



Hydronic Heating and Plumbing Products



Bell & Gossett®



ITT Industries
Engineered for life

Table of Contents

Page Number

Pumps

Three Piece – Oil Lubricated Series 100, HV, PR,
2", 2-1/2" LD-3, HD-3, PD-35, PD-37, PD-38, PD-40 4

NRF (Cast Iron, Maintenance-Free Wet Rotor) 5

NBF (Bronze, Maintenance-Free Wet Rotor) 6

SSF (Stainless Steel, Maintenance-Free Wet Rotor) 6

Series PL™ (Maintenance-Free Dry Motor) 7

Series LR™ (Compact Maintenance-Free) 8

Pump Accessories

Flanges 8

Aquastats and Timer 8

Check-Trol™ Isolation Flow Control Flange 9

Isolation Flanges 9

Electronics

AZ Snap-On Pump Control 10

Zone-Trol™ Switching Relays 10

Valves

Flo-Control™ Valves (models SA and HT) 11

Pressure Reducing Valves 12

ASME Safety Relief Valves 12

Monoflo® Fittings 13

Comfort-Trol™ Zone Valves 13

Air Separators

IAS (Inline Air Separators) 13

EAS (Enhanced Air Separator) 14

EASB-JR (Enhanced Air Separator) 14

Tanks

HFT Pre-Charged Hydronic Heating Tanks 15

Plain Steel Compression Tank 15

ATF (Airtrol® Tank Fittings) 15

PT Potable Water Tanks 16

WTX Well Water / Pressure Booster System Tanks 16

Hydronic Specialties

Air Vents 17

Vacuum Breaker 17

Drain-O-Tank® Air Charger 17

Thermoflo® Balancer 17

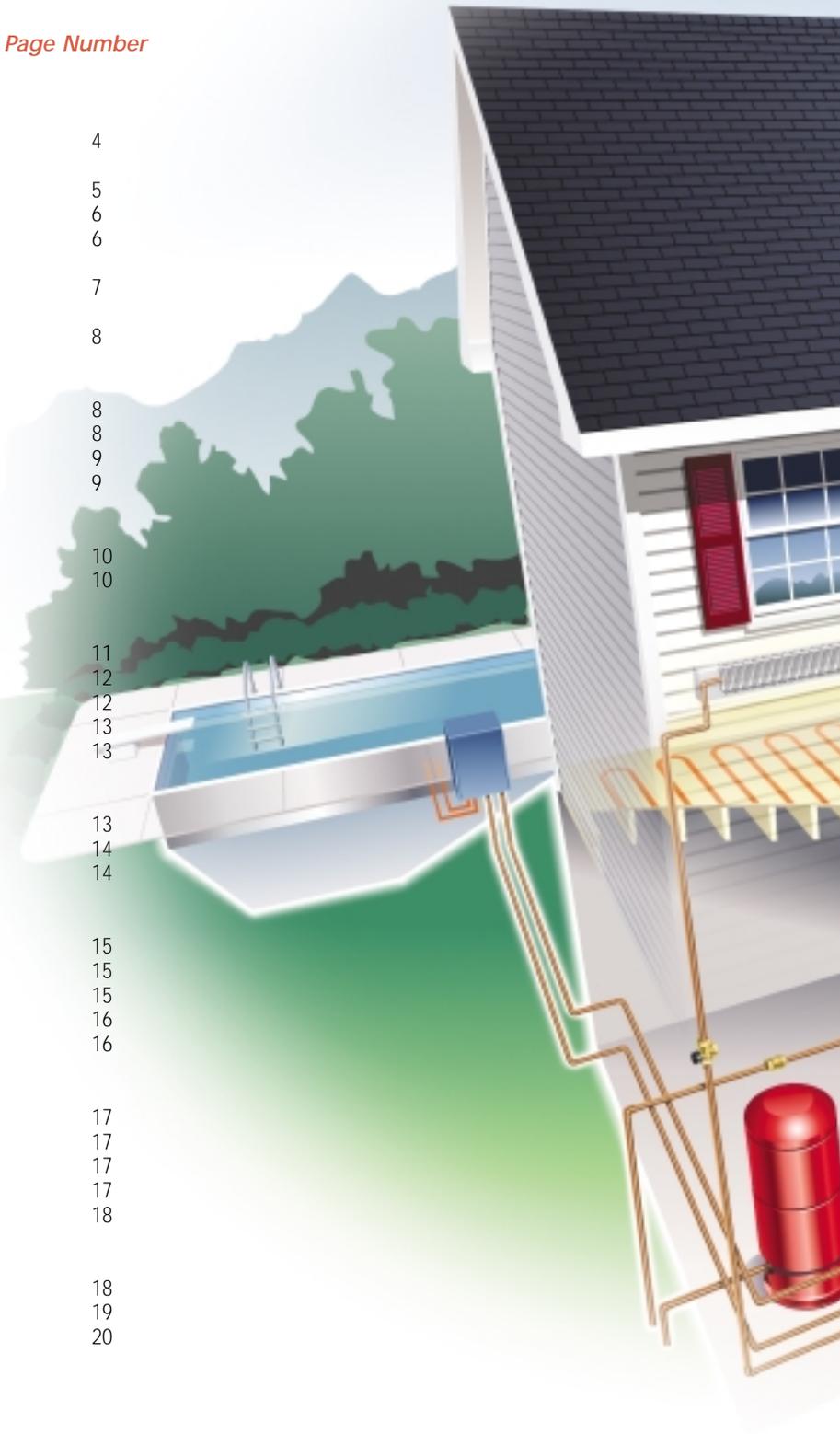
Brazed Plate Heat Exchangers 18

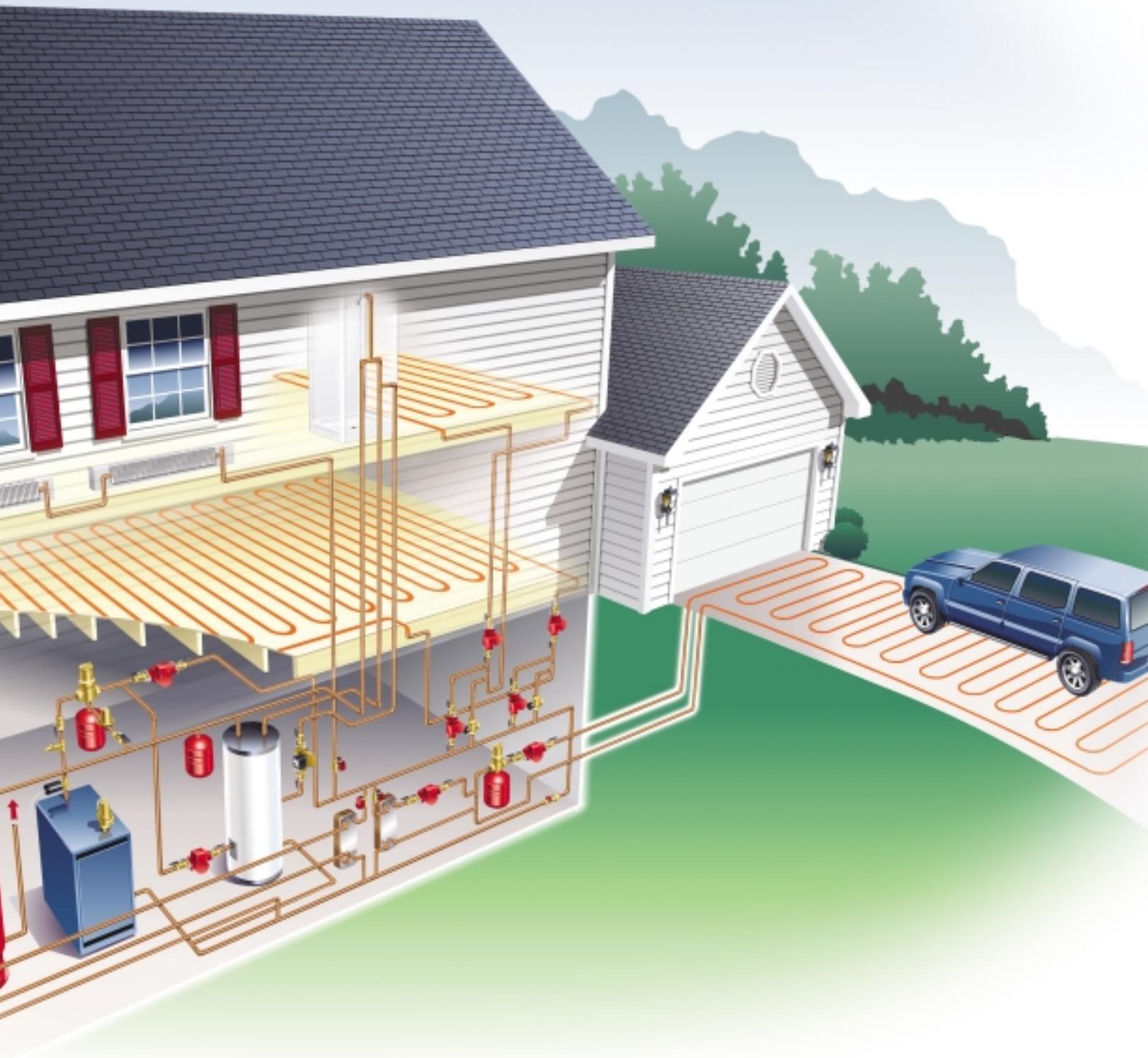
Misc.

Replacement Parts 18

Little Red Schoolhouse® 19

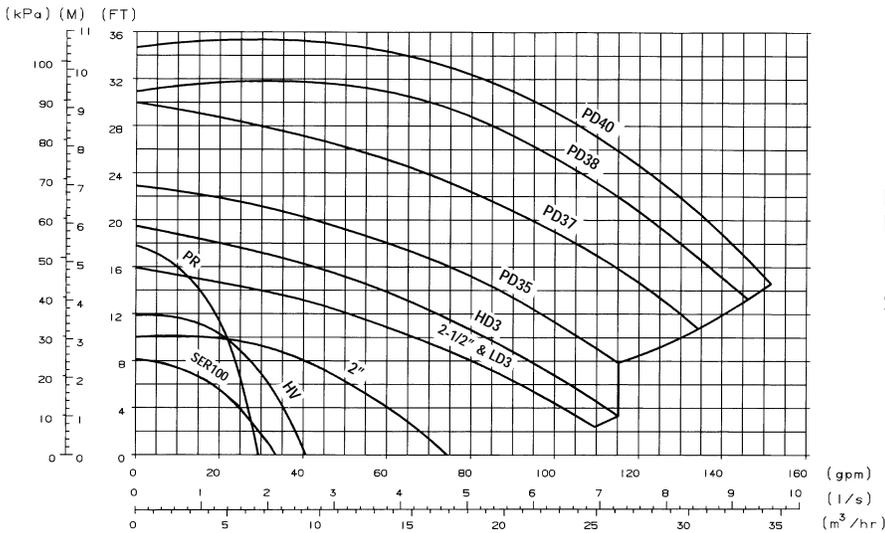
Other Products 20



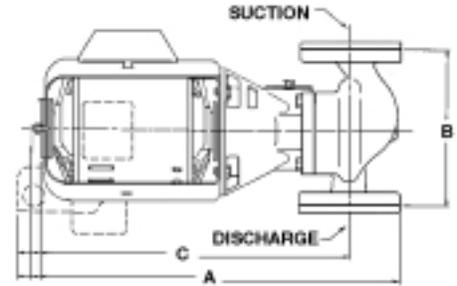


The Most Complete Line of
Hydronic Heating and Plumbing Products.
All from a Single Source – Bell & Gossett.

Oil Lubricated Circulators Three-Piece



Maximum working pressure 125 psi (8.6 bar)
 Maximum operating temperature
 Standard Seal 225°F (107°C) continuous
 Special Seals 250°F (121°C) continuous
 See page 8 for flanges.



Dimensions & Weights

Model No.	Cast Iron		Bronze		Flange Size Inches (NPT)	Motor Characteristics* @ 60 Hz			Dimensions in Inches (mm) (Open Drip-Proof)			Approximate Shpg. Wt. lbs. (Kg)	
	Model No.	Part No.	Model No.	Part No.		HP	Ø	Voltage	A	B	C	Cast Iron	Bronze
Series 100	100NF1	106189	100 AB	106192	3/4, 1-1/4, 1-1/2	1/12	1	115/230	14-7/8 (378)	6-3/8 (162)	12-3/4 (324)	20 (9)	21 (10)
	100BI	106190	100 BNFI	106197					17-1/4 (438)	10 (254)	14 (356)	54 (24)	58 (26)
Series PR	PR	102206	PR AB	102208	1-1/4, 1-1/2	1/6	1	115 - with built-in overload protection	15-1/4 (387)	8-1/2 (216)	12-3/4 (324)	30 (14)	32 (15)
	PR BI	102207							15-3/8 (391)	8-1/2 (216)	13 (330)	28 (13)	30 (14)
Series HV	HV NFI	102210	HV AB	102231	1, 1-1/4, 1-1/2	1/6	1	115 - with built-in overload protection	16-5/8 (422)	8-1/2 (216)	14 (356)	36 (16)	39 (18)
	HV BI	102230	HV BNFI	102213					17-1/4 (438)	10 (254)	14 (356)	54 (24)	58 (26)
2"	2 NFI	102214	2AB	102233	2	1/6	1	115/230	17-1/4 (438)	10 (254)	14 (356)	53 (24)	57 (26)
	2 BI	102232	2 BNFI	102217					17-1/4 (438)	10 (254)	14 (356)	53 (24)	57 (26)
2-1/2"	2-1/2	102218	2-1/2 AB	102220	2-1/2	1/4	1	115/230	17-1/4 (438)	10 (254)	14 (356)	53 (24)	57 (26)
	2-1/2 BI	102219							17-1/4 (438)	10 (254)	14 (356)	53 (24)	57 (26)
LD3	LD3	102222	LD3 AB	102224	3	1/4	1	115/230	17-1/4 (438)	10 (254)	14 (356)	53 (24)	57 (26)
	LD3 BI	102223							17-1/4 (438)	10 (254)	14 (356)	53 (24)	57 (26)
HD3	HD3	102226	HD3 AB	102228	3	1/3	1	115/230	17-1/2 (445)	10 (254)	14-1/4 (362)	55 (25)	59 (27)
	HD3 BI	102227							17-1/2 (445)	10 (254)	14-1/4 (362)	55 (25)	59 (27)
PD-35S	PD35S	105089	PDB35S	105092	3	1/2	1	115/230	20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
	PD35S BI	105090							20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
PD-35T	PD35T	105093	PDB35T	105096	3	1/2	3	208-230/460	20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
	PD35T BI	105094							20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
PD-37S	PD37S	105097	PDB37S	105100	3	3/4	1	145/230	20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
	PD37S BI	105098							20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
PD-37T	PD37T	105101	PDB37T	105104	3	3/4	3	208-230/460	20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
	PD37T BI	105102							20-1/4 (514)	12 (305)	16-7/8 (429)	75 (34)	80 (36)
PD-38S	PD38S	105121	PDB38S	105123	3	1	1	115/230	22-3/4 (578)	14-1/2 (368)	19 (483)	128 (58)	138 (63)
	PD38S BI	105122							22-3/4 (578)	14-1/2 (368)	19 (483)	128 (58)	138 (63)
PD-38T	PD38T	105133	PDB38T	105135	3	1	3	208-230/460	24 (610)	14-1/2 (368)	20-1/4 (514)	125 (57)	135 (61)
	PD38T BI	105134							24 (610)	14-1/2 (368)	20-1/4 (514)	125 (57)	135 (61)
PD-40S	PD40S	105151	PDB40S	105153	3	1-1/2	1	115/230	24-3/4 (629)	14-1/2 (368)	21 (533)	130 (59)	140 (64)
	PD40S BI	105152							24-3/4 (629)	14-1/2 (368)	21 (533)	130 (59)	140 (64)
PD-40T	PD40T	105137	PDB40T	105139	3	1-1/2	3	208-230/460	21-7/8 (556)	14-1/2 (368)	18-1/8 (460)	127 (58)	137 (62)
	PD40T BI	105138							21-7/8 (556)	14-1/2 (368)	18-1/8 (460)	127 (58)	137 (62)

PD-38 and PD-40 are ball bearing, maintenance-free design.

*Special motors available upon request. Dimensions are approximate and subject to changes.

Contact factory for certified dimension.

1 B&G Motor — The heart of the Booster. The finest circulator motor available. Sleeve bearing, oil lubricated with replaceable resilient motor mounts. B&G motors are designed and manufactured specifically for the B&G boosters.

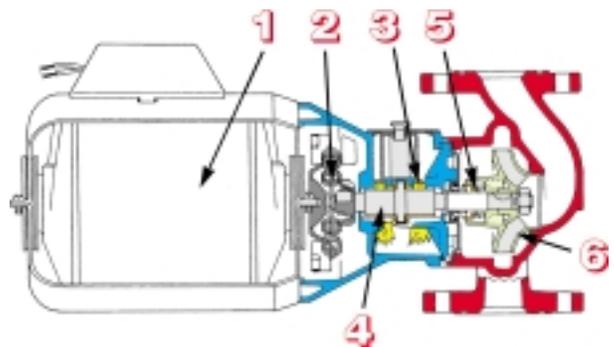
2 Noise dampening coupler. B&G's own flexible spring design adds to quiet operation. Do not accept a substitute.

3 Long bronze sleeve bearings maintain exact shaft alignment. Provides for constant circulation of oil over bearing surfaces.

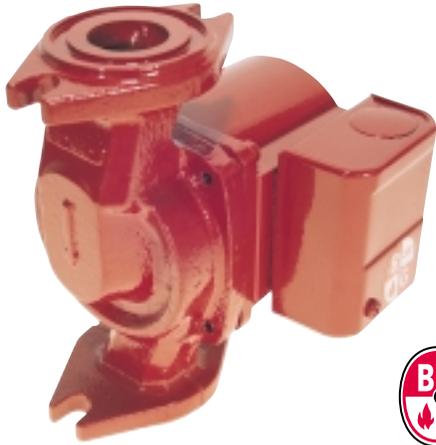
4 Precision ground pump shaft is oversized to provide large bearing surfaces. Hardened integral thrust collar minimizes end-thrust to ensure long seal and bearing life.

5 The B&G mechanical seal is designed to withstand the wide range of water temperatures, pressures, additives and dissolved solids common in hydronic systems.

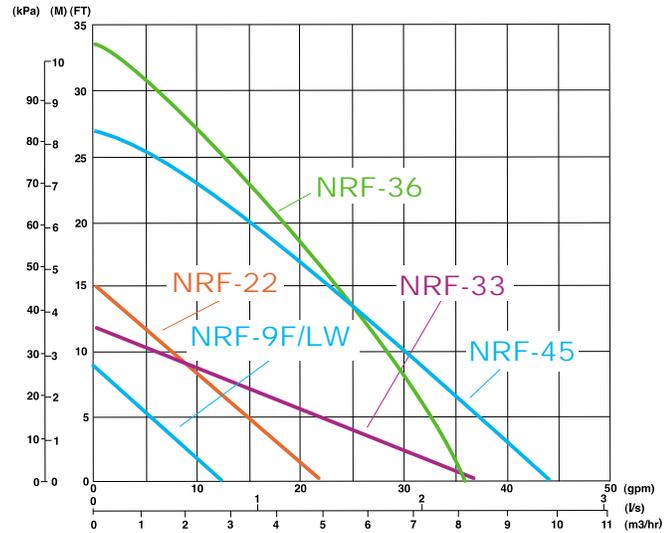
6 Centrifugal impeller prevents accumulation of air at seal faces to assure long life. Close impeller/body tolerances minimize water slippage and maximize efficiency.



Maintenance-Free Circulators Cast Iron Wet Rotor/NRF



Maximum working pressure. 150 psi (10 bar)
 Maximum operating temperature
 NRF-22 & NRF-9F/LW. 240°F (115°C)
 NRF-33. 225°F (107°C)
 See page 8 for flanges.



Cast Iron Circulators

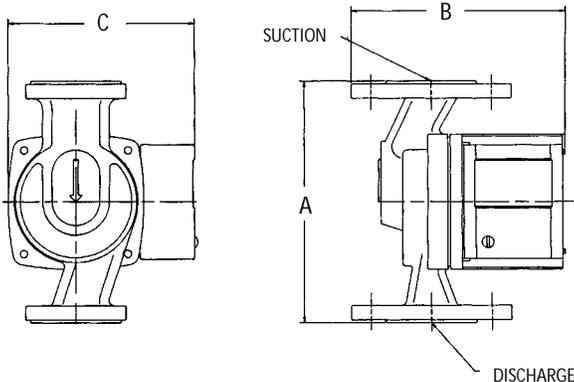
Model Number	Part Number	Flange Size Inches - NPT	Dimensions Inches (mm)			Standard 60Hz Motor Characteristics*					Approx. Shpg. Wt. lbs (Kg)
			A	B	C	Watts	Ø	Voltage	F.L. Amps	RPM	
NRF-22	103251	3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	5-9/16 (141)	4-7/8 (124)	92	1	115	0.80	2940	9.3 (4.2)
NRF-9F/LW	103267	3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	5-9/16 (141)	4-7/8 (124)	41			0.40	2800	9.3 (4.2)
NRF-33	103350	3/4, 1, 1-1/4, 1-1/2	6-1/8 (156)	6-3/16 (157)	5-1/8 (130)	125			1.10	2950	10.4 (4.7)
NRF-36**	103400	3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	6-7/8 (175)	5-3/4 (146)	260			2.30	3200	12.9 (5.6)
NRF-45**	103404	1, 1-1/4, 1-1/2	8-1/2 (216)	7-3/8 (187)	5-7/8 (149)	260			2.30	3200	14.4 (6.5)

NEW

*230/60/1 motor available upon request. Impedance protected
 Dimensions are approximate and subject to change. Consult factory for certified dimensions.
 ** NRF-36, NRF-45 are three-speed circulators, high speed performance curve shown.

Dimensions

Dimensions are approximate and subject to change. Contact factory for certified dimensions.



1 DuraGlide™ Bearing System (blue areas in cutaway illustration) incorporates several components working together to eliminate seasonal freeze-up

2 Powerful motor provides years of trouble-free operation

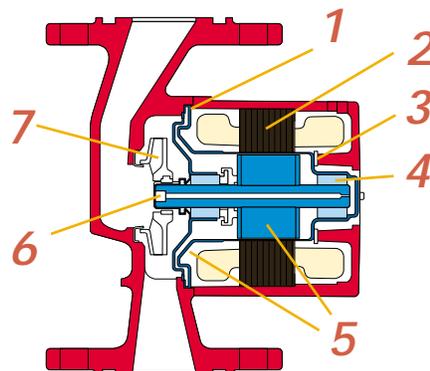
3 One-piece, high-nickel stainless steel stator can isolate the stator from system fluid and maintains precision bearing alignment for longer bearing life

4 Carbon bearings, diamond-like ceramic shaft and generous clearances are more resistant to lime, chloride and oxide build-up

5 Face plate and rotor sleeve feature corrosion resistant stainless steel construction for longer life

6 Self-cleaning particle shield protects the shaft and bearings from system start-up debris

7 Stabilized, heat resistant, non-ferrous impeller, its closed design improves operating efficiency



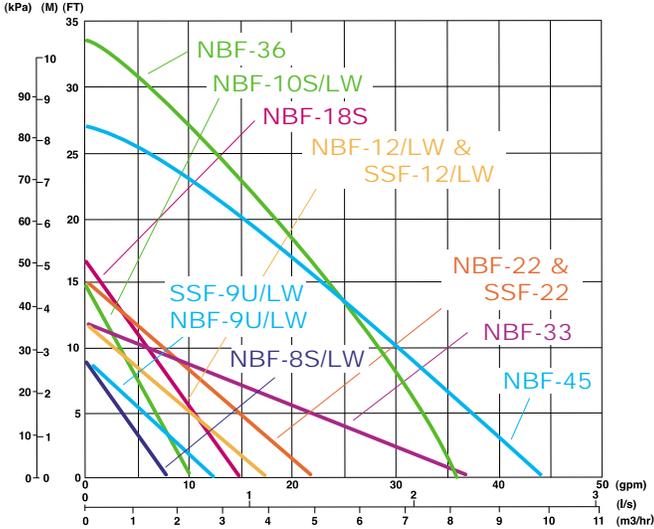
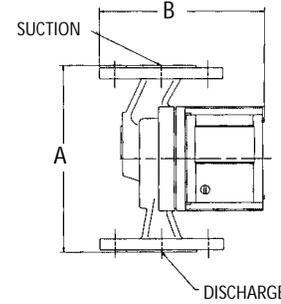
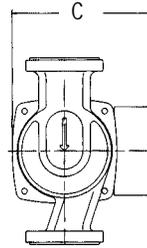
Maintenance-Free Circulators 100% Lead-Free Wet Rotor for Potable Water Applications



Operating Data

Maximum working pressure 150 psi (10.3 bar)
 Maximum operating temperature
 NBF-33 225°F (107°C)
 All Others 230°F (110°C)

See page 8 for accessories



Bronze Circulators

Model Number	Part Number	Connection	Dimensions Inches (mm)			Standard 60Hz Motor Characteristics ¹					Approx. Shpg. Wt. lbs (Kg)
			A	B	C	Watts	Ø	Voltage	F.L. Amps	RPM	
NBF-8S/LW	103257	1/2" Sweat	5 (127)	5-7/32 (132)	4-7/8 (124)	39	1	115	0.39	2800	9.0 (4.1)
NBF-9U/LW	103258	Union ²	6-1/8 (156)	5-1/16 (129)	4-7/8 (124)	41			0.40		9.3 (4.2)
NBF-10S/LW	103259	1/2" Sweat	5 (127)	5-7/32 (132)	4-7/8 (124)	55			0.46		9.0 (4.1)
NBF-12F/LW	103260	Flange 3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	5-9/16 (141)	4-7/8 (124)	55			0.48		9.5 (4.3)
NBF-12U/LW	103261	Union ²	6-1/8 (156)	5-1/16 (129)	4-7/8 (124)	55			0.48		9.3 (4.2)
NBF-18S	103316	1/2" Sweat	5 (127)	5-7/32 (132)	4-7/8 (124)	90			0.74		3000
NBF-22	103252	Flange 3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	5-9/16 (141)	4-7/8 (124)	92			0.80	9.5 (4.3)	
NBF-22U	103255	Union ²	6-1/8 (156)	5-1/16 (129)	4-7/8 (124)	92			0.80	2940	9.3 (4.2)
NBF-33	103351	Flange 3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	6-3/16 (157)	5-1/8 (130)	125			1.10	2950	10.4 (4.7)
NBF-36 ⁴	103401	Flange 3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	6-7/8 (175)	5-3/4 (146)	260			2.30	3200	12.9 (5.6)
NBF-45 ⁴	103405	Flange 1, 1-1/4, 1-1/2	8-1/2 (216)	7-3/8 (187)	5-7/8 (149)	260			2.30	3200	14.4 (6.5)



Stainless Steel Circulators

Model Number	Part Number	Connection	Dimensions Inches (mm)			Standard 60Hz Motor Characteristics ¹					Approx. Shpg. Wt. lbs (Kg)	
			A	B	C	Watts	Ø	Voltage	F.L. Amps	RPM		
SSF-9U/LW	103360	Union ²	6-1/8 (156)	5-1/16 (129)	4-7/8 (124)	41	1	115	0.40	2800	9.3 (4.2)	
SSF-12F/LW	103358	Flange 3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	5-9/16 (141)	4-7/8 (124)	55			0.48		9.5 (4.3)	
SSF-12U/LW	103361	Union ²	6-1/8 (156)	5-1/16 (129)	4-7/8 (124)	55			0.48		9.3 (4.2)	
SSF-22	103357	Flange 3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	5-9/16 (141)	4-7/8 (124)	92			0.80		9.5 (4.3)	
SSF-22U	103362	Union ²	6-1/8 (156)	5-1/16 (129)	4-7/8 (124)	92			0.80		2940	9.3 (4.2)

Pumps with Timers and 12' Plug-in Cords

Model Number	Part Number	Connection	Dimensions Inches (mm)			Standard 60Hz Motor Characteristics ¹					Approx. Shpg. Wt. lbs (Kg)
			A	B	C	Watts	Ø	Voltage	F.L. Amps	RPM	
NBF-8S/TP	103408	1/2" Sweat with timer & 12' plug-in cord	5 (127)	5-7/32 (132)	6-7/8 (176)	39	1	115	0.39	2800	10.0 (4.5)
NBF-10S/TP	103409	1/2" Sweat with timer & 12' plug-in cord	5 (127)	5-7/32 (132)	6-7/8 (176)	55			0.46		10.0 (4.5)
NBF-9U/TP	103410	Union ² with timer & 12' plug-in cord	6-1/8 (156)	5-1/16 (129)	6-7/8 (176)	41			0.40		10.3 (4.7)
SSF-9U/TP	103411	Union ² with timer & 12' plug-in cord	6-1/8 (156)	5-1/16 (129)	6-7/8 (176)	41			0.40		10.3 (4.7)
NBF-8S/P	103412	1/2" Sweat & 12' plug-in cord	5 (127)	5-7/32 (132)	6-7/8 (176)	39			0.39		10.0 (4.5)
NBF-10S/P	103413	1/2" Sweat & 12' plug-in cord	5 (127)	5-7/32 (132)	6-7/8 (176)	55			0.46		10.0 (4.5)
NBF-9U/P	103414	Union ² with 12' plug-in cord	6-1/8 (156)	5-1/16 (129)	6-7/8 (176)	41			0.40	10.3 (4.7)	
SSF-9U/P	103415	Union ² with 12' plug-in cord	6-1/8 (156)	5-1/16 (129)	6-7/8 (176)	41			0.40	10.3 (4.7)	

Dimensions are approximate and subject to change. Contact factory for certified dimensions.

1. Impedance protected
2. Union Connections are available in 3/4" NPT, 1/2" sweat & 3/4" sweat.
3. NBF models are bronze, SSF are stainless steel
4. NBF-36, NBF-45 are three-speed circulators, high speed performance curve shown.



Maintenance-Free Circulators

SERIES PL™ a superior alternative to large wet rotor



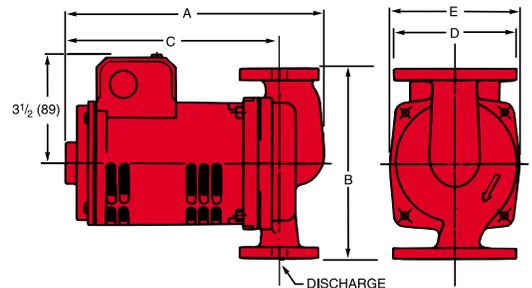
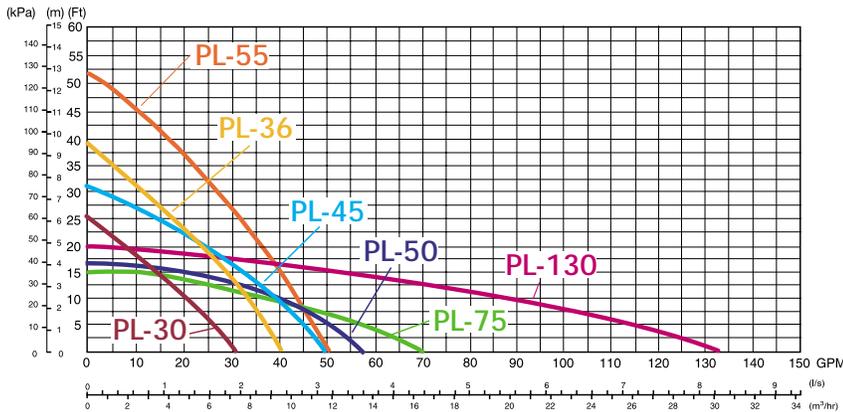
Operating Data

Maximum working pressure 150 psi (10.3 bar)
 Maximum operating temperature 225°F (107°C)
 See page 8 for flanges

Dimension & Weights

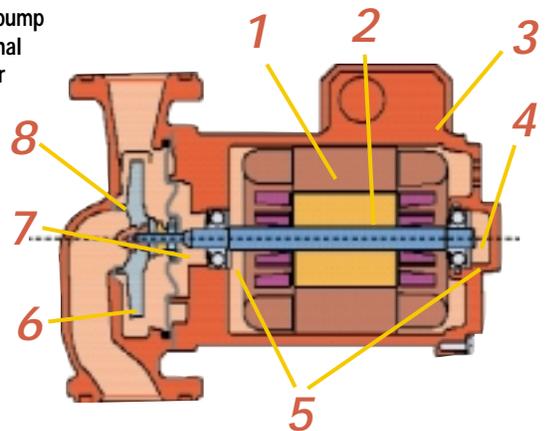
Cast Iron		Bronze		Flange Size Inches - NPT	Motor Characteristics*				Dimensions in inches (mm) @ 60 Hz (Open Drip-Proof)					Approx. Shipg. Wt. lbs. (Kg)
Model No.	Part No.	Model No.	Part No.		HP	φ	Voltage	RPM	A	B	C	D	E	
PL-30	1BL012	PL-30B	1BL013	3/4, 1, 1 1/4, 1 1/2	1/12	1	115	2650	8 5/8 (219)	6 3/8 (162)	7 1/8 (181)	4 3/16 (106)	4 3/8 (111)	11.6 (5.3)
PL-36	1BL001	PL-36B	1BL003	3/4, 1, 1 1/4, 1 1/2	1/6			3300	8 5/8 (219)	6 3/8 (162)	7 1/8 (181)	4 3/16 (106)	4 3/8 (111)	13.1 (6.0)
PL-45	1BL002	PL-45B	1BL004	1, 1 1/4, 1 1/2	1/6			3300	9 1/8 (232)	8 1/2 (216)	7 1/4 (184)	4 5/8 (117)	4 1/2 (114)	14.5 (6.6)
PL-50	1BL016	PL-50B	1BL017	1, 1 1/4, 1 1/2	1/6			3300	9 1/8 (232)	8 1/2 (216)	7 1/4 (184)	4 5/8 (117)	4 1/2 (114)	14.5 (6.6)
PL-55	1BL032	PL-55B	1BL068	3/4, 1, 1 1/4, 1 1/2	2/5			3250	9 9/16 (243)	6 3/8 (162)	7 15/16 (202)	4 3/16 (106)	4 3/4 (121)	13.1 (6.0)
PL-75	1BL034	PL-75B	1BL035	2	1/6			3400	9 15/16 (252)	8 1/2 (216)	7 3/8 (187)	5 3/16 (132)	4 5/8 (117)	18.5 (8.4)
PL-130/ 2"	1BL063	PL-130B/ 2"	1BL065	2	2/5			3200	10 3/4 (273)	8 1/2 (216)	8 1/4 (210)	5 3/16 (132)	5 1/8 (130)	22 (10)
PL-130/ 3"	1BL070	PL-130B/ 3"	1BL072	2 1/2 & 3	2/5			3200	10 3/4 (273)	8 1/2 (216)	8 1/4 (210)	6 (152)	5 1/8 (130)	27 (12.2)

* 230/60/1 motors available upon request. Models PL-75 and PL-130 have four bolt hole flange connection, all others have two bolt hole flange connectors. Dimensions are approximate and subject to changes. Contact factory for certified dimensions.



- 1** B&G's powerful, dry-motor design delivers exceptional performance. . . . 25% more efficient than competition.
- 2** Precision-machined and balanced alloy steel rotor for superior performance.
- 3** Quick-connect wire nut leads and dual knock-outs make for fast, sure hook-ups.
- 4** Solid "Stiff-Shaft" design is constructed of high-strength alloy steel impervious to cracking caused by thermal stresses.
- 5** XL-11™ Precision-Crafted Bearing System... is permanently oil lubricated... completely maintenance free... precisely positioned for long-life and isolated for quiet operation.

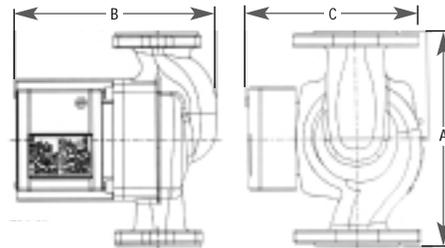
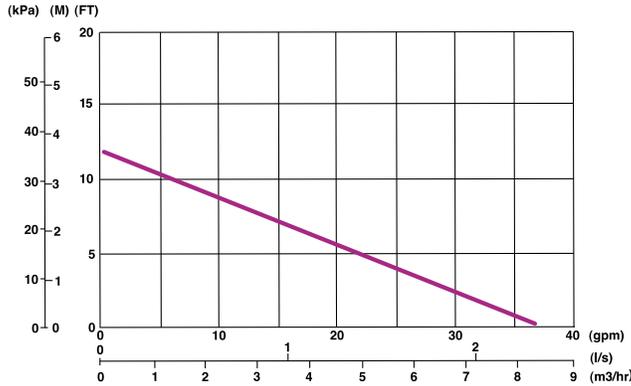
- 6** Advanced close-coupled design increases pump life and efficiency, assures dependable seasonal start-ups and can easily handle difficult water conditions.
- 7** Tough, durable seal system features a carbon/silicon carbide seal on a stainless steel shaft sleeve for long life and rugged operation.
- 8** Double sided I-Seal™ design for optimum efficiency.



Series LR™ Maintenance-Free Circulators

Operating Data

Maximum working pressure 150 psi (10 bar)
 Maximum operating temperature 225°F (107°C)



Model Number	Part Number	Pump Body Material	Flange Sizes Inches-NPT	Dimensions Inches (mm)			Standard 60Hz Motor Characteristics*					Approx. Shpg. Wt. lbs (Kg)
				A	B	C	Watts	Ø	Volts	F.L. Amps	RPM	
LR-20WR	106507	Cast Iron	3/4, 1, 1-1/4, 1-1/2	6-3/8 (162)	6 (152)	5-3/8 (137)	125	1	115	1.10	2950	10.4 (4.7)
LR-15BWR	106514	Bronze	3/4, 1, 1-1/4, 1-1/2									

COMPANION FLANGES

Flanges for Cast Iron Circulators

	Size (NPT)	Master Carton of 12 Part No.*	Individual Flange Part No.
Series 100, PR, NRF-22, NRF-9F/LW, NRF-33, NRF-36 PL-30, PL-36, PL-55	3/4"	101001	P00740
	1"	101002	P01510
	1-1/4"	101003	P03250
	1-1/2"	101004	P03430
Series HV, PL-45, PL-50, NRF-45	1"	101005	P00802
	1-1/4"	101006	P03300
	1-1/2"	101007	P03410
	Size (NPT)	Set of 2 Part No.*	Individual Flange Part No.
PL-75, PL-130/2"	2"	101215	F14200
PL-130/3"	2-1/2"	101219	P03560
	3"	101217	F74000

*Includes Fasteners

Flanges for Bronze Circulators

	Size (NPT)	Master Carton of 12 Part No.*	Individual Flange Part No.
Series 100B, PRAB, NBF-22, NBF-12F/LW, NBF-33, NBF-36, PL-30B, PL-36B	3/4"	101011	P00789
	1"	101012	P00794
	1-1/4"	101013	P03251
	1-1/2"	101014	P00779
Series HVB, PL-45B, PL-50B, NBF-45	1"	101015	P00804
	1-1/4"	101016	P06660
	1-1/2"	101017	P06690
	Size (NPT)	Set of 2 Part No.*	Individual Flange Part No.
PL-75B, PL-130B/2"	2"	101216	F54200
PL-130B/3"	2-1/2"	101220	P06750
	3"	101218	F74800

*Includes Fasteners

Union Connection for NBF Circulators

	Union Connection	Set of Two	
		Model No.	Part No.
NBF-22U, NBF-12U/LW NBF-9U/LW	1/2" sweat	UC-1/2S	113203
	3/4" sweat	UC-3/4S	113201
	3/4" NPT	UC-3/4 NPT	113202

Bronze Circulator Accessories



TC-1 Automatic Timer Kit— (Part No. 113210)

To increase the overall efficiency of a hot water recirculation system, the TC-1 timer control kit can be installed for use on any B&G NBF circulator. The TC-1 timer control is programmable to turn the circulator ON and OFF automatically at preset times. This permits the user to have the pump circulate hot water only during those times when high usage can be expected throughout the day.



AQS-1/2 (Part No. 113223) and AQS-3/4 (Part No. 113224) Aquastat— are designed to thermostatically turn any B&G NBF circulator ON and OFF. The AQ-1/2 or AQ-3/4 will switch the pump OFF at 120°F (48.9°C) and ON at 100°F (37.8°C). The aquastats are available in separate models that will sense the temperature for either 1/2" or 3/4" copper pipe.

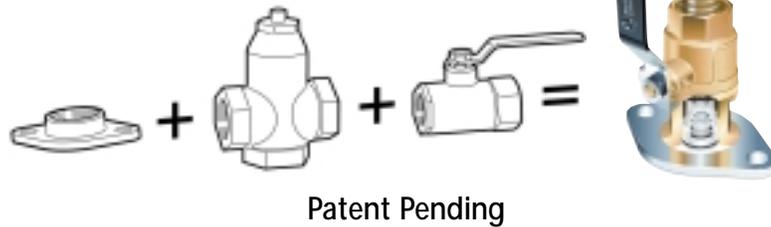


Check-Trol™ Isolation Flow Control Flange



Description

The Check-Trol flange is a combination isolation valve, flow control valve, and companion flange for circulators. The ball valve allows the circulator to be removed from the system without draining the system. The internal spring check prevents gravity circulation. Free floating companion flange makes pump installation a snap.



Dimensions & Weights

Model No.	Size Inches	Model	Use With Following Circulators	Dimensions - Inches (MM)				Approx. Shpg. Wt. Lbs. (Kg)	
				A	B	B ₁	C		D
101231	3/4" NPT x Flange	CTF - 3/4	NRF/NBF/SSF Wet Rotors (Except NRF-45, NBF-45)	3/4" NPT	3" (76)	2-3/8" (60)	2-1/8" (54)	4" (102)	3.6 (1.6)
101232	1" NPT x Flange	CTF - 1		1" NPT	3-13/16" (97)	2-3/4" (70)	2-5/16" (59)	4" (102)	4.3 (2.0)
101233	1-1/4" NPT x Flange	CTF - 1-1/4	Series PL-30, PL-36, PL-55	1-1/4" NPT	4-3/4" (120)	3-3/16" (81)	2-5/8" (67)	5" (127)	6.0 (2.7)
101245	1-1/2" NPT x Flange	CTF - 1-1/2		1-1/2" NPT	4-13/16" (122)	3-1/4" (83)	2-5/8" (67)	5" (127)	6.5 (2.9)
101234	1" NPT-HV x Flange	CTF - 1 HV	NRF-45, NBF-45, PL-45, PL-50, and Series HV	1" NPT	3-13/16" (97)	2-3/4" (70)	2-5/16" (59)	4" (102)	4.3 (2.0)
101235	1-1/4" NPT-HV x Flange	CTF - 1-1/4 HV		1-1/4" NPT	4-3/4" (120)	3-3/16" (81)	2-5/8" (67)	5" (127)	6.0 (2.7)
101246	1-1/2" NPT-HV x Flange	CTF - 1-1/2 HV	NRF/NBF/SSF Wet Rotors (Except NRF-45, NBF-45)	1-1/2" NPT	4-13/16" (122)	3-1/4" (83)	2-5/8" (67)	5" (127)	6.5 (2.9)
101236	3/4" SWT x Flange	CTFS - 3/4		3/4" SWT	3-5/16" (84)	2-19/32" (66)	2-1/8" (54)	4" (102)	3.6 (1.6)
101237	1" SWT x Flange	CTFS - 1	Series PL-30, PL-36, PL-55	1" SWT	4-1/4" (107)	3-11/64" (81)	2-5/16" (59)	4" (102)	4.3 (2.0)
101238	1-1/4" SWT x Flange	CTFS - 1-1/4		1-1/4" SWT	5-3/8" (136)	3-13/16" (97)	2-5/8" (67)	5" (127)	6.1 (2.8)
101247	1-1/2" SWT x Flange	CTFS - 1-1/4	Series 100, PR and LR	1-1/2" SWT	5-1/2" (140)	3-15/16" (100)	2-5/8" (67)	5" (127)	6.5 (2.9)
101239	1" SWT-HV x Flange	CTFS - 1 HV		1" SWT	4-1/4" (107)	3-11/64" (81)	2-5/16" (59)	4" (102)	4.3 (2.0)
101240	1-1/4" SWT-HV x Flange	CTFS - 1-1/4 HV	NRF-45, NBF-45, PL-45, PL-50 and Series HV	1-1/4" SWT	5-3/8" (136)	3-13/16" (97)	2-5/8" (67)	5" (127)	6.1 (2.8)
101248	1-1/2" SWT-HV x Flange	CTFS - 1-1/2 HV		1-1/2" SWT	5-1/2" (140)	3-15/16" (100)	2-5/8" (67)	5" (127)	6.5 (2.9)

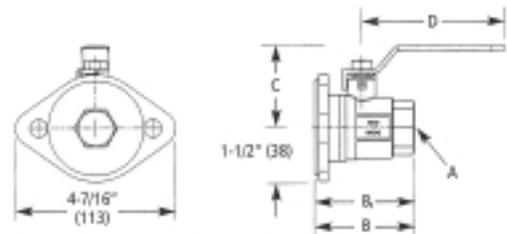
Dimensions and weights are approximate and subject to change. Contact factory for certified dimensions.

*Check-Trol™ flange is sold with an isolation flange as a pair.

B1 Dimension is overall length of isolation flange. The part numbers and shipping weights are for one Check-Trol™ flange and one isolation flange, capscrews and nuts.

Operating Data

Maximum working pressure150 psi (10 bar)
Maximum operating temperature 200°F (93°C)

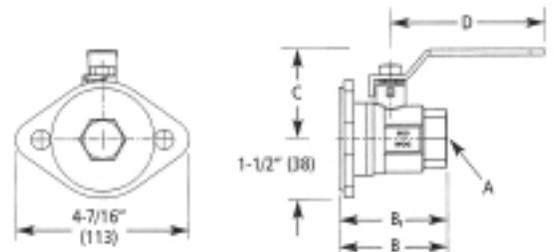


Isolation Flanges



Operating Data

Maximum working pressure150 psi (10 bar)
Maximum operating temperature 250°F (121°C)



Description

The isolation flange is a combination of an isolation ball valve and a companion flange for circulators. The isolation flange allows easy service or replacement of the circulator without the need to drain the system. The isolation flange fits the Bell & Gossett NRF/NBF/SSF wet rotors, Series PL, Series 100, HV, PR and LR circulators.

Dimensions & Weights

Model No.	Size Inches	Use With Following Circulators	Dimensions - Inches (MM)				Approx. Shpg. Wt. Lbs. (Kg)
			A	B	C	D	
101221	3/4" NPT x Flange	NRF/NBF/SSF Wet Rotors (Except NRF-45, NBF-45)	3/4" NPT	2-3/8" (60)	2-1/8" (54)	4" (102)	3.5 (1.6)
101222	1" NPT x Flange		1" NPT	2-3/4" (70)	2-5/16" (59)	4" (102)	4.5 (2.0)
101223	1-1/4" NPT x Flange	Series PL-30, PL-36, PL-55	1-1/4" NPT	3-3/16" (81)	2-5/8" (67)	5" (127)	5.5 (2.5)
101241	1-1/2" NPT x Flange		1-1/2" NPT	3-1/4" (83)	2-5/8" (67)	5" (127)	6 (2.7)
101224	1" NPT x Flange	NRF-45, NBF-45, PL-45, PL-50 and Series HV	1" NPT	2-3/4" (70)	2-5/16" (59)	4" (102)	4.5 (2.0)
101225	1-1/4" NPT x Flange		1-1/4" NPT	3-3/16" (81)	2-5/8" (67)	5" (127)	5.5 (2.5)
101242	1-1/2" NPT x Flange	NRF/NBF/SSF Wet Rotors (Except NRF-45, NBF-45)	1-1/2" NPT	3-1/4" (83)	2-5/8" (67)	5" (127)	6 (2.7)
101226	3/4" SWT x Flange		3/4" SWT	2-19/32" (66)	2-1/8" (54)	4" (102)	3.5 (1.6)
101227	1" SWT x Flange	Series PL-30, PL-36, PL-55	1" SWT	3-11/64" (81)	2-5/16" (59)	4" (102)	4.5 (2.0)
101228	1-1/4" SWT x Flange		1-1/4" SWT	3-13/16" (97)	2-5/8" (67)	5" (127)	5.5 (2.5)
101243	1-1/2" SWT x Flange	Series 100, PR and LR	1-1/2" SWT	3-15/16" (100)	2-5/8" (67)	5" (127)	6 (2.7)
101229	1" SWT x Flange		1" SWT	3-11/64" (81)	2-5/16" (59)	4" (102)	4.5 (2.0)
101230	1-1/4" SWT x Flange	NRF-45, NBF-45, PL-45, PL-50 and Series HV	1-1/4" SWT	3-13/16" (97)	2-5/8" (67)	5" (127)	5.5 (2.5)
101244	1-1/2" SWT x Flange		1-1/2" SWT	3-15/16" (100)	2-5/8" (67)	5" (127)	6 (2.7)

Dimensions and weights are approximate and subject to change. Contact factory for certified dimensions.

The part numbers and shipping weights are for two isolation flanges, capscrews and nuts. Isolation flanges are not sold individually.

AZ™ Snap-on Pump Relay

Features

- Snap-on design allows the AZ to be quickly attached to any B&G wet rotor circulator, reducing your inventory investment (no need to carry "special" circulators with factory mounted controllers)
- Clearly marked terminals make for sure, fast wiring of the system
- Compact design fits in tight locations and presents a clean professional appearance
- 100% factory tested assures reliable operation
- 5 year warranty — the best in the industry
- Daisy-Chain the AZ relays to form up to three zones
- Can be used on any B&G model NRF, NBF, SSF or 1/12 to 1/6 HP Series PL



The AZ controls can be daisy-chained to form up to three zones with simplified wiring.

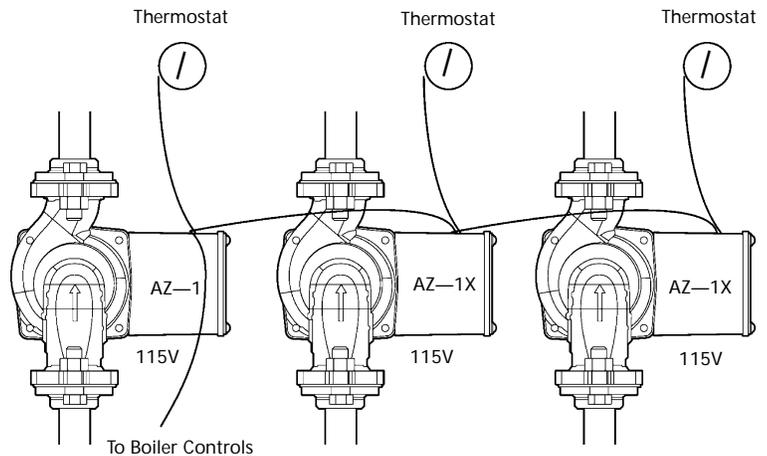
Low voltage wiring makes multiple relay connections a snap.

Specifications

Model No.	Part No.	Transformer	Relay	Power Input
AZ-1	113077	2.5 VA	24 VAC / 5 amps	115 V, 60 Hz, 1Ø
AZ-1X	113078	NONE*	24 VAC / 5 amps	115 V, 60 Hz, 1Ø

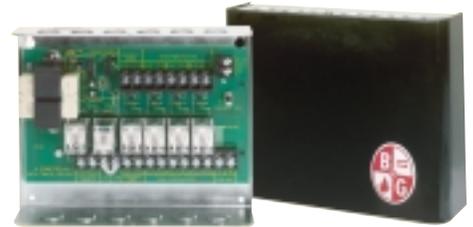
*Use with AZ-1

Dimensions (L x W x H) 2-7/8" X 3-1/4" X 2-5/8"
 Approximate Shipping Weight 0.75 lbs



Zone-Trol™ Switching Relays for Zoning with Pumps and Valves.

- 100% factory tested - guarantees operation
- Five year limited warranty - the best in the business
- Replaceable, standard "ice cube" type relays allow up to 10 amps, 1/3 HP per individual zone.
- Selectable priority for domestic hot water
- 30 minute built-in priority timer helps prevent house freeze up - no additional plug-in cards required
- Automatically resettable fuse protects controller from overload - eliminates "no heat" call backs due to blown fuse
- Powerful transformers operate up to six zones
- LED diagnostic lights installed internal to the box cover keeps the trouble shooting in the hands of the authorized heating professionals
- Can be used with "tankless coil" or "cold start" applications



Zone Valve Specification Information

Model No.	Part No.	Zones	Priority Feature	Transformer Output at 24 Volts	Relay Switching Action	Each End Switch Contact Rating	Dimensions W x H x D (Inches)	Approx. Shpg. Wt. (lbs.)
ZTV-4	109407	4	yes	40 VA	DPDT	5A, 1/8 HP @ 120 VAC	9 1/4 x 7 1/4 x 2 3/4	4.6
ZTV-6	109408	6	yes	75 VA	DPDT		11 3/8 x 7 1/4 x 3 3/4	6.9

Pump Controllers Specification Information

Model No.	Part No.	Zones	Priority Feature	Transformer Voltage	Built-in Priority Timer	Auto. Resettable Fuse	Relay Switching Action	Thermostat Current	Single Phase Motor Rating (Each Relay)		Dimensions W x H x D (Inches)	Approx. Shpg. Wt. (lbs.)
									120 VAC	230 VAC		
ZT-1X	109401	1	no	120V, 60 HZ 15 VA	no	no	DPDT	0.18A	10A, 1/3 HP	10A, 1/2 HP	4 1/4 x 5 3/8 x 2 5/8	2.1
ZT-1XH	109402	1	no		no	no					2.1	
ZT-2X	109409	2	no		no	no					4.5	
ZT-2	109403	2	yes	120V, 60 HZ	yes	yes	DPST	0.085A	10A, 1/3 HP	10A, 1/2 HP	9 1/4 x 7 1/4 x 2 3/4	4.5
ZT-3	109404	3	yes	20 VA	yes	yes						4.6
ZT-4	109405	4	yes	120V, 60 HZ	yes	yes						4.7
ZT-6	109406	6	yes	30 VA	yes	yes					11 3/8 x 7 1/4 x 2 3/4	6.2



Flo-Control™ Valves

Flo-Control Valves prevent gravity flow in forced hot water systems, and permit summer/winter operation of indirect water heaters.

- Combination straight/angle configurations in sizes 3/4" to 2" for ease of installation.
- Removeable top cap allows easy cleaning and service without removing pipe connections.
- Manual operating position for vertical lift disc to permit gravity circulation.

Model No.	Part No.	Dimension in Inches (mm)					Approx Shpg. Wt. lbs. (Kg)
		A	B	C	D	E	
SA 3/4	107034	3 1/8 (79)	4 15/16 (125)	1 5/8 (41)	1 9/16 (40)	1 7/16 (37)	2 (0.9)
SA 1	107018	3 1/2 (89)	5 1/2 (140)	1 7/8 (48)	1 3/4 (44)	1 1/2 (38)	3 (1.4)
SA 1 1/4	107019	4 (102)	6 1/2 (165)	2 1/4 (57)	1 31/32 (50)	1 7/8 (48)	4 (1.8)
SA 1 1/2	107020	5 (127)	7 1/4 (184)	3 (76)	2 1/2 (64)	2 1/4 (57)	8 (3.6)
SA 2	107021	6 7/8 (175)	7 1/2 (191)	4 5/8 (117)	4 (102)	2 5/8 (67)	12 (5.5)
A 2 1/2	107006	7 1/4 (184)	7 5/8 (194)	5 3/8 (137)	4 1/2 (114)	4 1/8 (105)	20 (9.1)
A 3	107007	7 1/2 (191)	7 3/4 (197)	6 (152)	4 1/2 (114)	4 1/4 (108)	23 (10.5)
S 2 1/2	107014	9 5/16 (237)	8 11/16 (221)	5 3/8 (137)	4 3/4 (121)	2 11/16 (68)	22 (10.0)
S 3	107015	9 15/16 (252)	9 (229)	6 (152)	5 1/4 (133)	3 (76)	24 (10.9)
S 4	107004	13 (330)	12 1/2 (318)	7 3/4 (197)	7 (178)	3 7/8 (98)	58 (26.4)
SB 3/4	107024	3 1/4 (83)	3 7/8 (98)	1 7/16 (37)	1 5/8 (41)	23/32 (18)	1.2 (0.6)

Dimensions are approximate and subject to change. Contact factory for certified dimensions.

Maximum Operating Temperature: 250°F (121°C) - Maximum Working Pressure: 125PSIG (862KPa)



Angle Pattern
2-1/2", 3"



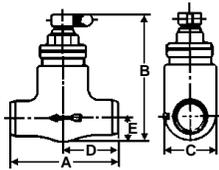
Straight-Angle Pattern
3/4", 1", 1-1/4", 1-1/2", 2"



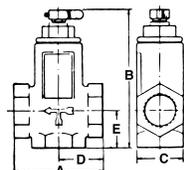
Bronze Straight
Pattern 3/4"



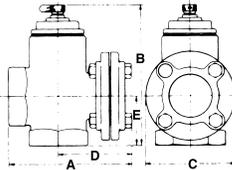
Straight Pattern
2-1/2", 3", 4"



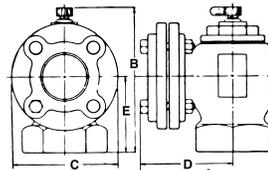
Sizes 3/4"
Bronze Straight Valve



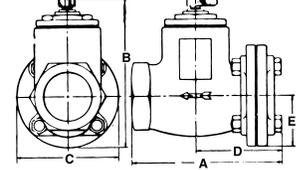
Sizes 3/4", 1", 1-1/4", 1-1/2"
Straight Angle Valves



Sizes 2"
Straight Angle Valves



Sizes 2-1/2", 3"
Angle Valves



Sizes 2-1/2", 3", 4"
Straight Valves

Hydrotrol™ Flow Control Valves

Description

The Hydrotrol (HT) flow control valve is used to prevent overheating of zones due to gravity flow in hydronic heating systems and will permit summer-winter operation of indirect water heater. The HT valve allows fluid to pass when the system or zone pumps start. When the system or zone pumps are not operating, the HT valve remains closed, preventing gravity circulation. The HT valves are designed with a 1/2 turn knob that can be manually opened when draining the system or for bypass purposes. The HT valve can be installed in either the horizontal or vertical orientation.

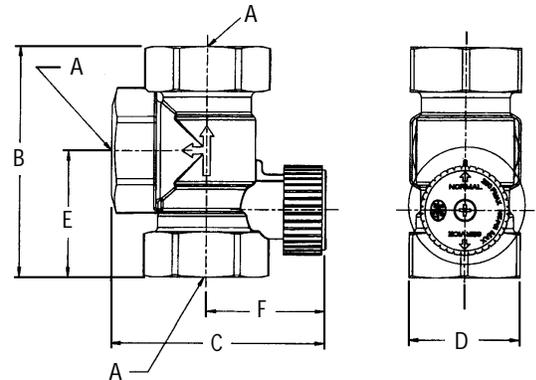


Operating Data

Maximum working pressure 150 psi (10 bar)
Maximum operating temperature 250°F (121°C)

Materials of Construction

Body Brass
Internal Components Non-Ferrous



Dimension & Weights

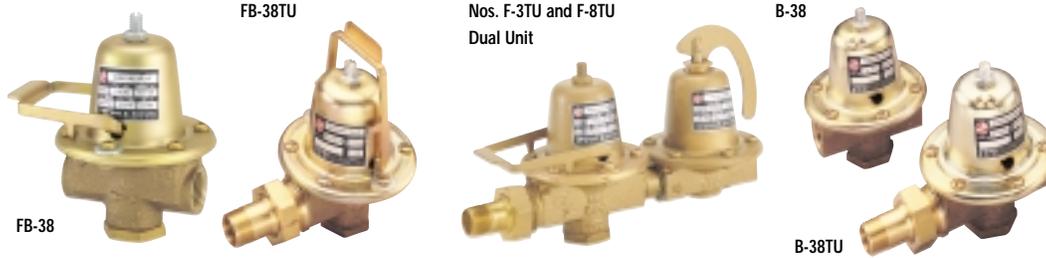
Model No.	Part No.	Dimensions — Inches (mm)						Approx. Shpg. Wt. lbs. (Kg)
		A	B	C	D	E	F	
HT-3/4	107035	3/4" NPTF	3-3/16" (82)	3" (76)	1-9/16" (40)	1-3/4" (44)	1-11/16" (43)	1.3 lbs. (0.6)
HT-1	107037	1" NPTF	3-5/8" (93)	3-3/16" (82)	1-9/16" (40)	1-15/16" (50)	1-11/16" (43)	1.2 lbs. (0.5)
HT - 1-1/4	103038	1-1/4" NPTF	4" (101)	3-11/16" (93)	1-11/16" (43)	2-1/4" (57)	1-7/8" (48)	1.8 lbs. (0.8)

Do not use for construction. Dimensions are approximate and subject to change. Contact factory for certified dimensions.



Pressure Reducing Valves

Reducing Valves fill the system to a preset pressure for optimum performance.



- Fast fill feature reduces start-up time and labor.
- Low inlet pressure check valve helps prevent loss of system pressure if the supply water drops below system pressure.
- Convenient cleanable strainer is designed to prevent dirt and sediment from entering the system.
- Union connection available with 1/2" male NPT thread and 1/2" female sweat tail-piece for fast, flexible system connection.
- Brass body construction is highly resistant to corrosion -- ideal for water systems.

COMBINATION "DUAL UNITS"

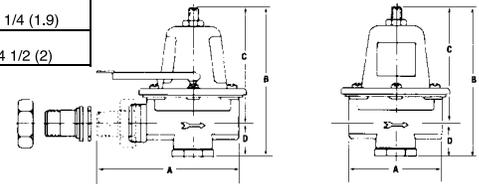
Model No.	Part No.	Component Valves	Body Material	Connection in Inches		Dimensions in Inches (mm)		Approx. Shpg. Wt. lbs. (Kg)
				Boiler	Fill	Between Connections	Overall Height	
8	110199	Relief B-38	Iron Brass	1/2 NPT	1/2 NPT	6 7/16 (164)	5 3/8 (137)	4 (1.8)
8TU	110200	Relief B-38TU	Iron Brass		1/2 Union NPT/Sweat	8 5/8 (219)		4 1/4 (1.9)
F-3	110197	Relief FB-38	Brass		1/2 NPT	6 7/16 (164)	6 (152)	3 3/4 (1.7)
F-3TU	110198	Relief FB-38TU	Brass		1/2 Union NPT/Sweat	8 5/8 (219)		4 (1.8)
F-8	110201	Relief FB-38	Iron Brass		1/2 NPT	6 7/16 (164)	4 1/4 (1.9)	4 1/4 (1.9)
F-8TU	110202	Relief FB-38TU	Iron Brass		1/2 Union NPT/Sweat	8 5/8 (219)		4 1/2 (2)

PRESSURE SETTING

Relief 30 PSI

Reducing 12 PSI standard; field adjustable range: 10 - 25 PSI

Maximum operating temperature 225°F (107°C) - Maximum operating pressure 125 PSIG (862 kPa)



PRESSURE REDUCING VALVES

Model No.	Part No.	Body Material	Conncetion Size - Inches		Factory Setting (PSIG)	Adjustable Range (PSIG)	Dimensions in Inches (mm)				Approx. Shpg. Wt. lbs. (Kg)
			A	B			C	D			
B-38	110190	Brass	1/2	NPT	12	10 - 25	3 1/16 (78)	4 13/16 (122)	3 11/16 (94)	1 1/8 (29)	1 3/4 (0.8)
B7-12	110196		3/4				3 (76)	4 31/32 (126)	3 21/32 (93)	1 5/16 (33)	2 1/4 (1.0)
B-38TU	110191		1/2				4 31/32 (126)	4 13/16 (122)	3 11/16 (94)	1 1/8 (29)	2 (0.9)
FB-38	110192		1/2				3 1/16 (78)				1 3/4 (0.8)
FB-38TU	110193		1/2	4 31/32 (126)			2 (0.9)				
6	110194		1/2	3 1/16 (78)			1 3/4 (0.8)				
7	110195		3/4	3 (76)			4 31/32 (126)	3 21/32 (93)	1 5/16 (33)	2 1/4 (1.0)	

* Models ending in "TU" feature 1/2" sweat/NPT union connection

ASME Safety Relief Valves

ASME Safety Relief Valves protect fired and unfired hot water vessels against hazardous operating pressures.

Engineered in accordance with Section IV of the ASME boiler & pressure code for heating boilers with capacities certified by the National Board of Boiler and Pressure Vessel Inspectors.

Offer the highest BTUH ratings available on the market today for valves in their class (790,000 to 5,999,000 BTUH)

EPDM diaphragm operated (cast iron models) and diaphragm assisted (bronze models) have an effective area approximately 5 times greater than conventional "pop-type" relief valves to help overcome the effects of fouling.

Low differential between opening and closing pressures helps to prevent conditions under which system water might flash to steam and cause hammering.

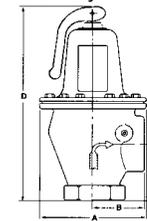


Nos. 3301 & 4100

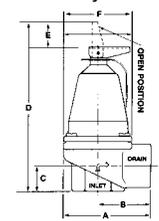


Nos. 790 & 1170

Models 3301 & 4100 Iron Body Valves



Models 790 & 1170 Bronze Body Valves



Size, Capacity & Relief Setting for B&G ASME Safety Relief Valves ¹				
Relief Setting PSIG	Model Number Capacity in BTU Per Hour			
	Iron Body		Bronze Body	
	30	3301-30 3,300,000	4100-30 4,100,000	790-30 790,000
36	3301-36 3,800,000	4100-36 4,600,000	790-36 900,000	1170-36 1,330,000
45	3301-45 4,500,000	4100-45 5,515,000	790-45 1,065,000	1170-45 1,575,000
50	3301-50 4,900,000	4100-50 5,990,000	790-50 1,160,000	1170-50 1,710,000
75	NOT AVAILABLE		790-75 1,615,000	1170-75 2,385,000
100	NOT AVAILABLE		790-100 2,075,000	1170-100 3,060,000
125	NOT AVAILABLE		790-125 2,535,000	1170-125 3,735,000

¹ Contact your local wholesaler or Bell & Gossett representative for availability of ASME Safety Relief Valves with special pressure settings.

Dimensions & Weights

Model No.	Body	NPT Connections in Inches		Dimension in Inches (mm)						Approx. Shpg. Wt. lbs. (Kg)
		Inlet	Outlet	A	B	C	D	E	F	
790	Brass	3/4	3/4	2 9/16 (65)	1 1/2 (38)	3/4 (19)	4 9/16 (116)	1 1/32 (26)	2 3/32 (53)	1.2 (0.5)
1170		1	1	2 7/8 (73)	1 3/4 (44)	7/8 (22)	4 15/16 (125)		2 1/4 (57)	1.5 (0.7)
3301		1 1/2								
4100	Iron	2	2	6 (152)	2 7/8 (73)	3 1/4 (83)	11 (279)	N/A		17 (7.7)

Actual unit model numbers include individual valve pressure settings as a suffix to the basic valve model number noted.

Dimensions are approximate and subject to change. Contact factory for certified dimensions.

Maximum Operating Temperature: 250°F (121°C) - Maximum Working Pressure: Model 790 & 1170: 125PSIG (862KPa); Model 3301 & 4100: 50 PSIG (345 KPa).



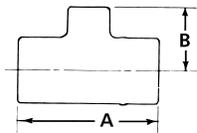
Copper Red Ring Monoflo® Fittings



Copper Red Ring Monoflo Fittings let you use a single pipe to serve as both supply and return main.



- Connect risers to the main, assuring proper diversion of water to each heating unit regardless of type and its position in the system.
- Recommended for most installations including cast iron non-ferrous baseboards, free-standing radiation or convectors.
- Only one fitting is needed for most installations for adequate diversion for upfeed radiation. For most applications, a second fitting can be used if higher resistance is required.



Dimensions & Weights

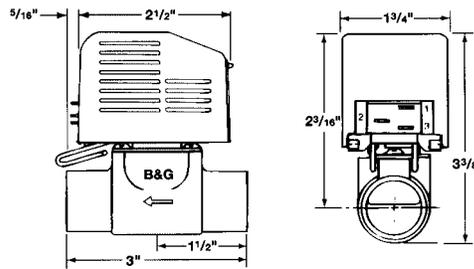
Part No.	Size - Inches	Dimensions - Inches (mm)		Cv Ratings*		Approx. Shpg. Wt. lbs. (Kg)
		A	B	1 FTG	2 FTG	
108119	3/4 x 1/2**	2 5/16 (59)	1 1/32 (26)	4.2	-	1/4 (0.1)
108120	1 x 1/2	2 3/4 (70)	1 7/32 (31)	14.5	8.7	1/2 (0.2)
108121	1 x 3/4	2 29/32 (74)	1 7/16 (37)			
108122	1 1/4 x 1/2	2 15/16 (75)	1 9/32 (33)			
108123	1 1/4 x 3/4	3 7/32 (82)	1 1/2 (38)	24	15.5	1 1/4 (0.6)
108124	1 1/2 x 3/4	3 7/16 (87)	1 21/32 (42)	39	25	
108125	1 1/2 x 1	3 5/8 (92)	1 7/8 (48)			
108126	2 x 3/4	3 7/8 (99)	2 (51)	80	55	1 3/4 (0.8)
108127	2 x 1	4 3/8 (111)	2 5/32 (55)			

* With side branch plugged ** Return only
Maximum working pressure 150 PSIG (1,034 kPa) - Maximum operating temperature 300° F (149° C).

Comfort-Trol™ Zone Control Valve

Comfort-Trol Zone Control Valve is specially designed to meet the most demanding requirements of residential, institutional and commercial hydronic heating and cooling systems.

- Silent -running heat motor saves power via intermittent energizing.
- Unique double torsion spring opens and closes smoothly, prevents water hammering, assures positive shut-off.
- Leaf-type stack switch with blade terminals allow fast installation and no soldering.
- Compact design and ultra-quiet operation is ideal for installation under baseboards or wherever space is limited.
- Available in 3/4" sweat body connections.
- Maximum working pressure 125 psig.
- Fluid temperature range 40°F to 240°F



Model No.	Part No.	Size Sweat	Voltage Rating 50/60 Hz, 1	VA Rating	Approx. Shpg. Wt.
CTS-7524	109017	3/4"	24 Volt	15	1.0 lbs.

Inline Air Separator

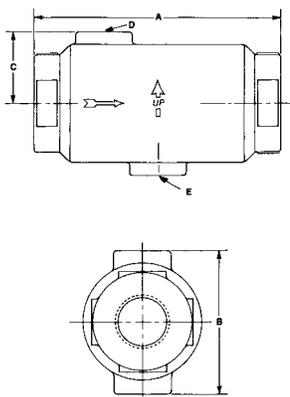
Description
The B&G In-Line Air Separator is specifically designed to efficiently separate air from circulating water in hydronic heating and cooling systems to assure quiet operation.

Operating Data
Maximum working pressure175 psig (1,207 kPa)
Maximum operating temperature 300°F (149°C)

Construction
One Piece Cast Iron



Dimensions & Weights



Model No.	Part No.	Size NPT	Max Flow (GPM)	Dimensions – Inches (mm)					Approx. Shpg. Wt. (Lbs)
				A	B	C	D	E	
IAS -1	112118	1"	15	6-1/8	3-1/2	1-3/4	1/8 NPT	1/2 NPT	3-3/4
IAS - 1-1/4	112119	1-1/4"	25	(156)	(89)	(45)			3-1/2
IAS- 1-1/2	112097	1-1/2"	35	8-1/8	4-1/2	2-1/4	3/4 NPT	1/2 NPT	8-1/2
IAS- 2	112098	2"	50	(207)	(114)	(57)			7-1/2
IAS- 2-1/2	112099	2-1/2"	75	10-1/8	6-3/8	3-3/16			23
IAS- 3	112100	3"	125	(257)	(257)	(81)			21-1/2

Dimensions are approximate and subject to change. Contact factory for certified dimensions.

Bell & Gossett Model EASB-Jr Enhanced Air Separator

Description

Bell & Gossett's Model EASB-JR Enhanced Air Separator automatically removes entrained air bubbles in hydronic systems. As fluid enters the EASB-JR, the velocity is decreased creating a low pressure area. The small bubbles are released from fluid and then collected on the coalescing medium. As the bubbles coalesce, they rise to the top of the air separator where they are released to atmosphere through the built-in automatic air vent. The air separator has a bottom 1/2" NPT connection to accommodate a B&G diaphragm expansion tank. The compact design and brass body construction make the EASB-JR ideal for residential and commercial hydronic heating systems.

Operating Data

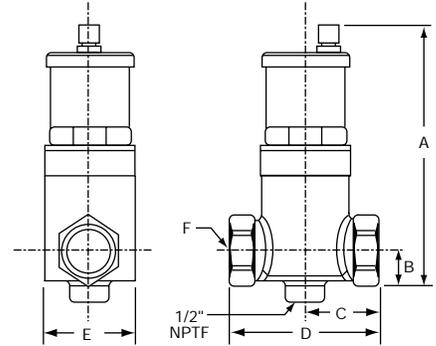
Maximum working pressure 150 psi (10 bar)
Maximum operating temperature 250°F (121°C)

Operating Data

Body & Cap Brass
Coalescing Medium Stainless Steel
Venting Mechanism Non-Ferrous



Dimensions & Weights



Model Number	Part Number	Size	Dimension in Inches (mm)						Approx. Shpg. Wt. Lbs. (Kg)
			A	B	C	D	E	F	
EASB-3/4 JR	112111	3/4" NPT	6 7/8 (175)	1 5/8 (41)	1 13/16 (46)	3 5/8 (92)	2 1/4 (57)	3/4" NPTF	2.5 (1)
EASB-3/4S JR	112114	3/4" Sweat	6 7/8 (175)	1 5/8 (41)	1 13/16 (46)	3 5/8 (92)	2 1/4 (57)	3/4" Sweat	2.5 (1)
EASB-1 JR	112112	1" NPT	6 7/8 (175)	1 5/8 (41)	1 13/16 (46)	3 5/8 (92)	2 1/4 (57)	1" NPTF	2.5 (1)
EASB-1S JR	112115	1" Sweat	6 7/8 (175)	1 5/8 (41)	1 13/16 (46)	3 5/8 (92)	2 1/4 (57)	1" Sweat	2.5 (1)
EASB-1 1/4 JR	112113	1 1/4" NPT	7 1/2 (191)	1 7/8 (48)	2 5/16 (59)	4 5/8 (117)	3 1/8 (79)	1 1/4" NPTF	4 (1.8)
EASB-1 1/4S JR	112116	1 1/4" Sweat	7 1/2 (191)	1 7/8 (48)	2 5/16 (59)	4 5/8 (117)	3 1/8 (79)	1 1/4" Sweat	4 (1.8)
EASB-1 1/2 JR	112117	1 1/2" NPT	7 1/2 (191)	1 7/8 (48)	2 5/16 (59)	4 5/8 (117)	3 1/8 (79)	1 1/2" NPTF	4 (1.8)

Dimensions are approximate and subject to change. Contact factory for certified dimensions.

Enhanced Air Separator

Description

Bell & Gossett's Model EAS Enhanced Air Separator is a patented, innovative design in air separators. It has been engineered to remove entrained air from hydronic heating and cooling systems providing far superior air removal compared with other devices available today. The EAS is ideal for residential, institutional and light commercial applications.

Operating Data

Maximum working pressure 150 psi (10.3 bar)
Maximum operating temperature 250°F (121°C)

Operating Data

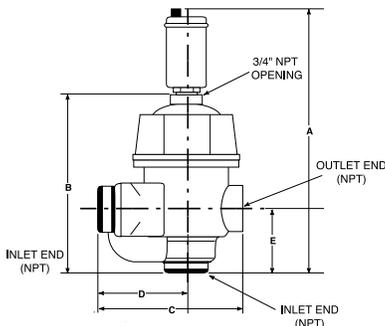
Body & Cap Cast Iron
Internals Stainless Steel
3/4" Large Capacity Air Vent Brass Body
Nonferrous Internals

Dimensions & Weights

Model No.	Part No.	Max. Flow (GPM)	Size Inches NPT	Dimensions — Inches (mm)					Approx. Shpg. Wt. lbs. (Kg)
				A	B	C	D	E	
EAS-1	112105	35	1	12-3/16 (310)	6-7/8 (175)	6-7/16 (164)	3-15/16 (100)	3 (76)	8.8 (4)
EAS-1	112106	35	1-1/4	12-3/16 (310)	6-7/8 (175)	6-7/16 (164)	3-15/16 (100)	3 (76)	8.4 (3.8)
EAS-1	112107	45	1-1/2	15-3/4 (400)	11-3/8 (289)	8-5/8 (219)	4-7/8 (124)	4-1/4 (108)	15.5 (7)
EAS-2	112108	70	2	17-1/2 (445)	11-3/8 (289)	8-5/8 (219)	4-7/8 (124)	4-1/4 (108)	15.25 (6.9)

EAS-1 or EAS- 1-1/4 Max. Width 4-1/16" (103mm)

EAS- 1-1/2 or EAS-2 Max. Width 5-3/4" (146mm)



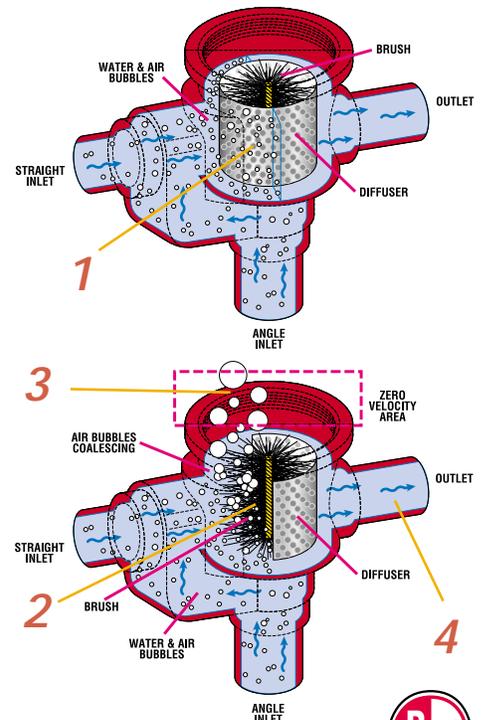
How It Works

1 As system fluid enters through the inlet, (either straight or angle) the diffuser distributes flow evenly across the stainless steel, wire brush-like medium.

2 Air bubbles, even micro air bubbles, stick to the brush filaments.

3 Trapped air rises above the diffuser through a baffle (not pictured), where the air is then released through an opening on top.

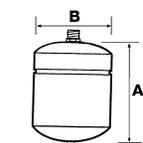
4 Deaerated water then goes back into the system.



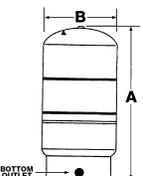
Diaphragm Tanks • Expansion Tanks



Bell & Gossett HFT expansion tanks are designed to absorb the force of thermal expansion in hydronic heating systems. Series HFT tanks for hydronic heating systems are available in sizes from 2—86 gallons.



HFT-15 thru HFT-90



HFT-30V thru HFT-160V

HFT Tanks for Hydronic Heating Tanks

Model Number	Part Number	Volume Gallons (Liters)		Height (A) Inches (mm)	Diameter (B) Inches (mm)	System Connection	Approx. Shpg. Wt. lbs. (Kg)
		Tank	Acceptance				
HFT-15	1BN201	2 (7.5)	1.0 (3.7)	12-5/8 (321)	8 (203)	1/2" NPTM	5 (2.3)
HFT-30	1BN202	4.4 (16.6)	2.5 (9.4)	15-1/2 (394)	11 (279)		9 (4.1)
HFT-60	1BN203	7.6 (28.7)	2.5 (9.4)	23 (584)	11 (279)		14 (6.4)
HFT-90	1BN204	14 (53)	11.3 (42.8)	21 (533)	15-3/8 (390)	1" NPTF	23 (10.4)
HFT-30V	1BN205	14 (53)	11.3 (42.8)	24-3/4 (629)	15-3/8 (390)		25 (11.3)
HFT-40V	1BN206	20 (75.7)	11.3 (42.8)	32-1/2 (826)	15-5/8 (390)		33 (14.9)
HFT-60V	1BN207	32 (121.1)	11.3 (42.8)	47-1/2 (1207)	15-5/8 (390)	1-1/4" NPTF	43 (19.5)
HFT-90V	1BN208	44 (166.5)	34 (128.7)	36 (914)	22 (559)		69 (31.2)
HFT-110V	1BN209	62 (234.6)	34 (128.7)	46-3/4 (1186)	22 (559)		92 (41.7)
HFT-160V	1BN210	86 (325.5)	46 (174.1)	47-1/4 (1199)	22 (559)	123 (55.8)	

Materials: Steel Shell Diaphragm
 System Connection: Steel
 Maximum Operating Temperature=240°F (116°C); Maximum Working Pressure= 100 PSI (689 kPa);
 Standard Factory Precharge=12 PSI (83 kPa)



Boiler Size	Type of Radiation			
	Finned Tube Baseboard or Radiant Panel	Convectors or Unit Heaters	Radiators Cast Iron	Baseboard Cast Iron
Net Output	Use Tank Model			
BTU/HR	HFT-15	HFT-15	HFT-15	HFT-15
25,000	HFT-15	HFT-15	HFT-30	HFT-30
50,000	HFT-30	HFT-30	HFT-30	HFT-60
75,000	HFT-30	HFT-60	HFT-60	HFT-60
100,000	HFT-30	HFT-60	HFT-60	HFT-90
125,000	HFT-30	HFT-60	HFT-90	HFT-90
150,000	HFT-60	HFT-60	HFT-30V	HFT-30V
200,000	HFT-30	HFT-90	HFT-30V	HFT-40V
250,000	HFT-90	HFT-30V	HFT-30V	HFT-40V
300,000	HFT-30V	HFT-30V	HFT-40V	HFT-60V
350,000	HFT-30V	HFT-40V	HFT-40V	HFT-60V
400,000	HFT-30V	HFT-40V	HFT-40V	HFT-60V

Assumptions: fill pressure 12 PSI, relief pressure 30 PSI, avg. system temp. 200 °F, system fluid is water, consult factory with requirements not shown

Compression Tanks

Air-tight, ASME constructed. Available in painted steel. Sizes 15 to 505 gallons.

Gauge glass tappings are standard. Always use with B&G Airtrol Tank Fittings.



Dimensions & Weights

Model No.	Part No.	Capacity Gallons	Required Airtrol Fitting	Tank Dia. Inches	Tank Length Inches	Approx. Shpg. Wt. (Lbs)
15	116029	15	ATF-12	12	33	50
24	116030	24			51	72
30	116031	30			48	80
40	116032	40	ATF-16	14	63	104
60	116033	60			72	134
80	116034	80	ATF-20	20	62	160
100	116035	100	ATF-20		78	186
120	116036	120	ATF-24		65	217
135	116037	135	ATFL	24	72	230
175	116038	175			62-1/4	320
220	116039	220			77	370
240	116040	240			84	420
305	116041	305			105-3/4	482
400	116042	400			93	656
505	116840	505			36	116

Dimensions are approximate and subject to change. Consult factory for certified dimensions. Part numbers in table above are for paint steel tanks.

Airtrol® Tank Fittings

Directs free air to the compression tank. Restricts thermal circulation to boiler. Establishes initial tank air level. Allows compression tank size reduction.

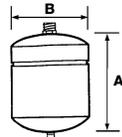


Dimensions & Weights

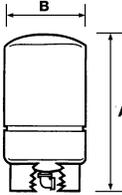
Model No.	Part No.	Tank Dia. Inches	Connection (NPT)		Approx. Shpg. Wt. (Lbs)
			Tank	Boiler	
ATF-9	112008	9	1/2" M	3/4" M	2-1/4
ATF-12	112010	12 - 14			2-1/2
ATF-16	112011	16 - 18			2-3/4
ATF-20	112026	20 - 22			
ATF-24	112013	24	1" F	1" F	14
ATFL	112014	>100 gal			

PT Diaphragm Tanks • Expansion Tanks

Bell & Gossett PT expansion tanks are designed to absorb the force of thermal expansion in domestic potable water systems. Tanks for potable water systems, Series PT and PTA (ASME construction) are available in sizes from 2—528 gallons.



PT-5 & PT-12



PT-25V thru PT-210V

PT Tanks for Potable Water Systems

Model Number	Part Number	Volume Gallons (Liters)		Height (A) Inches (mm)	Diameter (B) Inches (mm)	System Connection	Approx. Shpg. Wt. lbs. (Kg)
		Tank	Acceptance				
PT-5	1BN001	2 (8)	1.0 (4)	12-5/8 (321)	8 (203)	3/4" NPTM	5 (2.3)
PT-12	1BN002	4.4 (17)	3.2 (12)	15 (381)	11 (279)		9 (4.1)
PT-25V	1BN003	10.3 (39)	10.3 (39)	19-1/4 (489)	15-3/8 (391)	1" NPTF	23 (10.4)
PT-30V	1BN004	14 (53)	11.3 (43)	23-7/8 (605)	15-3/8 (391)		25 (11.3)
PT-42V	1BN005	20 (76)	11.3 (43)	31-5/8 (802)	15-3/8 (391)	1-1/4" NPTF	33 (15)
PT-60V	1BN006	34 (129)	34 (129)	29-5/8 (752)	22 (559)		69 (31.2)
PT-80V	1BN007	44 (167)	34 (129)	36 (914)	22 (559)		69 (31.2)
PT-180V	1BN008	62 (235)	34 (129)	46-3/4 (1187)	22 (559)		92 (41.7)
PT-210V	1BN009	86 (326)	46.4 (176)	47-1/4 (1200)	26 (660)		123 (55.8)

Materials: Steel Shell, Polypropylene Liner, Buty Diaphragm

System Connection: Brass

Maximum Operating Temperature = 200°F (93°C); Maximum Working Pressure = 150 PSI (1,034 kPa);

Standard Factory Precharge = 40 PSI (276 kPa)

Larger sizes and ASME constructed models are available.

Code approvals: PT-5, PT-12



PT-25V thru PT-210



Water Heater Volume (gallons)	Supply Pressure (PSI)							
	40	50	55	60	70	80	90	100
20								
30								
40				PT-5				
50								
80								
100							PT-25V	
120				PT-12				PT-30V

Assumptions: heating water from 50° F to 120° F, relief valve pressure 150 PSI

PT tank precharged equal to supply line pressure, consult factory with requirements not shown

WTX Diaphragm Tanks

The Series "WTX" tanks will help protect the pump and pressure switches against short cycling. The potable well tank delivers adequate water under pressure between pump cycles to meet the required demand. It will provide economical system operation by minimizing pump starts, extending pump motor life, and saving energy. The "WTX" tank will also assist the pump in meeting peak demands.

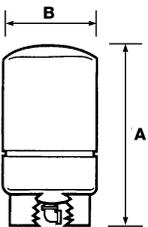
Model Number	Part Number	Volume Gallons (Liters)		System Drawdown in Gallons			Height (A) Inches (mm)	Diameter (B) Inches (mm)	System Connection	Approx. Shpg. Wt. lbs. (Kg)
		Tank	Acceptance	PSIG						
				20/40	30/50	40/60				
WTX-2	1BN300	2 (8)	0.45	0.8	0.7	0.6	12-5/8 (321)	8 (203)	3/4" NPTM	5 (2.3)
WTX-5	1BN301	4.4 (17)	0.55	1.8	1.5	1.3	15 (381)	11 (279)		9 (4)
WTX-8	1BN302	7.6 (33)	0.42	3.1	2.6	2.2	22-1/4 (629)	11 (279)		15 (7)
WTX-10	1BN303	10.3 (39)	1.00	4.1	3.5	3.0	17-3/4 (451)	15-3/8 (390)	1" NPTM	20 (9)
WTX-14	1BN304	14 (53)	0.81	5.6	4.8	4.1	22 (559)	15-3/8 (390)		22 (10)
WTX-10S	1BN305	10.3 (39)	1.00	4.1	3.5	3.0	19-1/4 (489)	15-3/8 (390)	1" NPTF	23 (10)
WTX-14S	1BN306	14 (53)	0.81	5.6	4.8	4.1	23-7/8 (605)	15-5/8 (390)		25 (11)
WTX-20S	1BN307	20 (76)	0.57	8.0	6.8	5.9	31-5/8 (802)	15-3/8 (390)		33 (15)
WTX-26S	1BN308	26 (98)	0.44	10.5	8.8	7.6	38-1/4 (972)	15-3/8 (390)		36 (16)
WTX-32S	1BN309	32 (121)	0.35	—	10.9	9.4	46-1/2 (1181)	15-5/8 (390)		43 (20)
WTX-34S	1BN310	34 (129)	1.00	13.7	11.6	10.0	29-5/8 (752)	22 (559)	1-1/4" NPTM	61 (28)
WTX-44S	1BN311	44 (167)	0.77	17.7	15	12.9	36 (914)	22 (559)		69 (31)
WTX-62S	1BN312	62 (235)	0.55	24.9	21.1	18.2	46-3/4 (1187)	22 (559)		92 (41)
WTX-81S	1BN313	81 (307)	0.41	32.6	27.5	23.8	56-3/8 (1432)	22 (559)		103 (47)
WTX-86S	1BN315	86 (326)	0.54	34.6	29.2	25.3	47-1/4 (1200)	26 (660)		123 (56)
WTX-119S	1BN316	119 (450)	0.39	47.8	40.5	35.0	61-7/8 (1572)	26 (660)		166 (75)

Materials: Steel Shell, Polypropylene Liner, Buty/EPDM Diaphragm

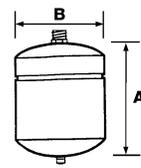
System Connection: WTX-2 thru WTX-14 = Copper Lined Steel Fitting; All others = Steel with Stainless Steel Elbow

Maximum Operating Temperature = 200°F (93°C); Maximum Working Pressure = 100 PSI (689 kPa);

Factory Pre-Charge: WTX-2, WTX-5 = 18PSI (124kPa); WTX-8 = 28 PSI (193 kPa); All other WTX tanks = 38 PSI (262 kPa)



WTX-10S thru WTX-119S



WTX-2 thru WTX-14





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" x 2-1/4", 3-3/16" x 1-1/2" and 4-1/16" x 2-3/16" (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 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 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. Factory set to 4" — **150 P.S.I.G. Maximum Working Pressure — 300°F Maximum Operating Temperature**



No. 97 Automatic Air Vent

is a float type vent designed to vent troublesome air from hydronic heating systems. The brass body and the non-ferrous internals provide years of reliable service. The compact design (3-1/8" x 1-7/8") and high operating pressure/temperature (**240°F @ 150 P.S.I.G.**) limitations make the No. 97 a must in any hydronic heating system.



Model 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 Air Vent has a 3/4" NPT inlet and 3/8" NPT outlet.



RV-125A Readout Valve and RP-250B Readout Probe

The RV-125A is designed for use wherever pressure tapings are required to monitor flow or pressures. The 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 P.S.I.G. Working Pressure—250°F Maximum Operating Temperature**



No. 17 SR Automatic Hot Water Air Valves

No. 17 Sr. Valve is a deluxe, hygroscopic air valve. 1/8" N.P.T. connection. **30 P.S.I.G. Working Pressure — 225°F Maximum Operating Temperature**



B&G Thermoflo® Balancer

A device for instant visual balancing of hot or cold water flows. With a B&G Thermoflo balancer installed in each circuit or zone, the entire system can be quickly balanced to meet original design calculation. No. TB-3/4" - Capacity 1 to 5 GPM. No. TB-1" - Capacity 2 to 10 GPM. **125 P.S.I.G. Working Pressure—250°F Maximum Operating Temperature**



No. 4V "Coin-Operated" Air Vent

This vent is specially designed for the new types of radiators. An important feature is that it projects only slightly, being almost flush with the radiator. **150 P.S.I.G. 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 P.S.I.G. Working Pressure — 240°F Maximum Operating Temperature**



Dimensions, Weights and Specifications

Model No.	Part No.	Description	System Connection	Dimensions (W x H)	Maximum		Approx. Shpg. Wt. (Lbs) Carton Of	
					Pressure	Temperature		
97	113222	Automatic Air Vent	1/8" NPTM	1-7/8" x 3-1/8"	150 PSIG	240°F	100	40
87	113021		Combination	2-1/4" x 4-3/4"			12	8
67	113020		3/4" NPTM 1/2" NPTF	1-1/2" x 3-3/16"			35 PSIG	3
7	113001		1/8" NPTF	2-3/16" x 4-1/16"			75 PSIG	6
107A	113076	High Capacity Air Vent	3/4" NPTF	4-1/2" x 9-5/8"	150 PSIG	250°F	1	10
17 SR	113004	Automatic Air Vent	1/8" NPTM	11/16" x 1"	30 PSIG	225°F	12	2
4V	113055	Manual Air Vent	1/8" NPTM	5/8" x 5/8"	150 PSIG	250°F	48	2
26	113075	Vacuum Breaker	3/4" NPTM	1-1/4" x 3"		300°F	6	3
RV-125A	113100	Readout Valve	1/8" NPTM	1-1/8" x 9/16"	300 PSIG	250°F	50 pairs	4
RP-250B	113102	Readout Probe	N/A	2" x 5/8"			6 pairs	1
DT-2	113041	Drain-O-Tank	1/2" NPTM	2-1/4" x 6-5/16"	125 PSIG	240°F	12	8
TB-3/4	127001	Balance Valve	3/4" NPTF	2" x 9-1/4"	125 PSIG	250°F	6	26
TB-1	127002	Balance Valve	1" NPTF	2" x 9-1/4"			6	26

Brazed Plate Heat Exchangers

Description

Model BPX brazed plate heat exchangers offer the highest level of thermal efficiency and durability in a compact, low cost unit. The corrugated plate design provides very high heat transfer coefficients, resulting in a more compact design. The unit's stainless steel plates are vacuum brazed together to form a durable, integral piece that can withstand high pressure and temperature.

The BPX heat exchangers offer a compact design compared to shell and tube exchangers

- 1/6 the size of shell and tube
- 1/5 the weight of shell and tube
- 1/8 the liquid required of shell and tube
- 1/3 to 1/5 of the surface area required

BPX units are ideal for a wide variety of hydronic applications such as:

- Radiant Floor Heating
- Domestic Water Heating
- Snow melt Systems
- Swimming Pool Heating

Operating Data

Design pressure 435 psi (30 bar)
 Design temperature 450°F (232°C)
 Plates Stainless Steel
 Braze Material Copper
 Connections From 1/2 inch to 4 inch
 Capacity Up to 800 GPM
 Construction Codes .UL, CRN, ASME Code Stamp Option



Radiant Floor Heating

Selection Schedule Basis

Boiler Side: Water 180°F supply, 160°F return
 Radiant Floor Side: Water 120°F supply, 100°F return

Model Number	Heat Exchanger BTU/Hr	Boiler Side		Radiant Floor Side	
		Flow	Pressure Drop	Flow	Pressure Drop
		GPM	PSI	GPM	PSI
BP400-10	60,000	6.2	8.6	6.1	5.9
BP400-20	125,000	12.9	7.9	12.6	6.8
BP400-30	175,000	18.0	7.1	17.7	6.5
BP400-40	225,000	23.2	7.3	22.7	6.9
BP411-20	350,000	36.1	6.3	35.3	5.6
BP411-30	500,000	51.5	7.4	50.5	7.1

Larger Models are Available Upon Request

Snow Melt Application

Selection Schedule Basis

Boiler Side: Water 180°F supply, 160°F return
 Snow Melt Side: 40% P. G. 130°F supply, 100°F return

Model Number	Heat Exchanger BTU/Hr	Boiler Side		Snow Melt Side	
		Flow	Pressure Drop	Flow	Pressure Drop
		GPM	PSI	GPM	PSI
BP400-10	60,000	6.2	8.7	4.3	3.5
BP400-20	125,000	12.9	8.2	8.9	4.2
BP400-30	175,000	18.0	7.8	12.5	4.2
BP400-40	225,000	23.2	8.4	16.1	4.6
BP412-20	250,000	25.8	8.4	17.9	4.0
BP412-30	350,000	36.0	7.7	25.0	3.9
BP412-40	450,000	46.4	8.1	32.1	4.2
BP412-50	500,000	51.5	7.6	35.7	4.0

Larger Models are Available Upon Request

Domestic Water Heating

Selection Schedule Basis

Boiler Side: Water 180°F supply, 130°F return
 Domestic Water Side: Water 50°F supply, 140°F return

Model Number	Heat Exchanger BTU/Hr	Boiler Side		Domestic Water Side	
		Flow	Pressure Drop	Flow	Pressure Drop
		GPM	PSI	GPM	PSI
BP400-10	60,000	2.5	1.6	1.3	0.3
BP400-20	150,000	6.2	2.1	3.3	0.6
BP400-30	225,000	9.3	2.2	5.0	0.7
BP400-40	350,000	14.4	3.4	7.8	1.0
BP410-30	400,000	16.5	4.9	8.9	1.4
BP411-30	500,000	20.6	7.6	11.1	2.2

Larger Models are Available Upon Request



Genuine B&G Parts



When replacing parts in your customers' B&G booster or other hydronic specialties, don't settle for anything other than genuine B&G parts. You owe it to your customers and to yourself to do it right the first time.

Bell & Gossett parts are designed and engineered strictly for the Bell & Gossett boosters. Substitute parts may seem to cost less. But more often than not, they actually cost a lot more, when they do not hold up on the job. Then you are faced with callbacks and your reputation is at stake.

So why risk having to replace a replacement part? Stick with the real thing — from Bell & Gossett.

**GET REAL
GET**



*Visit our website at
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an exploded drawing
and bill of material of your
Bell & Gossett products.*



B&G designs our own motors to exacting circulating pump specifications.



B&G bearing assembly bracket. Restores pump to like new conditions.



B&G flexible spring coupler dampens vibration and noise.

The Little Red Schoolhouse® - Training the Industry

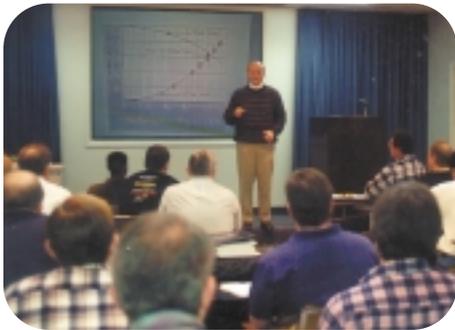
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- Modern Hydronics, Advanced Course
- Design & Applications Seminar
- Large Chilled Water System Design Seminar
- Service & Maintenance Seminar
- Steam Systems Design Seminar
- Operation & Maintenance Steam System Seminar

For Applications to attend these seminars, please contact the Fluid Handling Representative in your area. They will have the schedule dates for all seminars and will make all the arrangements for you. As a service and a continuing educational source to the HVAC industry, these seminars are offered free of charge. CEU credits are awarded for each seminar as indicated.



The pump and system curve intersection

Additional Information:

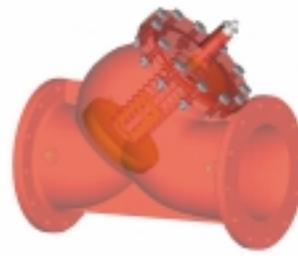
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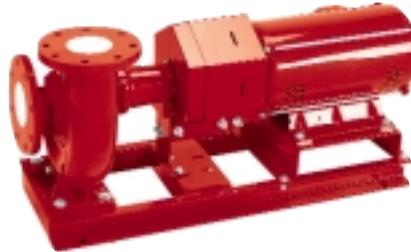
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