

Installation, Operation and Maintenance Instructions

Model GB

Models and Owner's Information

Model Number: _____

Serial Number: _____

Dealer: _____

Dealer Telephone: _____

Purchase Date: _____

Installation Date: _____

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Safety Instructions

TO AVOID SERIOUS OR FATAL PERSONAL INJURY OR MAJOR PROPERTY DAMAGE, READ AND FOLLOW ALL SAFETY INSTRUCTIONS IN THE MANUAL AND ON THE PUMP.

THIS MANUAL IS INTENDED TO ASSIST IN THE INSTALLATION AND OPERATION OF THIS UNIT AND MUST BE KEPT WITH THE PUMP.



This is a **SAFETY ALERT SYMBOL**. When you see this symbol on the pump or in the manual, look for one of the following signal words and be alert to the potential for personal injury or property damage.



DANGER Warns of hazards that **WILL** cause serious personal injury, death or major property damage.



WARNING Warns of hazards that **CAN** cause serious personal injury, death or major property damage.



CAUTION Warns of hazards that **CAN** cause personal injury or property damage.

NOTICE: INDICATES SPECIAL INSTRUCTIONS WHICH ARE VERY IMPORTANT AND MUST BE FOLLOWED.



UNIT NOT DESIGNED FOR USE WITH HAZARDOUS LIQUIDS OR FLAMMABLE GASES.
THOROUGHLY REVIEW ALL INSTRUCTIONS AND WARNINGS PRIOR TO PERFORMING ANY WORK ON THIS PUMP.

Hazardous fluids can cause fire, burns or death.

MAINTAIN ALL SAFETY DECALS.

NOTICE: INSPECT UNIT FOR DAMAGE AND REPORT ALL DAMAGE TO THE CARRIER OR DEALER IMMEDIATELY.

- Review Instructions.
- Maintain Decals.

Description and Specifications

The GB Series pump is a portable horizontal multi-stage pump designed for residential and agricultural washdown, misting and general boosting services.

The 304 stainless steel version of the GB is used for HVAC, general commercial, reverse osmosis and filtration applications.

Engineering Data

- Maximum Liquid Temperatures: 160°F (72°C).
- Maximum Suction Pressure 75 psi.
- Pipe connections are 1" NPT suction and discharge. ¾" Hose Adapters are available.
- Capacities to 33 GPM.
- Heads to 600 Feet (260) psi.
- Rotation: Right hand, ie; clockwise when viewed from motor end.

Piping

- Piping should be no smaller than the pump discharge and/or suction connections. Piping should be kept as short as possible, avoiding unnecessary fittings to minimize friction losses.
- All piping **MUST** be independently supported and **MUST NOT** place any piping loads on the pump.
- All joints **MUST** be airtight. Use 3 – 4 wraps of Teflon™ tape to seal threaded connections.

Wiring and Grounding



- ⚠ Install ground and wire according to local and National Electrical Code requirements.
- ⚠ Install an all leg disconnect switch near the pump.
- ⚠ Disconnect and lockout electrical supply before installing or servicing pump.

- ⚠ Electrical supply **MUST** match pump's name plate specifications. Incorrect voltage can cause fire and/or damage to the motor and voids warranty.
- ⚠ Motors not protected **MUST** be provided with contactors and thermal overloads on single phase motors, or starters with heaters on three phase motors. See motor nameplate.
- Use only stranded copper wire to motor and ground. The ground wire **MUST** be at least as large as the wire to the motor. Wires should be color coded for ease of maintenance.

WARNING Pumps with open spray application must be plugged into electrical service which is protected by a Ground Fault Service Interrupter. Failure to do so may result in serious personal injury or death and property damage.

- Follow motor manufacturer's wiring diagram on the motor nameplate or terminal cover carefully.



FAILURE TO PERMANENTLY GROUND THE PUMP, MOTOR AND CONTROLS BEFORE CONNECTING TO ELECTRICAL POWER CAN CAUSE SHOCK, BURNS OR DEATH.

Rotation

NOTICE: INCORRECT ROTATION MAY CAUSE DAMAGE TO PUMP AND VOIDS THE WARRANTY.

- Correct rotation is right-hand, **CLOCKWISE** when viewed from the motor end.
- To reverse three phase motor rotation interchange any two power supply leads.

Operation



SPLASHING OR IMMERSING OPEN DRIP PROOF MOTORS IN FLUIDS CAN SHORT OUT MOTOR AND CAUSE FIRE, SHOCK, BURNS OR DEATH.

NOTICE: PUMP MUST BE FULLY PRIMED BEFORE OPERATION. DO NOT RUN PUMP DRY.

- After stabilizing the system at normal operating conditions, check the piping. If necessary, adjust the pipe supports.



Do not run pump dry; damage to mechanical seal will result. Do not run against closed nozzle for prolonged periods or damage to pump and piping will result.

HANDLE ASSEMBLY

Remove two top bolts from motor adapter. Insert them through handle back into the motor adapter and tighten securely.

NOZZLING

It is important to choose the right nozzle for proper pump performance. The faucet supplying the water to the pump should be checked to see what rate of flow it will furnish. If the one min. flow with the faucet open is:

- 7 gals. — Use 6 gpm nozzle V2005 }
(which is included with each AM2)
- 6 gals. — Use 5 gpm nozzle V1502 }
- 5 gals. — Use 4 gpm nozzle SN0045 AM 7 Kit
- 4 gals. — Use 3 gpm nozzle V10152

By using this method of choosing nozzles we can keep a positive pressure at the pump intake. This will keep the pump from "robbing" water from other faucets.

DAIRY FARM USE

We recommend that all WaterGuns® used on farms producing Grade "A" milk be equipped with a Vacuum Breaker, installed according to instructions supplied with Vacuum Breaker. This prevents sub-atmospheric pressure in the supply line even if the water supply should diminish. We suggest the WaterGun be hung on a wall at least 18" off the floor and that a hose rack be provided to store the discharge hose off the floor.

Maintenance

▲WARNING

Hazardous voltage

FAILURE TO DISCONNECT AND LOCKOUT ELECTRICAL POWER BEFORE ATTEMPTING ANY MAINTENANCE CAN CAUSE SHOCK, BURNS OR DEATH.

- Motors have permanently lubricated bearings. No lubrication is possible or necessary. Follow the motor manufacturer's recommendations for maintenance.
- To **REMOVE** pump from service drain all pumpage from pump and piping.
- To **RETURN** pump to service replace all plugs and piping using Teflon™ tape or equivalent on male threads.
- Refer to "OPERATION" section of manual.

GB Series Disassembly

- Place wrenches on adapter (13) and discharge head (1), and unscrew discharge head and casing (3).

NOTE: CASING HAS A LEFT HAND THREAD ON BOTH ENDS AND IS SEALED WITH O-RINGS (2).

- Remove klip ring (6) from end of shaft (11). The stages, each comprising a bowl (9), impeller (8) and diffuser (7) may now be removed. If pump has been clogged by foreign matter, but otherwise undamaged, further dismantling may be unnecessary. If shaft assembly (11), shaft seal (12) or motor are to be replaced, proceed as follows:
 - Remove plug (18) from rear of motor and hold motor shaft with screwdriver. Unscrew pump shaft coupling assembly (11) from motor shaft. Remove four motor mounting bolts (14), separate the motor from frame by withdrawing it straight back.
 - Motor may have to be pried with two screwdrivers if the shaft seal sticks. The shaft seal stationary seat may be pushed out of adapter from the motor side. There is a rubber coupling o-ring (19) between motor shaft and coupling which will usually remain on the motor shaft as the seal is pulled over it.

GB Series Reassembly

Check that the rubber deflector (20) and the coupling o-ring (19) are on the motor shaft. If they are worn or damaged, replace. Install stationary seal seat in frame (13) and mount frame (13) and handle (15) to motor. Install seal rotating element, making sure faces are clean and that the last rubber member goes over the coupling o-ring and onto the motor shaft. Screw the pump shaft and coupling assembly (11) on until it seats up against the motor shaft. With a straight edge across the face of the frame check the location of the outboard end of the coupling. Due to variations in motor shaft length, etc., it will be from .030" short to flush. Add .010" shims 7K155 until they are flush or higher, i.e., the last shim interferes with the straight edge. Put the required stages on checking each stage for additional shim requirements by putting the straight edge across the bowl and checking the location of the impeller hub. After all the stages are on the shaft replace klip ring (6).

Check o-ring on both frame and discharge head and replace if damaged. Install casing (3) and bearing spider (4). Thread on discharge head (1) (Notice: left hand threads) and tighten.

With screwdriver in the slotted end of the pump shaft, turn the unit over (clockwise) before replacing plug (18). It should turn with no resistance except that of the shaft seal.

Trouble Shooting

▲WARNING



FAILURE TO DISCONNECT AND LOCKOUT ELECTRICAL POWER BEFORE ATTEMPTING ANY MAINTENANCE CAN CAUSE SHOCK, BURNS OR DEATH.

SYMPTOM

MOTOR NOT RUNNING

See Probable Causes 1 thru 5

LITTLE OR NO LIQUID DELIVERED

See Probable Causes 6 thru 12

EXCESSIVE POWER CONSUMPTION

See Probable Causes 3, 12, 13 & 14

EXCESSIVE NOISE & VIBRATION

See Probable Causes 3, 6, 7, 10, 13, 15 & 16

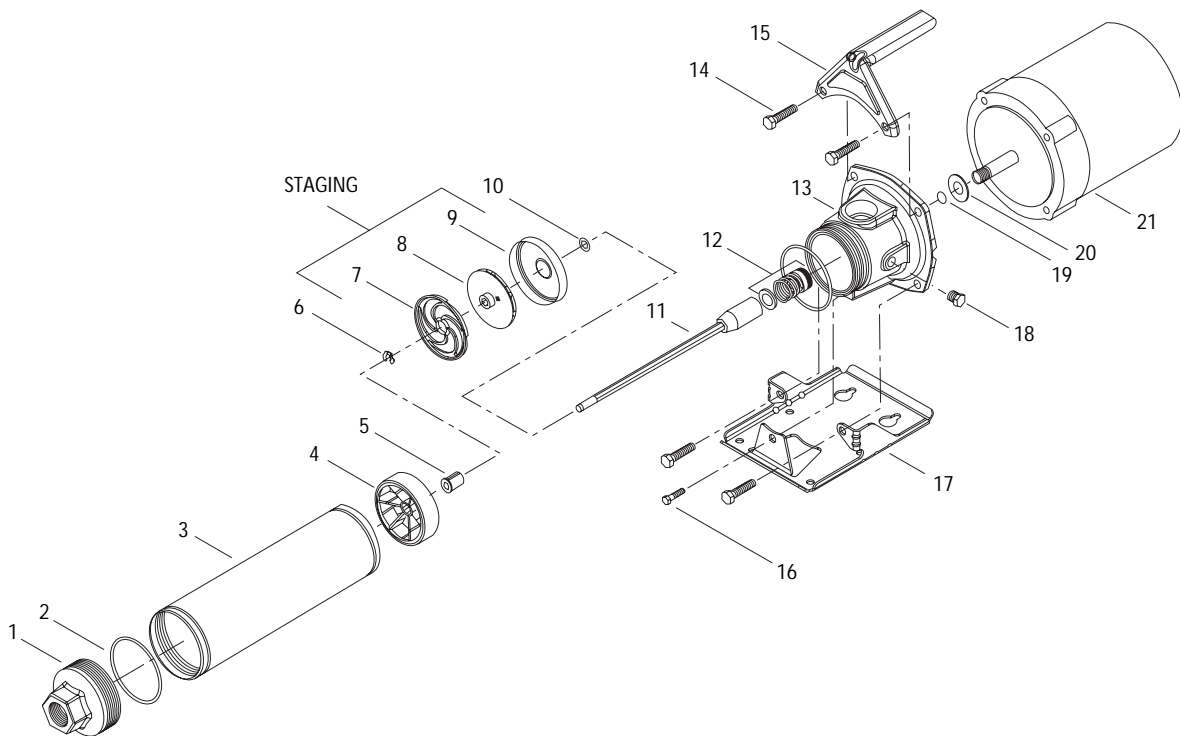
PROBABLE CAUSES

1. Motor thermal protector tripped
2. Open circuit breaker or blown fuse
3. Impeller binding
4. Motor improperly wired
5. Defective motor
6. Pump is not primed, air or gases in pumpage
7. Discharge, suction plugged or valve closed
8. Incorrect rotation (3 phase only)
9. Low voltage or phase loss
10. Impeller worn or plugged with debris
11. System head too high
12. Incorrect impeller diameter
13. Discharge head too low — excessive flow rate
14. Fluid viscosity and/or specific gravity too high
15. Worn bearing
16. Pump, motor or piping loose

GB Components Parts Table

Item No.	Description	Materials
1	Discharge Head	Cast Iron
2	O-ring, Casing	BUNA
3	Casing	304SS
4	Bearing Spider	Glass Filled Polycarbonate
5	Bearing	Urethane
6	Klip Ring	301SS
7	Diffuser	Glass Filled Polycarbonate
8	Impeller	Glass Filled Polycarbonate
9	Bowl	304SS

Item No.	Description	Materials
10	Shim	304SS
11	Shaft/Coupling Assembly	304SS
12	Mechanical Seal	Varies
13	Motor Adapter	Cast Iron
14	Screw, Motor Adapter to Motor	Steel
15	Handle – optional	Steel
16	Screw, Base to Motor Adapter	Steel
17	Base	Steel
18	Pipe Plug	Steel
19	O-ring, Motor Shaft	BUNA
20	Deflector	BUNA
21	Motor	Motor Shaft 300SS



GOULDS PUMPS LIMITED WARRANTY

This warranty applies to all water systems pumps manufactured by Goulds Pumps.

Any part or parts found to be defective within the warranty period shall be replaced at no charge to the dealer during the warranty period. The warranty period shall exist for a period of twelve (12) months from date of installation or eighteen (18) months from date of manufacture, whichever period is shorter.

A dealer who believes that a warranty claim exists must contact the authorized Goulds Pumps distributor from whom the pump was purchased and furnish complete details regarding the claim. The distributor is authorized to adjust any warranty claims utilizing the Goulds Pumps Customer Service Department.

The warranty excludes:

- Labor, transportation and related costs incurred by the dealer;
- Reinstallation costs of repaired equipment;
- Reinstallation costs of replacement equipment;
- Consequential damages of any kind; and,
- Reimbursement for loss caused by interruption of service.

For purposes of this warranty, the following terms have these definitions:

- “Distributor” means any individual, partnership, corporation, association, or other legal relationship that stands between Goulds Pumps and the dealer in purchases, consignments or contracts for sale of the subject pumps.
- “Dealer” means any individual, partnership, corporation, association, or other legal relationship which engages in the business of selling or leasing pumps to customers.
- “Customer” means any entity who buys or leases the subject pumps from a dealer. The “customer” may mean an individual, partnership, corporation, limited liability company, association or other legal entity which may engage in any type of business.

THIS WARRANTY EXTENDS TO THE DEALER ONLY.

Goulds Pumps

