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SECTION: 2.25.050  
FM2798  
0721  
Supersedes  
0119

U.S. Patent No.  
8,562,287

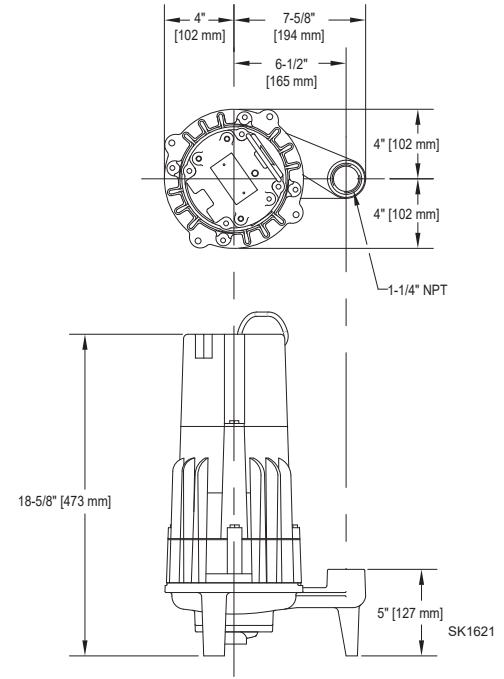


# TECHNICAL DATA SHEET SHARK GRINDER

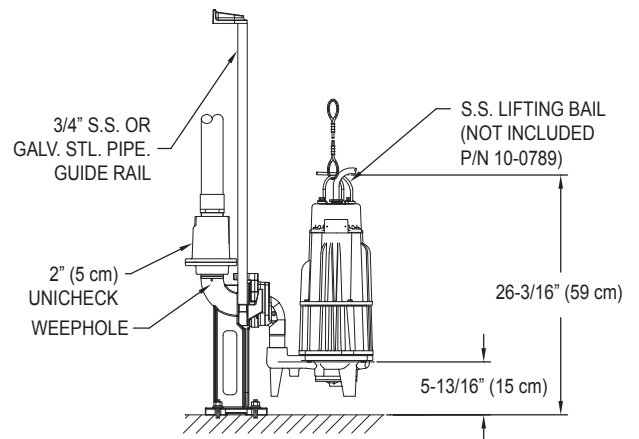
Model 818/819/820 Single Seal Grinder Pumps

## PRODUCT SPECIFICATIONS

<b>MOTOR</b>	Horse Power	1.0 - 2.0
	Voltage	115* / 200 - 575
	Phase	1 or 3 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Capacitor start / capacitor run or 3 Ph
	Insulation	Class B
	Amps	6.5 - 15.5
<b>PUMP</b>	Operation	Automatic** or nonautomatic
	Auto On / Off	Variable level float switch, customer sets
	Discharge Size	1-1/4" NPT vertical discharge
	Cord Length	20' (6 m) standard
	Cord Type	SOW or SOOW multi-wire neoprene
	Max. Head	107' (32.6 m)
	Max. Flow Rate	46 GPM (174 LPM)
	Max. Operating Temp.	130 °F (54 °C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload (1 Phase)
<b>MATERIALS</b>	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	Vortex
	Impeller	Engineered plastic with stainless steel insert
	Hardware	304 Stainless steel
	Motor Shaft	416 Stainless steel
	Gasket & Square Ring	Neoprene
	Cutter	Type 440C stainless steel hardened to Rockwell C55-60



TYPICAL Z-RAIL® MOUNTED SYSTEM



SK2977

\*115 Volt is for model 818 only

\*\* Single phase units only



Tested to UL778 and  
cCSAus 22.2 108  
Standards.

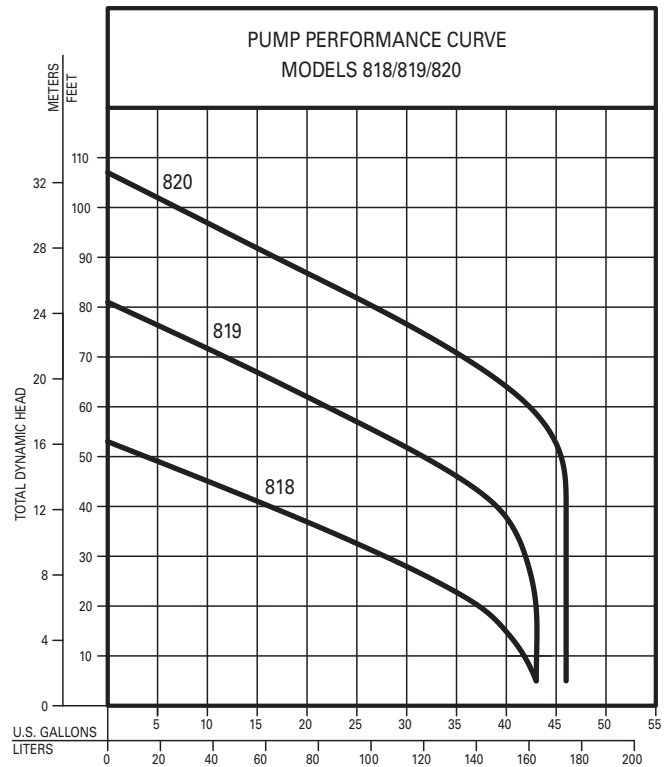
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# TOTAL DYNAMIC HEAD FLOW PER MINUTE

MODEL		818		819		820	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	43	163	43	163	46	174
10	3.0	42	159	43	163	46	174
15	4.6	40	151	43	163	46	174
20	6.1	37	140	43	163	46	174
25	7.6	33	125	43	163	46	174
30	9.1	28	106	42	159	46	174
35	10.7	22	83	41	155	46	174
40	12.2	16.5	62	39	148	46	174
50	15.2	-	-	32	121	46	174
60	18.3	-	-	22	83	43	163
70	21.3	-	-	12	45	36	136
80	24.4	-	-	-	-	27	102
90	27.4	-	-	-	-	16.7	63
100	30.5	-	-	-	-	7	26
Shut-off Head:		53 ft. (16.2m)		81 ft. (24.7m)		107 ft. (32.6m)	

154108



## MODEL 818/819/820 GRINDER PUMPS, 1.0/1.5/2.0 HP, 1.25" NPT VERTICAL DISCHARGE, 20' CORDS

Model	MODEL COMPARISON								
	P/N	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg
WM818	818-0006	Auto	115	1	13.6	1.0	60	89	40.3
N818	818-0002	Non	115	1	13.6	1.0	60	88	39.9
WH818	818-0008	Auto	200-208	1	7.7	1.0	60	89	40.3
I818	818-0005	Non	200-208	1	7.7	1.0	60	88	39.9
WD818	818-0007	Auto	230	1	6.5	1.0	60	89	40.3
E818	818-0004	Non	230	1	6.5	1.0	60	88	39.9
F818	818-0018	Non	230	3	6.9	1.0	60	91 / 99	41.0 / 44.0
J818	818-0017	Non	200	3	7.5	1.0	60	91 / 99	41.0 / 44.0
G818	818-0020	Non	460	3	3.7	1.0	60	91 / 99	41.0 / 44.0
BA818	818-0021	Non	575	3	2.7	1.0	60	91	41.0
WH819	819-0007	Auto	200-208	1	12.0	1.5	60	89	40.3
I819	819-0005	Non	200-208	1	12.0	1.5	60	88	39.9
WD819	819-0006	Auto	230	1	10.8	1.5	60	89	40.3
E819	819-0004	Non	230	1	10.8	1.5	60	88	39.9
F819	819-0014	Non	230	3	8.2	1.5	60	91 / 99	41.0 / 44.0
J819	819-0013	Non	200	3	9.2	1.5	60	91 / 99	41.0 / 44.0
G819	819-0016	Non	460	3	4.2	1.5	60	91 / 99	41.0 / 44.0
BA819	819-0017	Non	575	3	3.2	1.5	60	91	41.0
WH820	820-0005	Auto	200-208	1	15.5	2.0	60	89	40.3
I820	820-0006	Non	200-208	1	15.5	2.0	60	88	39.9
WD820	820-0011	Auto	230	1	13.7	2.0	60	89	40.3
E820	820-0004	Non	230	1	13.7	2.0	60	88	39.9
F820	820-0008	Non	230	3	9.9	2.0	60	91 / 99	41.0 / 44.0
J820	820-0007	Non	200	3	11.0	2.0	60	91 / 99	41.0 / 44.0
G820	820-0009	Non	460	3	5.0	2.0	60	91 / 99	41.0 / 44.0
BA820	820-0010	Non	575	3	3.9	2.0	60	91	41.0



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).

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# PUMP SYSTEM COMPONENTS

## (A) GRINDER PUMP STANDARD FEATURES:

- Tri-slice® two-bladed, high-torque cutter
- Scissor-style cutting action cuts solids down to 7/32" and smaller
- 1-1/4" NPT vertical discharge
- Carbon/ceramic seal
- Thermal overload protection
- Engineered, glass-filled plastic impeller with stainless steel insert
- Stainless steel cutter and plate
- Stainless steel motor shaft
- Stainless steel hardware
- 20' (6 m) power cord

Options:

- Extra length cords  
 \_\_\_ 25' \_\_\_ 35' \_\_\_ 50'

## (B) CONTROL PANELS & ALARM SYSTEMS STANDARD PANEL FEATURES:

- NEMA 4x
- Hand-Off-Automatic (H.O.A.) selector switch
- Lockable hasp
- Audible and visual high water alarm switch with silent switch
- Dry contacts
- Test switch for alarm and light
- UL listed

SIMPLEX PANELS: (For use with non-automatic pumps)

- P/N 10-4463 1 Ph, 0-7.0 Amps  
 P/N 10-4465 1 Ph, 7.0-15.0 Amps  
 P/N 10-1078 3 Ph, 2.5-4.0 Amps, 200-460 V  
 P/N 10-1080 3 Ph, 4.0-6.3 Amps, 200-460 V  
 P/N 10-1082 3 Ph, 6.0-10.0 Amps, 200-460 V  
 P/N 10-1083 3 Ph, 9.0-14.0 Amps, 200-460 V  
 P/N 10-1134 3 Ph, 2.5-4.0 Amps, 575 V

DUPLEX PANELS: (For use with non-automatic pumps)

- P/N 10-4462 1 Ph, 0-7.0 Amps  
 P/N 10-4464 1 Ph, 7.0-15.0 Amps  
 P/N 10-1106 3 Ph, 2.5-4.0 Amps, 200-460 V  
 P/N 10-1108 3 Ph, 4.0-6.3 Amps, 200-460 V  
 P/N 10-1110 3 Ph, 6.0-10.0 Amps, 200-460 V  
 P/N 10-1111 3 Ph, 9.0-14.0 Amps, 200-460 V  
 P/N 10-1156 3 Ph, 2.5-4.0 Amps, 575 V

**HIGH WATER ALARMS:** (For use with automatic pumps)

All alarms come with 15' variable level float switch.

- P/N 10-0412 indoor only  
 P/N 10-0623 indoor/outdoor  
 P/N 10-0126 indoor/outdoor w/ dry alarm contacts

## (C) FLOAT SWITCHES

- 3 float switches required for simplex applications
- 3 or 4 float switches required for duplex applications
- Weight optional for high water alarms

- P/N 10-0744 Float switch w/ 20' cord  
 P/N 10-1878 Float switch w/ 35' cord  
 P/N 10-1879 Float switch w/ 50' cord  
 P/N 10-0689 Weight only

## (D) JUNCTION BOXES (optional)

SIMPLEX SYSTEM:

- P/N 10-0579 Qwik Box, 115 Volt, 15 Amp Max.  
 P/N 10-0580 Qwik Box, 230 Volt, 20 Amp Max.  
 P/N 10-0647 For 3-float outdoor package

DUPLEX SYSTEM:

- P/N 10-0648 For 3-float systems  
 P/N 10-0649 For 4-float systems

## (E) PREPACKAGED INDOOR SYSTEM STANDARD EQUIPMENT

- Fiberglass basin w/ fiberglass anti-flotation ring
- Rust-resistant steel cover (epoxy coated)
- Inspection plate
- Pump access cover (2) for duplex
- (1) 3" Adaptaflex vent seal
- (1) 1-1/4" Adaptaflex discharge pipe seal
- Cord seal
- (1) 4" Adaptaflex inlet pipe seal (field-installed)
- Pump support hardware
- 1-1/4" NPT cast iron check valve (2) for duplex
- 1-1/4" PVC Ball valve (2) for duplex

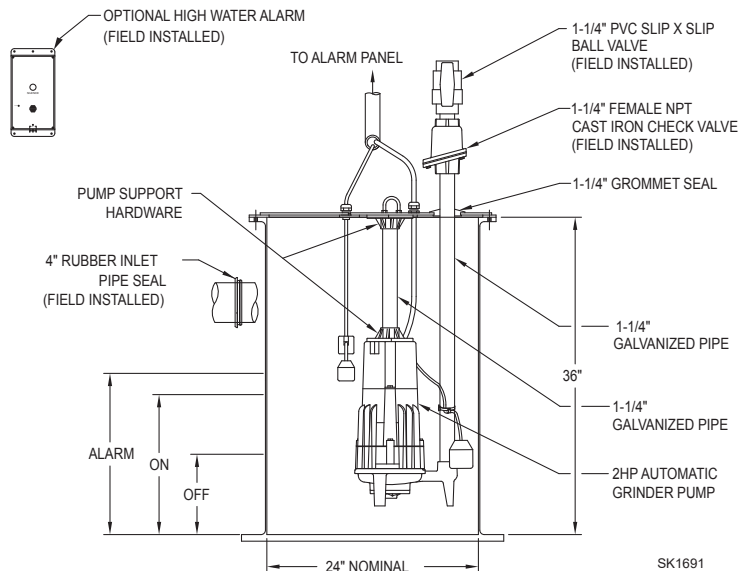
SIMPLEX SYSTEM:

- P/N 32-0011 Automatic models  
 24" x 36" Fiberglass w/ inspection plate

DUPLEX SYSTEM:

- P/N 32-0009 30" x 36" Fiberglass w/ 3 float inspection plate  
 P/N 32-0010 30" x 36" Inspection plate basin w/ 4 float inspection plate

## TYPICAL SIMPLEX INDOOR SYSTEM



PREPACKAGED AND JOB READY SYSTEMS - INDOOR	
	REQ.
Grinder (auto or nonauto)	P/N _____ (A)
Control Panel or alarm	P/N _____ (B)
Floats and weights	P/N _____ (C)
Junction Box (optional)	P/N _____ (D)
Basin, cover and hardware	P/N _____ (E)

## (F) PREPACKAGED OUTDOOR SYSTEM WITH Z-RAIL® TECHNOLOGY

- Fiberglass basin with fiberglass anti-flotation ring
- 2" Schedule 80 PVC discharge piping
- 1-1/4" x 2" Z-Rail® disconnect system, epoxy coated ductile iron
- 3/4" Galvanized rail pipes
- Stainless steel lifting cable and bail
- 2" PVC ball valve (installed)
- 2" cast iron check valve (installed)
- Pre-wired PVC float tree
- (1) 4" rubber inlet pipe seal (field install)
- (1) 2" pipe seal (field install) for electrical conduit
- Solid fiberglass cover with Zoeller imprint

### SIMPLEX

<input type="checkbox"/>	24" x 48" (61 x 122 cm)	P/N 33-2054
<input type="checkbox"/>	24" x 60" (61 x 152 cm)	P/N 33-2057
<input type="checkbox"/>	24" x 72" (61 x 183 cm)	P/N 33-2060
<input type="checkbox"/>	24" x 84" (61 x 213 cm)	P/N 33-2063
<input type="checkbox"/>	24" x 96" (61 x 244 cm)	P/N 33-2069
<input type="checkbox"/>	24" x 108" (61 x 274 cm)	P/N 33-2075
<input type="checkbox"/>	24" x 120" (61 x 305 cm)	P/N 33-2078

<input type="checkbox"/>	30" x 48" (76 x 122 cm)	P/N 33-2081
<input type="checkbox"/>	30" x 60" (76 x 152 cm)	P/N 33-2084
<input type="checkbox"/>	30" x 72" (76 x 183 cm)	P/N 33-2087
<input type="checkbox"/>	30" x 84" (76 x 213 cm)	P/N 33-2090
<input type="checkbox"/>	30" x 96" (76 x 244 cm)	P/N 33-2096
<input type="checkbox"/>	30" x 108" (76 x 274 cm)	P/N 33-2102
<input type="checkbox"/>	30" x 120" (76 x 305 cm)	P/N 33-2105

### DUPLEX

<input type="checkbox"/>	36" x 48" (91 x 122 cm)	P/N 33-2108
<input type="checkbox"/>	36" x 60" (91 x 152 cm)	P/N 33-2111
<input type="checkbox"/>	36" x 72" (91 x 183 cm)	P/N 33-2114
<input type="checkbox"/>	36" x 84" (91 x 213 cm)	P/N 33-2117
<input type="checkbox"/>	36" x 96" (91 x 244 cm)	P/N 33-2123
<input type="checkbox"/>	36" x 108" (91 x 274 cm)	P/N 33-2129
<input type="checkbox"/>	36" x 120" (91 x 305 cm)	P/N 33-2132

<input type="checkbox"/>	48" x 48" (122 x 122 cm)	P/N 33-2135
<input type="checkbox"/>	48" x 60" (122 x 152 cm)	P/N 33-2138
<input type="checkbox"/>	48" x 72" (122 x 183 cm)	P/N 33-2141
<input type="checkbox"/>	48" x 84" (122 x 213 cm)	P/N 33-2144
<input type="checkbox"/>	48" x 96" (122 x 244 cm)	P/N 33-2150
<input type="checkbox"/>	48" x 108" (122 x 274 cm)	P/N 33-2156
<input type="checkbox"/>	48" x 120" (122 x 305 cm)	P/N 33-2159

### OPTIONS

- Steel hatch cover
- Aluminum hatch cover
- Special sizes and configurations (consult factory)

PREPACKAGED AND JOB READY SYSTEMS - OUTDOOR	
	REQ.
Grinder (auto or nonauto)	P/N _____ (A)
Control panel/alarm system	P/N _____ (B)
Floats and weights	P/N _____ (C)
Junction Box (optional)	P/N _____ (D)
Basin, cover and rail system	P/N _____ (F)

## FIELD-ASSEMBLED SYSTEM COMPONENTS

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

- Ductile iron construction
- 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)

### Stainless Steel Lifting Bail

- P/N 10-0789 Required

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

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

### Check Valves

- 1-1/4" Cast iron NPT female
- P/N 30-0163 WGT. 7.5 lb (3.4 kg)
- 2" Cast iron NPT female
- P/N 30-0152 WGT. 10 lb (4.5 kg)

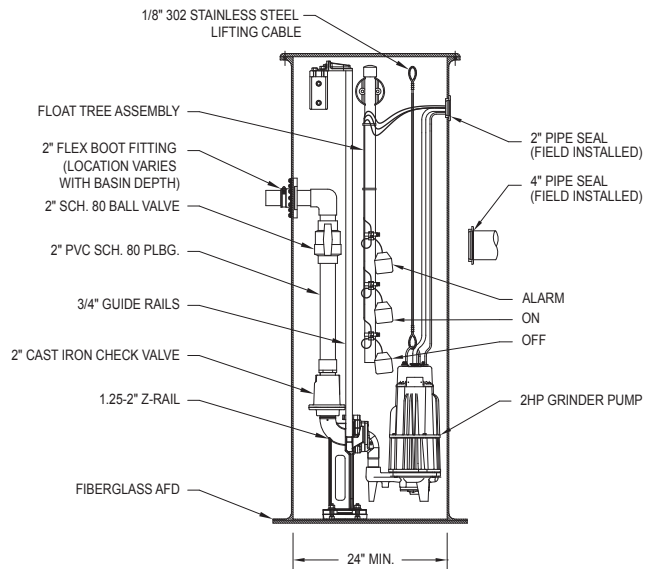
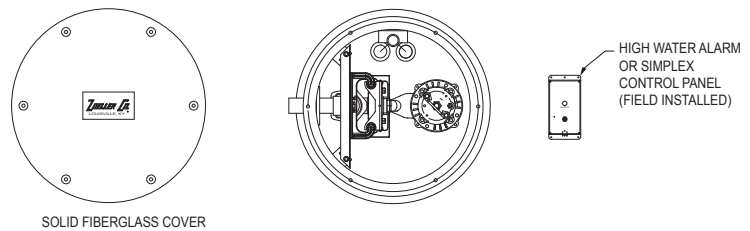
### Ball Valves

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

### Stainless Steel Lifting Cable

- 8' (2.4 m)
- P/N 39-0031 WGT. 1 lb (0.5 kg)
- 12' (3.7 m)
- P/N 39-0032 WGT. 1 lb (0.5 kg)

## TYPICAL SIMPLEX OUTDOOR SYSTEM



SK3110