

Installation and Service Manual

SUBMERSIBLE GRINDER PUMP

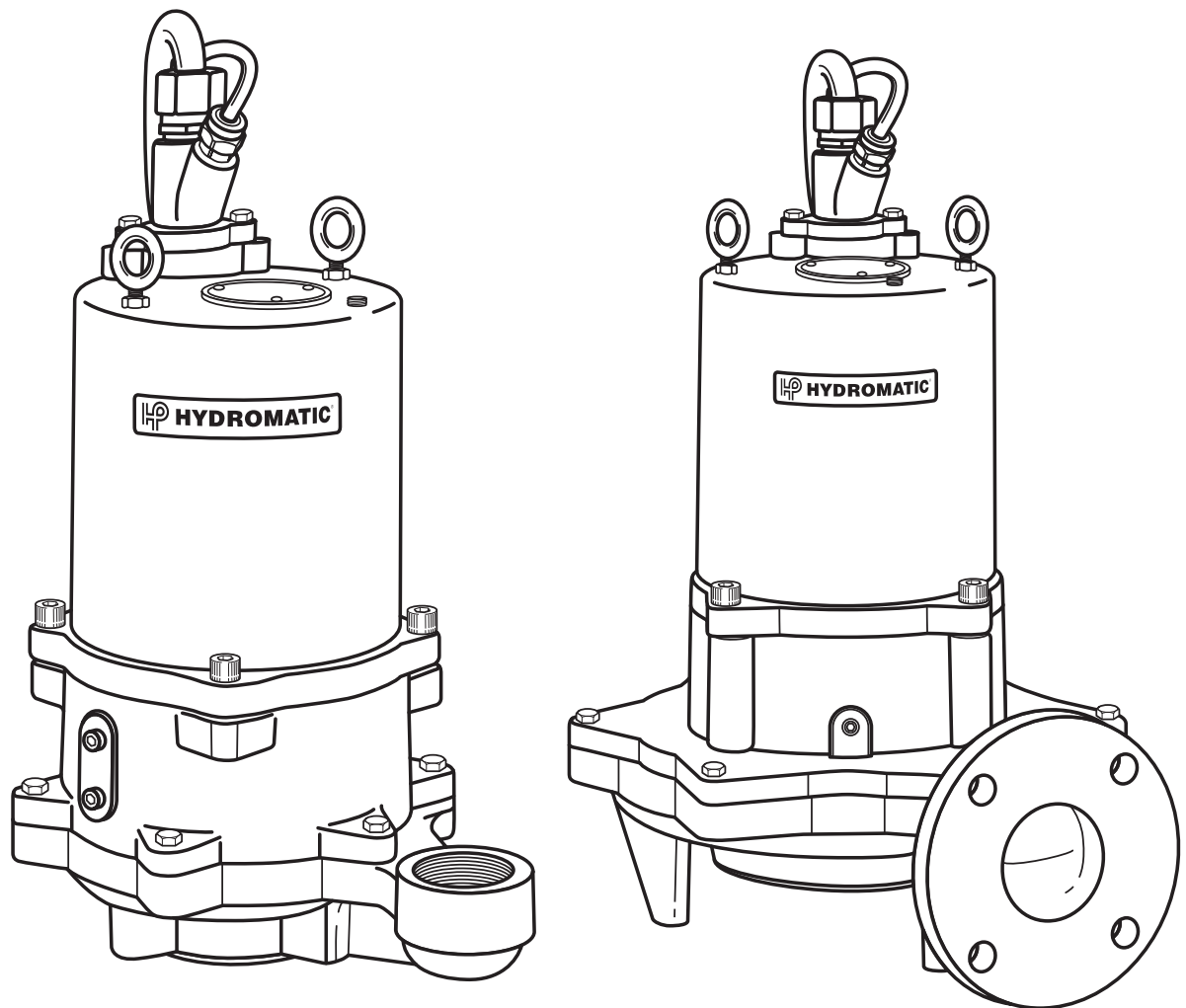
Models HPGF/HPGFH; HPGH/HPGHH



For use with product
built with Regal Beloit motor.

Effective 04/01/09

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[®]
Pentair Water

03/11
Item # E-03-421
Part # 5625-421-1
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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.

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.

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 Description:

The Hydromatic pumps covered by these instructions are submersible grinder pumps.

The cutter blades are on the suction side of the centrifugal pump impeller and discharge directly into the inlet of the impeller. The integral stainless steel pump-motor shaft is sealed by two mechanical seals with an oil chamber between the seals to provide lubrication for both seal faces.

The motor winding, rotor, and ball bearings are mounted in a housing sealed and filled with oil to lubricate the bearing and transmit the heat from motor winding to outer shell.

The power cord is sealed into the motor housing with a cord grip, and the individual conductors are sealed into the cord cap with epoxy sealing compound.

Application:

These pumps are designed for either home or industrial 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°F.

Receiving Pump:

Pump should be checked on arrival for possible concealed damage in shipping. Any damage should be reported immediately to delivering 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.

Pump Installation

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 that the Hydromatic nonclog 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.

Electrical Connections:

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

CAUTION: Be sure ground wire is connected to a good ground such as a water pipe. This is important for safety.

Pump Operations

Starting the Pump:

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

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.
If pump is piped in permanently, it may be necessary to break union at pump discharge to clear air.
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 so that pump turns off when level is about 2 inches above inlet

and turns on when level is about 2 inches above motor.

CAUTION: Be sure ground wire is connected to a good ground such as a water pipe. This is important for safety.

Pump Maintenance

Replacing Grinder Parts:

If necessary to replace grinder parts because of wear or to inspect for clogging, refer to page 8.

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. Unscrew cap screws (16) and remove cutter ring retainer (15).
5. Unscrew hex head cap screws (12) and remove volute case (13). Cutter ring (24) can now be removed from volute (13).
6. Radial cutter (22) and axial cutter (17) 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 cap screw (20), washer (19), and radial cutter (22) from shaft.

Radial cutter (22) and impeller (25) are slip fitted onto shaft. If necessary, pry at two opposite points on back of

impeller (25) while tapping with a plastic hammer to loosen. Disassemble radial cutter (22) and axial cutter (17) from the impeller (25) by removing socket head cap screws (23).

8. Clean all parts thoroughly before proceeding with assembly, replace impeller (25), axial cutter (17) and radial cutter (22) and secure together with socket head cap screws (23). Make sure impeller key (21) is in place between shaft and impeller (25).
9. Replace cutter ring (24) and cutter ring retainer (15). It may be necessary to loosen hex head cap screws (12) in pump case (13) and tap with a hammer to get proper clearance on O.D. of radial cutter (22).
10. Plug pump into power and operate for a few seconds only to be sure parts are not rubbing.

Replacing Seals:

1. Remove pipe plug (10) from the top of the housing and two pipe plugs (10) from the side. The lower pipe plug drains the seal housing while the other drains the motor 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 above under "Replacing Grinder Parts."

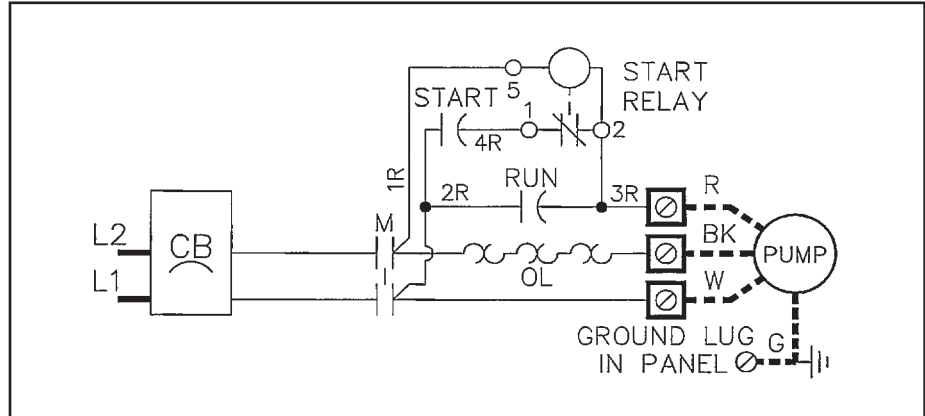
Pump Maintenance

- Remove socket head cap screw (14) in seal plate (26) and screw two of the screws into the tapped back-off holes to force seal plate (26) from seal housing (31). Pulling this plate (26) off will also force lower seal (18) from shaft. Remove lower seal (18) from seal plate (26).
- Remove snap ring (29) and pull upper seal (11) 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.

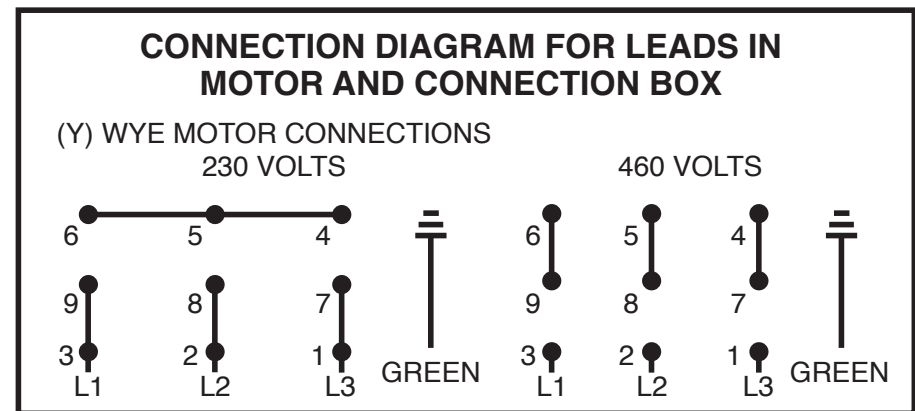
- When cleaning all parts before replacement, check to be sure sleeve bearing or shaft is not worn. Be sure all O-rings are in excellent condition without cuts or nicks, and replace them if not in excellent condition. Use O-ring lube to prevent cutting at assembly.
- After all parts are replaced and before final assembly of impeller and cutters (step 8 of "Replacing Grinder Parts"), refill seal chamber and motor chamber with oil. Lay pump on side to fill seal chamber. **DO NOT FILL COMPLETELY. ALLOW ABOUT 1/2 INCH BELOW FILL PLUG SO THAT THERE WILL BE AN AIR SPACE FOR EXPANSION.** Set pump

SINGLE PHASE POWER

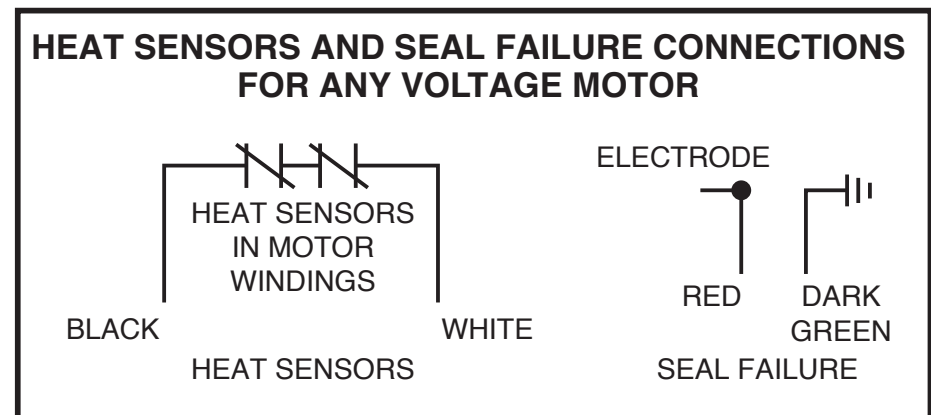


Pump	HP	V.	Ø	RPM	Start Capacitor	Run Capacitor	Start Relay
HPGH300M7-2	3	208	1	3450	529-011-1	12267-002-1	1545-015-1
HPGH300M2-2	3	230	1	3450	529-005-1	12267-001-1	1545-005-1
HPGH500M7-2	5	208	1	3450	529-012-1	23186A000	1545-015-1
HPGH500M2-2	5	230	1	3450	529-012-1	23186A000	1545-005-1
HPGF300M7-4	3	208	1	1750	529-012-1	23186A000	1545-004-1
HPGF300M2-4	3	230	1	1750	529-012-1	12267-003-1	1545-006-1
HPGF500M7-4	5	208	1	1750	529-012-1	12267-005-1	1545-007-1
HPGF500M2-4	5	230	1	1750	529-012-1	12267-008-1	1545-007-1

THREE PHASE POWER



SENSOR CORD



upright, and replace the upper and side drain plugs (10) before filling motor chamber. Again fill so that oil level is just over the top of winding to allow air space for expansion.

7. Use only a high grade transformer oil in the motor chamber and in the seal chamber.

Replacing Motor Stator:

1. If necessary to replace stator, completely dismantle pump as described above.
2. Remove shaft rotor assembly (35). If the ball bearing (4) feels rough when turned, it should be replaced. **PRESSING ON THE OUTER FACE WILL RUIN THE BEARING.** When shaft rotor assembly is removed, motor leads can be disconnected through the cord cap bore. **DO NOT TAPE LEADS WHEN REPLACING STATOR AS OIL WILL DETERIORATE THE TAPE AND CAUSE MOTOR FAILURE. USE ONLY TWIST ON WIRE NUTS.**
3. Remove motor housing bolts (32) and lift off housing (37).
4. Remove stator screws (14) and stator clamping ring (33) and set housing (37) on hardwood blocks. Bump housing (37) up and down on hardwood block to loosen stator which should drop out. A stator back-up ring (36), installed on some 3 horsepower pumps, will also fall out.
5. Thoroughly clean housing (37) and other parts and install new stator.
6. Connect leads through housing bore and tuck leads back behind the stator windings to prevent rubbing on rotor.

USE ONLY BUTT SPLICE CONNECTORS.

7. In reassembly replace any O-rings that are defective. Use Parker O-Ring Lub on all O-rings for easy assembly and to prevent cutting.
8. Completely reassemble, air test and fill with oil as described under REPLACING SEALS.
9. Always run pump for a few seconds after assembly work to be sure all parts run smoothly and are correctly adjusted before replacing in sump. Check again for correct rotation. Pump should rotate counterclockwise when viewed from the suction.

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.

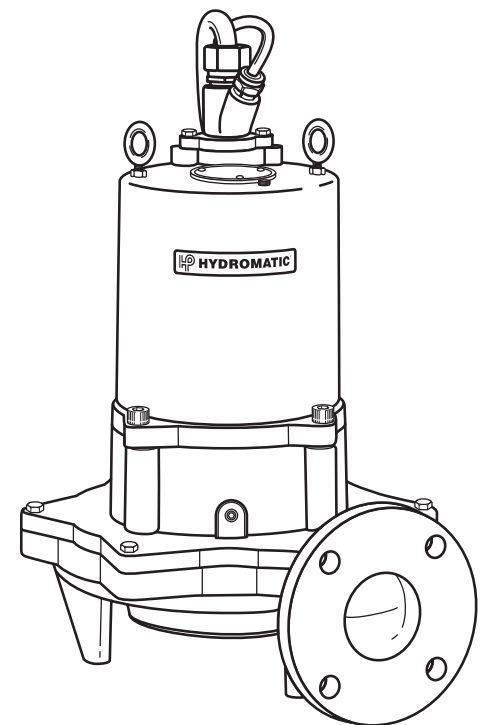
CAUTION: Always keep hands away from the pump cutter area after the circuit breaker is reconnected.

Replacing Bearings:

1. Drain all oil from motor chamber as described.
2. Remove cutters and impeller as described earlier.
3. Remove bolts (32) that hold motor housing (37) to bearing housing (31). Remove bolts (12) that hold bearing housing (31) to volute (13). Remove screws (14) holding seal plate (26) to bearing housing (31).
4. Remove rotating assembly (35) (rotor, shaft and impeller) from pump case and place horizontally on bench. With

hardwood block, tap end of impeller to loosen from shaft.

5. Use bearing puller to remove bearings. Replace with new bearings. Press only on inner face of bearing when replacing. Pressing on outer face can damage the bearing. Bearings are standard size that can be obtained from any bearing supply house or can be obtained from Hydromatic factory.
6. Thoroughly clean all castings before replacing bearings. Examine all O-rings for nicks before reusing.
7. Use Loctite on socket head locking screw in end of shaft.
8. Completely reassemble, air test and fill with oil as described under REPLACING SEALS.
9. Always check all leads with high voltage or with Megger for grounds before operating 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 damages
4. Incorrect impeller diameter
5. Speed too low

Pump overloads motor:

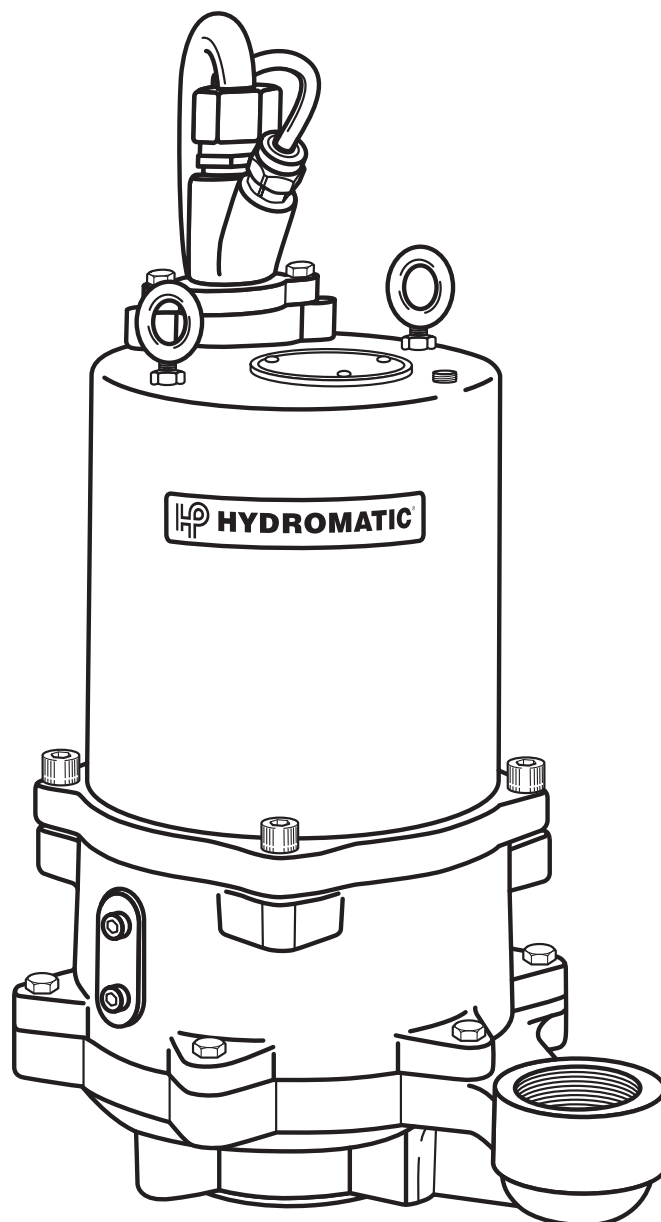
1. Wrong rotation
2. Specific gravity or viscosity of liquid too high
3. Speed too high
4. Head lower than rating, pumping too much liquid
5. Pump clogged
6. Defective bearings
7. Defective impeller

Pump is noisy:

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

4. No diametral 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.



HPGF/HPGFH HPGH/HPGHH Parts List

**For use with product built with Regal Beloit motor.
Effective 04/01/09**

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	06461-042-5	Cord & Cap Assy. 35' 12/4	1
	06461-043-5	Cord & Cap Assy. 35' 10/4	1
	06461-044-5	Cord & Cap Assy. 35' 8/4	1
	06461-020-5	Cord & Cap Assy. 50' 12/4	1
	06461-051-5	Cord & Cap Assy. 50' 10/4	1
	06461-050-5	Cord & Cap Assy. 50' 8/4	1
2	00834-015-1	O-Ring	1
3	00064-003-1	Spring – Brg.	1
4	00065-021-1	Brg.	1
5	06000-014-1	Seal Fail Wire – HPGH	1
	06000-055-1	Seal Fail Wire – HPGF	
6	05454-001-1	Pin – Roll	1
7	00065-018-1	Brg.	1
8	00150-057-1	O-Ring	1
9	08472-001-5	Seal Fail – Ass'y	1
10	14981-001-1	Pipe Plug	3
11	04916-000-1	Mechanical Seal, Upper (CE-B)*	1
12	19101A021	Screw – Cap	9
13	07892-002-2	Valute Hor. Discharge – HPGHH	1
	07892-000-2	Valute Vert. Discharge – HPGH	1
	07891-002-2	Valute HPGFH, Horizontal Discharge	
	07891-000-2	Valute HPGF, Vertical Discharge	
14	00517-008-1	Screw – Cap	4
15	07911-000-1	Cutter Retainer – HPGH	1
	07907-000-1	Cutter Retainer – HPGF	
16	19099A029	Screw – Cap	3
17	07909-000-2	Cutter Axial – HPGH	1
	07904-000-2	Cutter Axial – HPGF	
18	04916-000-1	Mechanical Seal, Lower (CE-B)*	1
	04916-001-1	Mechanical Seal, Lower (TC-B)*	1
	04916-004-1	Mechanical Seal, Lower (TC-V)*	1
19	08422-003-1	Washer – Impeller	1
20	14885-001-1	Screw – Cap	1
21	06579-003-1	Key – Square	1
22	07908-000-2	Cutter Radial – HPGH	1
	07903-000-2	Cutter Radial – HPGF	
23	06106A019	Screw – Cap	2
24	07910-000-2	Cutter Stationary – HPGH	1
	07905-000-2	Cutter Stationary – HPGF	
25	07893-032-2	Impeller – 4.50" – HPGH	1

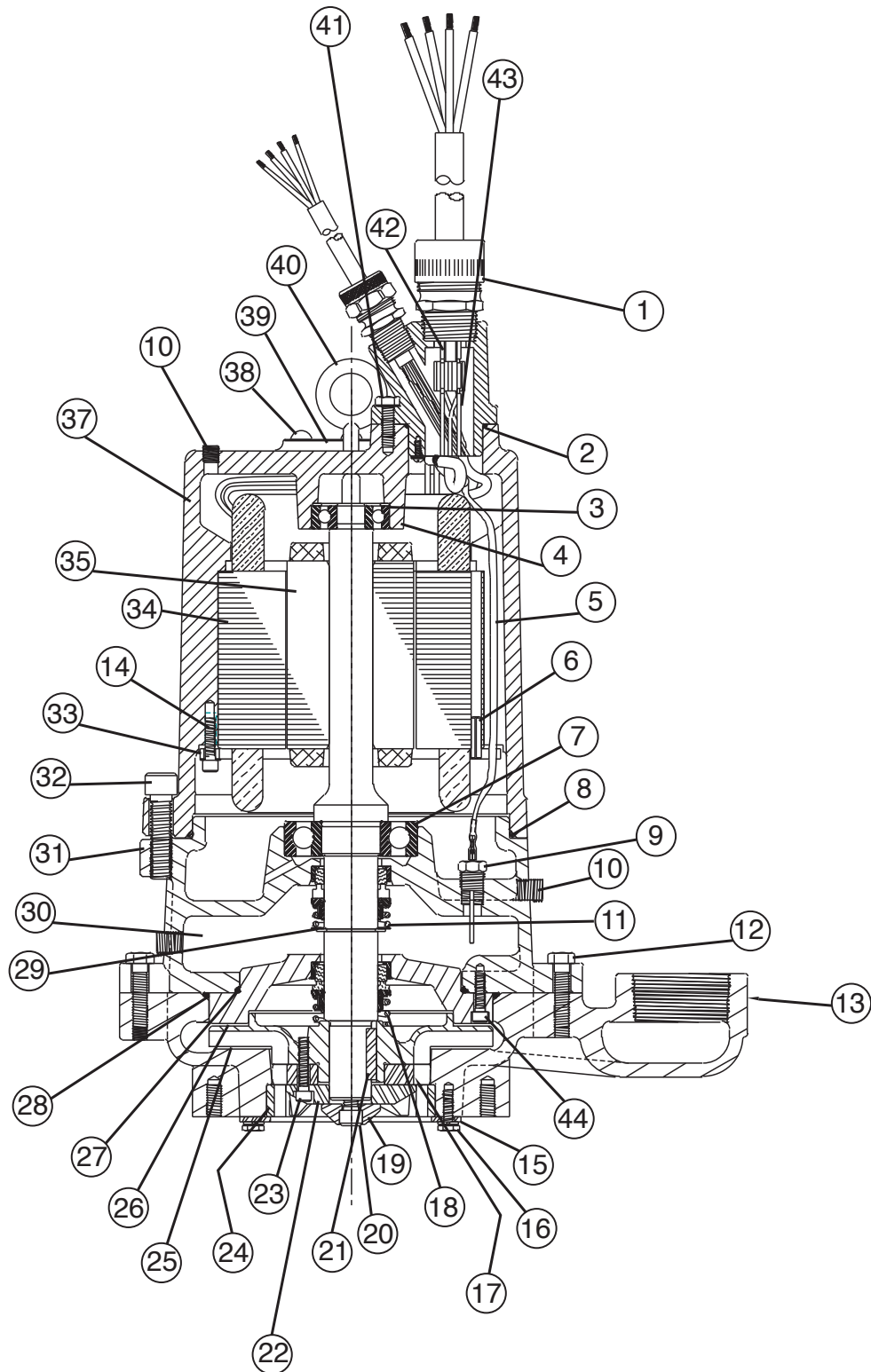
Ref. No.	Part No.	Part Description	Qty.
	07893-040-2	Impeller – 5.50" – HPGH	1
	07893-012-2	Impeller – 6.87" – HPGH	1
	07894-006-2	Impeller – HPGF300	1
	07894-009-2	Impeller – HPGF500	1
	07894-001-2	Impeller – HPGF750	1
26	07889-101-2	Plate – Seal – HPGH	1
	07889-102-2	Plate – Seal – HPGF	1
27	00150-036-1	O-Ring	1
28	00150-019-1	O-Ring – HPGH	1
	00150-037-1	O-Ring – HPGF	1
29	00975-012-1	Snap Ring	1
30	24709110000	Oil – Paraffinic	1
31	07888-003-2	Brg. Housing – HPGH	1
	07888-002-2	Brg. Housing – HPGF	1
32	00568-007-1	Screw – Cap	4
33	00299-002-1	Ring – Ret. Stator	1
34	22574C210	Stator – HPGH300 – 230/1/60	1
	14689-203-1	Stator – HPGH300 – 200/1/60	1
	22574C200	Stator – HPGH500 – 230/1/60	1
	22574C218	Stator – HPGH500 – 200/1/60	1
	14692-003-1	Stator – HPGH500 – 230,460/3/60	1
	22574C201	Stator – HPGH500 – 200/3/60	1
	22574C204	Stator – HPGH500 – 575/3/60	1
	22574C216	Stator – HPGH750 – 230,460/3/60	1
	22574C217	Stator – HPGH750 – 575/3/60	1
	24407C200	Stator – HPGF300 – 230/1/60	1
	14698-203-1	Stator – HPGF300 – 200/1/60	1
	24407C201	Stator – HPGF300 – 200/3/60	1
	24407C202	Stator – HPGF300 – 230,460/3/60	1
	24407C203	Stator – HPGF300 – 575/3/60	1
	24407C204	Stator – HPGF500 – 230/1/60	1
	14711-203-1	Stator – HPGF500 – 200/1/60	1
	24407C205	Stator – HPGF500 – 200/3/60	1
	24407C206	Stator – HPGF500 – 230,460/3/60	1
	24407C207	Stator – HPGF500 – 575/3/60	1
	24407C208	Stator – HPGF750 – 200/3/60	1
	24407C209	Stator – HPGF750 – 230,460/3/60	1
	24407C210	Stator – HPGF750 – 575/3/60	1
35	08053-017-5	Rotor/Shaft HPGH300 – 200/230/1/60	1
	08434-018-5	Rotor/Shaft HPGH300 – 200/230/460/1/60	1

Ref. No.	Part No.	Part Description	Qty.
	00764-018-5	Rotor/Shaft HPGH500 – 200,230/1/60	1
	00764-018-5	Rotor/Shaft HPGH750 – 200,230,460,575/3/60	1
	00765-021-5	Rotor/Shaft HPGH500 – 200,230,460,575/3/60	1
	01329-027-5	Rotor/Shaft HPGF300 – 200,230/1/60	1
	01329-027-5	Rotor/Shaft HPGF300 – 200,230,460,575/3/60	1
		Rotor/Shaft HPGF500 – 200,230,460,575/3/60	1
		Rotor/Shaft HPGF750 – 200,230,460,575/3/60	1
37	00294-003-2	Housing – Motor	1
38	04580-001-1	Screw – Drive	2
39	13425-016-1	Nameplate	1
40	00589-002-1	Bolt – Eye	2
41	19100A029	Screw – Cap	2
42	00282-001-1	W.C. – HPGH & HPGHH 3 HP except 460/3	6
		W.C. – HPGH500 & HPGHH500; 200/3, 230/3, 575/3	6
		W.C. – HPGH750 & HPGHH750; 230/3, 575/3	6
		W.C. – All HPGH & HPGHH 460/3	9
		W.C. – HPGH500 & HPGHH500; 200/1, 230/3	3
		W.C. – HPGH750 & HPGHH750; 200/3	3
		W.C. – HPGF & HPGFH 3 HP except 460/3	6
		W.C. – HPGF500 & HPGFH500; 200/3, 230/3, 575/3	6
		W.C. – HPGH750 & HPGHH750; 575/3	6
		W.C. – HPGF300,500 & HPGFH300,500; 460/3	9
		W.C. – HPGH500 & HPGHH500; 200/1, 230/3	3
		W.C. – HPGH750 & HPGHH750; 200/3, 230/3, 460/3	3
43	01006-001-1	W.C. – HPGH(H) 3 HP, 5 HP & 7.5 HP; 230/3	1
		W.C. – HPGH(H) 500; 200/1, 230/1	3
		W.C. – HPGH(H) 750; 230/3	3
		W.C. – HPGF(H) 3 HP, 5 HP; 230/3	1
		W.C. – HPGF(H) 5 HP; 200/1, 230/1 & 7.5 HP; 200/3	3
		W.C. – HPGF(H) 7.5 HP; 230/3	4
		W.C. – HPGF(H) 7.5 HP; 460/3	6
44	00517-005-1	Screw – Cap	4
		Note: W.C. Stands for Wire Connector	
	51700-403-7	HPGH Seal Kit – Ceramic	
	51700-404-7	HPGF Seal Kit – Ceramic	
	51700-503-7	HPGH Seal Kit – Carbide/Buna	
	51700-505-7	HPGF Seal Kit – Carbide/Buna	
	51700-504-7	HPGH Seal Kit – Carbide/Viton	
	51700-506-7	HPGF Seal Kit – Carbide/Viton	

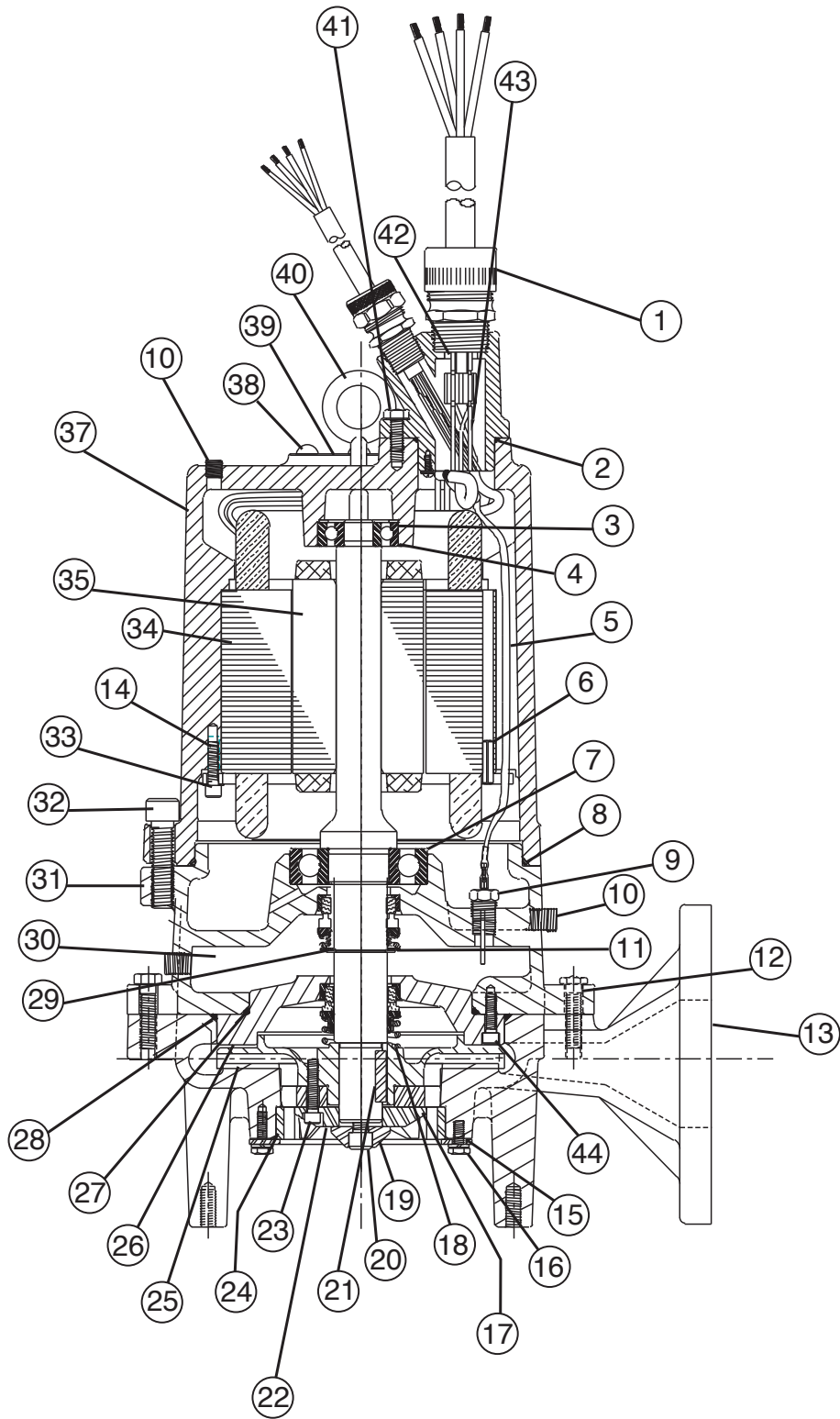
Notes: S — Parts in Seal Kit C — Parts in Carbide Seal Kit

Note: — Amount of oil required will vary between 112–150 oz. depending on stator size, fill to above motor windings.

HPGF/HPGH



HPGFH/HPGHH



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.

 <p>Pentair Water™</p> <p>USA</p> <p>740 East 9th Street, Ashland, Ohio 44805 Tel: 419-289-3042 Fax: 419-281-4087</p>	<p align="center">– Your Authorized Local Distributor –</p> <hr/> <p align="center">CANADA</p> <p>269 Trillium Drive, Kitchener, Ontario, Canada N2G 4W5 Tel: 519-896-2163 Fax: 519-896-6337</p>
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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
or submit online at <http://forms.pentairliterature.com/startupform/startupform.asp?type=h>