

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



**PUMP COMPANY**

Zoeller Family of Water Solutions™

TECHNICAL DATA SHEET

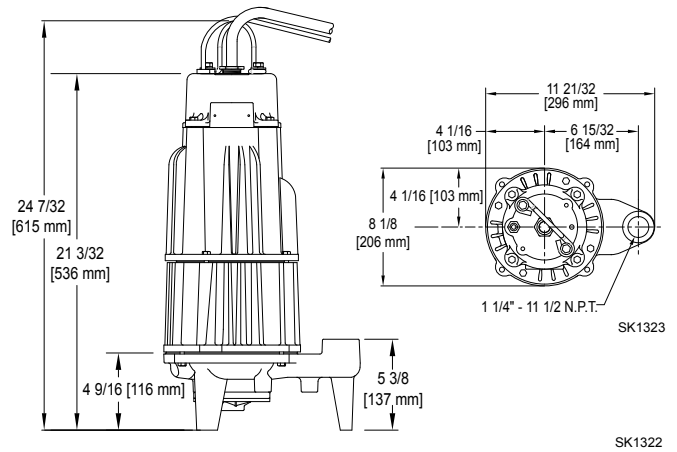
**THE SHARK** *Series* **Model 840/841/842**  
**Grinder Pumps**

**Pump Systems And Reversing Controls**

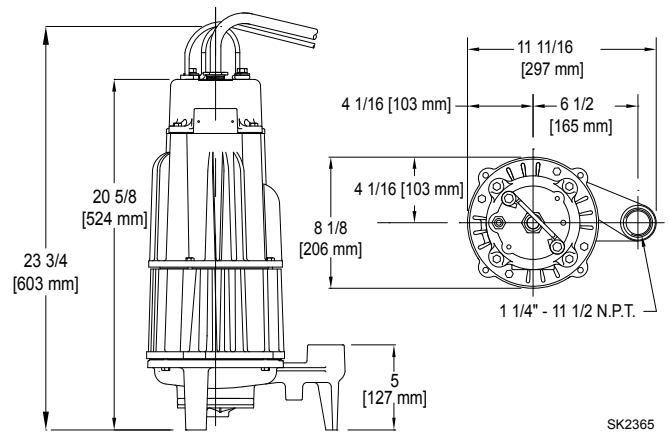
**PRODUCT SPECIFICATIONS**

<b>MOTOR</b>	Horse Power	2
	Voltage	200 - 575
	Phase	1 or 3 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Capacitor start / capacitor run or 3 Ph
	Insulation	Class F
	Amps	4.5 - 20.0
<b>PUMP</b>	Operation	Nonautomatic
	Discharge Size	1-1/4" NPT vertical
	Cord Length	20' (6 m) standard
	Cord Type	SOW or SOOW, multi-wire neoprene
	Max. Head	125' (38.1 m)
	Max. Flow Rate	61 GPM (231 LPM)
	Max. Operating Temp.	130°F (54°C)
	Cooling	Oil filled
<b>MATERIALS</b>	Motor Protection	Auto reset thermal overload (1 Ph), thermal sensor (3 Ph)
	Cap	Cast iron
	Motor Housing	Cast iron
	Adapter	Cast iron
	Pump Housing	Cast iron
	Upper Bearing	Ball bearing
	Lower Bearing	Ball bearing
	Mechanical Seals	Carbon/ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Bronze
	Hardware	Stainless steel
	Motor Shaft	Stainless steel
Square Rings	Neoprene	
Cutter	Hardened stainless steel, Rockwell C55-60	

**Model 840**



**Models 841/842**



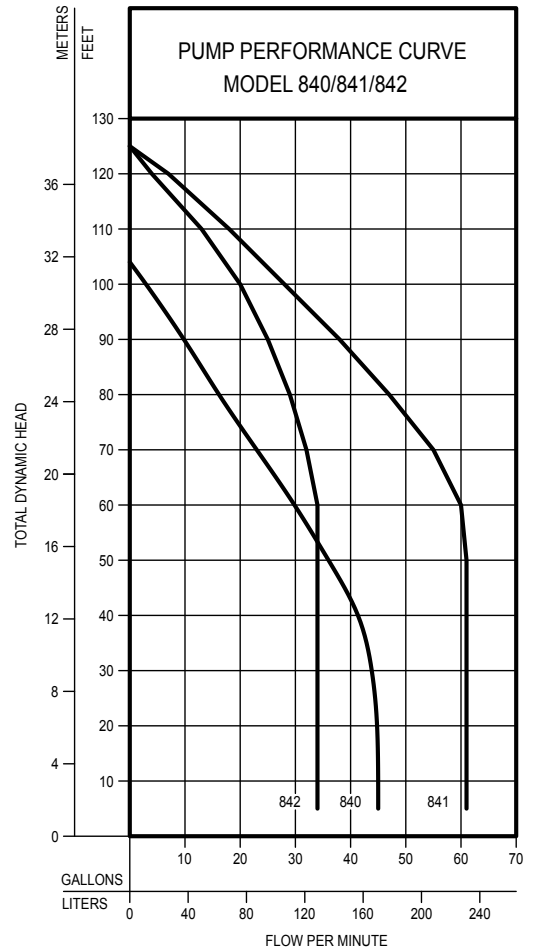
NOTE: See model comparison chart for specific details.



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

MODEL		840 REVERSING		841 HIGH FLOW		842 HIGH HEAD	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	45	170	61	231	34	129
10	3.0	45	170	61	231	34	129
20	6.1	45	170	61	231	34	129
30	9.1	44	167	61	231	34	129
40	12.2	42	159	61	231	34	129
50	15.2	36	136	61	231	34	129
60	18.3	30	114	60	227	34	129
70	21.3	23	87	55	208	32	121
80	24.4	16	61	47	178	29	110
90	27.4	10	38	38	144	25	95
100	30.5	3	11	28	106	20	76
110	33.5	--	--	18	68	13	49
120	36.6	--	--	7	26	4	15
Shut-off Head:		104 ft (31.7 m)		125 ft (38.1 m)		125 ft (38.1 m)	

016532\_nonXproof



Model	MODEL COMPARISON								
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg
E840	Double	Non	230	1	17.2	2	60	137	62
I840	Double	Non	200	1	20.0	2	60	137	62
F840	Double	Non	230	3	10.8	2	60	132	60
J840	Double	Non	200	3	12.3	2	60	132	60
G840	Double	Non	460	3	5.5	2	60	132	60
BA840	Double	Non	575	3	4.5	2	60	132	60
I841	Double	Non	200	1	20.0	2	60	135	61
E841	Double	Non	230	1	17.2	2	60	135	61
J841	Double	Non	200	3	12.3	2	60	135	61
F841	Double	Non	230	3	10.8	2	60	135	61
G841	Double	Non	460	3	5.5	2	60	135	61
BA841	Double	Non	575	3	4.5	2	60	135	61
I842	Double	Non	200	1	20.0	2	60	135	61
E842	Double	Non	230	1	17.2	2	60	135	61
J842	Double	Non	200	3	12.3	2	60	135	61
F842	Double	Non	230	3	10.8	2	60	135	61
G842	Double	Non	460	3	5.5	2	60	135	61
BA842	Double	Non	575	3	4.5	2	60	135	61

- Reversing cutter action can be manual or automatic.
- Circuit in control panel required for automatic reversing action, thermal sensors and moisture probes.

**CAUTION** All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

# GRINDER SYSTEMS

A) GRINDER MODEL - 840 2 HP, 1 1/4" N.P.T. VERTICAL DISCHARGE - 20' (6 m) CORDS						
P/N	WGT.	MODEL	VOLTS	PH	AMP	
<input type="checkbox"/> 840-0004	137 lb (62.1 kg)	E840	230	1 $\phi$	17.2	
<input type="checkbox"/> 840-0005	137 lb (62.1 kg)	I840	200	1 $\phi$	20.0	
<input type="checkbox"/> 840-0006	132 lb (59.9 kg)	F840	230	3	10.8	
<input type="checkbox"/> 840-0007	132 lb (59.9 kg)	J840	200	3	12.3	
<input type="checkbox"/> 840-0008	132 lb (59.9 kg)	G840	460	3	5.5	
<input type="checkbox"/> 840-0009	132 lb (59.9 kg)	BA840	575	3	4.5	

□ Single phase units require a set of capacitors and relay starting components.

## STANDARD FEATURES:

- Reversible cutter action manual / auto\*\*
- 1 1/4" NPT vertical discharge
- Carbon/ceramic tandem seals
- Thermal sensors\*\* (overload on 1 Ph)
- Moisture probes\*\*
- Balanced bronze impellers
- Stainless steel cutter and plate (R-C 55-60)
- Stainless steel shaft
- Stainless steel lifting bail
- Corrosion-resistant, powder coated epoxy paint
- 20' (6 m) power cord - 20' (6 m) sensor cord
- UL listed

## OPTIONS:

- Extended cord lengths
- Anti-siphon device

\*\*requires circuit in control panel to function

C*) VARIABLE LEVEL FLOAT SWITCHES	
<b>INDOOR SYSTEM</b>	
3 Switches and weights without brackets	
<input type="checkbox"/> P/N 10-0347	WGT. 9.5 lb (4.3 kg)
4 Switches and weights without brackets	
<input type="checkbox"/> P/N 10-0348	WGT. 13 lb (5.9 kg)
<b>OUTDOOR SYSTEM</b>	
3 Switches with weights and brackets	
<input type="checkbox"/> P/N 10-0329	WGT. 10 lb (4.5 kg)
4 Switches with weights and brackets	
<input type="checkbox"/> P/N 10-0330	WGT. 14 lb (6.4 kg)
Note: All variable level float switches in this section are mechanically activated and do not contain mercury.	

D) CHECK VALVES	
1 1/4" Cast iron NPT female	
<input type="checkbox"/> P/N 30-0163	WGT. 7.5 lb (3.4 kg)
1 1/2" Cast iron NPT female	
<input type="checkbox"/> P/N 30-0164	WGT. 7.5 lb (3.4 kg)
2" Cast iron NPT female	
<input type="checkbox"/> P/N 30-0152	WGT. 10 lb (4.5 kg)

E) JUNCTION BOXES - TYPE 4X	
<b>SIMPLEX</b>	
5 holes with seals for (1) power cord, (1) sensor cord, (3) float switch cords.	
<input type="checkbox"/> P/N 10-0331	WGT. 2.5 lb (1.1 kg) 3-float system
<b>DUPLEX</b>	
8 holes with seals for (2) power cords, (2) sensor cords, (3 or 4) float switch cords.	
<input type="checkbox"/> P/N 10-0332	WGT. 2.5 lb (1.1 kg) 3-float system
<input type="checkbox"/> P/N 10-0421	WGT. 2.5 lb (1.1 kg) 4-float system

B) CONTROL PANELS					
SIMPLEX - NEMA 4 X			DUPLEX - NEMA 4X		
MODEL	P/N	WGT.	P/N	WGT.	
E or I840	<input type="checkbox"/> 10-0393	15 lb (6.8 kg)	<input type="checkbox"/> 10-0397	21 lb (9.5 kg)	
E or I840	<input type="checkbox"/> 10-0420*	17 lb (7.7 kg)	<input type="checkbox"/> 10-0512*	23 lb (10.4 kg)	
F or J840	<input type="checkbox"/> 10-0394	18 lb (8.2 kg)	<input type="checkbox"/> 10-0398	21 lb (9.5 kg)	
G840	<input type="checkbox"/> 10-0395	18 lb (8.2 kg)	<input type="checkbox"/> 10-0399	21 lb (9.5 kg)	
BA840	<input type="checkbox"/> 10-0396	18 lb (8.2 kg)	<input type="checkbox"/> 10-0400	21 lb (9.5 kg)	

\*With Audible and Visible High Water Alarm

## B) CONTROL PANEL

### STANDARD FEATURES:

- NEMA 4X outdoor rating
- Starting, control, and alarm circuits
- Thermal cut-out circuit (3 Ph only)
- Circuit breaker and rated motor contactor (1 Ph)
- Capacitors and motor starting relay on single phase
- Motor protective switch (circuit breaker / adj overloads) and rated motor contactor (3 Ph)
- Alternating circuit (duplex)
- Automatic reversing circuit
- High water alarm light
- Internal seal leak light
- HOA switches and pilot light(s)
- Terminal strips
- Padlock hasp
- Capacitors/start relay (1 Ph)

### OPTIONS:

- Audible high water alarm
- Flasher for high water alarm light
- Manual reset of high water alarm
- Intrinsically-safe relays
- Elapsed time meters
- Dry auxiliary contact
- For other options, consult factory

SIMPLEX REVERSING CONTROL BOXES*					
AUTOMATIC			MANUAL		
MODEL	P/N	WGT.	P/N	WGT.	
E840	<input type="checkbox"/> 10-0352	8 lb (3.6 kg)	<input type="checkbox"/> 10-0360	7 lb (3.2 kg)	
I840	<input type="checkbox"/> 10-0352	8 lb (3.6 kg)	<input type="checkbox"/> 10-0360	7 lb (3.2 kg)	
F840	<input type="checkbox"/> 10-0353	6 lb (2.7 kg)	<input type="checkbox"/> 10-0361	5 lb (2.3 kg)	
J840	<input type="checkbox"/> 10-0353	6 lb (2.7 kg)	<input type="checkbox"/> 10-0361	5 lb (2.3 kg)	
G840	<input type="checkbox"/> 10-0353	12 lb (5.4 kg)	<input type="checkbox"/>	Not available	

\*These control boxes consist of the reversing mechanisms and capacitors (1Ph units) only. They will not control pumps. Refer to Section B for complete system controls. For duplex applications use two simplex reversing control boxes. (for pump prefix identification see News & Views 0052)

F) INDOOR BASIN, COVER, AND HARDWARE PREPACKAGED STANDARD EQUIPMENT	
<ul style="list-style-type: none"> <li>• Fiberglass basin</li> <li>• Rust-resistant steel cover (epoxy coated only)</li> <li>• Inspection plate</li> <li>• Individual pump covers</li> <li>• 3" Adaptaflex vent seal</li> <li>• 1 1/4" Adaptaflex discharge pipe seal(s)</li> </ul>	<ul style="list-style-type: none"> <li>• Cord seal(s)</li> <li>• 1-4" rubber inlet pipe seal (field-installed)</li> <li>• Pump support hardware</li> <li>• 1 1/4" check valve(s)</li> <li>• Ball valve(s)</li> </ul>
<b>SIMPLEX</b>	
<input type="checkbox"/> 24" x 36" (61 x 91 cm)	P/N 32-0005 WGT. 107 lb (48.5 kg)
<b>DUPLEX</b>	
<input type="checkbox"/> 30" x 36" (76 x 91 cm)	P/N 32-0006 WGT. 154 lb (69.9 kg) 3-float system
<input type="checkbox"/> 30" x 36" (76 x 91 cm)	P/N 32-0007 WGT. 154 lb (69.9 kg) 4-float system

**G) OUTDOOR BASIN, COVER, AND RAIL SYSTEM**

**ASSEMBLIES - STANDARD EQUIPMENT**

- Fiberglass basin with anti-flotation ring
- 1 1/4" galvanized pump discharge piping to disconnect
- 1 1/4" PVC discharge pipe from disconnect
- 1 1/4" Adaptaflex discharge pipe seal
- Stainless steel square guide rail
- 1' (0.3 m) pull rod
- 8' (2.4 m) stainless steel lifting cable for basin depths to 84" (213 cm)  
[12' (3.7 m) stainless steel lifting cable for basin depths of 96" (244 cm)]
- 1 1/4" PVC ball valve(s)
- 1 1/4" cast iron check valve(s)
- 1-4" rubber inlet pipe seal (field-installed)
- Fiberglass cover

**SIMPLEX**

<input type="checkbox"/> 24" x 48" (61 x 122 cm)	P/N 33-0022	WGT. 206 lb (93.4 kg)
<input type="checkbox"/> 24" x 60" (61 x 152 cm)	P/N 33-0023	WGT. 219 lb (99.3 kg)
<input type="checkbox"/> 24" x 72" (61 x 183 cm)	P/N 33-0024	WGT. 233 lb (105.7 kg)
<input type="checkbox"/> 24" x 84" (61 x 213 cm)	P/N 33-0057	WGT. 264 lb (119.7 kg)
<input type="checkbox"/> 24" x 96" (61 x 244 cm)	P/N 33-0025	WGT. 277 lb (125.6 kg)

**DUPLEX**

<input type="checkbox"/> 36" x 48" (91 x 122 cm)	P/N 33-0034	WGT. 367 lb (166.5 kg)
<input type="checkbox"/> 36" x 60" (91 x 152 cm)	P/N 33-0035	WGT. 389 lb (176.4 kg)
<input type="checkbox"/> 36" x 72" (91 x 183 cm)	P/N 33-0036	WGT. 472 lb (214.1 kg)
<input type="checkbox"/> 36" x 84" (91 x 213 cm)	P/N 33-0059	WGT. 499 lb (226.3 kg)
<input type="checkbox"/> 36" x 96" (91 x 244 cm)	P/N 33-0037	WGT. 525 lb (238.1 kg)

**OPTIONS:**

- All stainless steel fitted
- Larger diameter or deeper basins (allow for overhead clearance)

**H) RAIL SYSTEMS - (FIELD-INSTALLED)**

**Z-Rail Disconnect System for 1 1/4" pump discharges (Rail System discharge is 2" NPT male thread)**

**Ductile Iron Constructions**

- P/N 39-0134 WGT. 43 lb (19.5 kg)

**With Stainless Steel Upper Rail Support**

- P/N 39-0135 WGT. 43 lb (19.5 kg)

**Intermediate Stabilizer Bracket for every 12' (3.7 m) of depth.**

**Stainless Steel**

- P/N 39-0139 WGT. 6 lb (2.7 kg)

**Square Guide Rail System for systems less than 96" (244 cm) deep.**

**BASIN DEPTH**

- 48" (122 cm) P/N 39-0054 WGT. 90.5 lb (41.1 kg)
- 60" (152 cm) P/N 39-0055 WGT. 94.5 lb (42.9 kg)
- 72" (183 cm) P/N 39-0056 WGT. 98.5 lb (44.7 kg)

Fits both round and square basins. Includes square guide rail. Basins over 72" (183 cm) deep require one additional angle arm bracket.

- P/N 39-0070 WGT. 11 lb (5 kg)

**I) BALL VALVE**

- 1 1/4" IPS
  - P/N 30-0165 WGT. 2 lb (0.9 kg)
- 1 1/2" IPS
  - P/N 30-0166 WGT. 2 lb (0.9 kg)
- 2" IPS
  - P/N 30-0167 WGT. 2.5 lb (1.1 kg)

**J) PULL RODS FOR SQUARE GUIDE RAIL SYSTEMS ONLY (Field-Installed Systems)**

- 1' (0.3 m) "L"
  - P/N 39-0069 WGT. 0.5 lb (0.2 kg)
- 2.5' (0.8 m) "L"
  - P/N 39-0006 WGT. 1 lb (0.5 kg)
- 3.5' (1.1 m) "L"
  - P/N 39-0007 WGT. 1.5 lb (0.7 kg)
- 4.5' (1.4 m) "L"
  - P/N 39-0008 WGT. 1.5 lb (0.7 kg)
- 5.5' (1.7 m) "L"
  - P/N 39-0009 WGT. 2 lb (0.9 kg)

**K) STAINLESS STEEL LIFTING CABLE (Field-Installed Systems)**

8' (2.4 m)	<input type="checkbox"/> P/N 39-0031	WGT. 1 lb (0.5 kg)
12' (3.7 m)	<input type="checkbox"/> P/N 39-0032	WGT. 1 lb (0.5 kg)
16' (4.9 m)	<input type="checkbox"/> P/N 39-0033	WGT. 1 lb (0.5 kg)
20' (6.1 m)	<input type="checkbox"/> P/N 39-0034	WGT. 1 lb (0.5 kg)
24' (7.3 m)	<input type="checkbox"/> P/N 39-0035	WGT. 1 lb (0.5 kg)

\* Required for basin depths over 72" (183 cm) (Square Guide Rail) and over 12' (3.7 m) (E-Z Out Rail). Allow for overhead clearances.

\*\* For Square Guide Rail only.  
Access doors available on field mount systems - consult factory  
Special basin configurations - consult factory  
Junction box mounting and assembly - consult factory

**FIELD-MOUNT SYSTEMS**

SIMPLEX		DUPLEX	
REQ.	REQ.	REQ.	REQ.
1 Grinder	P/N ____ (A)	2 Grinders	P/N ____ (A)
1 Simplex control panel	P/N ____ (B)	1 Duplex control panel	P/N ____ (B)
1 Variable level fl. sw. assm.	P/N ____ (C)	1 Variable level fl. sw. assm.	P/N ____ (C)
1 Junction box	P/N ____ (E)	1 Junction box	P/N ____ (E)
1 Rail system	P/N ____ (H)	2 Rail systems	P/N ____ (H)
1 Angle arm/intermediate bracket*	P/N ____ (H)	2 Angle arm/intermediate bracket*	P/N ____ (H)
1 Pull rod**	P/N ____ (J)	2 Pull rods**	P/N ____ (J)
1 Stainless steel lifting cable	P/N ____ (K)	2 Stainless steel lifting cables	P/N ____ (K)

**PREPACKAGED AND JOB READY SYSTEMS**

INDOOR			
SIMPLEX		DUPLEX	
REQ.	REQ.	REQ.	REQ.
1 Grinder	P/N ____ (A)	2 Grinders	P/N ____ (A)
1 Simplex control panel	P/N ____ (B)	1 Duplex control panel	P/N ____ (B)
1 Variable level fl. sw. assm.	P/N ____ (C)	1 Variable level fl. sw. assm.	P/N ____ (C)
1 Basin, cover and hardware	P/N ____ (F)	1 Basin, cover and hardware	P/N ____ (F)
OUTDOOR			
SIMPLEX		DUPLEX	
REQ.	REQ.	REQ.	REQ.
1 Grinder	P/N ____ (A)	2 Grinders	P/N ____ (A)
1 Simplex control panel	P/N ____ (B)	1 Duplex control panel	P/N ____ (B)
1 Variable level fl. sw. assm.	P/N ____ (C)	1 Variable level fl. sw. assm.	P/N ____ (C)
1 J-box	P/N ____ (E)	1 J-box	P/N ____ (E)
1 Basin, cover and hardware	P/N ____ (G)	1 Basin, cover and hardware	P/N ____ (G)

© Copyright 2014 Zoeller® Co. All rights reserved.

502-778-2731 | 800-928-7867 | 3649 Cane Run Road | Louisville, KY 40211-1961 | www.zoeller.com