No: MC-01

SUBMITTAL COVERSHEET
Nanuet UFSD –Phase 3 Projects

Architect:
KSQ Architects
215 W 40th Street,15th Floor
New York, NY 10018

Owner:
Nanuet Union Free School District
101 Church Street
Nanuet, NY 10954

Construction Manager:
Jacobs
One Penn Plaza, 54th floor
New York, NY 10019

Contractor: Joe Lombardo Plumbing & Heating of Rockland Inc

Contract: Ron Lombardo

Address: 321 Spook Rock Road Suite 109A
Suffern, New York 10901

Telephone: 845-357-6537

Fax: 845-357-8529

School Name: Nanuet Union Free School District Phase 3 Bond Projects @ Barr Middle School & Nanuet High School

Type of Submittal:

Re-submittal: [ ] No [ ] Yes

[ ] Shop Drawings **[ ]** Product Data **[ ]** Schedule **[ ]** Sample **[ ]** _____
[ ] Test Report **[ ]** Certificate **[ ]** Color Sample **[ ]** Warranty **[ ]** _____

Submittal Description: hydronic specialties

Product Name:

Manufacturer: B&G

Subcontractor/ Supplier: WALLACE EANNACE

References:

Spec. Section No.: 232114

Drawing No(s):

Paragraph:

Rm. or Detail No(s):

Architect's/ Engineer's Review Stamp	Contractor Review Statement: These documents have been checked for accuracy and coordinated with job conditions and Contract requirements by this office and have been found to comply with the provisions of the Contract Documents. Ronald J. Lombardo 10-3-23 Name: Date: Company Name: Joe Lombardo Plumbing & Heating of Rockland Inc.

Remarks:

Bell & Gossett a xylem brand

2.1 EXPANSION TANKS

SUBMITTAL

A-342G

JOB: 103 Church Street - Nanuet - BUY

REPRESENTATIVE: Wallace Eannace Associates, Inc

UNIT TAG:

ENGINEER: Sage Engineering

CONTRACTOR:

ORDER NO.

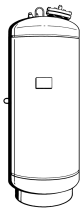
SUBMITTED BY: Alex Curran

APPROVED BY:

DATE: 9/11/2023

DATE:

DATE:



Series "B" (ASME) Pressurized Expansion Tanks Vertical

Not For Potable Water Systems

DESCRIPTION

Series "B" expansion tanks are ASME rated precharged bladder-type pressure vessels. The Series "B" tank is designed to absorb the expansion forces of heating/cooling system water while maintaining proper system pressurization under varying operating conditions. The heavy duty bladder contains system water thereby eliminating tank corrosion and waterlogging problems.

CONSTRUCTION

System Connection: Forged Steel
Shell: Carbon Steel
Bladder: Heavy Duty Butyl Rubber
Designed and Constructed per ASME Section VIII, Division 1

MAXIMUM OPERATING LIMITS

Maximum Design Pressure: 125 PSI (862kPa)
Design Temperature: 240°F (115°C)

SCHEDULE

PART NUMBER		MODEL NO.	TANK AND ACCEPTANCE VOLUME GALLONS (LITERS)	TAGGING INFORMATION	QUANTITY
PRESSURIZED EXPANSION TANKS	WITH SEISMIC RESTRAINTS				
116550	116923	B-200	53 (200)		
116551	116924	B-300	80 (300)		
116552	116925	B-400	106 (400)		
116553	116926	B-500	132 (500)		
116554	116927	B-600	158 (600)		
116555	116928	B-800	211 (800)	EXP-HS-2-3	2
116556	116929	B-1000	264 (1000)		
116557	116930	B-1200	317 (1200)		
116558	116931	B-1400	370 (1400)		
116559	116932	B-1600	422 (1600)		
116560	116933	B-2000	528 (2000)		
116793	116934	B-2500	660 (2500)		
116794	116935	B-3000	792 (3000)		
116795	116936	B-3500	925 (3500)		
116796	116937	B-4000	1057 (4000)		
116819	116938	B-5000	1321 (5000)		
116841	116939	B-7500	1980 (7500)		
116842	116940	B-10000	2640 (10000)		
116843	116941	B-15000	3963 (15000)		

TYPICAL SPECIFICATION

Furnish and install as shown on plans a _____ gallon (_____ liter) _____" (_____ mm) diameter x _____" (_____ mm) high pre-charged steel expansion tank with replaceable heavy duty Butyl rubber bladder. The tank shall have a _____" NPT system connection, _____" NPT drain, and a .302"-32 charging valve connection (standard tire valve) to facilitate the on-site charging of the tank to meet system requirements.

The tank shall be fitted with lifting rings and a floor mounting skirt for vertical installation.

The tank must be constructed in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code and stamped 125 PSI (862 kPa) working pressure.

Each tank shall be Xylem – Bell & Gossett Model No. _____

xylem
Let's Solve Water

ASME EXPANSION TANKS - PRESSURIZED (Air Elimination)

A-342G

FIG. 1

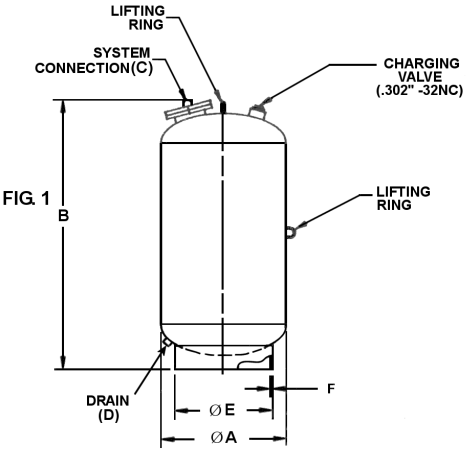


FIG. 2

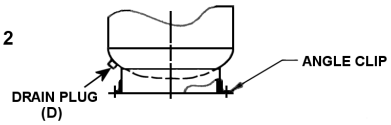
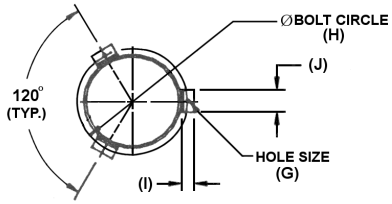


FIG. 3



NOTE: Tanks are factory pre-charged at 12 psi (83 kPa)

Allow a minimum of 18"(457.2mm) clearance for system piping.

Sight glass and seismic restraints available on request.

Tanks can be installed in the horizontal position with the system connection located below the horizontal centerline of the tank.

OPTIONAL SEISMIC RESTRAINTS (FIG.2 & 3) – DIMENSIONS IN INCHES (MM)

TANK DIAMETER	G	H	I	J
24"	9/16 (14)	21 (533)	2 (51)	2 (51)
30"	7/8 (22)	28 (711)	4 (102)	4 (102)
36"	7/8 (22)	34 (864)	4 (102)	4 (102)
48"	7/8 (22)	46 (1168)	4 (102)	4 (102)
54"	7/8 (22)	46 (1168)	4 (102)	4 (102)
60"	7/8 (22)	46 (1168)	4 (102)	4 (102)
72"	1 (25)	58 (1473)	4 (102)	4 (102)

DIMENSIONS IN INCHES (MM) AND WEIGHTS IN LBS. (KG) (FIG. 1)

PART NUMBER		MODEL NUMBER	A	B	C NPTF	D	E	F	APPROX. SHPG. WT.	APPROX. WT* 100% FULL
PRESSURIZED EXPANSION TANKS	WITH SEISMIC RESTRAINTS									
116550	116923	B-200	24 (610)	36-7/8 (936)	1	3/4	19 (483)	3/16 (5)	192 (87)	629 (285)
116551	116924	B-300	24 (610)	50-7/8 (1292)	1	3/4	19 (483)	3/16 (5)	268 (122)	928 (421)
116552	116925	B-400	24 (610)	64-3/4 (1644)	1	3/4	19 (483)	3/16 (5)	309 (140)	1184 (537)
116553	116926	B-500	24 (610)	78 (1981)	1	3/4	19 (483)	3/16 (5)	328 (149)	1417 (643)
116554	116927	B-600	30 (762)	63-3/4 (1619)	1-1/2	1	24 (610)	3/16 (5)	510 (232)	1814 (823)
116555	116928	B-800	30 (762)	81-3/4 (2076)	1-1/2	1	24 (610)	3/16 (5)	656 (297)	2306 (1046)
116556	116929	B-1000	36 (914)	73 (1854)	1-1/2	1-1/4	30 (762)	3/16 (5)	691 (313)	2869 (1301)
116557	116930	B-1200	36 (914)	85-3/8 (2169)	1-1/2	1-1/4	30 (762)	3/16 (5)	779 (353)	3394 (1539)
116558	116931	B-1400	36 (914)	97-3/4 (2483)	1-1/2	1-1/4	30 (762)	3/16 (5)	905 (410)	3958 (1795)
116559	116932	B-1600	48 (1219)	69-1/8 (1756)	1-1/2	1-1/2	42 (1067)	1/4 (6)	1183 (537)	4665 (2116)
116560	116933	B-2000	48 (1219)	84 (2145)	1-1/2	1-1/2	42 (1067)	1/4 (6)	1264 (573)	5620 (2549)
116793	116934	B-2500	48 (1219)	100-7/8 (2562)	2	1-1/2	42 (1067)	1/4 (6)	1445 (655)	6890 (3125)
116794	116935	B-3000	48 (1219)	118-1/8 (2562)	2	1-1/2	42 (1067)	1/4 (6)	1630 (739)	8164 (3703)
116795	116936	B-3500	54 (1372)	111 (2820)	2	1-1/2	42 (1067)	1/4 (6)	2110 (957)	9741 (4418)
116796	116937	B-4000	54 (1372)	124-1/2 (3163)	2	1-1/2	42 (1067)	1/4 (6)	2230 (1011)	10950 (4967)
116819	116938	B-5000	60 (1524)	128 (3251)	2	1-1/2	42 (1067)	1/4 (6)	2450 (1111)	13403 (6079)
116841	116939	B-7500	72 (1829)	127 (3326)	3	1-1/2	54 (1372)	3/8 (10)	4000 (1814)	20500 (9299)
116842	116940	B-10000	72 (1829)	159 (4039)	3	1-1/2	54 (1372)	3/8 (10)	4900 (2223)	26890 (12197)
116843	116941	B-15000	72 (1829)	233 (5918)	3	1-1/2	54 (1372)	3/8 (10)	6000 (2721)	39010 (17695)

Dimensions are subject to change. Not to be used for construction purposes unless certified.

*Approximate weight 100% full occurs if bag fails or if air charge is lost.

Xylem Inc.
8200 N. Austin Avenue
Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.bellgossett.com

xylem
Let's Solve Water

Bell & Gossett
a xylem brand

2.2 AIR VENTS

SUBMITTAL

A-338G

JOB:	**REPRESENTATIVE:**	
UNIT TAG:	**ORDER NO.**	**DATE:**
ENGINEER:	**SUBMITTED BY:**	**DATE:**
CONTRACTOR:	**APPROVED BY:**	**DATE:**

Miscellaneous Accessories

DESCRIPTION

NO. 87, 67, and 7 AUTOMATIC AIR VENTS - are designed to vent the accumulation of troublesome air wherever it can be trapped. These non-ferrous automatic air vents are 4-3/4"x2-1/4", 3-3/16"x1-1/2", and 4-1/6"x2-3/16"(height and width), respectively, and are rated for a maximum operating temperature of 240°F at pressures of 150, 35, and 75 PSI, respectively. The No. 87 has a combination of 1/2" FPT / 3/4"MPT connection, whereas No's. 67 and 7 have 1/8" MPT and 1/8" FPT connections, respectively.

No. 26 VACUUM BREAKER - Designed to protect closed vessels and piping systems against collapse when the induced vacuum exceeds design conditions. When used on steam heating piping systems, the No. 26 Vacuum Breaker controls induced vacuum permitting normal return of condensate to the boiler. Adjustable range 1/4" to 20" (mercury) vacuum - 150 PSIG maximum working pressure - 240 °F maximum operating temperature (Factory set at 4" mercury).

No. 17 SR. AUTOMATIC AIR VALVE - No. 17 Sr. Valve is a deluxe, hygroscopic air valve with manual shut-off. 1/8" MNPT connection.

30 PSIG Working Pressure
225 °F Maximum Operating Temperature

No. 4V "COIN-OPERATED" AIR VENT - This vent is specially designed for the new types of radiators. A particular feature is that it projects only slightly, being almost flush with the radiator.

150 PSIG Working Pressure
250 °F Maximum Operating Temperature

NO. 107A HIGH CAPACITY AIR VENT - A rugged High Capacity Air Vent designed to purge free air from liquid systems at operating pressures up to 150 psig. The Model 107A Air Vent has a cast iron body and bonnet, with stainless steel, brass, and EPDM internal components and is suitable for a maximum operating temperature of 250°F. The Model 107A Air Vent has a 3/4" FNPT inlet and 3/8" FNPT outlet.

RV-125A READOUT VALVE AND RP-250B READOUT PROBE - The RV-125A is designed for use wherever pressure tappings are required to monitor flow or pressures. This Readout Valve is fitted with an EPT insert which incorporates a unique check valve feature designed to check flow when the Readout Valve is not being used to monitor flow. Use companion RP-250B Readout Probes with the RV-125A Readout Valve. 300 PSIG working pressure - 250°F maximum operating temperature.

DT-2 DRAIN-O-TANK® AIR CHARGER - The Drain-O-Tank Air Charger offers a sure, quick way to recharge a water-logged compression tank.

125 PSIG Working Pressure
240 °F Maximum Operating Temperature

No. 97 Air Vent - is a float type automatic air vent that is designed to vent troublesome air from hydronic heating systems. The 97 vent has forged brass body and cap with non-ferrous internals. The vent is 3-1/8"x1-7/8" with a maximum operating pressure of 150 PSI and temperature of 240°F.

150 PSIG Working Pressure
240 °F Maximum Operating Temperature

No. 98 Air Vent - is a high capacity automatic air vent that is designed to remove air in closed loop systems. The No. 98 high capacity air vent has brass body and cap with non-ferrous internals. The vent is 4-1/2"x2-1/4" with with ½" NPTF connection.

150 PSIG Working Pressure
250 °F Maximum Operating Temperature

xylem
Let's Solve Water

SCHEDULE

MODEL NUMBER	PART NUMBER	PRODUCT	MAXIMUM WORKING PRESSURE PSIG	MAXIMUM OPERATING TEMPERATURE °F	TAGGING INFORMATION	QUANTITY
4V	113055	Air Vent	150	250		
67	113020	Automatic Air Vent	35	240		
7	113001	Automatic Air Vent	75	240		
87	113021	Automatic Air Vent	150	240		
107A	113076	High Capacity Automatic Air Vent	150	250	AS-HS-1	
17 Sr.	113004	Automatic Air Valve	30	225		
26	113075	Vacuum Breaker	150	250		
DT-2	113041	Drain-O-Tank	125	240		
97	113222	Automatic Air Vent	150	240		
98	113246	High Capacity Automatic Air Vent	150	250		
RV-125A	113100	Readout Valve	300	250		
RP-250B	113102	Readout Probe	300	250		

DIMENSIONS AND WEIGHTS

MODEL NUMBER	PART NUMBER	DIMENSIONS INCHES		CONNECTIONS INCHES NPT		APPROX. SHPG. WT. LBS.	
		WIDTH	HEIGHT	SIZE	TYPE	CARTON OF	TOTAL
4V	113055	5/8	5/8	1/8	M	48	2.0
67	113020	1-1/2	3-3/16	1/8	M	12	3.0
7	113001	2-3/16	4-1/16	1/8	F	12	6.0
87	113021	2-1/4	4-3/4	3/4 1/2	M F	12	8.0
107A	113076	4-1/2	9-5/8	3/4	F	1	10.0
17 Sr.	113004	13/16	1-1/4	1/8	M	12	2.0
26	113075	1-1/4	3	3/4	M	6	3.0
DT-2	113041	2-1/4	9-5/16	1/2	M	12	8.0
97	113222	1-7/8	3-1/8	1/8	M	10	4.0
98	113246	2-1/4	4-1/2	1/2	F	10	8.0
RV-125A	113100	1/2	1-3/32	1/8	M	50	4.0
RP-250A	113102	1/2	1-31/32	7/16	M	6	0.1

*** All dimensions and weights are approximate and not to be used for construction, pre-piping or freight rating unless certified by Bell & Gossett in writing.**

MATERIALS OF CONSTRUCTION

Body (all products except Model 107A High Capacity Air Vent): Brass
Body & Bonnet (Model 107A High Capacity Air Vent): Cast Iron
Internals: Nonferrous

Xylem Inc.
8200 N. Austin Avenue
Morton Grove, IL 60053
Phone: (847)966-3700
Fax: (847)965-8379
www.xyleminc.com/brands/bellgossett

xylem
Let's Solve Water

2.3 AIR SEPARATORS

Bell & Gossett
a xylem brand

SUBMITTAL
A-326.8F

JOB: 103 Church Street - Nanuet - BUY

REPRESENTATIVE: Wallace Eannace Associates, Inc

UNIT TAG:
ENGINEER: Sage Engineering
CONTRACTOR:

ORDER NO.
SUBMITTED BY: Alex Curran
APPROVED BY:

DATE: 9/11/2023
DATE:
DATE:

ROLAIRTROL®

Air Separator

Flanged Less Strainer
Air Control and Elimination

DESCRIPTION
The Rolairtrol Air Separator is an ASME vessel designed with tangential openings to create a low velocity vortex where air is separated and removed from the circulating water.

CONSTRUCTION MATERIALS
- Designed and constructed per ASME Section VIII, Division 1
- Shell: Carbon Steel

MAXIMUM WORKING PRESSURE
125 PSIG (862 kPa)

MAXIMUM OPERATING TEMPERATURE
350°F (177°C)

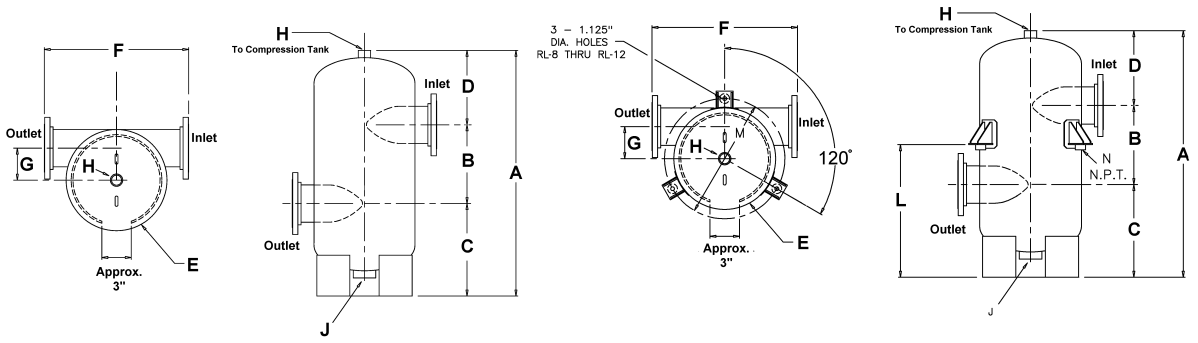
Consult factory for higher working pressures and temperatures.

PART NUMBER	MODEL NUMBER	Capacity GPM (m^3/hr)	Flanged Tangential Opening in. (mm)	TAGGING INFORMATION	QUANTITY
5363-03F-12-003	RL−3F	190 (43.2)	3 (76.2)		
5363-04F-12-003	RL−4F	300 (68.1)	4 (101.6)		
5363-05F-12-003	RL−5F	530 (120.4)	5 (127.0)		
5363-06F-12-003	RL−6F	850 (193.0)	6 (150.0)	AS-HS-2	1
5363-08F-12-004	RL−8F	1,900 (431.5)	8 (203.2)		
5363-10F-12-003	RL−10F	3,600 (817.6)	10 (254.0)		
5363-12F-12-003	RL−12F	4,800 (1090.1)	12 (300.0)		
5363-03F-12-004	RL−3FB	190 (43.2)	3 (76.2)		
5363-04F-12-004	RL−4FB	300 (68.1)	4 (101.6)		
5363-05F-12-004	RL−5FB	530 (120.4)	5 (127.0)		
5363-06F-12-004	RL−6FB	850 (193.0)	6 (150.0)		
5363-08F-12-005	RL−8FB	1,900 (431.5)	8 (203.2)		
5363-10F-12-004	RL−10FB	3,600 (817.6)	10 (254.0)		
5363-12F-12-004	RL−12FB	4,800 (1090.1)	12 (300.0)		

Model numbers with a B suffix include bracket supports.

ROLAIRTROL - Flanged Less Strainer

A-326.8F



DIMENSIONS in Inches (mm) AND WEIGHTS in Lbs (kg.)

MODEL NUMBER	A	B	C	D	E	F	G	H	J	L*	M*	N*	Cv	Approx. Volume in Gallons (Ltr.)	Approx. Shpg. Wt. in Lbs. (Kg)	Flood Wt.Less Bracket in Lbs. (Kg)	Bracket Wt. in Lbs. (Kg)†
RL−3F (B)	26-7/8 (683)	8 (203)	10-13/16 (275)	8-1/16 (205)	10-3/4 (273)	22-3/4 (578)	3-5/8 (92)	1-1/4 (32)	2 (51)	13-3/8 (340)	14 (356)	2 (51)	215	7 (26)	115 (52)	173 (79)	9 (4)
RL−4F (B)	31-7/16 (799)	10 (254)	11-15/16 (303)	9-1/2 (241)	12-3/4 (324)	20-1/2 (521)	4-1/8 (105)	1-1/2 (38)	2 (51)	15-3/8 (391)	16 (406)	2 (51)	370	13 (49)	155 (70)	263 (119)	9 (4)
RL−5F (B)	37 (940)	12 (305)	14-1/16 (357)	10-15/16 (278)	16 (406)	23-3/4 (603)	5-1/4 (133)	1-1/2 (38)	2 (51)	18-1/2 (470)	19-3/8 (492)	2 (51)	580	25 (95)	205 (93)	414 (188)	9 (4)
RL−6F (B)	44-1/16 (1119)	14 (356)	16-13/16 (427)	13-1/4 (337)	18 (457)	25-3/4 (654)	5-11/16 (144)	1-1/2 (38)	2 (51)	22-1/8 (562)	21-1/4 (540)	2 (51)	850	34 (129)	280 (127)	564 (256)	9 (4)
RL−8F (B)	54 (1372)	18 (457)	19-7/16 (494)	16-9/16 (421)	24 (610)	31-3/4 (806)	7-11/16 (195)	2 (51)	2 (51)	26 (660)	29-1/2 (749)	2 (51)	1,445	90 (341)	420 (190)	1,171 (531)	30 (14)
RL−10F (B)	64-11/16 (1643)	22 (559)	22-5/8 (575)	20-1/16 (510)	30 (762)	37-3/4 (959)	9-5/8 (244)	2 (51)	2 (51)	31-5/8 (803)	35-1/2 (902)	2 (51)	2,340	150 (568)	800 (363)	2,052 (930)	30 (14)
RL−12F (B)	75-3/8 (1915)	27 (586)	25-3/4 (654)	22-5/8 (575)	36 (914)	46-3/4 (1187)	11-5/8 (295)	2 (51)	2 (51)	37-5/8 (956)	41-1/2 (1054)	2 (51)	3,300	291 (1,101)	1,110 (503)	3,538 (1,605)	30 (14)

*Indicates measurements for models that have optional support brackets

†Bracket weight should be added to flood weight and approximate shipping weight for models that are being supplied with optional support brackets.

Important Note: Dimensions not to be used for construction.

IMPORTANT NOTES:

1. Consult IOM A85524 for safety and service instructions.

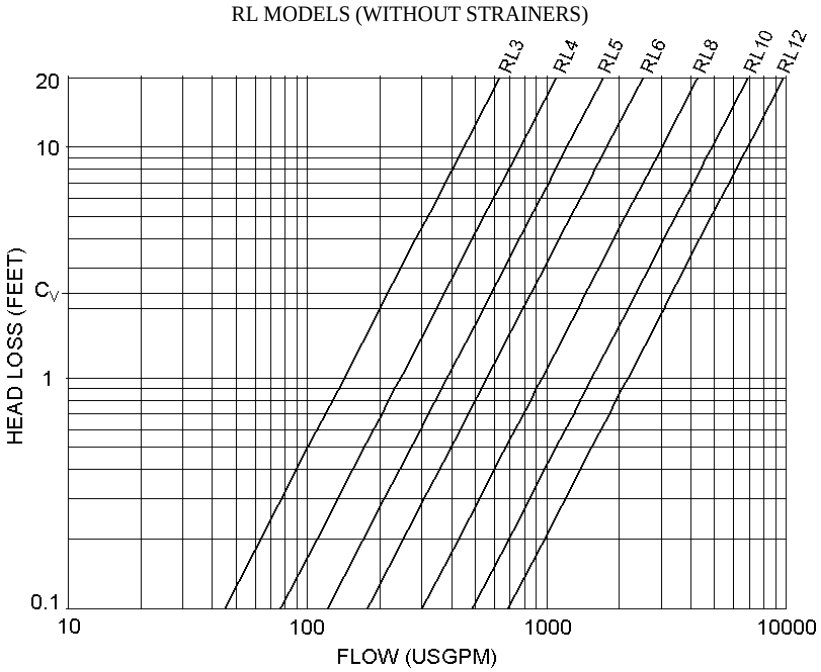
2. Lifting lugs are for the transportation and installation of the empty vessel, and are not to be used for complete or partial support of the flood vessel.

3. The RL skirt can support flooded vessel weight.

4. Welding to the pressure vessel boundary will void the ASME stamp.

5. Standard Rolairtrol design up to 12" can be hung from the nozzles using hangers. Optional, factory welded, support brackets are available for an additional cost.

Rolairtrol® Air Separator Performance Coverage Chart



Note: Pressure drops for a range of flow are indicated on this chart. Users should select Rolairtrol using B&G published capacity guidance, and ASHRAE pipe sizing recommendations for optimal performance.

TYPICAL ROLAIRTROL SPECIFICATIONS

Furnish and install, as shown on plans, a centrifugal type air separator. The unit shall have _____" inlet and outlet flanged connections tangential to the vessel shell. The unit shall have the capability to direct accumulated air to an air vent (air elimination system) via an NPT vent connection at top of unit.

A blowdown connection shall be provided to facilitate routine cleaning. Specify B&G Model MBV-1 Rolairtrol accessory with appropriate fittings for manual blowdown.

Vessel shell diameter to be three times the nominal inlet/outlet pipe diameter, with a minimum vessel volume for sufficient velocity reduction.

The air separator must be designed, constructed and stamped for 125 psig @ 350°F (862 kPa @ 177°C) in accordance with Section VIII, Division I of the ASME Boiler and Pressure Vessel Code, and registered with the National Board of Boiler and Pressure Vessel Inspectors. The air separator(s) shall be painted with one shop coat of light gray air dry enamel.

Each air separator shall be Bell & Gossett Model No. _____ Rolairtrol Air Separator for _____ GPM (_____ m^3), Shell Dia. _____" (_____ mm) and Min. Vessel Volume _____ Gal (_____ liters).

Refer to submittal A-329 for information on the MBV-1 manual blowdown valve.

Xylem Inc.
8200 N. Austin Avenue, Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.xyleminc.com/bellgossett

"Apollo"® Valves
SUBMITTAL SHEET

YCT Series

Class 250 Cast Iron Wye Strainer

LEAD FREE

Job Name:	
Job Location:	
Engineer:	
Contractor:	
Tag:	
PO#:	
Rep:	
Wholesale Dist.:	

DESCRIPTION

The **Apollo International™** YCT Strainers are designed to protect piping systems and process equipment from unwanted foreign particles with minimum pressure loss.

FEATURES

- 100% Factory Pressure Tested
- Self-Aligning Screen Design
- Conforms to ASME B16.4 Class 250
- Tapped Blow-off Connections with Plug
- NSF Approved Epoxy Coating

PERFORMANCE RATING

- Working Pressure:
  CWP: 500 psi
  SWP: 250 psi
- Maximum Temperature: 406° F

APPROVALS

- NSF/ANSI 372-2016 - Lead Free

OPTIONS

- (M20) – 20 Mesh (Standard to 2")
- (P045) – .045 Perf (Standard 2-1/2" – 3")
- (M100) – 100 Mesh

NOTES:
All screens not available for all sizes.
For wire mesh screens, a P045 perf. liner is added to support the mesh screen.

STANDARD MATERIALS LIST

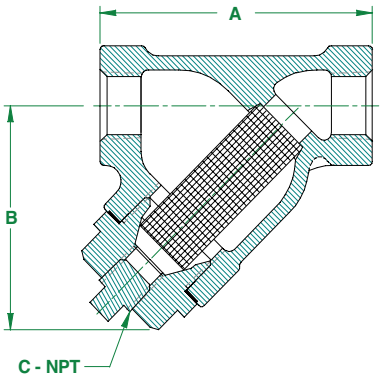
BODY	Cast Iron, ASTM A126 Class B
CAP	Cast Iron, ASTM A126 Class B
SCREEN	Stainless Steel, 304
PLUG	Cast Iron, ASTM A126 Class B
GASKET	Graphite

DIMENSIONS

SERIES NUMBER	SIZE (IN.)	DIMENSIONS (IN.)		BLOW-OFF NPT	WT. (LB.)	NET SCREEN AREA (IN.2)
		A	B			
YCT01M20	1/4	3.19 ± .04	2.17	1/4"	.44	2.8
YCT02M20	3/8	3.19 ± .04	2.24	1/4"	.57	2.8
YCT03M20	1/2	3.19 ± .04	2.76	3/8"	.75	2.8
YCT04M20	3/4	3.74 ± .06	2.83	3/8"	1.10	4.7
YCT05M20	1	4.02 ± .07	3.07	1/2"	1.90	7.0
YCT06M20	1-1/4	5.00 ± .07	3.62	1/2"	3.20	12.1
YCT07M20	1-1/2	5.75 ± .08	4.61	1/2"	4.59	16.4
YCT08M20	2	6.97 ± .08	4.69	1/2"	7.39	23.1
YCT09P045	2-1/2	9.21 ± .10	5.35	3/4"	10.56	55.0
YCT00P045	3	10.00 ± .10	5.91	3/4"	13.29	78.4

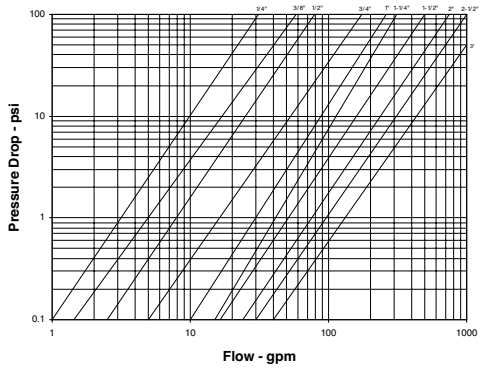
PART NUMBER MATRIX

YCT	XX	XXX(X)
	SIZE	SCREEN TYPE
YCT - CAST IRON	01 - 1/4"	M20 - 20 MESH
THREADED	02 - 3/8"	M100 - 100 MESH
WYE STRAINER	03 - 1/2"	P045 - .045 PERF
	04 - 3/4"	
	05 - 1"	
	06 - 1-1/4"	
	07 - 1-1/2"	
	08 - 2"	
	09 - 2-1/2"	
	00 - 3"	



PERFORMANCE DATA

- 1/4" - 2": 20 Mesh Screen
- 2-1/2" - 3": .045 Perf. Screen

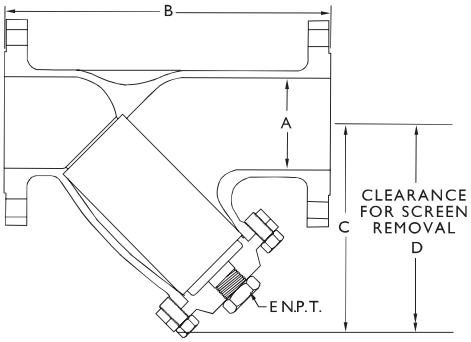


**LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with Federal Public Law 111-380. ANSI 3rd party approved and listed.*

aalberts integrated piping systems

Y-Strainers

APOLLO® SERIES 125YF AND 250YF



IRON PIPE FLANGED Y-STRAINERS

2.4 STRAINERS 21/2 FLANGED TO 8"

FEATURES

- Iron strainers are complete with Flat Face (Series 125YF) or Raised Face (Series 250YF) flanges in accordance with ASME B16.1.
- Strainer body meets applicable ASME Standard.
- One piece cast body.
- Strainers equipped with bolted cover flange that utilize a flat gasket seal.
- Low pressure drop.
- Upper and lower machined seats.
- 304 SS perforated screens are standard.
- Drain/Blow-off connection furnished with plug as standard.
- Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings.
- Compact end to end dimension.

Upper Pressure Limits (Non-Shock)			
Apollo Model	Body Material	M.A.W.P. PSIG (Bars)	Ends
125YF (up to 12" size)	A126-B Cast iron	200 (13.79)	FF
125YF Sizes 14" and up)	A126-B Cast iron	150 (10.34)	FF
250YF (Sizes 2" - 12")	A395 Ductile iron	500 (34.47)	RF

Body Material	Lower Limit °F (°C)
A126-B, A395	-20 (-28.9)

Parts List and Standard Materials		
Part Apollo Model	Cast Iron 125YF	Ductile Iron 250YF
Body	A126-B	A395
Cover	A126-B	A395
Screen [1]	304 SS	304 SS
Plug [2]	A126-B	A126-B
Gasket [1]	Graphite	Graphite
Bolt/Stud [2]	A307-B	A307-B
Nut [2]	A563	A563

Notes:
1. Recommended Spares.
2. Materials of equivalent strength may be substituted at manufacturer's option.

Dimensional Data (Iron Classes 125, 250) *use columns from chart above												
	A		B		C		D		E		Weight	
	125YF	250YF	125YF	250YF	125YF	250YF	1250YF	250YF	125YF	250YF	Y125	Y250
2"	2.00	2.00	8.88	8.88	6.00	6.50	8.50	9.13	1/2	1/2	22	28
50	51	51	226	226	152	165	216	232	15	15	10	13
21/2"	2.50	2.50	10.75	11.25	8.00	7.00	11.25	9.88	1	1	35	38
65	64	64	273	289	203	178	286	251	25	25	16	17
3"	3.00	3.00	11.50	11.63	8.75	8.00	12.25	11.25	1	1	43	54
80	76	76	292	295	222	203	311	286	25	25	20	24
4"	4.00	4.00	13.88	14.50	9.50	10.75	13.38	15.00	11/4	1	75	110
100	102	102	353	368	241	273	340	381	32	25	34	50
5"	5.00	5.00	16.38	17.38	11.50	13.50	16.13	19.00	11/4	11/4	115	160
125	127	127	416	441	292	343	410	483	32	32	52	73
6"	6.00	6.00	18.50	18.75	12.63	16.25	17.69	22.75	11/2	11/2	154	224
150	152	152	470	476	321	413	449	578	40	40	70	102
8"	8.00	8.00	21.38	21.88	16.38	19.50	23.00	27.75	11/2	11/2	243	468
200	203	203	543	556	416	495	584	692	40	40	110	212
10"	10.00	10.00	26.00	27.25	19.00	21.25	26.70	29.75	2	2	390	590
250	254	254	660	692	483	540	678	756	50	50	177	268
12"	12.00	12.00	30.00	31.38	22.00	25.00	31.00	35.00	2	2	650	890
300	305	305	762	797	559	635	787	889	50	50	295	404
14"	14.00	-	37.38	-	29.00	-	41.00	-	2	-	815	-
350	356	-	949	-	737	-	1041	-	50	-	370	-
16"	16.00	-	42.50	-	33.00	-	46.00	-	2	-	1224	-
400	406	-	1080	-	838	-	1168	-	50	-	555	-

Engineering Data Screen Openings for Y-Strainers

FACTORS TO CONSIDER

PURPOSE

If the basket strainer is being used for protection rather than direct filtration, Apollo's standard screens will suffice in most applications.

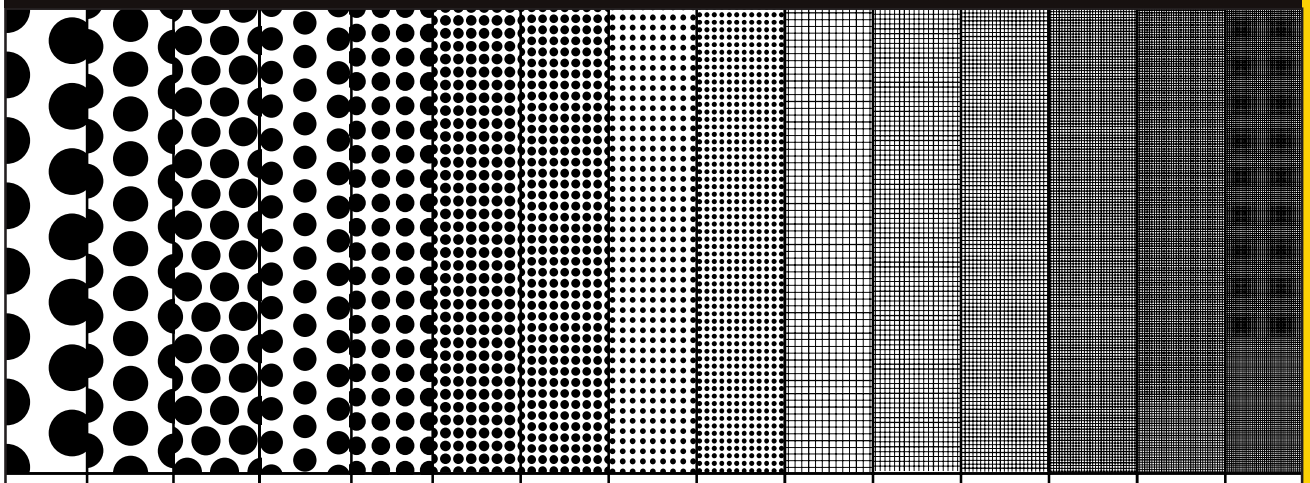
SERVICE

With services that require extremely sturdy screens, such as high pressure/ temperature applications or services with high viscosities, Apollo® recommends that perforated screens without mesh liners be used. If mesh is required to obtain a certain level of filtration, then Apollo recommends a trapped perf./mesh/perf. combination.

FILTRATION LEVEL

When choosing a perf. or a mesh/perf. combination attention should be given to ensure overstraining does not occur. As a general rule the specified level of filtration should be no smaller than half the size of the particle to be removed. If too fine a filtration is specified the pressure drop through the strainer will increase very rapidly, possibly causing damage to the basket.

SCREEN TYPES/DIMENSIONS



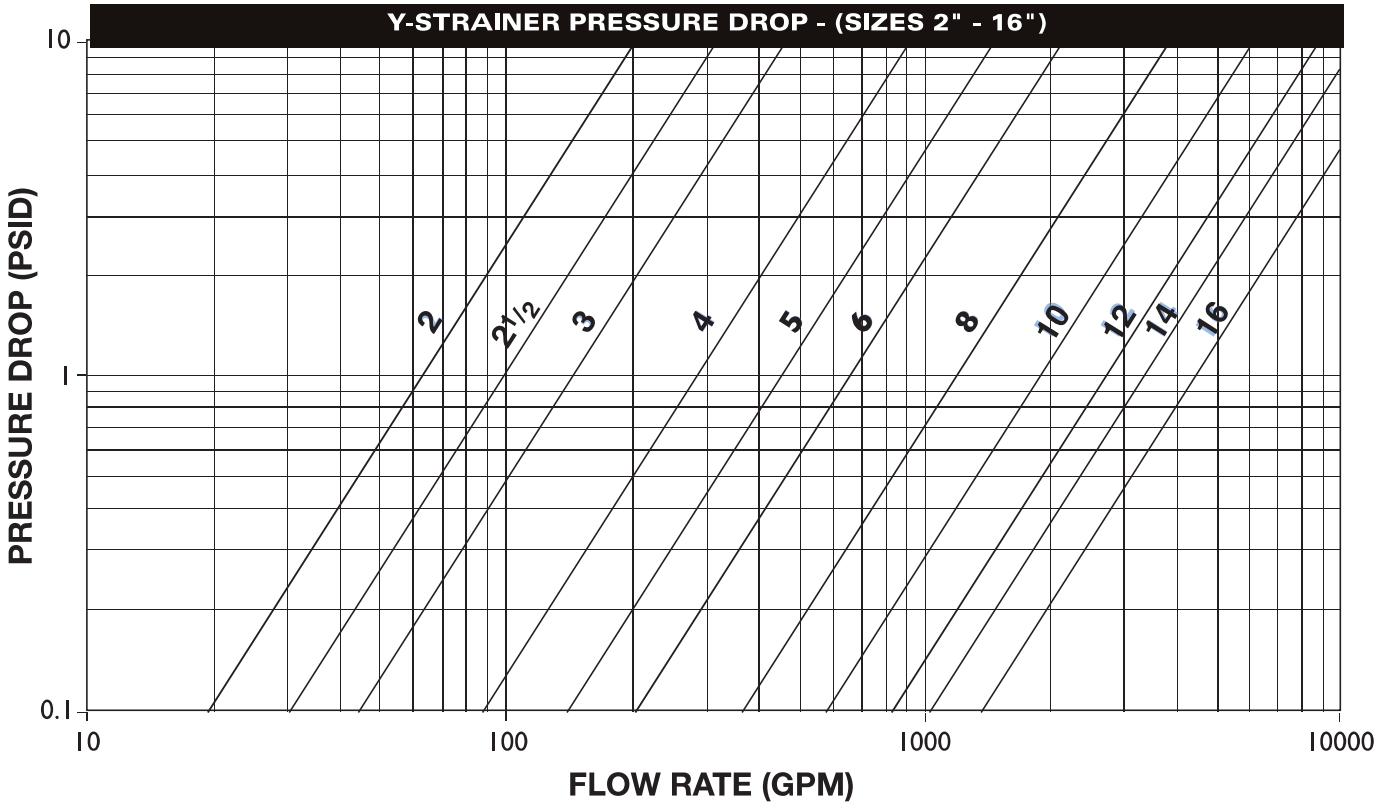
Notes:

1. Screen openings other than those shown above are available.
2. Screens are available in a wide range of materials, CS, SST, Alloy 20, Monel 400, Hastalloy C and Titanium GR2.
3. Custom manufactured screens are available upon request. Please consult factory.
4. All mesh screens include liner;
   .045 Perf 3" and smaller
   .125 Perf 4" and larger.

Standard Screens	
Size Range	Opening
2" - 3"	0.045 in.
50mm - 80mm	1.2mm
4" and larger	0.125 in.
100mm and larger	3.2mm

Engineering Data
Y-Strainer Pressure Drop – Liquids

Figure 1



Notes:
1. Pressure drop curves are based on water flow with standard screens.
2. See next page for correction factors to be used with other fluids and/or screen openings.

The following optional features are available for most Apollo Y-Strainers.
Please consult factory if required feature not shown.

FEATURES & AVAILABILITY	
Feature	**Description of Availability**
Screen openings	Range 5 micron to 1/2" perf.
Screen materials	Carbon steel, stainless steel (304/316 and L grades), alloy 20, monel 400, hastalloy C, Titanium, etc.
Screen construction	Perforated plate, mesh and wedge wire.
Gaskets	Any material commercially available.
Special body materials	Consult factory.
Special coatings	FDA Epoxy Coating
Silicon free contamination	Specially cleaned and packed - performed on request.
Canadian Registration (CRN)	Available on most models in province of installation.

Note:
1.Strainer size may effect the ability to apply certain coatings and linings.

Bell & Gossett
a xylem brand

2.5 SUCTION DIFFUSERS

SUBMITTAL

B-826A

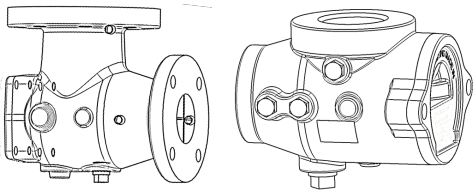
JOB: 103 Church Street - Nanuet - BUY

REPRESENTATIVE: Wallace Eannace Associates, Inc

UNIT TAG:
ENGINEER: Sage Engineering
CONTRACTOR:

ORDER NO.
SUBMITTED BY: Alex Curran
APPROVED BY:

DATE: 9/11/2023
DATE:
DATE:



B&G Suction Diffuser Plus

Centrifugal Pump Accessories

DESCRIPTION

The Bell & Gossett Suction Diffuser Plus is designed for direct application to the pump suction and provides ideal flow conditions for the pump, providing NPSH requirements are met. Its integrated Flow Cone directs flow through the unit and into the pump suction while working with the full length straightening vanes to create a more uniform flow profile. The orifice cylinder has a free area equal to five times the cross section of the pump suction opening and serves as a coarse strainer to protect the pump from large sediment. The disposable start-up strainer helps to clean the system during the first 24-48 hours of operation before it is removed. Its optional pressure temperature ports allow you to verify that the start-up strainer has been removed without the need to take the unit apart.

OPERATING DATA

Operating Temperature: 250?F (121?C)
Working Pressure: 175 psi (1,207 kPa)

MATERIALS OF CONSTRUCTION

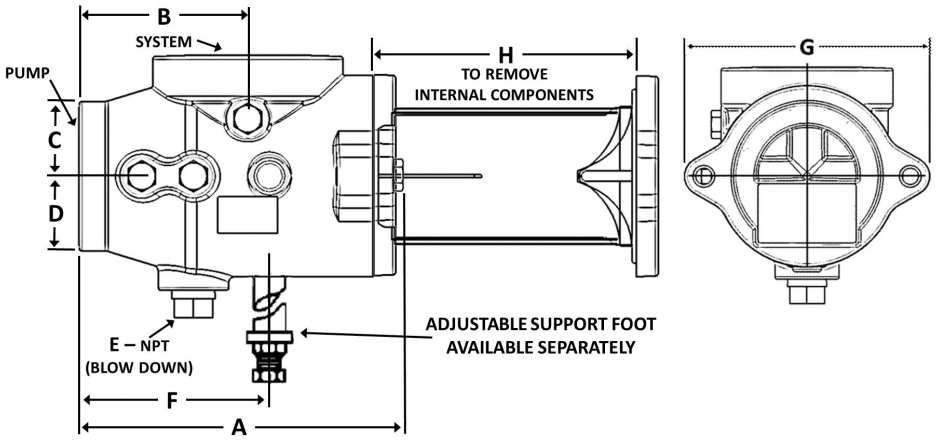
Type	Body	Inlet Vanes	Orifice Cylinder	Start-Up Strainer
X	Cast Iron	Steel		16 Mesh Bronze
Z	Cast Iron	Stainless Steel		16 Mesh Bronze

NOTES: Type X-For Closed Systems.
Type Z-For Domestic Water and Tower Systems.

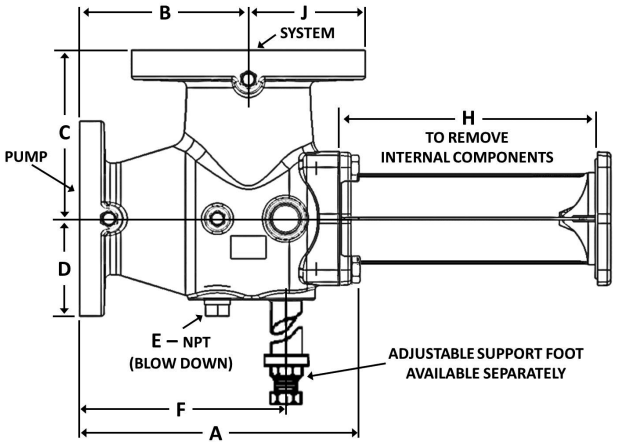
SCHEDULE

MODEL NUMBER	DIMENSIONS INCHES (mm) SYSTEM SIDE		PUMP SIDE		TAGGING INFORMATION	X QUANTITY	Z QUANTITY
BA-3X/BA-3Z	2 (50.8)	FPT	1-1/2 (38.1)	FPT			
BB-3X/BB-3Z	2 (50.8)	FPT	2 (50.8)	FPT			
CB-3X/CB-3Z	2-1/2 (63.5)	FPT	2 (50.8)	FPT			
CC-3X/CC-3Z	2-1/2 (63.5)	FLG	2-1/2 (63.5)	FLG			
DA-3X/DA-3Z	3 (76.2)	FPT	1-1/2 (38.1)	FPT			
DB-3X/DB-3Z	3 (76.2)	FPT	2 (50.8)	FPT			
DC-3X/DC-3Z	3 (76.2)	FLG	2-1/2 (63.5)	FLG			
DD-3X/DD-3Z	3 (76.2)	FLG	3 (76.2)	FLG			
EC-3X/EC-3Z	4 (101.6)	FLG	2-1/2 (63.5)	FLG			
ED-3X/ED-3Z	4 (101.6)	FLG	3 (76.2)	FLG			
EE-3X/EE-3Z	4 (101.6)	FLG	4 (101.6)	FLG	SD-P-3 & 4	2	
FE-3X/FE-3Z	5 (127)	FLG	4 (101.6)	FLG			
FF-3X/FF-3Z	5 (127)	FLG	5 (127)	FLG			
GE-3X/GE-3Z	6 (152.4)	FLG	4 (101.6)	FLG			
GF-3X/GF-3Z	6 (152.4)	FLG	5 (127)	FLG			
GG-3X/GG-3Z	6 (152.4)	FLG	6 (152.4)	FLG			
HG-3X/HG-3Z	8 (203.2)	FLG	6 (152.4)	FLG			
HH-3X/HH-3Z	8 (203.2)	FLG	8 (203.2)	FLG			
JH-3X/JH-3Z	10 (254)	FLG	8 (203.2)	FLG			
JJ-3X/JJ-3Z	10 (254)	FLG	10 (254)	FLG			

xylem
Let's Solve Water



Threaded x Threaded Models



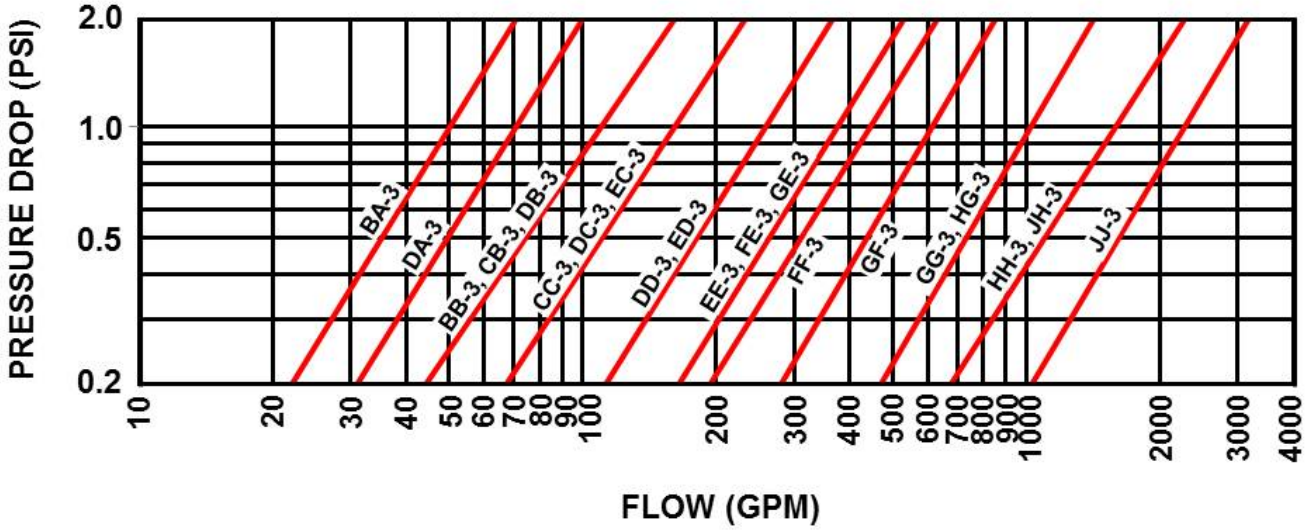
Flange x Flange Models

DIMENSIONS – INCHES (mm)

Model No.	System Side		Pump Side		A	B	C	D	E	F	G	H	J	Orifice Cylinder Free Area in^2 (cm^2)	Approx. Shpg. Wt. Lbs. (Kg)
BA-3	2 (50.8)	T	1-1/2 (38.1)	T	5.96 (151)	3 (76)	2.25 (57)	2.37 (60)	3/4 (19)	3.81 (97)	5.25 (133)	5.15 (130.8)	N/A	11 (71)	13 (6)
BB-3	2 (50.8)	T	2 (50.8)	T	7.56 (192)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.75 (171.5)	N/A	20-1/2 (132)	14 (6)
CB-3	2-1/2 (63.5)	T	2 (63.5)	T	7.56 (192)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.75 (171.5)	N/A	20-1/2 (132)	16 (7)
CC-3	2-1/2 (63.5)	F	2-1/2 (63.5)	F	8.44 (214)	4.75 (121)	4.75 (121)	3.5 (89)	3/4 (19)	5.77 (147)	N/A	7.63 (193.7)	3.5 (89)	26 (168)	36 (16)
DA-3	3 (76.2)	T	1-1/2 (38.1)	T	7.44 (189)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.63 (168.3)	N/A	20-1/2 (132)	17 (8)
DB-3	3 (76.2)	T	2 (50.8)	T	7.56 (192)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.75 (171.5)	N/A	20-1/2 (132)	17 (8)
DC-3	3 (76.2)	F	2-1/2 (63.5)	F	8.75 (222)	5 (127)	5 (127)	3.50 (89)	3/4 (19)	5.77 (147)	N/A	7.63 (193.7)	3.75 (95)	26 (168)	44 (20)
DD-3	3 (76.2)	F	3 (76.2)	F	9.56 (243)	5.50 (140)	5.50 (140)	3.75 (95)	3/4 (19)	7.0 (178)	N/A	8.75 (222.3)	3.75 (95)	37-1/2 (242)	48 (22)
EC-3	4 (101.6)	F	2-1/2 (63.5)	F	11 (279)	6.50 (165)	6.50 (165)	3.50 (95)	3/4 (19)	5.77 (147)	N/A	7.63 (193.7)	4.50 (114)	26 (168)	42 (19)
ED-3	4 (101.6)	F	3 (76.2)	F	11 (279.4)	6.50 (165)	6.50 (165)	3.75 (95)	3/4 (19)	7.93 (201)	N/A	10 (254)	4.5 (114)	37-1/2 (242)	55 (25)
EE-3	4 (101.6)	F	4 (101.6)	F	11.5 (292)	6.50 (165)	6.50 (165)	4.50 (114)	3/4 (19)	7.87 (200)	N/A	10.69 (271.5)	4.50 (114)	65 (419)	72 (33)
FE-3	5 (127)	F	4 (101.6)	F	12.5 (318)	7.50 (191)	7.50 (191)	4.50 (114)	3/4 (19)	7.87 (200)	N/A	10.69 (271.5)	5 (127)	65 (419)	84 (38)
FF-3	5 (127)	F	5 (127)	F	13.67 (347)	7.50 (191)	7.50 (191)	5 (127)	3/4 (19)	10.44 (265)	N/A	12.84 (326.1)	5 (127)	90 (581)	100 (45)
GE-3	6 (152.4)	F	4 (101.6)	F	13.5 (343)	8 (203)	8 (203)	4.50 (114)	3/4 (19)	7.87 (200)	N/A	10.69 (271.5)	5.50 (140)	65 (419)	90 (41)
GF-3	6 (152.4)	F	5 (127)	F	15.67 (398)	8 (203)	8 (203)	5 (127)	3/4 (19)	10.46 (266)	N/A	13.84 (351.5)	5.50 (140)	90 (581)	105 (48)
GG-3	6 (152.4)	F	6 (152.4)	F	15.82 (402)	8 (203)	8 (203)	5.50 (140)	3/4 (19)	11 (279)	N/A	14.75 (374.7)	5.50 (140)	127 (819)	134 (61)
HG-3	8 (203.2)	F	6 (152.4)	F	15.82 (402)	9 (229)	9 (229)	5.50 (140)	3/4 (19)	11 (279)	N/A	14.75 (374.7)	6.75 (171)	127 (819)	150 (68)
HH-3	8 (203.2)	F	8 (203.2)	F	19.55 (497)	9 (229)	9 (229)	6.75 (171)	3/4 (19)	12.62 (321)	N/A	18.25 (463.6)	6.75 (171)	218 (1406)	250 (113)
JH-3	10 (254)	F	8 (203.2)	F	19.55 (497)	10 (254)	11 (279)	6.75 (171)	3/4 (19)	12.62 (321)	N/A	18.25 (463.6)	8 (203)	218 (1406)	290 (132)
JJ-3	10 (254)	F	10 (254)	F	22.80 (579)	11 (279)	11 (279)	8 (203)	3/4 (19)	15.68 (398)	N/A	21.50 (546.1)	8 (203)	338 (2180)	415 (188)

(T) Threaded - FPT (F) Flanged *Dimensions include orifice cylinder + 2-1/2 (64) inch clearance.

Dimensions are subject to change. Not to be used for construction purposes unless certified.



TYPICAL SPECIFICATIONS

Provide with each pump a Bell & Gossett Suction Diffuser Plus of the size noted on drawings.Units shall consist of angle type body, flanged system connection, integrated Flow Cone, carbon/stainless steel straightening vane and combination diffuser-strainer-orifice cylinder with 3/16" diameter openings for pump protection. The unit shall include a disposable fine mesh strainer which shall be removed after system start-up. Unit shall have pressure/temperature ports at the suction and discharge to allow for measurement of differential pressure across the unit.

Orifice cylinder shall be designed to withstand pressure differential equal to pump shut-off head (maximum _____ PSI) and shall have a free area equal to five times cross section area of pump suction opening. Vane length shall be no less than 2-1/2 times the pump connection diameter. Unit shall be provided with adjustable support foot to carry the weight of suction piping.

Unit shall be rated for 175 psi (1,207kPa) maximum working pressure and 250F (121C) macimum working temperature.

Xylem Inc.
8200 N. Austin Avenue
Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.bellgossett.com

xylem
Let's Solve Water

Bell & Gossett
a xylem brand

2.6 TRIPPLE DUTY VALVES

SUBMITTAL

B-830F

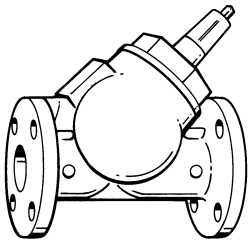
JOB: 103 Church Street - Nanuet - BUY

REPRESENTATIVE: Wallace Eannace Associates, Inc

UNIT TAG:
ENGINEER: Sage Engineering
CONTRACTOR:

ORDER NO.
SUBMITTED BY: Alex Curran
APPROVED BY:

DATE: 9/11/2023
DATE:
DATE:



Centrifugal Pump Accessories

FOR P-HS-3-4

Triple Duty® Valve – with Flanged Ends Straight Pattern with Soft Seat Nonslam Check Valve, Throttling Valve, Calibrated Balance Valve and Shutoff Valve

DESCRIPTION

The Triple Duty Valve is a quiet operating heavy-duty valve which performs all of the functions normally required on the discharge side of hydronic system pumps.

The valve serves as a nonslam check valve as needed for zoned pumping, parallel and standby pumping, and condenser water applications. The spring loaded disk prevents valve chatter, and assures positive shutoff.

Bell & Gossett's Triple Duty Valve has a calibrated nameplate for rough system balance. The Triple Duty Valve is also equipped with Model RV-125A brass readout valves for more accurate system balance.

The calibrated nameplate allows the valve to be returned to the original balance position after shutoff.

To repack under system pressure, turn the valve stem to the fully open position. Turning the valve stem to the closed position provides shutoff.

CONSTRUCTION MATERIALS

Body: Cast Iron with Bronze Seat
Disc: Brass with EPDM Seat Insert
Stem: Stainless Steel
Spring: Stainless Steel
Packing: Teflon-Graphite (Asbestos-free)
Gasket: Asbestos-free
Readout Valve: Brass with EPT insert, Check Valve & Gasket

SCHEDULE

Maximum Working Pressure 175 PSIG (1,207 kPa) – Maximum Operating Temperature 250°F (121°C)

MODEL NO.	PART #	FLANGE SIZE INCHES (mm)	MAXIMUM RECOMMENDED FLOW GPM (m^3/hr)	TAGGING INFORMATION	QUANTITY
3DS-2S	132121	2 (50.8)	275 (62)		
3DS-2-1/2S	132122	2-1/2 (63.5)	390 (89)		
3DS-3S	132123	3 (76.2)	670 (152)		
3DS-4S	132124	4 (101.6)	1200 (272)		
3DS-5S	132125	5 (127)	1675 (380)		
3DS-6S	132126	6 (152.4)	2500 (568)	TDV-P-3 & 4	2
3DS-8S	132127	8 (203.2)	3585 (814)		
3DS-10S	132128	10 (254)	6150 (1397)		
3DS-12S	132129	12 (304.8)	8050 (1828)		
3DS-14S	132120	14 (355.6)	9500 (2159)		

xylem
Let's Solve Water

TRIPLE DUTY ® VALVE – STRAIGHT PATTERN

B-830F

PERFORMANCE DATA

Cv RATING REFERENCE	Cv RATING AT 100% OF STEM RISE* (m^3/hr)									
	3DS-2S	**3DS-2-1/2S**	**3DS-3S**	**3DS-4S**	**3DS-5S**	**3DS-6S**	**3DS-8S**	**3DS-10S**	**3DS-12S**	**3DS-14S**
A	83 (18.9)	119 (27.0)	204 (43.6)	365 (82.9)	502 (114.0)	746 (169.4)	1,085 (246.4)	1,851 (420.4)	2,446 (555.5)	3,000 (681.3)
B	77 (17.5)	117 (26.6)	191 (43.4)	320 (72.7)	497 (112.9)	701 (159.2)	1,079 (245.0)	1,826 (414.7)	2,430 (551.9)	3,225 (732.4)

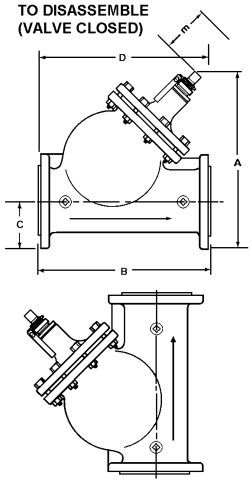
A. FLOWMETER Cv FOR BALANCING. MINIMUM READING OF 3 FEET (.9 m) OF PRESSURE DROP REQUIRED FOR ACCURATE FLOW DETERMINATION.

B. Cv FOR CALCULATING PRESSURE DROP ACCROSS THE VALVE.

NOTE: MAXIMUM RECOMMENDED PRESSURE DROP SHOULD NOT EXCEED 25 FEET (7.6 m).

* CONTACT YOUR LOCAL BELL & GOSSETT REPRESENTATIVE FOR COMPLETE PERFORMANCE CURVE DATA.

DISTANCE REQUIRED TO DISASSEMBLE (VALVE CLOSED)



PROPER INSTALLATION SHOWING STEM UPRIGHT

MODEL NUMBER	DIMENSIONS IN INCHES (mm)							APPROX. SHPG. WT. LBS. (Kg)
	FLANGE SIZE*	A		B	C	D	E	
		OPEN	CLOSED					
3DS-2S	2 (50.8)	10-3/8 (264)	9-3/4 (248)	8-3/8 (213)	3 (76.2)	8-3/4 (222)	3-1/2 (89)	24 (11)
3DS-2-1/2S	2-1/2 (63.5)	11 (279)	10-1/4 (260)	8-7/8 (225)	3-1/2 (89)	8-3/4 (222)	3-1/2 (89)	28 (13)
3DS-3S	3 (76.2)	12-3/8 (314)	11-7/16 (291)	10 (254)	3-3/4 (98)	9-3/4 (248)	3-15/16 (100)	39 (18)
3DS-4S	4 (101.6)	16-7/8 (429)	15-7/8 (403)	14-1/2 (368)	4-1/2 (114)	14-1/16 (357)	6-1/4 (159)	94 (43)
3DS-5S	5 (127)	18-1/2 (470)	17-1/4 (438)	16 (406)	5 (127)	15-3/16 (386)	6-7/8 (175)	114 (52)
3DS-6S	6 (152.4)	20-3/4 (527)	19-1/4 (489)	18 (457)	5-1/2 (140)	17 (432)	8-1/4 (210)	186 (85)
3DS-8S	8 (203.2)	24-3/4 (629)	23-1/4 (591)	21-1/2 (546)	6-3/4 (172)	20-7/16 (519)	10-3/8 (264)	316 (144)
3DS-10S	10 (254)	28-7/8 (733)	26-1/2 (673)	25-1/2 (648)	8 (203)	23-1/4 (590)	12-1/4 (311)	458 (208)
3DS-12S	12 (304.8)	33-1/2 (851)	31-1/8 (791)	30 (762)	9-1/2 (241)	26-9/16 (675)	14-1/2 (368)	662 (301)
3DS-14S	14 (355.6)	37 (940)	35-1/2 (902)	33-3/4 (857)	10-1/2 (267)	29-5/8 (753)	16-1/2 (419)	780 (355)

*STANDARD 125 PSIG (862 kPa) ANSI FLANGES.

Dimensions are subject to change. Not to be used for construction purposes unless certified.

TYPICAL SPECIFICATIONS

Furnish and install as shown on plans, a straight pattern valve designed to perform the functions of a nonslam check valve, throttling valve, shutoff valve and calibration balancing valve.

The valve shall be a heavy-duty cast iron construction with standard 125 psig (862 kPa) ANSI flanged connections, and rated for a maximum working pressure of 175 psig (1207 kPa) at 250°F (121°C). The valve shall be fitted with a bronze seat, replaceable brass disc with EPDM seat insert, stainless steel stem, and chatter-preventing spring and calibrated nameplate. The valve design shall permit repacking under full system pressure.

The valve shall be equipped with brass readout valve (with integral check valve) for taking differential pressure readings across the orifice for accurate system balance.

Valve Cv rating at full open position not to be less than _____. (Refer to the 100% stem rise value shown in row "B" for required valve.)

All valves shall be ITT Bell & Gossett Model No. 3DS-____S Triple Duty Valve.

Xylem Inc.
8200 N. Austin Avenue
Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.bellgossett.com

xylem
Let's Solve Water

Engineering Specification

Job Name 2.7 relief valves - please select the spec and where these get installed

Job Location

Engineer

Approval

Contractor

Approval

Contractor's P.O. No.

Representative

Series 174A, 374, 740

ASME Water Pressure Relief Valves

⚠ WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

⚠ WARNING

The discharge line must be the same size as the valve outlet, and must pitch downward from the valve to a safe place for disposal.

The valve lever must be tripped at least once a year to ensure that waterways are clear. This device is designed for emergency safety relief and shall not be used as an operating control.

⚠ WARNING

FOLLOWING INSTALLATION, THE VALVE LEVER MUST BE OPERATED AT LEAST ONCE A YEAR BY THE BOILER OWNER TO ENSURE THAT THE WATERWAYS ARE CLEAR. Certain naturally occurring deposits may adhere to the valve, blocking waterways, rendering it inoperative. When manually operating the lever, water will discharge and precautions must be taken to avoid contact with hot water and to avoid water damage. BEFORE OPERATING THE LEVER, check to see that a discharge line is connected to this valve directing the flow of hot water from the valve to a proper place of disposal; otherwise, personal injury or property damage may result. If no water flows, the valve is inoperative. TURN OFF THE BOILER AND CALL A PLUMBER IMMEDIATELY.

Series 174A, 374, and 740 are used for pressure protection of a variety of boiler equipment. Each series has female NPTF inlets and outlets and a valve body constructed from bronze or iron. Series 740 has expanded outlet sizes for use in hot water space heating boilers.

Features

- Seat located above drain so that water is never trapped and sediment never fouls the seat
- Nonmechanical seat-to-disc alignment that does not stick or freeze
- Water seal of high temperature resisting material to isolate spring working parts from water during relief*
- Nonmetallic disc-to-metal seating
- Available in diameters from ¾" to 2"
- Optional SentryPlus Alert® discharge line flood sensor which when paired with a connection kit (sold separately) can detect excessive water discharges from the relief valve (Refer to ES-FS-ReliefValve.)

* Does not apply to 374A.

174A

740

Operation

As thermal expansion conditions develop, pressure builds up to the setting of the relief valve. This causes discharging of small quantity of water and indicates the relief valve is operating as designed and intended.

Should operating controls fail, permitting thermal runaway, the boiler water may reach steam temperatures. The valve then opens to discharge steam at the rate or faster than the boiler can generate it, thus restoring system pressure to a safer level.

Specification

An ASME Section XIII certified pressure relief valve shall be installed on each boiler as noted. The valve shall have a BTU rating in excess of the BTU rating of the boiler's heating output. Each hot water space heating boiler shall be equipped with a pressure relief valve set to relieve below the maximum boiler working pressure. The valve shall feature a raised seat and nonmechanical disc alignment. Working parts and spring shall be isolated from any discharge by a high temperature resistant material.* The valve shall be a Watts Series 174A, 374A, or 740 and shall include a sensor for flood detection.

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.

Inquire with governing authorities for local installation requirements.

WATTS®

Materials

Series 174A

Bronze body construction

Series 374A

Iron body with brass inlet

Series 740

Iron body construction

Pressure – Temperature

Series 174A

Pressure range: 30 – 150 psi (2 – 10 bar) with corresponding high BTU/hr ratings from 650,000 to 14,370,000 BTU/hr

Maximum Temperature: 250ºF (121ºC)

Series 374A

Pressure range: Rated up to 550,000 BTU/hr at a 30 psi (2 bar) setting (Other settings are available.)

Series 740

Pressure range: 30 – 75 psi (2 – 5 bar) with corresponding high ratings from 925,000 to 10,700,000 BTU/hr

Maximum Temperature: 250ºF (121ºC)

Style B (Iron Body)

Certifications and Listings

NBBI certified to ASME BPVC Section XIII as an HV designated valve

Dimensions – Weights

Model	Size in.	Model	Height in.	Height mm	Length in.	Length mm	Weight lb	Weight kg
SERIES 174A								
174A	¾ x ¾	M3	4½	116	2¾	67	1.2	0.5
174A	1 x 1	M1	5¾	144	3	76	1.9	0.9
174A	1¼ x 1¼	M1	8½	213	4¼	109	4.6	2.1
174A	1½ x 1½	M	9¼	232	4¾	122	6.9	3.1
174A	2 x 2	M	11½	290	6½	162	14.4	6.5
SERIES 374A								
374A	¾ x ¾	–	3½	90	2½	64	1.2	0.5
SERIES 740								
740	¾ x 1	M1	5⅝	143	3	76	1.88	9.0
740	1 x 1¼	M	7¼	184	3½	89	3.13	1.4
740	1¼ x 1½	M	8¾	222	4⅝	117	6.13	2.8
740	1½ x 2	M	9¼	235	5¼	133	7.50	3.4
740	2 x 2½	M	11⅝	295	6¾	171	16.50	7.5

Capacity

BTU/hr steam pressure discharge capacity as tested and rated by the National Board of Boiler and Pressure Vessel Inspectors.

Set Pressure psi	Set Pressure bar	¾" x ¾" 20 x 20mm Model M3	1" x 1" 25 x 25mm Model M1	1¼" x 1¼" 32 x 32mm Model M1	1½" x 1½" 40 x 40mm Model M	2" x 2" 50 x 50mm Model M
SERIES 174A						
30	2.07	650,000	1,005,000	1,682,000	2,020,000	3,815,000
33	2.27	695,000	1,075,000	1,788,000	2,150,000	4,080,000
35	2.41	725,000	1,125,000	1,877,000	2,250,000	4,250,000
36	2.48	740,000	1,145,000	1,916,000	2,310,000	4,344,000
40	2.76	800,000	1,240,000	2,071,000	2,490,000	4,690,000
45	3.10	875,000	1,355,000	2,265,000	2,720,000	5,130,000
50	3.45	950,000	1,470,000	2,459,000	2,950,000	5,575,000
55	3.79	1,025,000	1,590,000	2,653,000	3,190,000	6,010,000
60	4.13	1,100,000	1,702,000	2,847,000	3,425,000	6,450,000
65	4.58	1,170,000	1,820,000	3,041,000	3,660,000	6,890,000
70	4.82	1,245,000	1,935,000	3,325,000	3,890,000	7,330,000
75	5.17	1,320,000	2,055,000	3,429,000	4,125,000	7,770,000
80	5.51	1,400,000	2,166,000	3,605,000	4,360,000	8,215,000
85	5.86	1,470,000	2,285,000	3,817,000	4,590,000	8,650,000
90	6.60	1,545,000	2,400,000	4,011,000	4,825,000	9,090,000
95	6.55	1,620,000	2,520,000	4,205,000	5,060,000	9,530,000
100	6.89	1,695,000	2,635,000	4,399,000	5,290,000	9,970,000
105	7.23	1,770,000	2,750,000	4,593,000	5,525,000	10,410,000
110	7.58	1,845,000	2,865,000	4,787,000	5,760,000	10,850,000
115	7.92	1,920,000	2,980,000	4,981,000	5,990,000	11,290,000
120	8.27	1,995,000	3,100,000	5,175,000	6,225,000	11,730,000
125	8.61	2,070,000	3,215,000	5,370,000	6,460,000	12,170,000
130	8.96	2,145,000	3,330,000	5,564,000	6,690,000	12,610,000
135	9.30	2,220,000	3,445,000	5,758,000	6,925,000	13,050,000
140	9.65	2,295,000	3,565,000	5,952,000	7,160,000	13,490,000
145	9.99	2,370,000	3,680,000	6,146,000	7,390,000	13,390,000
150	10.34	2,445,000	3,795,000	6,340,000	7,630,000	14,370,000

Set Pressure psi	Set Pressure bar	¾" x 1" 20 x 25mm Model M1	1" x 1¼" 25 x 32mm Model M	1¼" x 1½" 32 x 40mm Model M	1½" x 2" 40 x 50mm Model M	2" x 2½" 50 x 65mm Model M
SERIES 740						
30	2.07	925,000	1,300,000	2,105,000	2,900,000	5,250,000
33	2.27	989,000	1,390,000	2,250,000	3,100,000	5,613,000
35	2.41	1,032,000	1,450,000	2,345,000	3,235,000	5,855,000
36	2.48	1,053,000	1,480,000	2,395,000	3,300,000	5,975,000
40	2.76	1,139,000	1,600,000	2,590,000	3,569,000	6,461,000
45	3.10	1,245,000	1,750,000	2,830,000	3,903,000	7,067,000
50	3.45	1,352,000	1,899,000	3,075,000	4,237,000	7,672,000
55	3.79	1,459,000	2,049,000	3,315,000	4,572,000	8,277,000
60	4.13	1,566,000	2,200,000	3,560,000	4,907,000	8,883,000
65	4.58	1,672,000	2,349,000	3,800,000	5,241,000	9,488,000
70	4.82	1,779,000	2,499,000	4,045,000	5,575,000	10,093,000
75	5.17	1,886,000	2,649,000	4,285,000	5,909,000	10,700,000

USA: T: (978) 689-6066 • Watts.com
Canada: T: (888) 208-8927 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

ES-LF25AUB

Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

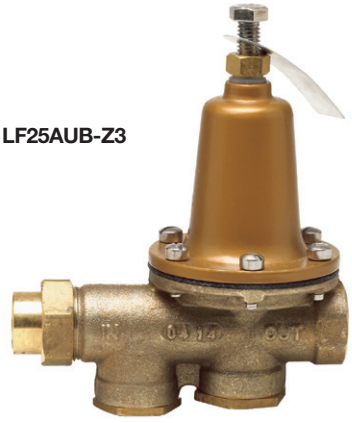
LEAD FREE*

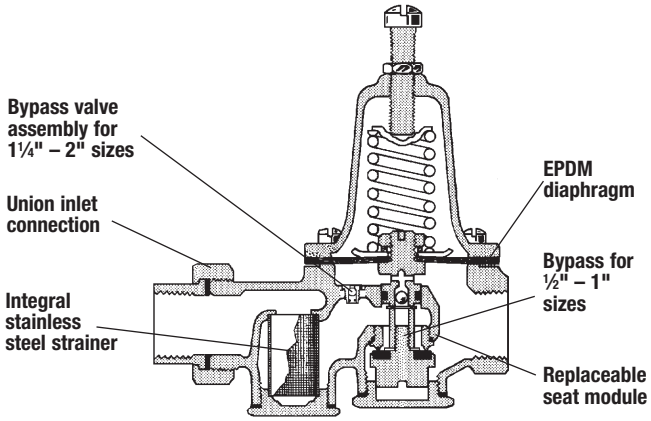
Series LF25AUB-Z3

Water Pressure Reducing Valves**

Sizes: ½" – 2"

Series LF25AUB-Z3 Water Pressure Reducing Valves are designed to reduce incoming water pressure to a sensible level to protect plumbing system components and reduce water consumption. 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 LF25AUB-Z3 features Lead Free* construction to comply with Lead Free* installation requirements. The standard setting is 50psi (345 kPa). All parts are quickly and easily serviceable without removing the valve from the line. The standard 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

- Standard construction includes Z3 sealed spring cage and stainless steel corrosion resistant adjusting & cage screws
- Union inlet connection
- Integral stainless steel strainer
- Replaceable seat module
- Lead Free* cast copper silicon alloy construction
- Serviceable in line
- Bypass feature controls thermal expansion pressure***
- High temperature resistant reinforced diaphragm for hot water

Specifications

A Water Pressure Reducing Valve with integral strainer shall be installed in 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. The valve shall feature a Lead Free* cast copper silicon alloy suitable for water supply pressures up to 300psi (20.7 bar). 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. Water Pressure Reducing Valve with built-in bypass check valves will be acceptable. Approved valve shall be listed to ASSE 1003 and IAPMO and certified to CSA B356. Valve shall be a Watts Series LF25AUB-Z3.

Materials

Body:	Lead Free* copper silicon alloy
Seat:	½"–1" Replaceable engineered polymer (10% glass filled Noryl®) 1¼"–2" Replaceable stainless steel
Integral Strainer:	Stainless steel
Diaphragm:	Reinforced EPDM with PTFE wetted surface
Valve Disc:	EPDM

NOTICE

Product is for interior or exterior applications. Product should not be buried directly in the ground. For exterior applications where the valve will be situated in a vault or pit or be in contact with the ground, the valve should be installed in a meter box/vault, accessible for repair and adjustment, per local code.

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.

*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).

WATTS®

Pressure – Temperature

Temperature Range: 33°F – 180°F (0.5°C – 82°C)
Maximum Working Pressure: 300psi (20.7 bar)
Adjustable Reduced Pressure Range: 25–75psi (172 – 517 kPa)
Standard Reduced Pressure Setting: 50psi (345 kPa)

Options

Add Suffix

-" "	Threaded female union inlet x NPT female outlet
-S	Solder union inlet x NPT female outlet
-QC	Quick-Connect union inlet (½", ¾", 1")
-LF	Double union body less fittings (¾", 1", 1¼")
-DU	Double Union – NPT threaded union female inlet and outlet
-S-DU	Double Union –Solder union inlet and outlet
-DU-PEX	Double Union –PEX union inlet and outlet
-DU-QC	Double Union – Quick-Connect inlet and outlet (½", ¾", 1")
-DU-PR	Double Union – Press union inlet and outlet
-DU-CEF	Double Union – PEX CEF (F1960) union inlet and outlet
-G	Gauge tapping, ¼" (½", ¾"), ⅛"(1¼"-2")
-GG	Gauge tapping and 160psi (11 bar) gauge
-HP	High pressure range 75–125psi (5.2 – 8.6 bar) †
-LP	Low pressure range 10–35psi (69 – 241 kPa) †
-Z6	Water meter threaded connections and 7½" (190mm) lay length for new or existing meter box installations, For ⅝", ⅝" x ¾" or ¾" meter setters or resetters

† Not available on G or GG models

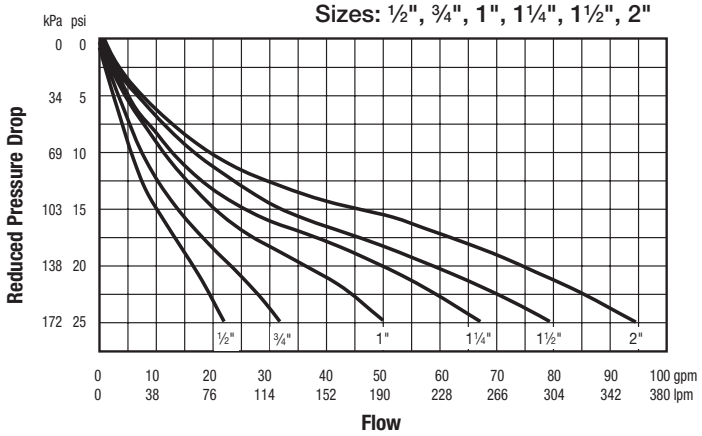
Noryl® is a registered trademark of SABIC Innovative Plastics™

Standards

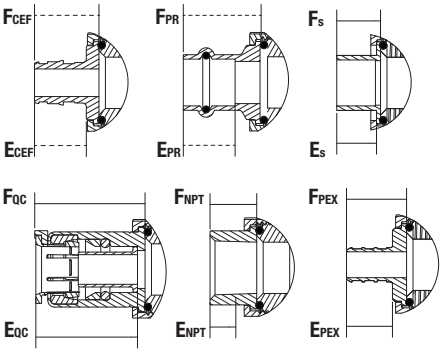
ASSE 1003 • NSF Certified to NSF/ANSI/CAN 61-G • CSA • UPC

Meets requirements of ASSE Standard 1003: ANSI A112.26.2: CSA Standard B356; Southern Standard Plumbing Code and listed by IAPMO. Military Standard MIL-V-18146B Type I.

Capacity



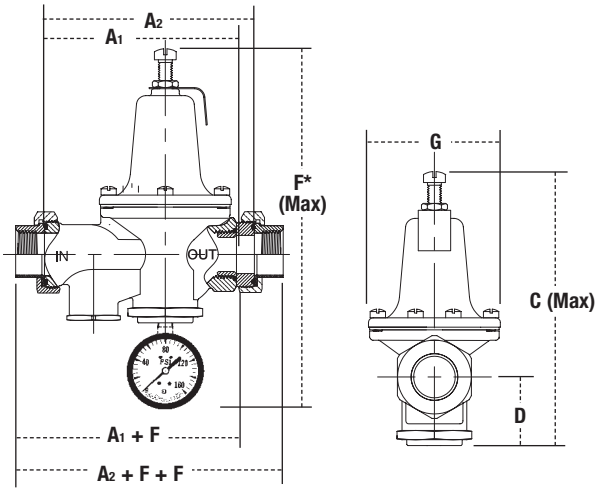
Dimensions — Weights



A1 - SINGLE UNION LF25AUB LESS FITTING
A2 - DOUBLE UNION LF25AUB LESS FITTINGS
***3/4" AND 1" DOUBLE UNION CONFIGURATIONS ARE MADE WITH ONE PIECE BODY**

VALVES MAY BE ORDERED WITH 0,1,OR 2 UNION CONNECTIONS USING ANY COMBINATION OF NPT, SOLDER, PEX, QUICK CONNECT, CEF (F1960), OR PRESS CONNECTIONS REQUIRED

"E" DIMENSIONS ARE APPROXIMATE ENGAGEMENT LENGTHS



SIZE	A1		A2		C		D		FΔ		G	
in	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
½	5 5/16	135	5 1/16	129	7	178	1½	38	9 7/16	240	3⅛	79
¾	5 5/16	135	5 3/16	132	7	178	1½	38	9 7/16	240	3⅛	79
1	6	152	5¾	146	8	203	1¾	44	10 7/16	265	3⅝	92
1¼	8¼	210	7 15/16	202	9	229	2⅛	54	11 7/16	291	3⅝	92
1½	8¼	210	8 1/16	205	9½	241	2⅜	60	11 15/16	303	4 1/16	103
2	8⅞	225	8 11/16	221	11¼	286	3¼	83	13 11/16	348	4¾	121

SIZE	DIMENSIONS																				WEIGHT	
	FNPT		FS		FPEX		FQC		FPR		FCEF		ENPT		ES		EPEX		EQC		EPR		ECEF			
in	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
½	⅝	16	½	13	⅝	16	1½	38	1¼	32	⅞	22	½	13	½	13	-	-	1⅜	35	1⅛	29	¾	19	3.5	1.6
¾	⅝	16	¾	19	⅝	16	1 11/16	43	1 7/16	37	1⅛	29	9/16	14	¾	19	⅝	16	1 9/16	40	1 3/16	30	15/16	24	3.5	1.6
1	¾	19	15/16	24	13/16	21	1¾	44	1½	38	1 7/16	37	11/16	17	15/16	24	13/16	21	1⅝	41	1 3/16	30	1 3/16	30	6.5	3.0
1¼	¾	19	1	25	-	-	-	-	1½	38	1¾	44	11/16	17	1	25	-	-	-	-	1 3/16	30	1½	38	10	4.5
1½	⅞	22	1 1/16	27	-	-	-	-	1¾	44	1 15/16	49	11/16	17	1 1/16	27	-	-	-	-	1⅜	35	1¾	44	10	4.5
2	15/16	24	1 5/16	33	-	-	-	-	2	51	-	-	¾	19	1 5/16	33	-	-	-	-	1 9/16	40	-	-	15	6.8

Δ Dimension includes optional gauge

Nominal dimensions are shown. Allowances must be made for manufacturing tolerances.

WATTS®

USA: T: (978) 689-6066 • Watts.com
Canada: T: (888) 208-8927 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com