

## Installation and Service Manual

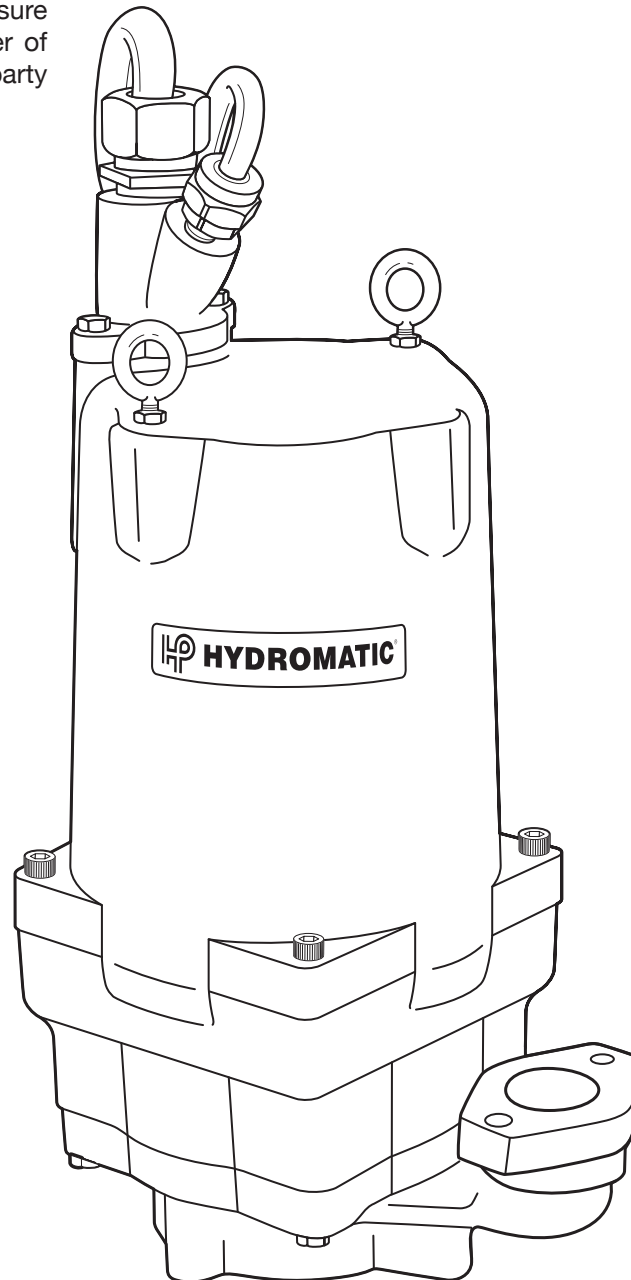
# HAZARDOUS LOCATION SUBMERSIBLE GRINDER PUMP

## Model HPGX200



(Class I, Division 1, Groups C & D): FM

NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.



**HYDROMATIC**<sup>®</sup>  
Pentair Water

04/11  
Item # E-03-438  
Part # 5625-438-1  
© 2011 Pentair Pump Group, Inc.

## General Information

Thank you for purchasing your Hydromatic® pump. To help ensure years of trouble-free operation, please read the following manual carefully.

### Before Operation:

Read the following instructions carefully. Reasonable care and safe methods should be practiced. Check local codes and requirements before installation.

### Attention:

This manual contains important information for the safe use of this product. Read this manual completely before using this product and refer to it often for continued safe product use. **DO NOT THROW AWAY OR LOSE THIS MANUAL.** Keep it in a safe place so that you may refer to it often.

**WARNING: Before handling these pumps and controls, always disconnect the power first. Do not smoke or use sparkable electrical devices or flames in a septic (gaseous) or possible septic sump.**

## Pump Warning

**IMPORTANT: Read all directions before replacing any parts.**

**WARNING: Before handling these pumps and controls, always disconnect the power first.**

**Do not smoke or use sparkable electrical devices or flames in a septic (gaseous) or possible septic sump.**

### Pump:

The hazardous location submersible pump family was designed in accordance with requirements for hazardous locations. These pumps, connected properly, will provide years of trouble-free service. If servicing is required, the repair should be done by a Hydromatic approved service center.

### Application:

These pumps are designed for on-site residential sewage discharge applications with a pH ranging from 6 to 9, specific gravities from 0.9 to 1.1, viscosities ranging from 28 to 35 S.S.U., and temperatures up to 140 degrees Fahrenheit.

### Receiving Pump:

Pump should be checked on arrival for possible concealed shipping damage. Any damage should be reported immediately to delivery carrier. Claims for damage must originate at the receiving end. Claims for shipping damage cannot be processed at the factory.

### Codes:

All local wiring codes must be observed. Consult the local inspector before installation to avoid costly delays that can occur due to rejection after job is finished.

### Pumps Not Operating or in Storage:

Pumps with carbon ceramic seals must have impellers manually

rotated (6 revolutions) after setting non-operational for 3 months or longer and prior to electrical start-up.

### Seal Failure Probes:

All hazardous location submersible pumps have two factory-installed moisture detectors (seal failure probes). They are in a normally open series circuit in the seal chamber. Under normal operating conditions the circuit remains open. If the lower seal leaks and moisture enters this chamber, the moisture would settle to the bottom of the chamber and will complete the circuit between the moisture detectors.

This circuit must be connected to a sensing unit and signaling device. This is supplied in a Hydromatic control panel.

**NOTE: Failure to install such a device negates all warranties by Hydromatic pumps.**

### Heat Sensors:

All motors in this family have heat sensors on or embedded in the motor winding to detect excessive heat. This prevents damage to the motor. If the sensor trips due to excessive winding temperature, the starter in the panel breaks power to the pump. Once the sensor resets, the starter is to be reset (automatic for FM) for continued operation of the pump. This circuitry is supplied in a Hydromatic control panel. The sensors are set to trip at 120 degrees Celsius.

**NOTE: Failure to install such circuitry would negate FM approval and all warranties by Hydromatic pumps.**

## Power Cords:

The power cord and heat sensor seal failure cord are potted into the connection box cap. The cords must not be spliced.

**NOTE: Each cable has a green lead. This is the ground wire and must be grounded properly per N.E.C. and/or local codes. During normal maintenance procedures power cords should be inspected for abnormal wear and replaced accordingly.**

## Overload Heaters:

If the Hydromatic electrical panel is not used, starters with 3-leg overload relay must be supplied on 3-phase pumps. Each leg is to have an identical heater sized in accordance with the nameplate amps on the motor housing. The amp draw on these submersible motors is slightly higher than a corresponding horsepower surface motor, so heaters must be sized by the nameplate rating.

Single-phase pumps with capacitor start have a run and a start winding, each drawing a different current. To adequately protect these windings with the appropriate heaters, consult the factory.

**NOTE: Red lead is always start winding of pump using single phase.**

# Pump Installation

## Electrical Connections:

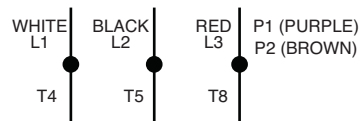
Make all connections from motor to control panel to comply with local codes.

**CAUTION: Make sure that the ground wire is securely connected and that the unit is properly grounded in accordance with local codes.**

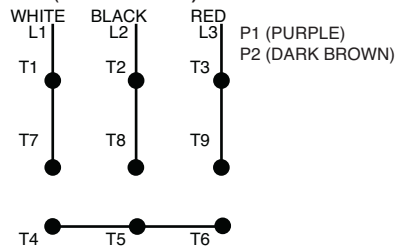
SENSOR LEADS	
COLOR	PURPOSE
Red	Seal Failure
Pink	Seal Failure
White	Heat Sensor
Black	Heat Sensor
Green	Ground

## MOTOR LEADS

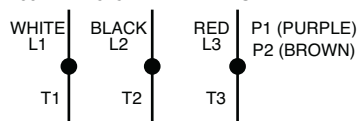
208 - 230V SINGLE PHASE



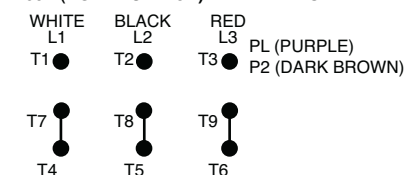
230V (DUAL VOLTAGE) THREE PHASE



200V AND 575V THREE PHASE



460V (DUAL VOLTAGE) THREE PHASE



## Unpacking Pump:

Remove pump from carton. When unpacking unit, check for concealed damage. Claims for damage must be made at the receiving end through the delivery carrier. Damage cannot be processed from the factory.

## Installing Pump in Sump:

Before installing pump in sump, lay it on its side and rotate impeller. Impeller may be slightly stuck due to factory test water so it must be broken loose with a small bar or screwdriver in edge of vanes. The impeller should turn freely. Do not connect the power until after this test.

Clean all trash and sticks from sump and connect pump to piping. A check valve must be installed on each pump.

## Location:

If pumps are installed in an existing basin or concrete sump, the piping can either be connected permanently or rails and brackets can be furnished for mounting to walls of basin. In either case, be sure the Hydromatic solids handling ball check valve is used and that the pumps are submerged in a vertical position. The complete factory-built packaged system is recommended for the most satisfactory installation and generally for the lowest cost where expensive installation labor is involved.

## Making Electrical Connections:

All electrical wiring must be in accordance with local code, and only qualified electricians should make the installations. Complete wiring diagrams are included for use in making the installation. All wires should be checked for shorts to ground with an ohmmeter or Megger after the connections are made. This is important, as one grounded wire can cause considerable trouble.

**IMPORTANT: If equipment is not properly wired and protected as recommended, Hydromatic warranty is void.**

## Heat Sensor and Seal Failure Connections:

If a Hydromatic control panel is used, terminal blocks are provided for heat sensor and seal failure connections. (See Panel Schematic.) If a control panel is supplied by others, it must allow heat sensor and seal failure terminations.

## Installing Sump Level Control Float Controls:

In either simplex, duplex or triplex systems the lower or turn-off control is to be set to maintain a minimum level in the sump. This level shall be no more than 3/4" from the top of the motor housing down to the surface of the sewage.

The second, or turn-on control, is set above the lower turn-off control. The exact distance between the two floats must be a compromise between a frequent pumping cycle (10 starts per hr. max.) to control septicity, solids and a slower cycle for energy economy. This distance should be determined by the engineer or consulting engineer, depending on the conditions of the application.

For installation of Hydromatic supplied level controls refer to your system's installation and service manual.

## Pump Operations

### Starting the Pump:

To start the pump, perform the following steps in order:

**WARNING: Keep hands and clothing away from cutters and impeller!**

1. If pump is 3 phase, the rotation of the impeller must first be checked. Lift pump from sump, lay it down, and quickly turn pump on and then off.

The impeller should turn counterclockwise when viewed from the suction. If rotation is wrong, turn off main breaker and interchange any two line leads to motor to correct rotation.

If pump is piped-in permanently and inlet cannot be observed, rotation will have to be checked by pump operation described later.

If pump is single phase, no rotation check is necessary.

2. Run water into sump until motor is covered.
3. Open gate valve in discharge line.
4. Turn pump on. If pump runs and sump liquid does not pump down, stop pump and close discharge gate valve. Then lift pump until sealing flange is open to vent off trapped air. Lower pump, open discharge valve, and start the pump again.
5. If pump is 3 phase, piped in permanently, and still does not operate properly after venting, rotation is wrong and can be reversed by interchanging any two line leads.
6. Level controls should be set in accordance with "Installing Sump Level Control Float Controls" above.

**CAUTION: Be sure ground wire is connected to a good ground. This is important for safety.**

## Pump Maintenance

As the motors are oil filled, no lubrication or other maintenance is required.

If the heat sensor and seal failure are hooked up properly, no attention is necessary as long as the seal failure indicator light doesn't come on. To ensure continuity of the seal sensor leads, a test light is provided on intrinsically safe Hydromatic panels as standard equipment.

Pump should be checked every quarter for corrosion and wear.

### Servicing Instructions:

**IMPORTANT: Read all directions before replacing any parts.**

**WARNING: Before handling these pumps and controls, always disconnect the power first.**

**Do not smoke or use sparkable electrical devices or flames in a septic (gaseous) or possible septic sump.**

### Field Service on Hydromatic Hazardous Location Pumps:

If a Hydromatic hazardous location pump is used in a hazardous location, or if the pump is still in warranty, the pump must be returned to the factory for service or repaired in an authorized Hydromatic service center. This will ensure the integrity of the hazardous location rating of the pump and comply with our warranty requirements. Pumps out of

warranty and not used in a hazardous location can be field serviced by any reputable serviceman. When any field servicing is performed on a pump, the following instructions should be followed carefully.

### **Disconnecting Pump Cords:**

If a Hydromatic hazardous location pump is to be removed from its location, the pump cords may be disconnected at control panel (on sump mounted control panels) and cord assembly taken with pump.

**CAUTION: If cord openings from sump to control panel are open, gases from sump could enter panel and an explosive condition could exist. Seal openings!**

**CAUTION: Do not reconnect power to a cord and cap assembly while removed from pump.**

### **Replacing Cords:**

The power cord and heat sensor/seal failure cord are potted into the connection box cap, forming the cord and cap assembly.

If cords require replacement due to damage or cords being too short, cord and cap assembly must be replaced as a complete assembly available from factory.

1. Remove cord and cap assembly.
2. Disconnect wires taking note of color/number coding.
3. Connect wires of new cord and cap assembly in same manner as old one was removed.
4. Reinstall cord and cap assembly taking care not to pinch wires.

5. Check pump for proper rotation before returning to normal service.

### **Replacing Grinder Parts:**

If necessary to replace grinder parts because of wear or to inspect for clogging:

1. Close gate valve at pump discharge.
2. Turn off circuit breaker.

**CAUTION: Never work on pump with power on. Be sure ground wire from pump is connected to a good ground such as a water pipe.**

3. Remove pump from sump.
4. Remove machine screws (18) and remove cutter ring retainer (39). Remove cutter ring (42).
5. Unscrew hex head cap screws (14) and remove volute case (23).
6. Radial cutter (40) and axial cutter (41) are now exposed. If checking for clogging, these parts can now be cleaned without removing them from the shaft.
7. If necessary to replace cutters, remove hex head screw (19), washer (20), and radial cutter (40) from shaft.

Radial cutter (40) and impeller (17) are screwed onto shaft. The thread is right-hand. Tap radial cutter (40) with plastic hammer if necessary to loosen. Axial cutter (41) lifts off impeller (17) and is held from rotation by pin (21). Unscrew impeller (17) from shaft in same manner as radial cutter (40), and remove washer (7).

8. Clean all parts thoroughly before proceeding with assembly. Make sure spring pin (21) is inserted into impeller (17). Replace case volute (23) and hex head cap screws (14).
9. Replace cutter ring (42) and cutter ring retainer (39) with machine screws (18).
10. Plug pump into power and operate for a few seconds only to ensure parts are not rubbing.

### **Replacing Seals:**

1. Remove pipe plugs (11) from motor and seal chamber and drain out all oil. The lower pipe plug drains the seal housing. Check for water in the oil drained from motor chamber. If there is some water in this oil, the pump must be completely dismantled and the stator dried out or replaced if the resistance to ground is less than 500,000 ohms after drying. A hypot check of 1,500 volts for 230 volt motors and 2,000 volts for 460 volt motors should be performed.
2. Remove cutters, impeller and pump parts as described under "Replacing Grinder Parts".
3. Remove socket head cap screw (24) in seal plate (16) and install two of the screws into the back-off holes to force seal plate (16) from seal housing (26). Pulling this plate (16) off will also force lower seal (22) from shaft. Remove lower seal (22) from seal plate (16).
4. Remove snap ring (25) and pull upper seal (27) from shaft. It may be necessary to use packing hooks to remove seal. Use a screwdriver to break the upper stationary ceramic seal ring so that it can be removed easily.

**CAUTION: Do not use any old seal parts. Replace all parts with new pieces. Mixing old and new parts will cause immediate seal failure.**

5. When cleaning all parts before replacement, check to be sure sleeve bearing or shaft is not worn. Be sure all "O" rings are in excellent condition without cuts or nicks, and replace them if not in excellent condition. Use O-ring lube to prevent cutting at assembly.
6. After upper seal is replaced we recommend an air test be made by inserting 5 lbs. of air pressure into the motor housing and allow ample time for air to escape. If pressure remains steady for five minutes, continue by replacing lower seal plate, lower shaft seal, and impeller. Repeat the air test in the seal chamber. If this test is satisfactory, complete the assembly as described earlier. Next, the pump must be filled with oil. Start by filling the seal chamber. Do not fill completely. Allow about ½ inch air space for expansion. Next fill the motor housing just above the motor winding.
7. Use only Hydromatic submersible oil in motor chamber and seal chamber. In an emergency, a high grade transformer oil can be used in the motor chamber and #20 non-detergent automobile oil can be used in the seal chamber.

#### **Replacing Motor Stator:**

1. If necessary to replace stator, completely dismantle pump as described above.

2. Drain all oil from upper housing. Remove drain plug (11) in bottom of bearing housing, and remove bearing housing (26) and rotor and shaft assembly (32), making note that a wave washer (35) is used on the top of the upper bearing (34).
3. Place motor housing vertically on the bench and remove the hex head screws (2) and remove the power cord (1) from the pump, making sure that the wires are not damaged. Clip the power cable leads, taking note of the wire connections, and then remove the power cable.
4. Turn the motor housing over and remove the stator bolts (29) from the stator (31), then remove the stator from the motor housing (33).
5. Place new stator (31) into the motor housing (33) while pulling the new leads through the power cord opening in the motor housing. Replace the stator bolts (29) and tighten. Replace the seal sensor wire (9) along the side of the stator.
6. Attach the power cord (1) to the stator (31) leads and the sensor leads using insulated butt connectors (4). Once attached, carefully tuck the wires into the motor housing making sure that they will not come in contact with the rotor. Replace the power cord assembly end into the motor housing (33) and replace the hex head screws (2) and tighten. Make sure O-ring (3) is in place on power cord assembly flange before connecting stator (31) wire leads with butt connectors (4) to the power cord (1) leads.
7. Examine the bearings (34) and (36) on the shaft/rotor

assembly (32). If when rotated they feel rough, replace. When reinstalling new bearings, press on the inner ring of the bearing only or damage may occur.

8. Replace the wave washer (35) into the upper bearing pocket in the motor housing (33), then reinstall the rotor and shaft assembly (32).
9. Follow the previously outlined steps to reassemble the pump from this point.
10. Always run pump for a few seconds after assembly work to be sure all parts run smoothly before replacing it in the sump. Check again for correct rotation. Pump should rotate counterclockwise when viewed from the suction end.

**NOTE: When applying power, be sure the pump is restrained from turning by holding the pump at the motor housing, or by clamping it in a holding fixture.**

**WARNING: Severe injury may result from accidental contact with moving cutters. Keep clothing, hands and feet away from cutters any time power is connected to the pump.**

# Pump Troubleshooting

Below is a list of troubles and their probable causes.

## No liquid delivered.

1. Pump air bound
2. Discharge head too high
3. Pump or piping plugged
4. Wrong rotation
5. Speed too low

## Insufficient liquid delivered.

1. Discharge head too high
2. Impeller or cutters partially plugged or damaged
3. Wrong rotation
4. Incorrect diameter impeller
5. Speed too low

## Insufficient discharge pressure.

1. Wrong rotation
2. Air or gases in liquid
3. Impeller damaged
4. Incorrect impeller diameter
5. Speed too low

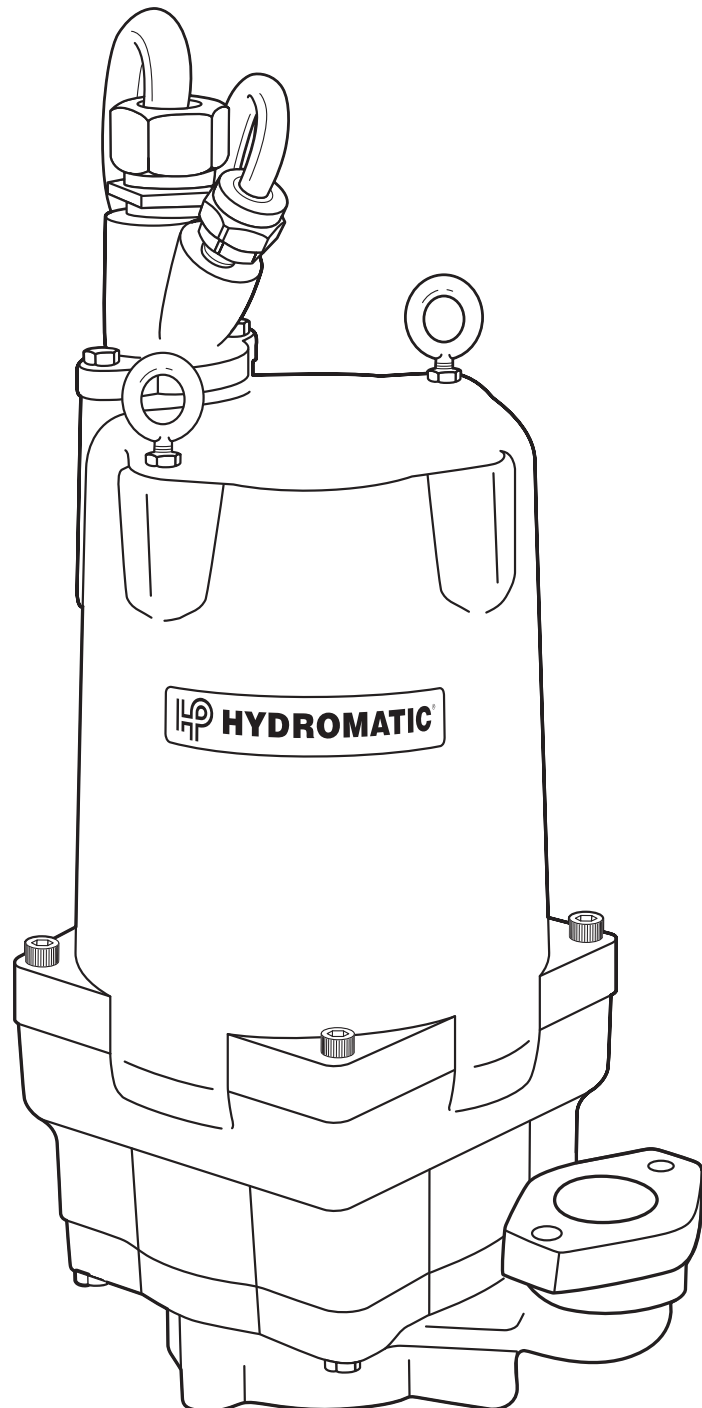
## Pump overloads motor.

1. Wrong rotation
2. Specific gravity or viscosity of liquid too high
3. Speed too high
4. Head lower than rating, pumping too much liquid
5. Pump clogged
6. Defective bearings
7. Defective impeller

## Pump is noisy.

1. Defective bearings
2. No axial clearance between impeller and volute
3. No axial clearance between radial cutter and cutter ring

If the cause of the trouble cannot be determined and corrected as outlined above, contact your nearest factory representative.



# HPGX200 Parts List

**ORDERING REPLACEMENT PARTS:** Product improvements are made from time to time. The latest part design will be furnished as long as it is interchangeable with the old part. When ordering replacement parts, always furnish the following information: (1) pump serial number, (2) pump model and size, (3) part description, (4) part number, (5) impeller diameter (if ordering impeller), (6) quantity required, and (7) shipping instructions.

Ref. No.	Part No.	Part Description	Qty.
1	06461-045-5	Cord Cap Assy. 35'	1
	06461-012-5	Cord Cap Assy. 50'	1
2	19100A029	Screw – Cap	2
3	00834-015-1	O-Ring	S 1
4	10898-000-1	Connector	2
6	04918-000-1	Lower Seal Seat	S 1
8	05876A120	O-Ring	S 1
9	10900-000-5	Seal Sensor Assy.	1
10	10901-001-1	Seal Failure Probe	2
11	00119-016-1	Pipe Plug w/Wire Holes	2
12	10902-000-1	Wire Safety Lock	1
13	00150-012-1	O-Ring	S 1
14	00101-011-1	Capscrew (Hex)	4
15	00834-023-1	O-Ring	S 1
16	05404-007-5	Seal Plate Assy.	1
17	07033-002-2	Impeller 5.00" Dia.	1
	07033-008-2	Impeller 4.63" Dia.	1
	07033-031-2	Impeller 4.56" Dia.	1
	07033-009-2	Impeller 4.38" Dia.	1

Ref. No.	Part No.	Part Description	Qty.
	07033-022-2	Impeller 4.13" Dia.	1
	07033-024-2	Impeller 3.88" Dia.	1
	07033-030-2	Impeller 3.50" Dia.	1
18	19-001-1	Machine Screw (Rd Hd)	3
19	05570-005-1	Impeller Washer	1
20	14885-000-1	Impeller Screw	1
21	05419-001-1	Roll Pin	1
22	04917-000-1	Lower Seal (Rotating)	S 1
23	10957-000-2	Volute	1
24	105-014034-263	Screw – Socket	4
25	00975-002-1	Snap Ring	1
26	10956-100-2	Seal Housing	1
27	00300-000-1	Upper Seal	S 1
28	00178-006-1	Screw – Socket	4
29	00145-010-1	Machine Screw	4
30	05454A009	Lock Washer	4
31	21573C102	Stator 2 HP 230/460/3/60	1
	21573C101	Stator 2 HP 200/3/60	1
	10823-603-1	Stator 2 HP 575/3/60	1

Ref. No.	Part No.	Part Description	Qty.
	21573C100	Stator 2 HP 230/1/60	1
	21573C104	Stator 2 HP 200/1/60	1
32	10823-101-5	Rotor & Shaft Assy. 2 HP 3f	1
	10832-101-5	Rotor & Shaft Assy. 2 HP 1f	1
33	13494-004-2	Motor Housing	1
34	00065-001-1	Upper Bearing	1
35	00064-001-1	Wave Spring	1
36	00065-027-1	Lower Bearing	1
37	04580-001-1	Drive Screw	4
38		Nameplate	1
39	07763-000-1	Cutter Retaining Ring	1
40	05405-001-2	Radial Cutter	1
41	05506-002-2	Axial Cutter	1
42	05505-000-2	Cutter Ring	1
	51700-055-7	Seal Kit	
	13188-000-1	Shim	

Notes: S — Parts in Seal Kit.

## ORDERING REPLACEMENT PARTS

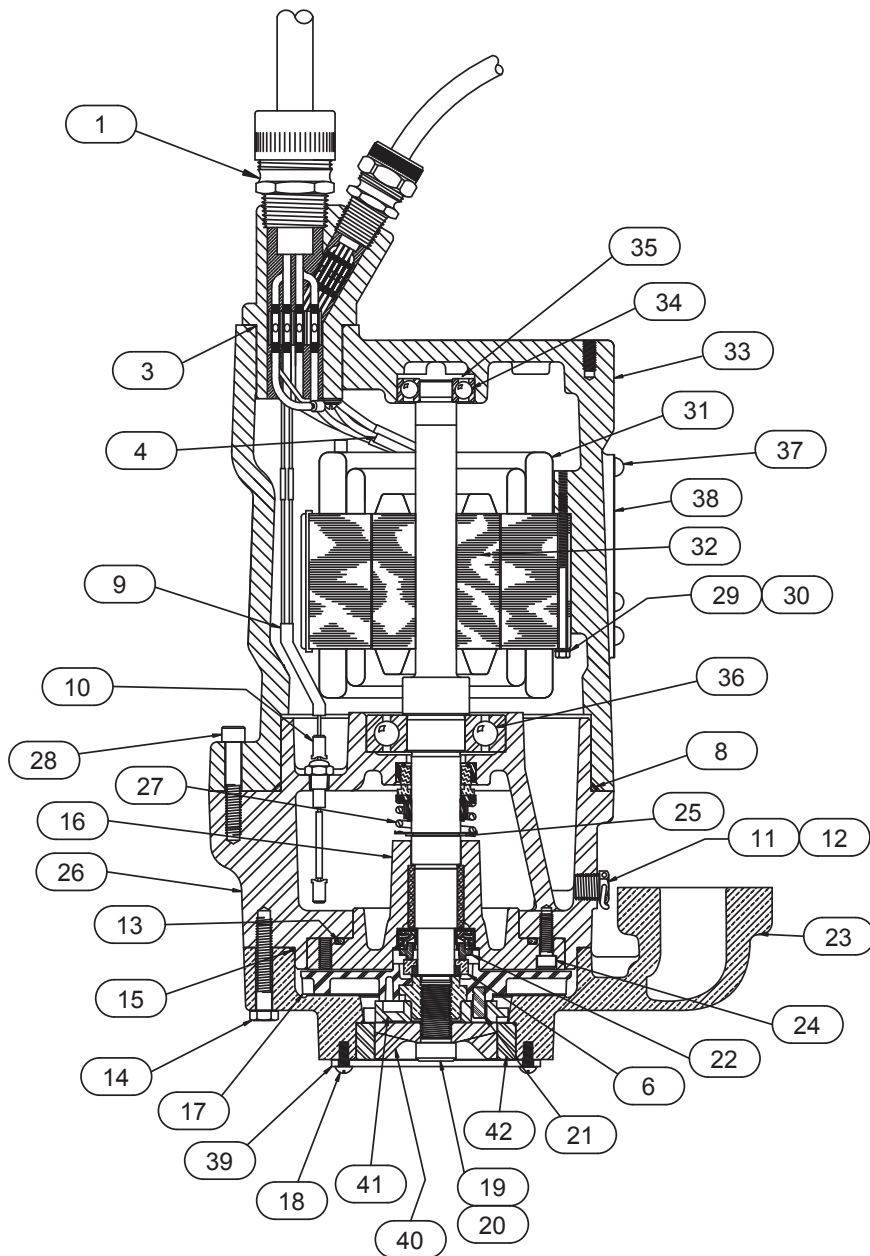
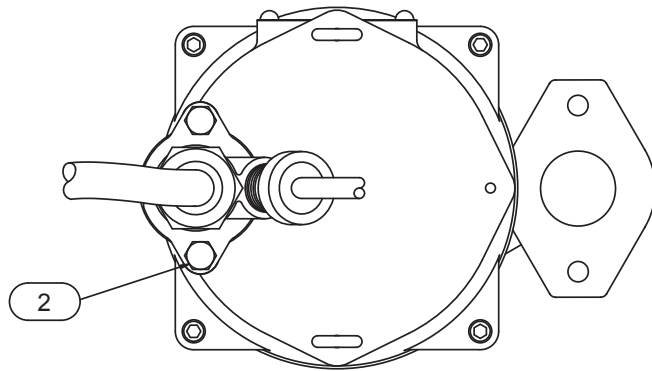
Product improvements are made from time to time. The latest part design will be furnished as long as it is interchangeable with the old part.

When ordering replacement parts, always furnish the following information:

1. Pump serial number
2. Pump model and size
3. Part description
4. Part number
5. Impeller diameter (if ordering impeller)
6. Quantity required
7. Shipping instructions



# HPGX200



# STANDARD LIMITED WARRANTY

**HYDROMATIC®** warrants its products against defects in material and workmanship for a period of 12 months from the date of shipment from Hydromatic or 18 months from the manufacturing date, whichever occurs first - provided that such products are used compliance with the requirements of the Hydromatic catalog and technical manuals for use in pumping raw sewage, municipal wastewater or similar, abrasive free non-corrosive liquids.

During the warranty period and subject to the conditions set forth, Hydromatic, at its discretion, will repair or replace to the original user, the parts which prove defective in materials and workmanship. Hydromatic reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for prior sold and/or shipped units.

**Start-up reports and electrical schematics** may be required to support warranty claims. Warranty is effective only if Hydromatic authorized control panels are used. All seal fail and heat sensing devices must be hooked up, functional and monitored or this warranty will be void. Hydromatic will only cover the lower seal and labor thereof for all dual seal pumps. Under no circumstance will Hydromatic be responsible for the cost of field labor, travel expenses, rented equipment, removal/reinstallation costs or freight expenses to and from the factory or an authorized Hydromatic service facility.

**This limited warranty will not apply:** (a) to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with the printed instructions provided; (b) to failures resulting from abuse, accident or negligence; (c) to normal maintenance services and parts used in connection with such service; (d) to units which are not installed in accordance with applicable local codes, ordinances and good trade practices; (e) if the unit is moved from its original installation location; (f) if unit is used for purposes other than for what it is designed and manufactured; (g) to any unit which has been repaired or altered by anyone other than Hydromatic or an authorized Hydromatic service provider; (h) to any unit which has been repaired using non factory specified/OEM parts.

**Warranty Exclusions:** HYDROMATIC MAKES NO EXPRESS OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. HYDROMATIC SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE.

**Liability Limitation:** IN NO EVENT SHALL HYDROMATIC BE LIABLE OR RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES RESULTING FROM OR RELATED IN ANY MANNER TO ANY HYDROMATIC PRODUCT OR PARTS THEREOF. PERSONAL INJURY AND/OR PROPERTY DAMAGE MAY RESULT FROM IMPROPER INSTALLATION. HYDROMATIC DISCLAIMS ALL LIABILITY, INCLUDING LIABILITY UNDER THIS WARRANTY, FOR IMPROPER INSTALLATION. HYDROMATIC RECOMMENDS INSTALLATION BY PROFESSIONALS.

Some states do not permit some or all of the above warranty limitations or the exclusion or limitation of incidental or consequential damages and therefore such limitations may not apply to you. No warranties or representations at any time made by any representatives of Hydromatic shall vary or expand the provision hereof.



**Pentair  
Water™**

**USA**

740 East 9th Street, Ashland, Ohio 44805  
Tel: 419-289-3042 Fax: 419-281-4087

[www.hydraulic.com](http://www.hydraulic.com)

– Your Authorized Local Distributor –

**CANADA**

269 Trillium Drive, Kitchener, Ontario, Canada N2G 4W5  
Tel: 519-896-2163 Fax: 519-896-6337



Distributor: \_\_\_\_\_ Order No.: \_\_\_\_\_  
Installing Contractor: \_\_\_\_\_ Phone: \_\_\_\_\_  
Sales Contact: \_\_\_\_\_ Phone: \_\_\_\_\_  
Customer: \_\_\_\_\_  
Location: \_\_\_\_\_

## 1. SYSTEM INFORMATION

Size of Wet Well: \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
Discharge from Bottom of Basin: \_\_\_\_\_ Discharge Location: \_\_\_\_\_  
Inlet from Bottom of Basin: \_\_\_\_\_ Inlet Location: \_\_\_\_\_  
Type of Check Valves: \_\_\_\_\_ Type of Piping: \_\_\_\_\_  
Does System Have Suction Gauges?  Yes  No Suction Pressure Reading: \_\_\_\_\_  
Does System Have Discharge Gauges?  Yes  No Discharge Pressure Reading: \_\_\_\_\_  
Liquid Being Pumped: \_\_\_\_\_ Temperature (F°): \_\_\_\_\_ Pct. of Solid (%): \_\_\_\_\_  
Is a Sketch or Photograph of System Available?  Yes  No *If So, Please Attach.*  
Any Additional Comments on System: \_\_\_\_\_

## 2. ELECTRICAL INFORMATION

Control Panel Part Number: \_\_\_\_\_ Panel Rated Amps: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_ Voltage: \_\_\_\_\_ Phase: \_\_\_\_\_  
Heater Size: \_\_\_\_\_ Location of Panel to Wet Well: \_\_\_\_\_  
Incoming Line Voltage: \_\_\_\_\_ Actual? \_\_\_\_\_  
Voltage to Pumps: \_\_\_\_\_ Actual? \_\_\_\_\_  
Type of Junction Box: \_\_\_\_\_ Manufacturer of Junction Box: \_\_\_\_\_  
Are Floats Installed in Wet Well?  Yes  No Are Floats Set to Engineer's Specs?  Yes  No  
Are Floats Wired for Proper Sequencing?  Yes  No Are Heat Sensors Hooked Up?  Yes  No  
Is the Seal Leak Detection Hooked Up?  Yes  No  
Any Additional Comments on Electrical: \_\_\_\_\_

## 3. PUMP INFORMATION

Type of Pump: \_\_\_\_\_ Serial Number of Pump: \_\_\_\_\_  
Voltage of Pump: \_\_\_\_\_ Phase: \_\_\_\_\_ RPM: \_\_\_\_\_ Amps: \_\_\_\_\_  
Impeller Size: \_\_\_\_\_ C.O.S. TDH: \_\_\_\_\_ GPM: \_\_\_\_\_  
Voltage Supplied from Panel: \_\_\_\_\_ Actual? \_\_\_\_\_  
Actual Amperage (All Phases): Phase 1 Amps: \_\_\_\_\_ Phase 2 Amps: \_\_\_\_\_ Phase 3 Amps: \_\_\_\_\_  
Define the Rotation of the Pump:  Clockwise  Counterclockwise  
Method Used to Check Rotation:  Viewed from the Top  Viewed from the Bottom  
Any Additional Comments on Pumps: \_\_\_\_\_

## 4. ACKNOWLEDGE

Acknowledge that all information is accurate and proper procedures have been followed.  
Customer: \_\_\_\_\_ Date: \_\_\_\_\_  
Start-up Technician: \_\_\_\_\_ Date: \_\_\_\_\_

Send to Warranty Manager, 1101 Myers Parkway, Ashland, OH 44805  
or Fax to 419-207-3344  
or email to [startupreport@hydromatic.com](mailto:startupreport@hydromatic.com)  
or submit online at <http://forms.pentairliterature.com/startupform/startupform.asp?type=h>