rear	30	15
LRAD2521L	LRADQ2521L	25	21¼	21	15¾	**	24⅜	20⅞	1, 2, MR2, 3, 4 or 5	Off-Centered Left	30	15
LRAD2521R	LRADQ2521R	25	21¼	21	15¾	**	24⅜	20⅞	1, 2, MR2, 3, 4 or 5	Off-Centered Right	30	15
LRAD3122	LRADQ3122	31	22	28	16	**	30⅜	21⅜	1, 2, MR2, 3, 4 or 5	Off-Centered Rear	36	19

*Length is left to right. Width is front to back.

**Available in 4", 4 1/2", 5", 5 1/2", 6" and 6 1/2" depths. Please consult your sales representative for other depths or modifications.



THIS PRODUCT, AS CONSTRUCTED IS SUBJECT TO INTERPRETATION OF A.D.A. REQUIREMENTS. THE UNOBSTRUCTED KNEE SPACE REQUIRED TO SATISFY A.D.A. STANDARDS MAY NOT BE DESIRABLE.

ALL DIMENSIONS IN INCHES, TO CONVERT TO MILLIMETERS MULTIPLY BY 25.4.

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice.

This specification describes an Elkay product with design, quality and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

Elkay

www.elkayusa.com

2222 Camden Court
Oak Brook, IL 60523

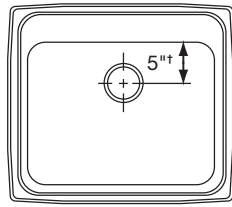
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(Rev. 12/09) 1-135G

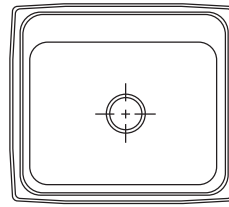
Lustertone® Single Bowl Sink
Models LRAD and LRADQ Series – A.D.A. Compliant

ELKAY®
SPECIFICATIONS

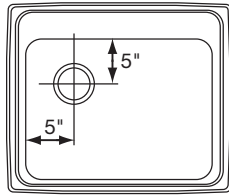
DRAIN OPENING LOCATIONS



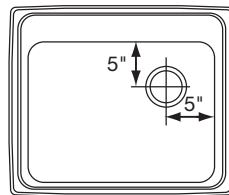
†4-1/2" for LRAD(Q)1522
 Off-Centered Rear



Centered

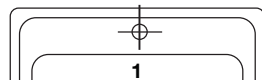


Off-Centered Left

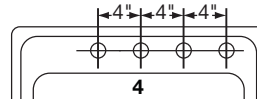


Off-Centered Right

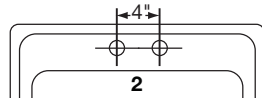
HOLE DRILLING CONFIGURATIONS



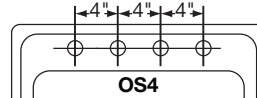
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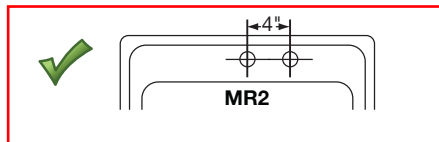
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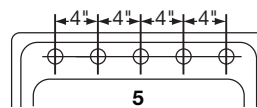
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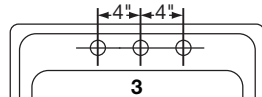
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MR2

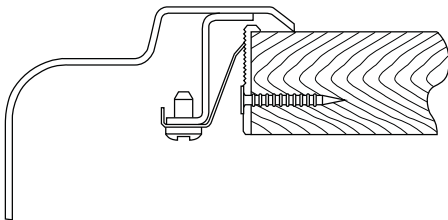


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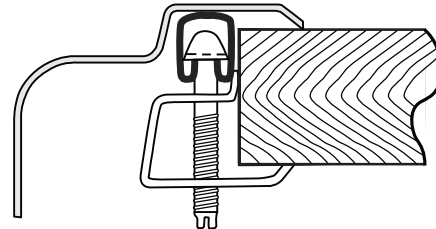


3

Quick-Clip® Mounting System



U-Channel Type Mounting System





AENL30202172000 AO SMITH

**** WH4, WH5, & WH6 ****

28 GALLON 4.5 KW 240 VOLTS 1 PH LOBOY WATER HEATER
ALUMINUM



Residential Electric Water Heaters

ProMax®



ENHANCED HEATING ELEMENTS

- Dual 4500 watt elements for fast recovery and reliable operation.
- Incoloy stainless steel lower element lasts longer than a standard copper element.

DYNACLEAN™ DIFFUSER DIP TUBE

- Helps reduce lime and sediment buildup and maximizes hot water output. Made from long-lasting PEX cross-linked polymer.

HIGH ENERGY FACTORS

- Eco-friendly non-CFC foam insulation, heat traps and other features combine to yield a higher Energy Factor that maximizes savings on operating costs.

COREGARD™ ANODE ROD

- Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.

BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry standard glass lining.

ENHANCED FLOW BRASS DRAIN VALVE

- Our residential water heaters have a solid brass, tamper resistant, enhanced flow, ball type, drain valve.
- Uses a standard female hose fitting that allows for fast and easy draining during maintenance.
- Designed for easy operation, this valve includes an integral screwdriver slot that features a ¼ turn (open/close) radius, which not only permits full straight-through water flow but also a quick and positive shut off.

CODE COMPLIANCE

- Meets UBC, CEC and HUD National Codes.
- Meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1.
- Complies with the Federal Energy Conservation Standards effective April 16, 2015, in accordance with the Energy Policy and Conservation Act (EPCA), as amended.

APPROVED FOR MANUFACTURED HOUSING

- All residential electric water heaters are compliant with HUD Standards for mobile homes/ manufactured housing.

CERTIFIED TO UL 174 FOR HOUSEHOLD ELECTRIC WATER HEATERS

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

DESIGN-LISTED BY CSA INTERNATIONAL

- Certified at 300 PSI test pressure and 150 PSI working pressure.
- Listed according to ANSI Z21.10.1-CSA 4.1 standards governing storage tank-type water heaters.

6-YEAR LIMITED TANK AND PARTS WARRANTY

- For complete information, consult written warranty or A. O. Smith.



ENL30202172000





Residential Electric Water Heaters

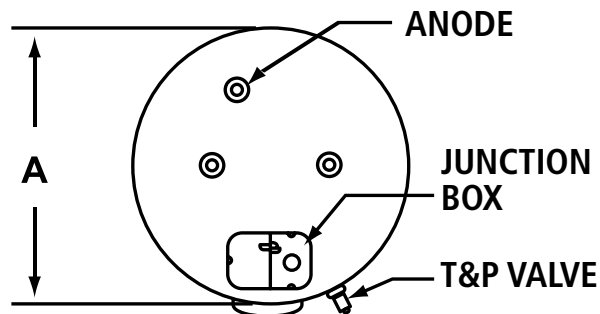
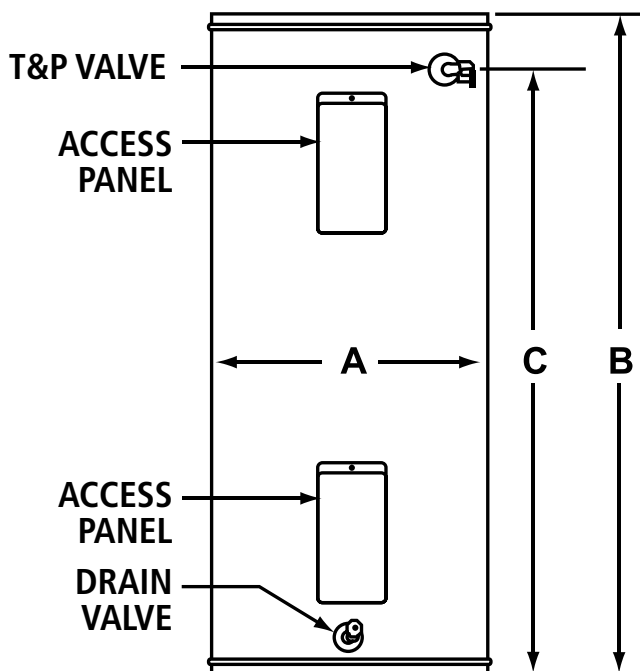
Model Number	Gallon Capacity	First Hour Rating Gallon	Energy Factor	Recovery @ 90°F Rise Gallon Per Hour	Element Wattage 240V		Dimensions in Inches			Approx. Shipping Weight (lbs)
					Standard	Maximum	A	B	C	
ENT-30†	30	43	0.95	20.7	4500	6000	19	46-1/2	39-1/2	95
ENT-40†	40	51	0.95	20.7	4500	6000	20	60-1/4	53-1/4	118
ENTB-50*	50	69	0.95	20.7	4500	6000	21	60-1/4	51-1/4	131
ENT-50†	50	69	0.95	20.7	4500	6000	22	60-1/2	51-1/4	134
ENT-55†	55	76	0.94	20.7	4500	6000	24	56-1/2	48-1/2	145
ENSB-30*	30	43	0.95	20.7	4500	6000	20	39	30-1/2	95
ENS-30†	30	43	0.95	20.7	4500	6000	22	39-3/4	30-1/2	94
ENS-40†	40	54	0.95	20.7	4500	6000	22	50	40-3/4	109
ENS-50†	50	62	0.95	20.7	4500	6000	24	49-3/4	40-3/8	161
ENL-30	28	41	0.95	20.7	4500	6000	24	31-1/4	21-3/4	115
ENLB-30*	28	40	0.95	20.7	4500	6000	22	30	21-3/4	96
ENLB-40*	38	46	0.95	20.7	4500	6000	24	31-3/4	24	118

3/4" water connections on 8" center.

*Models ship with supplied insulation blanket.

†For 10-year tank and 6-year parts warranty, change "E" to "P" in the model number (example: ENT-30 becomes PNT-30).

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



4.5KW 240V 1PH ALUM

For technical information and automated fax service, call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.



AEJC10261411000	AO SMITH	<u>**** WH7 ****</u> 10 GALLON 1.65KW 120 VOLTS 1PH WATER HEATER ALUMINUM
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Residential Electric Water Heaters

ProMax®



SPECIALITY ELECTRIC

TABLE TOP

- Features a convenient flat porcelain surface at 36" height, providing extra "counter space" wherever installed. All plumbing and electrical connections are made through the back of the water heater. This heater is equipped with a PEX cross-linked polymer dip tube.

POINT-OF-USE

- Designed for low-demand, such as office lavatories or buildings with remote restrooms.

COMPACT

- Side-mounted plumbing and electrical connections (optional top-mounted water connections for field conversion). Designed for installation under a counter, in a crawl space or in other tight spaces.

BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry standard glass lining.

ENHANCED FLOW BRASS DRAIN VALVE

- Our standard residential water heaters have a solid brass, tamper resistant, enhanced flow, ball type, drain valve.
- Uses a standard female hose fitting that allows for fast and easy draining during maintenance.
- Designed for easy operation, this valve includes an integral screwdriver slot that features a 1/4 turn (open/close) radius, which not only permits full straight-through water flow but also a quick and positive shut off.

CODE COMPLIANCE

- Meets UBC, CEC and HUD National Codes.
- Meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1.
- Complies with the Federal Energy Conservation Standards effective April 16, 2015, in accordance with the Energy Policy and Conservation Act (EPCA), as amended.

APPROVED FOR MANUFACTURED HOUSING

- All residential electric water heaters are compliant with HUD standards for mobile homes/ manufactured housing.

CERTIFIED TO UL 174 FOR HOUSEHOLD ELECTRIC WATER HEATERS

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

DESIGN-LISTED BY CSA INTERNATIONAL

- Certified at 300 PSI test pressure and 150 PSI working pressure.
- Listed according to ANSI Z21.10.1-CSA 4.1 standards governing storage tank-type water heaters.

6-YEAR LIMITED TANK AND PARTS WARRANTY

- For complete information consult the written warranty or A. O. Smith.



EJC10261411000





Residential Electric Water Heaters



1.65KW 120V 1PH ALUM

				Element Wattage			Dimensions in Inches			
Model Number	Gallon Capacity	First Hour Rating Gallon	Energy Factor	Standard	Maximum	Recovery @ 90°F Rise Gallons Per Hour	A	B	C	Approx. Shipping Weight (lbs)
COMPACT MODEL				120V	240V					
EJC-6	6	N/A	N/A	1650	3000	8	15-1/4	10-3/4	14-1/4	35
EJC-10	10	N/A	N/A	1650	6000	8	18-1/4	12-1/4	16	41
EJCS-20	19	N/A	N/A	2500	6000	11	24-3/4	18-5/8	18	68
EJCT-20	19.9	N/A	N/A	2500	6000	11	31-5/8	25-3/4	16	68
LOWBOY SIDE-CONNECT MODEL				240V						
ENJ-30	28	40	0.95	4500	6000	20.7	31-1/4	21-3/4	24	115
ENJB-30*	28	40	0.95	4500	6000	20.7	30	21-3/4	22	101
ENJ-40	38	46	0.95	4500	6000	20.7	33-1/2	24	26	118
ENJB-40*	38	46	0.95	4500	6000	20.7	31-3/4	24	24	118
TABLE TOP MODEL				240V						
ESTT-40	38	45	0.88	4500	5500	20.7	36	24	25	150
POINT-OF-USE MODELS				120V						
EJC-2	2.5	N/A	N/A	1500 @ 120V		7	13-3/4	11	13-3/4	20

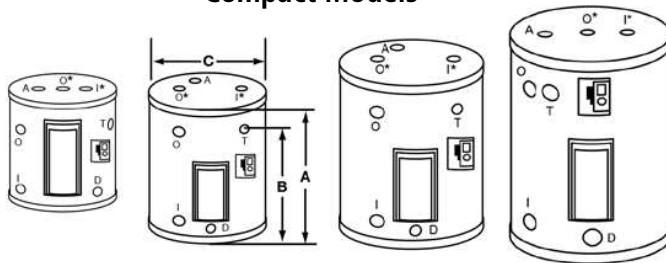
*Models ship with a supplied insulation blanket.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.

† Top mounted T&P adds approximately 3" additional to overall height.

Water connection is 3/4" on Table Top and Compact models and 1/2" NPT on Point-Of-Use Models

Compact Models



EJC-6

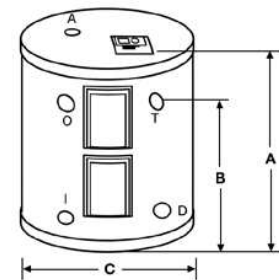
EJC-10

EJCS-20

EJCT-20

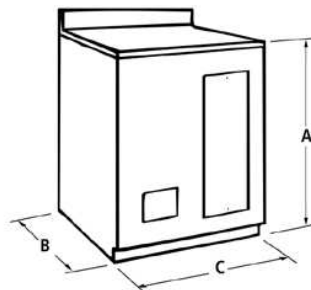
I	INLET	D	DRAIN	I*	PLUGGED INLET
O	OUTLET	T	T&P	O*	PLUGGED OUTLET

Lowboy



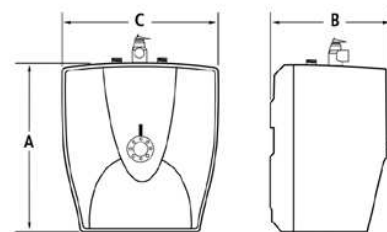
ENJ-30, ENJB-30
ENJ-40, ENJB-40

Table Top Model



ESTT-40

Point-Of-Use



EJC-2

For technical information and automated fax service, call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.

6



Wheatland ASTM A 53 Schedule 40 Pipe

Wheatland Steel Pipe is made by specialists who understand that it's the small details that make the difference between average products and superior products. At the Wheatland Plant, most department heads and foremen have been employed in some phase of pipe manufacturing for 25 or more years.

This kind of specialization, experience and knowledge pays off...in workable, threadable, uniform pipe. Delivered clean. Delivered promptly.

Wheatland specializes in manufacturing welded steel pipe in 1/2 through 4 nominal sizes. Available inventory in 1/8 to 12 pipe sizes produced to various ASTM standards is maintained to meet your pipe requirements.

Care, pride and personal concern are bonus features that go into every inch of Wheatland Pipe. Don't settle for less.

Make sure it's quality. Make sure it's Wheatland.

Standard Pipe Schedule 40

NPS Designator	DN Designator	Outside Diameter		Inside Diameter		Wall Thickness		Nominal Weight (Mass) per unit Length			
		(Inches)	(mm)	(Inches)	(mm)	(Inches)	(mm)	Plain End (lb/ft)	Plain End (kg/m)	Threads & Couplings (lb/ft)	Threads & Couplings (kg/m)
1/8	6	0.405	10.3	0.269	6.8	0.068	1.73	0.24	0.37	0.25	0.37
1/4	8	0.540	13.7	0.364	9.2	0.088	2.24	0.43	0.63	0.43	0.63
3/8	10	0.675	17.1	0.493	12.5	0.091	2.31	0.57	0.84	0.57	0.84
1/2	15	0.840	21.3	0.622	15.8	0.109	2.77	0.85	1.27	0.86	1.27
3/4	20	1.050	26.7	0.824	20.9	0.113	2.87	1.13	1.69	1.14	1.69
1	25	1.315	33.4	1.049	26.6	0.133	3.38	1.68	2.50	1.69	2.50
1-1/4	32	1.660	42.2	1.380	35.1	0.140	3.56	2.27	3.39	2.28	3.40
1-1/2	40	1.900	48.3	1.610	40.9	0.145	3.68	2.72	4.05	2.74	4.04
2	50	2.375	60.3	2.067	52.5	0.154	3.91	3.66	5.44	3.68	5.46
2-1/2	65	2.875	73.0	2.469	62.7	0.203	5.16	5.80	8.63	5.85	8.67
3	80	3.500	88.9	3.068	77.9	0.216	5.49	7.58	11.29	7.68	11.35
3-1/2	90	4.000	101.6	3.548	90.1	0.226	5.74	9.12	13.57	9.27	13.71
4	100	4.500	114.3	4.026	102.3	0.237	6.02	10.80	16.07	10.92	16.23
5	125	5.563	141.3	5.047	158.2	0.258	6.55	14.63	21.77	14.90	22.07
6	150	6.625	168.3	6.065	154.1	0.280	7.11	18.99	28.26	19.34	28.58
8	200	8.625	219.1	7.981	202.7	0.322	8.18	28.58	42.55	29.35	43.73
10	250	10.750	273.0	10.020	254.5	0.365	9.27	40.52	60.29	41.49	63.36
Standard Pipe											
12'	300	12.750	323.8	12.000	304.8	0.375	9.52	49.61	73.78	51.28	76.21

Note: NPS 12 dimensions are for standard wall pipe, not schedule 40.

Product Type and Specification:

Standard welded pipe is produced in 1/2 to 6 trade sizes. Wheatland pipe is produced to ASTM A 53, A 501, and A 589 Type II, API 5L and Federal Specification WW-P404. All pipe threads conform to ANSI B1.20.1. Merchant couplings comply with ASTM A 865.



Permissible Variations for ASTM A 53 A Pipe

	O.D.	Over	Under
Outside Diameter	NPS 1/8 to 1-1/2 DN 6 to 40	1/64" (0.4mm)	1/64" (0.4mm)
	NPS 2 and up DN 50 and up	1%	1%
Wall Thickness at Any Point		-----	12.5%

ASTM A 53 A: Black and Galvanized Pipe is manufactured for ordinary use in steam, water, gas, and air lines. UL Listed and FM Approved, sizes 1" through 6" nominal, for use in Fire Sprinkler Pipe Applications.

Mechanical Properties

Grade A: Yield 30,000 [205 Mpa] psi minimum Tensile: 48,000 psi [415 Mpa] minimum

Grade B: Yield 35,000 [240 Mpa] psi minimum Tensile: 60,000 psi [240 Mpa] minimum

For additional information or to order , contact our pipe department at 800.257.8182, Fax: 856.854.0616, e-mail info@wheatland.com

7



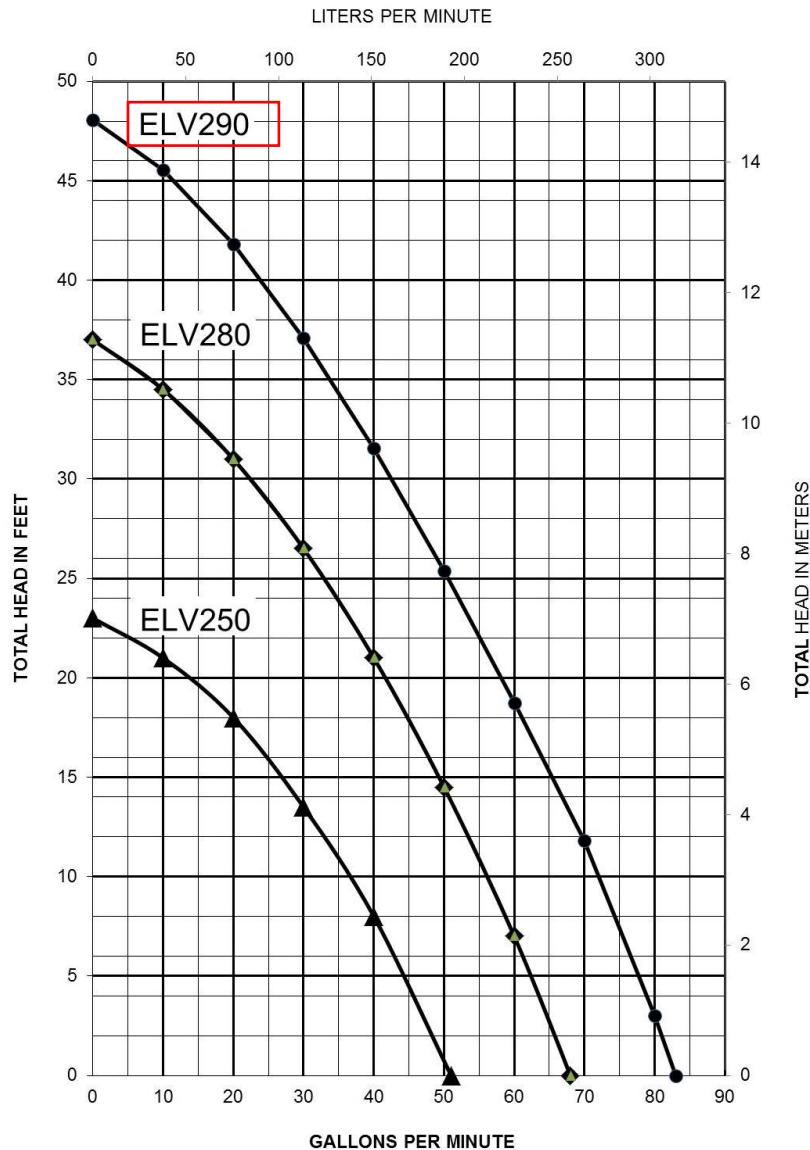
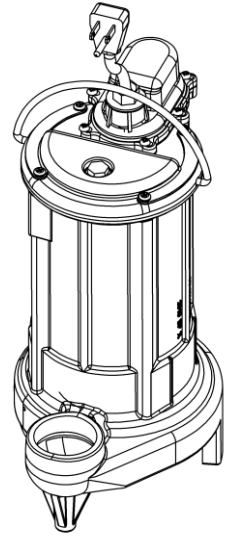
Pump Specifications

ELV Series Submersible Sump Pump with OilTector Control

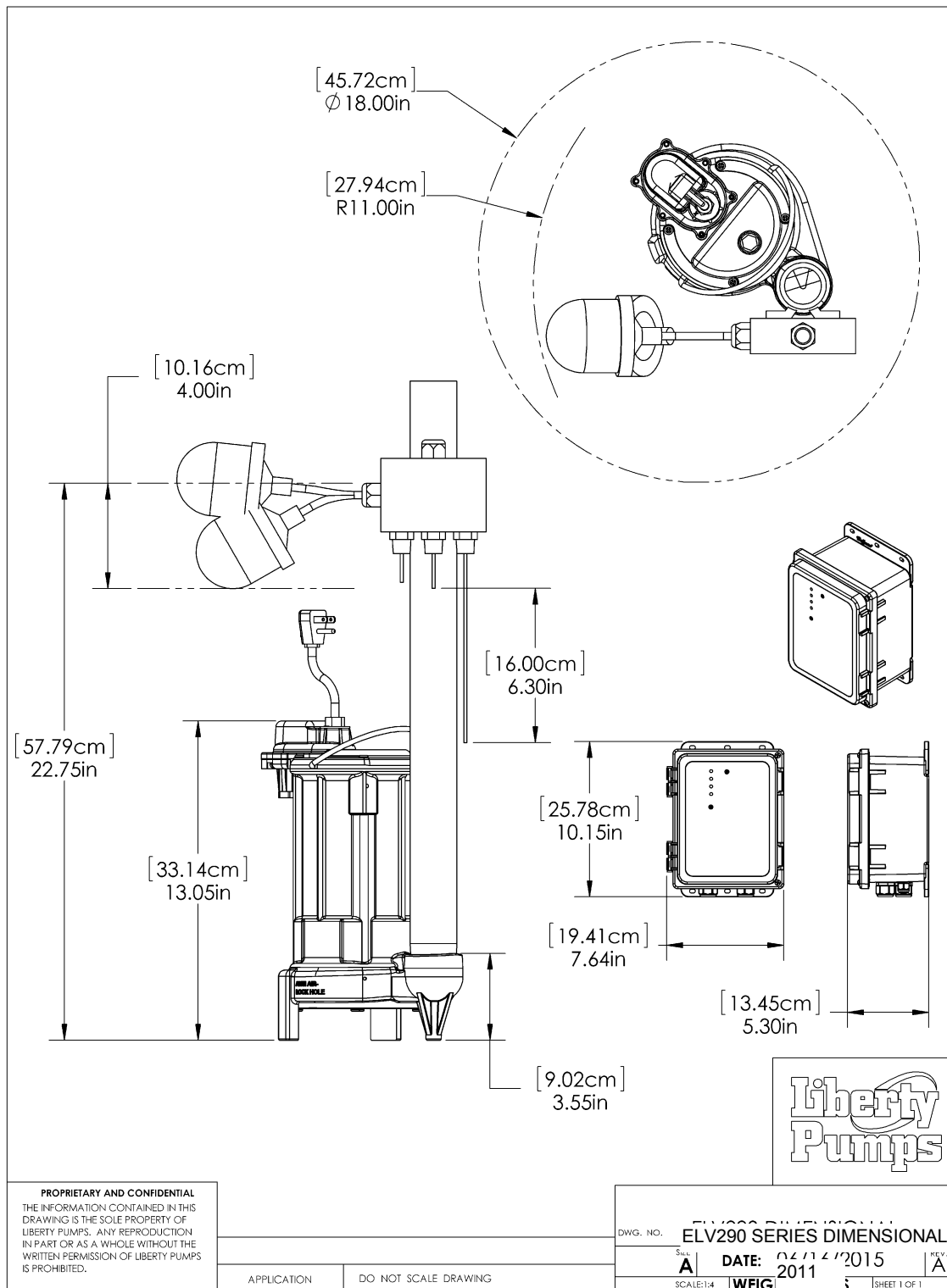
ELV250 1/3 hp

ELV280 1/2 hp

ELV290 3/4 hp



ELV290 Dimensional Data



ELV-Series Electrical Data

MODEL	HP	VOLTAGE	PHASE	FULL LOAD AMPS	LOCKED ROTOR AMPS	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	CORD LENGTH FT	DISCHARGE	AUTOMATIC
ELV290	3/4	115	1	10.4	24	120°C/ 248°F	B	25	1 1/2	YES W/ CONTROL
ELV290-06	3/4	115	1	10.4	24	120°C/ 248°F	B	6	1 1/2	YES W/ CONTROL
ELV290-5	3/4	115	1	10.4	24	120°C/ 248°F	B	50	1 1/2	YES W/ CONTROL
ELV290HV	3/4	208-230	1	5.3	13	105°C/ 221°F	B	25	1 1/2	YES W/ CONTROL
ELV290HV-06	3/4	208-230	1	5.3	13	105°C/ 221°F	B	6	1 1/2	YES W/ CONTROL
ELV290HV-5	3/4	208-230	1	5.3	13	105°C/ 221°F	B	50	1 1/2	YES W/ CONTROL
ELV280	1/2	115	1	8.0	23	105°C/ 221°F	B	25	1 1/2	YES W/ CONTROL
ELV280-06	1/2	115	1	8.0	23	105°C/ 221°F	B	6	1 1/2	YES W/ CONTROL
ELV280-5	1/2	115	1	8.0	23	105°C/ 221°F	B	50	1 1/2	YES W/ CONTROL
ELV280HV	1/2	208-230	1	4.0	12.5	105°C/ 221°F	B	25	1 1/2	YES W/ CONTROL
ELV280HV-06	1/2	208-230	1	4.0	12.5	105°C/ 221°F	B	6	1 1/2	YES W/ CONTROL
ELV280HV-5	1/2	208-230	1	4.0	12.5	105°C/ 221°F	B	50	1 1/2	YES W/ CONTROL
ELV250	1/3	115	1	5.2	8	105°C/ 221°F	B	25	1 1/2	YES W/ CONTROL
ELV250-06	1/3	115	1	5.2	8	105°C/ 221°F	B	6	1 1/2	YES W/ CONTROL
ELV250-5	1/3	115	1	5.2	8	105°C/ 221°F	B	50	1 1/2	YES W/ CONTROL

ELV-Series Technical Data

IMPELLER	VORTEX ENGINEERED POLYMER
SOLIDS HANDLING SIZE	
ELV250	1/2"
ELV280, ELV280HV, ELV290, ELV290HV	3/4"
PAINT	POWDER COAT
MAX LIQUID TEMP	60°C/ 140°F
MAX STATOR TEMP	CLASS B 130°C/ 266°F
THERMAL OVERLOAD	
ELV250, ELV280, ELV280HV, ELV290HV	105°C/ 221°F
ELV290	120°C/ 248°F
MOTOR HOUSING/ VOLUTE	CLASS 25 CAST IRON
SHAFT	STAINLESS
HARDWARE	STAINLESS
ORINGS	BUNA N
SHAFT SEAL	
ELV250	ENGINEERED DOUBLE LIP WITH STAINLESS STEEL SPRINGS
ELV280 & ELV280HV ELV290 & ELV290HV	UNITIZED CERAMIC CARBON
PUMP WEIGHT	
ELV250	23 LBS
ELV280, ELV280HV, ELV290, ELV290HV	30 LBS
MIN. SUMP SIZE	Ø18" X 30"

ELV-Series Specifications

1.01 GENERAL:

The contractor shall provide labor, material, equipment, and incidentals required to provide _____ (QTY) centrifugal pumps as specified herein. The pump models covered in this specification are ELV Series single phase pumps. The pump furnished for this application shall be model _____ as manufactured by Liberty pumps.

2.01 OPERATING CONDITIONS:

Each submersible pump shall be rated for _____ hp, _____ volts, single phase, 60 Hz, & 3450 RPM. The unit shall produce _____ G.P.M. at _____ feet of total dynamic head.

The submersible pump shall be capable of handling water with _____ solid handling capability. The submersible pump shall have a shut-off head of _____ feet and a maximum flow of _____ GPM @ 5 feet of total dynamic head.

The manual pump is connected to a control which has the ability to prevent oil from being pumped from the vault. This same control unit will activate an alarm when an oil "film" is detected or when a high water condition exists. The system will continue to monitor and remove water from the vault even if an oil condition is detected.

3.01 CONSTRUCTION:



Each centrifugal sump pump shall be equal to the c^{us} Certified ELV-Series pumps as manufactured by Liberty Pumps, Bergen NY. The castings shall be constructed of class 25 cast iron. The motor housing shall be oil filled to dissipate heat. Air filled motors shall not be considered equal since they do not properly dissipate heat from the motor. All mating parts shall be machined and sealed with a Buna-N o-ring. All fasteners exposed to the liquid shall be stainless steel. The motor shall be protected on the top side with sealed cord entry plate with molded pins to conduct electricity eliminating the ability of water to enter internally through the cord. The motor shall be protected on the lower side with a unitized ceramic/carbon seal with stainless steel housings and spring or engineered double lip seal with stainless steel springs. The pump shall be furnished with stainless steel handle.

4.01 ELECTRICAL POWER CORD

The submersible pump shall be supplied with a multi-conductor power cord which is a maximum of 50 feet in length. It shall be cord type YELLOW or BLACK, UL 16-3 SJEOOW 300V 105°C, capable of continued exposure to the pumped liquid. The power cord shall be sized for the rated full load amps of the pump in accordance with the National Electric Code. The power cable shall not enter the motor housing directly but will conduct electricity to the motor by means of a water tight compression fitting cord plate assembly, with molded pins to conduct electricity. This will eliminate the ability of water to enter internally through the cord, by means of a damaged or wicking cord.

5.01 MOTORS

Single phase motors shall be oil filled, capacitor start, class B insulated NEMA B design, rated for continuous duty. At maximum load the winding temperature shall not exceed 135 degrees C unsubmerged. Since air filled motors are not capable of dissipating heat they shall not be considered equal. Single phase motors shall have an integral thermal overload switch in the windings for protecting the motor.

6.01 BEARINGS AND SHAFT

An upper and lower ball bearing shall be required. Both the upper and lower bearing shall be a single ball / race type bearing. Both bearings shall be permanently lubricated by the oil, which fills the motor housing. The motor shaft shall be made of 300 or 400 series stainless steel.

7.01 SEALS

The pump shall have a unitized carbon / ceramic seal with stainless steel housings and spring, or engineered double lip seal with stainless steel springs. The motor plate / housing interface shall be sealed with a Buna-N o-ring.

8.01 IMPELLER

The impeller shall be vortex style made of an engineered polymer, with pump out vanes on the back shroud to keep debris away from the seal area. It shall be threaded to the motor shaft.

9.01 CONTROLS

The control unit has three probes and a float ball switch. The pump will activate when the middle probe contacts water, and will remain on until the first, longest probe no longer is in contact with water. A high water alarm is activated when third or shortest probe contacts water. The system will ignore a small film of oil, however larger volumes of oil will be detected when the alarm probe does not detect water and the float ball activates. The system will continue to operate, removing water not oil from the vault even when oil has been detected.

10.01 PAINT

The exterior of the casting shall be protected with powder coat paint.

11.01 SUPPORT

The pump shall have cast iron support legs, enabling it to be a free standing unit.

12.01 SERVICEABILITY

Components required for the repair of the pump shall be shipped within a period of 24 hours.

13.01 TESTING

The pump shall have a ground continuity check and the motor chamber shall be Hi-potted to test for electrical integrity, moisture content and insulation defects. The motor and volute housing shall be pressurized, and an air leak decay test is performed to ensure integrity of the motor housing. The pump shall be run, voltage current monitored, and the tester checks for noise or other malfunction.

14.01 QUALITY CONTROL

The pump shall be manufactured in an ISO 9001 certified Facility.

15.01 WARRANTY

Standard limited warranty shall be 3 years.

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



PUMP COMPANY

Zoeller Family of Water Solutions™

TECHNICAL DATA SHEET WASTE-MATE SERIES

Models 270, 4270 Sewage/*Effluent or Dewatering Pumps

PRODUCT SPECIFICATIONS

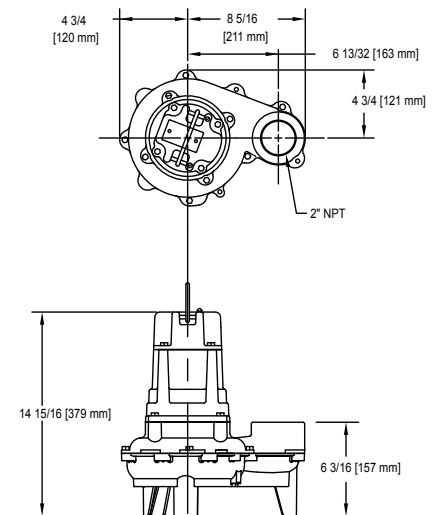
MOTOR	Horse Power	1
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	7.5 - 15.0
PUMP	Operation	nonautomatic
	Discharge Size	2" NPT
	Solids Handling	2" (50 mm) spherical solids
	Cord Length	20' (6 m) standard
	Cord Type	UL listed 3-wire neoprene cord and plug
	Max. Head	29' (8.8 m)
	Max. Flow Rate	132 GPM (500 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
MATERIALS	Motor Protection	Auto reset thermal overload
	Cap	Cast iron
	Motor Housing	Cast iron
	Pump Housing	Cast iron
	Base	Cast iron or engineered plastic
	Upper Bearing	Sleeve bearing
	Lower Bearing	Ball bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Engineered plastic
	Hardware	Stainless steel
	Motor Shaft	JIS S45C steel
	Gasket	Neoprene
	Min. Basin Size	Simplex: 18" x 30" (45.7 x 76.2 cm) Duplex: 30" x 30" (76.2 x 76.2 cm)

NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

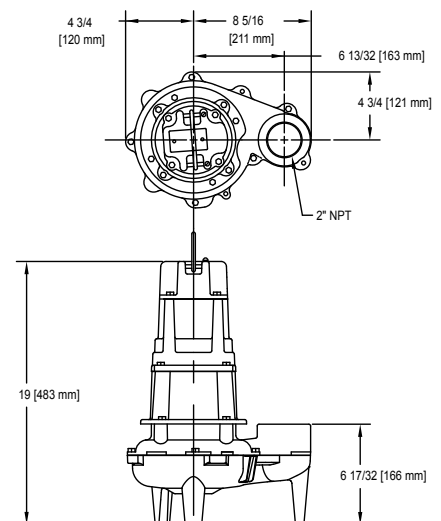
NOTE: See model comparison chart for specific details.

* May be used in those states where codes do not restrict solids size in effluent systems.

SINGLE SEAL



DOUBLE SEAL



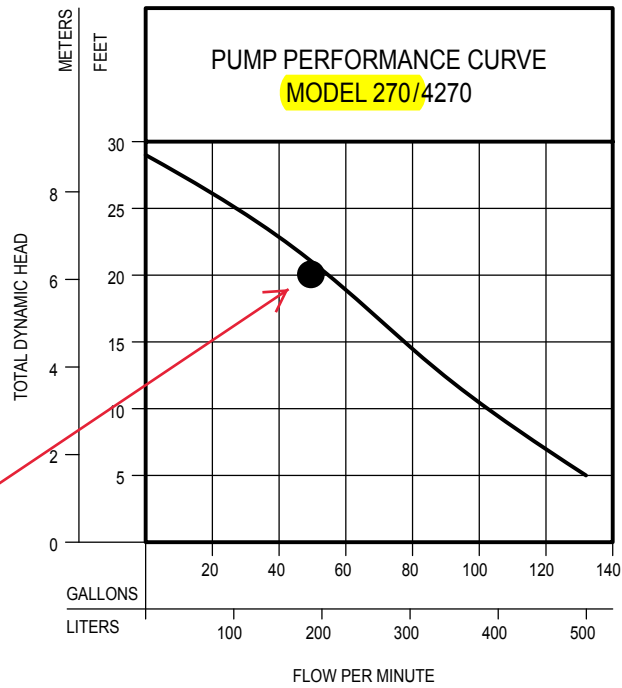
SK1532



TOTAL DYNAMIC HEAD FLOW PER MINUTE

MODEL		270/4270	
Feet	Meters	Gal.	Liters
5	1.5	132	500
10	3.0	101	382
15	4.6	77	291
20	6.1	56	212
25	7.6	29	110
Shut-off Head:		29 ft.(8.8m)	

Duty Point 50GPM @ 20TDH
CUSTOM DESIGN 270-00XX f



013220

Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
BN270	Single	Auto	115	1	15.0	1	60	49	22	1 or 2	3
BE270	Single	Auto	230	1	7.5	1	60	73	33	1 or 2	3
N270	Single	Non	115	1	15.0	1	60	49	22	1 or 2	3
N4270	Double	Non	115	1	15.0	1	60	73	33	1 or 2	3
E270	Single	Non	230	1	7.5	1	60	49	22	1 or 2	3
E4270	Double	Non	230	1	7.5	1	60	73	33	1 or 2	3

Additional cord lengths are available in 15' (5 m), 35' (11 m) and 50' (15 m).

SELECTION GUIDE

- For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.

CONSULT FACTORY FOR SPECIAL APPLICATIONS

- Electrical alternators for duplex systems available with variable level control switches.
- Minimum recommended basin size (small load applications):
Simplex - 18" x 30" (45.7 x 76.2 cm)
Duplex - 30" x 30" (76.2 x 76.2 cm)

Standard All Models -

270 - Weight 49 lbs. (22.2 kg)
4270 - Weight 73 lbs. (33.1 kg)

- High water alarms available
- Mechanical alternators available for duplex systems

CAUTION Maximum temperature of sewage or dewatering must be limited to 130°F (54°C). For over 130°F (54°C), special quotation required.

CAUTION All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

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PUMP STATION VALVES, FITTINGS AND ALUMINUM HATCHES AND COVERS



1 1/4" - 3" NPT CAST IRON CHECK VALVES

#30-0163

1 1/4" CAST IRON NPT

#30-0164

1 1/2" CAST IRON NPT

#30-0152

2" CAST IRON NPT

#30-0160

3" CAST IRON NPT



30-0163
Pictured

Outside dimensions
4 15/16" w x 4" x 6 3/16" h

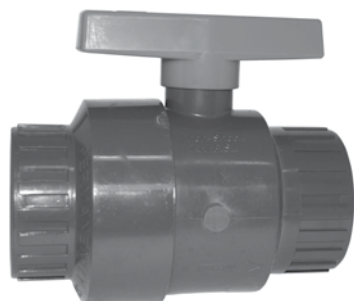
- Vertical or Horizontal Installation
- Full flow design - no restrictions
- Stops back flow of water
- Neoprene polyester reinforced flapper - smooth edge design, with cast iron and noncorrosive metal backing plates & stainless steel fastener
- Rated at 50 PSI (115 feet of head) at 130°F (54°C)
- Stainless steel bolts
- Suitable for installation below basin cover



6030-0160
Pictured

Outside dimensions
6 5/8" w x 6 5/8" w x 8" h

1 1/4" - 3" PVC BALL VALVES



30-0167
Pictured

- General Purpose Ball Valve
- Ideal for a variety of applications

#30-0175

1 1/4" SLIP TO SLIP W/ UNION - 150 PSI RATED

#30-0165

1 1/4" SLIP TO SLIP - 150 PSI RATED

#30-0166

1 1/2" SLIP TO SLIP - 150 PSI RATED

#30-0167

2" SLIP TO SLIP - 150 PSI RATED

#30-0221

3" SLIP TO SLIP - 150 PSI RATED

1 1/4" & 2" BRASS/BRONZE CHECK VALVES



30-0223
Pictured

#30-0223 1 1/4" NPT BRASS

#30-0225 2" NPT BRONZE

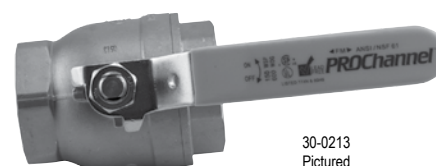
- 200 PSI WOG Rated
- Metal to Metal Seals
- Vertical or Horizontal Installation
- Stops back flow of water
- Suitable for installation below basin cover

1 1/4" & 2" BRASS BALL VALVES

#30-0213 1 1/4" NPT BRASS

#30-0226 2" NPT BRASS

- 600 PSI WOG Rated
- Full port
- Quarter-turn operation

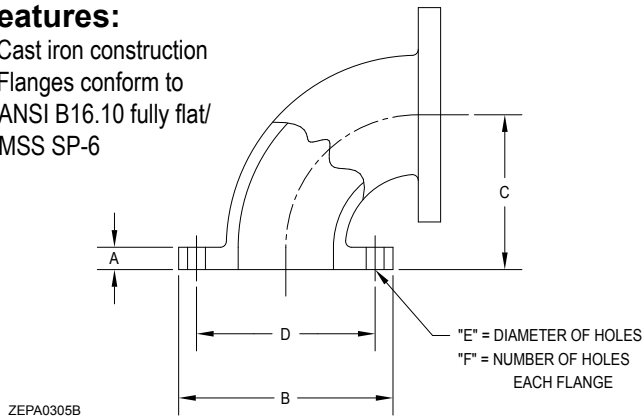


30-0213
Pictured

2½" TO 8" 90° FLANGED ELBOWS

Features:

- Cast iron construction
- Flanges conform to ANSI B16.10 fully flat/ MSS SP-6

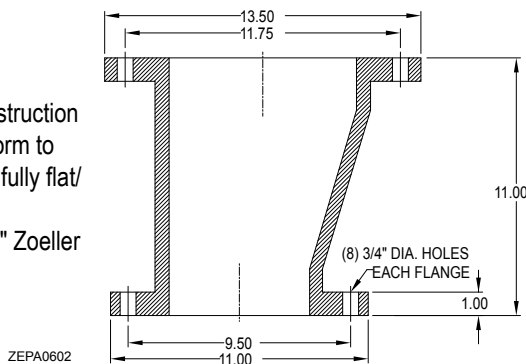


PART NUMBER	PIPE SIZE	"A"	"B"	"C"	"D"	"E"	"F"	WEIGHT
6030-0200	2-1/2"	.68	7.00	5.00	5.50	.75	4	20 lbs.
6030-0201	3"	.75	7.50	5.50	6.00	.75	4	25 lbs.
6030-0194	4"	.94	9.00	6.50	7.50	.75	8	41 lbs.
6030-0195	6"	1.00	11.00	8.00	9.50	.68	8	68 lbs.
6030-0196	8"	1.13	13.50	9.00	11.75	.68	8	107 lbs.

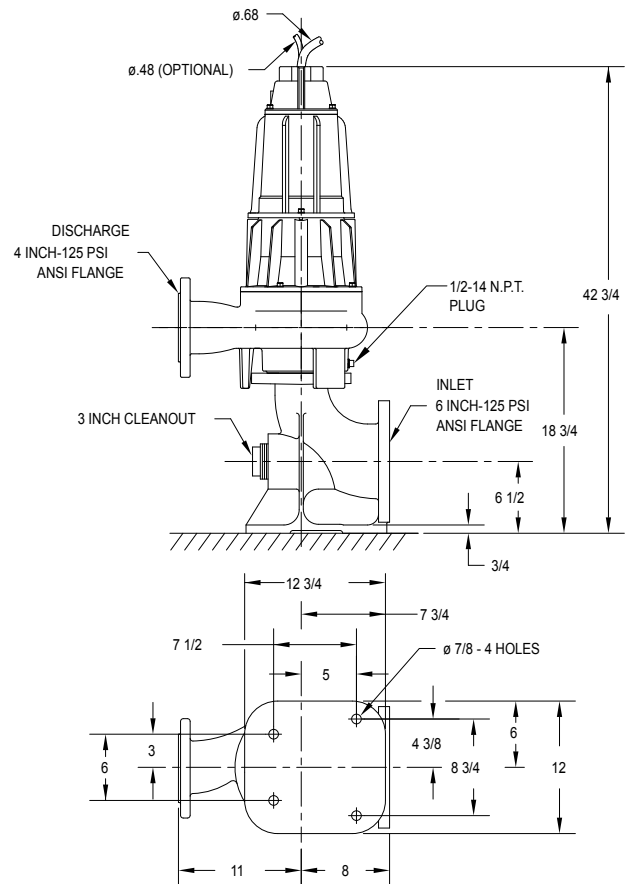
6" TO 8" ECCENTRIC ADAPTER P/N 6030-0205

Features:

- Cast iron construction
- Flanges conform to ANSI B16.10 fully flat/ MSS SP-6
- Used with a 6" Zoeller Rail System



4" x 6" FLANGED DRY PIT MOUNTING STAND W/CLEAN OUT P/N 6039-0035



Features:

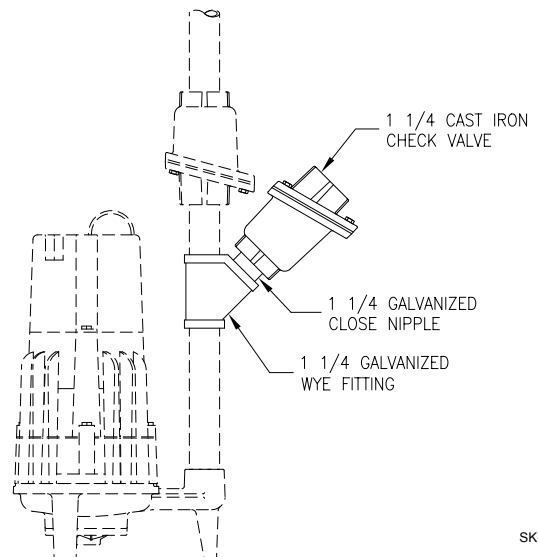
- Class 30 epoxy coated cast iron construction
- 6" Inlet / 4" Outlet
- Flanges conform to ANSI B16.10 fully flat/ MSS SP-6
- For use on Dry-Pit pumps with 4" discharge
- 3" clean-out plug

1¼" ANTI-SIPHON DEVICE P/N 10-0787 Field Installed

P/N 10-0787

Complete System Includes:

Qty	Part No.	Description
1	008792	1¼" Female NPT Check Valve
1	012209	1¼" Galvanized Wye
1	008715	1¼" Galvanized Close Nipple



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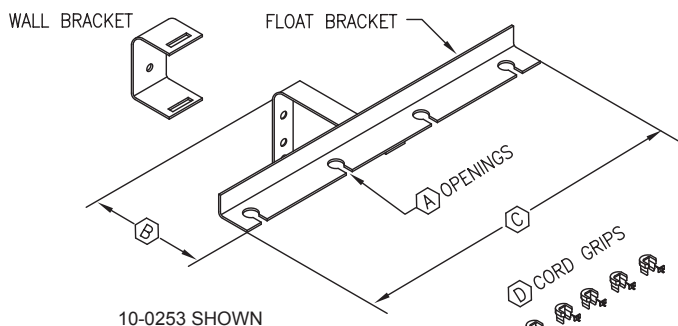
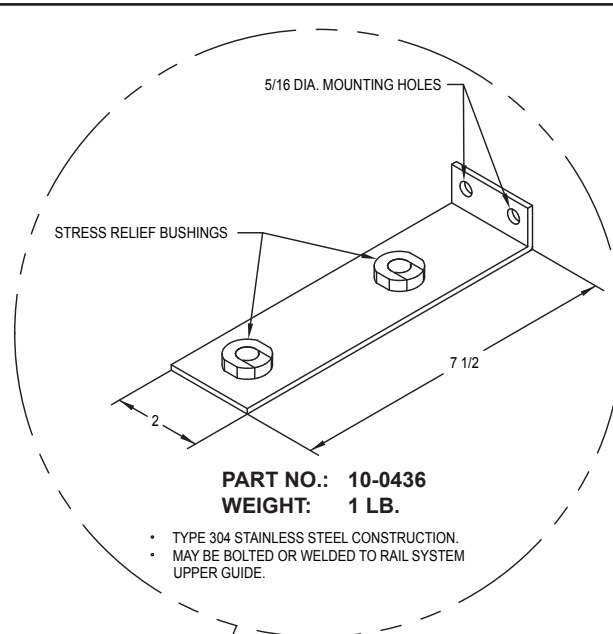
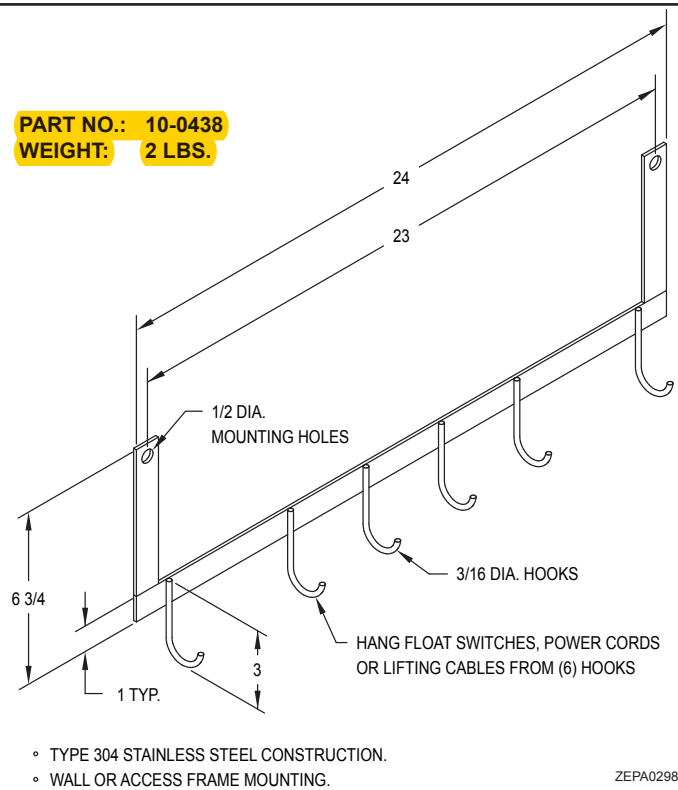


FLOAT SWITCH BRACKETS

(For Use With Weighted Floats)



PART NO.: 10-0438
WEIGHT: 2 LBS.

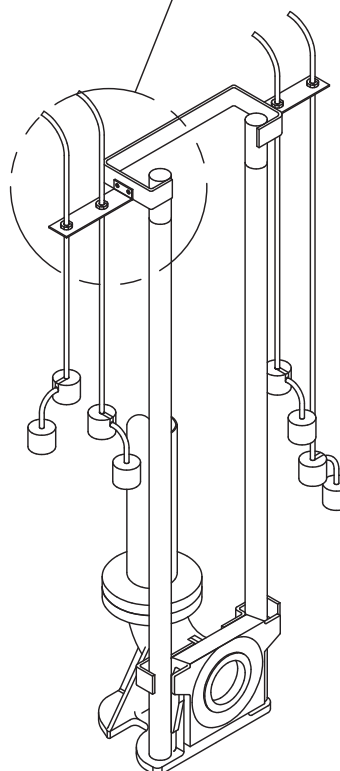


P/N	REV.	A	B	C	D
10-0253	B	4	6	15 1/2	5
10-2162	A	6	6	22	7

PART NO.: 10-0253
WEIGHT: 9 LBS.

PART NO.: 10-2162
WEIGHT: 12 LBS.

A00534



ZEPA0598



PUMP COMPANY

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SECTION: 2.50.040

FM0486

0414

Supersedes

0910

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ELECTRICAL ALTERNATOR CONTROL PANEL - FOR DUPLEX INSTALLATIONS

An Electrical Alternator is used on a Duplex pump application where automatic alternation of the pumps is desired for added protection in residential or commercial applications. With one pump operating to handle normal flow, a second pump becomes operational in the event the water level continues to rise. The built-in alarm system, a standard feature, can be connected to sound when the second pump becomes operational (3-float switch system) or independently (4-float switch system). All electrical systems must be installed by a qualified electrician and according to the National Electrical Code. (See Section 430-71 through 430-113, plus any others that apply.)

Control Panel Features:

- Hand-Off-Auto Toggle Switch for each pump
- Green pump run pilot light for each pump
- Alarm test and silence switches
- Red pilot light (Nema 1 Only) and audible alarm with 83 to 85 decibel rating for a high water condition
- Red Alarm Beacon included with Nema 4X enclosure
- Auxiliary Dry Contact
- High Water Alarm
- On Single Phase - Circuit breaker for each pump
- On Three Phase - Motor protective switch with overload protection
- Magnetic starter for each pump
- Alternating mechanism
- Numbered terminal strip for connecting pumps and variable level float switches
- Nema 1 - general purpose or Nema 4X - Watertight enclosures available
- Integral auxiliary terminal board connections (dry contact) for remote alarm devices
- 3 or 4 variable level float switch control operation
- Three 20' float switches included with single phase panels
- 2 Year Warranty
- The use of off-the-shelf components provide for relatively easy field maintenance and repair
- Float switches not included with three phase panels (See FM0526)

CONTROL PANEL USED WITH SINGLE PHASE PUMPS

NEMA 1 ENCLOSURE WITH 20' FLOAT SWITCH			
Order No.	Dimensions H x W x D	Volts	Amp Range
10-1039	12" x 10" x 6"	115	7-15
10-1040	12" x 10" x 6"	115	15-20
10-0092	12" x 10" x 6"	115/200/230	0-20

NEMA 4X ENCLOSURE WITH 20' FLOAT SWITCH			
Order No.	Dimensions H x W x D	Volts	Amp Range
10-1041	12" x 10" x 6"	115	7-15
10-1042	12" x 10" x 6"	115	15-20
10-1043	12" x 10" x 6"	115/200/230	0-7
10-1044	12" x 10" x 6"	115/200/230	7-15
10-1045	12" x 10" x 6"	115/200/230	15-20
10-1046	12" x 10" x 6"	115/200/230	20-30
10-0093	12" x 10" x 6"	115/200/230	0-20

* Branch circuit protection provided by installing electrician.

NOTE: 600 and X600 Series single phase pumps require special panels that include start components. See Selection Guide FM0712 for correct panel selection.

NOTE: All variable level float switches in this section are mechanically activated and do not contain mercury.

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NEMA 1 ENCLOSURE



10-0092



NEMA 4X ENCLOSURE



10-0093



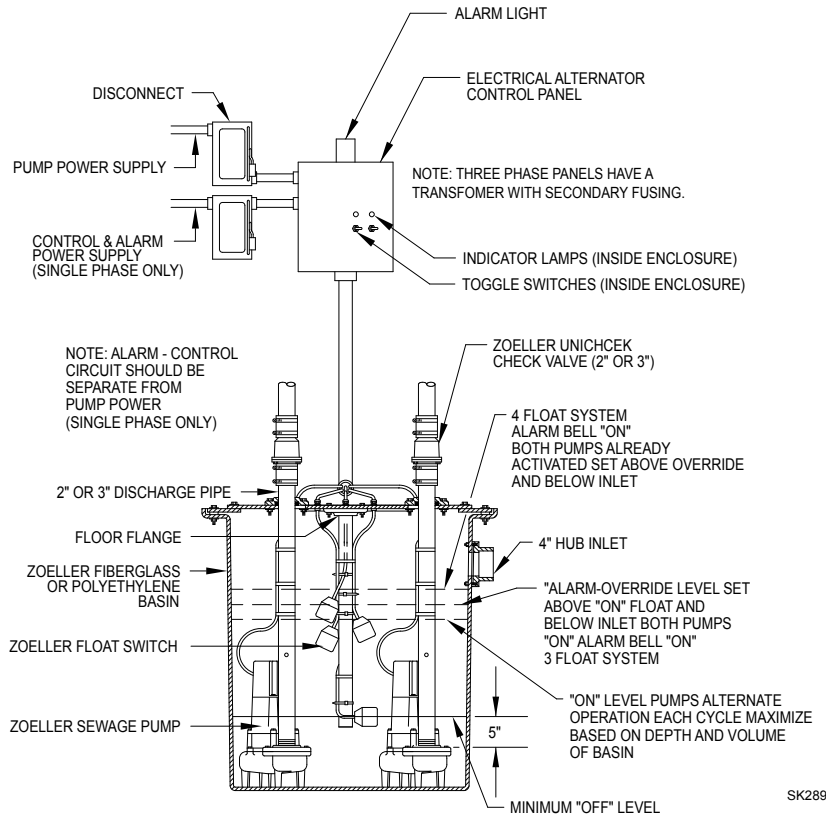
Products may not be exactly as illustrated

CONTROL PANEL USED WITH THREE PHASE PUMPS

NEMA 4X ENCLOSURE (Float Switches not included)			
Order No.	Dimensions H x W x D	Volts*	Amp Range
10-1102	14" x 12" x 6"	200/230/460	1.0 - 1.6
10-1104	14" x 12" x 6"	200/230/460	1.6 - 2.5
10-1106	14" x 12" x 6"	200/230/460	2.5 - 4.0
10-1108	14" x 12" x 6"	200/230/460	4.0 - 6.3
10-1110	14" x 12" x 6"	200/230/460	6.0 - 10.0
10-1111	14" x 12" x 6"	200/230/460	9.0 - 14.0
10-1112	14" x 12" x 6"	200/230/460	13.0 - 18.0
10-1114	14" x 12" x 6"	200/230/460	17.0 - 23.0
10-1115	14" x 12" x 6"	200/230/460	20.0 - 25.0
10-1183	14" x 12" x 6"	200-208	23.0 - 32.0
10-1154	14" x 12" x 6"	575	1.6 - 2.5
10-1156	14" x 12" x 6"	575	2.5 - 4.0
10-1158	14" x 12" x 6"	575	4.0 - 6.3

*Three phase panel has multi-tap transformer with secondary fusing.

DUPLEX ELECTRICAL ALTERNATING SYSTEM



Sequence of Operation for Duplex Panel

- Operation can begin after the following:
 - Correct voltage is supplied to Panel
 - Panel is properly grounded
 - Pumps are connected correctly to Panel
 - Panel Circuit Breakers are closed
 - Floats are installed properly
 - Overload Protection is adjusted to Pump nameplate amps
 - Pump HOA Switches are set to "Auto"
 - Control On/Off Switch is set to "On"
- When the "Stop" and "Lead" floats are closed Pump 1 will energize and the Pump 1 Pump Run Light will illuminate. Pump 1 will remain operational until the "Stop" float opens.
- The next time the "Stop" and "Lead" floats are closed the Alternating Circuit will energize Pump 2 and the Pump 2 Pump Run Light will illuminate. Pump 2 will remain operational until the "Stop" float opens. This cycle will repeat each time the fluid level rises and falls.
- If the fluid level continues to rise after the first pump has been energized the "Lag" float will close. When the "Lag" float has closed the second Pump will Energize. Both Pumps will remain operational until the "Stop" float opens.
- In a three float system when the "Lag" float is closed the following will also occur:
 - The External High Water Light will illuminate
 - The Audible High Water Horn will sound
 - The Auxiliary Dry Contacts will close
- In a four float system, the alarm float should be the third float causing an alarm to sound when the lead pump fails to operate or the rate of in flow into the basin exceeds the capacity of one pump. When the alarm float is closed the following will occur:
 - The External High Water Light will illuminate
 - The Audible High Water Alarm will sound
 - The Auxiliary Dry Contacts will close

As the liquid level continues to rise the fourth float will close, energizing the lag pump. The lag pump and the lead pump will remain energized until the "Stop" float opens.

NOTE: In Duplex systems where it is considered normal for two pumps to operate in tandem during peak flow conditions, the third and fourth float may be reversed.
- The Audible High Water Horn can be silenced by pressing the Alarm Silence Button. When the "Alarm" float opens the External High Water Light, Audible High Water Horn and Dry Auxiliary Contacts will be reset.

WARNING All electrical systems must be installed by a qualified licensed electrician and according to the National Electrical Code. (See section 430-71 through 430-113 plus any others that apply)

Refer to FM0712 for correct selection of Electrical Alternator.

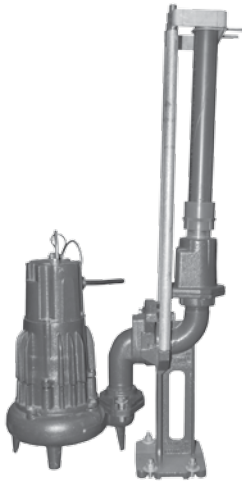
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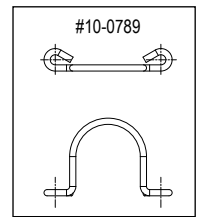
Z-Rail® Disconnect System shown

DISCONNECT & RAIL SYSTEMS

Threaded Discharge Pumps 1 1/4" thru 3" NPT

FEATURES

- Sewage, storm water and effluent pump systems
- For concrete, steel, or fiberglass tanks
- Allows for removal of pumps from ground level
- Coupling base with positive machine fit and o-ring seal provides a reliable seal.
- Guide rails direct the pump to and from the base discharge elbow. Systems are supplied complete with coupling base, sealing plate, pump discharge elbow, and upper rail support bracket.
- All systems use 3/4" schedule 40 pipe rails (not included).
- Refer to Z-Rail® installation instructions ZM2821.



SK2486

#10-0789 lifting bails are required on 6160, 6180, 6280, 6290, 7010, and 7020/7021 models to balance pump and rail plate evenly. Other models already include proper lifting device.

SPECIFICATIONS					
Rail System	Pump Discharge	Rail System Discharge	Materials of Construction*	Weight	Type
39-0134	1-1/4" V	2" V	Powder coated, ductile iron	41	Z-Rail®
39-0135	1-1/4" V	2" V	Powder coated, ductile iron w/ SS upper rail support bracket	43	Z-Rail®
39-0136	1-1/4" V	2" V	Powder coated, ductile iron / brass for non-sparking	44	Z-Rail®
39-0143	1-1/4" V	2" V	Powder coated, ductile iron w/ SS upper rail support / brass for non-sparking	43	Z-Rail®
39-0137	1-1/4" H	1 1/4" V	Powder coated, ductile iron (models 7020, 7021 only)	41	Z-Rail®
39-0138	1-1/4" H	1 1/4" V	Powder coated, ductile iron w/ SS upper rail support bracket (models 7020, 7021 only)	43	Z-Rail®
39-0131	1-1/2" V	2" V	Powder coated, ductile iron	41	Z-Rail®
39-0132	1-1/2" V	2" V	Powder coated, ductile iron w/ SS upper rail support bracket	43	Z-Rail®
39-0133	1-1/2" V	2" V	Powder coated, ductile iron / brass for non-sparking	44	Z-Rail®
39-0142	1-1/2" V	2" V	Powder coated, ductile iron w/ SS upper rail support / brass for non-sparking	43	Z-Rail®
39-0128	2" V	2" V	Powder coated, ductile iron	42	Z-Rail®
39-0129	2" V	2" V	Powder coated, ductile iron w/ SS upper rail support bracket	43	Z-Rail®
39-0130	2" V	2" V	Powder coated, ductile iron / brass for non-sparking	45	Z-Rail®
39-0141	2" V	2" V	Powder coated, ductile iron w/ SS upper rail support / brass for non-sparking	44	Z-Rail®
39-0146	2" V	2" V	71 Series Grinder - Powder coated, ductile iron	43	Z-Rail®
39-0148	2" V	2" V	71 Series Grinder - Powder coated, ductile iron w/ SS upper rail support bracket	45	Z-Rail®
39-0147	2" V	2" V	71 Series Grinder - Powder coated, ductile iron / brass for non-sparking	43	Z-Rail®
39-0149	2" V	2" V	71 Series Grinder - Powder coated, D.I. w/ SS upper rail support / brass for non-sparking	44	Z-Rail®
39-0122	3" V	3" V	Powder coated, ductile iron	47	Z-Rail®
39-0123	3" V	3" V	Powder coated, ductile iron w/ SS upper rail support bracket	47	Z-Rail®
39-0124	3" V	3" V	Powder coated, ductile iron / brass for non-sparking	47	Z-Rail®
39-0125	3" V	3" V	Powder coated, ductile iron w/ SS upper rail support / brass for non-sparking	47	Z-Rail®
ACCESSORIES - Intermediate rail brackets are required for each 12' of basin depth					
39-0139	Intermediate rail bracket 1 1/4", 1 1/2" and 2" discharge - stainless steel			4	Z-Rail®
39-0140	Intermediate stabilizer, SS, for 3" system			4	Z-Rail®
10-0789**	SS lifting bail for 6160, 6180, 6280, 6290, 7010 and 7020/7021 series (Pictured above)			1	Both

* Coupling base / sealing plate / upper support / bracket and rail guide.

** Lifting bails are required on the following models to balance pump and rail plate evenly. Other models already include proper lifting device.

SQUARE GUIDE RAIL SYSTEMS (1¼", 1½" & 2" Discharge) FIELD ASSEMBLED

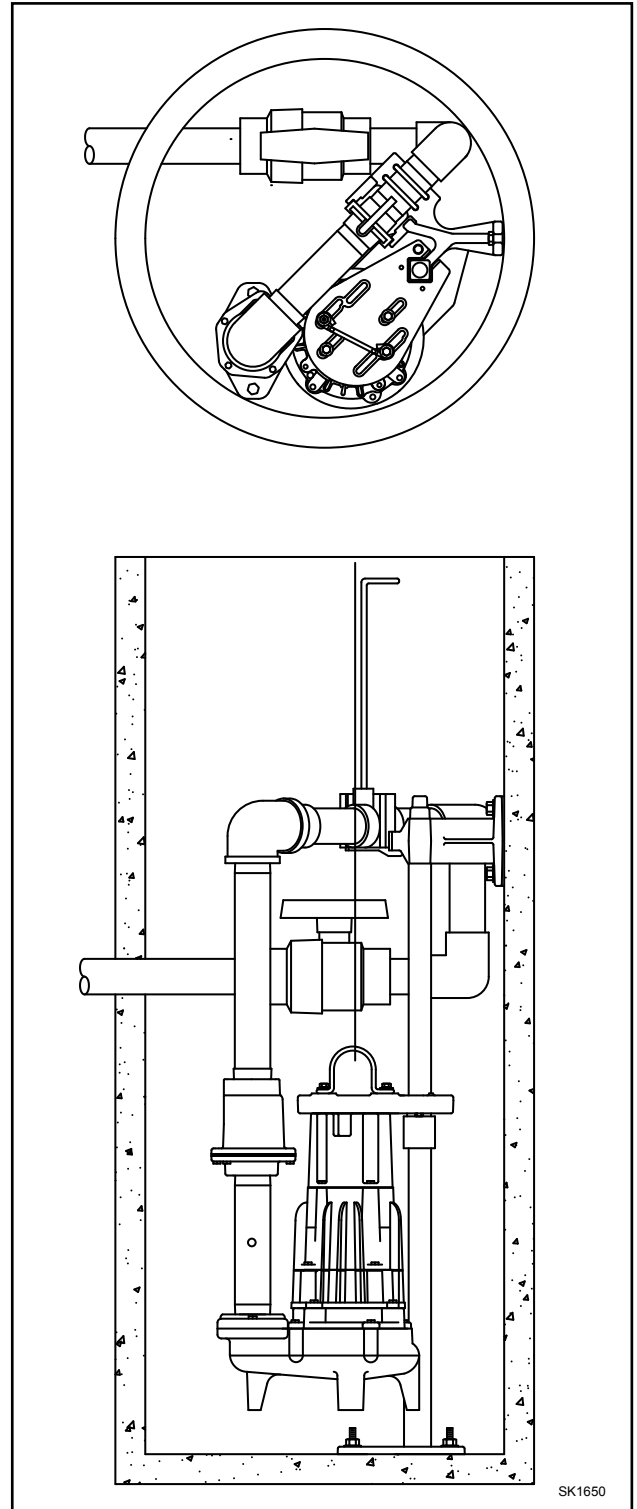
- Economical: reduces time & cost of removing pump.
- Safety: keeps personnel out of pits & out of contact with contaminants.
- Inspections made fast & easy.

FEATURES

- Single, rigid, stainless steel square rail design
- Stainless steel rail, nuts, bolts, fasteners and lifting bail
- Cast iron angle arm bracket and pump guide bracket
- Galvanized piping or stainless steel - optional
- Red brass disconnect fittings with Teflon®-coated Buna O-ring seal
- PVC ball valve
- Cast iron check valve
- Optional stainless steel pull rods and lifting cable available
- Also available in prepackaged fiberglass basins

* For tanks deeper than 72" a second angle arm bracket P/N 39-0070 is required. Sch. 40 galvanized or stainless steel pipe is used for extending the rail length.

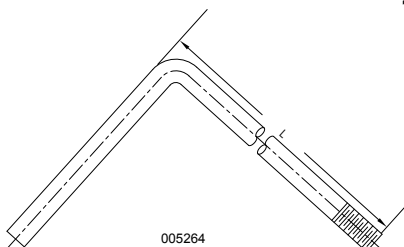
Rail System	*Tank Depth	Discharge Pipe size	Pump Series
39-0054	48"	1 ¼"	7011 grinders
39-0055	60"	1 ¼"	7011 grinders
39-0056	72"	1 ¼"	7011 grinders
39-0057	48"	1 ¼"	7010 grinders
39-0058	60"	1 ¼"	7010 grinders
39-0059	72"	1 ¼"	7010 grinders
39-0060	48"	1 ½"	6160 - 6180 effluent pumps
39-0061	60"	1 ½"	6160 - 6180 effluent pumps
39-0062	72"	1 ½"	6160 - 6180 effluent pumps
39-0063	48"	2"	6160 - 6180 - 6290 effluent & sewage pumps
39-0064	60"	2"	6160 - 6180 - 6290 effluent & sewage pumps
39-0065	72"	2"	6160 - 6180 - 6290 effluent & sewage pumps
39-0066	48"	2"	6280 sewage pumps
39-0067	60"	2"	6280 sewage pumps
39-0068	72"	2"	6280 sewage pumps



SK1650

Stainless Steel Pull Rods

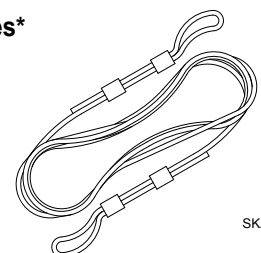
3/8"-16 UNC	
Part Number	Length
39-0069	1'
39-0006	2½'
39-0007	3½'
39-0008	4½'
39-0009	5½'



005264

1/8" Stainless Steel Lifting Cables*

Part Number	Length
39-0031	8'
39-0032	12'
39-0033	16'
39-0034	20'
39-0035	24'



SKA1335

* Cable recommended for commercial duty pumps and 2HP Grinder Pumps.