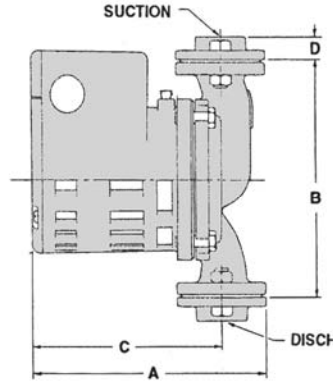
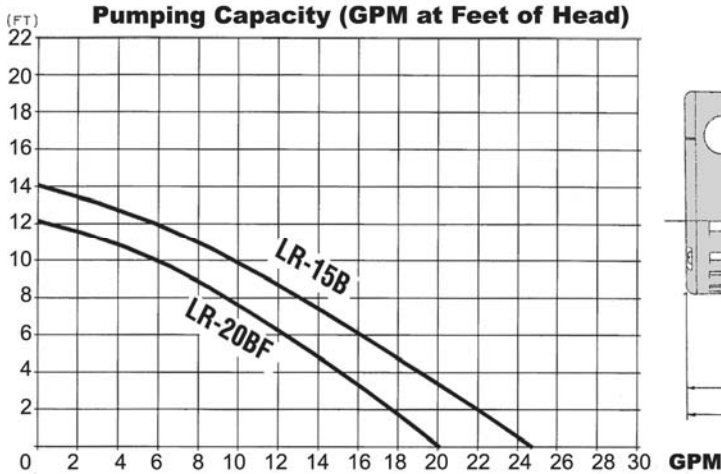


Bell & Gossett Small Booster Pumps

LR Series Booster Pumps

Fits pipe sizes 3/4" to 1-1/2" with appropriate size pump flange



Maximum working pressure:
125 psi

Maximum operating temperature:
225° F.

Often used to replace the Series 100 pump. Pump comes with Fastener Pack & tube of oil.

LR Series Pump Ordering Guide

Model No.	Construction	HP	Dimensions (inches)			Weight in lbs.	ORDER NO.
			A	B	C		
LR-20BF	Cast Iron	1/20	6-15/16	6-3/8	5-5/8	10.4	BH1045
LR-15B	Bronze	1/12	7-15/16		6-5/8	13.1	BH1040

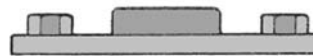
LR Series Pipe-to-Pump Flange Ordering Guide

Flanges not included with pumps. Order a pump flange for both the suction and discharge side.

Flange Pipe Size	Red Flange Order No. <small>Includes bolts/nuts</small>	Bronze Flange Order No. <small>Includes bolts/nuts</small>	Flange Gaskets Set of Two Order No.
3/4"	BG1005	BG1040	BG1540R
1"	BG1010	BG1045	
1-1/4"	BG1015	BG1050	
1-1/2"	BG1020	BG1055	
*Fastener Pack (bolts-nuts-gaskets)			BG1540S

* Set includes 4 bolts/nuts and 2 flange gaskets.
Fastener Pack comes with a new pump.

Pipe-to-Pump Flange (Side View)
Fastener Pack included with new pump.



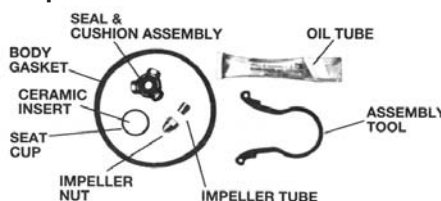
Flange Gaskets
Set of two



Repair Parts for LR Pumps

Description	ORDER NO.
Repair Kit for LR Series Pump. Repairs a leaking pump. Includes tube of oil.	BG1515
Separate tube of non-detergent oil for LR Series Pump.	BG1145

Repair Kit — Includes tube of oil.



These LR oil-lubricated booster pumps come with a Fastener Pack (bolts-nuts-flange gaskets) and a 2 ounce tube of oil. Order pump flanges separately.

■ These LR Series Pumps are for standard design hot water heating. They are oil-lubricated.

■ Red-colored LR-20BF pumps (cast iron) are for space heating; Bronze-colored LR-15B pumps are for pumping potable domestic water coming from a water heater or other potable water source.

■ The LR-12 Series has been discontinued. Replace with the LR-20 or LR-15 series.

■ If you are replacing a pre-existing B&G booster pump you may re-use the existing pump flanges already connected to your piping. If the flanges are missing, or this is a new installation, order the appropriate size and style (red or bronze) flanges (includes bolts/nuts) to connect the flanges to the piping.

■ These pumps come with a tube of oil and a Fastener Pack (bolts-nuts-flange gaskets).

Service Guide to Bell & Gossett LR Pumps

LR Series Pumps Servicing Guide

Only qualified, trained HVAC technicians should service B&G pumps. Please make certain to review the Bell & Gossett instruction manual number P15792, or its revision. Visit the website shown on the front cover, or go to www.bellgossett.com for more information.

Removal and Maintenance



FIGURE 1

1. Remove the smaller back-plate from the pump by removing the two screws at the top. Disconnect the electrical supply. See figure 1 above.
2. Close the valves on both sides of the pump — The discharge side and the suction side. Sometimes the original installer neglects to install these isolation valves that allow for easy maintenance. If there are no valves, you may need to drain the system after the water cools down.



FIGURE 2

3. Remove the four cap screws that hold the motor housing to the pump body. Next, remove the housing from the pump body. See figure 2.

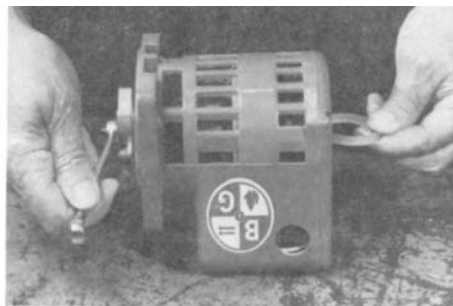


FIGURE 3

5. The impeller nut is a left-hand thread!

WARNING:

These pumps are equipped with automatic reset overload protectors. The pump can restart without warning. Make certain to disconnect and lockout the electrical power before servicing any pump.

WARNING:

Pressure may be present in the pump body. Relieve any pressurized water by loosening the flange bolts and "slightly" shift the pump assembly to relieve any water pressure.

4. Place the pump on a flat work surface and insert the plastic assembly tool as shown in figure 3. Push forward until it engages and locks the rotor cooling fins. This allows for removal of the impeller.

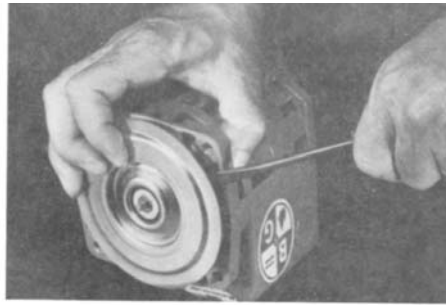


FIGURE 4

6. Clean the ceramic seat with a clean rag and inspect for any signs of grooving or cracks that will cause leakage. If no sign of grooving or cracks, it may be reused.

7. If replacing the ceramic seat (see fig. 4), gently pry the face plate away from the motor housing. Remove the damaged seat and boot from the faceplate. Install a new ceramic seat and boot in the recess of the faceplate. *Instructions supplied with repair kit.*

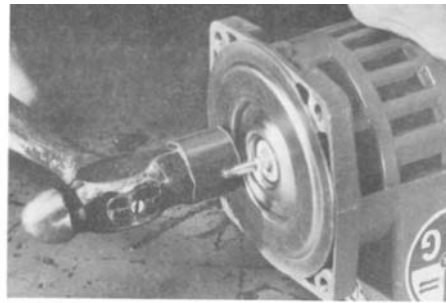


FIGURE 5

8. Reposition faceplate on motor housing. Gently tap faceplate evenly around its diameter, driving it into the recess provided in the motor housing.

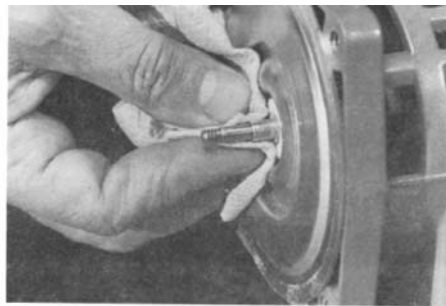


FIGURE 6

9. Push the rotor forward with the plastic assembly tool. Clean shaft and sleeve (fig 6).
10. Press replacement seal assembly firmly into the recess in the back side of the impeller.

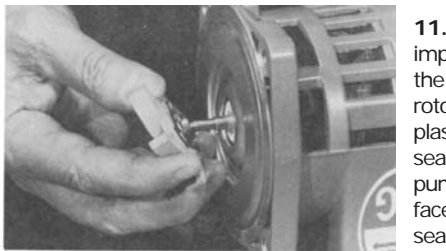


FIGURE 7

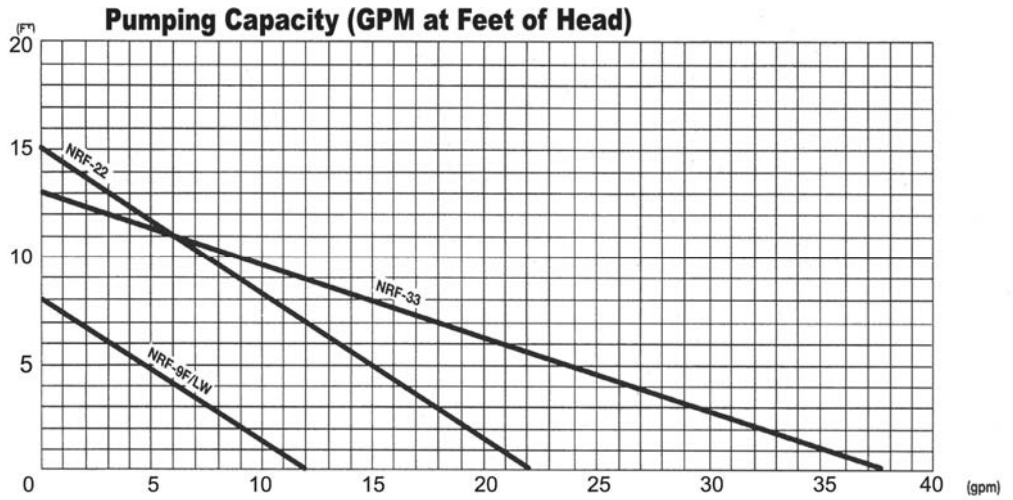
11. Place the seal & impeller assembly onto the pump shaft: push rotor fully forward with plastic tool. Slide the seal & impeller onto pump shaft until seal face contacts ceramic seat. See fig. 7. Tighten-down (left-hand thread) impeller nut. Re-assemble pump and re-connect power supply. **Never run a pump dry.** Please lubricate pumps with 1 teaspoon of oil at the start of every heating season. Order the tubes of B&G lubricating oil — BG1145 or use Mobil 1 motor oil.



FIGURE 8

Bell & Gossett Small Booster Pumps

NRF Iron Body Booster Pumps



NRF Series Pump Ordering Guide Fits pipe sizes 3/4" to 1-1/2"

Model No.	Red Iron Body Construction	RPM	Motor Characteristics			Weight in lbs.	ORDER NO.
			Watts	Phase	Amps		
NRF-22	For standard heating	2940	92	115V 1 ph	.80	9.3	BH1050
NRF9F/LW	For radiant panel heat	2800	41		.40	9.3	BH1049
NRF-33	For standard heating	2950	125		1.10	10.4	BH1050D

These NRF wet rotor booster pumps are often found in homes. They come with 2 flange gaskets. Order pump flanges & Fastener Pack separately.

Replaces model SLC-30.

■ The NRF series pumps are **water lubricated** — no need to oil. Rated to 150 psi & 240° F. The NRF-33 rated to 225°.

■ The NRF-9F/LW is **specially made for injection pumping in radiant panel hot water heating systems.**

■ **Flange gaskets come with the new pump.** If you need new pump flanges, please order two flanges (one each for the suction and discharge side of the pump) of the appropriate pipe size (3/4" to 1-1/2") and style (red for standard heating or bronze for potable water). New flanges come with bolts and nuts.

NRF Series Pipe-to-Pump Flange Ordering Guide

Flanges not included with pumps. Order a pump flange for both the pump suction and discharge sides.

Flange Pipe Size	Red Flange Order No. <small>Includes bolts/nuts</small>	Bronze Flange Order No. <small>Includes bolts/nuts</small>	Flange Gaskets Order No.
3/4"	BG1005	BG1040	BG1185 (set of 2)
1"	BG1010	BG1045	
1-1/4"	BG1015	BG1050	
1-1/2"	BG1020	BG1055	
*Fastener Pack (bolts-nuts-gaskets)			BG1561H

* Set includes 4 bolts/nuts and 2 flange gaskets.

Pipe-to-Pump Flange (Side View)

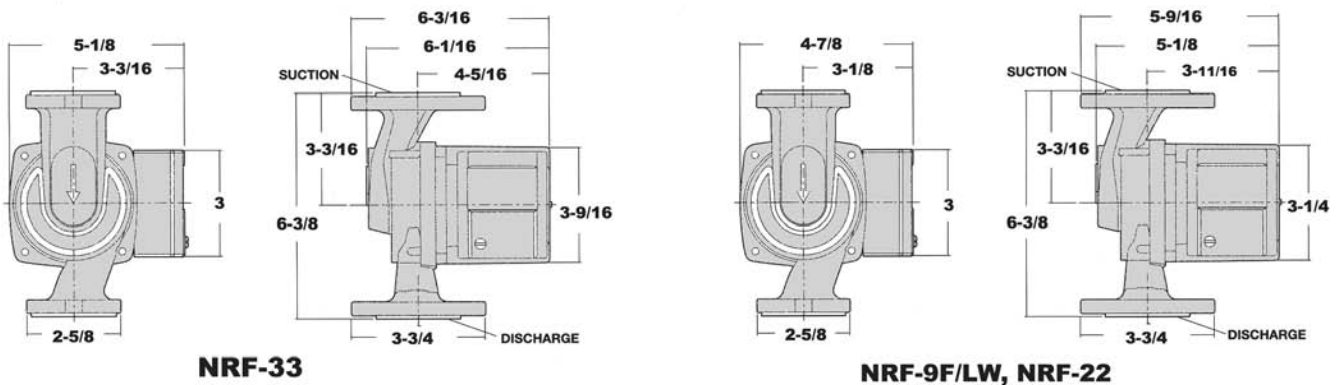
Flange gaskets (2) included with new pump. If needed, order a Fastener Pack separately.



Flange Gaskets
Set of two

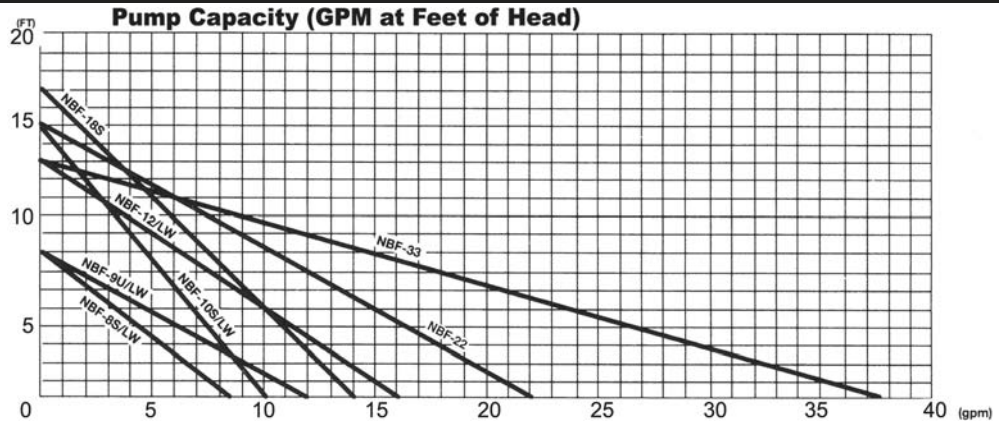


NRF Series Pump Dimensions



Bell & Gossett Small Booster Pumps

NBF "Bronze Body" Booster Pumps



NBF Pump Ordering Guide Fits 1/2" copper or 3/4" to 1-1/2" pipe sizes

Model No.	Connection	RPM	Motor Characteristics			Weight in lbs.	ORDER NO.
			Watts	Phase	Amps		
NBF-8S/LW	1/2" sweat	2800	39	115V 1 ph	0.39	9.0	BH1054R
NBF-10S/LW	1/2" sweat	2800	55		0.46	9.0	BH1054S
NBF-12F/LW	flange (see chart)	2800	55		0.48	9.5	BH1054T
NBF-18S	1/2" sweat	3000	90		0.74	9.0	BH1054U
NBF-22	flange (see chart)	2940	92		0.80	9.5	BH1055
NBF-33	flange (see chart)	2950	125		1.10	10.4	BH1055H

These NBF wet rotor booster pumps are often found in homes. They come with 2 flange gaskets. Order pump flanges separately.

■ The NBF series pumps are water lubricated — no need to oil. Rated to 150 psi and 230° F. The NBF-33 rated to 225°.

■ Replaces old SLC series.

■ The NBF series pumps are bronze pumps for potable domestic water. They are 100% lead-free!

■ The NBF pumps are also available with union connections (3/4" npt, 1/2" and 3/4" sweat) by ordering the following model numbers and specifying the type and size of union connection: NBF-9U/LW, NBF-12U/LW, and NBF-22U.

■ The individual pumps are sold with a set of 2 flange gaskets. Individual pipe-to-pump flanges (when needed) must be order separately.

■ Pump Flanges and a Fastener Pack are not included with the pump. If this is a new pump installation requiring a flange connection, order the appropriate sized flanges. Flanges come with the bolts and nuts needed to connect the pump to the flanges.

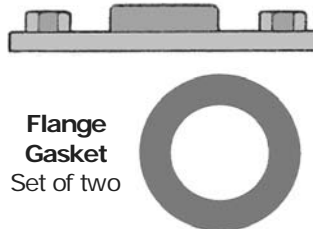
■ Homeowners attempting to install their own pumps are advised to contact a qualified HVAC contractor. Their trained personnel will quickly and safely install your new pump.

NBF Series Pipe-to-Pump Flange Ordering Guide

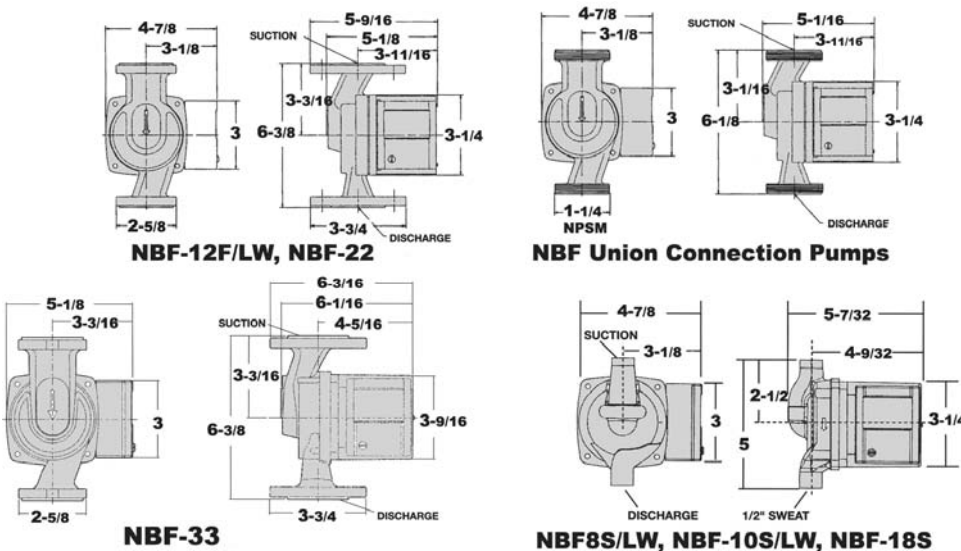
Flange Pipe Size	Bronze Flange Order No. <small>Includes nuts/bolts</small>	Flange Gasket Order No.
3/4"	BG1040	BG1185
1"	BG1045	
1-1/4"	BG1050	
1-1/2"	BG1055	
*Fastener Pack (bolts-nuts-gaskets)		BG1561H

* Set includes 4 bolts/nuts and 2 flange gaskets.

Pipe-to-Pump Flange (Side View)
Flange gaskets (2) included with new pump. If needed, order a Fastener Pack separately.



NBF Series Pump Dimensions



Service Guide to Bell & Gossett NRF & NBF Pumps

NRF/NBF Pumps Servicing Guide

Before attempting the replacement of your B&G NRF/NBF series booster pump please make certain to review the Bell & Gossett instruction manual number P48419, or revised. Visit the website shown on the front cover, or go to www.bellgossett.com.

Removal and Replacement



The models NRF, NBF and SSF booster pumps may be used for hot water heating, including solar heating.

TO REMOVE A PUMP

1. Close the valves on the suction and discharge side of the pump. If no valves have been installed, it may be necessary to drain the water from the system.
2. Loosen the conduit box cover screw and remove the cover.
3. Disconnect the electrical supply lines to the pump.
4. Remove the flange nuts and bolts or loosen the union ring nut.

TO INSTALL THE PUMP

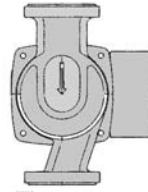
With flanged connections . . .

1. Install suction and discharge flanges or union connectors on the pipe ends. The use of Teflon tape or Teflon thread sealant is recommended.
2. Minimize any pipe-strain on the pump. Support the suction and discharge piping with pipe hangers. Do not attempt to spring the suction or discharge lines into position. B&G flanges and gaskets must be installed between the built-in pump flanges and the suction and discharge piping. Use 7/16" diameter by 1-1/2" long cap screws and matching nuts to connect pump to flanges.

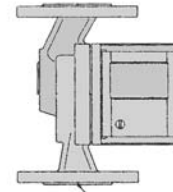
WARNING:

- Do not exceed the maximum operating pressure listed on the pump nameplate.
- Make certain your compression tank and pressure relief valves are working properly.
- Electrical connections should be made by professionals. Disconnect and lockout the power before servicing. Adequate electrical grounding is required for the safe operation of B&G pumps.
- The use of grounded metal conduit is preferred. If not feasible, ground the pump back to the service. Use a copper conductor at least the size of the circuit connectors supplying the pump. Connect the ground wire to the green-colored grounding screw in the pump's wiring compartment.
- Before draining the system allow the water to cool below 100° F. Take precautions against water damage and open the drain valve until servicing is complete.
- Pressure may be present in the pump body. Loosen the flange bolts and slightly shift pump to relieve pressure.

SUCTION



The pump arrow shows direction of discharge.



DISCHARGE

TO INSTALL THE PUMP

With solder (sweat) connections . . .

1. Clean tube ends and pump connections thoroughly, and use 95/5 solder and a good grade of soldering paste (flux).
2. Use a sharp torch with a pointed flame. Wrap the pump with a cool, wet rag. Direct the flame with care to avoid subjecting the pump to excessive heat.
3. Check soldered connections for leaks.

MODE OF DISCHARGE FOR PUMPS

The pump models NRF/NBF/SSF can be installed to discharge up or down, horizontally, and left or right. The motor shaft must remain in the horizontal position and the conduit box must be positioned on the top or to the side of the motor.

SYSTEM PREPARATION

Prior to system start-up, closed heating and cooling systems must be cleaned, drained and refilled with clean water. The system fluid pH must be maintained between 7 and 9.

START-UP

Do not start pump until system has been filled and vented. Air should be completely vented from the system by an air vent located at a high point in the system. Do not run pumps without water in the system. The "dry" running of pumps will result in pump and motor damage.

WARNING:

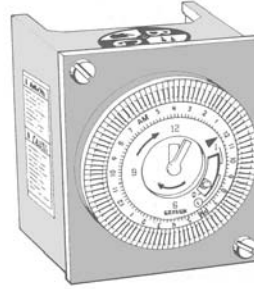
- The use of Teflon tape or Teflon pipe compound provides a "lubricity" which can lead to over-tightening and breakage. Be careful to not over-tighten.
- When taking apart a flange with a gasket embedded, always put on a new gasket when placing the pump back online.
- Heat associated with the use of "silver solder" can damage a pump. Do not use silver solder.
- Excessive use of solder in a "vertical" installation may result in damage to the pump's impeller. Do not use excessive amounts of flux.
- To prevent leakage, make certain that the flange bolts or ring nuts have been adequately tightened and the solder connections do not leak.
- Pressurize the pump body slowly while checking for leaks at all joints with gaskets or solder connections.
- A complete line of installation and service instructions may be available at the Bell and Gossett website.
- Bronze pumps are used wherever potable water (water that may come in contact with humans) is to be pumped. Regular space heating requirements are served by iron body (red) pumps.

B&G Timer & Aquastat for NRF/NBF Pumps

The **TC-1 Automatic Timer Kit** increases the overall efficiency of a hot water recirculation system. This timer control kit can be installed for use on any of the Bell & Gossett model NBF and NRF booster pumps. The TC-1 timer control is programmable to turn the booster pump "on" and "off" automatically at the times selected by the user. This allows the NRF/NBF booster pumps to circulate hot water only during those times of the day when high demands for hot water are common.

The **AQS-1/2** and **AQS-3/4 Aquastats** will thermostatically turn any Bell & Gossett model NRF and NBF booster pump "on" and "off." The aquastat uses a stainless steel clip that attaches to the surface of the copper pipe. The clip senses the temperature of water within the pipe and will switch the pump "off" at 120° F. and "on" at 100° F. Select the correct size aquastat to clip around either 3/8", 1/2" or 3/4" copper or iron pipe.

Combination Timer and Aquastat can be used together: The pump will only circulate water when the "on" time conditions are met and when water temperature is low enough to cause the aquastat to switch "on."



**AUTOMATIC
TIMER KIT**



AQUASTAT

Order the Automatic Timer and Aquastat separately.

TC-1 Timer Operational Limits

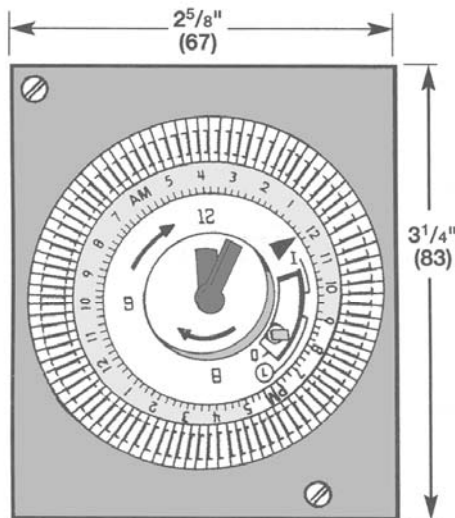
Power Supply: 115/120 volt, 60Hz, 1 phase
Minimum Switch Interval: 15 minutes
Run Modes: ON (continuous run), OFF (at all times), or TIMER (runs at programmed intervals).
Maximum Switch Current: 16 amps.

AQS Aquastat Operational Limits

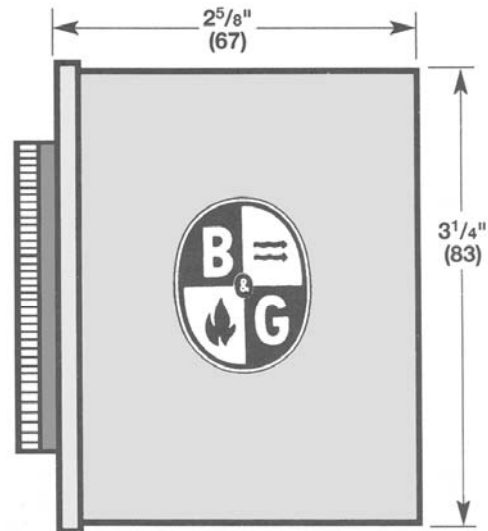
Thermostatic Switch Modes: OFF (open) at 120° F. water temperature and ON (closed) at 100° F.
Thermostatic Element: Bimetal to sense surface temperature of the copper or iron pipe.
Pipe Size: The AQS-1/2 clips to 3/8" iron pipe or 1/2" copper pipe; the AQS-3/4 clips to 1/2" iron pipe or 3/4" copper pipe.
Mounting: May be installed to sense temperature at the suction or discharge pipe of the NRF or NBF pump.

TIMER & AQUASTAT ORDER GUIDE

Model No.	Description	Fits Pipe Sizes	Order No.
TC-1	Timer	—	BI 1570
AQS-1/2	Aquastat for 1/2" copper pipe	1/2" copper 3/8" iron	BI 1500
AQS-3/4	Aquastat for 3/4" copper pipe	3/4" copper 1/2" iron	BI 1500A



FRONT VIEW



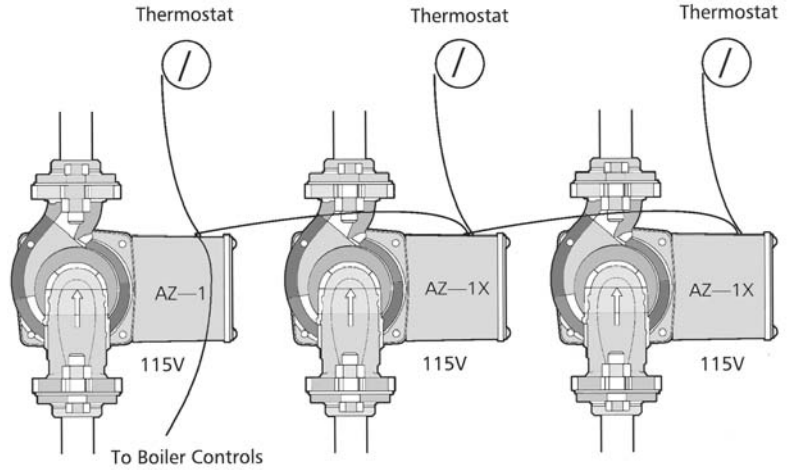
SIDE VIEW

Add-A-Zone™ Snap-On Pump Controller

For use on any B&G Wet Rotor Booster Pump

These Add-A-Zone™ Snap-On pump controllers can be daisy-chained to form up to three zones (see below) — All with simplified wiring.

Low voltage wiring makes multiple relay connections a snap!



FEATURES:

- ▶ The Snap-On design allows the Add-A-Zone pump controller to be quickly attached to any of the Bell & Gossett **Wet Rotor Pumps** currently made — **Such as the models NRF, NBF, and PL** (1/12 to 1/6 horsepower) pumps.
- ▶ **Clearly marked terminals** make for sure and fast wiring of the system.
- ▶ **Compact design fits in tight locations** and presents a clean, professional appearance.
- ▶ **100% factory tested with a 5 YEAR WARRANTY** —By far the best warranty in the business!

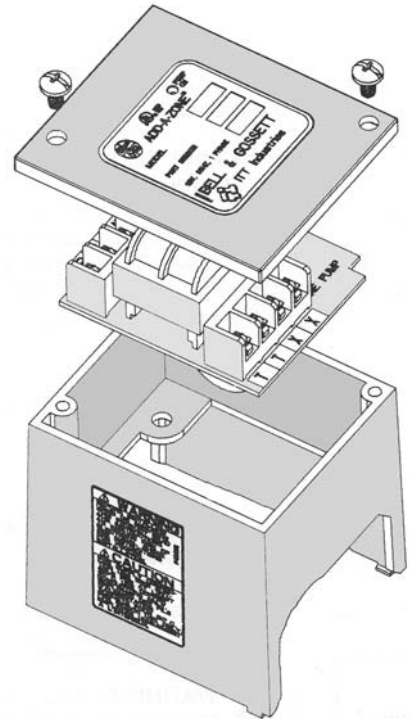
DESCRIPTION:

■ The Add-A-Zone pump controller can be field-mounted to any NRF, NBF or the 1/12 to 1/6 HP series PL booster pump. The Add-A-Zone controller operates the pump when the thermostat “calls” for heat. The controller can be wired to fire the boiler through a 24-volt rated isolated end-switch. The Add-A-Zone relay boxes can be daisy-chained to form up to a maximum of three zones.

- The AZ-1 can be used to power up to two AZ-1X pump control modules.
- Never use on a pump with a motor larger than 1/6 HP.
- Power Supply: 115-120 VAC, 60 Hz, 1 phase. UL listed.

OPERATION:

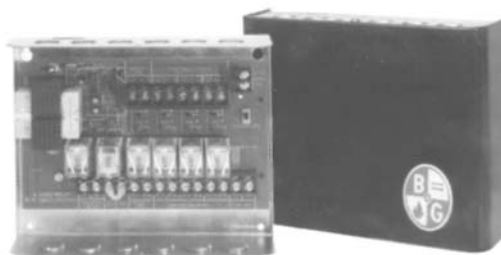
The circulators wired to the Add-A-Zone pump controllers are controlled by a low-voltage thermostat or any other low-voltage controller with a SPST switch. When the thermostat has a call for heat, the pump relay is pulled in, thereby turning the pump “on” and closing the X/X isolated end-switch. This end-switch can be wired to the boiler controls to turn the boiler “on” when there is a call for heat. A green LED light indicates that the thermostat has a call for heat. When the thermostat is satisfied, the circulator and boiler turn off, and the X/X isolated end-switch is opened.



Model No.	Part No.	Transformer	Relay	Power Input	Order No.
AZ-1	113077	2.5 VA	24 VAC, 5 amps	115 V, 60 Hz, 1 phase	BI 1510
AZ-1X	113078	*NONE			BI 1510A

* Use with model AZ-1 snap-on pump controller.

Bell & Gossett Zone-Trol™ Switching Relays for Zoning with Pumps and Valves



■ DESCRIPTION of the ZT-1X, ZT-1XH and the ZT-2X Pump Controllers

The ZoneTrol model ZT-1X and ZT-1XH are ready-to-install single zone controllers for circulator pumps in hydronic systems. The ZT-2X is a two-zone pump controller. These models feature interchangeable plug-in/plug-out relay, 15 VA transformer, 10 amp rating and quick-connect terminals. They are operated by two-wire, 24 volt thermostats and requires connection to 120 volt, 60 Hz source voltage.

For installation, operation and service instructions, request B&G Instruction Manual P80922

■ DESCRIPTION of the ZT-2, ZT-3, ZT-4 and ZT-6 Zone Pump Controllers

These models are ready-to-install multiple-zone controllers for circulator pumps in hydronic systems. They feature switchable priority, a powerful transformer rated at either 20 or 30 amp, automatic resettable fuse and a built-in 30-minute timer on priority circuit. The ZT-2 handles up to two zones; The ZT-3 up to three zones; The ZT-4 up to four zones and the ZT-6 up to six zones. All are operated by two-wire, 24-volt thermostats. Powered by 120 volt, 60 Hz source voltage.

For installation, operation and service instructions, request B&G Instruction Manual P80925

■ DESCRIPTION of the ZTV-4 and ZTV-6 Zone Valve Controllers

These models are ready-to-install multiple zone controllers for zone valves in hydronic systems. The advanced circuit board eliminates most field wiring needed for electrically operated zone valves. Thereby making the zone valve installation easier, quicker and more trouble-free. A built-in switchable priority provides heating for indirect water heaters and the LED diagnostic lights make trouble-shooting easy!

For installation and service instructions, request B&G Instruction Manual P80930

FEATURES and BENEFITS

- ▶ 100% factory tested
- ▶ Five year limited warranty — Best in the business!
- ▶ Selectable priority for domestic hot water
- ▶ 30-minute built-in priority timer helps prevent house freeze-up — No additional plug-in card required!
- ▶ Automatically resettable fuse protects controller from overload. Eliminates “no heat” call backs from a blown fuse.
- ▶ Powerful transformers operate up to six zones
- ▶ LED diagnostic lights are installed internally on top the box cover for professional trouble-shooting
- ▶ Can be used with tankless coils or cold-start applications
- ▶ Replaceable, standard “ice cube” type relays allow up to 10 amps per 1/3 HP per individual zone.

Pump Controller Ordering Guide

Model No.	Part No.	Zones	Priority Feature	Transformer Voltage	Built-In Priority Timer	Auto Resettable Fuse	Relay Switch Action	Thermostat Current	Single Phase Motor Rating (Each Relay)		Dimensions (inches) W x H x D	Order No.
									120 VAC	230 VAC		
ZT-1X	109401	1	NO	120V 60 HZ 15 VA	NO	NO	DPDT	0.18A	10 A 1/3 HP	10 A 1/2HP	4¼ X 5⅜ X 2⅝	BI 1580
ZT-1XH	109402	1	NO		NO	NO					BI 1580A	
ZT-2X	109409	2	NO		NO	NO					BI 1581A	
ZT-2	109403	2	YES	120V 60 HZ 20 VA	YES	YES	DPST	0.085A	10 A 1/3 HP	10 A 1/2HP	9¼ X 7¼ X 2¾	BI 1581
ZT-3	109404	3	YES		YES	YES						BI 1582
ZT-4	109405	4	YES		YES	YES						BI 1583
ZT-6	109406	6	YES		YES	YES						BI 1584

Zone Valve Controller Ordering Guide

Model No.	Part No.	Zones	Priority Feature	Transformer Output at 24 Volts	Relay Switch Action	Each End Switch Contact Rating	Dimensions W x H x D	Order No.
ZTV-4	109407	4	YES	40 VA	DPDT	5 A, 1/8 HP @ 120 VAC	9¼ x 7¼ x 2¾	BI 1590
ZTV-6	109408	6	YES	75 VA	DPDT		11⅜ x 7¼ x 3¾	BI 1595

Install Guide to B&G Add-A-Zone™ Pump Relays

Model AZ-1 Installation Guide

Before attempting to install the AZ-1 pump controller, please make certain to review the Bell & Gossett instruction manual number P82867, or its revision. You should install or service your AZ-1 controller under the guidance of the official B&G instruction manual P82867. If lost or misplaced, please visit www.bellgossett.com to request or download a copy.

AZ-1 Wiring to Pump

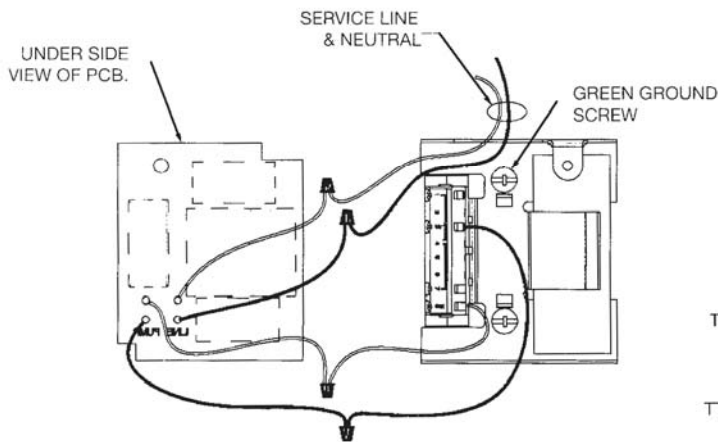


Figure 1: Wiring Add-A-Zone to Pump & Power Source

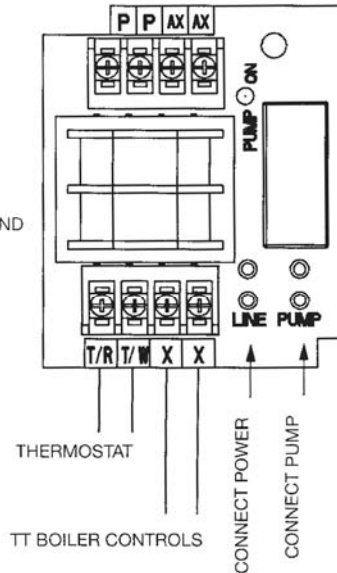


Figure 2: AZ-1 Wiring Diagram

WARNING:

- Disconnect and lockout the power before making electrical connections. Electrical connections are to be made by a qualified electrician in accordance with all applicable codes, ordinances and good practices.
- Improper assembly could cause electrical shock, fire, injury and death.
- Adding more than two additional zones may cause circuit overload.

AZ-1 Installation Steps

1. Disconnect the electrical supply to the pump before installing the Add-A-Zone controller.
2. Remove the screw that holds the steel conduit box cover to the pump.
3. Remove the conduit box cover.
4. If Add-A-Zone is being installed onto an already installed pump, disconnect the black and white motor leads from the power supply.
5. Position the plastic base for the Add-A-Zone onto the steel conduit box with the warning/caution label to the rear of the pump.
6. Verify that the electrical rating of the Add-A-Zone matches the values shown on the nameplate of the circulating pump.
7. Make the electrical connections according to the wiring diagram provided (see figure 1). Run the pump power wiring through one of the holes in the metal conduit box. Do not attach conduit into the hole of the plastic base. This hole is only for the 24 volt control wiring. Use 14 AWG

copper electrical wiring with a minimum temperature rating of 190° F. Also, refer to your local electrical codes for any wiring restrictions.

8. Run the thermostat wires through the grommet in the plastic base and connect to the appropriate TR/TW terminals. Next, run the 24 volt boiler control wires through the grommet in the plastic base and connect to the XX terminals (see figure 2). Do not use the holes in the metal conduit box for 24 volt control wiring. The holes in the metal conduit box are for power wiring only.

9. Position the Add-A-Zone relay PC board in the plastic base with the electronic components on the top. **Make sure that all the pump wiring connections are inside the box below the PC board.** Please note that the hole in the PC board must line-up with the mounting hole in the plastic base.

10. Secure the Add-A-Zone PC board and plastic base to the conduit box with one of the provided 8-32 screws.

11. Fasten the cover to the base using two of the provided 8-32 screws.

The Installation Guide for the AZ-1X follows on the next page.

Install Guide to B&G Add-A-Zone™ Pump Relays

Model AZ-1X Installation Guide

Before attempting to install the AZ-1X pump controller, please make certain to review the Bell & Gossett instruction manual number P82867, or its revision. Visit the website shown on the front cover, or go to www.bellgossett.com for more information. Please adhere to all the warnings and cautions found in the instruction manual.

1. Disconnect the electrical supply to the pump before installing the Add-A-Zone controller.
2. Remove the screw that holds the steel conduit box cover to the pump.
3. Remove the conduit box cover.
4. If Add-A-Zone is being installed onto an already installed pump, disconnect the black and white motor leads from the power supply.
5. Position the plastic base for the Add-A-Zone onto the steel conduit box with the warning/caution label to the rear of the pump.
6. Verify that the electrical rating of the Add-A-Zone matches the values shown on the nameplate of the circulating pump.

7. Make the electrical connections according to the wiring diagram provided. Run the pump power wiring through one of the holes in the metal conduit box. Do not attach conduit into the hole of the plastic base. This hole is only for the 24 volt control wiring. Use 14 AWG copper electrical wiring with a minimum temperature rating of 190° F. Also, refer to your local electrical codes for any wiring restrictions.

8. Run the wires for the following connections through the grommet in the plastic base and connect to the appropriate TR/TW terminals. Connect the terminals designated as P/P in the AZ-1 and AZ-1X modules. Connect the X/X terminals in the AZ-1X to the AX/AX terminals in the AZ-1. As an alternative, the X/X terminals in the AZ-1X can be wired directly to the appropriate 24-volt boiler controls (see figures 3 and 4). Do not use the holes in the metal conduit box for 24 volt control wiring.

The holes in the metal conduit box are for power wiring only.

Do not add more than two AZ-1X expansion modules to one AZ-1.

9. Position the Add-A-Zone relay PC board in the plastic base with the electronic components on the top. **Make sure that all the pump wiring connections are inside the box below the PC board.** Please note that the hole in the PC board must line-up with the mounting hole in the plastic base.

10. Secure the Add-A-Zone PC board and plastic base to the conduit box with one of the provided 8-32 screws.

11. Fasten the cover to the base using two of the provided 8-32 screws.

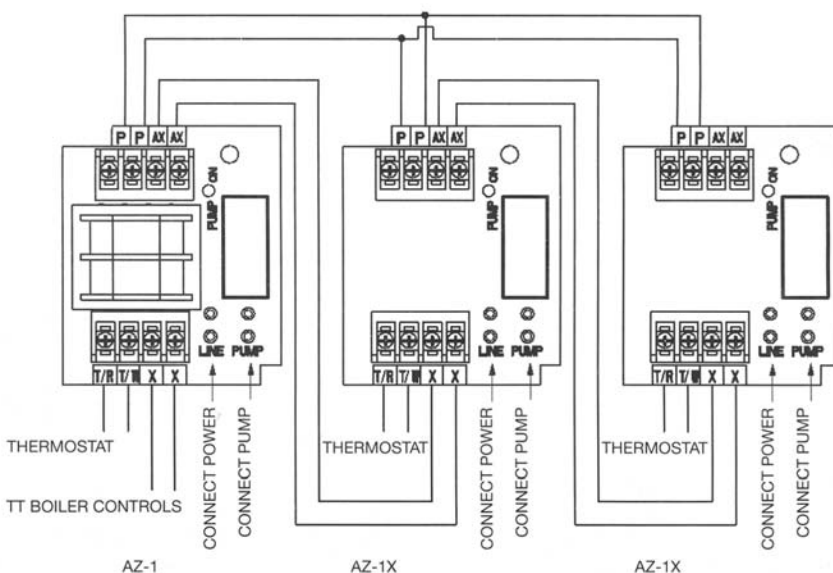


Figure 3: AZ-1 with AZ-1X Wiring Scheme

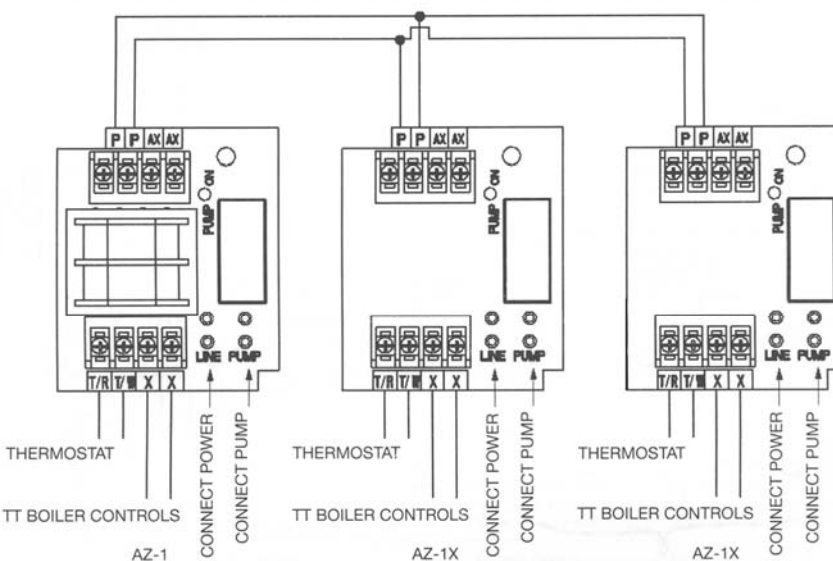


Figure 4: AZ-1 With AZ-1X Alternate Wiring Scheme

Bell & Gossett Series PL Booster Pumps

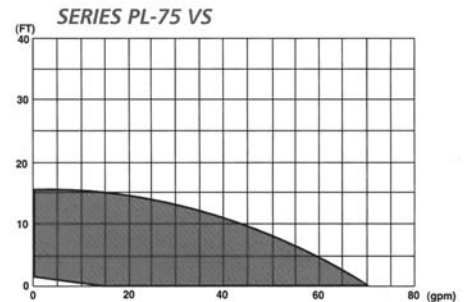
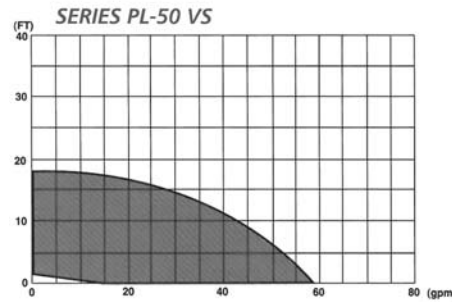
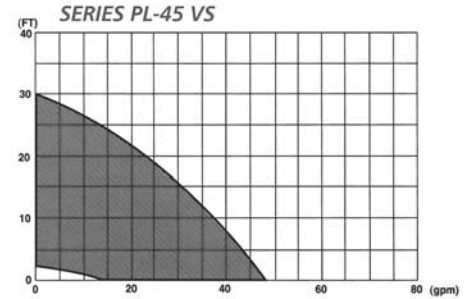
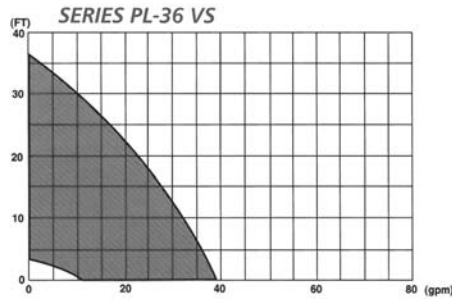
PL-VS DISCONTINUED Pumps



These pumps are no longer made. Shown here for reference purposes only.

These pumps featured permanently lubricated bearings and a range of variable pumping speeds that can be adjusted manually or automatically.

PL-VS Pump Capacity (GPM at Feet of Head)



PL-VS Series Pump Ordering Guide Dimensions below.

Model No.	Body Construction	Flange Connection	Adjustable RPM	HP & Volts	Weight in lbs.	ORDER NO.
PL-36VS	Iron	3/4", 1", 1-1/4" and 1-1/2"	Minimum at 750 rpm Maximum at 3500 rpm	1/6 hp	13.1	Discontinued
PL-36BVS	Bronze					
PL-45VS	Iron	1", 1-1/4" and 1-1/2"		1 ph	14.5	
PL-45BVS	Bronze					
PL-50VS	Iron	2"	115V	18.5		
PL-50BVS	Bronze					
PL-75VS	Iron					
PL-75VBS	Bronze					

PL-VS Series Pump Flange Ordering Guide

Flange Pipe Size	Bronze Flange Order No. <small>Includes bolts/nuts</small>	Flange Gasket Order No.
3/4"	BG1040	BG1185
1"	BG1045	
1-1/4"	BG1050	
1-1/2"	BG1055	
2	BG1539V	
Flange Bolt Pack with gaskets		BG1561H
Replacement Seal Kit (repairs leaking)		BG1455A

Pipe-to-Pump Flange (Side View)

Note: Order Flange Bolt Pack separately.



Flange Gasket
Set of two



PL-VS Series Pump Dimensions

Models	Flange-to-Flange	Height	Width	Length
PL-36VS	6-3/8"	7-13/16"	4-5/8"	9-1/4"
PL-45VS & PL-50VS	8-1/2"	8-7/8"	4-5/8"	9-3/4"
PL-75VS	8-1/2"	8-7/8"	5-3/16"	11"

These PL-VS wet rotor booster pumps have been **DISCONTINUED**. The information provided is for reference only. However, the replacement components shown are available for sale.

Please order the PL pumps (shown on the following page) to replace these PL-VS pumps.

Historical Specs:

- Powerful 1/6 h.p. variable speed pump motor.
- The PL-VS pumps are flange connecting, **maintenance free** — No need to oil. Replacement seal kit available to repair a leaking pump.
- The red iron body pump is for space heating; the bronze pump is for domestic water.
- These pumps do not work with the B&G Add-A-Zone™ pump controllers.

Service Guide to Bell & Gossett PL-VS Pumps

PL-VS Pumps Servicing Guide

Before attempting the replacement of your **DISCONTINUED** PL-VS series booster pump, please make certain to review the Bell & Gossett instruction manual number P86074, or its revision. Visit the website shown on the front cover, or go to www.bellgossett.com.



The model PL-VS booster pumps may be used for hot water heating, including solar heating and chilled water cooling.

TO REMOVE A PUMP

1. Close the valves on the suction and discharge side of the pump. If no valves have been installed, it may be necessary to drain the water from the system.
2. Loosen the conduit box cover screw and remove the cover.
3. Disconnect the electrical supply lines to the pump.
4. Remove the flange nuts and bolts or loosen the union ring nut.

TO INSTALL THE PUMP

1. Install suction and discharge flanges or union connectors on the pipe ends. The use of Teflon tape or Teflon thread sealant is recommended.
2. Minimize any pipe-strain on the pump. Support the suction and discharge piping with pipe hangers. Do not attempt to spring the suction or discharge lines into position. B&G flanges and gaskets must be installed between the built-in pump flanges and the suction and discharge piping. Use 7/16" diameter by 1-1/2" long cap screws and matching nuts to connect pump to flanges.

WARNING:

- Do not exceed the maximum operating pressure listed on the pump nameplate.

- Make certain your compression tank and pressure relief valves are working properly.

- Electrical connections should be made by professionals. Disconnect and lockout the power before servicing. Adequate electrical grounding is required for the safe operation of B&G pumps.

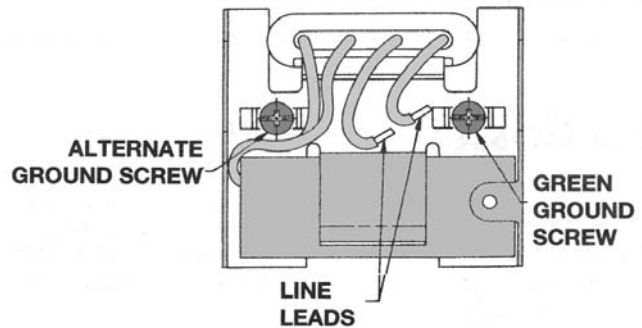
- Never run a pump that does not have water inside. Seal damage will occur.

- Before draining the system allow the water to cool below 100° F. Take precautions against water damage and open the drain valve until servicing is complete.

- Pressure may be present in the pump body. Loosen the flange bolts and slightly shift pump to relieve pressure.

- What's the best way to repair and service a B&G pump? — **Call a heating contractor!** These guys have the experience and knowledge needed to do the job. The dollars you spend is an investment wisely made!

CONDUIT BOX WIRING DETAIL



WIRING INSTRUCTIONS

1. Loosen the 2 screws that secure the conduit cover box and remove cover.
2. Attach the appropriate sized connector(s) to the hole(s) in the side of the conduit box.
3. Using a minimum size 14 AWG copper electrical wire (refer to your local code for wiring restrictions), wire the motor to a single-phase power source as listed on the pump nameplate.
4. Connect the ground wire to the ground terminal inside the conduit box.
5. If the control input and fault relay will be used, connect 3000V minimum wire to the appropriate terminals.

MODE OF DISCHARGE FOR PUMPS

The PL-VS pump models can be installed to discharge up or down, horizontally, and left or right. The motor shaft must remain in the horizontal position and the conduit box must be positioned on the top or to the side of the motor.

SYSTEM PREPARATION

Prior to system start-up, closed heating and cooling systems must be cleaned, drained and refilled with clean water.

START-UP

Do not start pump until system has been filled and the air vented. Air should be completely vented from the system by an air vent located at a high point in the system. Do not run pumps without water in the system. The "dry" running of pumps will result in pump and motor damage.

WARNING:

- The use of Teflon tape or Teflon pipe compound provides a "lubricity" which can lead to over-tightening and breakage. Be careful to not over-tighten.

- When taking apart a flange with a gasket embedded, always put on a new gasket when placing the pump back online.

- Heat associated with the use of "silver solder" can damage a pump. Do not use silver solder.

- Excessive use of solder in a "vertical" installation may result in damage to the pump's impeller. Do not use excessive amounts of flux.

- To prevent leakage, make certain that the flange bolts or ring nuts have been adequately tightened and the solder connections do not leak.

- Pressurize the pump body slowly while checking for leaks at all joints with gaskets or solder connections.

Bell & Gossett Series PL Booster Pumps

PL Large Booster Pumps



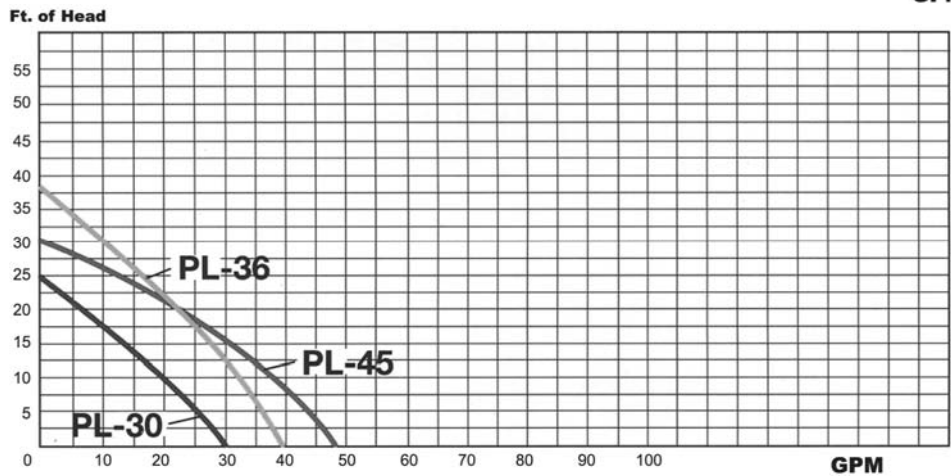
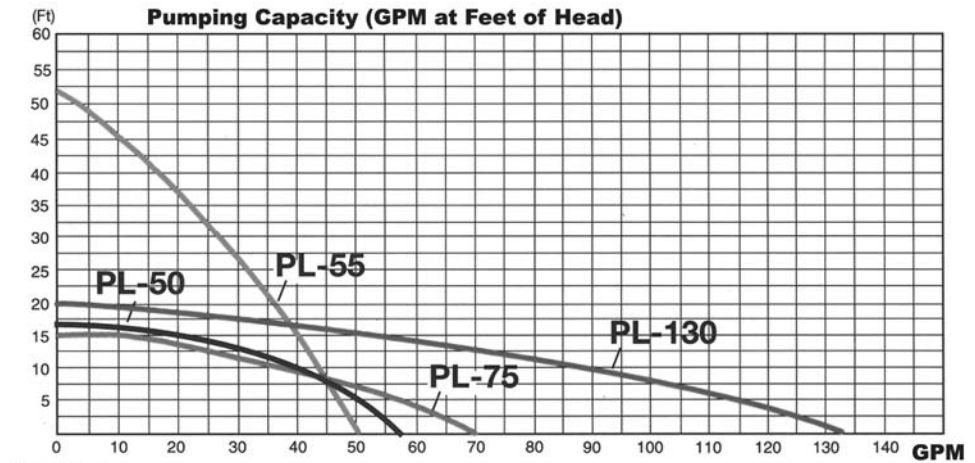
These maintenance free pumps feature an advanced close-coupled design and permanently lubricated bearings for long-life and quiet operation.

Max. Operating Press: 150 psi
Max. Operating Temp: 225° F.

PL Series Pump Ordering Guide

All pumps 115 volts.
Order Flanges separately.
Flanges come with Bolts/Nuts.

Fits pipe sizes 3/4" to 1-1/2" with the appropriate flange. Pump comes with two flange gaskets.

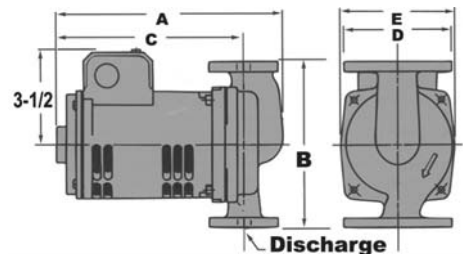


Model No.	Iron Body ORDER NO.	Bronze Body ORDER NO.	Flange Sizes (Order Below)	RPM	HP	Weight in lbs.	Pump Dimensions (inches)				
							A	B	C	D	E
PL-30	BH1100	BH1105	3/4", 1", 1-1/4", 1-1/2"	2650	1/12	11.6	8-5/8	6-3/8	7-1/8	4-3/16	4-3/8
PL-36	BH1110	BH1115		3300	1/6	13.1					
PL-45	BH1220	BH1125	1", 1-1/4" and 1-1/2"	3300	1/6	14.5	9-1/8	8-1/2	7-1/4	4-5/8	4-3/8
PL-50	BH1130	BH1135		3300	1/6	14.5					
PL-55	BH1135E	BH1135H	3/4 to 1-1/2"	3250	2/5	13.1	9-9/16	6-3/8	7-15/16	4-3/16	4-3/4
PL-75	BH1135K	BH1135L	2"	3400	1/6	18.5	9-15/16	8-1/2	7-3/8	5-3/16	4-5/8
PL-130	BH1135S	BH1135T		3200	2/5	22	10-3/4	8-1/2	8-1/4	5-3/16	5-1/8

PL Series Pipe-to-Pump Flange and Parts Ordering

Pump Model ▶	Flange With bolts & nuts For PL-30 to PL-36		Flange With bolts & nuts For PL-45 to PL-50		Flange With bolts & nuts For PL-55	Flange Gasket Set Set of 2 each
Flange Pipe Size	Red (iron) flange	Bronze flange	Red (iron) flange	Bronze flange	Red (iron) flange	For PL-30,-36 BG1185
3/4"	BG1005	BG1040	N/A	N/A	BG1005	For PL-45, PL-50 BG1190
1"	BG1010	BG1045	BG1519B	BG1519C	BG1010	For PL-55 BG1185
1-1/4"	BG1015	BG1050	BG1519G	BG1536	BG1015	
1-1/2"	BG1020	BG1055	BG1520R	BG1537	BG1020	
Flange Bolt Pack with 4-Bolts/Nuts and 2 gaskets for PL-30 and PL-36						BG1561H
Flange Bolt Pack with 4-bolts/Nuts and 2 gaskets for PL-45 and PL-50						BG1561J
Replacement Seal Kit repairs leaking pumps for PL-30 to PL-50						BG1455A
Replacement Seal Kit repairs leaking pumps for PL-55						BG1510A

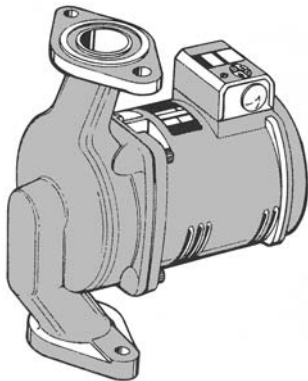
PL Series Pump Dimension Guide



Service Guide to Bell & Gossett PL Pumps

PL Pumps Servicing Guide

Before attempting the replacement of your PL series booster pump, please make certain to review the Bell & Gossett instruction manual number P81884, or its revision. Visit the website shown on the front cover, or go to www.bellgossett.com for additional information.



The model PL booster pumps may be used for hot water heating, including solar heating and chilled water cooling.

TO REMOVE A PUMP

1. Close the valves on the suction and discharge side of the pump. If no valves have been installed, it may be necessary to drain the water from the system.
2. Loosen the conduit box cover screw and remove the cover.
3. Disconnect the electrical supply lines to the pump.
4. Remove the flange nuts and bolts or loosen the union ring nut.

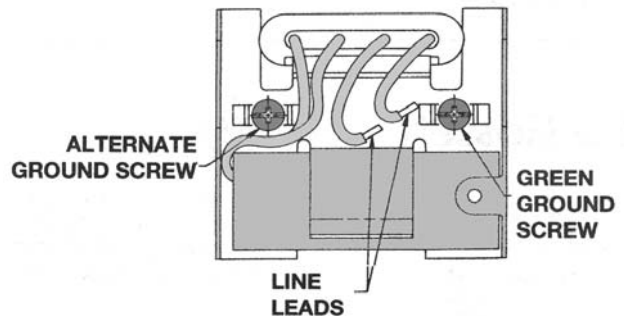
TO INSTALL THE PUMP

1. Install suction and discharge flanges or union connectors on the pipe ends. The use of Teflon tape or Teflon thread sealant is recommended. Be careful not to over-tighten the flange bolts — You do not want to “crack” the pump flange.
2. Minimize any pipe-strain on the pump. Support the suction and discharge piping with pipe hangers. Do not attempt to spring the suction or discharge lines into position. B&G flanges and gaskets must be installed between the built-in pump flanges and the suction and discharge piping. Use 7/16” diameter by 1-1/2” long cap screws and matching nuts to connect pump to flanges.

WARNING:

- Do not exceed the maximum operating pressure listed on the pump nameplate.
- Make certain your compression tank and pressure relief valves are working properly.
- Electrical connections should be made by professionals. Disconnect and lockout the power before servicing. Adequate electrical grounding is required for the safe operation of B&G pumps.
- Never run a pump that does not have water inside. Seal damage will occur.
- Before draining the system allow the water to cool below 100° F. Take precautions against water damage and open the drain valve until servicing is complete.
- Pressure may be present in the pump body. Loosen the flange bolts and slightly shift pump to relieve pressure.
- For the repair or replacement of your B&G pump — **Call a heating contractor.** The dollars you spend is an investment wisely made!

CONDUIT BOX WIRING DETAIL



WIRING INSTRUCTIONS

1. Loosen the screw that secures the conduit cover box and remove cover.
2. Attach the appropriate sized connector to the hole on the side of the conduit box.
3. Using a minimum size 14 AWG copper electrical wire (refer to your local code for wiring restrictions), wire the motor to a single-phase power source as listed on the pump nameplate.
4. Connect the ground wire to the inside of the conduit box with one of the green screws provides inside the box.

MODE OF DISCHARGE FOR PUMPS

The PL pump models can be installed to discharge up or down, horizontally, and left or right. The motor shaft must remain in the horizontal position and the conduit box must be positioned on the top or to the side of the motor.

SYSTEM PREPARATION

Prior to system start-up, closed heating and cooling systems must be cleaned, drained and refilled with clean water.

START-UP

Do not start pump until system has been filled and the air vented. Air should be completely vented from the system by an air vent located at a high point in the system. Do not run pumps without water in the system. The “dry” running of pumps will result in pump and motor damage.

WARNING:

- The use of Teflon tape or Teflon pipe compound provides a “lubricity” which can lead to over-tightening and breakage. Be careful to not over-tighten the flanges.
- When taking apart a flange with a gasket embedded, always put on a new gasket when placing the pump back online.
- Heat associated with the use of “silver solder” can damage a pump. Do not use silver solder.
- Excessive use of solder in a “vertical” installation may result in damage to the pump’s impeller. Do not use excessive amounts of flux.
- To prevent leakage, make certain that the flange bolts or ring nuts have been adequately tightened and the solder connections do not leak.
- Pressurize the pump body slowly while checking for leaks at all joints with gaskets or solder connections.

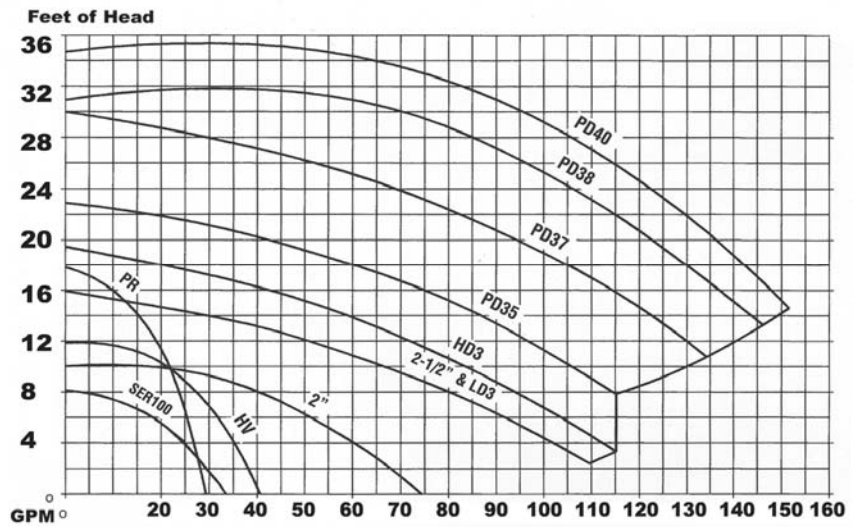
Bell & Gossett Series 100 Booster Pumps

The POPULAR Series 100 Booster Pumps



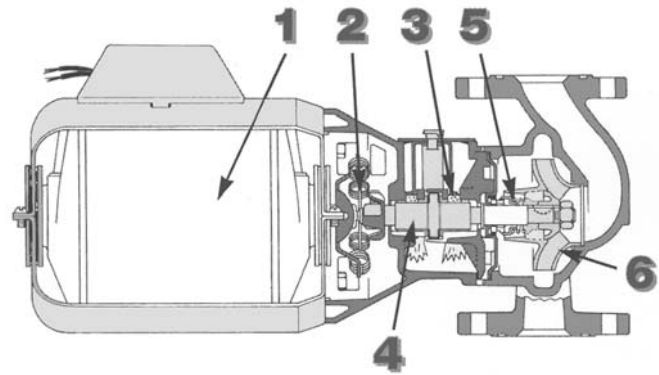
Seems like everyone uses these long-lasting, repairable booster pumps in their boiler room! Available in iron (red) or bronze bodies for domestic potable water.

Pump Capacities for B&G Booster Pumps



Pump Features and Benefits

1. Sleeve bearing, oil lubricated motor with replaceable resilient motor mounts. Rated to 125 psi, 225° F.
 2. Noise dampening spring coupler. Motors are ODP with overload protector, 115V.
 3. Completely repairable. A listing of repair parts can be found on the following page.
 4. Oversize precision ground pump shaft is oversized to provide long seal and bearing life.
 5. Mechanical seal with-stands the harsh hydronic heating environment.
- Fits pipe sizes 3/4" to 1-1/2"** with the appropriate pump flanges.
Pump flanges found on the next page.

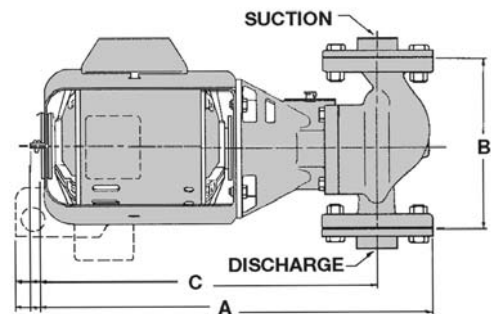


Series 100 Pump Ordering Guide New pump includes Flange Bolt Pack (bolts-nuts-flange gaskets) and tube of oil. Order pump flanges separately (see following page).

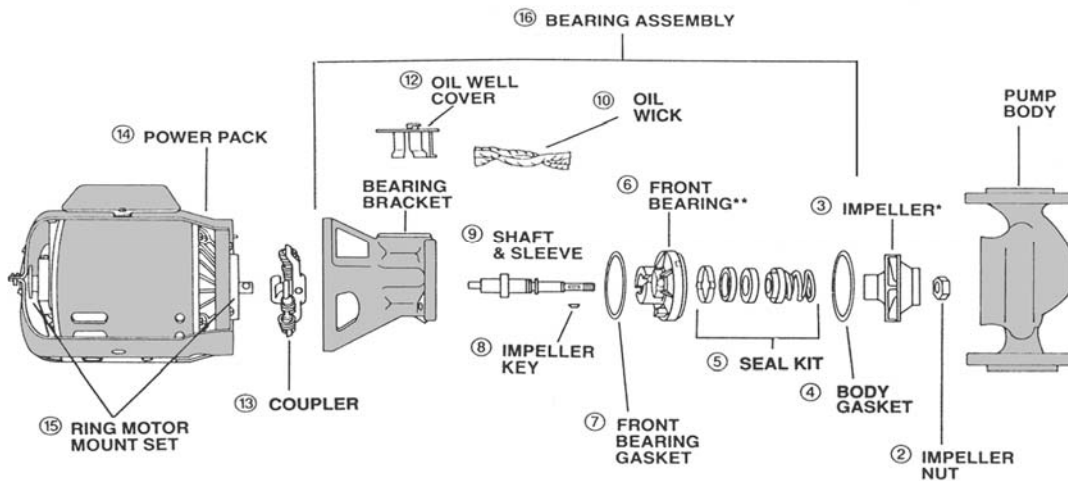
Pump Models & HP	Red Iron Pump for space heat			Bronze Pump for potable water			Flange Sizes Order separately	Pump Dimensions			Weight	
	*Model No.	Pump No.	Order No.	*Model No.	Pump No.	Order No.		A	B	C	Iron Body	Bronze Body
Series 100 1/12 hp, 1 ph	100NFI	106189	BH1010	100BNFI	106197	BH1005	3/4, 1, 1 1/4, 1 1/2	14-7/8	6-3/8	12-3/4	20	21

Found in homes and industries around the world. The B&G series 100 pump is one of the worlds most popular circulating/booster pump for both hot water heating and chilled water applications. Unlike many of the smaller booster pumps found on the preceding pages, the series 100 (and the others shown on this page) can be completely rebuilt and repaired. When you're looking for a dependable, long-term pumping solution — look no further. The series 100 is the real deal!

A complete listing of replacement components and accessories are shown on the following pages.



Repair Parts for Series 100 Pumps



The replacement Bearing Assemblies also include the seal kit, body gasket and tube of oil but not the impeller.

The best way to repair a pump is to order a **Bearing Assembly**. It includes all the component parts pre-assembled into an easy-to-install pump housing.

The Bearing Assembly includes all of the components shown within item 16 (in the adjacent drawing), except for the impeller.

To identify your pump model: Look on the nameplate found on the bearing assembly.

Repair Parts for Series 100 B&G Booster Pumps

Item No.	Description	Pump Model ▶	100NFI	100AB	100BNFI
		Pump No. ▶	106189	106192	106197
		Pump Color ▶	Red	Bronze	Bronze
			For space heating	For Food Service	For potable water
16	Complete Replacement Bearing Assembly		118844	189034	189034
3	Impeller, ¹ plastic impeller ² bronze impeller		¹ BG1510	² BG1205	¹ BG1510
13	Coupler (also order a Motor Mount set)		BG1490	BG1490	BG1490
14	Motor (Power Pack) 1/12 h.p., 1 ph		BG1080	BG1080	BG1080
15	Motor Mount Set (2 ea.)		BG1150	BG1150	BG1150
5	Seal Kit (also order a Body Gasket)		BG1300	BG1300	BG1300
4	Body Gasket		BG1520	BG1520	BG1520
10	Oil Wick Set		BG1200	BG1200	BG1200
	Pump Flange and bolts for 3/4" pipe		BG1005	BG1040	BG1040
	Pump Flange and bolts for 1" pipe		BG1010	BG1045	BG1045
	Pump Flange and bolts for 1 1/4" pipe		BG1015	BG1050	BG1050
	Pump Flange and bolts for 1 1/2" pipe		BG1020	BG1055	BG1055
	Gasket Set (2 ea.) for above Pump Flanges		BG1185	BG1185	BG1185
	Tube of B&G pump oil —2 ounces		BG1145	BG1145	BG1145
	Flange Bolt Pack with Flange Gaskets		BG1561H	BG1561H	BG1561H

■ If the Bearing Assembly is the original that came with the pump, you will find the **Pump Series** and **Pump No.** information.

■ If the Bearing Assembly has already been replaced, the original Pump Series and Pump No. nameplate was most likely "thrown away" with the old Bearing Assembly.

■ **Three different models of pumps:** The **100NFI** is used for most hot water heating applications; The **100AB** is used for food service applications; the **100BNFI** is used for domestic, potable water applications.

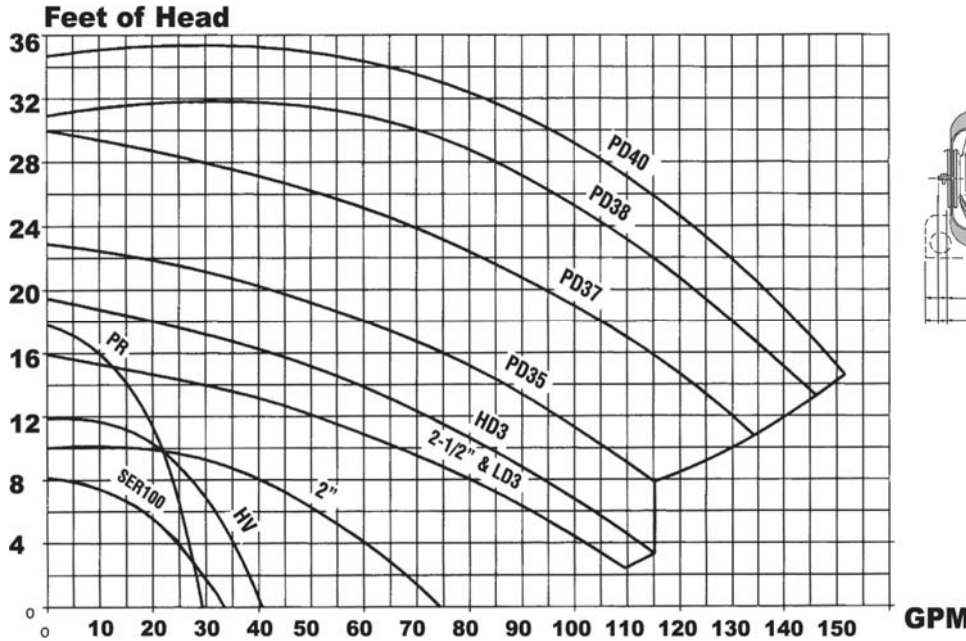
Repair Parts for above B&G Bearing Assemblies

Item No.	Description	Bearing Assy. No.	Bearing Assy. No.
		118844 (Red)	189034 (Bronze)
6	Front Bearing	BG1460	BG1450
7	Front Bearing Gasket	BG1610	BG1610
8	Impeller Key for Shaft	BG1527	BG1527
2	Impeller Nut	BG1519K	BG1542
12	Oil Well Cover	BG1620	BG1620
9	Shaft and Sleeve	BG1440	BG1440

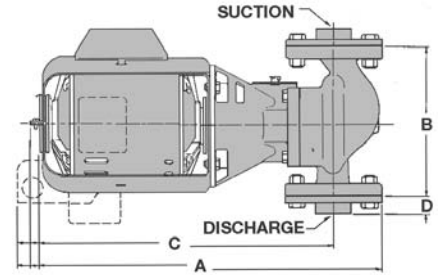
■ New 100 series pumps come with a Flange Bolt Pack (the bolts, nuts and flange gaskets for attaching the pump to the flanges) and a tube of oil for lubricating the pump assembly before operation. Lubricate once before every heating season.

B&G Booster Pumps HV, PR, 2, 2½, LD3, HD3 & PD

Pump Capacities for HV, PR, 2, 2½, LD3, HD3, and PD (GPM at Feet of Head)



Pump Dimension Guide



The **suction** and **discharge** sizes are dependent on the size of the pump flange used:

The HV and PR pumps can use pump flange sizes from 3/4" to 1-1/2". No. 2 pumps use 2" flanges; No. 2½ pumps use 2-1/2" flanges. The LD, HD and PD pumps all use 3" flanges. **New pumps include flange bolts/gaskets.**

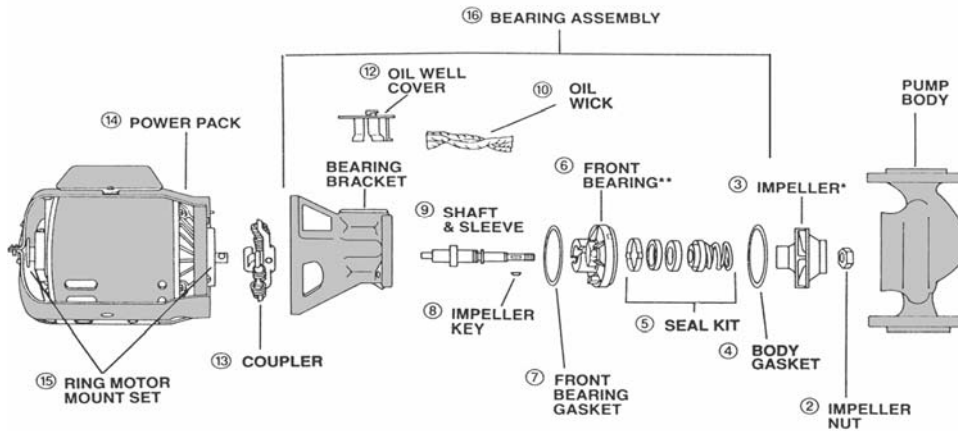
Series PR, HV, 2, 2-1/2, LD3, HD3 and PD Booster Pumps

Pump Models HP & Phase	Red Iron Pump for space heat			Bronze Pump for domestic water			Flange Sizes Order separately	Pump Dimensions (in.)			Weight (lbs)	
	*Model No.	Pump No.	Order No	*Model No.	Pump No.	Order No.		A	B	C	Iron Body	Bronze Body
PR 1/6 hp, 1 ph	PR	102206	BH1023	PR AB	102208	BH1024	¾, 1, 1¼, 1½"	15-1/4	8-1/2	12-3/4	30	32
HV 1/6 hp, 1 ph	HV NFI	102210	BH1035	HV BNFI	102213	BH1030		15-3/8	8-1/2	13	28	30
No. 2 1/6 hp, 1 ph	2 NFI	102214	BH1015	2 AB	102233	BH1020A	2"	16-5/8	8-1/2	14	36	39
				2 BNFI	102217	BH1020						
No. 2½ 1/4 hp, 1 ph	2½	102218	BH1022	2½ AB	102220	BH1022A	2½"	17-1/4	10	14	54	58
LD3 1/4, 1 ph	LD3	102222	BH1022B	LD3 AB	102224	BH1022C	3"	17-1/4	10	14	53	57
HD3 1/3 hp, 1 ph	HD3	102226	BH1022D	HD3 AB	102228	BH1022E		17-1/2	10	14-1/4	55	59
PD-35S 1/2 hp, 1 ph	PD35S	105089	BH1100A	PDB35S	105092	BH1100B		20-1/4	12	16-7/8	75	80
PD-35T 1/2 hp, 3 ph	PD35T	105093	BH1110A	PDB35T	105096	BH1110B		20-1/4	12	16-7/8	75	80
PD-37S 3/4 hp, 1 ph	PD37S	105097	BH1120A	PDB37S	105100	BH1120B		20-1/4	12	16-7/8	75	80
PD-37T 3/4 hp, 3 ph	PD37T	105101	BH1130A	PDB37T	105104	BH1130B		20-1/4	12	16-7/8	75	80
PD-38S 1 hp, 1 ph	PD38S	105121	BH1140	PDB38S	105123	BH1140A		24	14-1/2	19-1/2	128	138
PD-38T 1 hp, 3 ph	PD38T	105133	BH1150	PDB38T	105104	BH1150A		24-1/4	14-1/2	19-3/4	125	135
PD-40S 1½ hp, 1 ph	PD40S	105151	BH1160	PDB40S	105153	BH1160A		24-5/8	14-1/2	20-1/8	130	140
PD-40T 1½ hp, 3 ph	PD40T	105137	BH1170	PDB40T	105139	BH1170A		25-1/8	14-1/2	20-5/8	127	137

*The NFI at end of "Model No." = plastic impeller; AB = all bronze pump with a bronze impeller. 1 phase motors are 115V on the models 2, 2½ and LD3, and 115/230V on the other 1 phase models. The 3 phase model pumps are all tri-voltage: 115-230/460 volts. The PDB pumps have bronze impellers.

Complete repair and accessory list can be found on following pages.

Repair Parts for Model HV and 2" Pumps



*The replacement Bearing Assemblies also include the seal kit, body gasket and tube of oil but not the impeller.

- The best way to repair a pump is to order a **Bearing Assembly**. It includes all the component parts pre-assembled into an easy-to-install pump housing.
- The Bearing Assembly includes all of the components shown within the adjacent drawing, except for the power pack (motor) and mount set, coupler, impeller, impeller nut and pump body.
- New pumps come with a Fastener Pack (flange bolts, nuts and gaskets) along with a tube of oil. Please follow the supplied directions for proper oiling amount. Do not over-oil!

Repair Parts for Series HV and 2" Booster Pumps

Item No.	Description	Pump Model ▶ Pump No. ▶ Pump Color ▶	HV NFI	HV BNFI	2" NFI	2" BNFI
			102210 Red for Space Heating	102213 Bronze for Potable Water	102214 Red for Space Heating	102217 Bronze for Potable Water
16	Replacement Bearing Assembly		189120	189122	189120	189122
3	Impeller, * <i>plastic</i>		BG1505	BG1505	BG1505	BG1505
13	Coupler, <i>also order Motor Mount set</i>		BG1490	BG1490	BG1490	BG1490
14	Motor (Power Pack) 1/6 h.p., 1 ph		BG1120	BG1120	BG1120	BG1120
15	Motor Mount Set (2 ea.)		BG1150	BG1150	BG1150	BG1150
5	Seal Kit, <i>also order Body Gasket</i>		BG1300	BG1300	BG1300	BG1300
4	Body Gasket		BG1525	BG1525	BG1525	BG1525
10	Oil Wick Set		BG1200	BG1200	BG1200	BG1200
	Pump Flange for 1" pipe		BG1025	BG1060	—	—
	Pump Flange for 1 1/4" pipe		BG1030	BG1065	—	—
	Pump Flange for 1 1/2" pipe		BG1035	BG1070	—	—
	Pump Flange for 2" pipe		—	—	BG1511	BG1511A
	Gasket Set for above Pump Flanges		BG1185	BG1185	BG1195	BG1195
	Tube of B&G pump oil —2 ounces		BG1145	BG1145	BG1145	BG1145
	Fastener Pack (Bolts-Nuts-Gaskets)		BG1561J	BG1561J	BG1561K	BG1561K

* *If pumping water for food service, order bronze impeller no. BG1539*

Repair Parts for Above B&G Bearing Assemblies

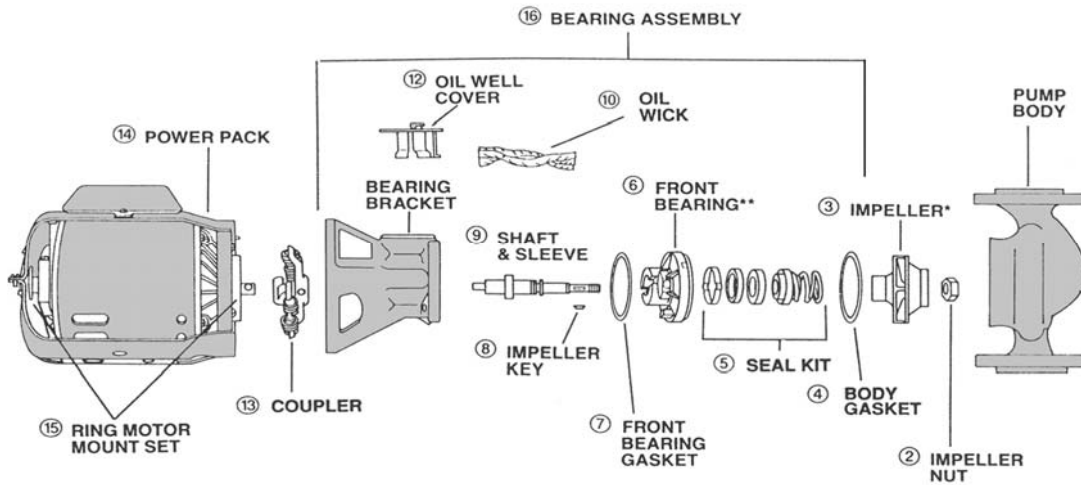
Item No.	Description	Bearing Assy. No.	Bearing Assy. No.
		189120 (Red)	189122 (Bronze)
6	Front Bearing	BG1451	BG1453
7	Front Bearing Gasket	BG1615	BG1615
8	Impeller Key for Shaft	BG1527	BG1527
	Impeller Gasket	—	BG1552
2	Impeller Nut	BG1542	BG1542
12	Oil Well Cover	BG1628	BG1628
9	Shaft and Sleeve	BG1440	BG1440

Red iron body pumps are used for hot water space heating or chilled water applications.

Bronze body pumps are used for domestic potable water applications: Anywhere that water may come in contact with humans.

To repair a leaking pump: Order a seal kit and body gasket.

Repair Parts for Model PR, 2½, LD-3, HD-3 Pumps



The best way to repair a pump is to order a **Bearing Assembly**. It includes all the component parts pre-assembled into an easy-to-install pump housing. The Bearing Assembly includes all of the components shown within item 16 (in the adjacent drawing), except for the impeller.

All Bearing Assemblies shown here are "**Bronze Fitted**": They are used on red and bronze pumps.

*The replacement Bearing Assemblies also include the seal kit, body gasket and tube of oil but not the impeller.

Repair Parts for Bell & Gossett PR, 2 1/2", LD-3" & HD-3"

Item No.	Description	Pump Model ▶	PR	2 ½	LD-3	HD-3
		Pump Color ▶	Red or Bronze	Red or Bronze	Red or Bronze	Red or Bronze
		HP & Phase ▶	1/6, 1ph	1/4, 1ph	1/4, 1ph	1/3, 1ph
16	Complete Replacement Bearing Assembly		189105	189105	189105	189105
3	Impeller, Steel		BG1325	BG1295	BG1295	BG1290
	Impeller, Bronze		BG1250	BG1230	BG1230	BG1227
13	Coupler		BG1490	BG1320	BG1320	BG1320
14	Motor (Power Pack)		BG1075	BG1090	BG1090	BG1095
15	Motor Mount Set (2 ea.)		BG1155	BG1160	BG1160	BG1160
5	Seal Kit		BG1300	BG1300	BG1300	BG1300
4	Body Gasket		BG1535	BG1535	BG1535	BG1535
10	Oil Wick Set		BG1200	BG1200	BG1200	BG1200
	Pump Flange, Red	See table below.		BG1519A	BG1511	BG1511
	Pump Flange, Bronze			BG1538	BG1511C	BG1511C
	Gasket Set for above Pump Flanges		BG1185	BG1140	BG1140	BG1140
	Tube of B&G pump oil —2 ounces		BG1145	BG1145	BG1145	BG1145

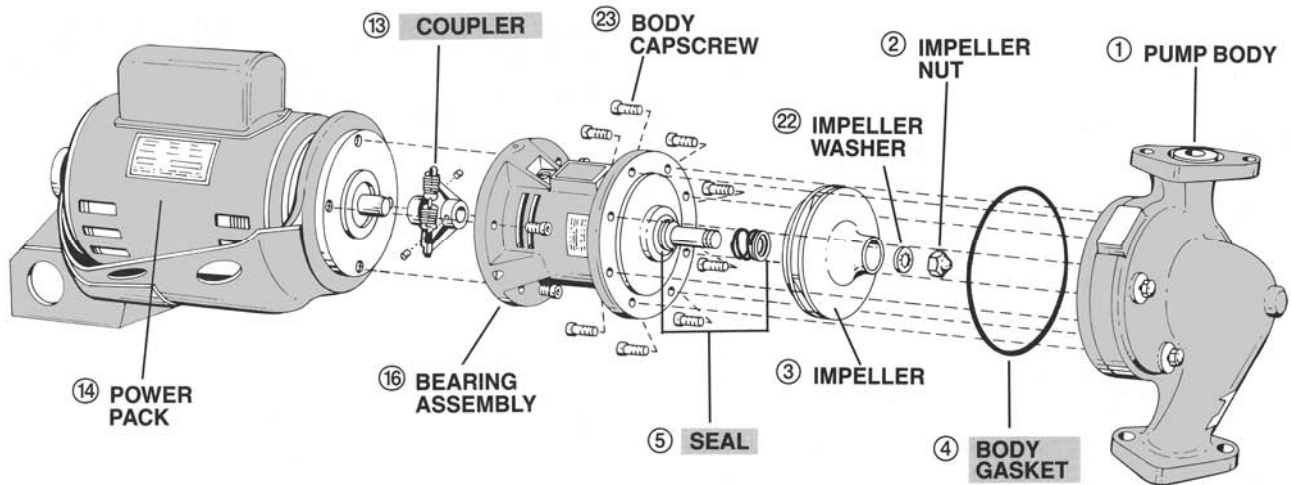
Repair Parts for Above B&G Bearing Assembly

Item No.	Description	189105 Bearing Assembly
6	Front Bearing	BG1565E
7	Front Bearing Gasket	BG1615
8	Impeller Key for Shaft	BG1527
	Impeller Gasket	BG1552
2	Impeller Nut	BG1542
12	Oil Well Cover	BG1625
9	Shaft and Sleeve	BG1440

PR Pump Flanges

Pump Flange Size	Pump Flange Red	Pump Flange Bronze
3/4"	P00787	P00835
1"	BG1519A	BG1519D
1-1/4"	BG1519F	P00837
1-1/2"	P03430	P00779

Repair Parts for Model PD Pumps



PD Booster Pump

Bearing Assemblies do not come with impellers. If needed, order impellers separately.

The PD Series pumps formerly used the "old" Bearing Assemblies numbered 118478, 118479 & 118480 (replaced by 186863), and 185232, 185233 & 185234 (replaced by 185260 and 185262). Repair parts for the old bearing assemblies are no longer available. Please order a complete new bearing assembly (see table below) if it is necessary to repair one of the "old" discontinued bearing assemblies noted above.

Bearing Assemblies (#16 above) are pre-assembled pump housings, including the seal kit (#5), gasket (#4) and tube of oil.

Repair Parts for "PD" Series B&G Booster Pumps

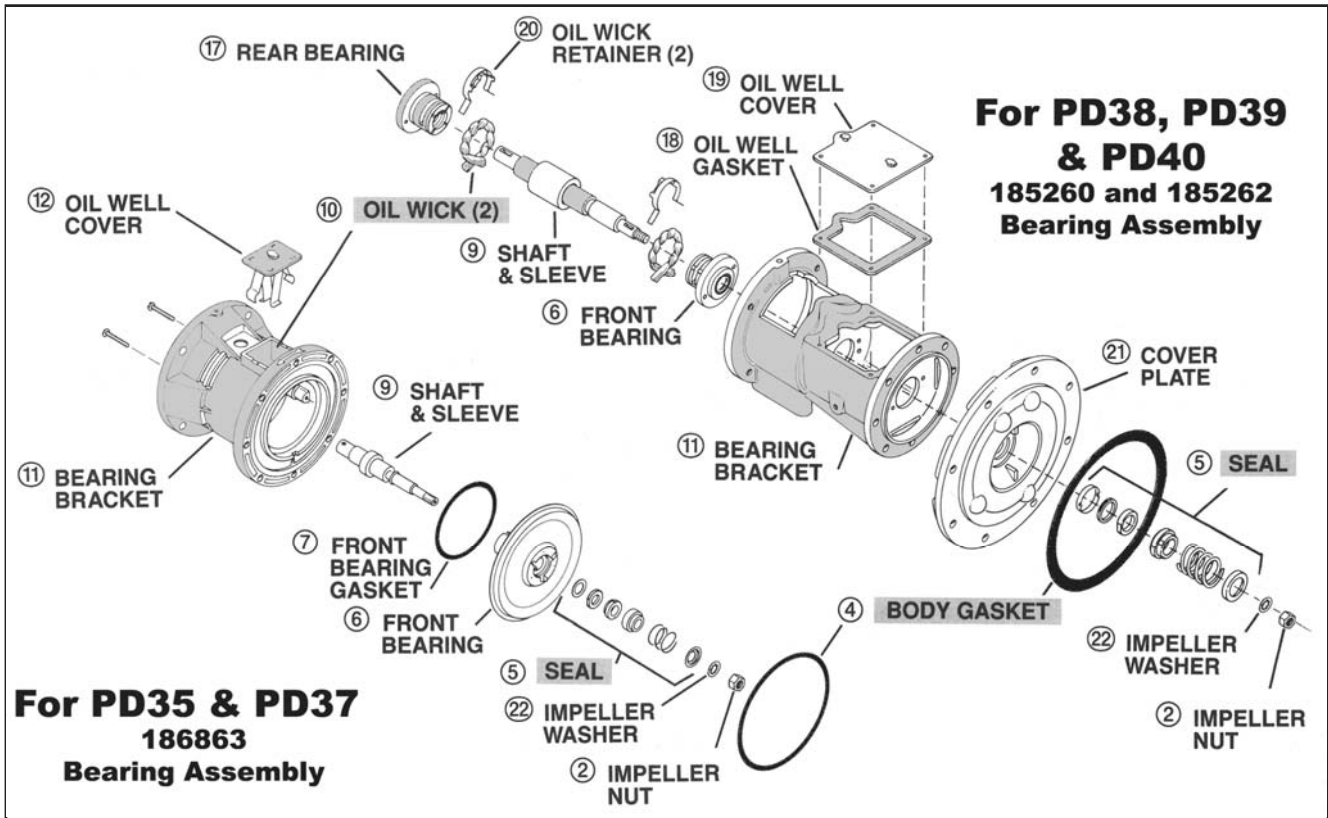
More repair parts on next page.

Item No.	Description	Pump Model ▶	PD-35	PD-37	PD-38	PD-39	PD-40
16	Standard "Red" Replacement Bearing Assy.		186863	186863	185260	185260	185260
	Bronze Fitted Bearing Assy. - ¹ Red or ² Bronze		¹ 186863	¹ 186863	² 185262	² 185262	² 185262
3	Impeller, Standard		BG1270	BG1265	BG1539C	BG1232	BG1232
	Impeller, Bronze		BG1260	BG1255	BG1539B	BG1233	BG1233
13	Coupler, <i>also order a Motor Mount set</i>		BG1240	BG1240	BG1245	BG1245	BG1362
14	Motor (Power Pack) 1/6 h.p., 1 ph		BG1100	BG1110	BG1116	BG1116	BG1344A
	Motor (Power Pack) 1/6 h.p., 3 ph		BG1105	BG1115	BG1342	BG1342	BG1344
15	Motor Mount Set (2 ea.)		BG1160	BG1160	BG1519	BG1519	BG1519
5	Seal Kit, <i>also order a Body Gasket</i>		BG1300	BG1300	BG1380	BG1380	BG1380
4	Body Gasket		BG1555	BG1555	BG1560	BG1560	BG1560
	Oil Wick Set		BG1200	BG1200	BG1522	BG1522	BG1522
	3" Pump Flange, Standard Red Iron		BG1511B	BG1511B	BG1511T	BG1511T	BG1511T
	3" Pump Flange, Bronze		BG1511C	BG1511C	BG1510D	BG1510D	BG1510D
	Gasket Set for above Pump Flanges		BG1140	BG1140	BG1140	BG1140	BG1140
	Tube of B&G pump oil, 2 ounces		BG1145	BG1145	BG1145	BG1145	BG1145

Most maintenance professionals do not repair the bearing assemblies, except seals on leaking pumps. They replace the entire bearing assembly: all the components within the pump housing (except for the impeller) are pre-assembled and ready-to-go!

If all you have is a leaking pump — Order a seal kit and body gasket. Also, order a new set of Motor Mounts to promote long life.

Repair Parts for Model PD Pump Bearing Assemblies



ABOVE is a diagram of repair parts for the PD series Bell & Gossett booster pumps.

The Bearing Assembly is the portion of the pump that actually does the "pumping."

When the pump begins leaking it usually means the "seal" is bad. Order a seal kit and body gasket.

For repairs other than replacing the seal, a new bearing assembly is the best way to go.

Never over-oil your pump: The motor mounts become sloppy & your pump is thrown out of alignment and the pump coupler (Item 13) fails.

Repair Parts for "PD" pump series Bearing Assembly

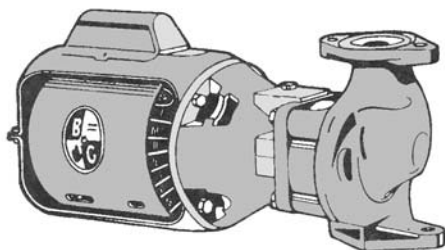
Item No.	Description	Brng. Assy. 186863	Brng Assy. 186865	Brng Assy. 185260	Brng Assy. 185261	Brng Assy. 185262
4	Body Gasket	BG1555	BG1555	BG1560	BG1560	BG1560
6	Front Bearing	BG1564	BG1563D	BG1355	BG1355	BG1355
7	Front Bearing Gasket	BG1615	BG1615	None	None	None
8	Impeller Key for Shaft	BG1527	BG1527	BG1547	BG1547	BG1547
2	Impeller Nut	BG1542	BG1519K	BG1543	BG1543	BG1539A
22	Impeller Washer	BG1552	BG1519J	BG1539E	BG1539E	BG1539K
20	Oil Wick Retainer	None	None	BG1539G	BG1539G	BG1539G
12	Oil Well Cover	BG1625	BG1625	BG1553	BG1553	BG1553
10	Oil Wick Set	BG1200	BG1200	BG1522	BG1522	BG1522
5	Seal Kit	BG1300	BG1407	BG1380	BG1377	BG1380
9	Shaft and Sleeve	BG1440	BG1630	BG1235	BG1539D	BG1235
17	Rear Bearing	None	None	BG1350	BG1350	BG1350

Service Guide to 100, HV, PR & 2 Booster Pumps

Removing & Installing a New Pump

Before attempting the replacement of your B&G 100, HV, PR & 2 booster pumps, please make certain to review the Bell & Gossett instruction manual number P81748, or its revision. Visit the website shown on the front cover, or go to www.bellgossett.com.

Removal and Replacement of the series 100, HV, PR and 2 pumps



Picture of Model 100, HV and PR

The models 100, HV & PR booster pumps may be used for hot water heating, including solar, and chilled water.

TO REMOVE A PUMP

1. Close the valves on the suction and discharge side of the pump. If no valves have been installed, it may be necessary to drain the water from the system and install valves on discharge/suction pipe.
2. Loosen the conduit box cover screw and remove the cover.
3. Disconnect the electrical supply lines to the pump.
4. Remove the flange nuts and bolts or loosen the union ring nut.

TO INSTALL THE PUMP

1. Install suction and discharge flanges or union connectors on the pipe ends. The use of Teflon tape or Teflon thread sealant is recommended.
2. Minimize any pipe-strain on the pump. Support the suction and discharge piping with pipe hangers. Do not "spring" the suction or discharge lines into position. B&G flanges and gaskets must be installed between the built-in pump flanges and the suction and discharge piping. Use 7/16" diameter by 1-1/2" long cap screws and matching nuts to connect pump to flanges.

WARNING:

- Do not exceed the maximum operating pressure listed on the pump nameplate.

- Make certain your compression tank and pressure relief valves are working properly.

- Electrical connections should be made by professionals. Disconnect and lockout the power before servicing. Adequate electrical grounding is required for the safe operation of B&G pumps.

- The use of grounded metal conduit is preferred. If not feasible, ground the pump back to the service. Use a copper conductor at least the size of the circuit connectors supplying the pump. Connect the ground wire to the green-colored grounding screw in the pump's wiring compartment.

- Before draining the system allow the water to cool below 100° F. Take precautions against water damage and open the drain valve until servicing is complete.

- Pressure may be present in the pump body. Loosen the flange bolts and slightly shift pump to relieve pressure.



Picture of Model 2 Pump

TO INSTALL THE PUMP (Cont.)

WIRING

1. Remove the screws securing the conduit box cover. Lift off the cover.
2. Using a minimum size 14 AWG copper electrical wire, wire the motor to a 115V, 60 hertz, 1-phase power source.
3. Connect ground wire to green screw inside conduit box.

MODE OF DISCHARGE FOR PUMPS

The pump models 100, HV, PR and 2 can be installed to discharge up or down and left or right. The oil ports must always be in the 12 o'clock (top) position with the motor and bearing assembly in a horizontal position. The arrow on the pump body must point in the direction of the flow.

SYSTEM PREPARATION

Prior to system start-up, closed heating and cooling systems must be cleaned, drained and refilled with clean water.

START-UP

These pumps must be oil lubricated before running! Use tube of oil supplied.

Pump Bearings—

At the time of installation, or before each heating season, add approximately 1 ounce (do not over-oil) of B&G oil to the bearing frame (see oil decal on frame).

Motor Bearings—

According to the oil decal, lubricate with 8-10 drops of B&G oil through the 2 motor oil cups once every four months.

Do not start pump until system has been filled and vented. Air should be completely vented from the system by an air vent located at a high point in the system. Do not run pumps without water in the system. The "dry" running of pumps will result in pump and motor damage.

WARNING:

- The use of Teflon tape or Teflon pipe compound provides a "lubricity" which can lead to over-tightening and breakage. Be careful to not over-tighten.

- When taking apart a flange with a gasket embedded, always put on a new gasket when placing the pump back online.

- Heat associated with the use of "silver solder" can damage a pump. Do not use silver solder.

- Excessive use of solder in a "vertical" installation may result in damage to the pump's impeller. Do not use excessive amounts of flux.

- To prevent leakage, make certain that the flange bolts or ring nuts have been tightened and the solder connections do not leak.

- Pressurize the pump body slowly while checking for leaks at all joints including flange gasket connections.

- Ordinary wire or band hangers supporting the suction and discharge piping are not adequate. Use strong, rigid support for the piping. DO NOT use a support at the motor.

- Bronze pumps are used wherever potable water (water that may come in contact with humans) is to be pumped. Regular space heating requirements are served by iron body (red) pumps.

Service Guide to 2½, LD3, HD3 & PD Booster Pumps

Removing & Installing a New Pump

Before attempting the replacement of your B&G 2½, LD3, HD3 and PD booster pumps, please make certain to review the Bell & Gossett instruction manual number P76966, or its revision. Visit the website shown on the front cover, or go to www.bellgossett.com.

Removal and Replacement of the 2½, LD3, HD3 and PD pumps



These pumps may be used for hot water heating and cooling systems, domestic (potable) water, industrial and general service operations.

TO REMOVE A PUMP

1. Close the valves on the suction and discharge side of the pump. If no valves have been installed, it may be necessary to drain the water from the system and install valves on discharge/suction pipe.
2. Loosen the conduit box cover screw and remove the cover.
3. Disconnect the electrical supply lines to the pump.
4. Remove the flange nuts and bolts or loosen the union ring nut.

TO INSTALL THE PUMP

1. Install suction and discharge flanges or union connectors on the pipe ends. The use of Teflon tape or Teflon thread sealant is recommended.
2. Minimize any pipe-strain on the pump. Support the suction and discharge piping with pipe hangers. Do not "spring" the suction or discharge lines into position. B&G flanges and gaskets must be installed between the built-in pump flanges and the suction and discharge piping. Use 7/16" diameter by 1-1/2" long cap screws and matching nuts to connect pump to flanges.

WARNING:

- Do not exceed the maximum operating pressure listed on the pump nameplate: 125 psi and 225° F.

- Make certain your compression tank and pressure relief valves are working properly.

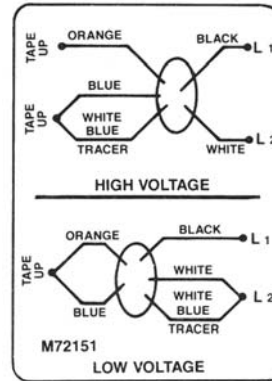
- Electrical connections should be made by professionals. Disconnect and lockout the power before servicing. Adequate electrical grounding is required for the safe operation of B&G pumps.

- The use of grounded metal conduit is preferred. If not feasible, ground the pump back to the service. Use a copper conductor at least the size of the circuit connectors supplying the pump. Connect the ground wire to the green-colored grounding screw in the pump's wiring compartment.

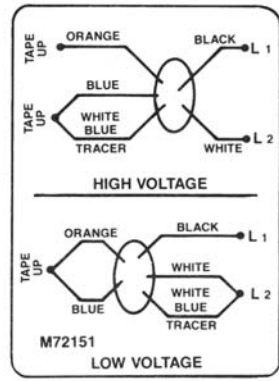
- Before draining the system allow the water to cool below 100° F. Take precautions against water damage and open the drain valve until servicing is complete.

- Pressure may be present in the pump body. Loosen the flange bolts and slightly shift pump to relieve pressure.

Single Phase Motor



Three Phase Motor



WIRING

1. Remove the screws securing the conduit box cover. Lift off the cover.
2. Attach the appropriate sized connector to the hole in the side of the conduit box.
3. Connect ground wire to green screw inside conduit box.

MODE OF DISCHARGE FOR PUMPS

These pump models can be installed to discharge up or down and left or right. The oil ports must always be in the 12 o'clock (top) position with the motor and bearing assembly in a horizontal position. The arrow on the pump body must point in the direction of flow.

SYSTEM PREPARATION

Prior to system start-up, closed heating and cooling systems must be cleaned, drained and refilled with clean water.

START-UP

These pumps must be oil lubricated before running! Use tube of oil supplied.

Pump Bearings—

At the time of installation, or before each heating season, add approximately 1 ounce (do not over-oil) of B&G oil to the bearing frame (see oil decal on frame).

Motor Bearings—

According to the oil decal, lubricate with 8-10 drops of B&G oil through the 2 motor oil cups once every four months.

Do not start pump until system has been filled and vented. Air should be completely vented from the system by an air vent located at a high point in the system. Do not run pumps without water in the system. The "dry" running of pumps will result in pump and motor damage.

WARNING:

- The use of Teflon tape or Teflon pipe compound provides a "lubricity" which can lead to over-tightening and breakage. Be careful to not over-tighten.

- Heat associated with the use of "silver solder" can damage a pump. Do not use silver solder.

- To prevent leakage, make certain that the flange bolts or ring nuts have been tightened and the solder connections do not leak.

- Pressurize the pump body slowly while checking for leaks at all joints including flange gasket connections.

- Ordinary wire or band hangers supporting the suction and discharge piping are not adequate. Use strong, rigid support for the piping. DO NOT use a support at the motor.

- Bronze pumps are used wherever potable water is to be pumped. Regular space heating requirements are served by iron body (red) pumps.

Service Guide to Bearing Assemblies for Pumps

Bearing Assembly Removal and Replacement

Before attempting the replacement of your B&G booster pump bearing assemblies, please make certain to review the Bell & Gossett instruction manual number S17673, or its revision. Check for factory information at www.bellgossett.com. The pump shown below is a series 100. Replacement for other B&G booster pumps with replaceable bearing assemblies is similar.

WARNING: Before attempting pump repair, make certain the power to the pump, boiler and any accessories is off and locked-out. Let the pump and related systems cool down to at least 100° F. before attempting repair. Close the valves on both sides of the pump piping before proceeding. If you need to drain the system, let it cool down, open the drain valve and leave open until done with the repair and servicing is completed. Close the drain valve before re-starting system.

Bearing Assembly Removal and Replacement



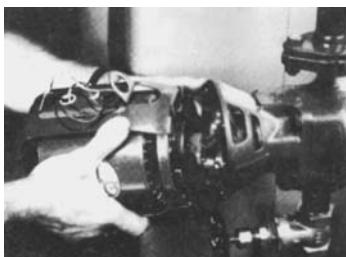
Step 1. Make certain power to the pump is off and locked-out. The conduit box cover is removed as shown prior to removing the motor for service. The wire nuts are removed. Next, remove the flexible conduit connector.



Step 2. Loosen the pump coupler's set screw with an Allen wrench.



Step 3. Use a box wrench to loosen the four motor cap screws. The motor is now free from the bearing assembly.



Step 4. The motor is now backed off. If the set screw on the pump coupler was sufficiently loosened, the coupler should slide free of the pump shaft. If the pump coupler remains tight around the pump shaft, use a screwdriver to pry loose.

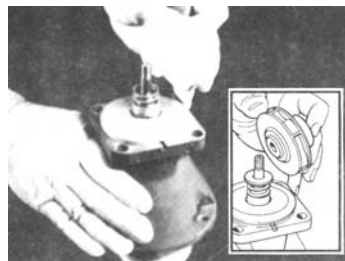


Step 5. Loosen the four body cap screws. Slightly "shift" the bearing assembly position to allow for any pressurized water to escape. Remember to let the system **cool down** before repairing. Next, remove the four body cap screws.

Bearing Assembly Removal and Replacement



Step 6. Pull the bearing assembly from the pump body.



Step 7. Remove impeller nut and impeller. If the impeller is similar to the insert (metal with a flat back), the brass metal washer must be used atop the seal spring. If the impeller has a shroud on back, DO NOT use brass washer.



Step 8. Clean the pump body of dirt and any remaining pieces of the old gasket embedded on the pump body. Next, replace the pump body gasket.



Step 9. Fit the bearing assembly into the pump body and tighten the cap screws evenly. Please be careful not to over-tighten the screws.



Step 10. Connect the pump coupler to the bearing assembly shaft & reposition the motor. **Step 11.** Oil bearing assembly per instructions. **Step 12.** Close system drain valve. Open pump suction/discharge valves. Restore electrical power. Check pump for proper operation.

Service Guide to Pump Couplers & Motor Mounts

Pump Coupler and Motor Mount Replacement

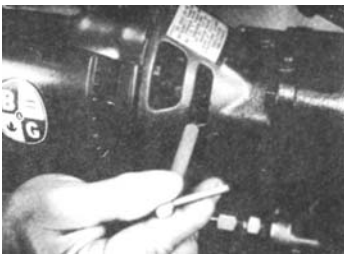
Before attempting the replacement of your B&G booster pump couplers and motor mounts, please make certain to review the Bell & Gossett instruction manual number S15900, or its revision. Factory information can be found at www.bellgossett.com. The pump shown below is a series 100. Replacement for other B&G booster pumps with replaceable bearing assemblies is similar.

WARNING: Before attempting pump repair, make certain the power to the pump, boiler and any accessories is off and locked-out. Let the pump and related systems cool down to at least 100° F. before attempting repair. Close the valves on both sides of the pump piping before proceeding. If you need to drain the system, let it cool down, open the drain valve and leave open until done with the repair and servicing is completed. Close the drain valve before re-starting system.

Removing the Motor and Pump Coupler



Step 1. Make certain power to the pump is off and locked-out. The conduit box cover is removed as shown prior to removing the motor for service. The wire nuts are removed. Next, remove the flexible conduit connector.

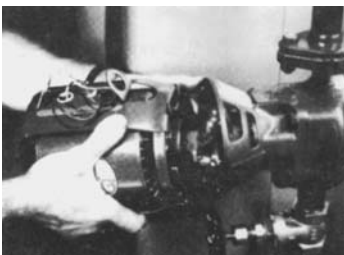


***Step 2.** Loosen the pump coupler's set screw with an Allen wrench.

* See [NOTES](#) below



Step 3. Use a box wrench to loosen the four motor cap screws. The motor is now free from the bearing assembly.



Step 4. The motor is now backed off. If the set screw on the pump coupler was sufficiently loosened, the coupler should slide free of the pump shaft. If the pump coupler remains tight around the pump shaft, use a screwdriver to pry loose.

*[NOTES](#) on removing the Pump Coupler:

Release the coupler from the pump shaft by loosening the set screw with an Allen wrench. The set screw rests in a blind hole along the pump shaft. The set screw must be backed-off at least 1/8" before attempting to remove the coupler. If stuck, a prying device (e.g. screwdriver) may be used to "gently" pry the coupler from the shaft. Make certain the set screw has cleared the depth of the blind hole. Install a new pump coupler (never install only "parts" of the coupler) by reversing the operation.

Replacing the Ring Motor Mounts

Noisy coupler operation and/or frequent coupler failure are strong indications of motor mount failure. It's a good idea to replace the motor mounts every time you replace the pump coupler.

To begin the motor mount replacement procedure follow the steps in the adjoining column for [Removing the Motor](#).

1. After removing the motor, please remove the motor's "under bracket." Loosen the clamp screw found at the end opposite the motor shaft. Remove the clamp. The motor is no longer fastened to the bracket.



2. Inspect the motor mounts. Excessive oiling can cause a ring motor mount to fail. Motor mounts are sold in sets of two. Always remember to replace both motor mounts.

3. Place a chisel between the outer ring and the end plate (see first picture) with the head angled toward the rubber section. Tap the chisel with a hammer to force it through the rubber. Pry against the inner ring to remove the outer ring.



4. The inner ring must be pried away from the motor end plate. Use a cold chisel. Be careful not to damage the motor end plate or shaft.

5. Set the new motor mount squarely on the boss of the motor end plate. Orient the motor mount with the "split" along its outer diameter aligned to the bottom of the motor. With the mount positioned properly, use a hammer to tap around the mount until it sits flush around

the end plate. Repeat the procedure for the rear mount but without resting the motor on the shaft.

6. Clean the motor bracket of oil and debris. Set the motor, with oil tubes pointing upward, into the bracket by guiding the shaft through the bore in front of the bracket. The rear motor mount should seat in the semi-circular section of the bracket.

7. Replace the clamp by mating the hooks of the mount to the slots of the clamp. Tighten the clamps so the motor is secured in the bracket. Do not over-tighten! It will cause premature failure.

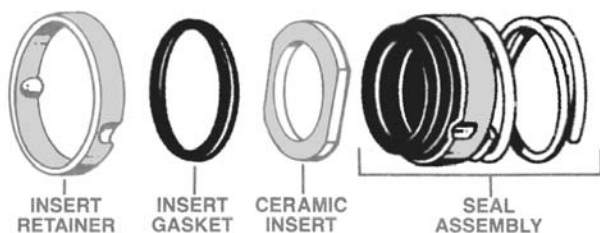
8. Connect the pump coupler to the motor and the pump by seating the set screw in the shaft recesses. Position the motor with the bearing assembly and evenly tighten the four cap screws.

Service Guide to Seal Kit Installation

Installing a New 1/2" Seal Kit on 100, PR, HV and 2" Booster Pumps

Before attempting the replacement of your B&G Seal Kit for booster pumps, please make certain to review the Bell & Gossett instruction sheet number P90536, or its revision. For factory information please visit www.bellgossett.com.

Replacement of the 1/2" seal kit typically found on series 100, PR, HV & 2" B&G booster pumps.



TO REMOVE A PUMP

1. Close the valves on the suction and discharge side of the pump. If no valves have been installed, it may be necessary to drain the water from the system and install valves on discharge/suction pipe.
2. Loosen the conduit box cover screw and remove the cover.
3. Disconnect the electrical supply lines to the pump.
4. Remove the flange nuts and bolts or loosen the union ring nut.

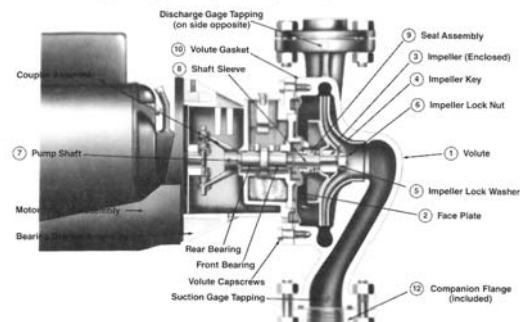
Review the directions for "Replacing a Bearing Assembly" on the preceding pages.

5. Loosen the four body cap screws. Shift the bearing assembly position slightly to allow for any pressurized water to escape. Next, remove the four cap screws.
6. Remove the impeller nut and impeller. If the impeller has a flat hub surface, continue to use the old spring seat with the new seal.
7. Pry off the old seal assembly including the ceramic insert, insert gasket and insert retainer (see picture above) with a flat-blade screwdriver.
8. Thoroughly clean both the shaft sleeve and the insert recess.
9. Install new insert retainer, insert gasket and ceramic insert. Butt the shaft inside of the bearing assembly with a wooden block to push up the shaft's end play.
10. Moisten inner diameter of seal assembly with soapy water — DO NOT use oil or grease. Next, press down tightly on the pump shaft. The carbon seal face must be tight against the ceramic.
11. Replace the impeller and impeller nut. Be careful to line-up the keyways on the impeller and shaft.
12. Clean the surfaces of the pump body. Remove all pieces of old gasket. Install new body gasket.

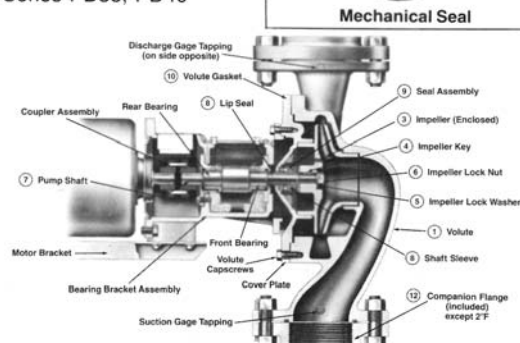
Finish by reviewing the directions for "Replacing a Bearing Assembly" on preceding pages.

Installing Seal Kits on 2 1/2", LD3, HD3, PD35 and PD37 Pumps

PUMP BODY DIAGRAM – 1/2" SEAL
Series 2 1/2", LD3, HD3, PD35, PD37



PUMP BODY DIAGRAM – 3/4" SEAL
Series PD38, PD40



Replacement of 1/2" and 3/4" seal kit on series 2 1/2", LD3, HD3 and PD B&G booster pumps.

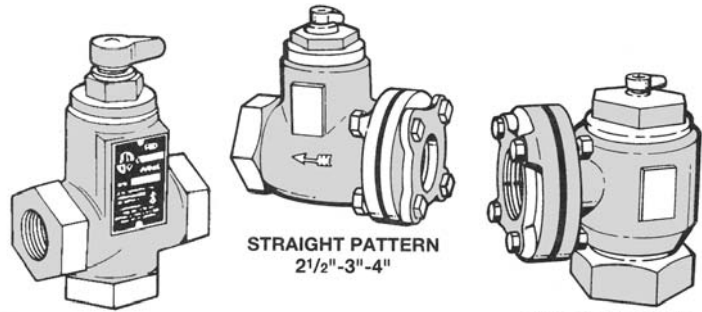
The PD38 and PD40 pumps use a 3/4" seal. The others use a 1/2" seal.

1. Remove the impeller. Lift the spring retainer and the seal spring from the shaft. Remove the seal components from the shaft.
2. Clean any debris from the seal recess and place the new retainer ring in the seal recess. Seat the thin rubber gasket in the recess and set the ceramic insert atop the gasket. The ceramic has a top side and bottom side: The bottom is identified by its slightly recessed grooves. The grooves should face downward toward the rubber gasket. Before proceeding, place the shaft-end on a wooden block to push the shaft to its forward-most position. There should be no end play in the shaft.
3. Lubricate the rubber seal collar with soapy water. Place the entire seal kit on as one unit — DO NOT place the seal kit components on the shaft individually. The notches on the brass collar should be aligned with the recesses found on each side of the carbon ring.
4. With a screwdriver, press (do not tap) the brass compression ring tightly against the collar. With the shaft resting on a wooden block, place the seal spring and spring retainer on the shaft. Put on the impeller, lock washer and impeller nut.

Bell & Gossett Flo-Control™ Valves

Flo-Control™ Valves

These B&G Flo-Control™ valves are used for preventing gravity flow in forced water systems and to permit summer-winter operation of indirect water heaters. Flo-Control valves in pipe sizes 3/4" to 2" are made in combination straight-angle patterns, thereby permitting installation in either horizontal or vertical pipe lines. The larger sizes are available in either straight or angle patterns. Available in iron body construction with screwed or flanged ends, or bronze construction for sweating the connections.



STRAIGHT-ANGLE PATTERN
3/4"-1"-1-1/4"-1-1/2"-2"*

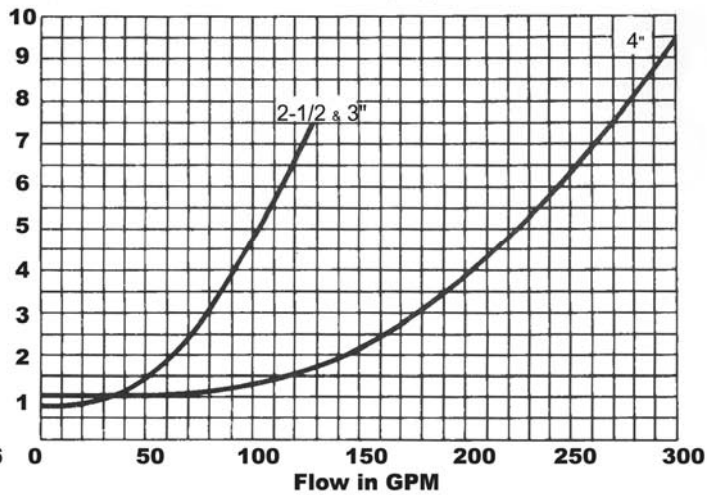
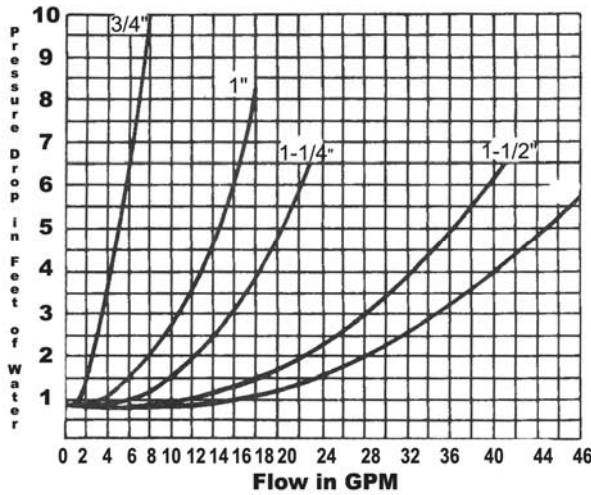
STRAIGHT PATTERN
2-1/2"-3"-4"

ANGLE PATTERN
2-1/2"-3"

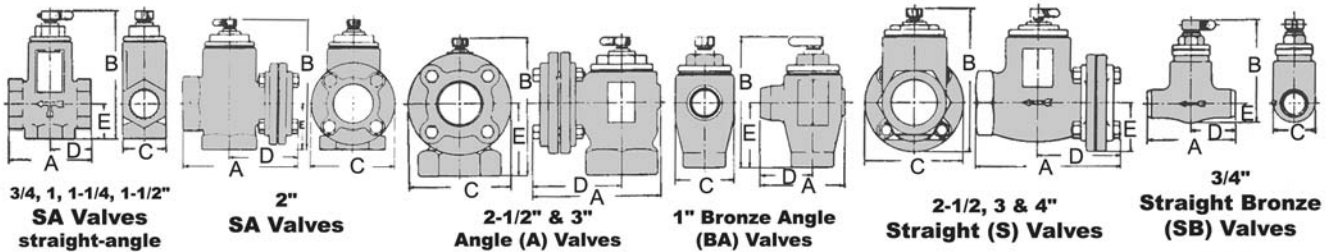
*Flanged one end on Horizontal Run.

Performance Curves

MAXIMUM WORKING PRESSURE: 125 PSIG (862 kPa) – MAXIMUM OPERATING TEMPERATURE: 250°F (121°C)



Dimensions and Pipe Sizes



3/4, 1, 1-1/4, 1-1/2"
SA Valves
straight-angle

2" SA Valves

2-1/2" & 3"
Angle (A) Valves

1" Bronze Angle
(BA) Valves

2-1/2, 3 & 4"
Straight (S) Valves

3/4"
Straight Bronze (SB) Valves

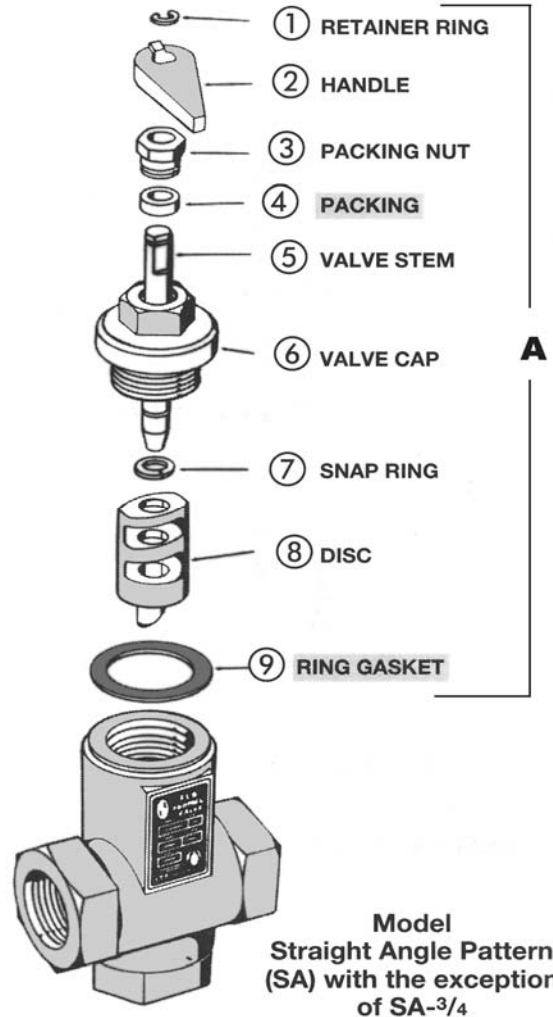
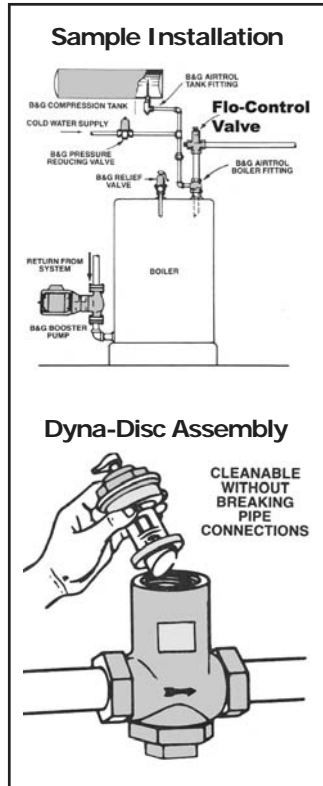
Flo-Control Valves Ordering Guide

Repair Parts on following page.

Model No.	Pipe Size	Dimensions in inches					Approx. Weight, lbs.	Order No.
		A	B	C	D	E		
SA 3/4	3/4"	3-1/8	4-15/16	1-5/8	1-9/16	1-7/16	2	BI 1960
SA 1	1"	3-1/2	5-1/2	1-7/8	1-3/4	1-1/2	3	BI 1962
SA 1-1/4	1-1/4"	4	6-1/2	2-1/4	1-31/32	1-7/8	4	BI 1963
SA 1-1/2	1-1/2"	5	7-1/4	3	2-1/2	2-1/4	8	BI 1964
SA 2	2"	6-7/8	7-1/2	4-5/8	4	2-5/8	12	BI 1965
A 2-1/2	2-1/2"	7-1/4	7-5/8	5-3/8	4-1/2	4-1/8	20	BI 1900
A 3	3"	7-1/2	7-3/4	6	4-1/2	4-1/4	23	BI 1905
BA 1	1"	3-13/32	5	2-5/16	2-1/8	2-5/8	3	<i>Discontinued</i>
S 2-1/2	2-1/2"	9-5/16	8-11/16	5-3/8	4-3/4	2-11/16	22	BI 1966
S 3	3"	9-15/16	9	6	5-1/4	3	24	BI 1967
S 4	4"	13	12-1/2	7-3/4	7	3-7/8	58	BI 1968
SB 3/4	3/4"	3-1/4	3-7/8	1-7/16	1-5/8	23/32	1.2	BI 1961

Repair Parts for Flo-Control™ Valves

Flo-Control™ Valve Replacement Parts



Order the **Dyna-Disc Assembly** to repair these valves: All the parts you need (items 1-9) pre-assembled, & ready to install. The asterisked (*) parts are available from stock — Non-asterisked parts are only available in the Dyna-Disk Assembly.

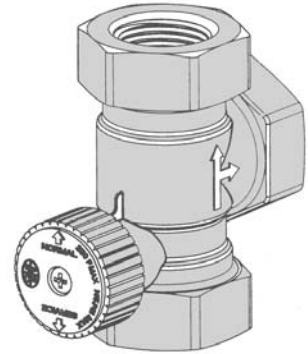
Item No.	Repair Parts Description	CURRENT MODELS									
		SA-3/4	SA-1	SA-1¼	SA-1½	SB-¾	SA-2	A-2½ or S-2½	A-3 or S-3	S-4	SA-¾ or SB-¾
A	Dyna-Disc Assembly	BG1135	BG1135G	BG1135C	BG1135D	BG1135J	BG1135D	BG1135E	BG1135E	BG1135H	BG1135F
6	Valve cap	BG1800	BG1801	BG1895	BG1900	BG8880B	BG1900	BG1920	BG1920	BG1803	BG7600
1	Retainer ring	BG2696	BG1802	BG1910	BG1910	BG2696	BG1910	BG1930	BG1930	BG1804	BG1802
8	Disc	BG8880E	BG1810	BG1810A	BG1810B	BG8880E	BG1810B	BG1810C	BG1810C	BG1810D	BG1805
3	*Packing nut	BG1127	BG1127	BG1127	BG1127	BG1127	BG1127	BG1127	BG1127	BG1850	BG1127
4	Packing	BG1128	BG1128	BG1128	BG1128	BG1128	BG1128	BG1128	BG1128	BG1860	BG1128
2	Handle	BG1830	BG1830	BG1830	BG1830	BG1830	BG1830	BG1830	BG1830	BG1870	BG1830
5	Valve stem	BG8880	BG2010	BG2011	BG2012	BG8880A	BG2012	BG2012	BG2013	BG2014	BG1990
7	Snap ring	BG2020	BG2020	BG2020	BG2020	BG2020	BG2020	BG2020	BG2020	NONE	BG2020
9	*Ring gasket	BG2030	BG2040	BG2050	BG2060	BG8882	BG2060	BG1960	BG1960	BG1890	BG2030
10	Spring	BG8530	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11	Flange gasket	NONE	NONE	NONE	NONE	NONE	BG1950	BG2400	BG2410	BG1865	NONE

*Available individually. The balance of items shown only available within the Dyna-Disc Assemblies.

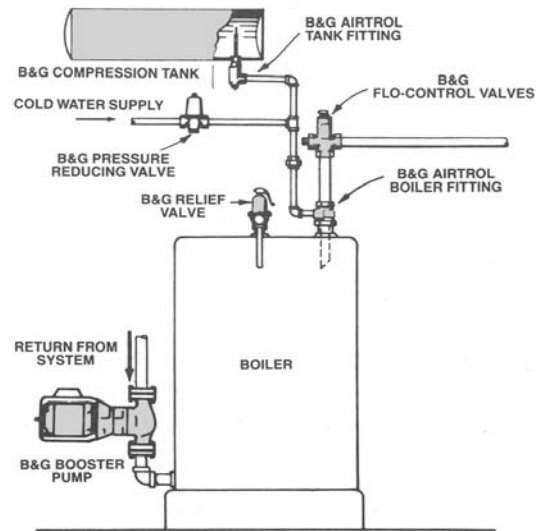
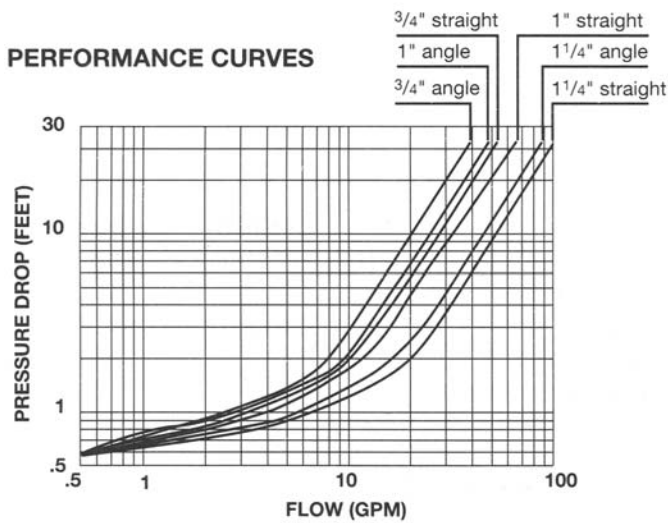
Bell & Gossett Hydrotrol™ Flow Control Valves

Hydrotrol™ Flow Control Valves

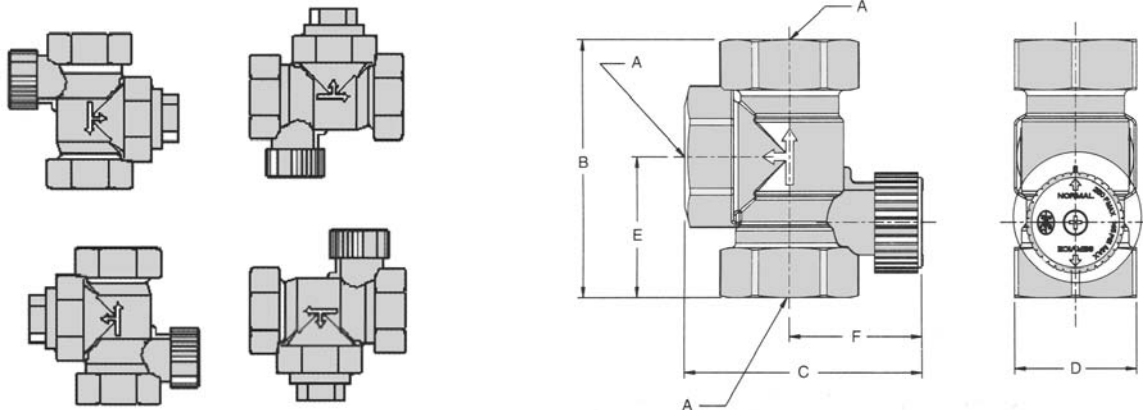
The Hydrotrol (HT) flow control valve is used to prevent overheating of zones due to gravity flow in hydronic heating systems and will permit summer-winter operation of an indirect water heater. The HT valve allows fluid to pass when the system or zone pumps start. When the system or zone pumps are not operating, the HT valve remains closed, thereby preventing gravity circulation. The HT valve has an elastomer seal providing a positive check. The valve features a one-half turn knob that manually opens the valve for system draining or valve by-pass. The valve can be installed in either the vertical or horizontal position. Repair parts not available.



- Maximum working pressure: 150 psi;
- Maximum operating temperature: 250° F.



Flexible Installation Application

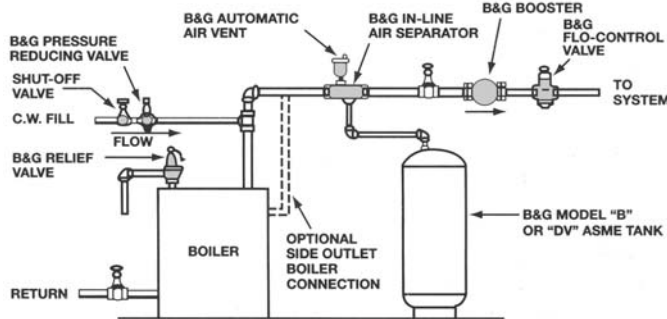
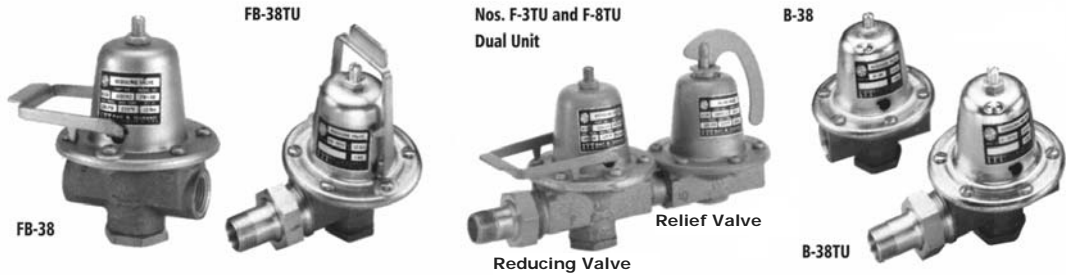


Hydrotrol Ordering Guide

Model No.	Pipe Size	Dimensions in inches						Ship Weight (lbs)	Order No.
		A	B	C	D	E	F		
HT-3/4	3/4"	3/4"	3-3/16	3	1-9/16	1-3/4	1-11/16	1.3	BI1940
HT-1	1"	1"	3-5/8	3-3/16	1-9/16	1-15/16	1-11/16	1.2	BI1941
HT-1 1/4	1-1/4"	1 1/4"	4	3-11/16	1-11/16	2-1/4	1-7/8	1.8	BI1942

B&G Combination Pressure Reducing/Relief Valves

Pressure Reducing Valves



TYPICAL INSTALLATION

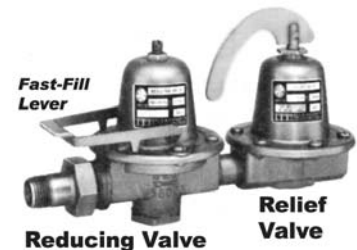
■ The Bell and Gossett pressure reducing valve is designed for filling hot water boilers and associated piping systems to a properly controlled pressure after boiler installation or system servicing. **It is not a safety device and is not intended to be used as a water feed valve to control boiler water at a safe operating level.** They are factory set at specified limits, although adjustments are easily made. They are equipped with a built-in strainer and low inlet pressure check valve.

■ These units are available with "fast-fill" valves: See "Combination Dual Units" below.

Model No.	Part No.	Body Material	Connection Size (in.)	Connection Style	Set at PSIG	Adjustable Range PSIG	Shipping Weight	Order No.
B-38	110190	Bronze	1/2	Female pipe	12	10-25	1.75	BI 1010
B7-12	110196		3/4				2.25	BI 1015
B-38 TU	110191		1/2	Union x Sweat			2	BI 1017
FB-38	110192		1/2	Female Pipe			1.75	BI 1017A
FB-38 TU	110193		1/2	Union x Sweat			2	BI 1017B
6	110194		1/2	Female pipe			45	25-60
7	110195	3/4	1.25		BI 1049			

Combination Reducing and Relief Valve Dual Units with "Fast Fill"

B&G dual unit valves are a combination of a pressure reducing valve and a relief valve. All models below (except the Model 8) have a "fast-fill" feature — able to override the reducing valve during filling of the system. For filling hot water boilers and associated system piping systems to a properly controlled pressure after boiler installation or servicing. It is not a safety device and not intended to be used as a water feed valve to control boiler water at a safe operating level or pressure. The relief valve is set at 30 psig. The reducing valves are pre-set at 12 psig and adjustable from 10 to 25 psig. The relief valve provides fill over-pressure protection. Individual components shown above. Available in iron or brass construction.



Model No	Part No.	Component Valves	Body Material	Connection (inches)		Dimensions (inches)		Ship Wt. (lbs)	Order No.
				Boiler	Fill	End-to-End	Height		
8 No "Fast Fill"	110199	Relief	Iron	1/2 npt (pipe size)	1/2 npt	6-7/16	5-3/8	4	BI 1051
		B-38	Brass						
8TU	110200	Relief	Iron		1/2 union npt/sweat	8-5/8	6	4.25	BI 1052
		B-38 TU	Brass						
F-3	110197	Relief	Brass		1/2 npt	6-7/16	6	3.75	BI 1018
		FB-38	Brass						
F-3TU	110198	Relief	Brass		1/2 union npt/sweat	8-5/8	6	4	BI 1018A
		FB-38 TU	Brass						
F-8	110201	Relief	Iron		1/2 npt	6-7/16	6	4.25	BI 1019
		FB-38	Brass						
F-8TU	110202	Relief	Iron	1/2 union npt/sweat	8-5/8	6	4.5	BI 1019A	
		FB-38 TU	Brass						

Repair Parts for Pressure Reducing and Dual Valves

Pressure Reducing Valves and Dual Unit Valves Repair Parts

PARTS ORDERING GUIDE		Order No.
Repair Kit	Consisting of Item Numbers	
Repair Kit	Item 5: Diaphragm; Item 14: Rubber check valve; Item 6: Valve plate; Item 13: Stem assembly; Item 4: Hex nut.	BG1336D
Strainer	Item 11: for models B-38, B-38 TU, FB-38, FB-38TU.	D45000 Not available
Strainer	Item 11: for model B7-12	V51656 Not available

REPAIR KIT INSTALLATION INSTRUCTIONS

If the pressure reducing valve fails to maintain the set **Cold** fill pressure, the strainer may be clogged or damaged. To service the valve review the adjoining diagram and follow these steps:

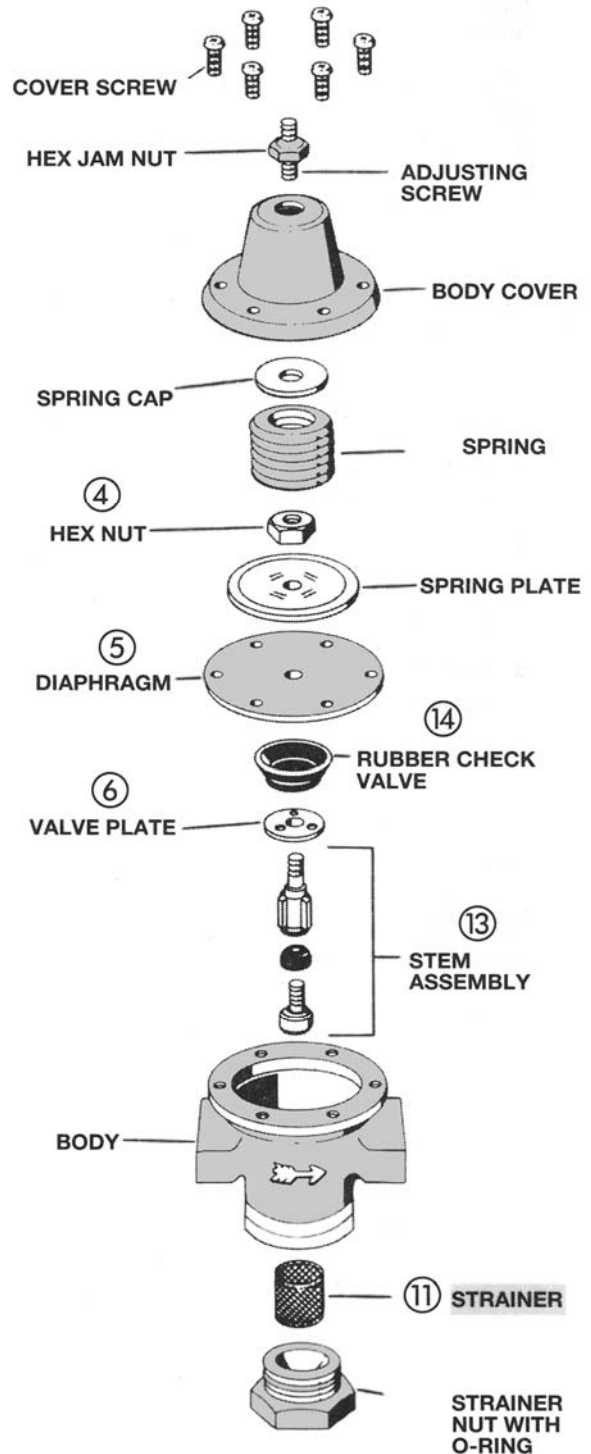
1. Shut-off the cold water incoming supply line and turn the boiler "On-Off" switch to the "OFF" position.
2. Remove the strainer nut located on the bottom of the reducing valve. Remove and clean the strainer. If strainer is damaged, please order replacement strainer.
3. Using a size 25 Torx screwdriver, unfasten the six cover screws and remove the body cover. Remove the spring cap and spring.
4. Remove the hex nut by holding the stem assembly stationary while turning the nut counter-clockwise. The stem assembly may drop once the nut is removed. Lift off the spring plate, diaphragm and valve plate. Pull the rubber check valve from the body and replace.
5. Insert new stem assembly into valve body through the strainer opening in the housing. Hold in place. Place the new valve plate, knob side down, on the stem assembly.
6. Set new diaphragm on top of stem, aligning holes with those in the body. Place the spring plate over the diaphragm on top of the stem assembly. Thread the hex nut onto the stem assembly. You must add a "dab" of Loctite to the hex nut before threading on the stem.

NOTE: Any more than a "dab" of Loctite will seize the valve!

Place spring, spring cap and body cover on top. Align body cover holes and fasten body cover screws.

7. Reinstall the strainer nut with O-ring. Using Teflon tape or Teflon paste on the strainer nut can lead to over-tightening and breakage. Therefore, do not use them when installing nut.

8. Close the boiler drain and open the cold water shut-off valve to refill the system. After the system has been filled and vented, turn the boiler "on-off" switch to the "ON" position and resume normal boiler operation. Close the cold water shut-off valve.



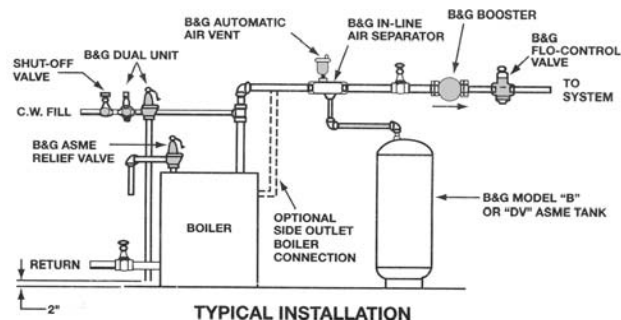
MODEL B-38 & B7-12

If your valves are "old" model numbers:
6, 7, 12, D525, B3, B*, FB3, F3, F8, 3, 8 and B7,
order a complete new valve!

Service Guide to B&G Dual Unit Valves

Installation & Operation

Before attempting the replacement of your B&G Dual-Unit valves, please make certain to review the Bell & Gossett instruction sheet number V56877, or its revision. Visit the website shown on the front cover, or www.bellgossett.com.



The Dual Unit Valve must be installed with the flow arrow pointing in the direction of water flow. A shut-off valve must be installed on the city (incoming) water side of the valve. If the pressure reducing valve portion is not equipped with a “fast-fill” feature, a bypass may be used for rapid system filling, but it must remain closed during normal system operation.

1. Pipe the Dual Unit valve into the system. See the “Typical Installation” diagram above. **Note:** Never reduce the inlet, outlet or drain connections to the dual unit valve.
2. When installing Dual Unit Valve models that include a sweat union connection, first sweat solder the tailpiece in place, then assemble the union nut to the Dual Unit Valve.
3. Do not install shut-off valves between the Dual Unit Valve and the heating system. Do not install shut-off valves in the drain piping from the relief valve portion of the Dual Unit Valve.
4. Terminate the Dual Unit Valve drain line about 2” above the floor. This allows any discharge to be visible and reduces the possibility of someone being scalded from hot water if the relief valve portion discharges.
5. A shut-off valve must be installed in the cold water supply line ahead of the Dual Unit Valve. This valve **must be kept closed except when filling the system.**

OPERATION INSTRUCTIONS

Open the cold water shut-off valve. The system will fill until the 12 psig preset pressure of the valve is attained.

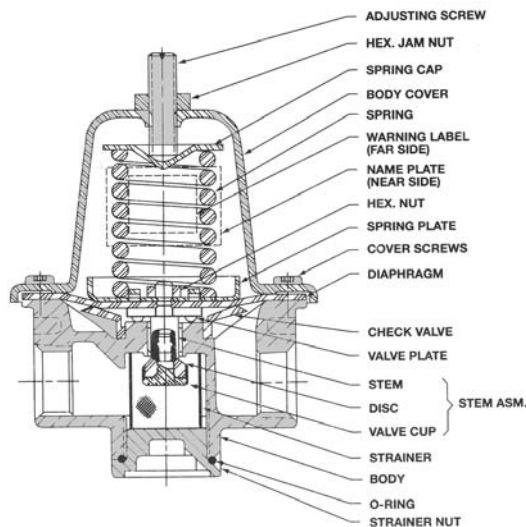
For those models with a “fast-fill” lever: Models F-3, F-3 TU, and F-8 TU are equipped with a “fast-fill” lever. When filling the system, place the fast-fill lever in the top vertical position. This OVERRIDES the pressure regulation function. Fill the system until the boiler pressure gauge indicates the preset pressure of the Dual Unit Reducing

Valve. Then, place the fast-fill lever in the horizontal position for normal automatic operation.

ADJUSTING THE PRESSURE SETTING

Allow water in the heating system to cool to below 100° F.

1. Adjust the reducing valve pressure setting by loosening the jam nut on top of the reducing valve and turning the slotted adjusting screw clockwise to increase the set pressure, or counterclockwise to lower the set pressure. Adjust slowly until the boiler pressure gauge indicates the desired fill pressure. **DO NOT** adjust the pressure setting to less than 10 psig.
2. Hold the adjusting screw stationary with a screwdriver and tighten the jam nut. Return to normal operation.



SERVICING DUAL UNIT REDUCING VALVE

If the pressure reducing valve fails to maintain the set **Cold** fill pressure, the strainer may be clogged or damaged. To service the valve, review the adjoining diagram and follow these steps:

1. Shut-off the cold water incoming supply line and turn the boiler “On-Off” switch to the “OFF” position.
2. Remove the strainer nut located on the bottom of the reducing valve. Remove and clean the strainer. If strainer is damaged, please order replacement strainer.
3. Reinstall the strainer nut with O-ring. Using Teflon tape or Teflon paste on the strainer nut can lead to over-tightening and breakage. Therefore, do not use them when installing the nut.
4. Close the boiler drain and open the cold water shut-off valve to refill the system. After the system has been filled and vented, turn the boiler “on-off” switch to the “ON” position and resume normal boiler operation. Close the cold water shut-off valve.

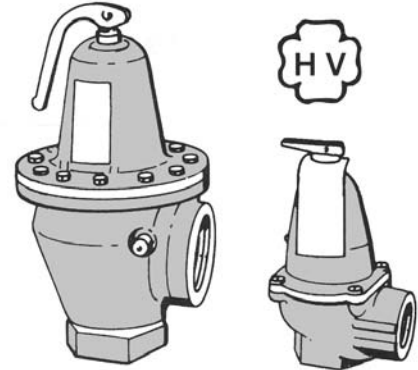
Bell & Gossett Safety Relief Valves

Safety Relief Valves for Hot Water Boilers

ASME Rated. Protects both fired and unfired vessels.

B&G bronze safety relief valves are ASME certified in accordance with section 4 of the boiler and pressure vessel code. These relief valves have a unique fail-safe disc allowing for pressure relieving to occur in the event of a diaphragm rupture. They will protect your boiler, or unfired vessel, against an "over-pressure" situation. They prevent conditions under which high-temperature water may flash into steam and cause "water hammering" within the system.

Choose from a variety of set pressures and BTU ratings below. The iron (red) valves are for standard heating; the brass valves are for domestic water.

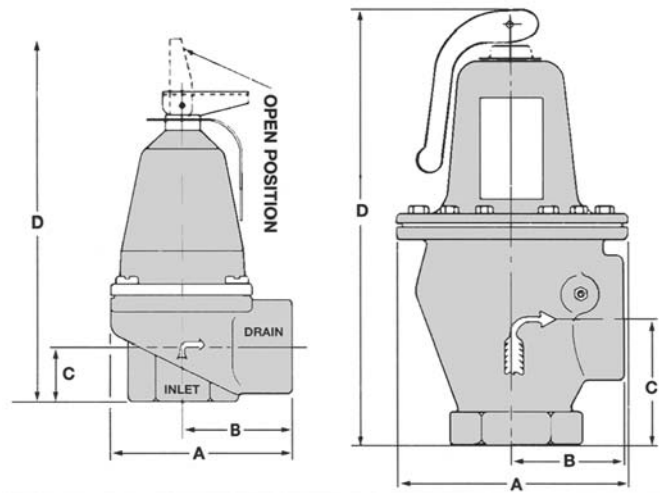


Model No.	Body	Inlet	Outlet	Relief Pressure Setting	BTU Rating	Valve Dimensions				Ship Weight lbs.	Order No.
						A	B	C	D		
790-30	Brass	3/4"	3/4"	30 psi	790,000	2-9/16	1-1/2	3/4	4-9/16	1.2	BI 1033
790-36				36	900,000						BI 1034
790-45				45	1,065,000						BI 1035
790-50				50	1,160,000						BI 1037
790-75				75	1,615,000						BI 1037A
790-100				100	2,075,000						BI 1037B
790-125				125	2,535,000						BI 1037C
1170-30	Brass	1"	1"	30 psi	1,170,000	2-7/8	1-3/4	7/8	4-15/16	1.5	BI 1040
1170-36				36	1,330,000						BI 1041
1170-45				45	1,575,000						BI 1042
1170-50				50	1,710,000						BI 1042A
1170-75				75	2,385,000						BI 1043
1170-100				100	3,060,000						BI 1044
1170-125				125	3,735,000						BI 1044A
3301-30	Iron	1-1/2"	2"	30 psi	3,300,000	6	2-7/8	3-1/4	11	17	BI 1020
3301-36				36	3,800,000						BI 1025
3301-45				45	4,500,000						BI 1026
3301-50				50	4,900,000						BI 1027
4100-30		2"	2"	30 psi	4,100,000						BI 1031
4100-36				36	4,600,000						BI 1032
4100-45				45	5,515,000						BI 1032A
4100-50	50			5,990,000	BI 1032B						

Dimension Diagram

All valves rated to 250° F. with a brass or cast iron body and EPDM diaphragm and seat and all brass internal wetted parts.

Models 790 and 1170 have a brass body. Models 3301 and 4100 have a cast iron body.



Service Guide to B&G Relief Valves

Installation & Operation

Before attempting the replacement of your B&G Relief Valves, please make certain to review the Bell & Gossett instruction sheet number V55692, or its revision. Visit the website on the front cover, and www.bellgossett.com.

INSTALL THE ASME SAFETY RELIEF VALVE AS NOTED:

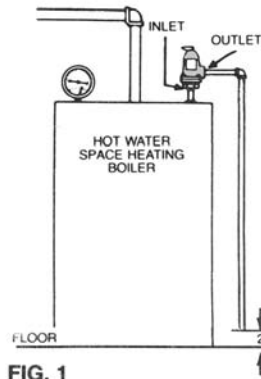
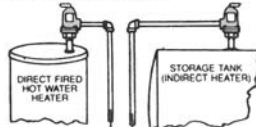


FIG. 1
Protection of Hot Water Space Heating Boilers.

- A. PREFERRED METHOD**
 1. Water Heaters: Directly on the water heater.
 2. Storage Tanks with Indirect Heater: Directly on the storage tank.



- B. ALTERNATE METHOD**
 On the hot riser coming out of the water heater or the storage tank.

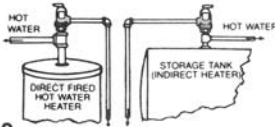


FIG. 2
Protection of Domestic Hot Water Heaters and Tanks.

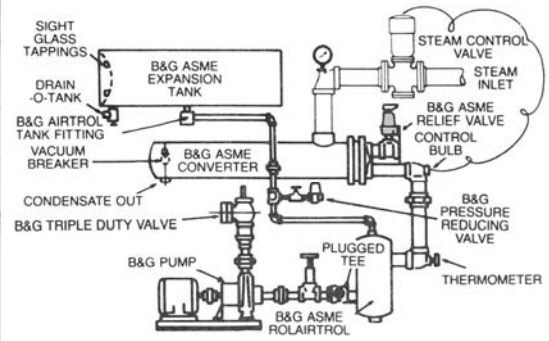


FIG. 3
Protection of Heating Exchanger Systems.

INSTALLATION INSTRUCTIONS:

1. Safety relief valves must be installed in the top or side, at the highest practical point, of a boiler or other equipment being protected by the safety relief valve. Do not install the safety valve below the lowest permissible water level. The valves must be installed in an upright position with the stem or spindle in the vertical position. See the diagrams above for typical installations.

2. Never reduce the pipe size coming from the inlet or outlet connections to the safety valve. Install with a pipe size the same diameter as the safety relief valve inlet and outlet pipe connections. DO NOT install any shut-off valves either between the safety relief valve and the equipment it will be protecting from over-pressurization, or the discharge piping side of the safety relief valve.

3. Do not use pipe threaded on both ends in the drop line between the valve discharge and the floor or drain. This relief valve discharge piping must be as short and straight as possible. Pipe the discharge piping to approximately 2" above the floor or floor drain. It must be arranged and supported to prevent undue stress on the safety relief valve. If elbows are used in the discharge piping, they must be located as close as possible to the safety valve's discharge outlet.

4. Apply pipe sealing compound sparingly, and only to the male-thread ends of the pipe. Excessive use of pipe sealing compounds may adversely affect valve operation.

OPERATING INSTRUCTIONS

1. The safety relief valve is designed to protect a heating

system from over-pressurization. The safety relief valve does not operate unless there is an over-pressurization condition. If the safety relief valve discharges periodically, it may indicate the system has lost its air cushion in the expansion or compression tank. Please see the Expansion or Compression Tank Operation Test later in this catalog.

2. The safety valve relief pressure setting is not field adjustable and must not be tampered with.

SERVICE INSTRUCTIONS

1. The operating condition of the safety relief valve should be checked every 30 days, or after periods of inactivity:

- a. Shut-off the circulating pump and fuel input to the boiler.
- b. Isolate the boiler from the system by closing shut-off valves, leaving the expansion tank valve open and opening the shut-off valve installed ahead of the pressure reducing valve.
- c. Lift the manual opening lever on top of the relief valve to the full open position and hold it open for at least five seconds or until clear water is discharged.
- d. Release the lever and allow the relief valve to snap closed. If the relief valve leaks, open and close the relief valve opening lever several more times to clear the seat of any foreign matter that may be preventing proper seating and closure.
- e. If the relief valve continues to leak, it must be replaced before the boiler is returned to operation.
- f. If it has been determined that the relief valve is not leaking, return the system to operation by reversing the steps in "a" and "b" above.

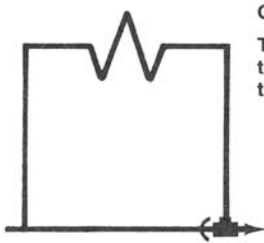
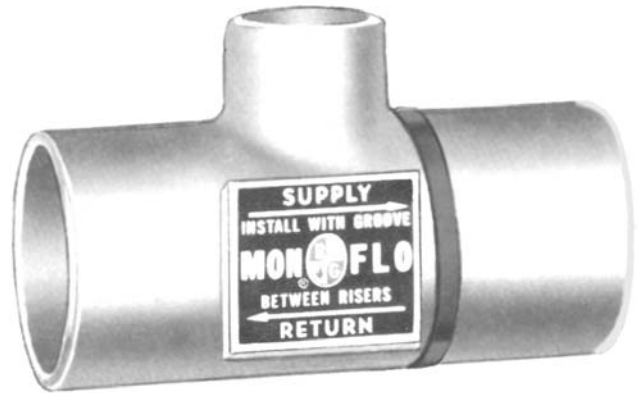
Relief valves can't be repaired, they must be replaced.

Bell & Gossett Monoflo™ Fittings

Copper Monoflo Fittings

Use a single pipe for both return and supply.

Red Ring Copper Monoflo fittings make possible the use of a single pipe to act as both a supply and return main. These fittings connect the supply or return risers to the main supply line. They assure proper diversion of water to each terminal unit. They can be installed on either the supply or return riser or both depending on the pressure drop through the side branch circuit and terminal unit.



ONE FITTING INSTALLATION —
The "RING" trademark goes between the risers; the Return arrow points in the direction of flow.

In most cases using radiators, or baseboard heating units — Only one Red Ring Copper Monoflo Fittings is needed to provide adequate diversion for up-feed radiation. Only when high resistance units are used or when supplying the heating units is through a down-feed are fittings required on both the supply and return risers.

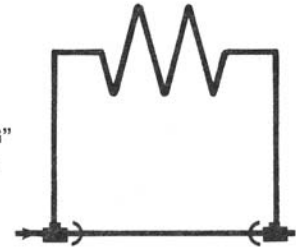
No matter where a Red Ring Copper Monoflo Fitting is used, the fitting is always correctly installed with the "Red Ring" trademark between the risers.

Recommended for most installations including cast iron non-ferrous baseboards, free-standing radiation or convectors.

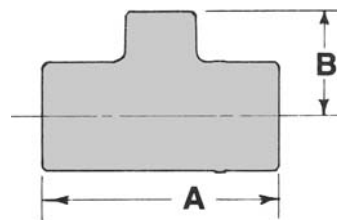
Diagram of One- and Two-Monoflo Fittings Installation

TWO FITTING INSTALLATION —

The Monoflo Fitting is used for both Supply and Return. The "RING" trademarks are between the risers; the arrow points in the direction of flow.



Dimensional Reference



RATINGS:

Maximum Working Pressure: **150 psig.**

Maximum Operating Temperature: **300° F.**

Size	B&G No.	Dimensions (inches)		**Cv Ratings		Ship Weight (lbs)	Order No.
		A	B	1 Fitting	2 Fittings		
*3/4 x 1/2	108119	2-5/16	1-1/32	4.2	—	.30	BI 1350
1 x 1/2	108120	2-3/4	1-7/32	14.5	8.7	.50	BI 1350A
1 x 3/4	108121	2-29/32	1-7/16				BI 1350B
1-1/4 x 1/2	108122	2-15/16	1-9/32	24	15.5		BI 1350C
1-1/4 x 3/4	108123	3-7/32	1-1/2	39	25	1.3	BI 1350D
1-1/2 x 3/4	108124	3-7/16	1-21/32				BI 1350E
1-1/2 x 1	108125	3-5/8	1-7/8	80	55		1.8
2 x 3/4	108126	3-7/8	2			BI 1350G	
2 x 1	108127	4-3/8	2-5/32			BI 1350H	

* For the return piping only.

** Cv ratings with side branch plugged.

Bell & Gossett Zone Control Valves

Comfort-Trol 24-Volt Zone Control Valves

Control the water temperature in your hot water heating or chilled water zones with this compact, silent-operating, heat motor actuated zone control valve. The 24 volt, 50/60 hertz, 3-wire Comfort-Trol zone valve is used for either continuous or intermittent cycling operation of your system's pump. The valve design permits easy replacement of the seal gland without isolating the valve or draining the system. Replacement of the heat motor and power-pill generally mean years of additional usage.



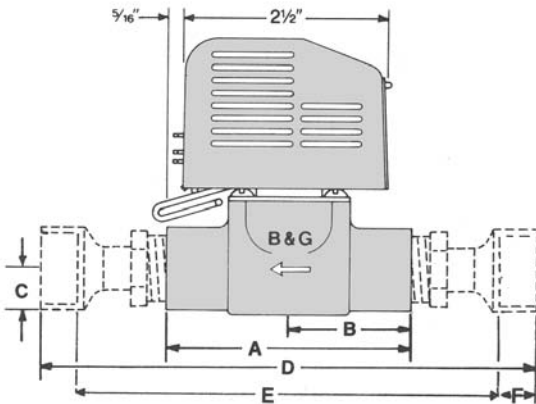
Flare Style



Sweat Style

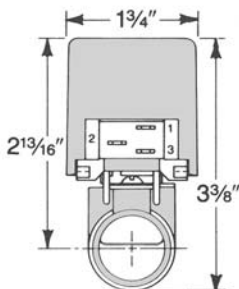
Model No.	B&G No.	Pipe Size and Connection	Dimensions (inches)						Ship Weight (lbs)	Order No.
			A	B	C	D	E	F		
CTS-7524	109017	3/4" sweat	3	1-1/2	—	—	—	—	1	BI 1006
CTF-10024	—	1/2" flare	2-5/8	1-5/16	3/8	5-3/8	4-3/8	1/2	1.2	Discontinued
	—	3/4" flare			1/2	6-1/4	4-3/4	3/4	1.2	
	—	1" flare			5/8	7	5-3/16	29/32	1.2	

Dimensional Diagram



MODEL NO. CTS-7524

Broken lines (denoting flare connectors) added to Model CTS-7524 depict Model CTF-10024.



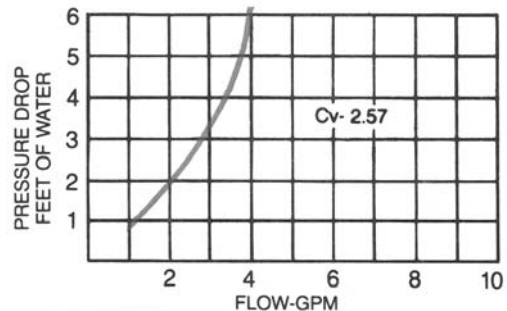
THERMOSTAT Requirements: 24 volt systems. 24-volt, two-wire with a 0.6 ampere heat anticipator setting. The heat anticipator setting must match the 0.6 amp rating of the power-pill heater.

TRANSFORMER: 24-volt systems. 115/24 volt rated at 40 VA for a maximum of three Comfort-Trol zone valves per transformer.

DESIGN LIMITS: Maximum working pressure to 125 psig. Fluid temperature range from 40° F to 240° F. Maximum ambient (surrounding air) temperature to 125° F. Maximum differential pressure (difference between the pressure on the valve inlet versus outlet): 35 psig.

LOCATION: The Comfort-Trol valve can be installed either horizontally or vertically. Precautions: When installing the valve in a vertical position, the electrical connections should be at the top of the operator. On chilled water applications the operation should be above the pipe centerline. If the valves are installed near the boiler, keep them away from any direct boiler or piping heat.

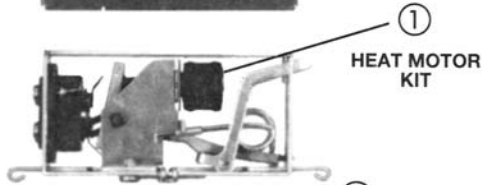
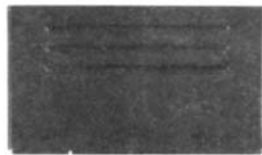
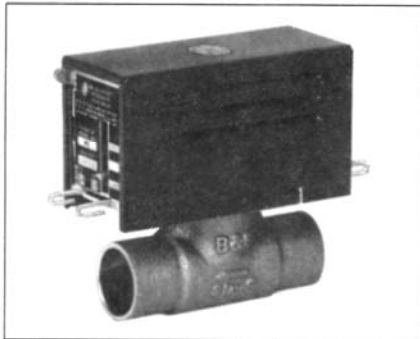
Performance Characteristics



Repair Parts for Zone Control Valves

Comfort-Trol Zone Control Valve Repair Parts

ASSEMBLED MODUMATE VALVE (M-1) OBSOLETE



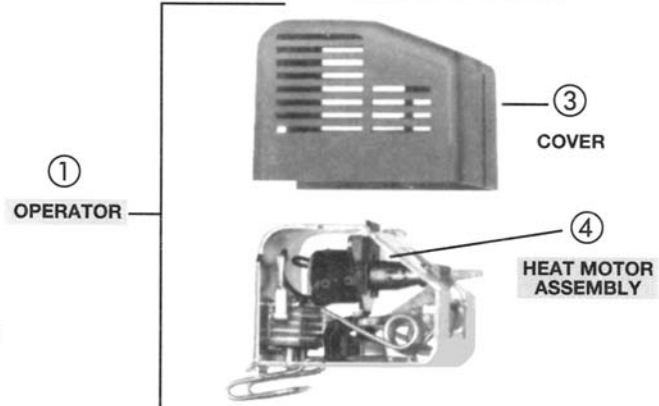
①
HEAT MOTOR
KIT



②
SEAL & SEAT
ASSEMBLY



ASSEMBLED COMFORT-TROL VALVE

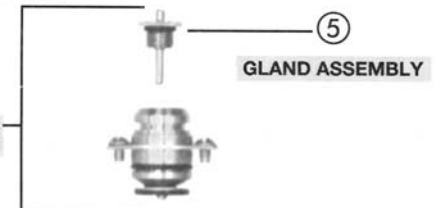


①
OPERATOR

③
COVER

④
HEAT MOTOR
ASSEMBLY

②
BONNET & RETAINER
ASSEMBLY



⑤
GLAND ASSEMBLY



⑥
BODY

Repair Parts for Obsolete Modumate Valve

Item No.	B&G No.	Description	Order No.
1	189143	Heat motor kit	BG1455
2	189060	Seal & seat assembly	BG1445

The above parts are the only parts that remain available to repair this **old style** valve.

Repair Parts for Comfort-Trol Valve

Item No.	B&G No.	Description	Order No.
1	109024	Operator	BI 1005
2	189139	Bonnet & retainer assembly	BG1463B
3	V01340	Cover	BG7500
4	189137	Heat motor assembly	BG1463
5	189138	Gland assembly	BG1463A

Service Guide to B&G Comfort-Trol Valves

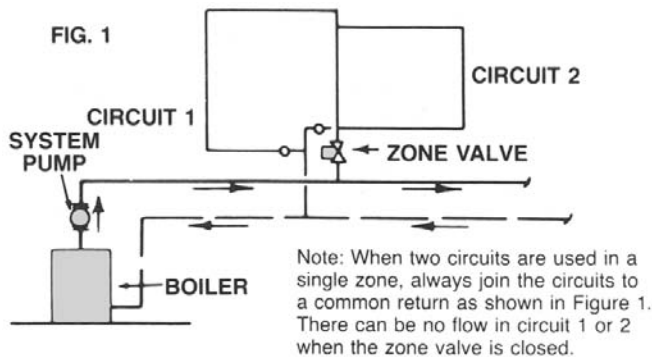
Installation & Operation

Before attempting the replacement of your B&G Comfort-Trol valves, please make certain to review the Bell & Gossett instruction sheet number V01348, or its revision. Factory information can be found at www.bellgossett.com.

The Comfort-Trol valve is a two-wire heat motor operated valve designed for hydronic heating and cooling systems.

- Maximum operating pressure is 125 psi when 95/5 solder is used, or 90 psi when 50/50 solder is used.
- Maximum temperature rating @ 240° F.
- Thermostat used should be a 24 volt, two-wire design with 0.6 amp heat anticipator setting.
- Transformer used should be 115/24 volt rated at 40 VA for a maximum of three valves. The transformer must be dedicated to the zone valves and not used to power any other device.
- The maximum ambient (surrounding air) temperature cannot exceed 125° F. The electrical rating is 24 volt, 50/60 cycle, 1 phase, 15 VA AC.

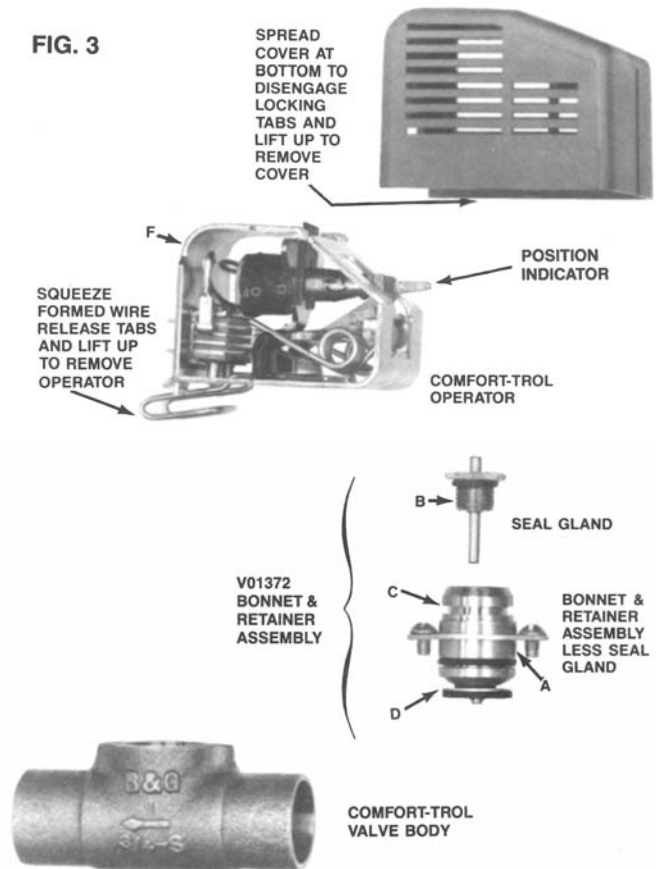
The Comfort-Trol valve can be installed horizontally or vertically. However, when installing the valve in a vertical position, the electrical connections must be at the top of the operator. On chilled water applications the operator should be above the centerline of the pipe. Also, if the valves are installed near the boiler, locate them far enough away from the breeching so they are not affected by flue temperatures.



INSTALLATION

1. Remove the brass bonnet and retainer assembly as shown in the top of the next column (Fig. 3). **Note:** The model with flare connectors can be left assembled. Simply disconnect the assembly from the flare fittings, solder the flare fittings onto the piping, and re-attach the assembly.
2. When the standard sweat body is used: Solder the valve body into position with the arrow on the body pointing downstream. Clean the copper tube ends and Comfort-Trol valve body connections thoroughly. Use a 95/5 tin-antimony solder to ensure maximum pressure rating. Use a good grade of flux and a sharp pointed flame.

FIG. 3



3. Insert the bonnet assembly with retainer into the valve body and secure with the two retaining screws. Be careful not to damage the O-ring seal when inserting the bonnet assembly (Fig. 3, Item A). If a lubricant is required, apply silicone grease to the bonnet assembly below the retainer. Do not use lubricants with a petroleum base.

4. Check the soldered connections for leaks. If re-soldering is needed, remove the bonnet assembly and re-solder.

5. Assemble the Comfort-Trol operator onto the valve body (the operator can be rotated 360° after it is installed) by pushing down on the operator until the wire retainers inside the operator frame (Fig. 3, Item F) snap into the retaining groove on the brass bonnet (Fig. 3, Item C).

6. Electrically wire the Comfort-Trol assembly to the system as described in one of the wiring diagrams (Figs. 2A and 2B) found on the following page.

Remember, do not wire more than three Comfort-Trol (or the obsolete Modumate models) zone control valves to one 40 VA transformer.

Service Guide to B&G Comfort-Trol Valves

— Continued from previous page —

Before attempting the replacement of your B&G Comfort-Trol valves, please make certain to review the Bell & Gossett instruction sheet number V01348, or its revision. Factory information can be found at www.bellgossett.com.

Wiring Diagrams

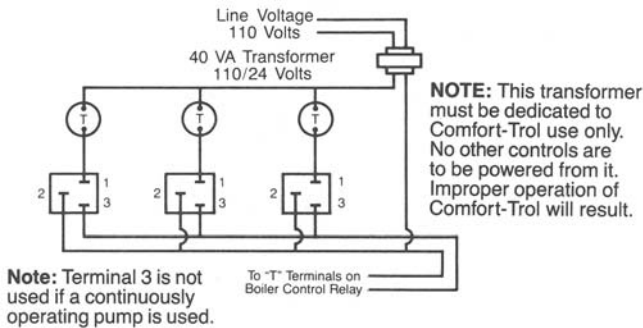


FIGURE 2A
1, 2 OR 3 COMFORT-TROLS — SINGLE TRANSFORMER
INTERMITTENT PUMP OPERATION

IMPORTANT: Figure 2B is correct only when the ModuMate is wired per factory recommendations.

Use the solderless terminals included with #18 and #22 gauge wire to connect the wires to the valve terminals. Push the terminals on until they snap in place.

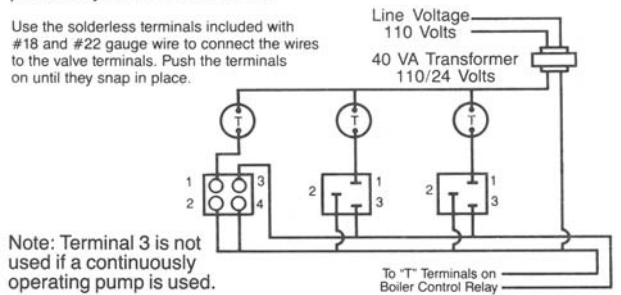


FIGURE 2B
COMFORT-TROL AND MODUMATE WIRED
TO THE SAME TRANSFORMER
INTERMITTENT PUMP OPERATION

OPERATING INSTRUCTIONS

The Comfort-Trol is opened by a heat motor. Therefore, there is approximately a two-minute period between the time the thermostat closes, calling for heat, and the time the Comfort-Trol opens. As long as heat is required, the Comfort-Trol is kept in the open position by a built-in control switch, which meters small amounts of electricity to the heat motor. When the thermostat opens, signaling the need for heat has been satisfied, a return spring in the Comfort-Trol slowly closes the Comfort-Trol zone valve.

MANUAL OPERATION

A power failure may necessitate manual operation of the Comfort-Trol. If required, here are the instructions:

1. Turn the Comfort-Trol operator power switch to the "off" position.

2. Squeeze the two formed wire release tabs (see zone valve diagram in the top right-hand column of the preceding page) together and lift-up to remove the operator.

3. The valve is now fully open and will allow gravity circulation through the system.

After power is restored, return the Comfort-Trol to normal operation by assembling the operator to the valve: install the operator over the bonnet assembly and press down until both the wire form tabs engage the slots on the bonnet assembly. Do not squeeze the two formed release tabs when re-assembling the operator to the valve. Finally, turn the operator's power switch to the "on" position.

SERVICE INSTRUCTIONS

Please reference Figure 3 (on the preceding page) when performing service. Periodic inspection for signs of leakage or damage recommended. Leakage or rupture can cause serious damage.

Before performing service or maintenance, always turn the power to the valve "off" and let the operator cool down to under 100° F. This could take 20 to 30 minutes. Also, the heat motor is surrounded by an electric heater which can be very hot! Be careful, avoid injury!

To inspect and service the Comfort-Trol:

1. Identify the power leads (#1, #2 and #3 as shown in Fig. 2A and disconnect them by pulling them off the blade type connectors.
2. Remove the Comfort-Trol operator by squeezing the two formed wire release tabs (see zone valve diagram in the top right-hand column of the preceding page) together and lift-up to remove the operator. Remove the operator cover by spreading the cover at the bottom to disengage the locking tabs and lifting up.

Inspect the following components and replace as needed:

1. **Seal Kit:** Examine the valve seal at the top of the bonnet (Fig. 3, Item B) and look for evidence of leakage around the stem and on the underside of the knurled head. If leakage is evident, replace the seal with Seal Kit V01371. Failure to replace a leaking seal may cause erratic valve operation and failure of the valve to open. You can replace the seal without draining the system.

Replace the seal using a pliers to loosen and remove the seal. Carefully insert the replacement seal kit without disturbing the spring-loaded valve disc (Fig. 3, Item D) or system fluid may be discharged from the valve. Tighten the seal kit, without using excessive force, until it is secure.

2. **Heat Motor (power pill with heater):** The large end

Service Guide to B&G Comfort-Trol Valves

— Continued from previous page —

of the heat motor is wrapped with a black material which secures the heater element to the power pill. The normal color of the power pill under the heater is copper. If it turns gray or black and there appears to be leakage around the piston, replace the heat motor. See the instructions for "Heat Motor Replacement."

3. **Operator:** If the heat motor or switches have failed, the entire operator may be replaced rather than replacing the components. Simply place a new operator on the valve body and press down until the wire retainers inside the operator frame (Fig. 3, Item E) snap into the retaining groove on the brass bonnet (Fig. 3, Item C). This may be the simplest and most positive way to ensure that your zone control valve has been repaired.

Returning to Operation

1. Replace the cover on the operator so that the wide section of the operator frame at the switch end of the operator (Fig. 3, Item F) slips between the end of the cover and the raised guides located inside and on both sides of the cover. Push down on the cover until the two 3/16" long raised tabs at the bottom of the cover lock over the underside of the operator.

2. Assemble the operator onto the valve body (the operator can be rotated 360° after it is installed) by pushing down on the operator until the wire retainers inside the operator frame (Fig. 3, Item E) snap into the retaining groove on the brass bonnet (Fig. 3, Item C).

3. Reconnect the terminal leads #1, #2 and #3 as required by pushing the connectors onto the blade terminals until the locking catch snaps into place.

4. Restore power.

Heat Motor Replacement

Two different versions of the operator frame were made: One version with an access hole, and another without.

Version with Heat Motor Access Hole

1. Turn-off power to the operator.
2. Disconnect power leads from blade switch terminals.
3. If the valve cover has cooled for 20 to 30 minutes, remove it by spreading the cover at the bottom to disengage the locking tabs, and lifting up.
4. Disconnect the heater leads at the solderless terminals on the switch inside the operator (Fig. 4, Item 1).
5. Remove retaining clip (Fig. 4, Item 9).

6. Pull the heat motor through the access hole.

7. Replace the heat motor with the order no. V01370 replacement heat motor and secure in place with the retaining clip.

8. Re-attach the heater leads to the solderless terminals on the switch assembly (Fig. 4, Item 2) making sure the leads do not contact the operator frame.

9. Replace the cover.

10. Restore power.

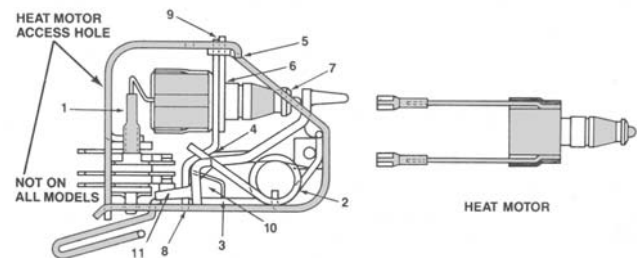
Units without Heat Motor Access Hole

Save yourself from a lot of frustration and excessive time replacing a heat motor in a Comfort-Trol operator without an access hole to the heat motor.

There are approximately 19 different steps needed to be taken to replace the heat motor in this version of the operator.

It is simplest to **order a new operator, order no. 109024** (the new versions all have access holes for easier heat motor replacement) and save yourself a lot of time.

FIG. 4



If you have an "old" Modumate® Valve (M1), it is **obsolete**. However, the heat motor and the seal and seat assembly are available. Order Heat Motor Kit No. 189143 and/or Seal and Seat Assembly No. 189060.

If you think you need an entire new operator simply order the new Operator No. 109024. Conversion instructions, allowing the new operator to work on the "old" Modumate valve, will be included with the product.

B&G Air Vents, Vacuum Breakers & Accessories

No. 87, 67 and 7 Automatic Air Vents capture unwanted accumulated air in your hydronic heating system, and then automatically vents the air to atmosphere. Keeps your system efficiently dispersing heat.



No. 17SR and 17JR Automatic Hot Water Air Valves are deluxe hygroscopic air valves. The 17SR has a manual shut-off; the 17JR does not.



No. 62 Hoffman Vacuum Breaker Protects closed vessels, controls, valves and piping systems from damage and inefficient heat transfer. Prevents induced vacuum from occurring in both hot water and steam heating systems.



Thermoflo® Balancer provides 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 the demands of original design circulation.



No. TB 3/4 Capacity: 1 to 5 gpm
No. TB 1 Capacity: 2 to 10 gpm.

No. 400 Automatic Air Vents with a float-type design provides long-life. Compact design and high pressure and temperature ratings make this vent very popular on hot water heating systems.



DT-2 Drain-O-Tank® Air Charger offers a sure quick way to re-charge a waterlogged compression tank.

RV-125A Readout Valve and RP-250B Readout Probe is designed for use wherever pressure tapings are required to monitor flow or pressures. The



No. 107A High Capacity Air Vent with cast iron body purges large amounts of air from liquid systems at operating pressure up to 150 psig.



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.

No. 4V "Coin-Operated" Air Vent is manually operated. Protrudes from radiator only slightly. Use a coin to operate.



Model No.	B&G No.	Product Description	System Connection Pipe Size	Dimensions (inches) Width x Height	Maximum Ratings		Order No.
					Pressure	Temp. (F)	
400	113222	Automatic Air Vent	1/8" male	1-7/8 x 3-1/8	150 psi	240°	BI 1055W
87	113021		Combination 3/4" male x 1/2" female	2-1/4 x 4-3/4	150 psi	240°	BI 1055T
67	113020		1/8" male	1-1/2 x 3-3/16	35 psi	240°	BI 1055
7	113001		1/8" female	2-3/16 x 4-1/16	75 psi	240°	BI 1050
107A	113076	High Capacity Air Vent	3/4" female	4-1/2 x 9-5/8	150 psi	250°	BI 1055V
17 SR	113004	Automatic Air Vent	1/8" male	11/16 x 1	30 psi	225°	BI 1054S
17 JR	113042		1/8" male	13/16 x 1-1/4	30 psi	225°	BI 1054R
4V	113055	Manual Air Vent	1/8" male	5/8 x 5/8	150 psi	250°	BI 1047T
26	113075	Vacuum Breaker	3/4" male	1-1/4 x 3	150 psi	300°	BI 1054U
RV-125A	113100	Readout Valve	1/8" male	1-1/8 x 9/16	300psi	250°	BI 1311
RP-250B	113102	Readout Probe	—	2 x 5/8	300 psi	250°	BI 1311D
DT-2	113041	Drain-O-Tank	1/2" male	2-1/4 x 6-5/16	125 psi	240°	BI 1060
TB-3/4	127001	Balance Valve	3/4" female	2 X 9-1/4	125 psi	250°	BI 1320
TB-1	127002	Balance Valve	1" female	2 X 9-1/4	125 psi	250°	BI 1320A

B&G Thermoflo® Balancer and 107A Air Vent

Thermoflo Balancer for Multi-Zoned Hydronic Systems

The Thermoflo® Balancer is a visual flow indicator, used for balancing multi-zoned hydronic systems, providing both circuit balance and visual flow indication. When installed in each circuit or zone, the Thermoflo® Balancer can reduce operating costs when the system is properly balanced.

It can be serviced without breaking the piping connections. The 3/4" model can be adapted for installation in 1/2" and 1" piping. The 1" model can be adapted for installation in 3/4", 1-1/4" and 1-1/2" piping. They can be installed in any position with the directional arrow pointing downstream.

Maximum Working Pressure: 125 psi **Maximum Operating Temperature:** 250° F.



Model No.	Inlet & Outlet Pipe Size	Adaptable to fit pipe sizes	Dimensions		Ship Weight (lbs)	Order No.
			Diameter	Length		
TB-3/4	3/4"	1/2, 3/4 & 1"	2"	9-1/4"	4	BI 1320
TB-1	1"	3/4, 1-1/4 & 1-1/2"			4	BI 1320A

Model 107A High Capacity Air Vent

The Bell & Gossett Model 107A float operated, high-capacity air vent is designed to purge free air from liquid, systems at temperatures up to 250° F and pressures up to 150 psig. It also provides positive shut-off to eliminate the untimely loss of system liquid. The model 107A is an excellent choice for use in systems using water or ethylene glycol and water as the fluid medium. Often found in residential applications.

- Float actuated operation for instant venting of free air at pressures up to 150 psig.
- Rugged cast iron construction with stainless steel, brass and EPDM internal components.
- Positive shut-off at pressures up to 150 psig.

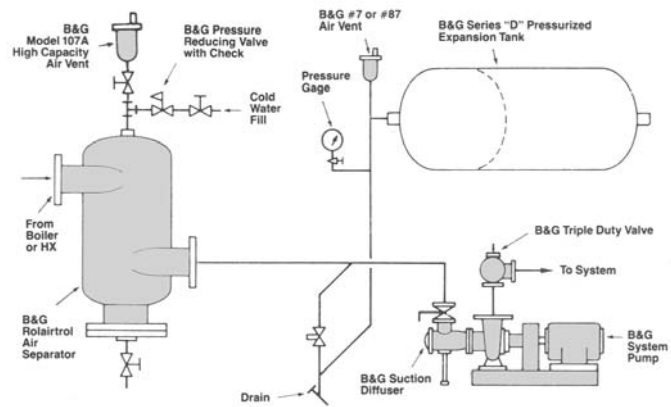
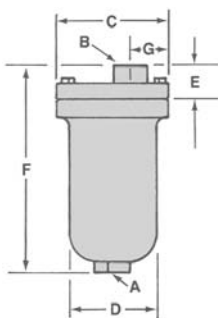


Figure B
B&G Model 107A
High Capacity Air Vent
with Relairtrol Air Separator
and Series "D"
Horizontal Pressurized Expansion Tank



OPERATING PRINCIPLE

The accumulation of air in the body of the air vent causes the float to drop, allowing the air to be vented through the seat. As the liquid level and the float rise, the rubber button closes off the seat. If system pressure drops below atmospheric pressure, a small stainless steel ball blocks the orifice, preventing outside air from entering the system.

Dimensions

Model No.	Bottom Connection Size A	Top Connection Size B	Other Dimensions (inches)					Ship Weight (lbs)	Complete 107A Order No.	*Repair Kit Order No.
			C	D	E	F	G			
107A	3/4"	3/8"	4-1/4	4	1-3/4	9-1/2	1	3	BI 1055V	BI 2550

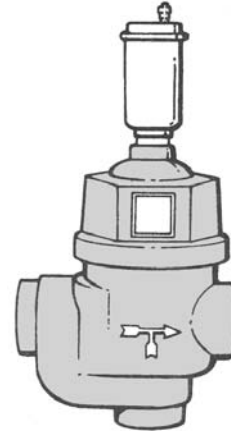
*Repair Kit includes all internal components and cover gasket

Bell & Gossett Enhanced Air Separators

Enhanced Air Separator Model EAS

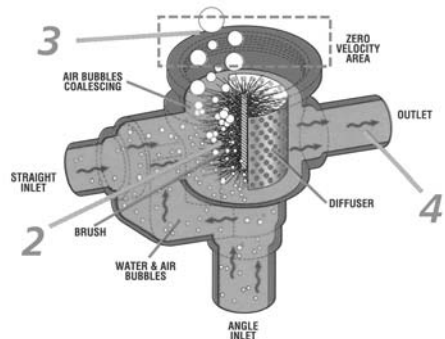
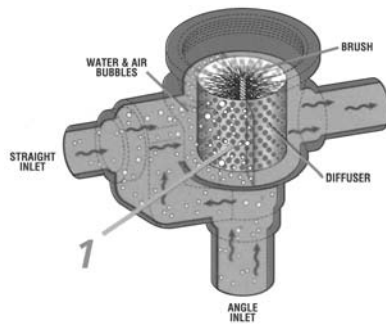
The B&G Enhanced Air Separator is an efficient device designed for air separation in hydronic heating systems. By removing entrained air within the water, you increase heat transfer, save energy and have increased heating comfort. Sure, you can buy less expensive air separators, but they won't perform as well as this unit! This model is for those who want the best in heating comfort and an almost silent heating system.

- It removes over 99% of all air, including those tiny micro-bubbles, from your heating system. Remember, air in a hydronic heating system is bad. Air prevents the proper transfer of heat through your radiators, convectors, etc., and makes your system noisy!
- It's easy to install. No minimum pipe run is required. Install in a straight or angle pattern hook-up. It's compatible with diaphragm or compression tanks.
- High flow rates mean efficient operation even on larger systems. Used on both residential and commercial applications.
- Removable and replaceable high-capacity, top mounted air vent.

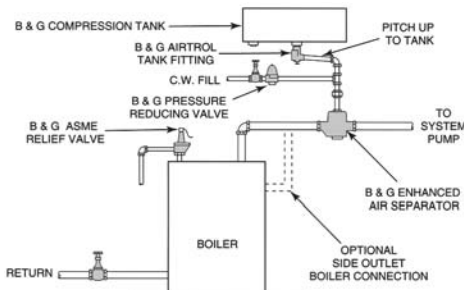


HOW IT WORKS:

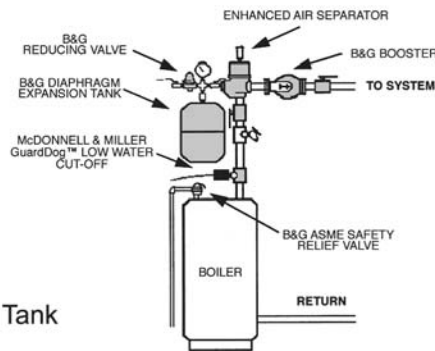
1. As the system fluid enters through the inlet, the diffuser distributes flow evenly across the stainless steel, wire brush-like medium.
2. Even the smallest air bubbles stick to the brush filaments.
3. Trapped air rises above the diffuser through a baffle where the air is then released through an opening on the top.
4. Deaerated water then goes back into the system.



Typical Applications

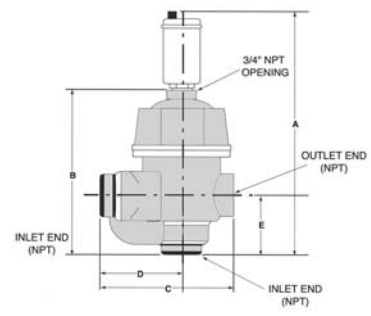


Model EAS with Conventional Compression Tank



Model EAS with Pressurized Expansion Tank

Dimensional Drawing

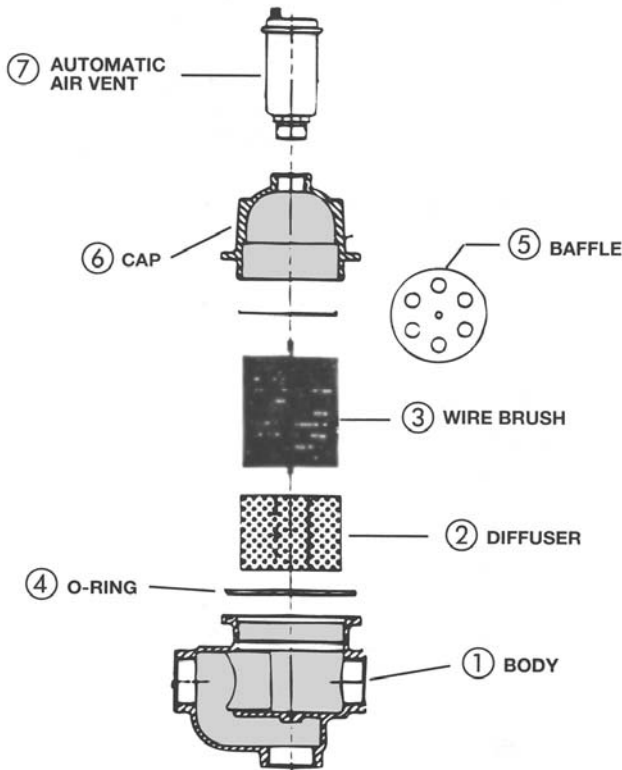


Maximum working pressure at 150 psig;
Maximum liquid temperatures to 250° F.

Model No.	B&G No.	Pipe Size (inches)	Maximum Flow (GPM)	Dimensions (inches)					Ship Weight (lbs)	Order No.
				A	B	C	D	E		
EAS-1	112105	1	35	12-3/16	6-7/8	6-7/16	3-15/16	3	8.8	BI 2550
EAS-1¼	112106	1-1/4	35	12-3/16	6-7/8	6-7/16	3-15/16	3	8.4	BI 2551
EAS-1½	112107	1-1/2	45	15-3/4	11-3/8	8-5/8	4-7/8	4-1/4	15	BI 2552
EAS-2	112108	2	70	17-1/2	11-3/8	8-5/8	4-7/8	4-1/4	16	BI 2553

Repair Parts for Enhanced Air Separators

Model EAS Enhanced Air Separator Repair Parts



SERVICING THE EAS: Generally, the only servicing required would be replacement of the air vent (Item No. 7) once every five years or so, and replacing or cleaning the diffuser and wire brush. If either of these items don't clean-up well — Order new components (see chart below) along with a new replacement o-ring. If you need to replace more than these parts, simply order a new complete EAS.

Item No.	Repair Part Description	Model Number			
		EAS-1	EAS-1½	EAS-1¼	EAS-2
1	Body	BG1510N	BG1510P	BG1510E	BG1510F
2	Diffuser	BG1510T		BG1510G	
3	Wire brush	BG1510S		BG1510H	
4	O-Ring	BG1510U		BG1510J	
5	Baffle	BG1510R		BG1510K	
6	Cap	BG1510Q		BG1510L	
7	Air vent	BG1510V		BG1510V	BG1510M
Vent overflow kit		*BG1122			**

*BG1122 Vent overflow kit includes overflow connector & 1/4"OD copper tubing.

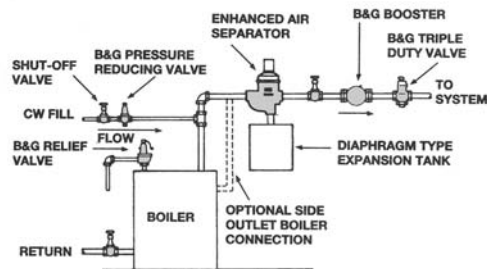
** The vent overflow kit for the EAS-2 can be made using a flare x 1/8" npt adapter and a 1/4" O.D. copper tube.

Model EAS Enhanced Air Separator Installation

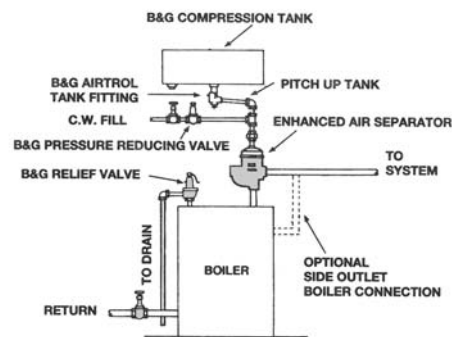
The EAS Enhanced Air Separator is supplied in female pipe sizes from 1" to 2".

- The 1" size can be bushed down to 3/4". The EAS can be installed in-line or in an angle configuration to replace a piping elbow.

- The unit must be installed with the automatic air vent in a vertical position.



TYPICAL INSTALLATION
FIGURE 1



TYPICAL INSTALLATION
FIGURE 2

- Pipe the EAS into the system as shown in the diagrams above. The EAS must be installed with the flow arrow cast on the body pointing in the direction of flow.

- Keep the air vent's cap closed tightly during filling of the system to prevent contaminants from fouling the air vent.

- The automatic air vent can also be vented manually: press down on the vent (tire-like) stem.

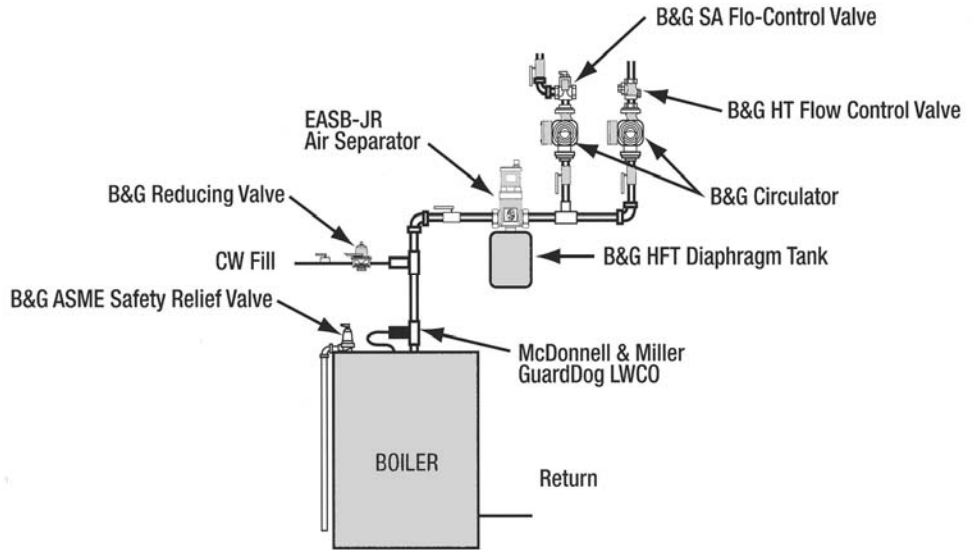
- For normal automatic venting, open the vent cap only one full-turn. Opening more than one-full turn will allow air to vent too fast.

Bell & Gossett Compact Enhanced Air Separators

Model EASB-JR Compact Enhanced Air Separator



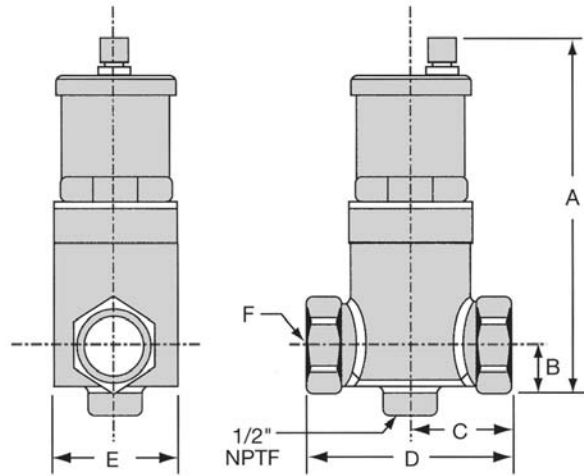
Repair parts are not available for the EASB-JR.



The **EASB-JR Enhanced Air Separator** automatically removes entrained air bubbles in both hot water and chilled water heating and cooling systems. As fluid enters the unit, the velocity of the fluid is decreased creating a low-pressure area. The small air bubbles are then released from the fluid and collect in the coalescing medium within the air separator. The air bubbles rise to the top of the air separator and are then released to the atmosphere through the built-in automatic air vent.

The air separator has a bottom 1/2" pipe connection to accommodate connection to a B&G expansion tank. The compact design and brass body construction make the EASB-JR ideal for both residential and commercial hydronic heating systems.

Maximum Working Pressure: 150 psig
Maximum Operating Temperature: 250° F.



EASB-JR Ordering Guide

Model No.	Dimensions (inches)							Order No.
	A	B	C	D	E	F (Pipe Connection)	Weight (lbs)	
EASB-3/4 JR	6-7/8	1-5/8	1-13/16	3-5/8	2-1/4	3/4 female pipe	2.5	BI 2560
EASB-3/4S JR	6-7/8	1-5/8	1-13/16	3-5/8	2-1/4	3/4 copper sweat	2.5	BI 2561
EASB-1 JR	6-7/8	1-5/8	1-13/16	3-5/8	2-1/4	1 female pipe	2.5	BI 2562
EASB-1S JR	6-7/8	1-5/8	1-13/16	3-5/8	2-1/4	1 copper sweat	2.5	BI 2563
EASB-1¼ JR	7-1/2	1-7/8	2-5/16	4-5/8	3-1/8	1-1/4 female pipe	4	BI 2564
EASB-1¼S JR	7-1/2	1-7/8	2-5/16	4-5/8	3-1/8	1-1/4 copper sweat	4	BI 2565
EASB-1½ JR	7-1/2	1-7/8	2-5/16	4-5/8	3-1/8	1-1/2 female pipe	4	BI 2566

B&G Hydronic Accessories for the Boiler Room

Standard Air Separators and Tank Fittings

The standard **B&G AirTrol** system consists of:

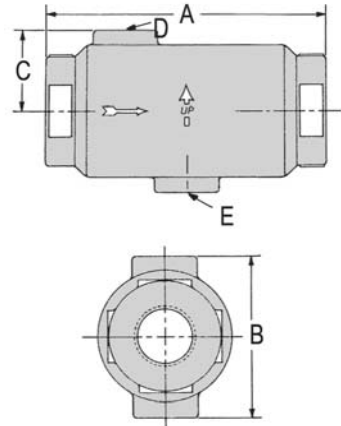
- An air separating device that could be one of the following models: The "Rolairtrol," or models , IAS , IAF (discontinued) ABF — or the EAS air separator shown on the previous pages,
- An air control tank fitting (model ATF or ATFL) and,
- A compression tank. These devices insure the proper removal and control of air in hot water heating systems.

Model IAS In-Line Air Separator

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

Maximum working pressure:
175 psig

Maximum operating temp:
300° F.

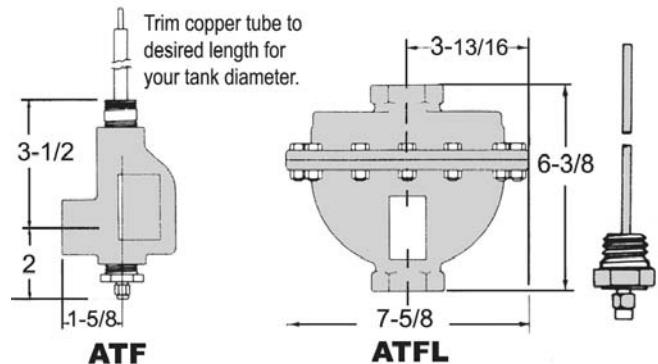


Model No.	B&G No.	Pipe Size (inches)	Maximum Flow (GPM)	Dimensions (inches)					Ship Weight (lbs)	Order No.
				A	B	C	D	E		
IAS-1	112095	1	15	6-1/8	3-1/2	1-3/4	3/4" pipe	1/2" pipe	3-3/4	BI 1150
IAS-1¼	112096	1-1/4	25	6-1/8	3-1/2	1-3/4			3-1/2	BI 1155
IAS-1½	112097	1-1/2	35	8-1/8	4-1/2	2-1/4			8-1/2	BI 1160
IAS-2	112098	2	50	8-1/8	4-1/2	2-1/4			7-1/2	BI 1165
IAS-2½	112099	2-1/2	75	10-1/8	6-3/8	3-3/16			23	BI 1170
IAS-3	112100	3	125	10-1/8	6-3/8	3-3/16			21-1/2	BI 1175

Model ATF Tank Fittings

Select from the ATF or ATFL models (see diagram to the right). These AirTrol tank fittings restrict the flow of cooler water from the compression tank into the heating system without restricting the flow of free, unwanted air into the tank. Trim the copper tubing protruding from the bottom of valve to desired length. For compression tanks of 100 gallons or larger, use the ATFL model.

Maximum Limits: 175 psig @ 250° F.



Model No.	Trim copper tubing to:	For Maximum Tank Diameter or Gallon Capacity	Connection (inches)		Weight (lbs)	Order No.
			To Tank	To Boiler		
ATF-20	9" length	9"	1/2" male pipe	3/4" male pipe	2.25	BI 1045
	12" length	12-14"			2.25	
	16" length	16-18"			2.75	
	Do not trim	20-22"			2.75	
ATF-24	Do not trim	24"			2.75	BI 1046
ATFL	Do not trim	Tanks of 100 gal. or more	1" female pipe	1" female pipe	14	BI 1047

B&G Hydronic Expansion Tanks

Expansion Tanks for Hydronic Heating and Potable Water

These B&G expansion tanks absorb the force of thermal expansion in hydronic heating and potable domestic water systems. The butyl diaphragm separates system water from the air in the tank thereby preventing water-logging problems.

- Series **HFT** tanks are for standard hot water heating systems (for heating the home or building environment).
- Series **PT** tanks are for potable domestic water systems (water heated for showers, bathrooms, laundries, etc.). The PT tanks use a polypropylene liner to protect the water from contaminants. ASME designated PT tanks can be special ordered .

HFT Tanks for Hydronic Heating

Used for hot water heating of the environment in houses and “light commercial” buildings. Diaphragm design tank with a steel shell and butyl diaphragm. The system connection is steel. The tank is pre-charged to 12 psig.

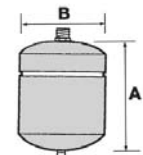
Maximum working pressure: 100 psig

Maximum operating temp: 240° F.

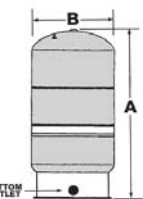


Model No.	B&G No.	System Connection Pipe Size	Tank Volume/Gallons		Height Inches A	Diameter Inches B	Ship Weight (lbs)	Order No.
			Tank	Acceptance				
HFT-15	1BN201	1/2" male	2	1	12-5/8	8	5	1BN201
HFT-30	1BN202	1/2" male	4.4	2.5	15-1/2	11	9	1BN202
HFT-60	1BN203	1/2" male	7.6	2.5	23	11	14	1BN203
HFT-90	1BN204	1/2" male	14	11.5	21	15-3/8	23	1BN204
HFT-30V	1BN205	1" female	14	11.5	24	15-3/8	25	1BN205
HFT-40V	1BN206	1" female	20	11.5	31-3/4	15-3/8	33	1BN206
HFT-60V	1BN207	1" female	32	11.5	46-5/8	15-3/8	43	1BN207
HFT-90V	1BN208	1 1/4 female	44	34	36	22	69	1BN208
HFT-110V	1BN209	1 1/4 female	62	34	46-5/8	22	92	1BN209
HFT-160V	1BN210	1 1/4 female	86	46	47-1/4	26	123	1BN210

Dimensions



HFT-15 thru HFT-90



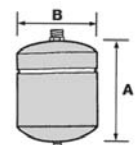
HFT-30V thru HFT-160V

PT Tanks for Potable Domestic Water

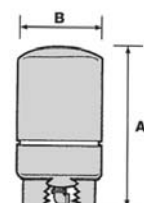
Used for Potable Domestic Water going to bathrooms, kitchens, laundries, etc. Diaphragm design with a steel shell, polypropylene liner and butyl diaphragm. The system connection for PT-5 and PT-12 is brass; on the PT-25V through PT-210V is stainless steel. The tank is pre-charged to 40 psig. All PT tanks can be special ordered with ASME designation. Larger sizes available up to a 528 gallon tank size.

Maximum working pressure: 100 psig **Maximum operating temp:** 240° F.

Model No.	B&G No.	System Connection Pipe Size	Tank Volume/Gallons		Height Inches	Diameter Inches	Ship Weight (lbs)	Order No.
			Tank	Acceptance				
PT-5	1BN201	3/4" male	2	0.9	12-5/8	8	5	1BN201
PT-12	1BN202	3/4" male	4.4	3.2	15	11	9	1BN202
PT-25V	1BN203	1" male	10.3	10.3	19-1/4	15-3/8	23	1BN203
PT-30V	1BN204	1" male	14	11.3	23-7/8	15-3/8	25	1BN204
PT-42V	1BN205	1" female	20	11.4	31-5/8	15-3/8	33	1BN205
PT-60V	1BN206	1 1/4 female	34	34	29-5/8	22	69	1BN206
PT-80V	1BN207	1 1/4 female	44	33.8	36	22	69	1BN207
PT-180V	1BN208	1 1/4 female	62	34.1	46-3/4	22	92	1BN208
PT-210V	1BN209	1 1/4 female	86	46.4	47-1/4	26	123	1BN209



PT-5 & PT-12



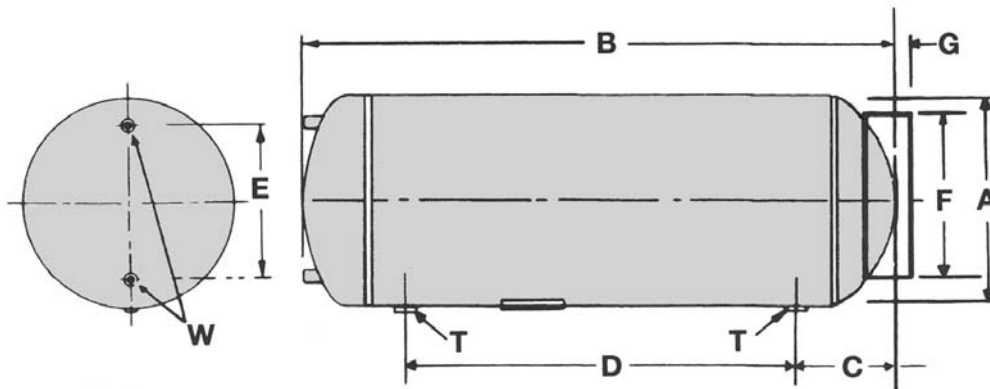
PT-25V thru PT-210V

B&G Hydronic Compression Tanks, ASME rated

ASME Certified Un-Pressurized Compression Tanks for Commercial Hydronic Heating

For use in hot water and cooling systems in commercial applications where a certified ASME, air-tight tank construction is required. Not for use in domestic potable water systems. These compression tanks absorb the expansion forces of a heating and cooling system while maintaining proper system pressure when AirTrol fittings are properly installed. They contain neither a bladder or diaphragm. The tanks are carbon steel and painted with air dry enamel. Gauge glass tappings ("W" in dimension drawing below) standard on all tanks. All tanks ASME certified.

■ **Maximum Operating Pressure:** 125 @ psi ■ **Maximum Design Pressure:** 15 to 100 gallon @ 150 psi; 120 to 400 gallon @ 125 psi ■ **Maximum Operating Temperature:** 240° F. ■ **Maximum Design Temperature:** 650° F.



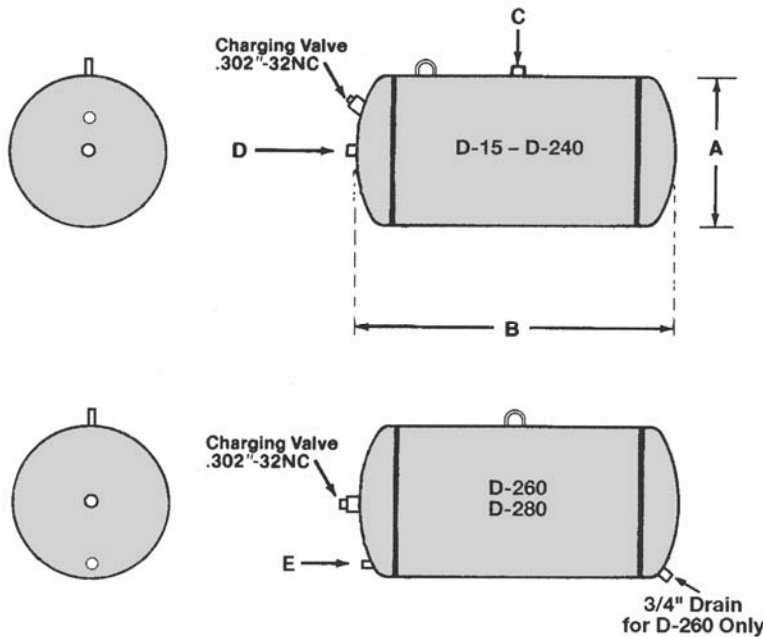
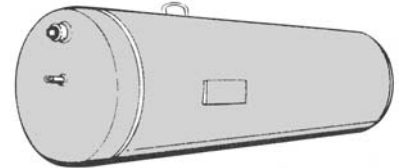
Model No.	B&G No.	Capacity Gallons	Required AirTrol Fitting	Tank Dimension (inches)								Ship Weight (lbs)	Painted Steel Tank Order No.	
				A	B	C	D	E	F	G	T			W
15	116029	15	ATF-12	12	33	7	19	8	11½	2	1	½	46	116029
24	116030	24	ATF-12	12	51	7	37	8	11½	2	1	½	64	116030
30	116031	30	ATF-12	14	48	8¾	31¼	10	12	2	1	½	67	116031
40	116032	40	ATF-12	14	63	8¾	46¼	10	12	2	1	½	85	116032
60	116033	60	ATF-16	16	72	9¼	53½	12	14	2	1	½	115	116033
80	116034	80	ATF-20	20	62½	10	42½	16	16	2	1	½	134	116034
100	116035	100	ATF-20	20	78	10	58	16	16	2	1	½	166	116035
120	116036	120	ATF-24	24	65	11⅞	42¾	20	22	2	1	½	199	116036
135	116037	135	ATFL	24	72	11⅞	49¾	20	22	2	1	½	219	116037
175	116038	175	ATFL	30	62½	13½	35¼	22	26	2	1½	½	304	116038
220	116039	220	ATFL	30	77	13½	50	22	26	2	1½	½	364	116039
240	116040	240	ATFL	30	84	13½	57	22	26	2	1½	½	394	116040
305	116041	305	ATFL	30	105¾	13½	78¾	22	26	2	1½	½	489	116041
400	116042	400	ATFL	36	93½	14¾	64	28	30	2	1½	½	647	116042

Approximate Weights of Tanks when Filled (pounds)					
Size	Weight	Size	Weight	Size	Weight
15	172	80	802	220	2201
24	265	100	1001	240	2398
30	318	120	1201	305	3035
40	419	135	1346	400	3986
60	616	175	1765		

B&G Pressurized Expansion Tanks, ASME Rated

ASME Certified Series "D" Horizontal Pressurized Expansion Tanks for Commercial Hydronic Heating

Series "D" Bell & Gossett expansion tanks are ASME rated, pre-charged diaphragm-type pressure vessels. These tanks are designed to absorb the expansion forces of heating/cooling system water while maintaining proper system pressurization under varying operating conditions. The heavy-duty butyl rubber diaphragm within the tank separates system water from the tank air charge thereby eliminating water-logging problems. Not for use on potable water systems. The tank is made of carbon steel. The system connection is made of forged steel. The tank has a standard tire-like charging valve for on-site charging of the tank to meet system requirements. Pre-charged to 12 psig.

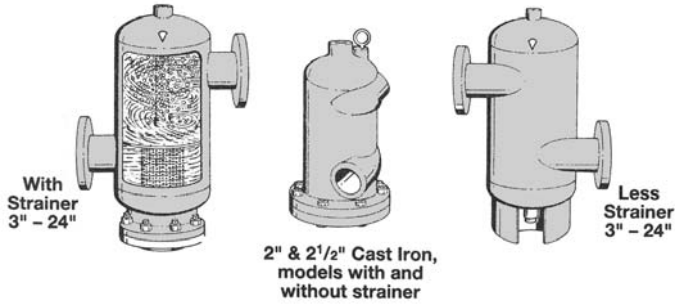


These Type D diaphragm-type expansion tanks are constructed in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code and stamped 125 psi working pressure.

- **Maximum Design Pressure:**
125 psig
- **Maximum Operating Temperature:**
240° F.
- **Tank Pre-Charged Pressure:**
12 psig

Model No.	B&G No.	Capacity Gallons	Acceptance Gallons	Tank Dimension (inches)					Ship Weight (lbs)	Weight when full (lbs)	Order No.
				A	B	System Connection					
						C	D	E			
D-15	116500	7.8	2.5	12	19	n/a	½	n/a	56	121	116500
D-20	116501	10.9	2.5	12	25¾	n/a	½	n/a	59	150	116501
D-40	116502	21.7	11.3	16¼	29⅞	n/a	½	n/a	114	295	116502
D-60	116503	33.6	11.3	16¼	42½	n/a	½	n/a	139	419	116503
D-80	116504	44.4	22.6	16¼	55¼	½	n/a	n/a	196	567	116504
D-100	116505	55.7	22.6	16¼	68¼	½	n/a	n/a	231	696	116505
D-120	116506	68.0	34.0	24	40¼	n/a	1	n/a	233	801	116506
D-144	116507	77.0	34.0	24	45⅞	n/a	1	n/a	256	899	116507
D-180	116508	90.0	34.0	24	52½	n/a	1	n/a	286	1037	116508
D-200	116509	110.0	34.0	24	63	n/a	1	n/a	326	1244	116509
D-240	116510	132.0	46.0	30	49⅞	n/a	1	n/a	435	1537	116510
D-260	116778	158.0	56.0	30	58¾	n/a	n/a	1¼	550	1869	116778
D-280	116779	211.0	84.0	30	76¾	n/a	n/a	1¼	700	2461	116779

B&G Rolairtrol Air Separators for Hot/Chilled Water



The **B&G Rolairtrol Air Separator** provides maximum air separation through a combination of centrifugal force and velocity reduction. The baffle within the Rolairtrol assures that only “air-free” water is transferred to the outlet connection, while the unwanted air is directed to a stainless steel collector tube. A 1” full-port ball valve can be piped-in for blow down. A top female npt tapping allows addition of air vent or connection of a line directly to a compression tank. Available with or without internal strainer. Choose from NPT, flanged or grooved connections. Support brackets optional.

The Rolairtrol is an ASME vessel designed to create a low velocity vortex for air removal from circulating water.

- **Maximum Working Pressure:** 125 psig
- **Maximum Operating Temperature:** 350°F.
- **Body:** 2 and 2½” is Cast Iron; Other sizes are Steel
- **ASME Certified Construction**

ROLAIRTROL WITHOUT BUILT-IN STRAINER

Model No. with NPT pipe connection	Order No.	Model No. With Flanged connection	Order No.	With Grooved connection	Order No.	Opening Size in Models Shown	Approximate Shipping Weight, lbs.	Volume Capacity, GPM
RL-2N	BI 3000	—	—	—	—	2"	55	70
RL-2½N	BI 3001	—	—	—	—	2-1/2"	90	115
RL-3N	BI 3002	RL-3F	BI 3009	—	—	3"	110	170
—	—	RL-4F	BI 1310	RL-4G	BI 3031	4"	165	270
—	—	RL-5F	BI 1311	RL-5G	BI 3032	5"	220	425
—	—	RL-6F	BI 1312	RL-6G	BI 3033	6"	300	580
—	—	RL-8F	BI 1313	RL-8G	BI 3034	8"	460	1215
—	—	RL-10F	BI 1314	RL-10G	BI 3035	10"	860	2115
—	—	RL-12F	BI 1315	RL-12G	BI 3036	12"	1200	3630
—	—	RL-14F	BI 1316	—	—	14"	1780	6000
—	—	RL-16F	BI 1317	—	—	16"	2425	8800
—	—	RL-18F	BI 1318	—	—	18"	3410	13200
—	—	RL-20F	BI 1319	—	—	20"	5310	19055
—	—	RL-22F	BI 1320	—	—	22"	6400	23680
—	—	RL-24F	BI 1321	—	—	24"	7530	29560

ROLAIRTROL WITH BUILT-IN STRAINER

Model No. with NPT pipe connection	Order No.	Model No. With Flanged connection	Order No.	With Grooved connection	Order No.	Opening Size in Models Shown	Approximate Shipping Weight, lbs.	Volume Capacity, Gallons
R-2N	BI 3060	—	—	—	—	2"	55	70
R-2½N	BI 3061	—	—	—	—	2-1/2"	90	115
R-3N	BI 3062	R-3F	BI 3069	—	—	3"	110	170
—	—	R-4F	BI 3070	R-4G	BI 3086	4"	165	270
—	—	R-5F	BI 3071	R-5G	BI 3087	5"	220	425
—	—	R-6F	BI 3072	R-6G	BI 3088	6"	300	580
—	—	R-8F	BI 3073	R-8G	BI 3089	8"	460	1215
—	—	R-10F	BI 3074	R-10G	BI 3090	10"	860	2115
—	—	R-12F	BI 3075	R-12G	BI 3091	12"	1200	3630
—	—	R-14F	BI 3076	—	—	14"	1780	6000
—	—	R-16F	BI 3077	—	—	16"	2425	8800
—	—	R-18F	BI 3078	—	—	18"	3410	13200
—	—	R-20F	BI 3079	—	—	20"	5310	19055
—	—	R-22F	BI 3080	—	—	22"	6400	23680
—	—	R-24F	BI 3081	—	—	24"	7530	29560

Service Guide to Rolairtrol Air Separator

Before attempting the installation/servicing of your B&G Rolairtrol, please make certain to review the Bell & Gossett instruction sheet number A85524, or its revision. Factory information can be found at www.bellgossett.com.

SERVICING THE RL MODEL (with strainer)

The RL model contains an integral strainer that needs to be removed and cleaned and maintained on a regular basis: after 24-hours of operation and/or 30-days of service. This is particularly true during the initial start-up period, especially if you noticed a high pressure drop across the Rolairtrol, or if you are having problems with pump cavitation.

It is recommended to install a manual blow-down valve to facilitate purging of the sediment from the vessel.

If you notice any leakage or corrosion, you may need to replace the entire Rolairtrol unit. Leakage and corrosion are indications of damage and impending serious failure.

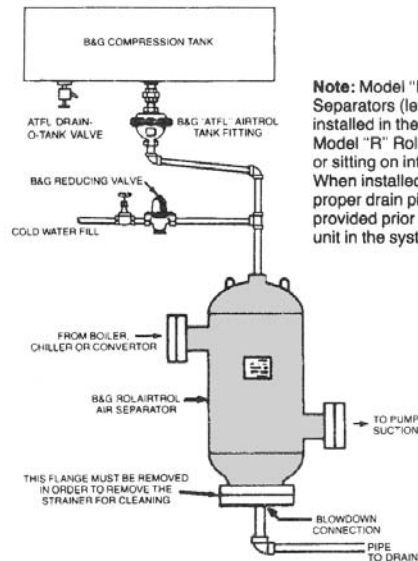
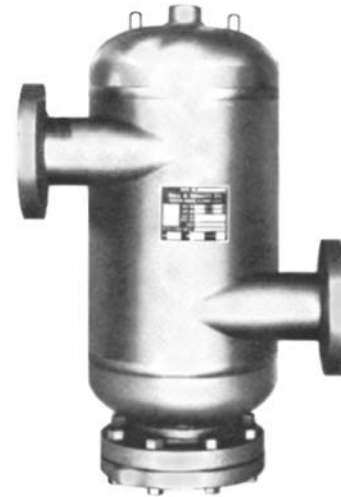
Servicing the Strainer

Allow the system water temperature to cool down below 100° F. before attempting any servicing.

1. Open the blow-down drain valve for a few seconds. This should dislodge accumulated dirt from the strainer. If it does not, then the strainer must be removed from the Rolairtrol for cleaning.

2. To begin the strainer removal process: Close the isolation valves to isolate the Rolairtrol from the system. Make sure the water temperature in the Rolairtrol is below 100° F and the system pressure has been reduced to zero. Open the blow-down valve on the bottom of the Rolairtrol to drain the unit. Make sure that all flow from the blow-down valve has stopped. If water continues to flow, the isolation valves must be replaced or repaired before proceeding.

3. Remove the flange bolts that hold the strainer housing cover in place on the bottom of the Rolairtrol. Remove the cover and strainer. Clean the strainer and re-install into the Rolairtrol. Replace the cover gasket with a new one and re-install the cover making sure that the flange bolts are tightened in a criss-cross pattern to the proper torque. Close the blow-down valve and open the isolation valves to return the Rolairtrol to normal operation. Check the gasket for signs of leakage. If found, additional tightening of the bolts may be required.



Note: Model "RL" Rolairtrol Air Separators (less strainer) can be installed in the same manner as Model "R" Rolairtrol Air Separators or sitting on integral support skirt. When installed on the support skirt, proper drain piping should be provided prior to installing the unit in the system piping.

Fig. 1 Air Control

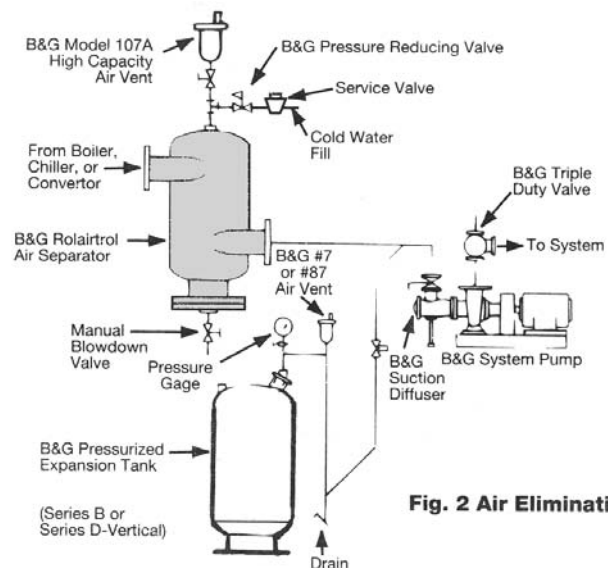


Fig. 2 Air Elimination

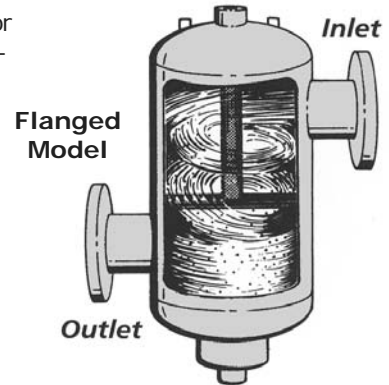
Bell & Gossett Sediment Removal Separators

The Bell & Gossett Sediment Removal Separator (SRS) is a full-flow separator for removal of un-dissolved sediment in hot water heating and chilled water applications, cooling tower systems and other processing applications.

- Reduces system maintenance and down-time.
- Removes both sediment and entrained air.
- Protects pump seals and extends the life of system components.
- Improves overall system efficiency and user comfort.

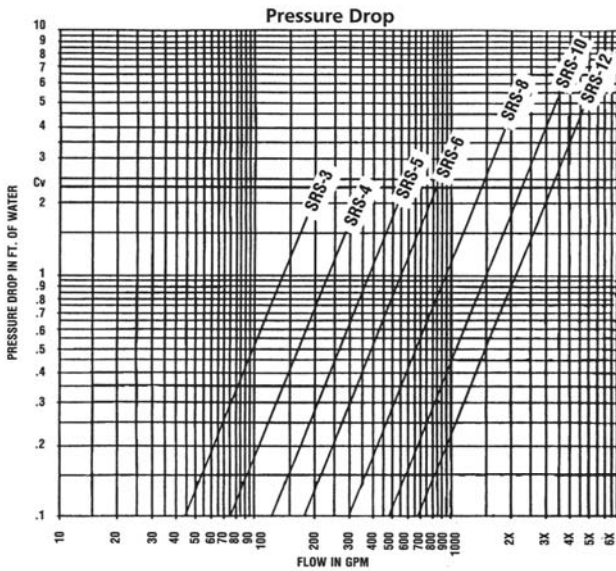
Maximum Design Pressure: 125 psig
Maximum Design Temperature: 350° F.

12" grooved or flanged styles and 3" NPT connection also available.

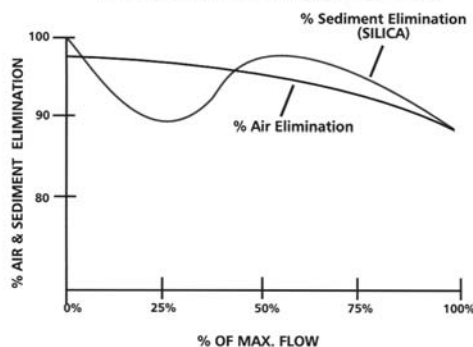


Model SRS	3F or 3G, 3"	4F or 4G, 4"	5F or 5G, 5"	6F or 6G, 6"	8F or 8G, 8"	10F or 10G, 10"
FLANGED	5366-03F-12-001	5366-04F-12-001	5366-05F-12-001	5366-06F-12-001	5366-08F-12-001	5366-10F-12-001
Order No.	BI 2500	BI 2501	BI 2502	BI 2503	BI 2504	BI 2505
GROOVED	5366-03G-12-001	5366-04G-12-001	5366-05G-12-001	5366-06G-12-001	5366-08G-12-001	5366-10G-12-001
Order No.	BI 2510	BI 2511	BI 2512	BI 2513	BI 2514	BI 2515
Max. Flow	190	300	530	850	1900	3600

Performance

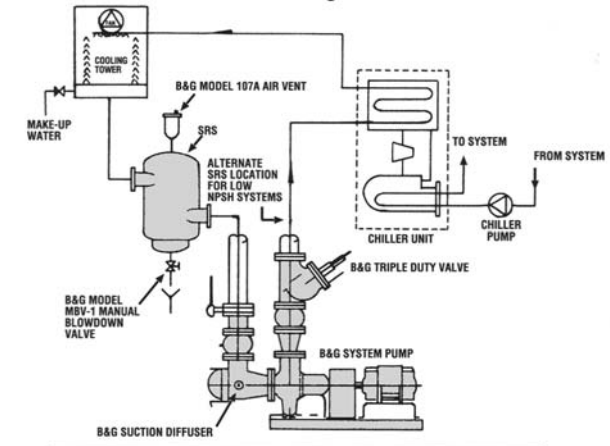


Air & Sediment Elimination Efficiency

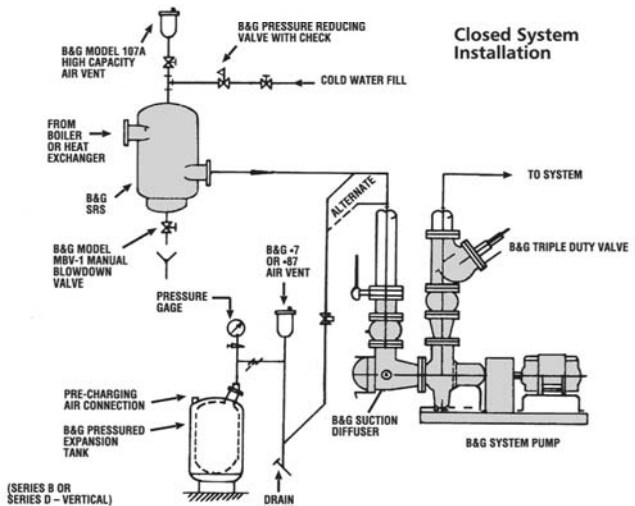


Typical Performance Recirculating System

Chiller - Cooling Tower



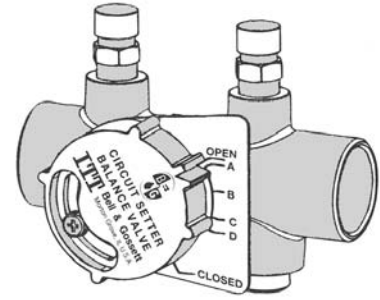
Closed System Installation



B&G Circuit Setter "RF" Balancing Valves

THE "RF" CIRCUIT SETTER BALANCING VALVES ARE FOR LOW-FLOW APPLICATIONS

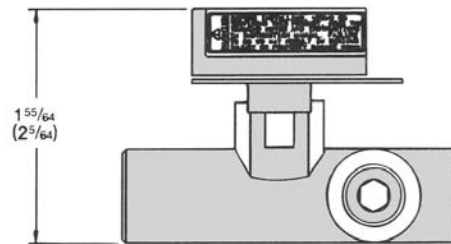
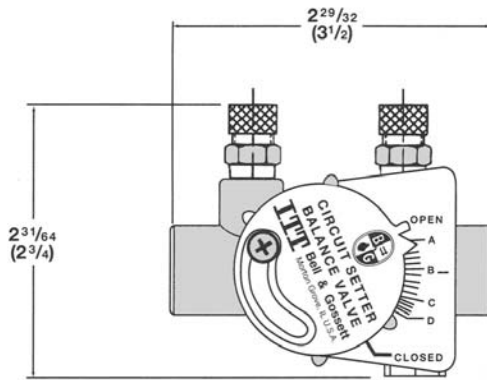
This Bell & Gossett valve is a triple-purpose balancing instrument with standard sweat (copper) connections. Designed specifically for pre-set or proportional system balance for use with terminal or fan-coil units. This system balancing method, developed by B&G, assures optimum system flow balance at minimum pump operating horsepower.



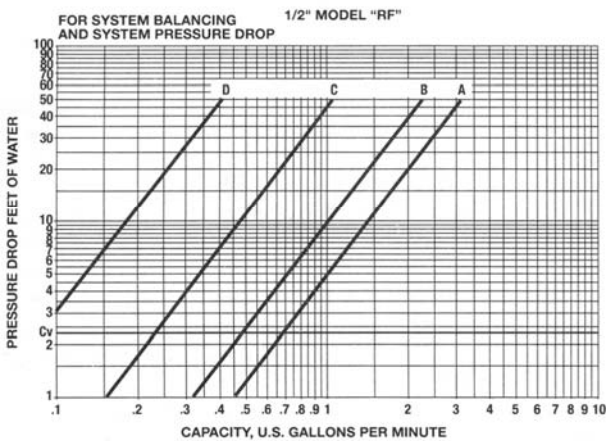
Terminal unit balance valves can be simply pre-set using the B&G circuit setter "curves" (provided with the valve) and the system piping plan. Using this balancing procedure, system balance and start-up time is reduced dramatically.

- **Proportional Balance:** Permits rapid, accurate balancing of the system.
- **Positive Shut-Off:** For isolation and servicing of the system.
- **Memory Stop:** Allows complete shut-off and return to the "set position" without readjustment for balancing.
- **Read-Out Valves:** Allows for differential pressure readings when balancing.

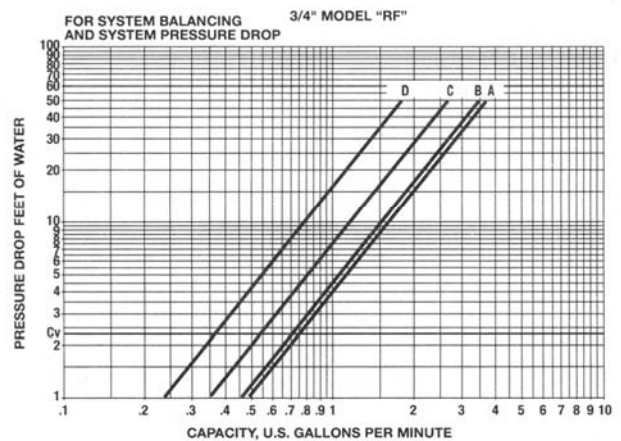
Maximum Working Pressure: 200 psig
Maximum Operating Temperature: 250° F.



PERFORMANCE CHARACTERISTIC CURVE



PERFORMANCE CHARACTERISTIC CURVE



Model No.	Part No.	Body Material	Connection Size (in.)	Connection Style	Operating Limits	Shipping Weight	Order No.
RF-1/2S	117410	Bronze Body Brass Ball	1/2	Copper Sweat	200 psig @ 250°F	1.5	BI 1200
RF-3/4S	117411		3/4		300 psig @ 200°F		

B&G Circuit Setter Plus Balancing Valves

THE CIRCUIT SETTER PLUS BALANCING VALVES ARE FOR STANDARD FLOW APPLICATIONS

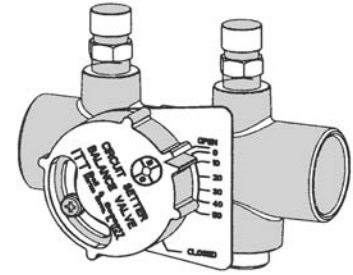
These Bell & Gossett valves function as precise system balancing valves and highly accurate variable orifice flow meters. They are available in both sweat (1/2" to 2") and standard NPT pipe (1/2" to 3") connections and share the following features:

- **Proportional Balance:** Permits rapid, accurate balancing of the system.
- **Positive Shut-Off:** For isolation and servicing of the system.
- **Memory Stop:** Allows complete shut-off and return to the "set position" without readjustment for balancing.
- **Read-Out Valves:** Allows for differential pressure readings when balancing.
- **Drain Port Feature:** On the NPT and Sweat models.

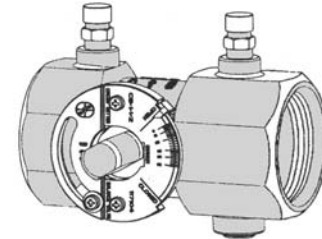
Maximum Operational Limits:

- NPT Style:** 300 psig @ 250° F
- Sweat (using 95/5 solder):** 200 psig @ 250° F
- 2½, 3 & 4" Flanged:** 175 psig @ 250° F

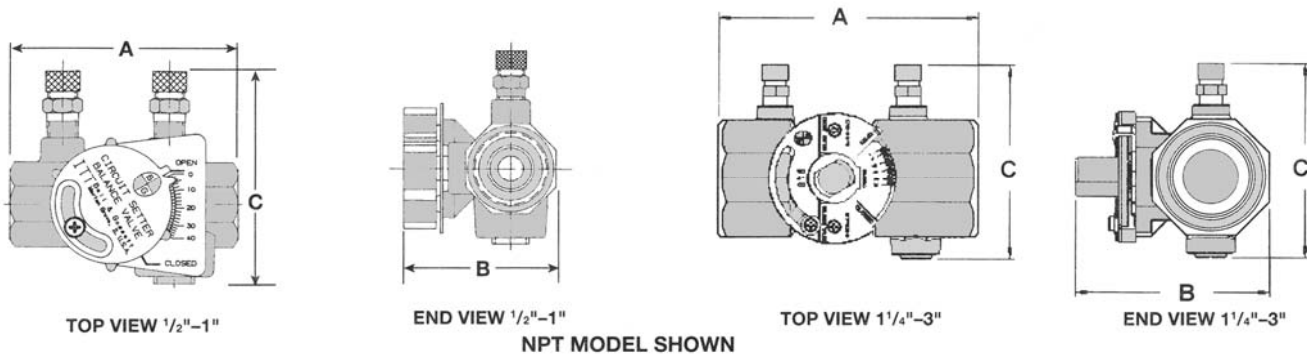
All these valves should be "balanced" by inserting B&G RP-250B readout probes into the readout valves (included with the Circuit Setter valves), and utilizing a B&G differential pressure readout kit (select from models RO-2, RO-3, RO-4 and RO-5) and the V91483 Circuit Setter Balance Valve Calculator.



1/2" - 1" SWEAT AND NPT
(SWEAT MODEL PICTURED ABOVE)

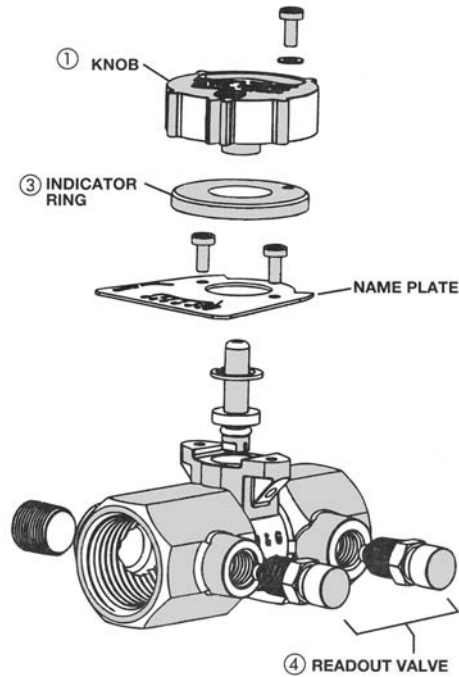


1 1/4" - 2" SWEAT
1 1/4" - 3" NPT
(NPT MODEL PICTURED ABOVE)



Model No.	Size	Connection Style	Dimension (inches)			Ship Weight (lbs)	Order No.
			A	B	C		
CB-1/2S	1/2	Sweat	2-15/16	2-1/8	2-9/16	1	BI 1215
CB-3/4S	3/4		3-1/2	2-1/4	2-3/4	1.25	BI 1225
CB-1S	1		4-9/32	2-3/8	3-11/32	2	BI 1235
CB-1¼S	1-1/4		4-29/32	3-3/16	3-3/8	3	BI 1245
CB-1½S	1-1/2		5-7/32	3-9/32	4	3.5	BI 1255
CB-2S	2		6-5/16	3-29/32	4-15/32	5.5	BI 1265
CB-1/2	1/2	NPT Pipe	2-15/16	2-3/16	2-3/4	1.25	BI 1210
CB-3/4	3/4		3-1/16	2-3/8	2-15/16	1.5	BI 1220
CB-1	1		3-13/16	2-11/16	3-3/16	2	BI 1230
CB-1¼	1-1/4		4-3/8	3-9/32	3-1/2	3.25	BI 1240
CB-1½	1-1/2		4-7/16	3-15/32	3-13/16	3.75	BI 1250
CB-2	2		5-1/8	4-1/32	4-1/4	5.5	BI 1260
CB-2½	2-1/2		6	4-17/32	4-11/16	8.75	BI 1270
CB-3	3		6-1/2	5-7/32	5-5/16	12.75	BI 1275

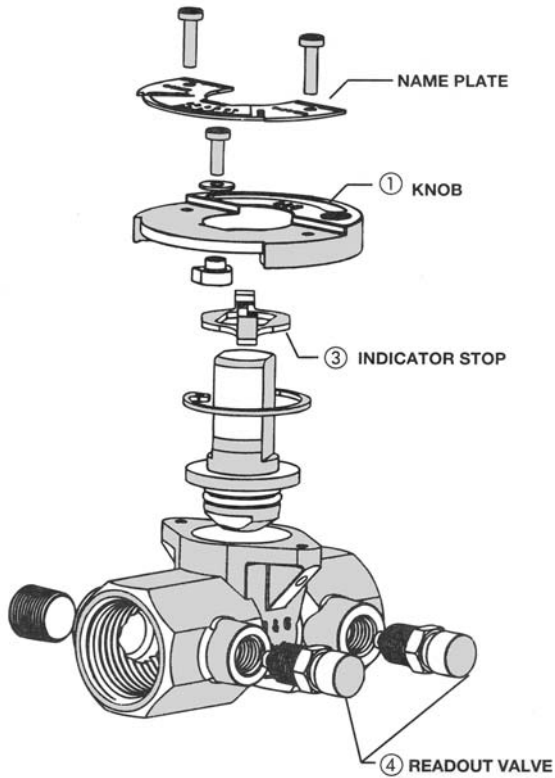
Repair Parts for Circuit Setter Balancing Valves



OLD DESIGN BALL STYLE VALVE

“Old Style” Circuit Setter Valve Repair Parts

Item No.		1	3	4	Readout Probe Set
Model No.	Assembly Part No.	Knob	Indicator Stop	Readout Valve Set	
RF-½S	117410	BG2300	—	BG2560	BG2562
RF-¾S	117411	BG2300	—		
CB-½	117414	BG2493	BG2494		
CB-½S	117412	BG2493	BG2494		
CB-¾	117415	BG2493	BG2494		
CB-¾S	117413	BG2493	BG2494		
CB-1	117416	BG2493	BG2494		
CB-1S	117401	BG2493	BG2494		
CB-1¼	117103	BG2494	BG2491		
CB-1¼S	117402	BG2494	BG2491		
CB-1½	117104	BG2494	BG2491		
CB-1½S	117403	BG2494	BG2491		
CB-2	117105	BG2494	BG2491		
CB-2S	117404	BG2494	BG2491		
CB-2½	117106	BG2494	BG2491		
CB-2½F	117116	BG2494	BG2491		
CB-3	117107	BG2494	BG2491		
CB-3F	117117	BG2494	BG2491		



NEW DESIGN BALL STYLE VALVE

“NEW Style” Circuit Setter Valve Repair Parts

Item No.		1	3	4	Readout Probe Set
Model No.	Assembly Part No.	Knob	Indicator Stop	Readout Valve Set	
RF-½S	117410	BG2300	—	BG2560	BG2562
RF-¾S	117411	BG2300	—		
CB-½	117414	BG2493	—		
CB-½S	117412	BG2493	—		
CB-¾	117415	BG2493	—		
CB-¾S	117413	BG2493	—		
CB-1	117416	BG2493	—		
CB-1S	117401	BG2493	—		
CB-1¼	117103	BG2494	BG2505		
CB-1¼S	117402	BG2494	BG2505		
CB-1½	117104	BG2494	BG2505		
CB-1½S	117403	BG2494	BG2505		
CB-2	117105	BG2494	BG2505		
CB-2S	117404	BG2494	BG2505		
CB-2½	117106	BG2494	BG2505		
CB-2½F	117116	BG2494	BG2505		
CB-3	117107	BG2494	BG2505		
CB-3F	117117	BG2494	BG2505		
CB-4	117035	BG2494	BG2505		

B&G Circuit Setter 4" to 12" Balancing Valves

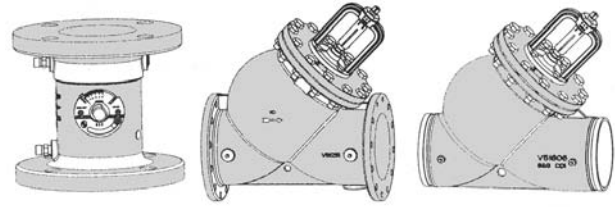
THESE CIRCUIT SETTER FLANGED and GROOVED BALANCING VALVES ARE FOR HIGH FLOW APPLICATIONS

These triple-purpose balancing valves are precisely calibrated for use as a pre-settable balance valve, variable orifice flow meter and positive shut-off service valve. The valves are furnished with a calibrated nameplate and memory stop indicator which permits pre-setting to a fixed open position, and then closed for service without disturbing the pre-set "open" valve setting. Valves are equipped with capped read-out valves fitted with internal check valves.

*The model CB4 has an NPT pipe thread connection, and is for balancing only — not for positive shut-off service.

Maximum Operational Limits: 250° F @ 175 psig

All these valves should be "balanced" by inserting B&G RP-250B readout probes into the integral readout valves, and utilizing a B&G differential pressure readout kit (select from models RO-2, RO-3, RO-4 and RO-5) and the V91483 Circuit Setter Balance Valve "Calculator" included with the valve.



CONSTRUCTION INFORMATION

Body and Bonnet: Flanged — Cast Iron;
Grooved — Ductile Iron.

Disc: Bronze with EDPM insert

Stem: Stainless Steel

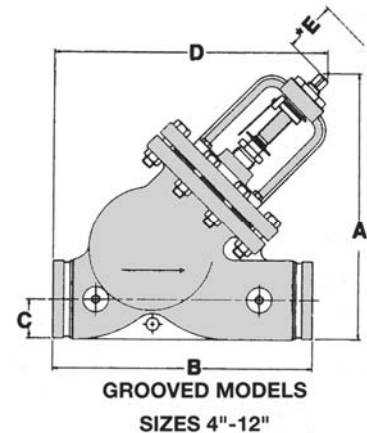
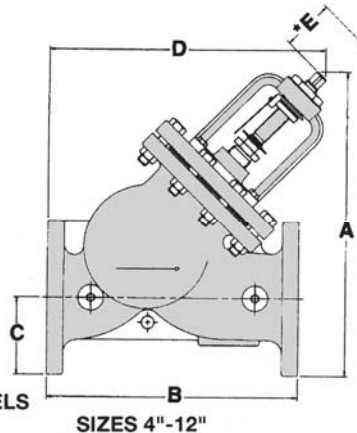
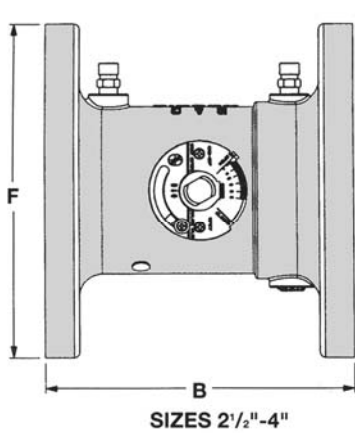
Packing: Teflon-Graphite

Gasket: Synthetic Fiber, Nitrile Binder

Seal Ring: EDPM

Bushing: Zinc Plated Steel

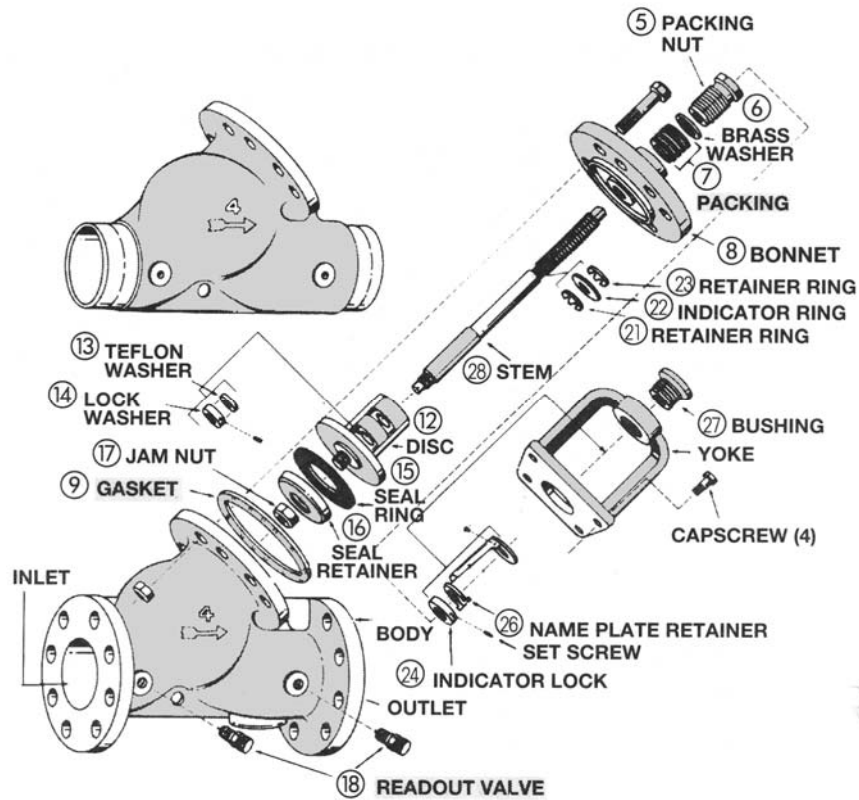
*The model CB4 has an NPT connection and is used for balancing only.



Model No.	Part No.	Pipe Size	Connection Style	Dimension (inches)						Weight (lbs)	Order No.	
				A open	B	C	D open	E	F			
CB-2½F	117116	2½"	Flanged	—	6-9/16	—	—	—	—	7	23	BI 1285
CB-3F	117117	3"	Flanged	—	6-13/16	—	—	—	—	7-1/2	29	BI 1290
*CB-4	117035	4"	NPT	—	8	—	—	—	—	9	52	BI 1280
CB-4F	117112	4"	Flanged	18-7/8	14-1/2	4-1/2	17-1/8	7-5/8	—	—	100	BI 1295
CB-4G	117118	4"	Grooved	16-5/8	15-1/8	2-1/4	17-1/8	7-5/8	—	—	76	BI 1295B
CB-5F	117113	5"	Flanged	20-7/16	16	5	18-3/8	8-3/8	—	—	120	BI 1295D
CB-5G	117119	5"	Grooved	18-7/32	17-1/8	2-3/4	18-7/8	8-3/8	—	—	92	BI 1295F
CB-6F	117114	6"	Flanged	22-5/8	18	5-1/2	20-3/8	9-3/4	—	—	197	BI 1295H
CB-6G	117120	6"	Grooved	20-7/16	19	3-5/16	20-7/8	9-3/4	—	—	171	BI 1295K
CB-8F	117115	8"	Flanged	26-3/8	21-1/2	6-3/4	23-5/8	12-3/4	—	—	327	BI 1295M
CB-8G	117121	8"	Grooved	24	22-1/2	4-5/16	23-5/8	12-3/4	—	—	281	BI 1295P
CB-10F	117420	10"	Flanged	31-3/4	25-1/2	8	28-1/2	14-1/2	—	—	455	BI 1295S
CB-10G	117422	10"	Grooved	29-1/8	26-1/2	5-3/8	28-1/2	14-1/2	—	—	302	BI 1295U
CB-12F	117421	12"	Flanged	35-7/8	30	9-1/2	31-3/8	17-1/4	—	—	695	BI 1295W
CB-12G	117423	12"	Grooved	32-3/4	31	6-3/8	31-7/8	17-1/4	—	—	470	BI 1295X

Repair Parts for Circuit Setter Balancing Valves

**REPAIR PARTS for
the Flanged
and Grooved
Style
Circuit Setter
Balancing Valves**



Item No.	Description	Model Numbers											
		CB-4F	CB-4G	CB-5F	CB-5G	CB-6F	CB-6G	CB-8F	CB-8G	CB-10F	CB-10G	CB-12F	CB-12G
9	Gasket	BG7800	BG7800	BG7900	BG7900	BG8000	BG8000	BG8100	BG8100	BG8200	BG8200	BG8200A	
8	Bonnet	BG2250	BG2293	BG2251	BG2293A	BG2252	BG2283B	BG2253	BG2293C	—	—	—	—
28	Stem	BG2254	BG2254	BG2255	BG2255	BG2256	BG2256	BG2257	BG2257	—	—	—	—
12	*Disc	BG2258		BG2259		BG2260		BG2261		V50992		V50993	
15	*Seal Ring	BG8516		BG8516A		BG8516B		BG8516C		BG8516D		BG8516E	
16	Seal Retainer	BG2262		BG2263		BG2264		BG2265		—	—	—	—
17	*Jam Nut	BG2601						BG2602					
5	Packing Nut	BG2275						BG2283				—	—
6	Gland Washer	BG2281						BG2289				—	—
7	Packing (4 pieces)	BG2282						BG2290				—	—
18	Readout Valves (2)	BG2560						BG2560		—	—	—	—
21	Retainer Ring	BG2691						BG2693				—	—
23	Retainer Ring	BG2692						BG2694				—	—
26	Retainer Ring	BG2695						BG2695				—	—
22	Retainer Ring	BG2278						BG2286				—	—
27	Bushing	BG2279						BG2287		—	—	—	—
24	Indicator Lock	BG2277						BG2285					
14	*Lock washer	BG2276						BG2284					
13	*Teflon Washer	BG2280						BG2288					
19	*Set Screw	BG2650											

* When replacing the Disc: All parts shown with the asterisk (*) are needed.

B&G Check-Trol™ Pump Valve & Balancing Kits

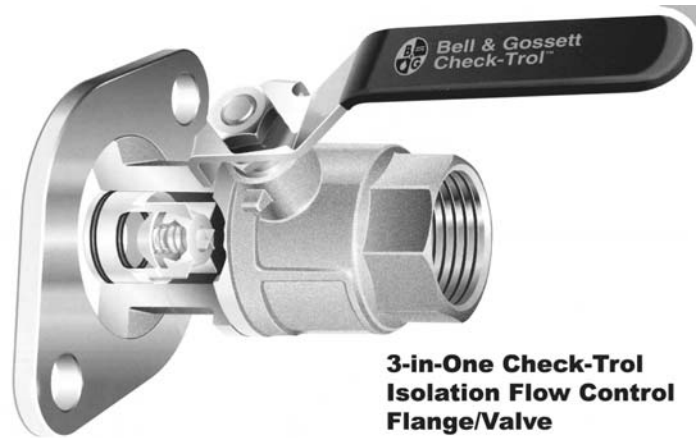
Install the new 3-in-1 Check-Trol™ Pump Valve

The new B&G Check-Trol isolation valve is placed on both sides of the booster pump. **It works as three pump control components in one:**

1. The isolation ball valve provides easy servicing access.
2. The flow control valve is built into the isolation valve, and prevents unwanted gravity circulation, pressure drops and maintenance problems.
3. The free-floating companion flange on the end of the valve allows for easy alignment to the piping.

It's never been simpler to install a flow control valve, an isolation valve and a companion flange — They are now an all-in-one product!

The free-floating companion flange makes pump access and servicing easy. And with the flow control valve built into the Check-Trol™ valve, preventing system pressure drops and maintenance problems, a separate flow control valve is no longer needed.

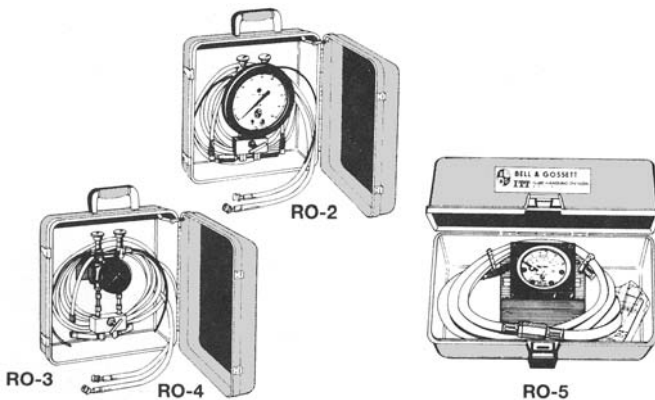


3-in-One Check-Trol Isolation Flow Control Flange/Valve



Model No.	Size	Where Used	Order No.
CTF-3/4	3/4" NPT X Flange	NRF/NBF/SSF Wet Rotors Series PL-30, PL-36, PL-55, Series 100, PR and LR	101231
CTF-1	1" NPT x Flange		101232
CTF-1-1/4	1 1/4" NPT x Flange		101233
CTF-1HV	1" NPT-HV x Flange	PL-45, PL-50 and HV Series	101234
CTF-1-1/4HV	1 1/4" NPT-HV x Flange		101235
CTFS-3/4	3/4" SWT X Flange	NRF/NBF/SSF Wet Rotors Series PL-30, PL-36, PL-55, Series 100, PR and LR	101236
CTFS-1	1" SWT x Flange		101237
CTFS-1-1/4	1 1/4" SWT x Flange		101238
CTFS-1HV	1" SWT-HV x Flange	PL-45, PL-50 and HV Series	101239
CTFS-1-1/4HV	1 1/4" SWT-HV x Flange		101240

Read-Out Kits for Correct System Balancing



These B&G Read-Out Kits are designed to determine the correct system balancing when connected to B&G Circuit Setter balancing valves, Circuit Setter flow meters and Triple-Duty valves.

They may also be used to check differential pressures across other system components including B&G pumps, suction diffusers, strainers, coils, etc.

All Read-Out Kits feature full over-range protection. The kits are equipped with hoses, read-out probes, carrying case and the Circuit Setter "Balance Valve Calculator," helping you determine the proper balance for your system.

Maximum Operating Temp:
235° F. Liquids and gases compatible with Nylon, Viton, Buna N., Brass, Aluminum and 316 Stainless Steel.

Maximum Operating Press:
250 psig.

* Accuracy at Full Scale.

Model No.	SCALE			Hose Length (feet)	Order No.
	Range Feet of Water	Increments Feet of Water	*Accuracy + or— %		
RO-2	0-100	0.5	.5	10	BI 1309X
RO-3	0-16	1.0	1.0	10	BI 1309Y
RO-4	0-35	1.0	1.0	10	BI 1309Z
RO-5 Dual Scale	0-25 and 0-0.7kg/cm	0-5 ft @ 1.25 ft. 5-25 ft. @ 1.0 ft. 0.05 kg/cm	3.0	5	BI 1310

B&G Three-in-One Triple-Duty Valves

The Bell & Gossett Triple-Duty valve allows you to replace the check valve, shut-off valve and balancing valve with the **Three-in-One Triple-Duty Valve!** Check-out these features:

- ▶ **CHECK VALVE;** Non-slam, drip-tight.
 - ▶ **SHUT-OFF VALVE;** Positive shut-off.
 - ▶ **BALANCING VALVE;** For system balancing.
- Standard soft-seat design for positive sealing.
 - Low pressure drop across the valve.
 - Flow monitoring.
 - Can be “re-packed” under full system pressure.
 - Available in straight/angle patterns; straight pattern; angle pattern.
 - Choose from threaded, flanged or grooved connections.

Made of heavy-duty cast iron. Features replaceable bronze disc with EPDM insert, chatter-preventing spring and brass read-out valves to allow accurate balancing of the system.

**3D
Angle**



**3D
Straight**



**3D
Groove**



3DX



Maximum Design Pressure: 175 psig
Maximum Design Temperature: 250° F.



3DX Triple-Duty Straight/Angle Valves

Model No.	Pipe Size	Order No.
Standard NPT Pipe Connections		
3DX-1	1"	BI 2000
3DX-1¼	1¼"	BI 2001
3DX-1½	1½"	BI 2002



Model 3D Straight Triple-Duty Valves

Model No.	Pipe Size	Order No.
Flanged Pipe Connections		
3DS-2S	2	BI 2015
3DS-2½S	2½	BI 2016
3DS-3S	3	BI 2017
3DS-4S	4	BI 2018
3DS-5S	5	BI 2019
3DS-6S	6	BI 2020
3DS-8S	8	BI 2021
3DS-10S	10	BI 2022



Model 3D Angle Pattern Triple-Duty Valves

Model No.	Pipe Size	Order No.
Flanged Pipe Connections		
3D-2S	2	BI 2003
3D-2½S	2½	BI 2004
3D-3S	3	BI 2005
3D-4S	4	BI 2006
3D-5S	5	BI 2007
3D-6S	6	BI 2008
3D-8S	8	BI 2009
3D-10S	10	BI 2010

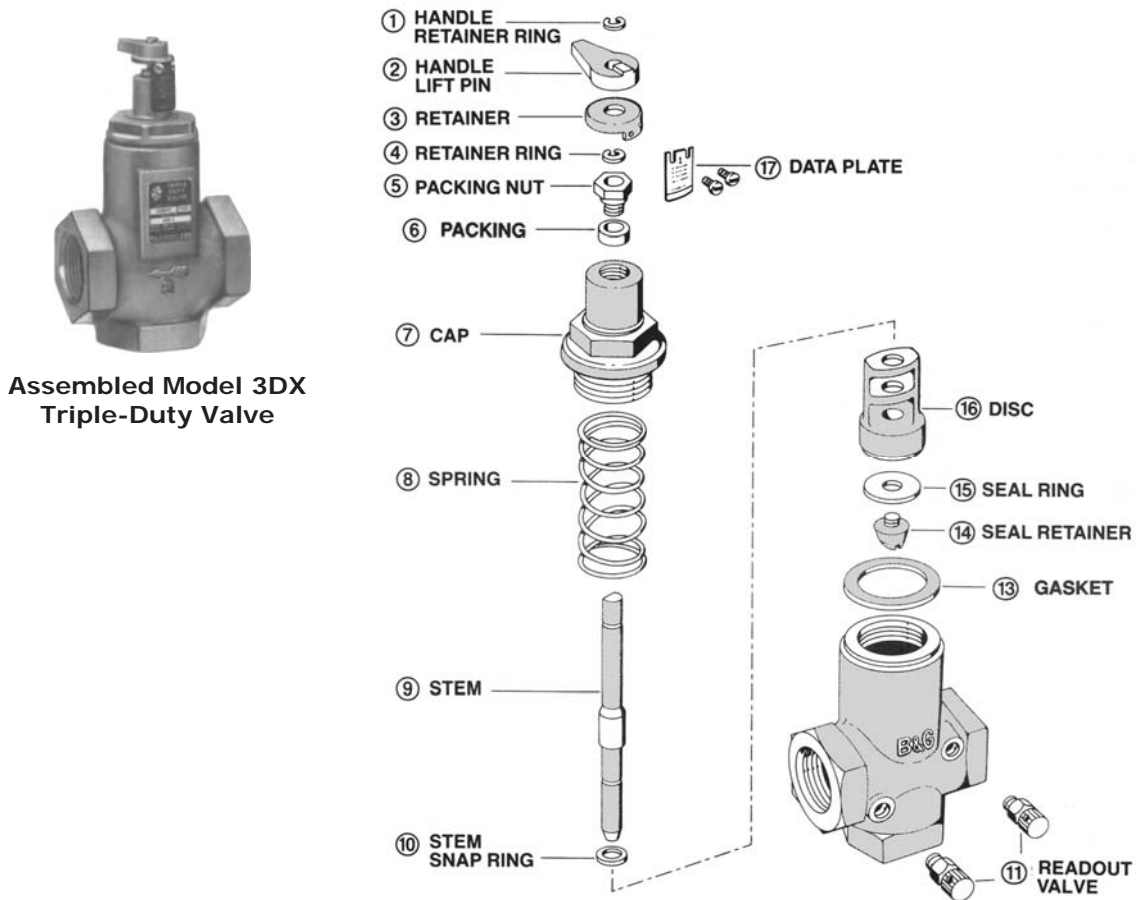


Model 3D Groove-Joint Triple-Duty Valves

Model No.	Pipe Size	Order No.
Groove-Joint Connections		
3DS-2G	2	BI 2024
3DS-2½G	2½	BI 2025
3DS-3G	3	BI 2026
3DS-4G	4	BI 2027
3DS-5G	5	BI 2028
3DS-6G	6	BI 2029
3DS-8G	8	BI 2030
3DS-10G	10	BI 2031

Repair Parts found on the following pages.

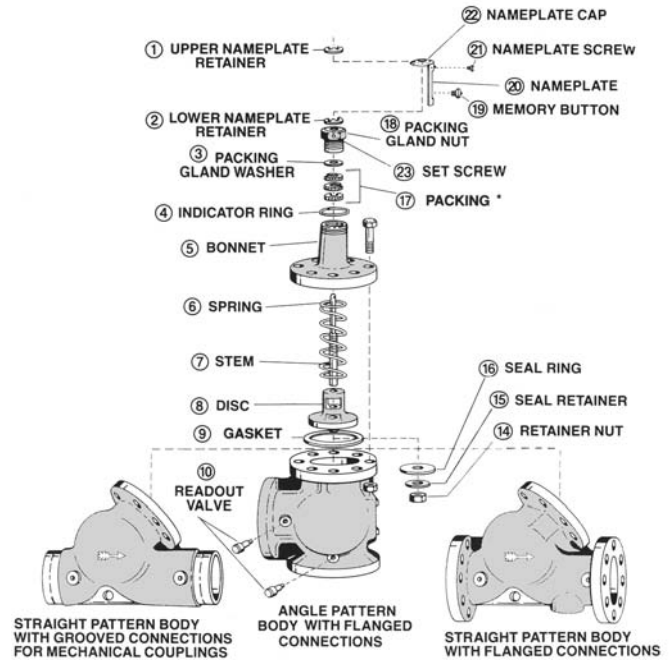
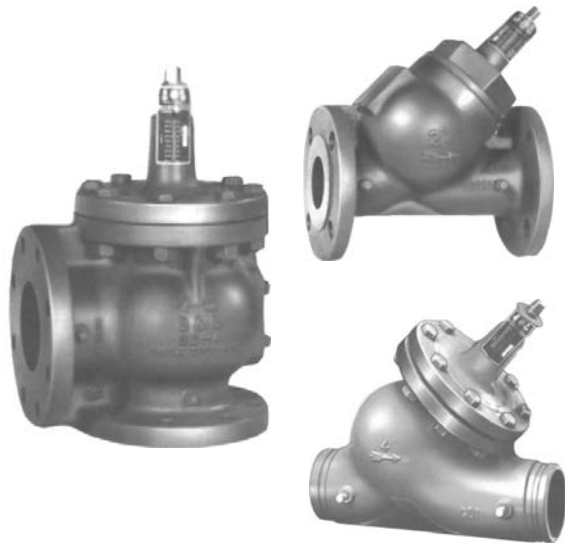
Repair Parts for 3DX Triple-Duty Valves



Assembled Model 3DX Triple-Duty Valve

Item No.	Part Description	3DX-1	3DX-1¼	3DX-1½
11	Read-out Valve Set (2)	BG2560		
	Read-out Probe Set (2)	BG2562		
Pre-Assembled Replacement Valve Assembly Consisting of the parts shown below:		BG1336C	BG1336A	BG1336B
9	Stem	BG8505	BG8505A	BG8505B
16	Disc	BG8500L	BG8500M	BG8500N
15	Seal Ring	BG8506	BG8506A	BG8506B
14	Seal Retainer	BG8500	BG8800	BG8500B
8	Spring	BG8530	BG8530B	BG8530C
7	Cap	BG8500	BG8500G	BG8500K
13	Gasket	BG2040	BG2050	BG2060
6	Packing	F10000	F10000	F10000
5	Packing Nut	BG1815		
17	Data Plate	BG8508		
2	Handle Lift Pin	BG1830		
1	Handle Retainer Ring	BG2020		
10	Stem Snap Ring	BG1802		
4	Retainer Ring	BG2690		
3	Retainer	BG8500P		

Repair Parts for 3D Triple-Duty Valves



Part Item No.	Part Description	Triple-Duty Valve Model Numbers								
		3D-2S	3D-2½S	3D-3S	3D-4S	3D-5S	3D-6S	3D-8S	3D-10S	
		3DS-2S	13DS-2½S	3DS-3S	3DS-4S	3DS-5S	3DS-6S	3DS-8S	3DS-10S	
		3DS-2G	13DS-2½G	3DS-3G	3DS-4G	3DS-5G	3DS-6G	3DS-8G	3DS-10G	
Replacement Part Order Numbers										
7	Stem	BG8515K		BG8515M	BG8515N	BG8515P	BG8515R	BG8515S	BG8515T	
8	Disc*	BG8515	BG8515 1BG8515A	BG8515B	BG8515C	BG8515D	BG8515E	BG8515F	BG8515G	
16	Seal Ring*	BG8515X	BG8515X 1BG8515Y	BG8515Z	BG8516	BG8516A	BG8516B	BG8516C	BG8516D	
15	Seal Retainer*	BG8516G		BG8516K	BG8516L	BG8516M	BG8516N	BG8516P		
14	Retainer Nut*	BG2600			BG2601			BG2602		
6	Spring	BG8516U		BG8516V	BG8516W		BG8516X	BG8516Y	BG8516Z	
5	Bonnet	BG8536		BG8536D	BG8536F	BG8536H	BG8536K	BG8536M	BG8536P	
9	Gasket	BG1960		BG1890	BG7800	BG7900	BG8000	BG8100	BG8200	
17	Packing	BG1860			BG8531F (Order 3 each)					
18	Packing Gland Nut	BG1850			BG8538B					
3	Packing Gland Washer	—	—	—	BG8538C					
20	Nameplate	BG8520	BG8520A	BG8520B	BG8520C	BG8520D	BG8520E	BG8520F	BG8520G	
1	Upper Nameplate Ret.	BG8531			BG8531A					
2	Lower Nameplate Ret.	BG8531C			BG8531D					
22	Nameplate Cap	BG8535			BG8535C					
21	Nameplate Screw	BG2670								
4	Indicator Ring	BG8538			BG8538A					

*When replacing the Disc all four parts (disc, seal ring, seal retainer and retainer nut) are necessary.

Bell & Gossett Pump Suction Diffusers

Suction Diffusers

are an angle-pattern, flow-straightening fitting that combines a diffuser-strainer, orifice cylinder and full length straightening vanes to provide ideal flow conditions for the pump suction. Sizes from 1-1/2" to 10" in NPT, flanged and grooved connections.

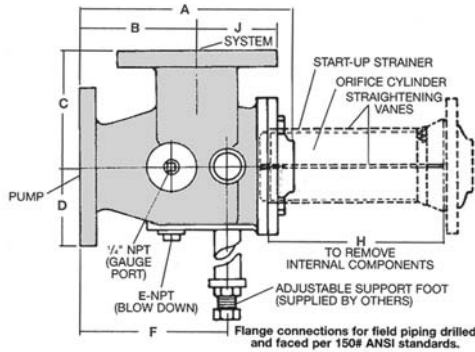
- Maximum pressure is 175 psig.

- Cast iron body, steel straightening vanes and orifice cylinder are standard.

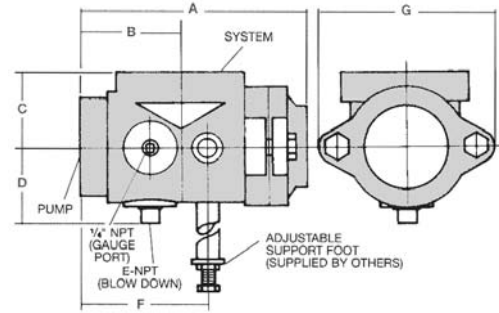
- SS straightening vanes and orifice cylinder are optional.

- A bronze start-up strainer is standard.

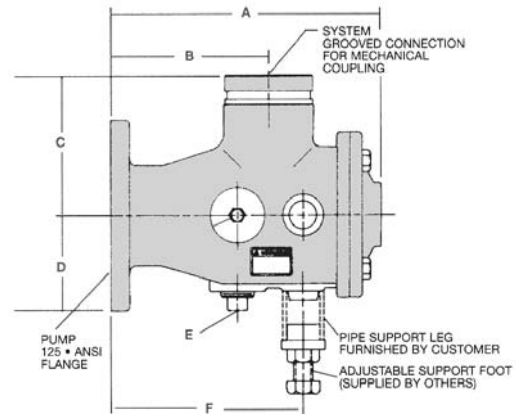
- All internal components are replaceable.



Flanged Model



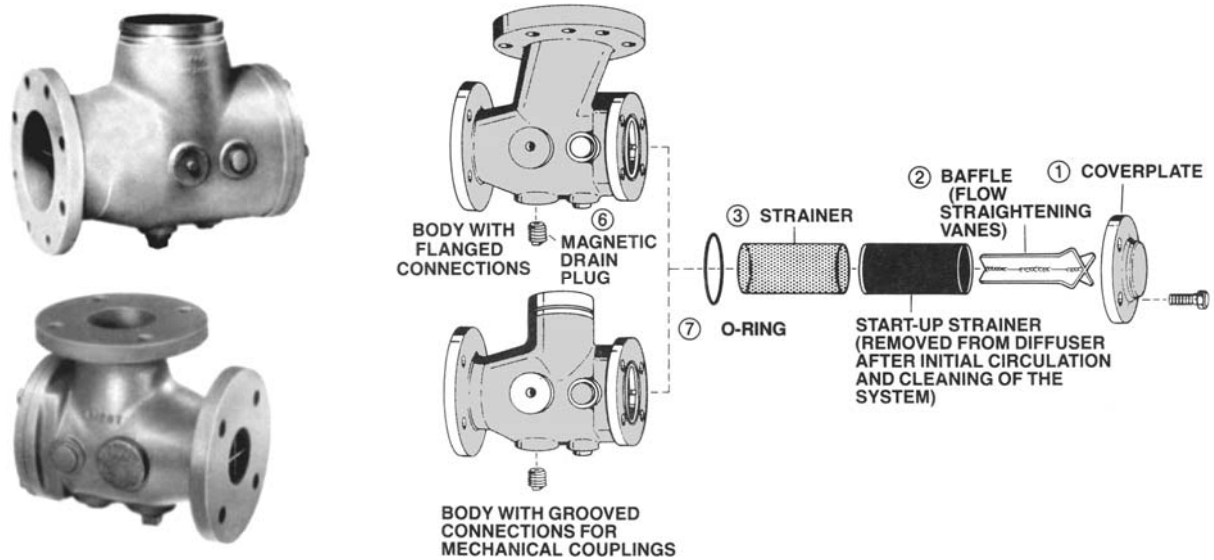
NPT Pipe Size Model



Grooved to Flange Model

Model No.	System Side	Pump Side	Dimensions (inches) for NPT & Flanged Cast Iron Models										Ship Wt. lbs.	Order No.
			A	B	C	D	E	F	G	H	J			
BA-3	2" npt	1 1/2" npt	6-13/16	3	2-1/4	2-3/8	3/4	3-13/16	5-1/4	8	NA	13	BI 2200	
BB-3	2" npt	2" npt	8-3/8	3-7/8	2-3/4	2-3/4	3/4	3-7/8	5-3/4	9	NA	14	BI 2201	
CB-3	2 1/2" flg	2" npt	8-3/8	3-7/8	2-3/4	2-3/4	3/4	3-7/8	5-3/4	9	NA	16	BI 2202	
CC-3	2 1/2" npt	2 1/2" flg	9	4-3/4	4-3/4	3-1/2	3/4	5-5/8	NA	11	3-1/2	36	BI 2203	
DA-3	3" npt	1 1/2" npt	8-3/8	3-7/8	2-3/4	2-3/4	3/4	3-7/8	5-3/4	9	NA	17	BI 2204	
DB-3	3" npt	2" npt	8-3/8	3-7/8	2-3/4	2-3/4	3/4	3-7/8	5-3/4	9	NA	17	BI 2205	
DC-3	3" flg	2 1/2" flg	9	5	5	3-1/2	3/4	5-5/8	NA	11	3-3/4	44	BI 2206	
DD-3	3" flg	3" flg	10	5-1/2	5-1/2	3-3/4	1	6-7/8		12	3-3/4	48	BI 2207	
EC-3	4" flg	2 1/2" flg	9	6-1/2	6-1/2	3-1/2	3/4	5-5/8		11	4-1/2	42	BI 2208	
ED-3	4" flg	3" flg	10	6-1/2	6-1/2	3-3/4	1	6-7/8		13	4-1/2	55	BI 2209	
EE-3	4" flg	4" flg	12-5/8	6-1/2	6-1/2	4-1/2	1	7-5/8		14	4-1/2	72	BI 2210	
FE-3	5" flg	4" flg	12-5/8	7-1/2	7-1/2	4-1/2	1	7-5/8		15	5	84	BI 2211	
FF-3	5" flg	5" flg	14-1/4	7-1/2	7-1/2	5	1-1/4	9		15	5	100	BI 2212	
GE-3	6" flg	4" flg	12-5/8	8	8	4-1/2	1	7-5/8		15	5-1/2	90	BI 2213	
GF-3	6" flg	5" flg	14-1/4	8	8	5	1-1/4	9		15	5-1/2	105	BI 2214	
GG-3	6" flg	6" flg	16-3/8	8	8	5-1/2	1-1/4	10-1/8		17	5-1/2	134	BI 2215	
HG-3	8" flg	6" flg	16-3/8	9	9	5-1/2	1-1/4	10-1/8		18	6-3/4	150	BI 2216	
HH-3	8" flg	8" flg	20-1/2	9	9	6-3/4	1-1/4	11		21	6-3/4	250	BI 2217	
Dimensions (inches) for Ductile Iron Models with Grooved System & Flanged Pump Connections														
SDG-2 1/2	2 1/2" grv	2 1/2" grv	9-13/16	5-9/16	4-3/4	3-1/2	3/4	6-7/16		NA	11	1-7/16	26	BI 2220
SDG-3	3" grv	3" grv	10-13/16	6-5/16	5-1/2	3-3/4	1	7-11/16			12	1-3/4	37.5	BI 2221
SDG-4	4" grv	4" grv	13-1/2	7-3/8	6-1/2	4-1/2	1	8-1/2			14	2-1/4	65	BI 2222
SDG-5	5" grv	5" grv	15-1/8	8-3/8	7-1/2	5	1-1/4	9-7/8			15	2-13/16	90	BI 2223
SDG-6	6" grv	6" grv	17-3/8	9	8	5-1/2	1-1/4	11-1/8	17		3-5/16	127	BI 2224	
SDG-8	8" grv	8" grv	21-3/4	10-1/4	9	6-3/4	1-1/4	12-1/4	21		4-5/16	218	BI 2225	
SDG-10	10" grv	10" grv	26-5/8	12-3/8	11	8	1-1/4	14-7/8	25		5-3/8	338	BI 2226	

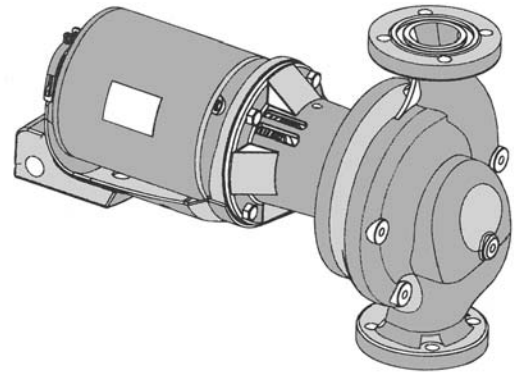
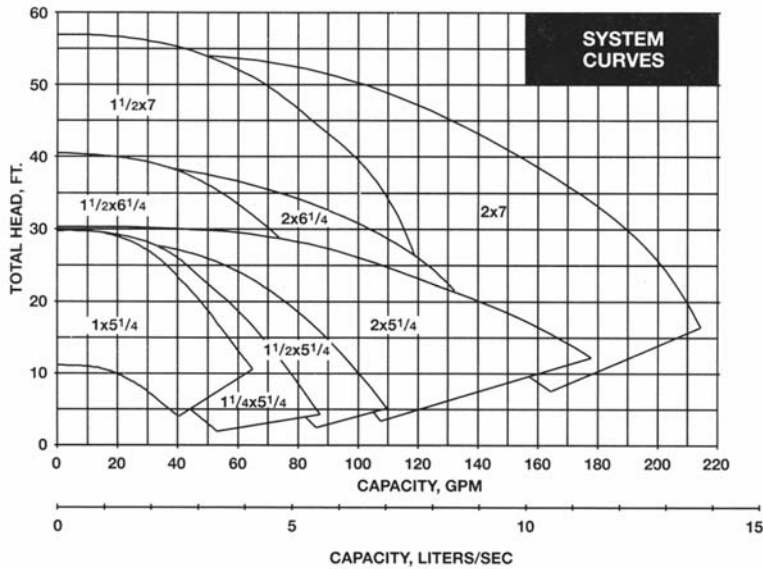
Repair Parts for Pump Suction Diffusers



Suction Diffuser Model No.	Baffle (#2)		Strainer (#3)		O-Ring (#7)	Cover Plate (#1)	Drain Plug (#6)
	Steel	304SS Steel	Steel	304SS Steel			
SDG 2½	—	BG1511K	—	BG1513W	BG2791	BG1510W	PM1900
SDG 3	—	BG1511L	—	BG1513P	BG2780	BG1510X	PM1905
SDG 4	—	BG1511M	—	BG1513R	BG2781	BG1510Y	PM1905
SDG 5	—	BG1511N	—	BG1513S	BG2792	BG1510Z	PM1910
SDG 6	—	BG1511P	—	BG1513T	BG2793	BG1511G	PM1910
SDG 8	—	BG1511R	—	BG1513U	BG2794	BG1511H	PM1910
SDG 10	—	BG1511S	—	BG1513V	BG2795	BG1511J	PM1910
BA-3	BG1514	BG1514J	BG1513C	BG1513M	BG2790	BG1511U	PM1900
BB-3	BG1514A	BG1514K	BG1513D	BG1513N	BG2791	BG1511V	PM1900
CB-3	BG1514A	BG1514K	BG1513D	BG1513N	BG2791	BG1511V	PM1900
CC-3	BG1514B	BG1511K	BG1513L	BG1513W	BG2791	BG1511V	PM1900
DA-3	BG1514A	BG1514K	BG1513C	BG1513N	BG2791	BG1511V	PM1900
DB-3	BG1514A	BG1514K	BG1513C	BG1513N	BG2791	BG1511V	PM1900
*DC-3	BG1514B	BG1511K	BG1513L	BG1513W	BG2791	BG1511V	PM1900
DD-3	BG1514C	BG1511L	BG1513E	BG1513P	BG2780	BG1511W	PM1905
ED-3	BG1514C	BG1511L	BG1513E	BG1513P	BG2780	BG1511W	PM1905
EE-3	BG1514D	BG1511M	BG1513F	BG1513R	BG2781	BG1511X	PM1905
FE-3	BG1514D	BG1511M	BG1513F	BG1513R	BG2781	BG1511X	PM1905
FF-3	BG1514E	BG1511N	BG1513G	BG1513S	BG2792	BG1511Y	PM1910
GE-3	BG1514D	BG1511M	BG1513F	BG1513R	BG2781	BG1511X	PM1905
GF-3	BG1514E	BG1511N	BG1513G	BG1513S	BG2792	BG1511Y	PM1910
GG-3	BG1514F	BG1511P	BG1513H	BG1513T	BG2793	BG1511Z	PM1910
HG-3	BG1514F	BG1511P	BG1513H	BG1513T	BG2793	BG1511Z	PM1910
HH-3	BG1514G	BG1511R	BG1513J	BG1513U	BG2794	BG1513A	PM1910
JH-3	BG1514G	BG1511R	BG1513J	BG1513U	BG2794	BG1513A	PM1910
JJ-3	BG1514H	BG1511S	BG1513K	BG1513V	BG2795	BG1513B	PM1910

* Manufactured after January, 1983 — No. 115039

New B&G Series 60 "Red" Circulating Pumps



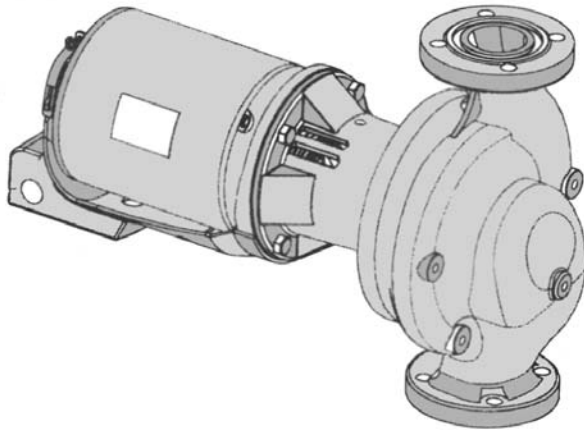
Complete Series 60 Cast Iron Red Pumps for Space Heating

Maximum Working Pressure: 175 psig
Maximum Working Temperature: 225° F.

The new series 60 pumps replaced the "old" series 60 pumps in 1999. These new pumps are **maintenance free** — No need to oil the bearing assembly or motor. They are red in color with a cast iron "bronze fitted" pump body. They are used for circulating heated water for space heating requirements. Select from pumps with either Single-Phase (115/230 volt) or Three-Phase (208-230/460 volt) open drip-proof motors running at 1750 rpm. The bronze body pumps, found on the next page, are used for heating potable domestic water — water that may be used in kitchens, restrooms, etc. **Use bronze body pumps (on next page) when pumping domestic water.**

New Style Pump Model No.	Replaces the "Old" Style Model No.	Pump Size Suction x Discharge x Full Size Impeller	Motor HP	Impeller Diameter trimmed for pump capacity	B&G Pump ID No. 1-Phase	Single Phase 115/230V Pump Order No.	B&G Pump ID No. 3-Phase	Three Phase 208-230/460V Pump Order No.	Efficient Range of Pumping Capacity with impeller shown gpm = gallons per minute FH = feet of pumping head
601		1 x 1 x 5 1/4	1/4	4.38"	172701	BH1024L	172725	BH1024M	42gpm/11FH to 15gpm/17FH
602		1 x 1 x 5 1/4	1/3	4.84"	172702	BH1024R	172726	BH1024S	47gpm/12FH to 15gpm/23FH
603		1 x 1 x 5 1/4	1/2	5.25"	172703	BH1024W	172727	BH1024	40gpm/10FH to 15gpm/25FH
604	60-11	1 1/4 x 1 1/4 x 5 1/4	1/4	4.38"	172707	BH1025	172731	BH1025B	55gpm/10FH to 20gpm/19FH
605		1 1/4 x 1 1/4 x 5 1/4	1/3	4.84"	172708	BH1025C	172732	BH1025D	62gpm/13FH to 20gpm/24FH
606		1 1/4 x 1 1/4 x 5 1/4	1/2	5.25"	172667	BH1025G	172733	BH1025H	67gpm/16FH to 22gpm/29FH
607		1 1/2 x 1 1/2 x 5 1/4	1/3	4.38"	172712	BH1025L	172737	BH1025M	68gpm/11FH to 25gpm/19FH
608	60-13	1 1/2 x 1 1/2 x 5 1/4	1/2	4.94"	172713	BH1026B	172738	BH1027B	72gpm/16FH to 25gpm/24FH
609		1 1/2 x 1 1/2 x 5 1/4	3/4	5.25"	172668	BH1027D	172739	BH1027E	85gpm/15FH to 25gpm/29FH
610		2 x 2 x 5 1/4	1/2	4.12"	172717	BH1027J	172743	BH1027K	123gpm/9FH to 34gpm/17FH
611	60-14	2 x 2 x 5 1/4	3/4	4.75"	172718	BH1028	172744	BH1029	150gpm/11FH to 33gpm/24FH
612		2 x 2 x 5 1/4	1	5.25"	172669	BH1057A	172745	BH1057B	170gpm/14FH to 35gpm/30FH
621	60-15	1 1/2 x 1 1/2 x 6 1/4	1/2	4.88"	172755	BH1092	172756	BH1092	85gpm/13FH to 25gpm/24FH
613		1 1/2 x 1 1/2 x 6 1/4	3/4	5.75"	172722	BH1060	172749	BH1061	103gpm/16FH to 33gpm/26FH
614		1 1/2 x 1 1/2 x 6 1/4	1	6.25"	172670	BH1061B	172750	BH1061C	112gpm/20FH to 40gpm/28FH
615		2 x 2 x 6 1/4	3/4	5.62"	172723	BH1061F	172751	BH1061G	128gpm/13FH to 29gpm/30FH
616	60-19	2 x 2 x 6 1/4	1	6.22"	172671	BH1061K	172752	BH1061L	148gpm/16FH to 32gpm/38FH
622	60-16	1 1/2 x 1 1/2 x 7	3/4	5.50"	172757	BH1093	172759	BH1093	63gpm/21FH to 36gpm/28FH
623		1 1/2 x 1 1/2 x 7	1	6.00"	172758	BH1062	172760	BH1063	76gpm/25FH to 37gpm/36FH
617	60-17	1 1/2 x 1 1/2 x 7	1 1/2	6.50"	172724	BH1061M	172753	BH1061N	91gpm/24FH to 33gpm/46FH
618		1 1/2 x 1 1/2 x 7	2	7.00"	—	—	172672	BH1089	110gpm/31FH to 35gpm/56FH
624		2 x 2 x 7	1	5.69"	172761	BH1095	172763	BH1095	142gpm/16FH to 38gpm/32FH
625	60-20	2 x 2 x 7	1 1/2	6.12"	172762	BH1096	172764	BH1096A	162gpm/18FH to 40gpm/38FH
619	60-21	2 x 2 x 7	2	6.50"	—	—	172754	BH1090	180gpm/22FH to 43gpm/45FH
620	60-22	2 x 2 x 7	3	7.00"	—	—	172673	BH1091	190gpm/25FH to 45gpm/53FH

New B&G Series 60 "Bronze" Circulating Pumps



The new bronze body Bell & Gossett Series 60 in-line centrifugal pumps are specially-built to pump potable water (water a person may come in contact with or consume) to restrooms, kitchens, etc. They are maintenance free: The bearing assembly and motor are permanently lubricated. They have higher operating efficiencies while delivering a quiet & smooth performance.

These pumps have **bronze bodies** & are **bronze in color**.

Maximum Working Pressure: 175 psig.

Maximum Working Temperature: 225° F.

Special Seals available for working at temperatures up to 250° F.

In 1999 these pumps replaced the old Series 60 pumps.

The repair parts for the old, obsolete Series 60 pump models, along with these new style pumps, can be found on the pages that follow.

Complete "Bronze Body" Series 60 Pumps for Potable Domestic Water

These "bronze body" pumps are used for circulating heated water to restrooms, kitchens, showers, laundries, etc. Select from pumps with either Single-Phase (115/230 volt) or Three-Phase (208-230/460 volt) open drip-proof motors running at 1750 rpm. You must use bronze body pumps when circulating potable domestic water: Domestic water is any water being pumped to restrooms, kitchens, laundry rooms, etc. Any pumped water that may come in contact, either directly or indirectly, with humans (good folks like us) must come from a bronze-fitted pump. All bearing assemblies are bronze-fitted. **See previous page for pumping capacities.**

B&G Pump Model No.	Pump Size Suction x Discharge x Full Size Impeller	Motor HP	Impeller Diameter trimmed for pump capacity	B&G Pump ID No. 1-Phase	Single Phase 115/230V Pump Order No.	B&G Pump ID No. 3-Phase	Three Phase 208-230/460V Pump Order No.	Efficient Range of Pumping Capacity with impeller shown gpm = gallons per minute FH = feet of pumping head
B601	1 x 1 x 5¼	1/4	4.38"	172704	BH1024J	172728	BH1024K	42gpm/11FH to 15gpm/17FH
B602	1 x 1 x 5¼	1/3	4.84"	172705	BH1024N	172729	BH1024P	47gpm/12FH to 15gpm/23FH
B603	1 x 1 x 5¼	1/2	5.25"	172706	BH1024T	172730	BH1024U	40gpm/10FH to 15gpm/25FH
B604	1¼ x 1¼ x 5¼	1/4	4.38"	172709	BH1026A	172734	BH1025T	55gpm/10FH to 20gpm/19FH
B605	1¼ x 1¼ x 5¼	1/3	4.84"	172710	BH1025E	172735	BH1025F	62gpm/13FH to 20gpm/24FH
B606	1¼ x 1¼ x 5¼	1/2	5.25"	172711	BH1025J	172736	BH1025K	67gpm/16FH to 22gpm/29FH
B607	1½ x 1½ x 5¼	1/3	4.38"	172714	BH1025N	172740	BH1025P	68gpm/11FH to 25gpm/19FH
B608	1½ x 1½ x 5¼	1/2	4.94"	172715	BH1022A	172741	BH1027C	72gpm/16FH to 25gpm/24FH
B609	1½ x 1½ x 5¼	3/4	5.25"	172716	BH1027F	172742	BH1027G	85gpm/15FH to 25gpm/29FH
B610	2 x 2 x 5¼	1/2	4.12"	172719	BH1027L	172746	BH1027M	123gpm/9FH to 34gpm/17FH
B611	2 x 2 x 5¼	3/4	4.75"	172720	BH1056	172747	BH1057	150gpm/11FH to 33gpm/24FH
B612	2 x 2 x 5¼	1	5.25"	172721	BH1057C	172748	BH1057D	170gpm/14FH to 35gpm/30FH
B614	1½ x 1½ x 6¼	1	4.875"		BH1060D		BH1060E	112gpm/20FH to 40gpm/28FH
B615	2 x 2 x 6¼	3/4	5.625"		BH1061H		BH1061J	128gpm/13FH to 29gpm/30FH
B621	1½ x 1½ x 6¼	1/2	4.875"		BH1092B		BH1092C	85gpm/13FH to 25gpm/24FH

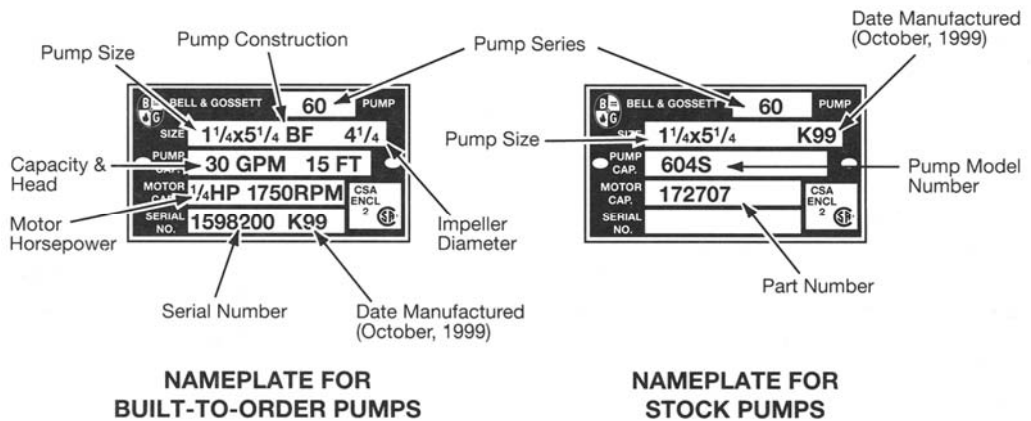
Repair parts for both old and new design series 60 pumps are found on the following pages.

Repair Parts for New Series 60 Bell & Gossett Pumps

New B&G Series 60 pumps first manufactured in 1999.

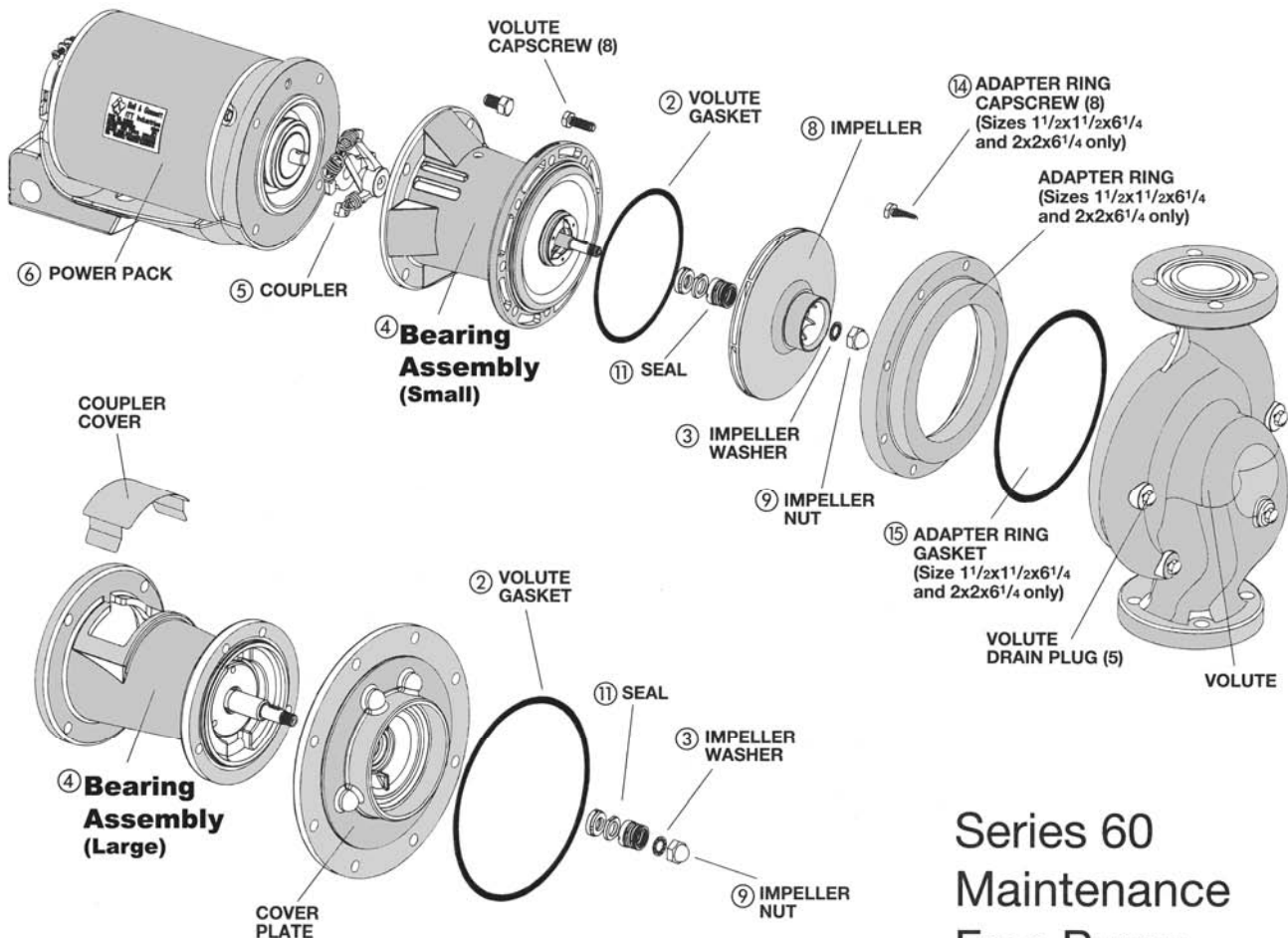
Pump Nameplate identifies the pump model for replacement or repair.

When ordering a replacement impeller, you must determine the impeller's diameter.



New B&G Series 60 Repair Parts Diagram

The repair part diagrams below work in conjunction with the **Repair Parts Ordering Tables** found on the following pages. Please note: If you need to order a replacement impeller, be careful to provide the correct impeller diameter. The second dimension for the "Pump Size" (on the nameplate above) is the impeller diameter — In the example nameplate above, the impeller diameter is shown as 5 1/4". If this nameplate is missing, the "original" bearing assembly has already been replaced — You will then need to measure the actual outside diameter of the current impeller or provide the pumping requirements (gpm @ ft/hd) for the pump.



Series 60
Maintenance
Free Pump

Repair Parts for New Series 60 Bell & Gossett Pumps

REPAIR PART Note by letter TABLE INFORMATION (See previous page to reference the Item Parts Diagram)

a) The Bearing Assembly is “bronze fitted” and fits both the cast iron (red) and bronze body pumps. They are pre-assembled with the seal kit (#11) attached and the volute gasket (#2) included. **b)** The pump flanges are sold separately. Order 2 each to replace your set of current pump flanges. **c)** Includes the bolts and nuts (set of 4) to fasten one pump flange to your piping. Not included with pump flanges. **d)** Replace the Motor Mounts (at each end of most motors) every time you replace a pump coupler. **e)** Specify impeller size if different from size shown in chart below.

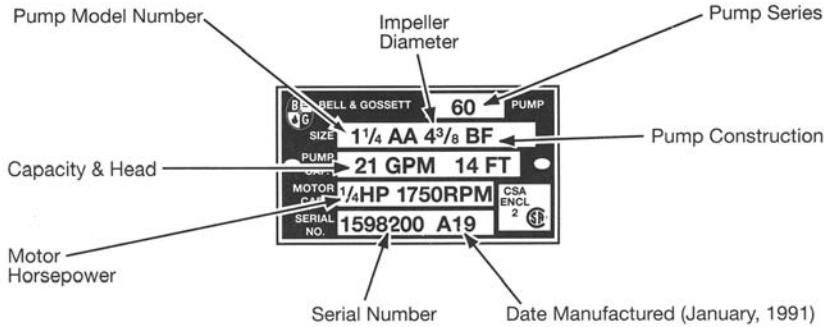
B&G Model No.	Equivalent Pump Size	HP	Impeller Diam.	a) Item #4 Bearing Assembly	Item #6 Motor, 1 PH 115/230V	Item #6 Motor, 3 PH 208-230/460	d) Motor Mounts Set of Two	Item #5 Pump Coupler	Item #11 Seal Kit	Item #2 Volute Gasket	Item #15 Adpt. Ring Gasket
601	1 x 1 x 5/4	1/4	4.38"	185332	BG1346E	BG1346F	BG1160	BG1240	BG1300	BG1555	—
602	1 x 1 x 5/4	1/3	4.84"	185332	BG1346G	BG1346H	BG1160	BG1240	BG1300	BG1555	—
603	1 x 1 x 5/4	1/2	5.25"	185332	BG1346J	BG1346K	BG1160	BG1240	BG1300	BG1555	—
604	1 1/4 x 1 1/4 x 5/4	1/4	4.38"	185332	BG1346E	BG1346F	BG1160	BG1240	BG1300	BG1555	—
605	1 1/4 x 1 1/4 x 5/4	1/3	4.84"	185332	BG1346G	BG1346H	BG1160	BG1240	BG1300	BG1555	—
606	1 1/4 x 1 1/4 x 5/4	1/2	5.25"	185332	BG1346J	BG1346K	BG1160	BG1240	BG1300	BG1555	—
607	1 1/2 x 1 1/2 x 5/4	1/3	4.38"	185332	BG1346G	BG1346H	BG1160	BG1240	BG1300	BG1555	—
608	1 1/2 x 1 1/2 x 5/4	1/2	4.94"	185332	BG1346J	BG1346K	BG1160	BG1240	BG1300	BG1555	—
609	1 1/2 x 1 1/2 x 5/4	3/4	5.25"	185332	BG1346L	BG1346M	BG1160	BG1240	BG1300	BG1555	—
610	2 x 2 x 5/4	1/2	4.12"	185332	BG1346J	BG1346K	BG1160	BG1240	BG1300	BG1555	—
611	2 x 2 x 5/4	3/4	4.75"	185332	BG1346L	BG1346M	BG1160	BG1240	BG1300	BG1555	—
612	2 x 2 x 5/4	1	5.25"	185332	BG1346N	BG1346P	BG1336	BG1361J	BG1300	BG1555	—
613	1 1/2 x 1 1/2 x 6/4	3/4	5.75"	185332	BG1346L	BG1346M	BG1160	BG1240	BG1300	BG1555	BG1560P
614	1 1/2 x 1 1/2 x 6/4	1	6.25"	185332	BG1346N	BG1346P	BG1336	BG1361J	BG1300	BG1555	BG1560P
615	2 x 2 x 6/4	3/4	5.62"	185332	BG1346M	BG1346M	BG1160	BG1240	BG1300	BG1555	BG1560P
616	2 x 2 x 6/4	1	6.22"	185332	BG1346N	BG1346P	BG1336	BG1361J	BG1300	BG1555	BG1560P
617	1 1/2 x 1 1/2 x 7	1 1/2	6.50"	185333	BG1346S	BG1346T	—	BG1362	BG1380	BG1560	—
618	1 1/2 x 1 1/2 x 7	2	7.00"	185333	—	BG1346U	—	BG1362	BG1380	BG1560	—
619	2 x 2 x 7	2	6.50"	185333	—	BG1346U	—	BG1362	BG1380	BG1560	—
620	2 x 2 x 7	3	7.00"	185333	—	BG1346R	—	BG1361L	BG1380	BG1560	—
621	1 1/2 x 1 1/2 x 6/4	1/2	4.88"	185333	BG1346J	BG1346K	BG1160	BG1240	BG1300	BG1555	BG1560P
622	1 1/2 x 1 1/2 x 7	3/4	5.50"	185333	BG1346L	BG1346M	BG1160	BG1375	BG1380	BG1560	—
623	1 1/2 x 1 1/2 x 7	1	6.00"	185333	BG1346N	BG1346P	BG1336	BG1361K	BG1380	BG1560	—
624	2 x 2 x 7	1	5.69"	185333	BG1346N	BG1346P	BG1336	BG1361K	BG1380	BG1560	—
625	2 x 2 x 7	1 1/2	6.12"	185333	BG1346S	BG1346T	—	BG1362	BG1380	BG1560	—

Repair Parts Continued for the New Series 60 Pumps . . .

B&G Model No.	Equivalent Pump Size	HP	Impeller Diam.	b) "Red" Pump Flange	b) "Bronze" Pump Flange	c) Flange Bolt Set Set of Four	Flange Gaskets Set of Two	e) Item #8 Impeller	Shaft Impeller Key	Item #9 Impeller Nut	Item #3 Impeller Washer
601	1 x 1 x 5/4	1/4	4.38"	BG1520N	BG1520M	BG1561H	BG1185	BG1713	BG1527	BG1542	BG1521B
602	1 x 1 x 5/4	1/3	4.84"	BG1520N	BG1520M	BG1561H	BG1185	BG1712	BG1527	BG1542	BG1521B
603	1 x 1 x 5/4	1/2	5.25"	BG1520N	BG1520M	BG1561H	BG1185	BG1559E	BG1527	BG1542	BG1521B
604	1 1/4 x 1 1/4 x 5/4	1/4	4.38"	BG1519F	BG1520P	BG1561H	BG1185	BG1713	BG1527	BG1542	BG1521B
605	1 1/4 x 1 1/4 x 5/4	1/3	4.84"	BG1519F	BG1520P	BG1561H	BG1185	BG1712	BG1527	BG1542	BG1521B
606	1 1/4 x 1 1/4 x 5/4	1/2	5.25"	BG1519F	BG1520P	BG1561H	BG1185	BG1559E	BG1527	BG1542	BG1521B
607	1 1/2 x 1 1/2 x 5/4	1/3	4.38"	BG1520R	BG1537	BG1561J	BG1190	BG1716	BG1527	BG1542	BG1521B
608	1 1/2 x 1 1/2 x 5/4	1/2	4.94"	BG1520R	BG1537	BG1561J	BG1190	BG1715	BG1527	BG1542	BG1521B
609	1 1/2 x 1 1/2 x 5/4	3/4	5.25"	BG1520R	BG1537	BG1561J	BG1190	BG1559B	BG1527	BG1542	BG1521B
610	2 x 2 x 5/4	1/2	4.12"	BG1511	BG1361J	BG1561L	BG1195	BG1718	BG1527	BG1542	BG1521B
611	2 x 2 x 5/4	3/4	4.75"	BG1511	BG1361J	BG1561L	BG1195	BG1717	BG1527	BG1542	BG1521B
612	2 x 2 x 5/4	1	5.25"	BG1511	BG1361J	BG1561L	BG1195	BG1559	BG1527	BG1542	BG1521B
613	1 1/2 x 1 1/2 x 6/4	3/4	5.75"	BG1520R	BG1537	BG1561J	BG1190	BG1719	BG1527	BG1542	BG1521B
614	1 1/2 x 1 1/2 x 6/4	1	6.25"	BG1520R	BG1537	BG1561J	BG1190	BG1559H	BG1527	BG1542	BG1521B
615	2 x 2 x 6/4	3/4	5.62"	BG1511	BG1361J	BG1561L	BG1195	BG1720	BG1527	BG1542	BG1521B
616	2 x 2 x 6/4	1	6.22"	BG1511	BG1361J	BG1561L	BG1195	BG1559G	BG1527	BG1542	BG1521B
617	1 1/2 x 1 1/2 x 7	1 1/2	6.50"	BG1520R	BG1537	BG1561J	BG1190	BG1557	BG1547	BG1539A	BG1539F
618	1 1/2 x 1 1/2 x 7	1 1/2	7.00"	BG1520R	BG1537	BG1561J	BG1190	BG1556	BG1547	BG1539A	BG1539F
619	2 x 2 x 7	2	6.50"	BG1511	BG1361J	BG1561L	BG1195	BG1700	BG1547	BG1539A	BG1539F
620	2 x 2 x 7	3	7.00"	BG1511	BG1361J	BG1561L	BG1195	BG1558	BG1547	BG1539A	BG1539F
621	1 1/2 x 1 1/2 x 6/4	1/2	4.88"	BG1520R	BG1537	BG1561J	BG1190	BG1560S	BG1527	BG1542	BG1521B
622	1 1/2 x 1 1/2 x 7	3/4	5.50"	BG1520R	BG1537	BG1561J	BG1190	BG1560T	BG1547	BG1539A	BG1539F
623	1 1/2 x 1 1/2 x 7	1	6.00"	BG1520R	BG1537	BG1561J	BG1190	BG1560U	BG1547	BG1539A	BG1539F
624	2 x 2 x 7	1	5.69"	BG1511	BG1361J	BG1561L	BG1195	BG1560V	BG1547	BG1539A	BG1539F
625	2 x 2 x 7	1 1/2	6.12"	BG1511	BG1361J	BG1561L	BG1195	BG1560Q	BG1547	BG1539A	BG1539F

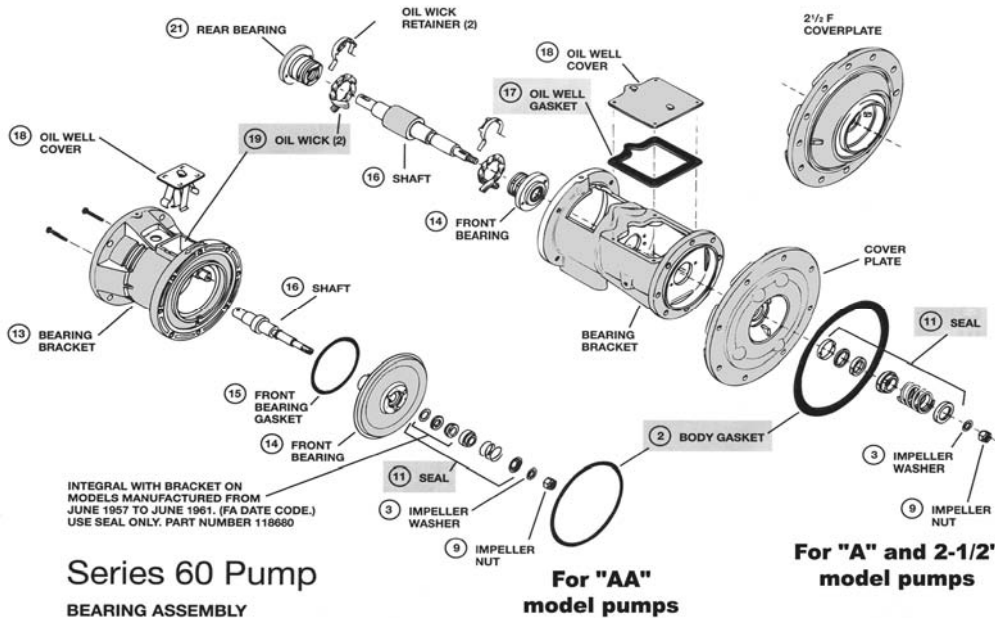
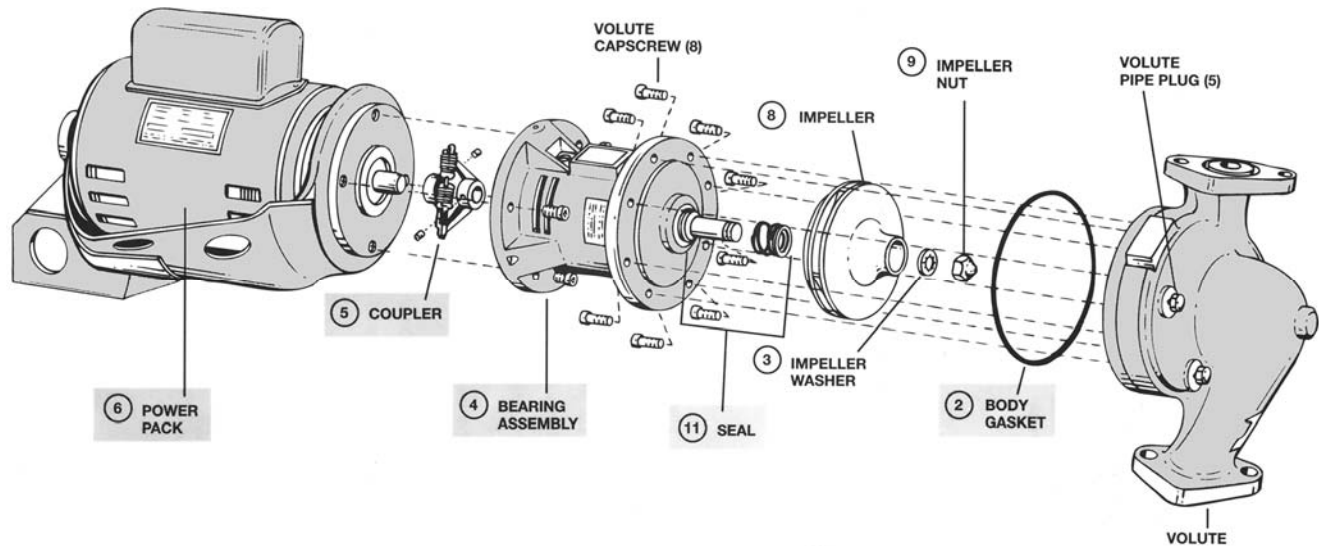
Repair Parts for "Old" Series 60 Bell & Gossett Pumps

Old B&G Series 60 pumps were last manufactured in early 1999. The **Pump Nameplate** identifies the pump for replacement or repair. When ordering a replacement impeller you must determine the impeller's diameter.



The old series 60 pump has diamond-shaped pump flanges.

"Old" B&G Series 60 Repair Parts Diagram



The old Bell & Gossett Series 60 pumps were replaced by the new maintenance free sleeve bearing design series 60 pumps (found on the preceding pages) in early 1999.

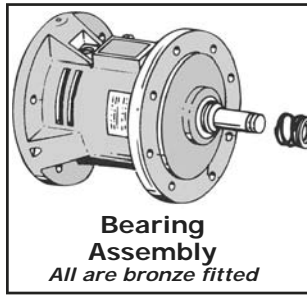
These old style pumps are easily identified by the nameplate on the pump.

Other ways of identifying the pump include looking at the bearing assembly to see if you have an **oil well cover**. The new series 60 pumps are maintenance-free: They do not have an oil well cover because they do not need to be oiled.

Repair Parts for "Old" Series 60 Bell & Gossett Pumps

REPAIR PART Note by Letter INFORMATION (See previous page for Repair Parts Diagram)

a) The Bearing Assembly fits both the cast iron (red) and bronze body pumps. They are pre-assembled with the seal kit (#11) attached. The volute gasket (#2), and a tube of oil are also included. b) The pump flanges are sold separately. Order 2 each to replace your set of current pump flanges. c) Includes the bolts and nuts (set of 2 or 4) to fasten one pump flange to your piping. d) Replace the Motor Mounts (at each end of the motor) every time you replace a coupler. e) Specify impeller size if different from the size shown in the chart below.



The **BEST WAY** to repair your pump (assuming the motor is working fine) is to replace the entire bearing assembly. Sometimes known as the "pump housing," all the new components that actually do the pumping (except for the impeller) are pre-assembled and ready for easy installation.

Order replacement impellers separately.

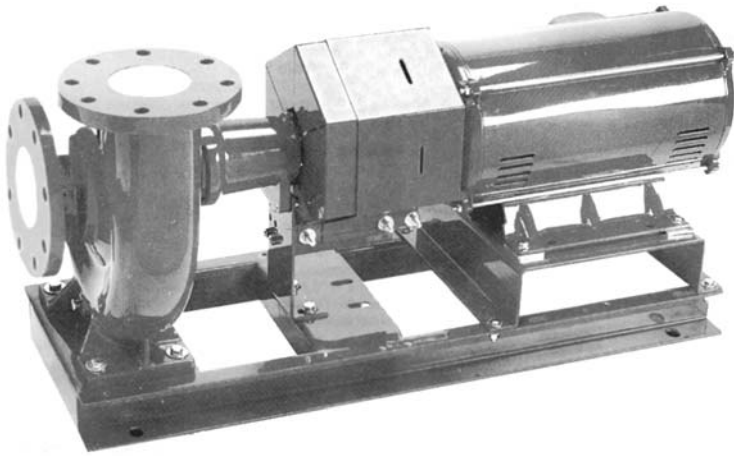
B&G Model No.	Equivalent Pump Size	HP	Impeller Diam.	Item #4 a) Bearing Assembly	Item #6 Motor, 1 PH 115/230V	Item #6 Motor, 3 PH 208-230/460	d) Motor Mounts Set of Two	Item #5 Pump Coupler	Item #11 Seal Kit	Item #2 Body Gasket	Item #19 Oil Wick	Item #18 Oil Well Cover
60-1	1" AA	1/4	5.25"	186863	*BG1339A	BG1338C	BG1160	BG1240	BG1300	BG1555	BG1200	BG1625
60-2	1-1/4" AA	1/3	5.25"	186863	BG1339	BG1339A	BG1160	BG1240	BG1300	BG1555	BG1200	BG1625
60-3	1-1/2" AA	1/2	5.25"	186863	BG1100	BG1105	BG1160	BG1240	BG1300	BG1555	BG1200	BG1625
60-4	2" AA	3/4	5.25"	186863	BG1110	BG1115	BG1160	BG1240	BG1300	BG1555	BG1200	BG1625
60-5	1-1/2" A	1/2	5.75"	4 185260	BG1100	BG1105	BG1160	BG1375	BG1380	BG1555	BG1522	BG1553
60-6	1-1/2" A	3/4	6.5"	4 185260	BG1110	BG1115	BG1160	BG1375	BG1380	BG1555	BG1522	BG1553
60-7	1-1/2" A	1	7"	4 185260	BG1116	BG1342	BG1336	BG1245	BG1380	BG1555	BG1522	BG1553
60-8	2" A	3/4	5.625"	4 185260	BG1110	BG1115	BG1160	BG1375	BG1380	BG1555	BG1522	BG1553
60-9	2" A	1	6.125"	4 185260	BG1116	BG1342	BG1336	BG1245	BG1380	BG1555	BG1522	BG1553
60-10T	2" A	1 1/2	6.75"	4 185260	—	BG1344	BG1336	BG1362	BG1380	BG1555	BG1522	BG1553
60-10S	1" AA	1/4	5.25"	186863	5 BG1340	—	BG1160	BG1240	BG1300	BG1555	BG1200	BG1625
60-11	1-1/4" AA	1/4	5.185"	186863	5 BG1340	BG1338C	BG1160	BG1240	BG1300	BG1555	BG1200	BG1625
60-13	1-1/2" AA	1/2	5.25"	186863	BG1100	BG1105	BG1160	BG1240	BG1300	BG1555	BG1200	BG1625
60-14	2" AA	3/4	5.25"	186863	BG1110	BG1115	BG1336	BG1240	BG1300	BG1555	BG1200	BG1625
60-15	1-1/2" A	1/2	5.75"	4 185260	BG1100	BG1105	BG1160	BG1375	BG1380	BG1555	BG1522	BG1553
60-16	1-1/2" A	3/4	6.375"	4 185260	BG1110	BG1115	BG1160	BG1375	BG1380	BG1555	BG1522	BG1553
60-17	1-1/2" A	1	7"	4 185260	BG1116	BG1342	BG1336	BG1245	BG1380	BG1560	BG1522	BG1553
60-19	2" A	1	6"	4 185260	BG1116	BG1342	BG1336	BG1245	BG1380	BG1560	BG1522	BG1553
60-20	2" A	1 1/2	6.5"	4 185260	BG1340	BG1344	BG1336	BG1362	BG1380	BG1560	BG1522	BG1553
60-21	2" A	2	7"	4 185260	—	BG1346	BG1336	BG1362	BG1380	BG1555	BG1522	BG1553
60-22	2-1/2" F	3	7.75"	185264	—	BG1346C	—	BG1564A	BG1380	BG1560	BG1522	BG1553

⁵ 115 volt only. For 230 volt motor use 169036. ⁴ Use the 185262 bronze bearing assembly if a Bronze body pump is being repaired.

Repair Parts Continued for the Old Series 60 Pumps . . .

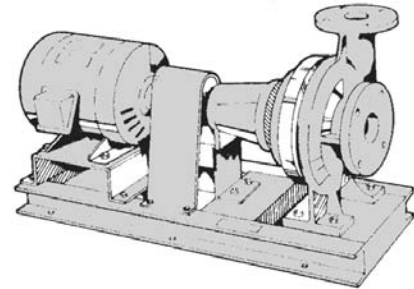
B&G Model No.	Equivalent Pump Size	HP	Impeller Diam.	b)"Red" Pump Flange	b)"Bronze" Pump Flange	c) Flange Bolt Set	Flange Gaskets Set of Two	Note e) Item #8 Impeller	Item #9 Impeller Nut	Item #3 Impeller Washer	Item #16 Shaft	Item #14 Front Bearing	Item #15 Bearing Gasket
60-1	1" AA	1/4	5.25"	BG1520N	BG1520M	BG1561H	BG1185	BG1364	BG1542	BG1552	BG1440	BG1564	BG1615
60-2	1-1/4" AA	1/3	5.25"	BG1519F	BG1520P	BG1561H	BG1185	BG1364	BG1542	BG1552	BG1440	BG1564	BG1615
60-3	1-1/2" AA	1/2	5.25"	BG1520R	BG1537	BG1561H	BG1190	BG1370	BG1542	BG1552	BG1440	BG1564	BG1615
60-4	2" AA	3/4	5.25"	BG1511	BG1511A	BG1561K	BG1195	BG1255	BG1542	BG1552	BG1440	BG1564	BG1615
60-5	1-1/2" A	1/2	5.75"	BG1520R	BG1537	BG1561J	BG1190	BG1552H	BG1543	BG1539E	BG1235	BG1355	—
60-6	1-1/2" A	3/4	6.5"	BG1520R	BG1537	BG1561J	BG1190	BG1552D	BG1543	BG1539E	BG1235	BG1355	—
60-7	1-1/2" A	1	7"	BG1520R	BG1537	BG1561J	BG1190	BG1552D	BG1543	BG1539E	BG1235	BG1355	—
60-8	2" A	3/4	5.625"	BG1511	BG1511A	BG1561K	BG1195	BG1552K	BG1543	BG1539E	BG1235	BG1355	—
60-9	2" A	1	6.125"	BG1511	BG1511A	BG1561K	BG1195	BG1552J	BG1543	BG1539E	BG1235	BG1355	—
60-10T	2" A	1 1/2	6.75"	BG1511	BG1511A	BG1561K	BG1195	BG1552E	BG1543	BG1539E	BG1235	BG1355	—
60-10S	1" AA	1/4	5.25"	BG1520N	BG1520M	BG1561H	BG1185	BG1364	BG1542	BG1552	BG1440	BG1564	BG1615
60-11	1-1/4" AA	1/4	5.185"	BG1519F	BG1520P	BG1561H	BG1185	BG1365	BG1542	BG1552	BG1440	BG1564	BG1615
60-13	1-1/2" AA	1/2	5.25"	BG1520R	BG1537	BG1561J	BG1190	BG1370	BG1542	BG1552	BG1440	BG1564	BG1615
60-14	2" AA	3/4	5.25"	BG1511	BG1511A	BG1561K	BG1195	BG1255	BG1542	BG1552	BG1440	BG1564	BG1615
60-15	1-1/2" A	1/2	5.75"	BG1520R	BG1537	BG1561J	BG1190	BG1552H	BG1543	BG1539E	BG1235	BG1355	—
60-16	1-1/2" A	3/4	6.375"	BG1520R	BG1537	BG1561J	BG1190	BG1552G	BG1543	BG1539E	BG1235	BG1355	—
60-17	1-1/2" A	1	7"	BG1520R	BG1537	BG1561J	BG1190	BG1552D	BG1543	BG1539E	BG1235	BG1355	—
60-19	2" A	1	6"	BG1511	BG1511A	BG1561K	BG1195	BG1552K	BG1543	BG1539E	BG1235	BG1355	—
60-20	2" A	1 1/2	6.5"	BG1511	BG1511A	BG1561K	BG1195	BG1552J	BG1543	BG1539E	BG1235	BG1355	—
60-21	2" A	2	7"	BG1511	BG1511A	BG1561K	BG1195	BG1552E	BG1543	BG1539E	BG1235	BG1355	—
60-22	2-1/2" F	3	7.75"	—	—	—	—	BG1558D	BG1543	BG1539E	BG1235	BG1355	—

Bell & Gossett Series 1510 Centrifugal Pumps



◀ **NEW STYLE** 1510 series pumps have the new Hex Guard pump coupler protection shield.

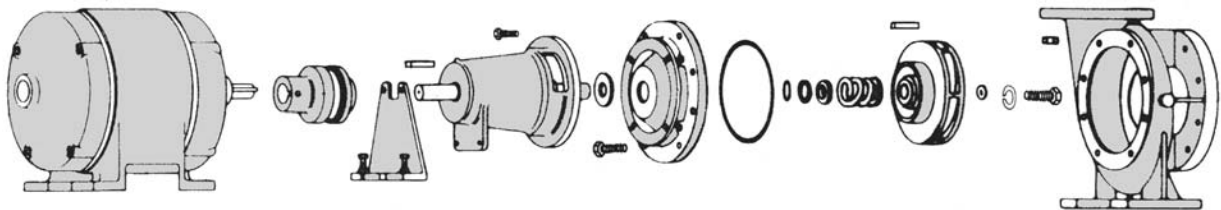
▼ **OLD STYLE** 1510 series pumps have the standard guard pump coupler protection shield.



Call for complete 1510 pump sizing, pricing and availability. You can also view complete pump submittal forms and sizing information, including pump curves and dimensions at our website!

We'll build and ship your new B&G Series 1510 pump in as little as 3 to 4 days.

A trained pump assembly team will build your 1510 series pump according to the specifications you provide. No longer do you need to wait as long as 4 weeks to get your pump from the factory — Call today and your pump will be shipped from one of our facilities in as little as 3 to 4 days!

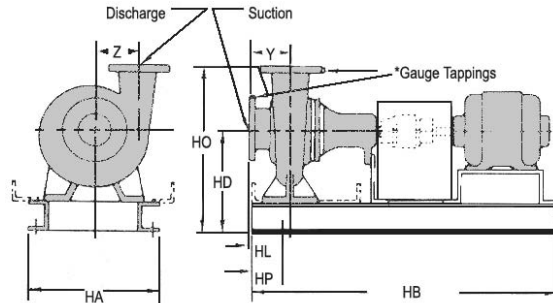


Call today for *Fast Shipping*
and *Competitive Pricing* on
your 1510 series pump!

Bell & Gossett Series 1510 Centrifugal Pumps

3 to 4-DAY SHIPPING!

Why wait 3-4 weeks? We'll ship your complete new series 1510 pump in days!



*Gauge Tapping Sizes: 1/8" for NPT; 1/4" for flanged pumps.

Motor Horsepower & Related Motor Frame Size Three Phase Motors ■ Open Drip-Proof Enclosure					
HP	Frame Size @ 1750rpm	Frame Size @ 3500rpm	HP	Frame Size @ 1750rpm	Frame Size @ 3500rpm
1/2	56	—	20	256T	254T
3/4	56	—	25	284T	256T
1	143T	—	30	286T	284TS
1-1/2	145T	—	40	324T	286TS
2	145T	145T	50	326T	324TS
3	182T	145T	60	364T	326TS
5	184T	182T	75	365T	364TS
7-1/2	213T	184T	100	404TS	365TS
10	215T	213T	125	—	404TS
15	254T	215T	—	—	—

* The **Upper Level Efficient Pumping Capacity** below is based on the designated size of the pump's impeller and horsepower. For complete pump capacity information go to the website shown on the front cover.

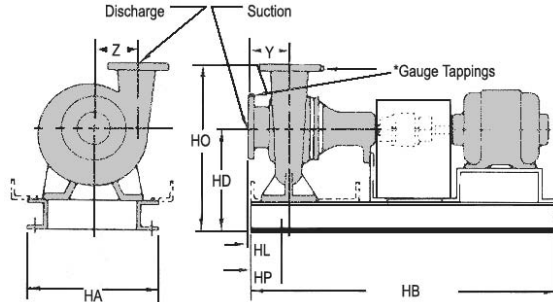
Better yet, give us a call! We can ship in as little as 3 to 4 days!

Pump Order Number 1750 rpm motor 208-230/460V	Pump Sizes, Horsepower-Frame and Impeller Sizes				Pump Dimensions (inches)								*Upper Level Efficient Pumping Capacity
	Pump Model & Discharge	Pump Suction	Impeller Diameter	Motor HP & Frame Size	HA	HB	HD	HL	HO	HP	Y	Z	
A.125AC.50.55	1 1/4 AC 1 1/4" NPT Threaded	1 1/2" NPT Threaded	5.5"	1/2HP, 56	12	28-3/4	9-3/4	3-1/8	14-3/4	3	3-1/4	4-1/2	27 gpm @ 33 ft/hd
A.125AC.75.60			6.0"	1/2HP, 56				44 gpm @ 37 ft/hd					
A.125AC.1.65			6.5"	1HP, 143T				55 gpm @ 42 ft/hd					
A.125AC.150.70			7.0"	1.5HP, 145T				77 gpm @ 42 ft/hd					
A.125BC.150.75	1 1/4 BC 1 1/4" NPT Threaded	1 1/2" NPT Threaded	7.5"	1.5HP, 145T	14-5/8	31	10-3/4	1-13/16	18-3/4	3	3-1/4	5-1/2	62 gpm @ 52 ft/hd
A.125BC.2.80			8.0"	2HP, 145T									75 gpm @ 57 ft/hd
A.125BC.3.925			9.25"	3HP, 182T									80 gpm @ 83 ft/hd
A.150AC.75.55	1 1/2 AC 1 1/2" NPT Threaded	1 1/2" NPT Threaded	5.5"	3/4HP, 56	12	28-3/4	9-3/4	3-1/16	15-3/4	3	3-1/8	4-5/8	62 gpm @ 28 ft/hd
A.150AC.1.55			5.5"	1HP, 143T									75 gpm @ 35 ft/hd
A.150AC.150.65			6.5"	1.5HP, 145T									110 gpm @ 37 ft/hd
A.150AC.2.70			7.0"	2HP, 145T									127 gpm @ 43 ft/hd
A.150BC.2.75	1 1/2 BC 1 1/2" NPT Threaded	2" NPT Threaded	7.5"	2HP, 145T	14-5/8	31	10-3/4	1-11/16	17-1/4	3	3-1/8	5-3/4	88 gpm @ 55 ft/hd
A.150BC.3.85			8.5"	3HP, 182T									84 gpm @ 75 ft/hd
A.150BC.5.85			8.5"	5HP, 184T									131 gpm @ 95 ft/hd
A.2AC.75.55	2 AC 2" Flanged Discharge	2 1/2" Flanged Suction	5.5"	3/4HP, 56	12	28-3/4	9-3/4	3-9/16	16-1/4	3	3-1/2	4-3/4	55 gpm @ 28 ft/hd
A.2AC.1.60			6.0"	1HP, 56									68 gpm @ 38 ft/hd
A.2AC.150.65			6.5"	1.5HP, 145T									105 gpm @ 37 ft/hd
A.2AC.2.70			7.0"	2HP, 145T									122 gpm @ 43 ft/hd
A.2BC.2.75	2 BC 2" Flanged Discharge	2 1/2" Flanged Suction	7.5"	2HP, 145T	14-5/8	31	10-3/4	2-11/16	17-3/4	3	4	5-7/8	80 gpm @ 48 ft/hd
A.2BC.3.90			9.0"	3HP, 182T									81 gpm @ 84 ft/hd
A.2BC.5.95			9.5"	5HP, 184T									143 gpm @ 93 ft/hd
A.2E.5.10	2E 2" Flanged Discharge	3" Flanged Suction	10.0"	5HP, 184T	16	42-1/4	14	6-1/2	22	5	5-1/2	6-1/2	115 gpm @ 102 ft/hd
A.2E.750.105			10.5"	7.5HP, 213T									190 gpm @ 106 ft/hd
A.2E.10.11			11.0"	10HP, 215T									248 gpm @ 112 ft/hd
A.2G.750.105	2G 2" Flanged Discharge	3" Flanged Suction	10.5"	7.5HP, 213T	16	46-1/2	14	3-7/8	23	5	5-1/2	7-1/4	175 gpm @ 100 ft/hd
A.2G.10.115			11.5"	10HP, 215T									192 gpm @ 122 ft/hd
A.2G.15.130			13.0"	15HP, 254T									217 gpm @ 170 ft/hd
A.2G.20.135			13.5"	20HP, 256T									293 gpm @ 165 ft/hd
A.250AB.1.55	2 1/2 AB 2 1/2" Flanged Discharge	3" Flanged Suction	5.5"	1HP, 143T	12	28-3/4	9-3/4	4-3/8	15-3/4	3	4-1/4	4-11/16	87 gpm @ 28 ft/hd
A.250AB.150.60			6.0"	1.5HP, 145T									127 gpm @ 32 ft/hd
A.250AB.2.65			6.5"	2HP, 145T									147 gpm @ 38 ft/hd
A.250AB.3.70			7.0"	3HP, 182T									243 gpm @ 37 ft/hd
A.250BB.3.725	2 1/2 BB 2 1/2" Flanged Discharge	3" Flanged Suction	7.25"	3HP, 182T	14-5/8	31	10-3/4	2-3/4	17-1/2	3	4	6	167 gpm @ 47 ft/hd
A.250BB.5.80			8.0"	5HP, 184T									220 gpm @ 67 ft/hd
A.250BB.750.95			9.5"	7.5HP, 213T									270 gpm @ 83 ft/hd
A.3AC.50.55	3 AC 3" Flanged Discharge	4" Flanged Suction	5.5"	1.5HP, 145T	12	28-3/4	9-3/4	4-5/16	15-3/4	3	4-1/8	5	135 gpm @ 25 ft/hd
A.3AC.2.60			6.0"	2HP, 145T									160 gpm @ 32 ft/hd
A.3AC.3.65			6.5"	3HP, 182T									255 gpm @ 36 ft/hd
A.3BC.5.75	3 BC 3" Flanged Discharge	4" Flanged Suction	7.5"	5HP, 184T	14-5/8	31	10-3/4	3-11/16	18-1/4	3	4-3/4	6-1/8	285 gpm @ 50 ft/hd
A.3BC.750.85			8.5"	7.5HP, 213T									360 gpm @ 63 ft/hd
A.3BC.10.90			9.0"	10HP, 215T									475 gpm @ 66 ft/hd
A.3E.750.95	3E 3" Flanged Discharge	4" Flanged Suction	9.5"	7.5HP, 213T	16	42-1/4	14	6-11/16	23-1/2	5	5-1/2	7-3/8	250 gpm @ 85 ft/hd
A.3E.10.10			10"	10HP, 215T									325 gpm @ 92 ft/hd
A.3E.15.11			11"	15HP, 254T									425 gpm @ 107 ft/hd

More Bell & Gossett 1510 Centrifugal Pumps

3 to 4-DAY SHIPPING!

Why wait 3-4 weeks when we'll ship your complete new series 1510 pump in 3 to 4 days!



*Gauge Tapping Sizes: 1/8" for NPT, 1/4" for flanged pumps.

Motor Horsepower & Related Motor Frame Size Three Phase Motors ■ Open Drip-Proof Enclosure					
HP	Frame Size @ 1750rpm	Frame Size @ 3500rpm	HP	Frame Size @ 1750rpm	Frame Size @ 3500rpm
1/2	56	—	20	256T	254T
3/4	56	—	25	284T	256T
1	143T	—	30	286T	284TS
1-1/2	145T	—	40	324T	286TS
2	145T	145T	50	326T	324TS
3	182T	145T	60	364T	326TS
5	184T	182T	75	365T	364TS
7-1/2	213T	184T	100	404TS	365TS
10	215T	213T	125	—	404TS
15	254T	215T	—	—	—

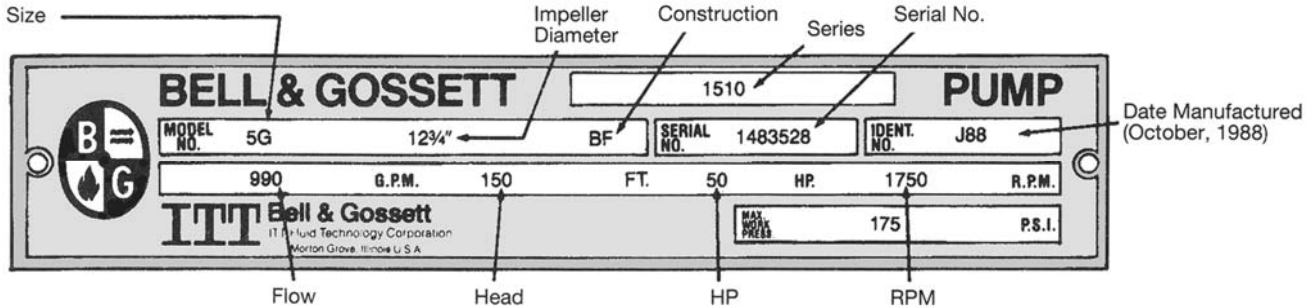
* The **Upper Level Efficient Pumping Capacity** below is based on the designated size of that specific pump's impeller. For complete pump capacity information go to [the website shown on the front cover](#).

Better yet, give us a call! We'll ship your pump in only 3 to 4 days!

Pump Order Number 1750 rpm motor 208-230/460V	Pump Sizes, Horsepower-Frame and Impeller Diameters				Pump Dimensions (inches)								*Upper Level Efficient Pumping Capacity
	Pump Model & Discharge	Pump Suction	Impeller Diameter	Motor HP & Frame Size	HA	HB	HD	HL	HO	HP	Y	Z	
A.3G.10.105	3G 3" Flanged Discharge	4" Flanged Suction	10.5"	10HP, 215T	16	46-1/2	14	4-1/8	23-1/2	5	5-5/8	8	280 gpm @ 100 ft/hd
A.3G.15.115			11.5"	15HP, 254T									385 gpm @ 112 ft/hd
A.3G.20.125			12.5"	20HP, 256T									420 gpm @ 140 ft/hd
A.3G.25.13			13.0"	25HP, 284T									515 gpm @ 148 ft/hd
A.3G.30.135			13.5"	30HP, 286T									590 gpm @ 154 ft/hd
A.4AC.3.60	4AC 4" Flanged	5" Flanged	6.0"	3HP, 182T	14-5/8	31	10-3/4	4-5/16	18-1/4	3	4-15/16	5-3/4	250 gpm @ 33 ft/hd
A.4AC.5.65			6.5"	5HP, 184T									470 gpm @ 35 ft/hd
A.4BC.750.80	4BC 4" Flanged Discharge	5" Flanged Suction	8.0"	7.5HP, 213T	14-5/8	34-5/8	12-3/4	4	20-3/4	3	5	7	400 gpm @ 56 ft/hd
A.4BC.10.85			8.5"	10HP, 215T									570 gpm @ 61 ft/hd
A.4BC.15.90			9.0"	15HP, 254T									600 gpm @ 75 ft/hd
A.4E.10.95	4E 4" Flanged Discharge	5" Flanged Suction	9.5"	10HP, 215T	16	42-1/4	14	6-11/16	23-3/4	5	5-9/16	7-1/4	355 gpm @ 82 ft/hd
A.4E.15.105			10.5"	15HP, 254T									475 gpm @ 98 ft/hd
A.4E.20.11			11.0"	20HP, 256T									610 gpm @ 105 ft/hd
A.4GB.15.105	4GB 4" Flanged Discharge	5" Flanged Suction	10.5"	15HP, 254T	16	46-1/2	15	5-3/8	25	5	6	8-9/16	410 gpm @ 105 ft/hd
A.4GB.20.115			11.5"	20HP, 256T									465 gpm @ 130 ft/hd
A.4GB.25.12			12.0"	25HP, 284T									570 gpm @ 135 ft/hd
A.4GB.30.125			12.5"	30HP, 286T									640 gpm @ 145 ft/hd
A.4GB.40.135			13.5"	40HP, 324T									735 gpm @ 170 ft/hd
A.5A.5.65	5A 5" Flanged	6" Flanged	6.5"	5HP, 184T	14-5/8	31	12-3/4	5-3/4	21-1/4	3	5-13/16	6-1/4	400 gpm @ 33 ft/hd
A.5A.750.70			7.0"	7.5HP, 213T									640 gpm @ 37 ft/hd
A.5BC.10.80	5BC 5" Flanged Discharge	6" Flanged Suction	8.0"	10HP, 215T	16	46-1/2	15	4-9/16	25	5	6	7-1/2	425 gpm @ 57 ft/hd
A.5BC.15.90			9.0"	15HP, 254T									570 gpm @ 72 ft/hd
A.5BC.20.95			9.5"	20HP, 256T									775 gpm @ 80 ft/hd
A.5E.15.90	5E 5" Flanged Discharge	6" Flanged Suction	9.0"	15HP, 254T	16	46-1/2	15	4-7/16	25-1/2	5	5-7/16	7-15/16	650 gpm @ 72 ft/hd
A.5E.20.10			10.0"	20HP, 256T									690 gpm @ 92 ft/hd
A.5E.25.105			10.5"	25HP, 284T									815 gpm @ 100 ft/hd
A.5E.30.11			11.0"	30HP, 286T									905 gpm @ 110 ft/hd
A.5G.20.105			5G 5" Flanged Discharge	6" Flanged Suction									10.5"
A.5G.25.11	11.0"	25HP, 284T			690 gpm @ 112 ft/hd								
A.5G.30.115	11.5"	30HP, 286T			760 gpm @ 125 ft/hd								
A.5G.40.12	12.0"	40HP, 324T			850 gpm @ 150 ft/hd								
A.5G.50.13	13.0"	50HP, 326T			1050 gpm @ 155 ft/hd								
A.5G.60.135	13.5"	60HP, 364T	1230 gpm @ 160 ft/hd										
A.6BC.20.80	6BC 6" Flanged Discharge	8" Flanged Suction	8.0"	20HP, 256T	16	46-1/2	15	8-3/8	25-1/2	5	7	8-1/4	1570 gpm @ 37 ft/hd
A.6BC.25.85			8.5"	25HP, 284T									1610 gpm @ 50 ft/hd
A.6BC.30.90			9.0"	30HP, 286T									1450 gpm @ 64 ft/hd
A.6BC.40.95			9.5"	40HP, 324T									1950 gpm @ 72 ft/hd
A.6E.25.95	6E 6" Flanged Discharge	8" Flanged Suction	9.5"	25HP, 284T	24	56	16-1/2	6	27-1/2	6	6-1/8	8-1/2	835 gpm @ 80 ft/hd
A.6E.30.10			10.0"	30HP, 286T									950 gpm @ 88 ft/hd
A.6E.40.105			10.5"	40HP, 324T									1170 gpm @ 96 ft/hd
A.6E.50.11			11.0"	50HP, 326T									1610 gpm @ 105 ft/hd

Repair Parts for B&G Series 1510 Pumps

Find the pump nameplate — on the base of the pump — and you can confidently order the correct repair parts on the following pages!



Once you have found the pump nameplate, record the information and use the Repair Part Ordering Tables on the following pages to obtain the parts you need!

To order the correct repair parts:

1. Determine if your 1510 series pump has an **1-1/4" or 1-5/8" diameter pump shaft at the impeller end** (where the spring water seal kit and impeller are located):

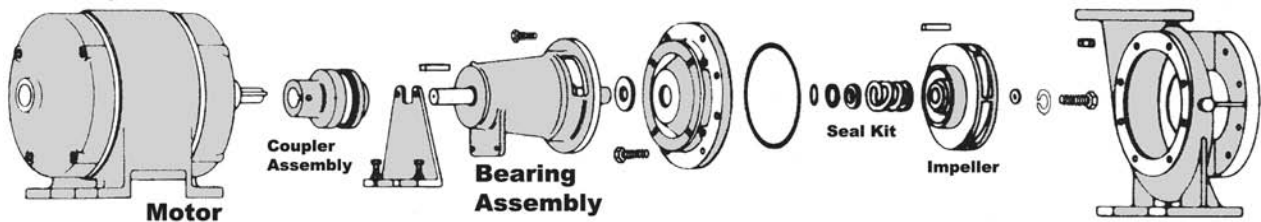
- a). The **BEARING FRAME** (pump housing) number can help in identifying the shaft size:
 - The 185011, 185013 and 186660 bearing frames have a 1-1/4" diameter pump shaft;
 - The 185014 and 185016 bearing frames have a 1-5/8" diameter pump shaft.
- b). The **MOTOR FRAME** Size (located on the motor) can help in identifying the shaft size:
 - See the "Motor Frame Size" chart to the right.
 - Frame sizes 56, 143T, 145T, 182T and 184T all indicate a pump shaft diameter of 1-1/4".
 - Frame sizes of 256T or larger (higher) all indicate a pump shaft size of 1-5/8".

"What's the Shaft Size of my pump?"

The "Motor Frame Size" chart below shows the pump shaft size associated with the frame size shown on the pump motor.

Only if you have a 213T, 215T or 254T motor frame size will you need to physically measure the shaft diameter in order obtain the correct repair parts.

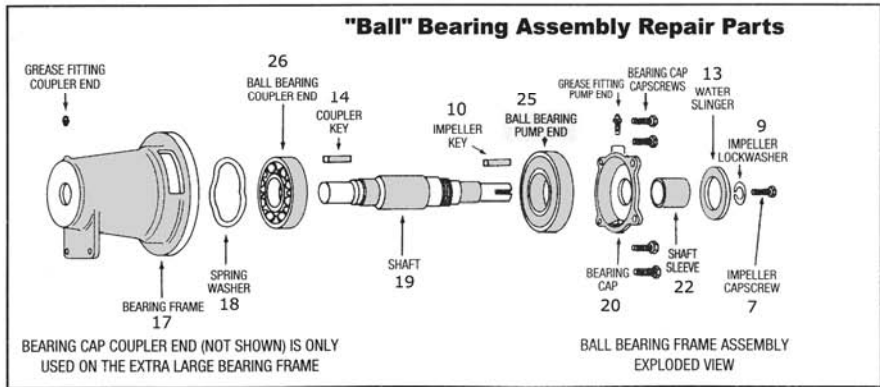
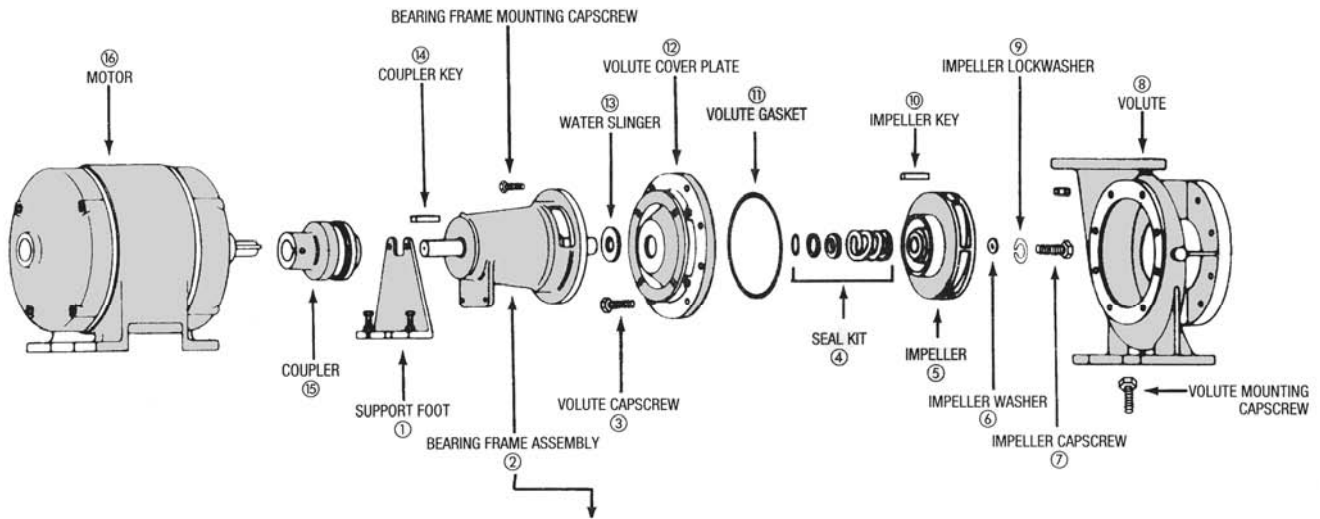
Indicates Pump Shaft Size	Motor Frame Size ending in "T"								
	56	143	145	182	184	213	215	254	256 or Higher
1-1/4"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
1-5/8"	No	No	No	No	No	Yes	Yes	Yes	Yes



TAKE NOTE: The absolute best way to repair the "pumping portion" of your series 1510 pump is to order a replacement Bearing Assembly — All the pumping components (except the impeller) are pre-assembled for easy installation: The seal kit, pump shaft, bearings, etc. are all pre-assembled in a new pump housing according to factory specifications. No need to be concerned with making certain your repairs are "exact."

REPAIR PARTS ORDERING TABLES ON FOLLOWING PAGES

Repair Parts for 1510 with Ball Bearing Assemblies



USED ON LARGE BEARING FRAMES ONLY
MANUF. BEFORE JAN. 1995 (A59)

BEARING LOCKWASHER P77375
BEARING LOCKNUT P76922

Identify by Bearing Frame Assembly and/or Motor Frame Size.		REPAIR PARTS for BALL BEARING FRAME ASSEMBLIES 185011, 185013 and 185014, 185016							
Bearing Assembly	Motor Frame Size Ending in "T"	Bearing Frame Assy. Red	Bearing Frame Assy. Bronze	Item # 11 Volute Gasket	Item # 5 Impeller	Item #10 Impeller Key	Item #6 Impeller Washer	Item #9 Impeller Lock washer	Item #7 Impeller Capscrew
185011 or 185013	56, 143, 145, 182, 184, *213, *215, 254	185011 1 1/4" shaft	185013 1 1/4" shaft	BG1545	See Impeller Selection Chart	4 BG1517X 5 BG1547A	BG1544C	BG1511E	BG1549B
185014 or 185016	*213, *215, *254, 256 or Higher	185014 1 5/8" shaft	185016 1 5/8" shaft				BG1544D		
Bearing Assembly	Motor Frame Size Ending in "T"	Bearing Frame Assy. Red	Bearing Frame Assy. Bronze	Item #16 Motor	Item #15 Complete Coupler	Item #14 Coupler Key	Item # 19/22 Shaft and Sleeve Kit	Item # 25 Ball Bearing, Pump End	Item # 26 Ball Bearing, Coupler End
185011 or 185013	56, 143, 145, 182, 184, *213, *215, *254	185011 1 1/4" shaft	185013 1 1/4" shaft	See Motor Selection Chart	See Coupler Selection Chart	4 BG1517Y 5 BG1546H	BG1361B	BG1513	BG1512
185014 or 185016	*213, *215, *254, 256 or Higher	185014 1 5/8" shaft	185016 1 5/8" shaft				BG1568R (shaft only)		
Bearing Assembly	Motor Frame Size Ending in "T"	Bearing Frame Assy. Red	Bearing Frame Assy. Bronze	Item #13 Water Slinger	Item # 4 Seal Kit	Item #22 Shaft Sleeve Only	Item #1 Volute Cover Plate	Item #18 Spring Washer	Item #20 Bearing Cap
185011 or 185013	56, 143, 145, 182, 184, *213, *215, *254	185011 1 1/4" shaft	185013 1 1/4" shaft	BG1550	BG1415	BG1347	BG1378	BG2710	BG1561T
185014 or 185016	*213, *215, *254, 256 or Higher	185014 1 5/8" shaft	185016 1 5/8" shaft			N/A	BG1551G		

* Locating the Bearing Frame (pump housing) number allows you to accurately determine the pump shaft size. Also, many motor frame sizes indicate a single pump shaft size. However, the motor frame sizes 213T, 215T and 254T indicate the pump shaft size is either 1-1/4" or 1-5/8". In this case, if you have no Bearing Frame number reference, you may need to physically measure the pump shaft.

4 Key (Woodruff) for pumps made up until July 1989 — Check for date code on bearing frame. G98 and before (letter = month; inverted number = year);
5 Key (Straight) for pumps made after August 1989 — Check for date code on bearing frame. H98 and after (letter = month; inverted number = year)

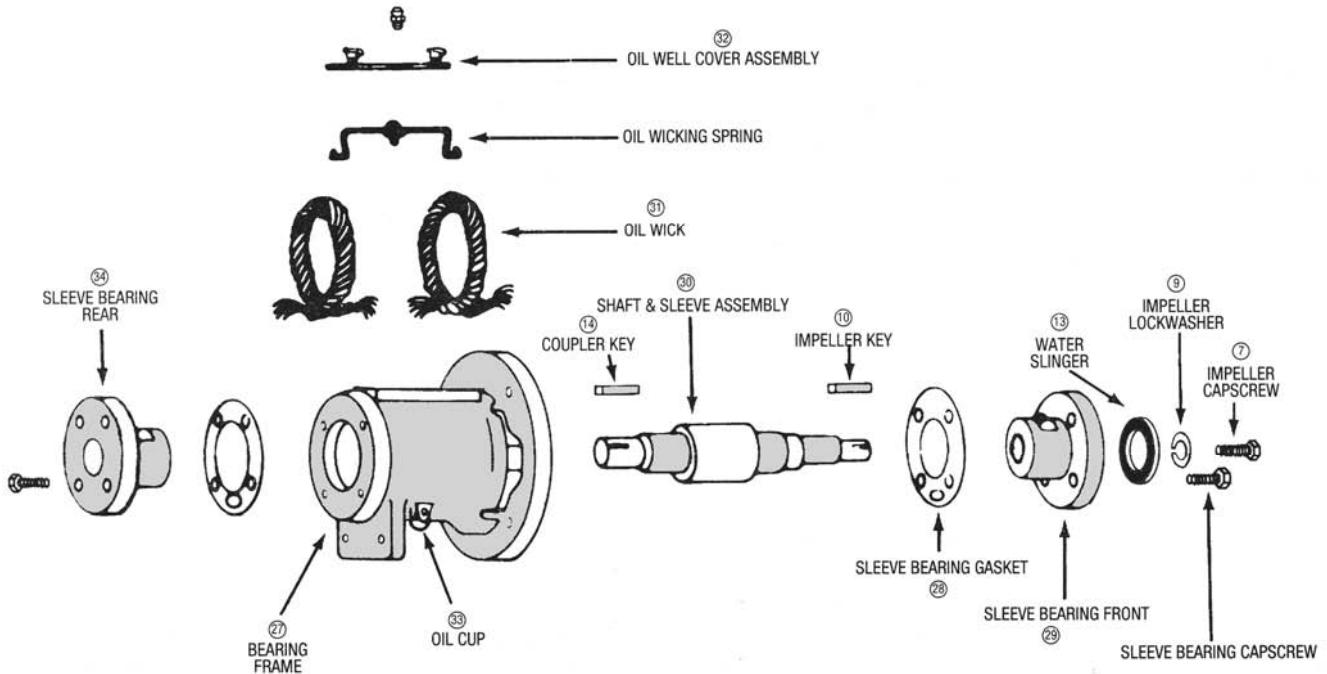
Repair Parts for 1510 with Sleeve Bearing Assemblies

REPAIR PARTS FOR SLEEVE BEARING FRAME ASSEMBLIES

Your B&G Series 1510 pump may come equipped with a 186660 sleeve bearing frame assembly.

Unlike the ball bearing frame assemblies (shown on the previous page) which use ball bearing units for smooth shaft rotation, the sleeve bearing units use "sleeves." If your bearing frame assembly (the pumping portion of your pump — located in-between the motor and volute) is a number **186660**, you have a sleeve bearing frame assembly.

The 186660 comes only with a 1-1/4" shaft at the pump seal. The repair parts are shown below.



Complete Sleeve Bearing Assembly Number and related Motor Frame Sizes		REPAIR PARTS for <u>SLEEVE</u> BEARING FRAME ASSEMBLY Number 186660					
Bearing Frame Assembly	Motor Frame Size Ending in "T"	Item #30 Shaft & Sleeve	Item #29 Front Sleeve Bearing	Item #34 Rear Sleeve Bearing	Item #28 3 Sleeve Bearing Gaskets	Item #28 Impeller Cap Screws	Item #28 Impeller Lock washer
186660 1 1/4" shaft	56T, 143T, 145T, 182T, 184T, *213T, *215T, *254T	BG1390	BG1400	BG1395	BG1539K	BG1549B	BG1511E
		Item #28 Impeller Key	Item #28 Coupler Key	Item #28 Oil Cup	Item #28 1 Oil Well Cover	Item #28 2 Oil Wick Set	Water Slinger
		4 BG1517X 5 BG1547A	4 BG1517Y 5 BG1546H	BG1539S	BG1539T	BG1200	P53550

* Locating the Bearing Frame (pump housing) number allows you to accurately determine the pump shaft size. Also, many motor frame sizes indicate a single pump shaft size. However, the **motor frame sizes 213T, 215T and 254T indicate the pump shaft size is either 1-1/4" or 1-5/8"**. In this case, if you have no Bearing Frame number reference, you may need to physically measure the pump shaft.

¹ The **Oil Well cover** for models made before June of 1965 (date code EE) are no longer available.

² This bearing frame assembly required **two oil wick sets**. Therefore, order two sets.

³ The **sleeve bearing gaskets** are included when you order either the rear or front sleeve bearings.

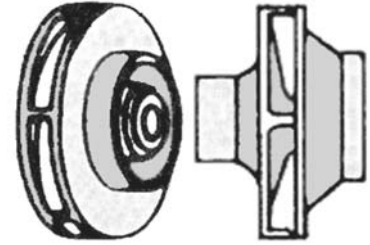
⁴ **Key (Woodruff)** for pumps made up until July 1989 — Check for date code G98 and before (letter = month; inverted number = year);

⁵ **Key (Straight)** for pumps made after August 1989 — Check for date code H98 and after (letter = month; inverted number = year)

Pump Impellers for B&G Series 1510 Pumps

IMPELLER SELECTION TABLE

The impellers shown below are standard “stock” sized impellers: The maximum diameter made for the pump indicated. The actual diameter of the impeller, along with the design shape, helps to determine the “pumping pressure” of the pump. Many pumps are sized for a lower pumping pressure than a standard sized impeller would produce.



You can order replacement impellers in three different ways:

1. You can order the standard full-size impellers as shown if you know the pump model number. However, you may need to regulate the pumping pressure with a balancing valve in order to reduce the pumping pressure. A globe valve or B&G balancing valve can regulate the pressure of the water leaving the pump.
2. You can measure the actual diameter of your impeller or provide the GPM @ ft/hd (feet-of-head) pumping requirements. We will “trim” (if necessary) the impeller to the appropriate size.
3. The pump nameplate will often include the size of the impeller for your specific pump. Please see the preceding page where a picture of the pump nameplate is shown. Look for the impeller diameter on the nameplate.

Note: Impellers that need to be trimmed & balanced are “special ordered” and may not be returned.

Impellers for 1510 Pumps, 1750 RPM motor with 1¼” diameter shaft at pump end

Item No.	Part Description for pump with 1¼” Shaft	Pump Model 1½AC	Pump Model 1½AC	Pump Model 2AC	Pump Model 2½AB	Pump Model 3AC	Pump Model 4AC	Pump Model 5A	Pump Model 1¼BC
11	Pump Body Gasket	BG1545	BG1545	BG1545	BG1545	BG1545	BG1545	BG1545	BG1545
5	Impeller and diameter before trimming	BG1547J 7”	BG1543T 7”	BG1547J 7”	BG1547N 7”	BG1561R 7”	BG1547V 7”	BG1547X 7”	BG1547H 9-1/2”
Part Description for pump with 1¼” Shaft (continued)		Pump Model 1½BC	Pump Model 2BC	Pump Model 2½BB	Pump Model 3BC	Pump Model 4BC	Pump Model 2E	Pump Model 3E	Pump Model 4E
11	Pump Body Gasket	BG1545	BG1545	BG1545	BG1545	BG1545	BG1605	BG1605	BG1605
5	Impeller and diameter before trimming	BG1567 9-1/2”	BG1547L 9-1/2”	BG1567B 9-1/2”	BG1561N 9-1/2”	BG1547T 9-1/2”	BG1548B 11”	BG1548C 11”	BG1548E 11”

Impellers for 1510 Pumps, 1750 RPM motor with 1⅝” diameter shaft at pump end

Item No.	Part Description for pump with 1⅝” Shaft	Pump Model 5BC	Pump Model 6BC	Pump Model 3E	Pump Model 4E	Pump Model 5E	Pump Model 6E
11	Pump Body Gasket	BG1545	BG1545	BG1605	BG1605	BG1605	BG1605
5	Impeller and diameter before trimming	BG1547Z 9-1/2”	BG1548A 9-1/2”	BG1548C 11”	BG1548E 11”	BG1548G 11”	BG1546L 11”
Part Description for pump with 1⅝” Shaft (continued)		Pump Model 2G	Pump Model 3G	Pump Model 4GB	Pump Model 5G	Pump Model 6G	
11	Pump Body Gasket	BG1607	BG1607	BG1607	BG1607	BG1607	
5	Impeller and diameter before trimming	BG1548P 13-1/2”	BG1548R 13-1/2”	BG1730 13-1/2”	BG1565C 12-1/2”	BG1565D 12-1/2”	

Make sure you order a replacement pump body (volute) gasket along with the impeller.

Also, see previous pages to order impeller capscrews, lock washers and washers.

Pump Couplers for B&G Series 1510 Pumps

Determine the replacement pump coupler by the **motor frame size**.

However, there are two motor frame sizes where you need to know the diameter of the pump shaft at the water seal side: 326T and 404TS, and two frame sizes where you need to know the "shaft space": 284T and 286T.

PUMP COUPLER SELECTION TABLE



Type "J"



"S"-Type



"SC"-Type

Pump Information	Motor Frame Size	Shaft Space	Motor HP	¹ Complete Coupler Assembly	Rubber Sleeve Only for Woods brand Coupler	Rubber Sleeve Only for Lovejoy brand Coupler
For 1510 series pumps using the 1-1/4" diameter pump shaft Bearing Frame Assemblies including: 185011, 185013 and 186660 . The shaft size at the coupler is 1".	56	1-1/4"	1/2—3/4	BG1426	WK1010	BG1543Z
	143T-145T	1-3/4"	1, 1-1/2, 2-3	BG1427	WK1010	BG1543Z
	182T-184T	1-3/4"	2, 3, 5, 7-1/2	BG1428	WK1015	BG1543Z
	213T	2-1/2"	5, 7-1/2, 10	BG1430	WK1020	BG1543Y
	215T	2-1/2"	7-1/2, 10, 15	BG1430	WK1020	BG1543Y
	254T	2-1/2"	15, 20	BG1430B	WK1025	BG1543Y
	256T	2-1/2"	20, 25	BG1560Y	WK1030	BG1543Y
For 1510 series pumps using the 1-5/8" diameter pump shaft Bearing Frame Assemblies including: 185014 and 185016 . The shaft size at the coupler is 1-1/4".	213T	3-3/4"	7-1/2	BG1431	WK1020	BG1543Y
	215T	3-3/4"	10	BG1431	WK1020	BG1543Y
	254T	3-3/4"	15	BG1560X	WK1025	BG1543Y
	256T	3-3/4"	20	BG1430C	WK1030	BG1543Y
	284T	3-3/4"	25	BG1560Z	WK1030	—
	284T	4"	25	BG1561A	WK1030	—
	286T	3-3/4"	30	BG1561B	WK1035	—
	286T	4"	30	BG1561B	WK1035	—
	284TS	3-3/4"	30	BG1560X	WK1025	BG1543Y
	286TS	3-3/4"	40	BG1430C	WK1030	BG1543Y
	324T	4"	40	BG1561C	WK1035	—
	326T	4"	50	BG1561D	10JE	—
	324TS	3-3/4"	50	BG1560Z	WK1030	—
	326TS	3-3/4"	60	BG1561B	WK1035	—
	364T	4"	60	BG1561E	10JE	—
	365T	4"	75	BG1561F	11JE	—
404TS	4"	100	BG1561G	11JE	—	
For the Large 1510 series pumps using the 1-1/4" diameter pump shaft Bearing Frame Assembly 185014 . The shaft size at the coupler is 1-7/8".	326T	5-3/8"	50	BG1697 BG1697A	BG1697B	—
	364TS	5-3/8"	60	BG1697 2 Required	BG1697B	—
	365TS	5-3/8"	75	BG1703 2 Required	BG1701	—
	404TS	5-3/8"	100	BG1703 BG1700Z	BG1701	—
	405TS	5-3/8"	125	BG1703D BG1703E	BG1701	—

¹ The pump couplers are made by Woods Mfg. for Bell & Gossett. Some couplers may have been provided by Lovejoy brand couplings, or others. The actual brand name of coupling can be found on the metal flange portion of the pump coupling. The rubber sleeve (in-between the pump coupling flanges) is the flange component that most often needs replacement.

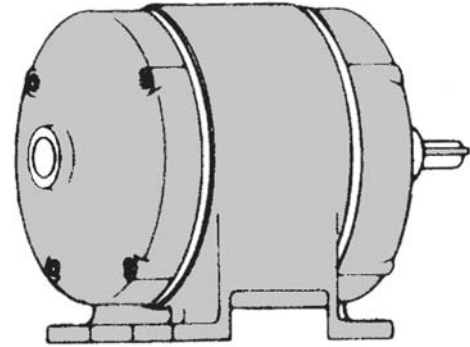
Motors for B&G Series 1510 Pumps

MOTOR SELECTION TABLE

Use the Motor Selection Chart below to determine the replacement 1750 rpm motor you need. Only the 1750 rpm replacement motors are shown below.

- Additional motors in 1150 rpm and 3500 rpm are available.
- Most of the motors shown are in three phase configuration.
- The voltage ratings for single phase are 115/230 volts.
- The voltage ratings for three phase are 208-230/460 volts.

If you require a motor other than the 1750 rpm style, please give us a call.



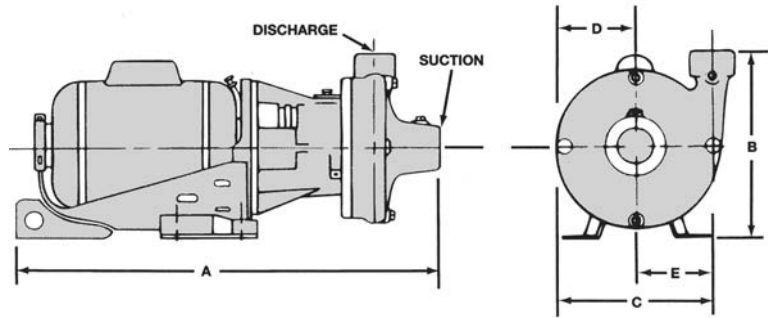
ALL MOTORS SHOWN ARE 1750 RPM	Motor Frame Size	1750 RPM Motor HP and Phase	Order No.
For 1510 series pumps using the 1-1/4" diameter pump shaft Bearing Frame Assemblies including: 185011, 185013 and 186660. The shaft size at the coupler is 1".	56	1/2 HP, 1 phase	MR1010
	56	1/2 HP, 3 phase	MR1020
	56	3/4 HP, 1 phase	MR1030
	56	3/4 HP, 3 phase	MR1040
	143T	1 HP, 1 phase	MR1050
	143T	1 HP, 3 phase	MR1060
	143T	1-1/2 HP, 3 phase	MR1070
	143T	2 HP, 3 phase	MR1080
	143T	3 HP, 3 phase	MR1090
	145T	1 HP, 1 phase	MR1100
	145T	1 HP, 3 phase	MR1110
	145T	1-1/2 HP, 3 phase	MR1120
	145T	2 HP, 3 phase	MR1130
	145T	3 HP, 3 phase	MR1140
	182T	2 HP, 3 phase	MR1150
	182T	3 HP, 3 phase	MR1160
	182T	5 HP, 3 phase	MR1170
	182T	7-1/2 HP, 3 phase	MR1180
	184T	2 HP, 3 phase	MR1190
	184T	3 HP, 3 phase	MR1200
	184T	5 HP, 3 phase	MR1210
	184T	7-1/2 HP, 3 phase	MR1220
	213T	5 HP, 3 phase	MR1230
	213T	7-1/2 HP, 3 phase	MR1240
213T	10 HP, 3 phase	MR1250	
215T	7-1/2 HP, 3 phase	MR1260	

ALL MOTORS SHOWN ARE 1750 RPM	Motor Frame Size	1750 RPM Motor HP and Phase	Order No.
... Continued from previous column.	215T	10, 3 phase	MR1270
	215T	15, 3 phase	MR1280
	254T	15, 3 phase	MR1290
	254T	20, 3 phase	MR1300
	256T	20, 3 phase	MR1310
	256T	25, 3 phase	MR1320
For 1510 series pumps using the 1-5/8" diameter pump shaft Bearing Frame Assemblies including: 185014 and 185016. The shaft size at the coupler is 1 1/4".	213T	7-1/2 HP, 3phase	MR1330
	215T	10 HP, 3phase	MR1340
	254T	15 HP, 3phase	MR1350
	256T	20 HP, 3phase	MR1360
	284T	25 HP, 3phase	MR1370
	286T	30 HP, 3phase	MR1380
	284TS	30 HP, 3phase	MR1390
	286TS	40 HP, 3phase	MR1400
	324T	40 HP, 3phase	MR1410
	326T	50 HP, 3phase	MR1420
	324TS	50 HP, 3phase	MR1430
	326TS	60 HP, 3phase	MR1440
	364T	60 HP, 3phase	MR1450
	365T	75 HP, 3phase	MR1460
404TS	100 HP, 3phase	MR1470	
For pumps using the 1 1/4" diameter pump shaft Bearing Frame Assembly 185014. Shaft size at coupler is 1 7/8".	326T	50 HP, 3phase	MR1480
	364TS	60 HP, 3phase	MR1490
	365TS	75 HP, 3phase	MR1500
	404TS	100 HP, 3phase	MR1510
	405TS	125 HP, 3phase	MR1520

Complete B&G Series 1522 Pumps



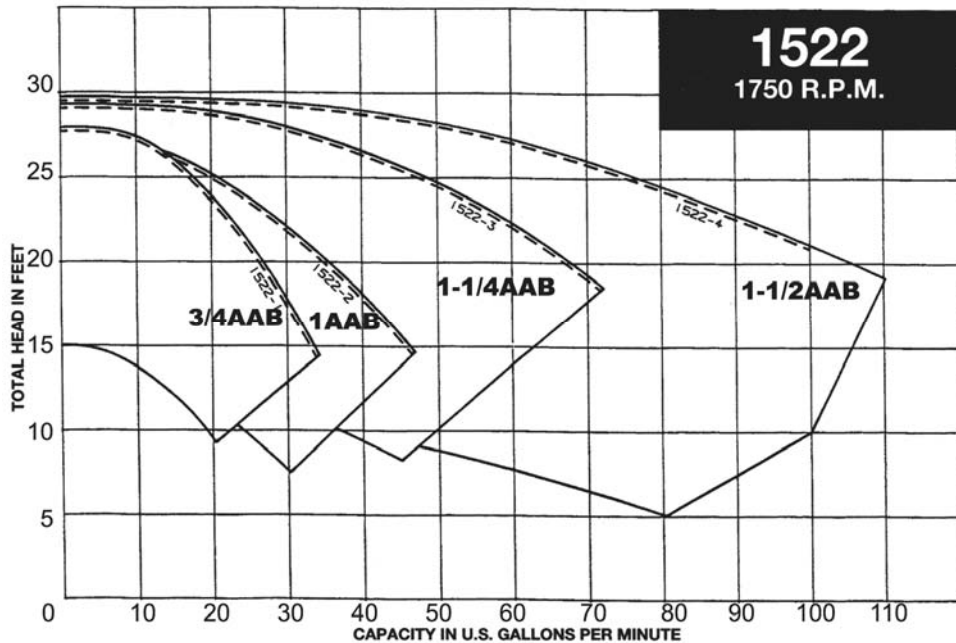
1522 Pump Dimensions



These end-suction, bronze-fitted pumps with bronze impellers are great for any heating/cooling pumping application where the front-suction, top discharge design is needed. Rated up to 175 psig at 225° F. They have a "back pull-out" design, enabling easy service and maintenance. Select from 1- or 3-phase motors, *1/4 to 3/4 horsepower. *1/4 hp is 115V single voltage, 1 phase.

Pump Order Number 1750 rpm motor 115/230V Single Phase	Pump Order Number 1750 rpm motor 208-230/460V Three Phase	Pump Sizes, Horsepower and Impeller Sizes				Pump Dimensions (inches)					Upper Level Efficient Pumping Capacity
		Pump Model & Discharge Size	Pump Suction Size	Impeller Diameter	Motor HP	A	B	C	D	E	
B.34AAB.25.525.1	B.34AAB.25.525.3	3/4"AAB	1 1/4"	5.25"	* 1/4	19	7 7/8	7 1/4	3 1/2	3 3/4	23 gpm @ 25 ft/hd
B.1AAB.25.525.1	B.1AAB.25.525.3	1"AAB		1 1/4"	5.25"	1/3	19 3/4	8 7/8	8	3 5/8	4 3/8
B.1AAB.33.525.1	B.1AAB.33.525.3		40 gpm @ 18 ft/hd								
B.125AAB.25.425.1	B.125AAB.25.425.3	1 1/4"AAB	1 1/2"	4.25"	1/4	20	8 3/4	8 1/4	3 3/4	4 1/2	30 gpm @ 15 ft/hd
B.125AAB.33.475.1	B.125AAB.33.475.3			4.75"	1/3						32 gpm @ 21 ft/hd
B.125AAB.50.525.1	B.125AAB.50.525.3			5.25"	1/2						40 gpm @ 26 ft/hd
B.150AAB.25.400.1	B.150AAB.25.400.3	1 1/2"AAB	2"	4.00"	* 1/4	20 1/2	9 1/2	8 3/8	3 3/4	4 3/4	23 gpm @ 15 ft/hd
B.150AAB.33.450.1	B.150AAB.33.450.3			4.50"	1/3						32 gpm @ 20 ft/hd
B.150AAB.50.475.1	B.150AAB.50.475.3			4.75"	1/2						43 gpm @ 26 ft/hd
B.150AAB.75.525.1	B.150AAB.75.525.3			5.25"	3/4						75 gpm @ 26 ft/hd

Pumping Capacities for 1522 Pump.



Repair Parts for 1522 Centrifugal Pumps

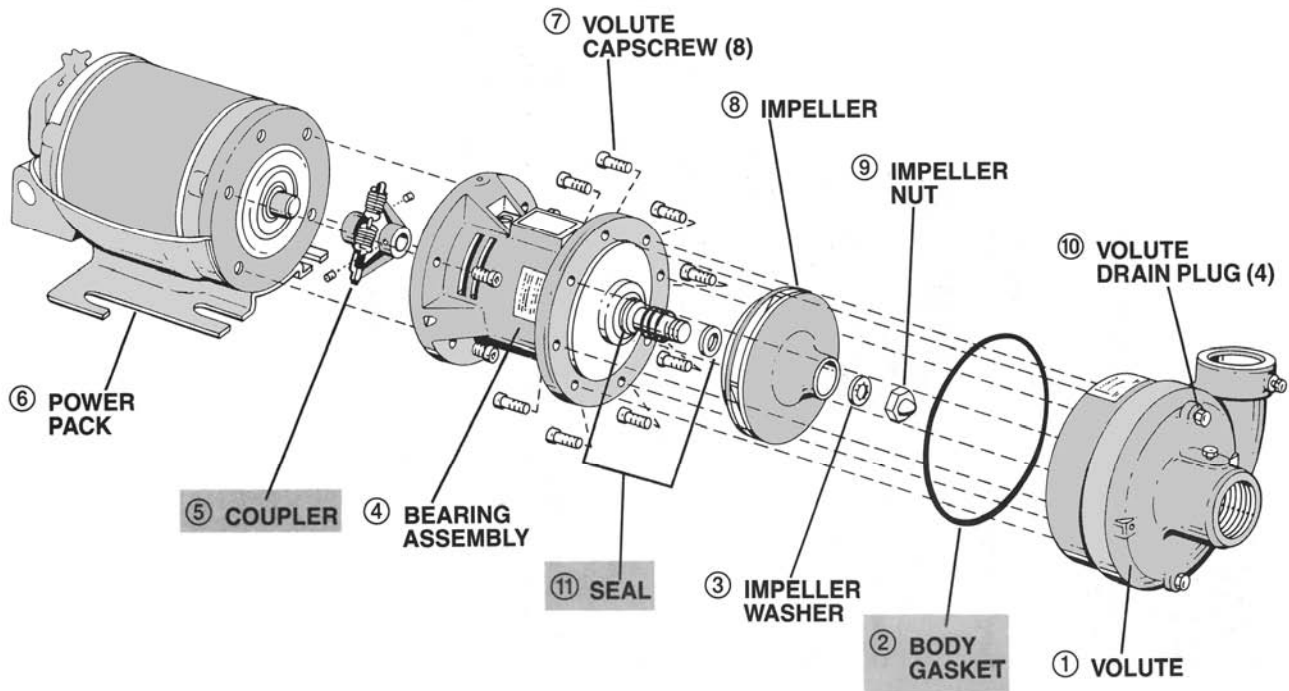


The repair parts for the 1522 series B&G pumps are shown below. The parts represented are for standard design bronze fitted pumps.

Please replace the entire bearing assembly in place of “rebuilding” the unit.

The old and obsolete bearing assembly (pump housing) model numbers 118478, 118479 and 118480 have all been replaced by the bearing assembly 186863.

Bearing assemblies do not come with impellers. Order replacement impellers separately. Specify impeller diameter.



Pump Model	Size Discharge x Suction	1522 Pump Repair Parts									
		Impeller Specify Diameter	Bearing Assembly	Seal Kit	Body Gasket	Impeller Key	Impeller Nut	Impeller Washer	Oil Well Cover	Oil Wick	Pump Coupler
3/4AAB	3/4 X 1-1/4	BG1550B	BG1420	BG1300	BG1550	BG1527	BG1542	BG1552	BG1625	BG1200	BG1240
1AAB	1 X 1-1/4	BG1550B									
1-1/4AAB	1-1/4 X 1-1/2	BG1550C									
1-1/2AAB	1-1/2 X 2	BG1550D									

HP	Replacement Motors and Motor Mounts				
	1 Phase 1750 RPM	1 Phase 3450 RPM	3 Phase 1750 RPM	3 Phase 3450 RPM	Replacement Motor Mounts
1/4	⁴ BG1340A	—	BG1340B	—	BG1160
1/3	BG1340C	BG1340H	BG1340D	BG1340E	
1/2	BG1340F	BG1340G	BG1341	BG1341A	
3/4	—	BG1341B	—	BG1341C	
1	—	BG1341D	—	BG1341E	
1-1/2	—	BG1341F	—	BG1341G	—
2	—	903542	—	BG1341H	—

1 ph = 115/230V; 3 ph = 208-230/460; ⁴ 115 volt motor only. For 230 volt use 169041

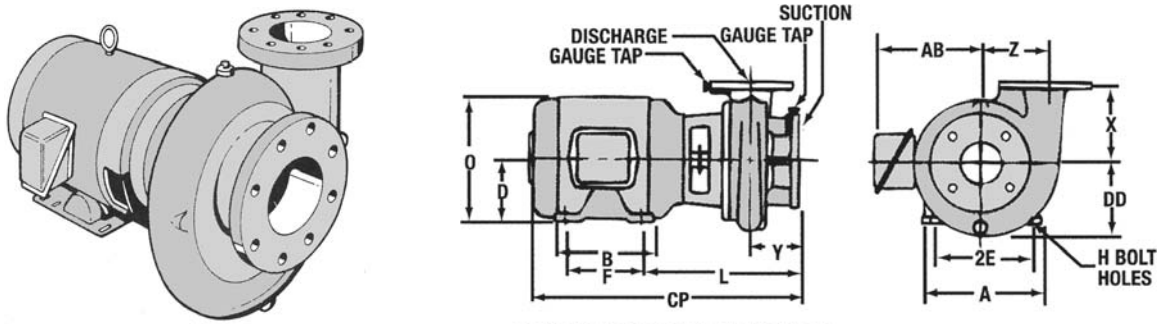
Need a complete new pump?

Think your old 1522 has earned its retirement?

Check out the [previous page](#) or give us a call today!

We'll size up a new pump for you or get you the exact replacement.

Bell & Gossett Series 1531 Centrifugal Pumps



STANDARD MECHANICAL SEAL

SERIES 1531 CENTRIFUGAL PUMPS are flange connection pumps except for the pumps with discharge sizes of 1-1/4" or 1-1/2": These have npt (standard pipe thread) connections on both the discharge (top) and suction (front).

The **Motor Dimension Chart** and the **Pump Dimension Chart** shows the maximum dimensions depending upon motor manufacturer. The **Motor Frame Chart** shows you the different frame sizes and the possible motor horsepower. All motors shown in the chart are 3 phase, open drip-proof motors. Single phase motors may also be available up to 1 horsepower.

Motor Frame Standard Seal	MOTOR DIMENSIONS in INCHES							
	A (Max.)	B (Max.)	F	2E	AB (Max.)	D	H	O (Max.)
143JM	7	6	4	5-1/2	7	3-1/2	11/32	7-1/4
145JM	7	6	5	5-1/2	7	3-1/2	11/32	7-1/4
182JM	9	6-1/2	4-1/2	7-1/2	8-1/2	4-1/2	13/32	9-3/8
184JM	9	7-1/2	5-1/2	7-1/2	8-1/2	4-1/2	13/32	9-3/8
213JM	10-1/2	7-1/2	5-1/2	8-1/2	10-3/4	5-1/4	13/32	11-1/8
215JM	10-1/2	9	7	8-1/2	10-3/4	5-1/4	13/32	11-1/8
254JP	12-1/2	10-3/4	8-1/4	10	10-3/4	6-1/4	17/32	13-1/8
256JP	12-1/2	12-1/2	10	10	10-3/4	6-1/4	17/32	13-1/8
284JP	14	12-1/2	9-1/2	11	12-5/8	7	17/32	15
286JP	14	14	11	11	12-5/8	7	17/32	15
324JP	16	14	10-1/2	12-1/2	15-1/8	8	21/32	17
326JP	16	15-1/2	12	12-1/2	15-1/8	8	21/32	17

HP	MOTOR FRAME CHART 3 PHASE, ODP MOTORS		
	3500 rpm	1750 rpm	1150 rpm
1/2	—	—	143JM
3/4	—	—	143JM
1	—	143JM	145JM
1-1/2	143JM	145JM	182JM
2	145JM	145JM	184JM
3	145JM	182JM	213JM
5	182JM	184JM	215JM
7-1/2	184JM	213JM	254JP
10	213JM	215JM	256JP
15	215JM	254JP	284JP
20	254JP	256JP	286JP
25	256JP	284JP	324JP
30	284JP	286JP	326JP
40	286JP	324JP	—
50	324JP	326JP	—
60	326JP	—	—

Size of Pump and Discharge	Size of Suction	PUMP DIMENSIONS in INCHES					
		DD	X	Y	Z	L (Max)	CP (Max)
1-1/4AC npt	1-1/2 npt	4-3/4	5	3-1/4	4-1/2	14-5/8	25-1/2
1-1/2AC npt	2 npt	5	6	3-1/8	4-5/8	16-5/8	32-1/4
2AC	2-1/2	5-1/2	6-1/2	3-1/2	4-3/4	17-1/8	34-1/2
2-1/2AB	3	5-3/4	6	4-1/4	4-3/4	18	35-1/4
3AC	4	6-1/4	6	4-1/8	5	17-7/8	36-1/8
4AC	5	6-7/8	7-1/2	5	5-3/4	19-3/4	40-5/8
5A	6	7-7/8	8-1/2	5-3/4	6-1/4	21-1/4	42
1-1/4BC npt	1-1/2 npt	6-1/8	8	3-1/4	5-1/2	16-3/4	35-1/8
1-1/2BC npt	2 npt	6-1/4	6-1/2	3-1/8	5-3/4	17-1/8	36-3/8
2BC	2-1/2	6-1/8	7	4	5-7/8	18-1/8	39
2-1/2BB	3	7-1/4	6-3/4	4	6	18-1/4	39-1/8
3BC	4	7	7-1/2	4-3/4	6-1/8	19-1/4	40
4BC	5	8-5/8	8	5	7	19	36-3/8
5BC	6	9-1/2	10	6	7-1/2	20-3/8	37-1/8
6BC	8	10-3/8	10-1/2	7	8-1/4	22-3/4	43-1/2
2E	3	7-5/8	8	5-1/2	6-1/2	18-1/2	39-1/4
3E	4	8-1/2	9-1/2	5-1/2	7-3/8	18-1/8	35-1/2
4E	5	9-1/4	9-3/4	5-1/2	7-1/4	18-3/16	35
5E	6	9-5/8	10-1/2	5-1/2	8	18-1/4	38
6E	8	10-7/8	11	6-1/8	8-1/2	19-3/4	40-5/8

TO ORDER COMPLETE SERIES 1531 PUMPS

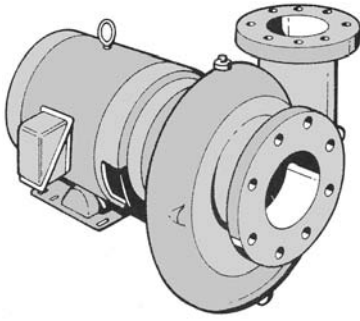
1. If you need a complete replacement pump, determine the Model No. and/or size of the pump as shown on the pump nameplate (the model number will also include the impeller size), and;

2. Determine the motor HP, voltage and frame size as shown on the motor nameplate.

3. If you need new pump, or your current pump has no nameplate please **SEE THE PUMP CAPACITY CURVES ON THE FOLLOWING PAGE.**

4. Call us Today!

Pump Capacity Curves for 1531 Pumps



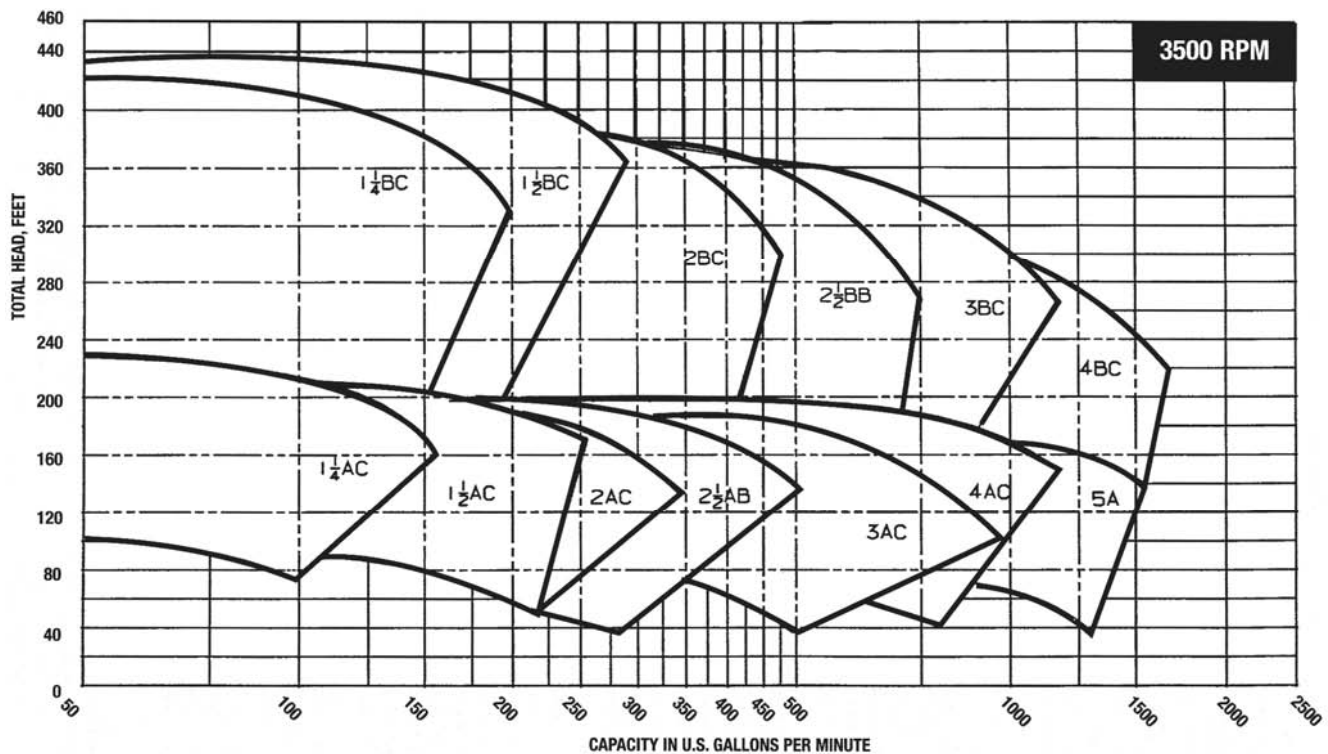
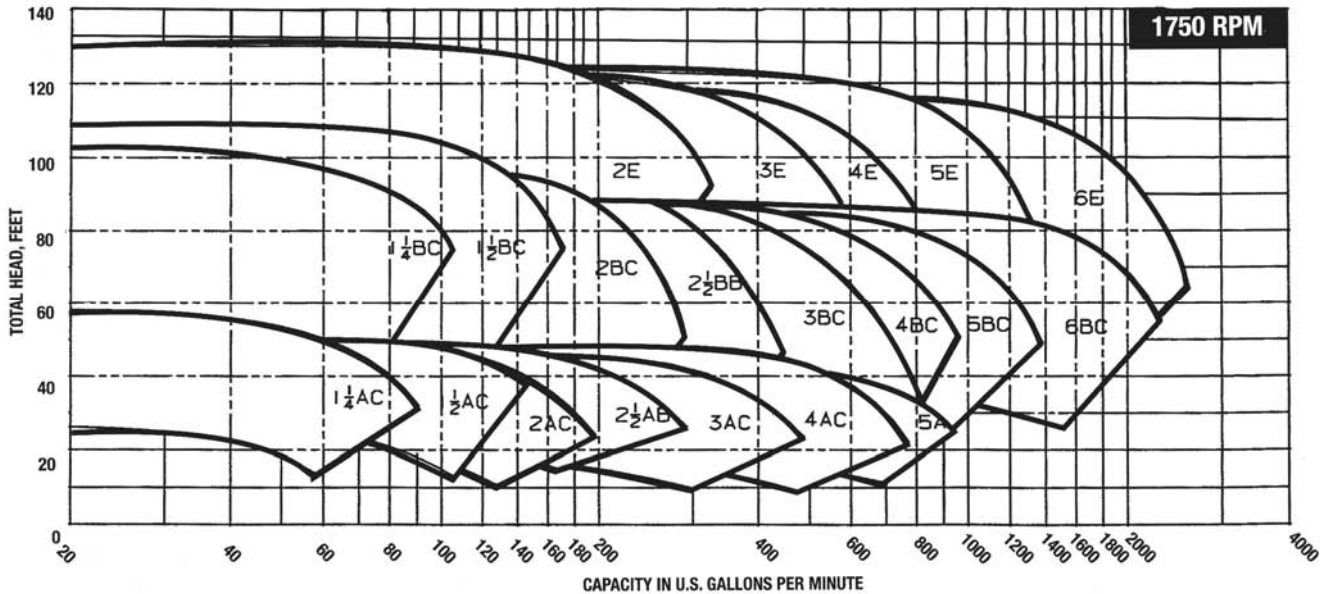
COMPLETE 1531 PUMPS are a phone call away! See the front cover.

The Series 1531 Pump Capacity curves below will help you understand the wide variety of pumping "power" available from the 1531 series of pumps.

Our **pump sizing** software will provide you with the best, most efficient match for your system. Once you call, please be prepared to answer the following questions:

1. How many gallons per hour of liquid must be pumped through the system.
2. The type of liquid being pumped — water?
3. The feet of head (how "high" and against what pressure) you pump against.
4. The voltage, rpm & enclosure (standard ODP or explosion-proof TEFC) of motor.

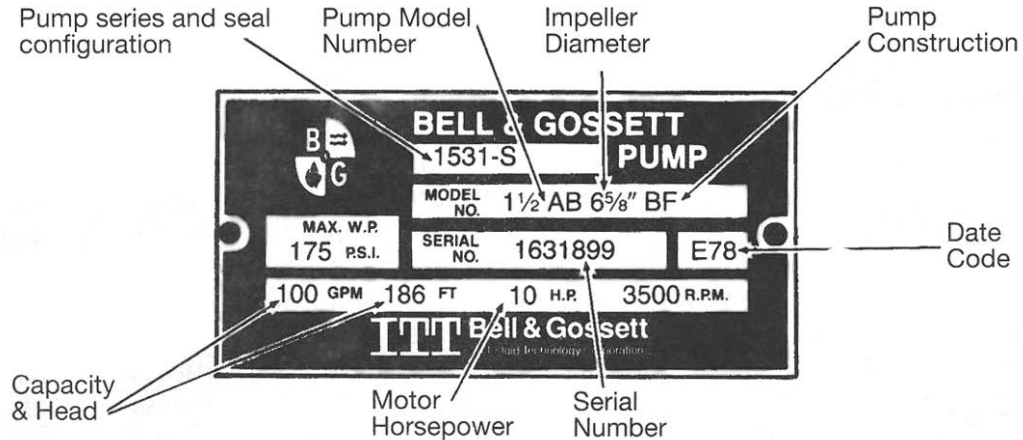
Give us a call! We'll help you with your pump sizing needs.



Repair Parts for Series 1531 Pumps

Find the Pump Nameplate to Determine Repair Parts

The pump nameplate identifies the pump by pipe size, seal configuration, pump construction and impeller diameter as shown below.

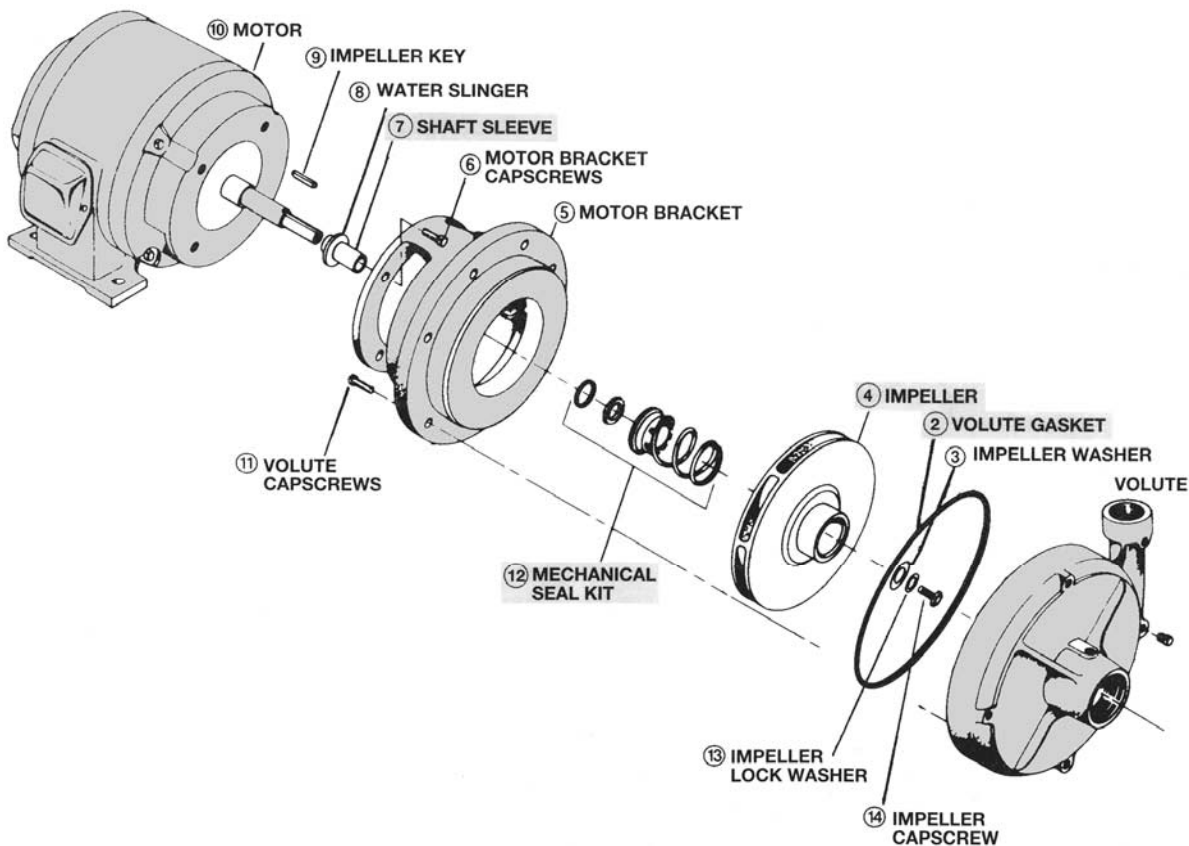


The Series 1531 pump comes with one of two shaft diameters:

- Either 1-1/4" or 1-5/8" diameter. Determine the motor frame size from the motor name plate.

The **1-1/4" shaft diameter** is on all motor frame sizes up to and including **215JM**;
The **1-5/8" shaft diameter** is on all motor frames designated **213JP** and higher.

See following page for Repair Parts Ordering Guide



Repair Parts for Series 1531 Pumps

When ordering 1531 replacement parts, you should know the shaft size of the motor: ■ The motor frame sizes up to and including 215JM are driving a **1-1/4"** shaft: Use those repair parts denoted with a "1" ■ The motor frame sizes from 213JP and higher are driving a **1-5/8"** shaft: Use those repair parts denoted with a "2". The "Motor Frame Size" can be found on the **motor** nameplate. ■ The repair parts shown are for standard bronze fitted pumps. 1 ph motors available.

Number KEY for ordering parts: *When two repair parts for the same part are shown: ¹ for 1-1/4" shaft; ² for 1-5/8" shaft. The volute capscrews PO40020 are sold in sets of 8 each. Also, the volute capscrews ³ **BG1520V** are for pumps with motor frame sizes thru 256JP; the ⁴ **BG1551B** volute capscrews are for frame sizes 284JP and larger. Both the BG1520V and the BG1551B are sold in a package of 12 capscrews. The capscrews denoted with the symbol ⁵ are sold in packs of 16 capscrews each.

Pump Model Size	Item 14 *Impeller Capscrew	Item 13 *Impeller Lockwasher	Item 3 *Impeller Washer	Item 9 *Impeller Key	Item 2 Volute Gasket	Item 8 *Water Slinger	Item 12 *Seal Kit	Item 7 *Shaft Sleeve	Item 11 *Volute Capscrews	Volute Drain Plugs (4)
1-1/4AB 1-1/2AC	BG1549B	BG1511E	BG1544D	BG1547A	BG1560	BG1550	BG1415	BG1345	BG1541V	BG1541R
1-1/2AB 1-1/2AC	¹ BG1549B ² BG1539J	¹ BG1511E ² BG1511F	¹ BG1544D ² BG1548L	¹ BG1547A ² BG1546G	BG1560	¹ BG1550 ² BG1550A	¹ BG1415 ² BG1385	¹ BG1345 ² BG1338	BG1541V	BG1541R
2AB 2AC 2-1/2A 2-1/2AB 3AB 3AC 4AB 4AC 5A	¹ BG1549B ² BG1539J	¹ BG1511E ² BG1511F	¹ BG1544D ² BG1548L	¹ BG1547A ² BG1546G	BG1560	¹ BG1550 ² BG1550A	¹ BG1415 ² BG1385	¹ BG1345 ² BG1338	BG1541V	BG1541T
1-1/4BB 1-1/4BC 1-1/2BB 1-1/2BC	¹ BG1549B ² BG1539J	¹ BG1511E ² BG1511F	¹ BG1544D ² BG1548L	¹ BG1547A ² BG1546G	BG1545	¹ BG1550 ² BG1550A	¹ BG1415 ² BG1385	¹ BG1345 ² BG1338	³ BG1520V ⁴ BG1551B	BG1541R
2BB 2BC	¹ BG1549B ² BG1539J	¹ BG1511E ² BG1511F	¹ BG1544D ² BG1548L	¹ BG1547A ² BG1546G	BG1545	¹ BG1550 ² BG1550A	¹ BG1415 ² BG1385	¹ BG1345 ² BG1338	³ BG1520V ⁴ BG1551B	BG1541T
2-1/2B	BG1549B	BG1511E	BG1544D	BG1547A	BG1545	BG1550	BG1415	BG1345	BG1520V	BG1541T
2-1/2BB 3BB 3BC 4BB 4BC 5BB 5BC	¹ BG1549B ² BG1539J	¹ BG1511E ² BG1511F	¹ BG1544D ² BG1548L	¹ BG1547A ² BG1546G	BG1545	¹ BG1550 ² BG1550A	¹ BG1415 ² BG1385	¹ BG1345 ² BG1338	³ BG1520V ⁴ BG1551B	BG1541T
6BB 6BC	BG1539J	BG1511F	BG1548L	BG1546G	BG1545	BG1550A	BG1385	BG1338	³ BG1520V ⁴ BG1551B	BG1541T
2E 3E 4E	¹ BG1549B ² BG1539J	¹ BG1511E ² BG1511F	¹ BG1544D ² BG1548L	¹ BG1547A ² BG1546G	BG1605	¹ BG1550 ² BG1550A	¹ BG1415 ² BG1385	¹ BG1345 ² BG1338	⁵ BG1539I	BG1541T
5E 6E	BG1539J	BG1511F	BG1548L	BG1546G	BG1605	BG1550A	BG1385	BG1338	⁵ BG1539I	BG1541T

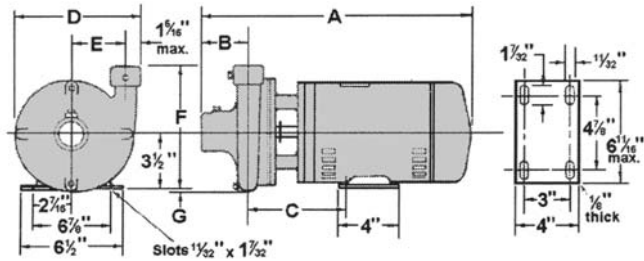
HP	3 PHASE MOTOR ORDERING CHART 208-230/460 volts, ODP MOTORS					
	Frame Size 3500 rpm	Order No.	Frame Size 1750 rpm	Order No.	Frame Size 1150 rpm	Order No.
1/2	—	—	—	—	143JM	MR2010
3/4	—	—	—	—	143JM	MR2015
1	—	—	143JM	MR2020	145JM	MR2040
1-1/2	143JM	MR2030	145JM	MR2050	182JM	MR2080
2	145JM	MR2060	145JM	MR2065	184JM	MR2100
3	145JM	MR2070	182JM	MR2090	213JM	MR2130
5	182JM	MR2095	184JM	MR2110	215JM	MR2160
7-1/2	184JM	MR2120	213JM	MR2140	254JP	MR2190
10	213JM	MR2150	215JM	MR2170	256JP	MR2220
15	215JM	MR2180	254JP	MR2200	284JP	MR2250
20	254JP	MR2210	256JP	MR2230	286JP	MR2280
25	256JP	MR2240	284JP	MR2260	324JP	MR2310
30	284JP	MR2270	286JP	MR2290	326JP	MR2340
40	286JP	MR2300	324JP	MR2320	—	—
50	324JP	MR2330	326JP	MR2350	—	—
60	326JP	MR2360	—	—	—	—

Pump Model Size	IMPELLER ORDERING CHART Specify Impeller diameter when ordering				
	For 1-1/4" shaft	For 1-5/8" shaft	Pump Size	For 1-1/4" shaft	For 1-5/8" shaft
1¼AB	BG1544E	—	2BB	BG1567B	BG1566B
1¼AC	BG1547G	—	2BC	BG1547L	BG1547M
1½AB	BG1544F	BG1544G	2½B	BG1567B	—
1½AC	BG1543T	BG1561M	2½BB	BG1547R	BG1547S
2AB	BG1544F	BG1544G	3BB	BG1547B	BG1547C
2AC	BG1547J	BG1547K	3BC	BG1561N	BG1561P
2½A	BG1546B	BG1546C	4BB	BG1547E	BG1547F
2½AB	BG1547N	BG1547P	4BC	BG1547T	BG1547U
3AB	BG1566G	BG1566B	5BB	BG1548J	BG1548K
3AC	BG1561R	BG1561S	5BC	BG1547Z	P50833
4AB	BG1550E	BG1547D	6BB	Not available	
4AC	BG1547V	BG1547W	6BC	—	BG1548A
5A	BG1547X	BG1547Y	2E	BG1548B	BG1548H
1¼BB	BG1567B	BG1566	3E	BG1548C	BG1548D
1¼BC	BG1547H	BG1547I	4E	BG1548E	BG1548F
1½BB	BG1567	BG1566	5E	—	BG1548G
1½BC	BG1567	BG1566	6E	—	BG1546L

Bell & Gossett Series 1535 Pumps



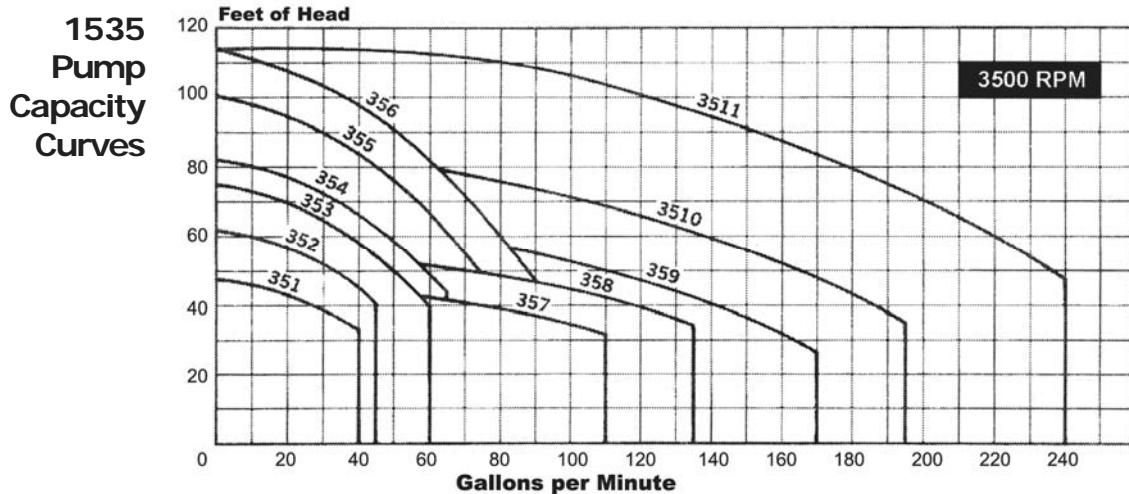
1535 Pump Dimensions



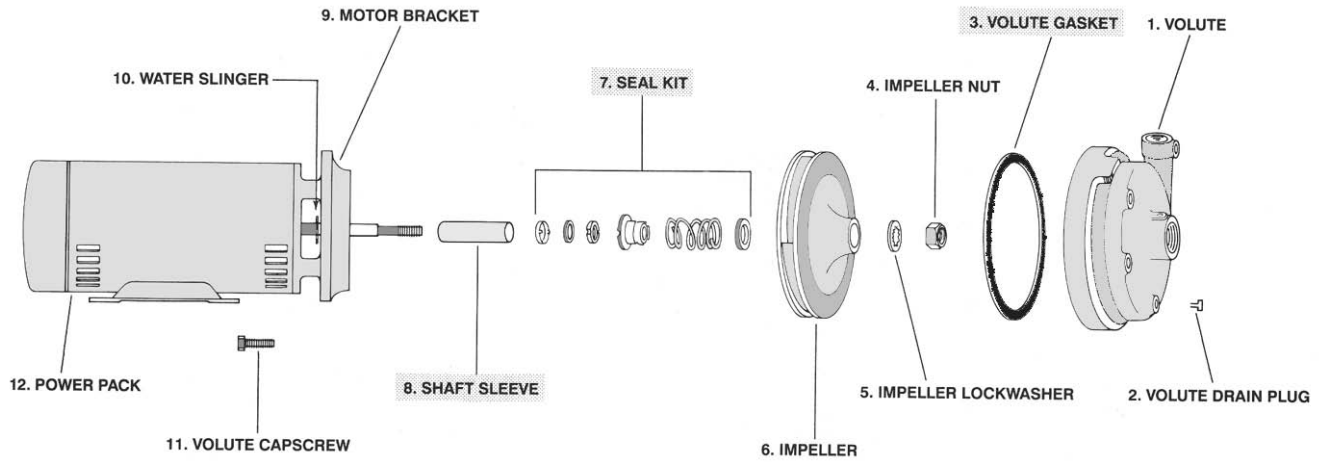
These bronze-fitted, end-suction pumps have bronze impellers and are available with motors from 1/3 to 5 horsepower motors. Two different suction/discharge sizes are available — either 1-1/4 x 1" or 2 x 1-1/2". The pump is rated for operating pressures up to 175 psig, and temperatures up to 225° F. Call for sizing help!

1535 Complete Pump Ordering Guide

Model No. 1 Phase 115/230V	Order No.	Model No. 3 phase 208-230/460	Order No.	Equivalent Size	HP 3500 RPM	Suction Size	Discharge Size	DIMENSIONS in INCHES						
								A	B	C	D	E	F	G
351S	BH1400	351T	BH1401	1" AAB	1/3	1-1/4"	1"	15	2-15/16	5-5/16	8	3-3/8	8	1/4
352S	BH1402	352T	BH1403	1" AAB	1/2	1-1/4"	1"	15	2-15/16	5-5/16	8	3-3/8	8	1/4
353S	BH1404	353T	BH1405	1" AAB	3/4	1-1/4"	1"	15-1/2	2-15/16	5-5/16	8	3-3/8	8	1/4
354S	BH1406	354T	BH1407	1" AAB	1	1-1/4"	1"	16	2-15/16	5-5/16	8	3-3/8	8	1/4
355S	BH1408	355T	BH1409	1" AAB	1 1/2	1-1/4"	1"	17	2-15/16	5-5/16	8	3-3/8	8	1/4
—	—	356T	BH1410	1" AAB	2	1-1/4"	1"	16-15/16	2-15/16	5-5/16	8	3-3/8	8	1/4
357S	BH1411	357T	BH1412	1-1/2" AAB	1	2"	1-1/2"	16-1/4	2-15/16	5-9/16	8-3/8	3-3/8	8-3/4	1/2
358S	BH1413	358T	BH1414	1-1/2" AAB	1 1/2	2"	1-1/2"	17	2-15/16	5-9/16	8-3/8	3-3/8	8-3/4	1/2
—	—	359T	BH1415	1-1/2" AAB	2	2"	1-1/2"	16-3/4	2-15/16	5-9/16	8-3/8	3-3/8	8-3/4	1/2
—	—	3510T	BH1416	1-1/2" AAB	3	2"	1-1/2"	17-1/8	2-15/16	5-9/16	8-3/8	3-3/8	8-3/4	1/2
—	—	3511T	BH1417	1-1/2" AAB	5	2"	1-1/2"	18-3/4	2-15/16	5-9/16	8-3/8	3-3/8	8-3/4	1/2



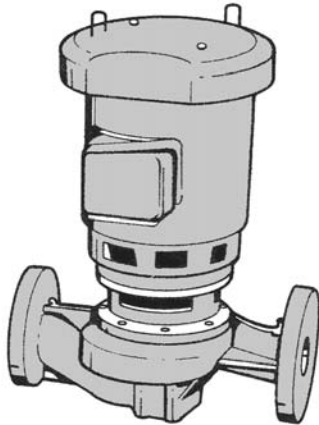
Repair Parts for Series 1535 Pumps



1535 Repair Parts Ordering Guide

Pump Model	Volute Gasket	Impeller Nut	Impeller Lockwasher	Impeller	Seal Kit	Shaft Sleeve	Water Slinger	Shaft Key	1 Phase Motor 115/230	3 Phase Motor 208-230/460
351	BG1555	BG1518A	BG1521B	BG1560A	BG1300	BG1521	BG1565A	BG1527E	BG1341J	BG1341N
352	BG1555	BG1518A	BG1521B	BG1560H	BG1300	BG1521	BG1565A	BG1527E	BG1341K	BG1341P
353	BG1555	BG1518A	BG1521B	BG1560B	BG1300	BG1521	BG1565A	BG1527E	BG1341L	BG1341R
354	BG1555	BG1518A	BG1521B	P58250	BG1300	BG1521	BG1565A	BG1527E	BG1341M	BG1341S
355	BG1555	BG1560K	BG1539F	BG1560C	BG1380	BG1539H	BG1628	BG1548S	BG1517B	BG1517C
356	BG1555	BG1560K	BG1539F	BG1550F	BG1380	BG1539H	BG1628	BG1548S	—	BG1517D
357	BG1555	BG1518A	BG1521B	BG1560J	BG1300	BG1521	BG1565A	BG1527E	BG1341J	BG1341S
358	BG1555	BG1560K	BG1539F	BG1560D	BG1380	BG1539H	BG1628	BG1548S	BG1517B	BG1517C
359	BG1555	BG1560K	BG1539F	BG1560E	BG1380	BG1539H	BG1628	BG1548S	—	BG1517D
3510	BG1555	BG1560K	BG1539F	BG1560F	BG1380	BG1539H	BG1628	BG1548S	—	BG1517F
3511	BG1555	BG1560K	BG1539F	BG1560G	BG1380	BG1539H	BG1628	BG1548S	—	BG1517G

Bell & Gossett Series 80 Pumps

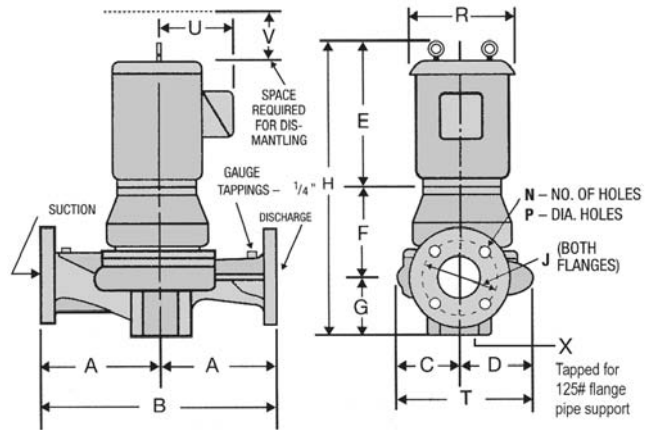


Series 80 Pump

The series 80 pump is designed for both horizontal and in-line mounting.

- Sizes from 1½" to 8" flanged for 125 lb. ANSI flanges.
- Standard working pressure to 175 psig; Max temp. @ 225° F
- Attached pump motors may be rotated on brackets at 90° intervals for convenient positioning of junction box.
- Support ring on underside of pump provides ground support when necessary.
- Motors from 3/4 to 50 horsepower. 3 phase, 208-230/460 volts. 1750 rpm styles shown below. 3500 rpm available.

Pump Dimension Diagram



SERIES 80 PUMP DIMENSIONS

Pump Model Size	Pump Flange Sizes Suction x Discharge	Pump Dimension in Inches ■ 1750 rpm motors									
		A	B	C	D	J 125# Flange	N	P	T	V	*X Pump Support Flange Size
1½ x 1½ x 7B	1½ x 1½	8	16	4-5/8	4-3/4	3-7/8	4	5/8	9-3/8	4	1
2 x 2 x 7	2 x 2	8-1/2	17	4-3/4	5-1/4	4-3/4	4	3/4	10	4	1-1/2
2½ x 2½ x 7	2½ x 2½	9	18	5	5-5/8	5-1/2	4	3/4	10-5/8	4-1/2	2
3 x 3 x 7B	3 x 3	9-1/2	19	5-1/4	6-1/4	6	4	3/4	11-1/2	4-1/2	2
4 x 4 x 7	4 x 4	10-1/2	21	5-1/2	6-3/4	7-1/2	8	3/4	12-1/4	5	3
5 x 5 x 7	5 x 5	12	24	5-3/4	7-1/4	8-1/2	8	7/8	13	4-1/2	3
6 x 6 x 7	6 x 6	14	28	6-1/2	8-1/2	9-1/2	8	7/8	15	5-1/4	3
1½ x 1½ x 9 ½	1½ x 1½	9-1/2	19	5-7/8	6-1/4	3-7/8	4	5/8	12-1/8	4	1
2 x 2 x 9½B	2 x 2	10	20	6	6-5/8	4-3/4	4	3/4	12-5/8	4-1/2	2
2½ x 2½ x 9½B	2½ x 2½	10-3/4	21-1/2	6-3/4	7-1/8	5-1/2	4	3/8	13-1/2	4-3/4	2
3 x 3 x 9½B	3 x 3	11-1/2	23	6-5/8	7-1/2	6	4	3/4	14-1/8	4-1/2	3
4 x 4 x 9½	4 x 4	12-1/2	25	7-1/4	8-1/2	7-1/2	8	3/4	15-3/4	5	3
5 x 5 x 9½	5 x 5	14-1/2	29	7-3/8	9	8-1/2	8	7/8	16-3/8	5	3
6 x 6 x 9½	6 x 6	16-3/4	33-1/2	8-1/4	10	9-1/2	8	7/8	18-1/4	5	3
8 x 8 x 9½	8 x 8	18	36	8-1/2	11	11-3/4	8	7/8	19-1/2	6-1/4	3
3 x 3 x 11	3 x 3	12	24	7	7-5/8	6	4	3/4	14-1/2	5-3/4	3
4 x 4 x 11	4 x 4	13	26	7-1/2	8-1/2	7-1/2	8	3/4	16-1/8	5-1/4	3
6 x 6 x 11	6 x 6	16	32	8-3/8	9-3/4	9-1/2	8	7/8	18-1/8	5-1/4	3
8 x 8 x 11	8 x 8	18	36	9	11-3/8	11-3/4	8	7/8	20-3/8	5-3/4	3

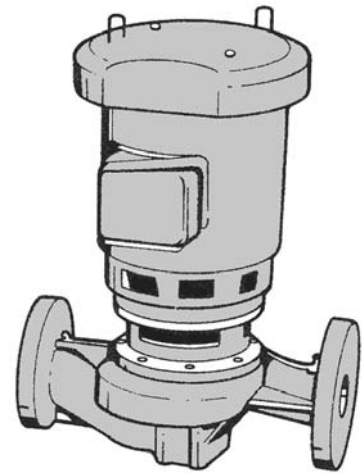
* The pump is tapped at the base ring (X) to accept the pipe flange sizes shown, thereby allowing a length of pipe to support the pump.

**Complete Pump and Repair Parts
Ordering Guides on following pages.**

Bell & Gossett Series 80 Pumps

Series 80 Stock Pumps for Fast Availability!

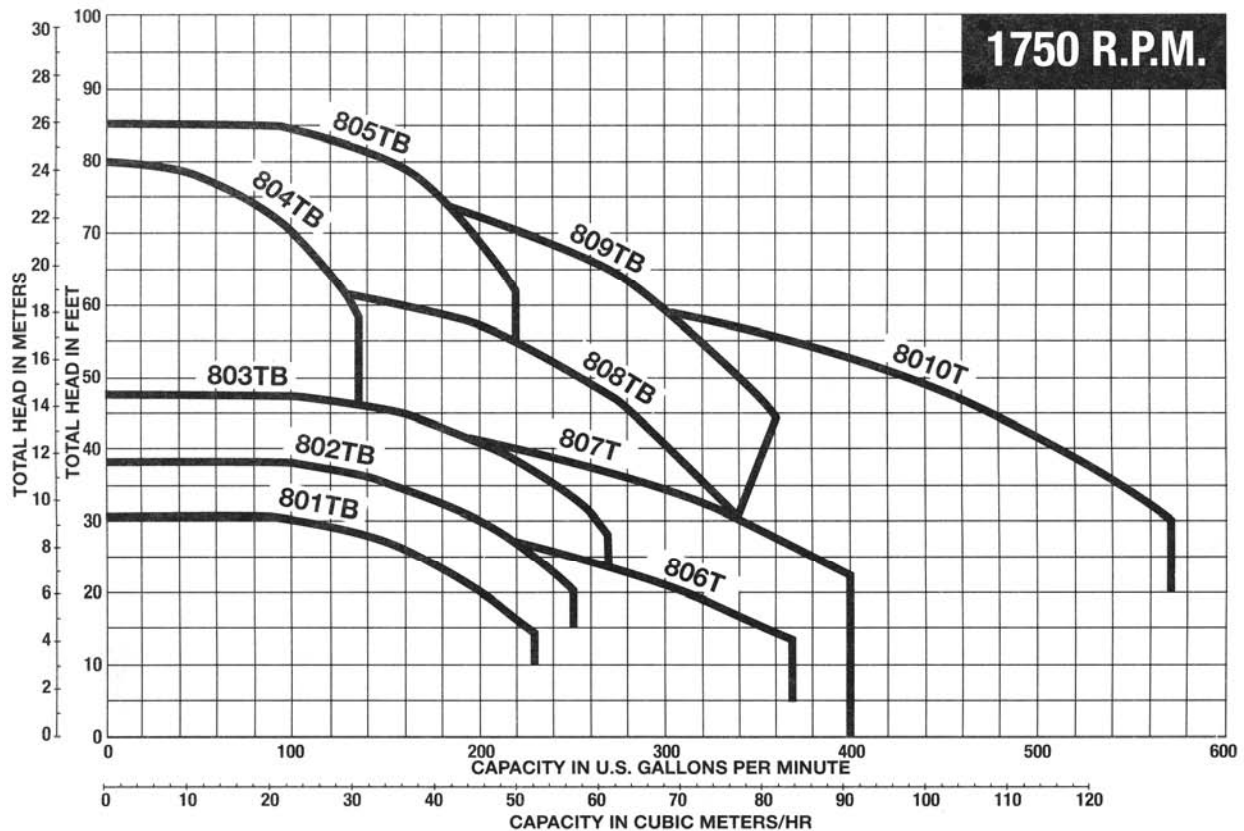
Complete Pumps ■ 3 phase 208/230-460 ■ 1750 rpm ■ Bronze Fitted						
Stock Pump Model No.	Pump Order No.	Pump Size	Pipe Size of Pump Flange	HP	Impeller No.	Impeller Diameter
*801T	Obsolete	3 x 3 x 7	3"	1.5	BG1725	6"
801TB	801TB	3 x 3 x 7B	3"	1.5	BG1726C	5¾"
*802T	Obsolete	3 x 3 x 7	3"	2	BG1725	6½"
802TB	802TB	3 x 3 x 7B	3"	2	BG1726C	6⅜"
*803T	Obsolete	3 x 3 x 7	3"	3	BG1725	7"
803TB	803TB	3 x 3 x 7B	3"	3	BG1726C	7"
*804T	Obsolete	2 x 2 x 9½	2"	3	BG1725B	9"
804TB	804TB	2 x 2 x 9½B	2"	3	BG1726B	8½"
*805T	Obsolete	2½ x 2½ x 9½	2½"	5	BG1725D	9¼"
805TB	805TB	2½ x 2½ x 9½	2½"	5	BG1726B	9⅛"
806T	806T	4 x 4 x 7	4"	2	BG1725A	6"
807T	807T	4 x 4 x 7	4"	3	BG1725A	7"
*808T	Obsolete	3 x 3 x 9½	3"	5	BG1725F	8"
808TB	808TB	3 x 3 x 9½	3"	5	BG1726D	8"
*809T	Obsolete	3 x 3 x 9½	3"	7.5	BG1725F	8¾"
809TB	809TB	3 x 3 x 9½	3"	7.5	BG1726D	8¾"
8010T	8010T	4 x 4 x 9½	4"	7.5	BG1725N	8¼"



* The pumps marked with an asterisk are obsolete. Shown here for reference purposes only. Repair parts available.

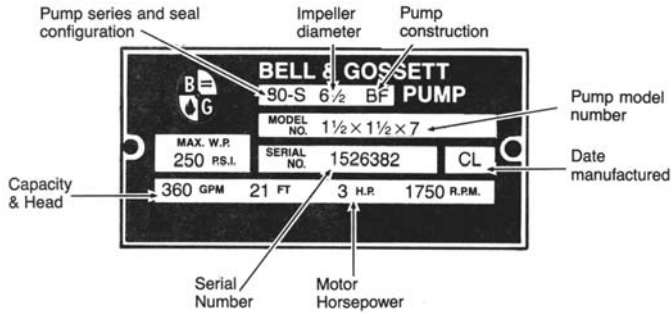
Series 80 Stock Pump Capacity Curves

These pumps are designed with pre-selected impeller diameters and motor horsepower sizes. They can be shipped sooner than special order pumps. All pumps are bronze fitted. Please see the ordering guide above. Special Order pumps for exact system requirements are available. Please call for sizing assistance.



Repair Parts for Bell & Gossett Series 80 Pumps

LOCATE THE NAMEPLATE



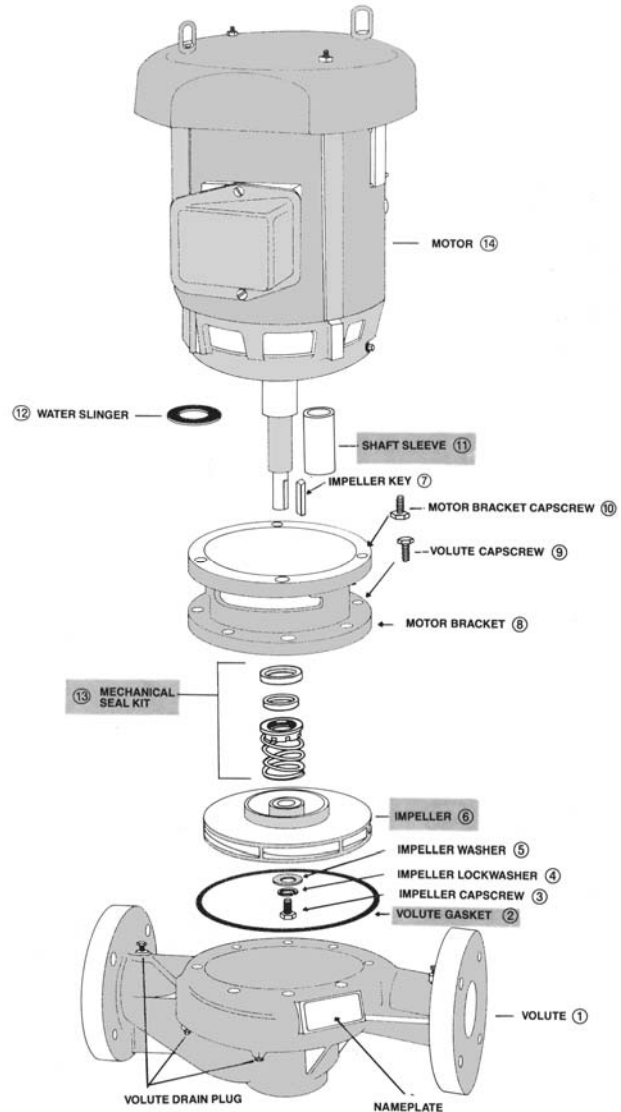
The sample nameplate above identifies the pump as a series 80 with a “-S” seal, and bronze fitted (BF) construction. The pump model no. (1 1/2 x 1 1/2 x 7) shows the pump with its maximum size impeller — the number 7 at the end of the model number indicates the maximum size impeller available for this pump. However, as you can see on the nameplate above, the actual diameter of the impeller used on this pump is 6 1/2”.

The series 80 pump is available with both Standard Seal and Stuffing Box construction. The vast majority of pumps in the field are Standard Seal designs.

Use the tables on the following pages to determine the parts needed for your pump.

In most cases you'll need to know the shaft size of your pump to order the correct parts:

- Determine the Frame Size of your motor found on the motor's nameplate;
- Use the “Motor Frame Ordering Chart” below to determine the shaft size.
 - Motor sizes up to and including frame size 215JM have a 1-1/4” shaft.
 - Motor sizes from 213JP and larger have a 1-5/8” shaft.



HP	MOTOR ORDERING CHART by Frame Size ■ 3 PHASE, 208-230/460 volts, ODP MOTORS								
	Frame Size 3500 rpm	Shaft Size	Order No.	Frame Size 1750 rpm	Shaft Size	Order No.	Frame Size 1150 rpm	Shaft Size	Order No.
1/2	—	—	—	—	—	—	143JM	1 1/4	MR2010
3/4	—	—	—	—	—	—	143JM	1 1/4	MR2015
1	—	—	—	143JM	1 1/4	MR2020	145JM	1 1/4	MR2040
1-1/2	143JM	1 1/4	MR2030	145JM	1 1/4	MR2050	182JM	1 1/4	MR2080
2	145JM	1 1/4	MR2060	145JM	1 1/4	MR2065	184JM	1 1/4	MR2100
3	145JM	1 1/4	MR2070	182JM	1 1/4	MR2090	213JM	1 1/4	MR2130
5	182JM	1 1/4	MR2095	184JM	1 1/4	MR2110	215JM	1 1/4	MR2160
7-1/2	184JM	1 1/4	MR2120	213JM	1 1/4	MR2140	254JP	1 5/8	MR2190
10	213JM	1 1/4	MR2150	215JM	1 1/4	MR2170	256JP	1 5/8	MR2220
15	215JM	1 1/4	MR2180	254JP	1 5/8	MR2200	284JP	1 5/8	MR2250
20	254JP	1 5/8	MR2210	256JP	1 5/8	MR2230	286JP	1 5/8	MR2280
25	256JP	1 5/8	MR2240	284JP	1 5/8	MR2260	324JP	1 5/8	MR2310
30	284JP	1 5/8	MR2270	286JP	1 5/8	MR2290	326JP	1 5/8	MR2340
40	286JP	1 5/8	MR2300	324JP	1 5/8	MR2320	—	—	—
50	324JP	1 5/8	MR2330	326JP	1 5/8	MR2350	—	—	—
60	326JP	1 5/8	MR2360	—	—	—	—	—	—

Repair Parts for Bell & Gossett Series 80 Pumps

When ordering series 80 replacement parts, you should know the shaft size of the motor:

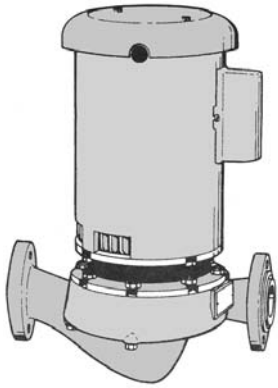
- The motor frame sizes up to and including 215JM are driving a **1-1/4"** shaft.
- The motor frame sizes from 213JP and higher are driving a **1-5/8"** shaft.
The "Motor Frame Size" can be found on the **motor** nameplate.
- The repair parts shown are for standard bronze fitted pumps.

Please see the Repair Parts Diagram on the preceding page.

* When more than one impeller is offered: ¹ fits a 1¼" shaft; ² fits a 1⅝" shaft.

Pump Model Size	*Impeller State Diameter	Item #3 Impeller Capscrew	Item #4 Impeller Lockwasher	Item #5 Impeller Washer	Item #7 Impeller Key	Item #2 Volute Gasket	Item #12 Water Slinger	Item #13 Seal Kit	Item #11 Shaft Sleeve	Item #9 Volute Capscrews
1½ x 1½ x 7	BG1725K									
1½ x 1½ x 7B	BG1727									
2 x 2 x 7	¹ BG1725L ² BG1725M									
2½ x 2½ x 7	¹ BG1726A ² BG1726K									
3 x 3 x 7	¹ BG1725 N/A for 1⅝					BG1560				BG1541V
3 x 3 x 7B	¹ BG1726C ² BG1726M									
4 x 4 x 7	¹ BG1725A ² BG1725H									
5 x 5 x 7	¹ BG1725R ² BG1725S									
6 x 6 x 7	¹ BG1726R ² BG1726S	BG1549B For 1¼ shaft	BG1511E For 1¼ shaft	BG1544D For 1¼ shaft	BG1547A For 1¼ shaft		BG1550 For 1¼ shaft	BG1415 For 1¼ shaft	BG1345 For 1¼ shaft	
1½ x 1½ x 9 ½	¹ BG1726 ² BG1726J									
2 x 2 x 9½	¹ BG1725B N/A for 1⅝	BG1539J For 1⅝ shaft	BG1511F For 1⅝ shaft	BG1548L For 1⅝ shaft	BG1546G For 1⅝ shaft		BG1550A For 1⅝ shaft	BG1385 For 1⅝ shaft	BG1338 For 1⅝ shaft	
2 x 2 x 9½B	¹ BG1726B ² BG1726L									
2½ x 2½ x 9½	¹ BG1725D N/A for 1⅝									
2½ x 2½ x 9½B	¹ BG1726B ² BG1726L					BG1545				BG1520V
3 x 3 x 9½	¹ BG1725F N/A for 1⅝									
3 x 3 x 9½B	¹ BG1726D ² BG1726N									
4 x 4 x 9½	¹ BG1725N ² BG1725P									
5 x 5 x 9½	¹ BG1726E ² BG1726P									
6 x 6 x 9½	¹ BG1726U ² BG1726W									
8 x 8 x 9½	N/A for 1¼ BG1726X	BG1539J	BG1511F	BG1548L	BG1546G	BG1545	BG1550A	BG1385	BG1338	BG1520V
3 x 3 x 11	—	—	—	—	—	—	—	—	—	—
4 x 4 x 11	¹ BG1548T ² BG1548U	BG1549B For 1¼ BG1539J For 1⅝	BG1511E For 1¼ BG1511F For 1⅝	BG1544D For 1¼ BG1548L For 1⅝	BG1547A For 1¼ BG1546G For 1⅝	BG1605	BG1550 For 1¼ BG1550A For 1⅝	BG1415 For 1¼ BG1385 For 1⅝	BG1345 For 1¼ BG1338 For 1⅝	BG1539I
6 x 6 x 11	N/A for 1¼ ² BG1548V	BG1539J	BG1511F	BG1548L	BG1546G	BG1605	BG1550A	BG1385	BG1338	BG1539I
8 x 8 x 11	N/A for 1¼ ² BG1548W	BG1539J	BG1511F	BG1548L	BG1546G	BG1605	BG1550A	BG1385	BG1338	BG1539I

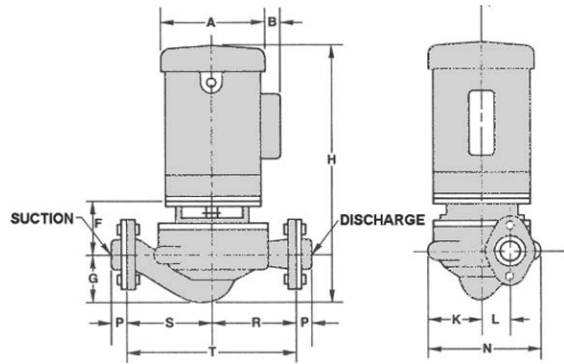
Bell & Gossett Series 90 Pumps



The series 90 close-coupled pump employs a "Back Pull-Out" feature, allowing the pump to be serviced without disturbing the system piping. Pump applications include hydronic heating and cooling, pressure boosting, industrial fluid transfer, refrigeration and heat exchanger circulation.

Maximum working pressure: 175 psi. **Maximum temp:** 225° F, or 250° F with special EPT construction mechanical seal.

Pipe sizes: 1 to 2"
RPM: 1750 or 3500.



Complete 90 Pumps with Motors @ 3500 rpm								
Model No.	Pump Size	Pipe Size	Motor HP, Voltage	Frame Size	Impeller Diameter			
90-1S	1 1/4" AA	1-1/4"	1/2HP, 115/230	56	3-7/16"			
90-1T			1/2HP, 208-230/460		3-7/16"			
90-2S			3/4HP, 115/230		4"			
90-2T			1HP, 208-230/460		4"			
90-3S			1HP, 115/230		4-3/8"			
90-3T			1HP, 208-230/460		4-3/8"			
90-4S			1-1/2HP, 115/230		5"			
90-4T			1-1/2HP, 208-230/460		5"			
90-5T			2HP, 208-230/460		5-1/4"			
90-6S			1 1/2" AA		1-1/2"	3/4HP, 115/230	56	3-1/2"
90-6T	3/4HP, 208-230/460	3-1/2"						
90-7S	1HP, 115/230	3-5/8"						
90-7T	1HP, 208-230/460	3-5/8"						
90-8S	1-1/2HP, 115/230	4"						
90-8T	1-1/2HP, 208-230/460	4"						
90-9T	2HP, 208-230/460	4-1/2"						
90-10T	3HP, 208-230/460	5"						
90-11S	2" AA	2"		1-1/2HP, 115/230		56		3-11/16"
90-11T				1-1/2, 208-230/460				3-11/16"
90-12T			2HP, 208-230/460	3-15/16"				
90-13T			3HP, 208-230/460	4-3/8"				
90-14T	1 1/2" A	1-1/2"	5HP, 208-230/460	184JM	4-7/8"			
90-15T			3HP, 208-230/460		5-1/4"			
90-16T			5HP, 208-230/460		5-7/8"			
90-17T1			7-1/2HP, 200 volt only		6-5/8"			
90-17T	7-1/2HP, 208-230/460	184JM	6-5/8"					
90-18T1	2" A	2"	10HP, 200 volt only	213JM	7"			
90-18T			10HP, 208-230/460		7"			
90-19T1			7-1/2HP, 200 volt only		184JM	5-3/4"		
90-19T			7-1/2HP, 208-230/460		184JM	5-3/4"		
90-20T1	2" A	2"	10HP, 200 volt only	213JM	6-1/2"			
90-20T			10HP, 208-230/460		213JM	6-1/2"		
90-21T1			15HP, 200 volt only		215JM	7"		
90-21T			15HP, 208-230/460		215JM	7"		

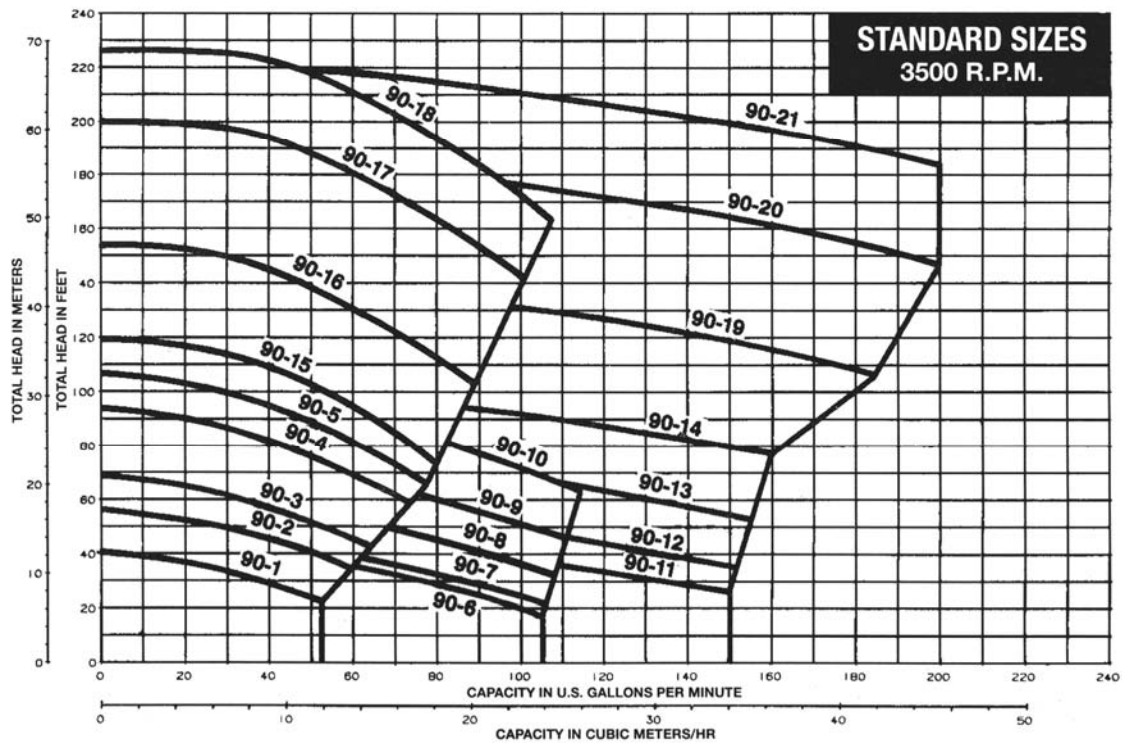
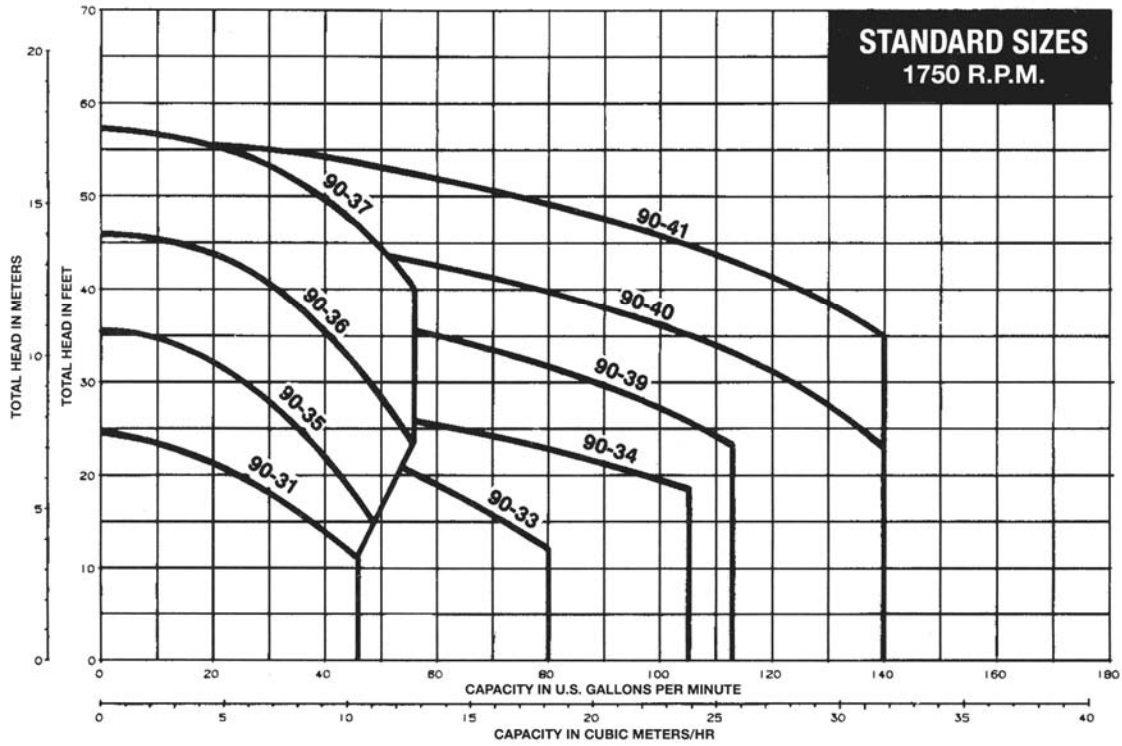
Complete 90 Pumps with Motors @ 1750 rpm					
Model No.	Pump Size	Pipe Size	Motor HP, Voltage	Frame Size	Impeller Diameter
90-31S	1 1/4" AA	1-1/4"	1/4HP, 115/230	56	5-1/8"
90-31T			1/4HP, 208-230/460		5-1/8"
90-33S	1 1/2" AA	1-1/2"	1/2HP, 115/230		5-1/4"
90-33T			1/2HP, 208-230/460		5-1/4"
90-34S	2" AA	2"	3/4HP, 115/230		5-1/4"
90-34T			3/4HP, 208-230/460		5-1/4"
90-35S	1 1/2" A	1-1/2"	1/2HP, 115/230		5-3/4"
90-35T			1/2HP, 208-230/460		5-3/4"
90-36S			3/4HP, 115/230		6-3/8"
90-36T			3/4HP, 208-230/460		6-3/8"
90-37S			1HP, 115/230	7"	
90-37T			1HP, 208-230/460	7"	
90-39S	2" A	2"	1HP, 115/230	6"	
90-39T			1HP, 208-230/460	6"	
90-40S			1-1/2HP, 115/230	6-1/2"	
90-40T			1-1/2HP, 208-230/460	6-1/2"	
90-41T	2" A	2"	2HP, 208-230/460	7"	

- These pumps may be installed in the vertical or horizontal position. However, do not install the motor in any position "below" the pump body.
- Series 90 pumps with 5 HP and smaller motors are permanently lubricated. The larger motors are furnished with grease fittings. Order B&G lubricant L23401.
- Please see the **Pump Capacity Curves** for standard **Stock Pumps** on the following page.
- If you require exact sizing for a specific system performance (not available from these Stock Pumps), please call for pump sizing assistance. Special factory order pumps are available for almost any system condition.

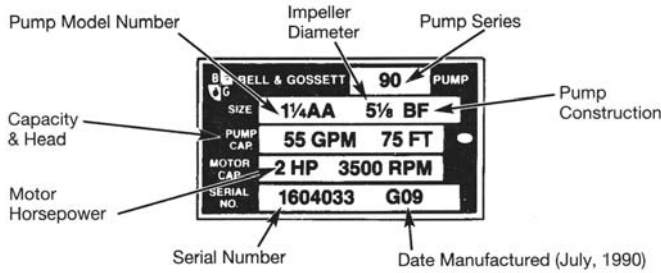
Bell & Gossett Series 90 Pumps & Repair Parts

Series 90 Stock Pump Capacity Curves

These pumps are designed with pre-selected impeller diameters and motor horsepower sizes. They can be shipped relatively quickly. All pumps are bronze fitted. Please see previous page for ordering guide. Special Order pumps for exact system requirements are available. Please call for sizing assistance.



Repair Parts for Bell & Gossett Series 90 Pumps



Remember to check the [Motor Selection Chart](#) below to determine if the motor shaft is 1/2", 3/4", or 1 1/4" in diameter.

The **Pump Nameplate** (shown above) provides the pump information you need to order the correct replacement components.

The above "sample" nameplate identifies the pump as a series 90, 1 1/4 AA in bronze fitted (BF) construction. The vast majority of pumps in the field are bronze fitted.

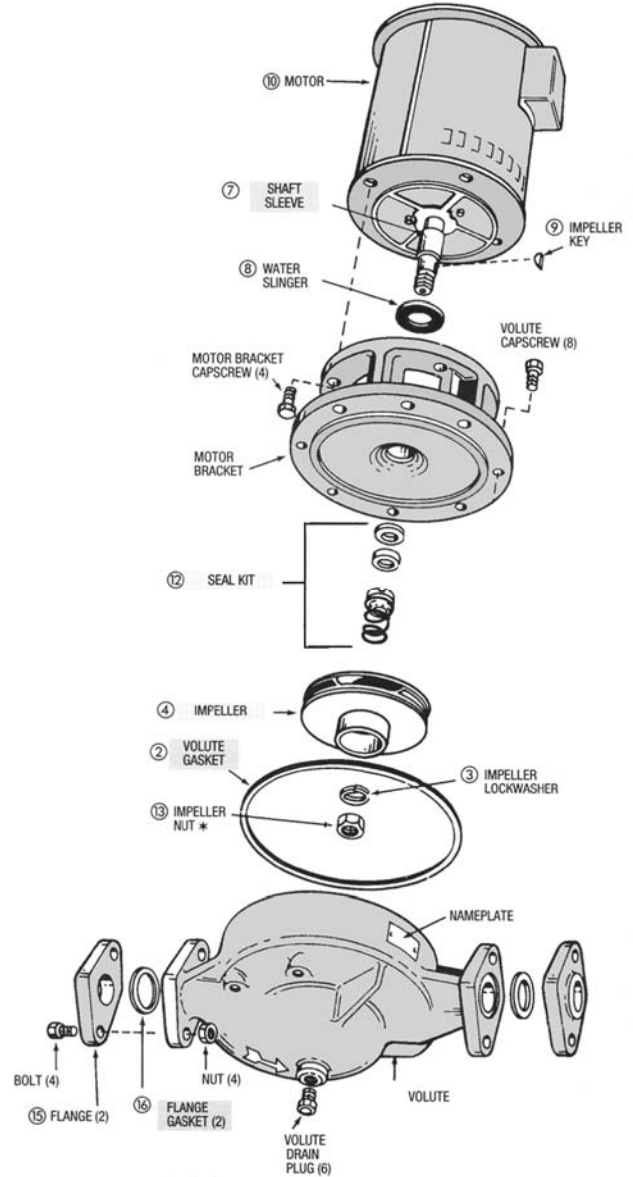
- The impeller diameter is 5-1/8" and is capable of pumping 55 gallons-per-minute at 75 feet of head. Remember, it takes 1 psi of pumping pressure to pump water "up" 2.31 feet.
- The motor horsepower is 2, and the RPM of the motor is 3500.

Do not remove the nameplate.

TO ORDER REPAIR PARTS:

Determine the pump size, pump construction and impeller diameter. Measure the shaft diameter at the seal, or [use the Motor Selection Chart](#) below to determine the shaft size.

See the charts below to determine the repair parts needed.

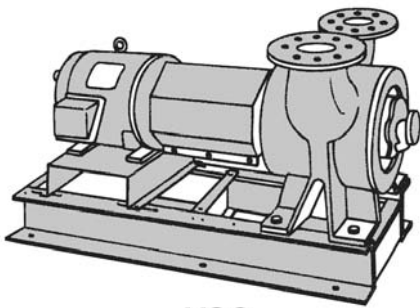


HP	MOTOR SELECTION CHART					
	1 Phase 1800 RPM	3 Phase 1800 RPM	Seal Shaft Diameter	1 Phase 3600 RPM	3 Phase 3600 RPM	Seal Shaft Diameter
1/4	BG1344E	BG1344F	1/2"	—	—	—
1/3	BG1344G	BG1344H	1/2"	—	—	—
1/2	BG1344J	BG1344K	3/4"	—	—	—
1/2	—	—	—	BG1341K	BG1344L	1/2"
3/4	—	—	—	BG1341L	BG1344M	1/2"
1	—	—	—	BG1341M	BG1344N	1/2"
1-1/2	—	—	—	BG1517B	BG1344P	3/4"
2	—	—	—	—	BG1344R	3/4"
3	—	—	—	—	BG1344S	3/4"
5	—	—	—	—	BG1344T	3/4"
7-1/2	—	—	—	—	188131	1-1/4"
10	—	—	—	—	188152	1-1/4"

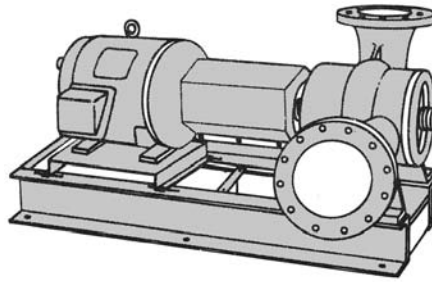
Pump Model Size	Item #2 Volute Gasket	Item #15 Flanges (Set of 2)	Item #16 Flange Gaskets (Set of 2)	Item #4 Impeller State Diameter	Item #13 Impeller Nut	Item #3 Impeller Lockwasher	Item #9 Impeller Key	Item #8 Water Slinger	Item #12 Seal Kit	Item #7 Shaft Sleeve
1-1/4AA	BG1555	BG1519F	BG1185	BG1550B	BG1518A	BG1521B	BG1527E	BG1565A	BG1300	BG1521
1-1/2AA	BG1555	BG1520R	BG1190	1 BG1550C 2 BG1551F	1 BG1518A 2 BG1560K	1 BG1521B 2 BG1539F	1 BG1527E 2 BG1548S	1 BG1565A 2 BG1628	1 BG1300 2 BG1380	1 BG1521 2 BG1539H
2AA	BG1555	BG1511	BG1195	1 BG1551M 2 BG1551N	1 BG1518A 2 BG1560K	1 BG1521B 2 BG1539F	1 BG1527E 2 BG1548S	1 BG1565A 2 BG1628	1 BG1300 2 BG1380	1 BG1521 2 BG1539H
1-1/2A	BG1560	BG1520R	BG1195	2 BG1552F 3 BG1725K	2 BG1560K 3 BG1549B	2 BG1539F 3 J23874	2 BG1548S 3 BG1547A	2 BG1628 3 BG1550	2 BG1380 3 BG1415	2 BG1539H 3 BG1345
2A	BG1560	BG1511	BG1195	2 P85584 3 BG1727H	2 BG1560K 3 BG1549B	2 BG1539F 3 BG1511E	2 BG1548S 3 BG1547A	2 BG1628 3 BG1550	2 BG1380 3 BG1415	2 BG1539H 3 BG1345

Key for table above: ¹ Part for pump with a 1/2" motor shaft; ² Part for pump with 3/4" motor shaft; ³ Part for pump with 1 1/4" motor shaft.

Bell & Gossett VSC®/VSCS® Pumps and Parts



VSC



VSCS

These large, powerful pumps are used in large buildings throughout the world.

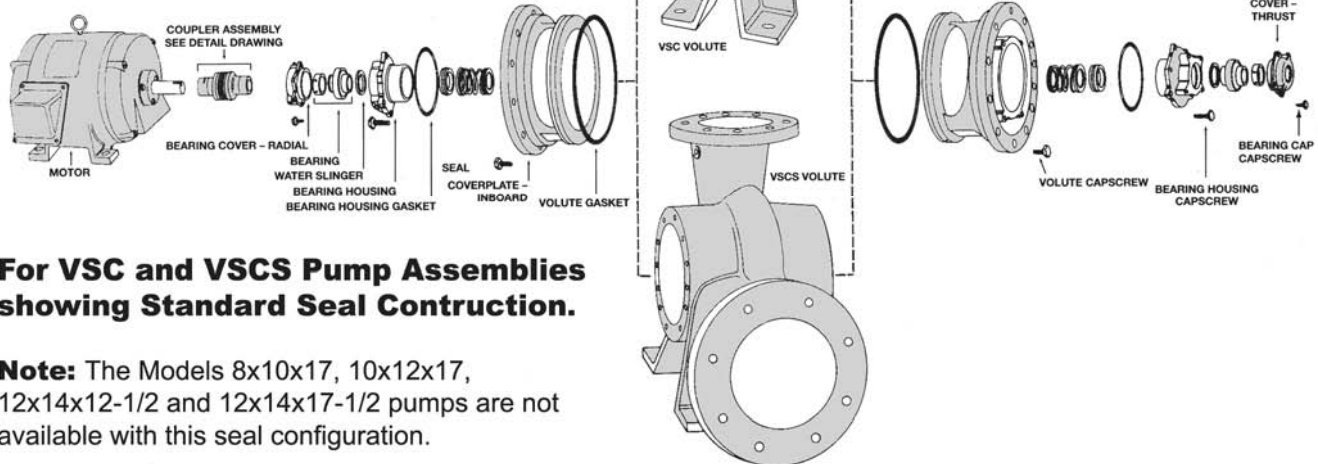
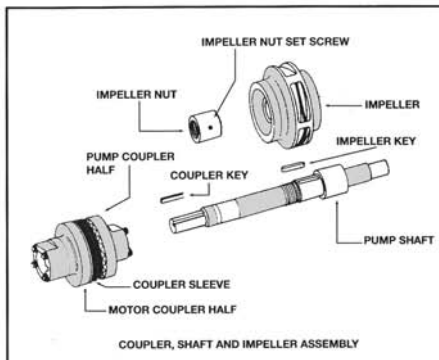
For more information, including in-depth specifications and repair part information, go to the website shown on the front cover of this catalog.

Call the phone number on the front cover for complete new or replacement pumps. All pumps are special order from the factory. Please allow 3 to 4 weeks for delivery. All complete pumps are special order and non-returnable. All pumps shipped FOB Morton Grove, IL.

A repair parts ordering table is not published in this catalog. You may download the repair part tables from the web address shown on the front cover of this catalog.

Call the phone number on the front cover for ordering. Many of the repair parts are special order from the factory. Please allow 10 to 14 days for delivery. Special order parts are not returnable.

The schematic repair parts drawing below is for both VSC and VSCS pumps with the standard seal configuration. However, the VSC and VSCS models 8x10x17, 10x12x17, 12x14x12-1/2 and 12x14x17-1/2 are not available with this seal configuration. Please visit the website shown on the cover for more information.

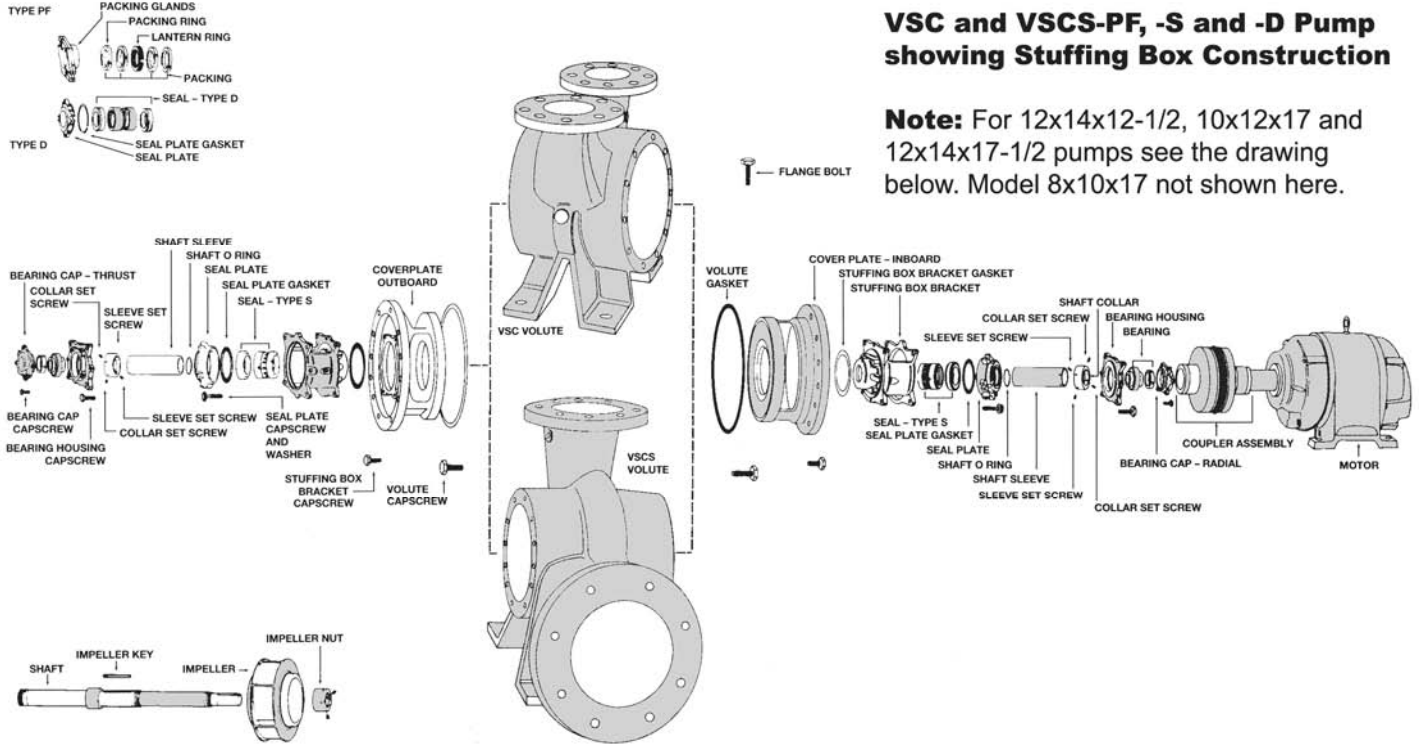


For VSC and VSCS Pump Assemblies showing Standard Seal Construction.

Note: The Models 8x10x17, 10x12x17, 12x14x12-1/2 and 12x14x17-1/2 pumps are not available with this seal configuration.

Bell & Gossett VSC®/VSCS® Pumps and Parts

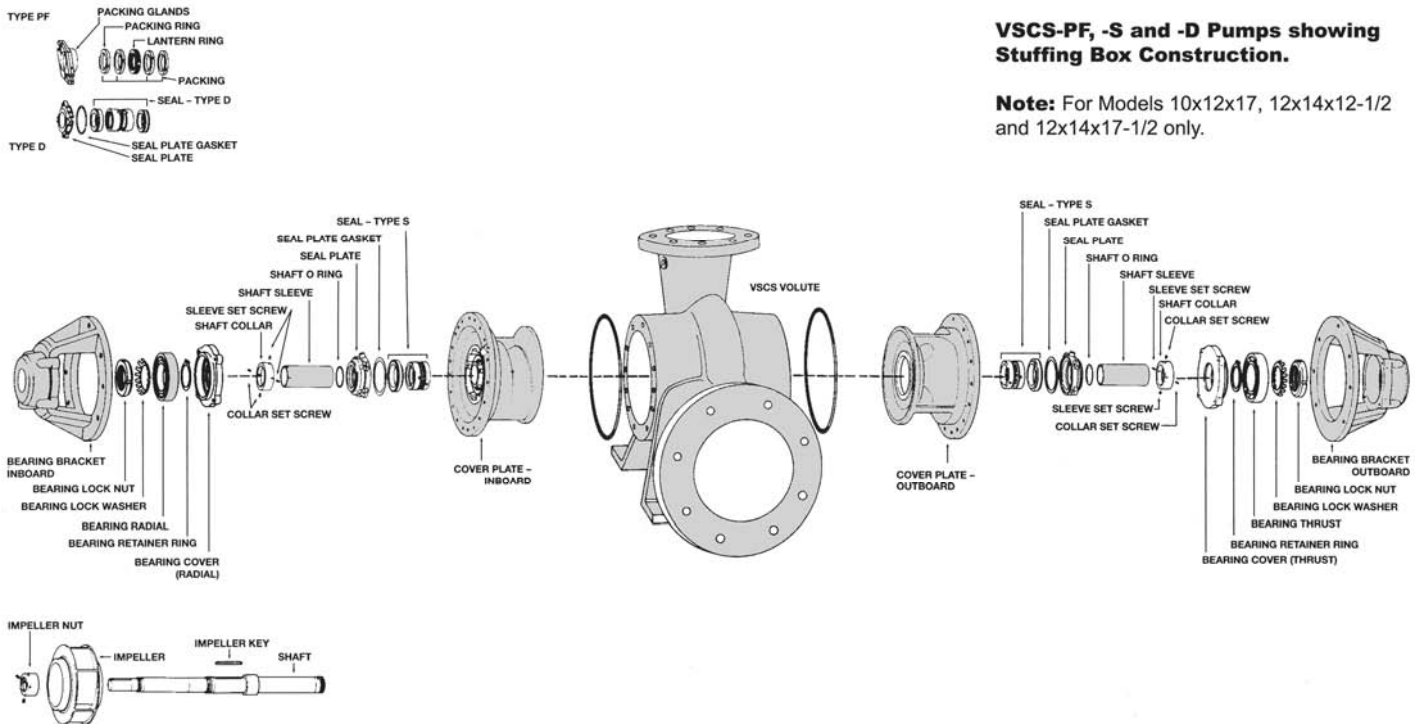
The repair parts below are the "Stuffing Box" design VSC and VSCS-PF, -S and -D Pumps: All models except those indicated in the "Note" below. For those models using a mechanical seal, see the previous page. For more information, including detailed repair part ordering guides, please go to the website on the front cover of this catalog.



VSC and VSCS-PF, -S and -D Pump showing Stuffing Box Construction

Note: For 12x14x12-1/2, 10x12x17 and 12x14x17-1/2 pumps see the drawing below. Model 8x10x17 not shown here.

The repair parts below are for the "Stuffing Box" design VSC and VSCS-PF, -S and -D Pumps: All models indicated in the "Note" below. For those models using a mechanical seal, see the previous page. For more information, including detailed repair part ordering guides, please go to the website on the front cover of this catalog.



VSCS-PF, -S and -D Pumps showing Stuffing Box Construction.

Note: For Models 10x12x17, 12x14x12-1/2 and 12x14x17-1/2 only.

