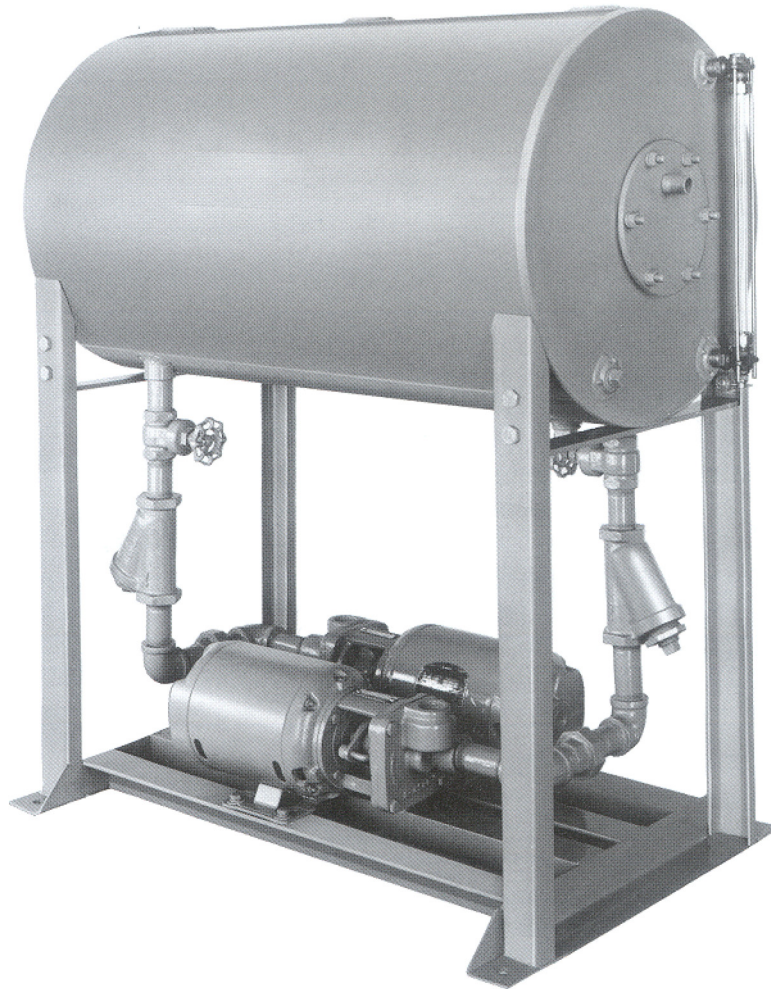


LOCKWOOD®

TYPE B BOILER FEED SYSTEMS



ILLUSTRATED WITH OPTIONAL EQUIPMENT

BF - B
11 - 08

LOCKWOOD TYPE B - BOILER FEED OVERVIEW

STANDARD FEATURES

Lockwood Type B boiler feed systems are offered as standard for boilers up to 150 HP and 150 PSIG pump pressures in simplex, duplex, and triplex configurations. Custom systems are also available.

Receivers are constructed of heavy steel plate with necessary reinforced tank connections, including two vents (one internally unrestrictable for added safety). Receivers are furnished with flat flanged heads for added strength, and bolted to support legs for ease of removal. For general applications, receiver capacity is sized to allow approximately 1 gallon of gross capacity per boiler horsepower (smaller receivers may be utilized for high make-up water conditions; larger receivers are recommended for high condensate return conditions). Each system includes a gauge glass with protection rods and shutoff cocks, individual pump suction piping, and a make-up water feeder (internal mechanical type). Pumps are selected for intermittent service.

TYPE B PUMPS

Type B regenerative turbine pumps offer many advantages in applications requiring low-flow and moderate to high pressure when compared to standard centrifugal pumps. Regenerative turbine pumps are designed for low-flow rates relative to discharge pressure making them an efficient and economical choice for boiler feed applications. Because the head capacity curve is steep, the turbine pump offers greater flexibility. When operating at pressures below the design pressure, turbine pumps require less horsepower, centrifugal pumps require more. Turbine pumps are less likely to cavitate due to pressure fluctuations, and offer higher heads than are normally available with centrifugal pumps.

Turbine pumps derive their name from the many buckets machined into the face of the impeller. The pumped liquid is circulated in and out of the impeller buckets many times, each cycle imparting more energy until the liquid is discharged. The resulting flow is smooth and continuous.

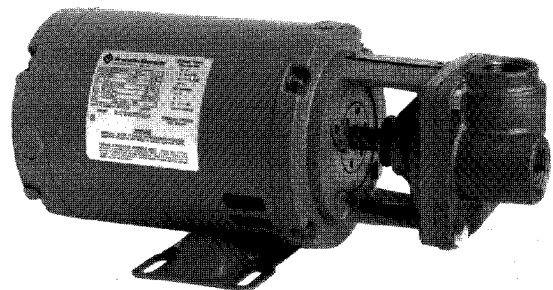
Type B turbine pumps are unique in design. An integral part of their design is the Life-Loc® feature that provides a way to externally adjust the clearance between the impeller and the raceway. This feature makes the Type B pump field adjustable without disassembling the pump or disturbing the piping. Because of the turbine pump's low-flow, high-head characteristics, the pump discharge pressure may be adjusted to match critical system requirements without appreciably changing the flow rate. This adjusting feature also allows pump performance to be restored to "like new" after years of service, greatly extending pump life.

Standard Type B turbine pumps are of bronze-fitted construction with mechanical seals for temperatures to 225°F.

Life-Lo® is a registered trademark of Burks Pumps.

ACCESSORIES/OPTIONS

- TEFC Motors
- Magnetic Starters/Custom Panels
- H-0-A Switches
- Pilot Lights
- Control Circuit Transformers
- Electrical Alternators
- Level Alarm Switches
- Thermometers
- Pressure Gauges
- Internal Dispersion Tubes
- Steam Preheat Assemblies
- Corrosion Inhibitors (Magnesium Anode)
- Internal Tank Linings
- Galvanized Tanks
- ASME Code Tanks
- Tank Insulation



TYPE B PUMP

LOCKWOOD TYPE B - BOILER FEED SELECTION DATA

BOILER RETURN SYSTEM WITH TYPE "B" PUMPS

BOILER HP	PUMP GPM (NOMINAL)	PUMP DISCHARGE PRESSURE (PSIG)					TANK CAP. GALLONS	MAKE-UP VALVE	
		20	75	100	125	150			
10	2	MODEL NO.	BC-1	BC-1	BC-1	BC-3	BC-3	35	1/2"
		PUMP NO.	33CT5M	33CT5M	33CT5M	35CT5M	35CT5M		
		PUMP HP.	1/3	1/3	1/3	1/2	1/2		
20	3	MODEL NO.	BC-1	BC-1	BC-4	BC-4	BC-5	35	1/2"
		PUMP NO.	33CT5M	33CT5M	35CT6M	35CT6M	37CT6M		
		PUMP HP.	1/3	1/3	1/2	1/2	3/4		
30	4	MODEL NO.	BC-1	BC-2	BC-4	BC-6	BC-6	35	1/2"
		PUMP NO.	33CT5M	33CT6M	35CT6M	37CT7M	37CT7M		
		PUMP HP.	1/3	1/3	1/2	3/4	3/4		
40	6	MODEL NO.	BC-1	BC-2	BC-4	BC-6	BC-6	60	1/2"
		PUMP NO.	33CT6M	35CT7M	310CS5M	315CS5M	320CS6M		
		PUMP HP.	1/3	1/2	1	1 1/2	2		
60	8	MODEL NO.	BC-3	BC-4	BC-7	BC-8	BC-8	60	1/2"
		PUMP NO.	35CT8M	310CS5M	315CS6M	320CS6M	320CS6M		
		PUMP HP.	1/2	1	1 1/2	2	2		
80	11	MODEL NO.	BC-1	BC-2	BC-2	BC-5	BC-5	100	1/2"
		PUMP NO.	310CS6M	315CS6M	315CS6M	330CS7M	330CS7M		
		PUMP HP.	1	1 1/2	1 1/2	3	3		
100	14	MODEL NO.	BC-1	BC-4	BC-5	BC-7	BC-7	100	1/2"
		PUMP NO.	310CS6M	320CS7M	330CS7M	350CS9M	350CS9M		
		PUMP HP.	1	2	3	5	5		
125	18	MODEL NO.	BC-3	BC-6	BC-6	BC-7	BC-7	100	1/2"
		PUMP NO.	315CS7M	330CS8M	330CS8M	350CS9M	350CS9M		
		PUMP HP.	1 1/2	3	3	5	5		
150	21	MODEL NO.	BC-1	BC-2	BC-3	BC-3	BC-3	180	1/2"
		PUMP NO.	320CS8M	330CS9M	350CS9M	350CS9M	350CS9M		
		PUMP HP.	2	3	5	5	5		

BOILER FEED SYSTEMS

DESIGN SELECTION

- SIMPLEX:** one pump system to serve one boiler.
- DUPLEX:** two pump system to serve one boiler (with one stand-by pump); or two boilers (with one pump per boiler). If system is to serve two boilers; select pumps for individual boiler size, and select tank and make-up valve for total boiler load.
- TRIPLEX:** three pump system to serve two boilers (with one stand-by pump); or three boilers (with one pump per boiler). Select pumps for individual boiler size, and select tank and make-up valve for total boiler load.

HOW TO ORDER

QTY. 1 -Model GC-5 LOCKWOOD DUPLEXSYSTEM: AG13 460/3/6 ODP WITH _____

MODEL NO. _____

SPECIFY simplex/duplex/triplex/etc. _____

PUMP MODEL NO. _____

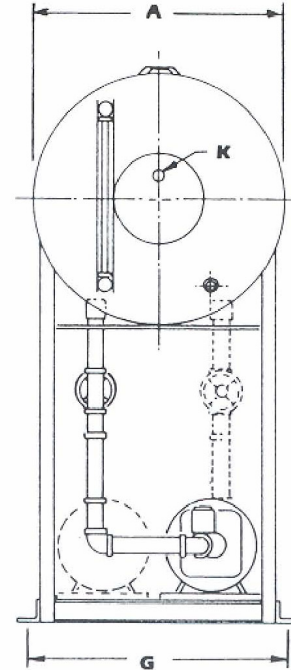
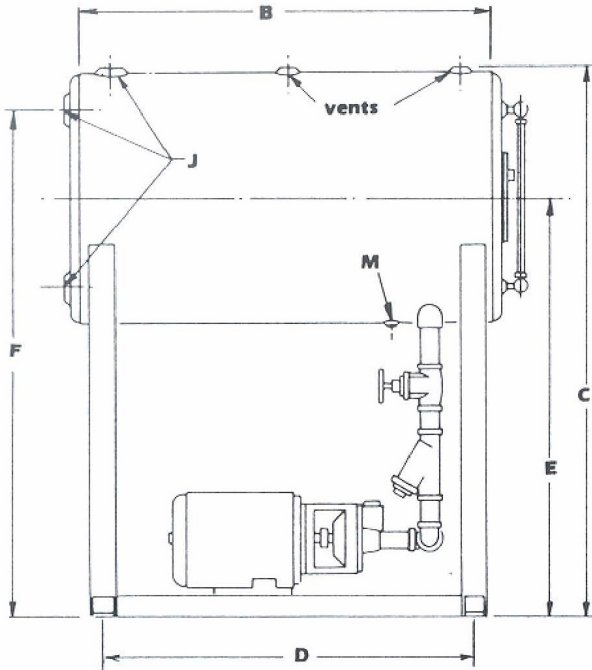
VOLTAGE AND PHASE _____

MOTOR ENCLOSURE _____

OPTIONS/ACCESSORIES _____

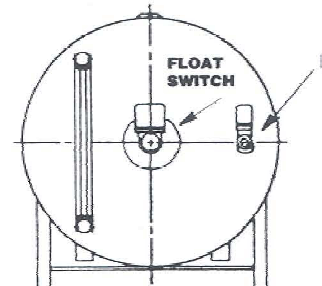
LOCKWOOD TYPE B - BOILER FEED

RECEIVER DIMENSIONS



APPROXIMATE DIMENSIONS IN INCHES

RECEIVER CAPACITY	A	B	C	D	E	F	G	J	K	L	M	VENT
35 GAL	18	32	41	30	32	38	19	2	1/2	-	1	1 1/4
60 GAL	22	36	59	32	48	56	23	2 1/2	1/2	-	1 1/4	1 1/4
100 GAL	26	42	73	38	60	70	28	3	1/2	-	1 1/4	1 1/2
180 GAL	30	60	75	56	60	71	29	4	1/2	-	1 1/2	2



ELECTRIC SOLENOID MAKE-UP VALVE ASSEMBLY

SPECIFICATIONS

Furnish and Install where shown on plans, one (1) model _____ (Simplex) (duplex) (triplex) packaged boiler feed system as manufactured by Lockwood Products, Inc (Atlanta, Georgia). The system shall be designed to deliver feedwater to _____ (number), _____ horsepower boiler(s) operating at _____ PSIG, Furnish _____ gallon receiver heavy steel plate with flat flanged heads (not flat heads), bolted leg. configuration, and necessary threaded pipe connections (including two vents, one internally unrestrictable). Receiver shall be mounted with adequate height to prevent pump cavitation when handling 200°F. Water

Tank accessories to include: (mechanical) (electrical) makeup water assembly, gauge glass assembly with shut-off cocks and protection rods, and individual pump suction piping (each to include a shut off valve and strainer).

Furnish _____ (number) Type B Lockwood boiler feed pump(s), each having a capacity of _____ GPM of 200°F water at _____ PSIG. Pump(s) shall be of the regenerative turbine design of bronze fitted construction having bronze impellers with Monel blades. Each pump shall have a mechanical seal rated for 225°F. Pump(s) shall be externally adjustable without disassembling the pump or disturbing the piping. The suction and discharge connections shall be integral with the pump casing. Each pump shall be close coupled to a _____ horsepower, _____ RPM, _____ volt, _____ phase, 60 Hertz. (open drip-proof) (totally enclosed) motor. The motor shall be sized to prevent overloading at the highest head condition listed in the specifications.

All components of this system are to be provided by one manufacturer for single unit responsibility.

The specifications contained in this bulletin were effective at the time of publishing. Lockwood Products, Inc. reserves the right to discontinue products at any time or to change specifications or design without incurring any obligation.