



Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

**PUMP COMPANY**

Zoeller Family of Water Solutions™

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**Model 840 Grinder Pump**  
**ENGINEERING SPECIFICATIONS SHEET**



**APPLICATIONS**

- Pumping Stations • Housing Developments • Pressure Sewers

**SPECIFICATIONS**

**PUMP:**

- Discharge Size - 1 1/4" NPT Vertical.
- Seals - dual mechanical carbon/rotary, ceramic/stationary, with Buna-N elastomers.
- Construction - Cast Iron ASTM A-48, Class 30, 30,000# tensile strength.
- Corrosion resistant powder coated epoxy finish.
- Bi-directional Stainless Steel cutter and plate hardened to Rockwell C 55-60.
- Attaching Hardware and Lifting Bracket - 304 stainless steel.
- "O" Ring Seals - Buna-N.
- Impeller - bi-directional - bronze impeller with top pump out vanes.
- Moisture detection system.

**OPTIONAL:**

- Additional cord length \_\_\_\_\_ ft.
- Rail systems
- Pre-packaged Systems

**MOTOR:**

- 2 HP, 3450 RPM.
- 1 Phase - 200/230 Volt with integral Thermal Overload.
- 3 Phase - 200/230/460/575 Volt with Thermal Sensor and leads.
- Stainless Steel Motor shaft.
- Stator - Class F insulation and lead wires.  
 Nema B design.
- Housing - Cast Iron, oil-filled, protected by cooling fins.
- Ball Bearings - Dual high carbon chromium steel.
- Power Cable Length - 20'.

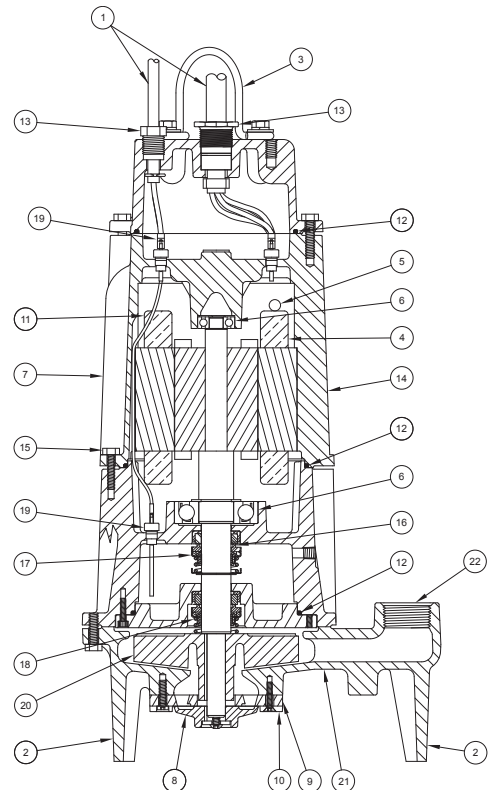
**DIMENSIONS:**

Height: 21 3/8", Major Width: 14 5/8", Weight: 135 lbs.

**TOTAL DYNAMIC HEAD/FLOW PER MINUTE SEWAGE**

MODEL		840	
Feet	Meters	Gal.	Liters
5	1.5	45	170
10	3.0	45	170
20	6.1	45	170
30	9.1	44	167
40	12.2	42	159
50	15.2	36	136
60	18.3	30	114
70	21.3	23	87
80	24.4	16	61
90	27.4	10	38
100	30.5	3	11
Shut-off Head:		104 ft.(31.7m)	

009960A



Tested to UL Standard UL778 & Certified to CSA Standard CSA C22.2 No.108.

ZEPA0374

**FEATURES**

**EASY INSTALLATION:** Motor is normally supplied with twenty foot of multi-conductor, power cable and control cable (1) as standard. Alternate cable lengths are available. Units have 3 legs (#2 on drawing) as an integral part of pump housing for free standing requirements. Pump and motor assembly can be easily lowered into position, without disturbing the piping, by use of a rail system. Pump is furnished with a stainless steel lifting bracket (3).

**Long lasting internal components** - Special Class F insulation system (4) rated for continuous duty in 130°F (54°C) liquids at 1.15 service factor. Thermal protection (5) standard on all motors. Conservatively rated locked antifriction ball bearings (6) for thrust loads. Finned motor housing (7) for greater heat dissipation, and cooler running motors.

**Reversing Cutter Action** - (8) doubles cutter life vs. conventional grinders by allowing both sides of the cutter to work. Reversibility also allows the pump to clear troublesome jams and hangups thus reducing maintenance costs. Cutter and plate (9) can be resharpened to extend pump life. Both are made of high quality stainless steel and hardened to a value of 55-60 on a Rockwell C scale. Protective cutter ring (10) helps to extend cutter life.

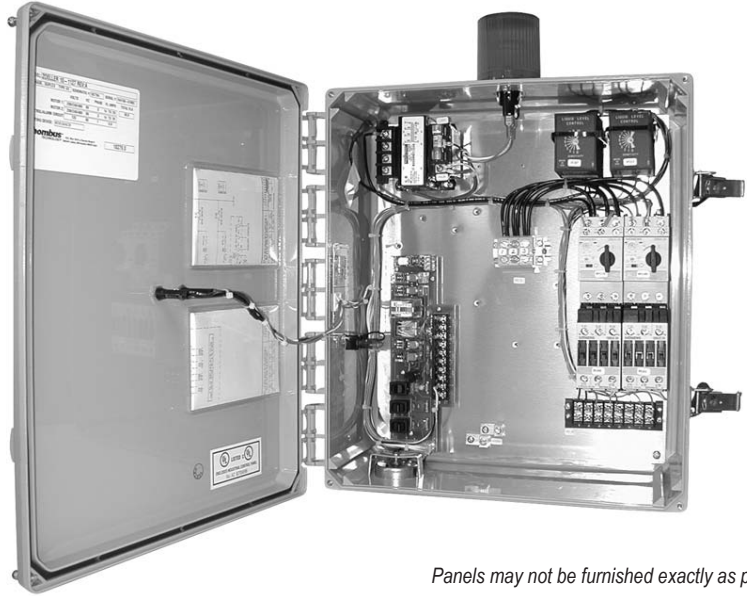
Capacitor Start/Capacitor Run motor (11) provides extra start and run torque for cutting. **Complete environmental protection** - Buna-N O-rings (12) and heavy duty cord connectors (13) keep liquid from entering the motor assembly. Pump castings are constructed of finned epoxy coated Class 30 cast iron (14). Hardware (15) is stainless steel. Seal faces (16) are carbon and ceramic for corrosion resistance. Inner (17) and outer seals (18) provide complete protection for motor internals. Both have stainless steel and Buna-N components. Silicon carbide seal faces are available for those extra abrasive applications. Moisture detection system (19) with upper and lower probes, protecting the motor from liquid entry. Vent hole helps prevent air locking. Balanced bi-directional bronze vortex impeller (20) with top pump out vanes for seal protection is keyed and bolted to the shaft. Concentric case (21) with center discharge reduces radial loading for longer bearing and seal life. All pumps come with 1 1/4" NPT female vertical discharge (22). Pump is designed to provide same performance in both a clockwise and counter-clockwise rotation of impeller/cutter assembly.

# Model 840 Control Panels

## ENGINEERING SPECIFICATIONS SHEET

**Standard Features:**

- NEMA 4X Thermoplastic Enclosure
- UL Labeled
- Automatic Reversing Circuitry
- Simplex or Duplex Configuration
- Control Side Fuses
- Control On/Off Switch
- Lockable Hasp
- HOA Switch(es)
- I.E.C. Rated Motor Contactor(s)
- 120 Volt Control Circuit
- Pump Circuit Breaker(s) or Motor Overload Protection w/ Disconnect (3 Phase)
- External High Water Alarm Light
- Seal Fail Indication Light
- Green Pump Run Light(s)
- Capacitors and Start Relay (1 Phase)
- Alternating Circuit Board (Duplex)
- Float Status Indicator Lights



*Panels may not be furnished exactly as pictured*

**Standard Options:**

- Audible Alarm w/ Test Switch
- Dry Auxilliary Contacts
- Event Counter(s)
- Flasher for High Water Alarm Light
- Elapsed Time Meter(s)
- Dead Front Enclosure
- Manual High Water Alarm Reset
- Anti-Condensation Heater
- Lightning Arrestor
- Seal Fail Relay w/ Indication
- Redundant Off
- Intrinsically Safe Relays

For other options, consult factory.

**CONTROL PANEL:**

The control panel is housed in a NEMA 4X enclosure and is of a  simplex design which controls a single pump from a 3-float system or a  duplex design which controls two pumps in an alternating lead/lag cycle sequence from a  3 or  4-float system. The panel contains the required starting, control, & alarm circuits. Rated motor starters and circuit breakers are furnished for each pump. The 115 volt control circuit has short circuit protection. The panel features pump run pilot light(s) and pump selector switches. The panel is equipped with circuit(s) which automatically reverses the direction of the cutter blades after each pumping cycle. A seal leak indicator light is furnished as well as a thermal cut-out connection for 3 phase systems. A padlock

hasp is provided. High water conditions shall be indicated by a visible light with polycarbonate cover. Numbered terminal strips are furnished to speed the connection of each pump. A wiring schematic and trouble shooting guide are included with each panel. The panel is UL listed and labeled as such.

For additional information on Zoeller Grinder pumps, refer to catalog on Performance information, FM1235; Prepackaged systems, FM1232; Guide specifications, FM1240; Replacement parts list, FM1308; and Installation and Service instructions, FM1239.

MODEL	VOLTS	PH	AMP	PANEL AMP RANGE	SIMPLEX CONTROL PANEL			DUPLEX CONTROL PANEL		
					P/N	WGT.	DIMENSIONS	P/N	WGT.	DIMENSIONS
E840	230	1	17.2	20 Max.	10-0393	15	14" x 12" x 6"	10-0397	21	18" x 16" x 9"
I840	200/208	1	20.0	20 Max.	10-0393	15	14" x 12" x 6"	10-0397	21	16" x 14" x 6"
F840	230	3	10.8	9.0-14.0	10-0394	18	12" x 10" x 6"	10-0398	21	14" x 12" x 6"
J840	200/208	3	12.3	9.0-14.0	10-0394	18	12" x 10" x 6"	10-0398	21	14" x 12" x 6"
G840	460	3	5.5	4.0-6.3	10-0395	18	12" x 10" x 6"	10-0399	21	16" x 14" x 6"
BA840	575	3	4.5	4.0-6.3	10-0396	18	12" x 10" x 6"	10-0400	21	16" x 14" x 6"



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