



# Waste Water

Effluent | Sewage Ejectors | Grinders



# Table of Contents

	Page		Page
Features .....	3	<b>Switches</b>	
<b>Effluent Pumps</b>		Pump Switches.....	20
4/10 & 1/2 HP Pumps .....	4-5	Control Switches.....	21
1/2, 1 High Head & 1 HP Pumps .....	6-7	<b>Liquid Level Alarm Systems</b>	
High Head Effluent Applications .....	8-9	Alarm Systems.....	21
<b>Sewage Ejector Pumps</b>		<b>Control Panels</b>	
4/10 Sewage Ejector .....	10	Control Panels.....	22
1/2 Sewage Ejector.....	11	Fiberglass Basins .....	22
3/4 & 1 HP Sewage Ejectors.....	12-13	<b>Accessories</b>	
1 1/2 & 2 HP Sewage Ejectors .....	14-15	Poly Basins, Check Valves, & Grinder Accessories.....	23
<b>Grinder Pumps</b>			
120912GRP .....	16-17		
120212GRP .....	18-19		

# WE MAKE

Paul Mowbray,  
Pump Assembly  
36 Years of Service

## WATER WORK



When people work together, they can build great things.

Like products that stand the test of time—because they're cast from a proven mold. Designed from the highest standards. And assembled by hand. Our submersible pumps meet this traditional McDonald standard. With a sense of craftsmanship so strong, we personally sign-off on each one. It's how we've done business since 1856. And it's what makes our products perform unlike any others. Together, we make products that make water work.

Visit [AYMcDonald.com](http://AYMcDonald.com) to learn how our submersible pumps can work for you.



More than a brand. We're a family.

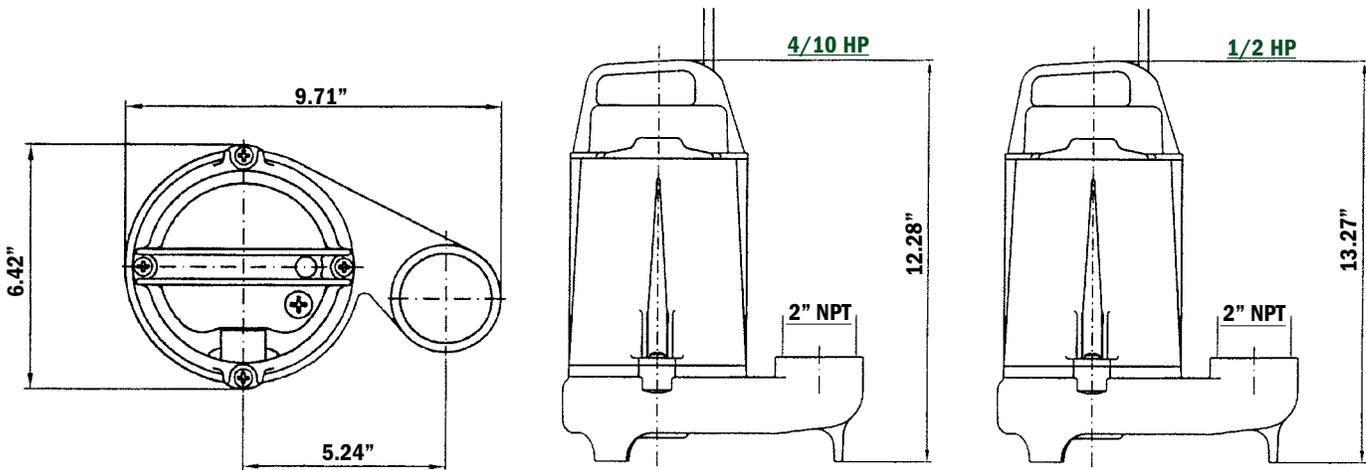


## Effluent Pumps - 4/10 & 1/2 HP

Rugged, cast iron submersible ideal for residential and light commercial wastewater applications. Contains upper & lower ball bearings which reduces heat and increases life of the pump. Available with or without piggyback float switch.

### FEATURES

- High torque capacitor start motors
- 2" NPT vertical discharge, vortex impellers
- Cast iron housings
- Stainless steel fasteners and motor shaft
- Oil-filled motors (non-toxic oil)
- Integrated clip for float switch cable

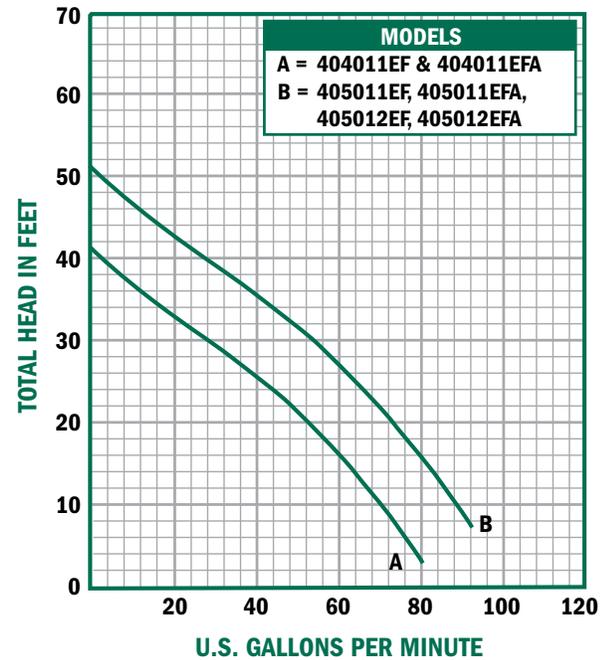


### Effluent Pump Specifications

Model Number	Voltage	HP	Phase	Solids Size	Hertz	Speed (RPM)	Discharge	Weight	Cable Length(ft.)	Float Included
404011EF	115	4/10	1	3/4"	60	3450	2" Vert NPT	32	15	N
404011EFA	115	4/10	1	3/4"	60	3450	2" Vert NPT	34	15	Y
405011EF	115	1/2	1	3/4"	60	3450	2" Vert NPT	36	15	N
405011EFA	115	1/2	1	3/4"	60	3450	2" Vert NPT	38	15	Y
405012EF	230	1/2	1	3/4"	60	3450	2" Vert NPT	36	15	N
405012EFA	230	1/2	1	3/4"	60	3450	2" Vert NPT	38	15	Y

## Materials of Construction & Motor Specifications

Motor Housing	Cast Iron ASTM A48 Class 30
Volute	Cast Iron ASTM A48 Class 30
External Hardware	304 Stainless Steel
O-ring	Buna-N
Motor Shaft	420 Stainless
Oil	Non-toxic white mineral oil (Marcol 52)
Upper Bearing	Single row ball bearing
Lower Bearing	Single row ball bearing
Lower Shaft Seal	Spring loaded rotating carbon face w/ stationary ceramic face
Impeller	Polybutylene Terephthalate (PBT) 30% glass fiber, Vortex
Motor Design	NEMA design B, squirrel cage induction, oil-filled (non toxic)
Motor Type	Enclosed submersible
Insulation Class	Class B, rated at 248° F(120° C)
Motor Protection	Integral Bi-Metallic current sensing switch providing over temperature shut down
Service Factor	1.10
Voltage Tolerance	± 10% from nominal



## Motor Data, 60 Hz

Model Number	Phase	Rated Output Power	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Power Factor 100% Load	Motor Efficiency 100% Load	Pole/Speed (RPM)	Float Included
404011EF	1	0.4 HP	115	9.1	40	N	0.6	49	2/3450	N
404011EFA	1	0.4 HP	115	9.1	40	N	0.6	49	2/3450	Y
405011EF	1	0.5 HP	115	13.2	58.5	P	0.85	50	2/3450	N
405011EFA	1	0.5 HP	115	13.2	58.5	P	0.85	50	2/3450	Y
405012EF	1	0.5 HP	230	6.6	35.2	S	0.85	50	2/3450	N
405012EFA	1	0.5 HP	230	6.6	35.2	S	0.85	50	2/3450	Y

## Cable Specifications

Model Number	Volts	Power Cable	Length (Feet)	Outer Jacket
404011EF	115 Volt	16/3 SJTOW-A or equiv. w/ 3 prong plug	15	Thermoplastic Elastomer
404011EFA	115 Volt	16/3 SJTOW-A or equiv. w/ 3 prong plug	15	Thermoplastic Elastomer
405011EF	115 Volt	16/3 SJE00W or equiv. w/ 3 prong plug	15	Thermoplastic Elastomer
405011EFA	115 Volt	16/3 SJE00W or equiv. w/ 3 prong plug	15	Thermoplastic Elastomer
405012EF	230 Volt	16/3 SJE00W or equiv. w/ 3 prong plug	15	Thermoplastic Elastomer
405012EFA	230 Volt	16/3 SJE00W or equiv. w/ 3 prong plug	15	Thermoplastic Elastomer

- Maximum submergence (feet) = 30
- Maximum temp. of pumped fluid = 104° F(40°C) continuous, =122°F (50°C) intermittent

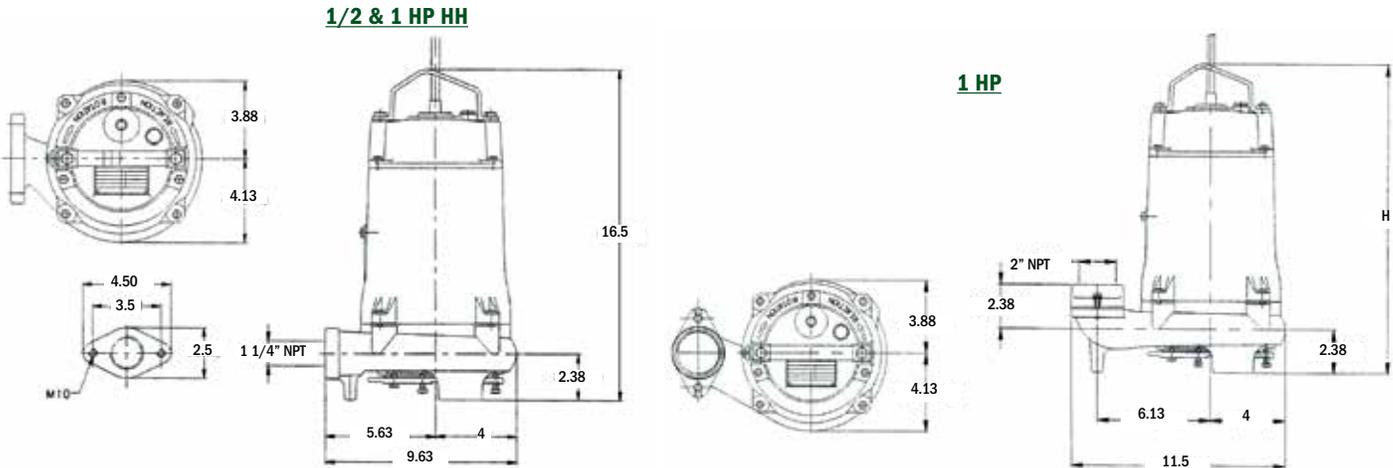
## Effluent Pumps - 1/2 & 1 HP

Featuring a rugged, cast iron construction with stainless steel fasteners and motor shaft submersible pumps for residential, commercial, municipal, and industrial applications. Single phase models are available with 1/2 and 1 HP, and three phase models come with 1 HP.

With the exclusive triple seal system, this pump offers three levels of sealing for outstanding reliability! A double mechanical seal located inside the oil chamber provides two full levels of sealing. An additional V-Ring type lip seal between the oil chamber and pump volute provides a third, extra level of sealing, and enhanced mechanical seal protection.

### FEATURES

- Unique triple seal design
- Patented Contra Block® impeller with adjustable wear plate system for clog-free operation
- Discharges: 1 1/4" on 1/2 HP and 1 HP High Head, 2" on 1 HP Standard Head
- High torque capacitor start single phase motors
- Oil-filled motors (non-toxic oil)
- Stainless steel open loop lifting bale for ease of removal

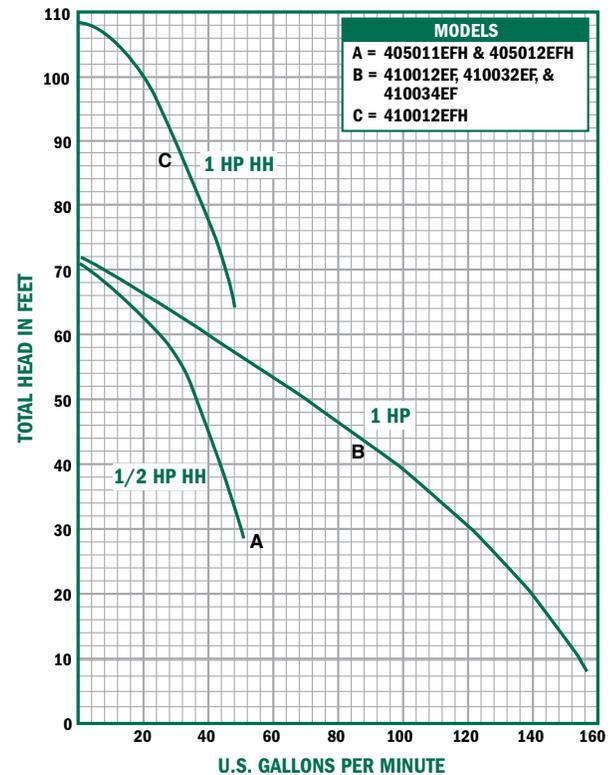


### Effluent Pump Specifications

Model Number	Voltage	HP	Phase	Solids Size	Hertz	Speed (RPM)	Discharge	Weight	Cable Length (ft.)	Float Included
405011EFH	115	1/2	1	5/8"	60	3450	Horizontal NPT 1 1/4"	78	15	N
405012EFH	230	1/2	1	5/8"	60	3450	Horizontal NPT 1 1/4"	78	15	N
410012EF	208-230	1	1	3/4"	60	3450	Vertical NPT 2"	71	15	N
410032EF	208-230	1	3	3/4"	60	3450	Vertical NPT 2"	58	15	N
410034EF	460	1	3	3/4"	60	3450	Vertical NPT 2"	58	15	N
410012EFH	230	1	1	5/8"	60	3450	Horizontal NPT 1 1/4"	70	20	N

## Materials of Construction & Motor Specifications

Upper Motor Lid	Cast Iron ASTM A48 Class 30
Motor Housing	Cast Iron ASTM A48 Class 30
Oil Chamber	Cast Iron ASTM A48 Class 30
Volute	Cast Iron ASTM A48 Class 30
Bottom Plate	Cast Iron ASTM A48 Class 30
Impeller	Cast Iron ASTM A48 Class 30
Lifting Bail	AISI 304 Stainless Steel
Oil (motor & oil chamber)	Non-toxic white mineral oil (Marcol 52)
External Hardware	AISI 304 Stainless Steel
O-rings	Buna-N
Motor Shaft	AISI 420 Stainless Steel
Upper & Lower Bearing(s)	Single row ball bearing
Upper Shaft Seal (secondary)	Rotating carbon face w/ stationary ceramic face
Lower Shaft Seal (primary)	Rotating carbon face w/ stationary ceramic face Includes V-ring lip seal for lower seal protection.
Motor Design	NEMA design B, squirrel cage induction, oil filled, non toxic oil
Motor Type	Enclosed submersible
Insulation Class	Class B, rated at 248° F
Motor Protection	<u>Single Phase:</u> Internal thermal protection with automatic reset. Installer must provide circuit breaker for short circuit protection per N.E.C. standards. <u>Three Phase:</u> Installer must provide external motor overload protection device such as a contactor w/ thermal relay, and circuit breaker for short circuit protection per N.E.C. standards.
Service Factor	1.15
Voltage Tolerance	± 10% from name plate rating

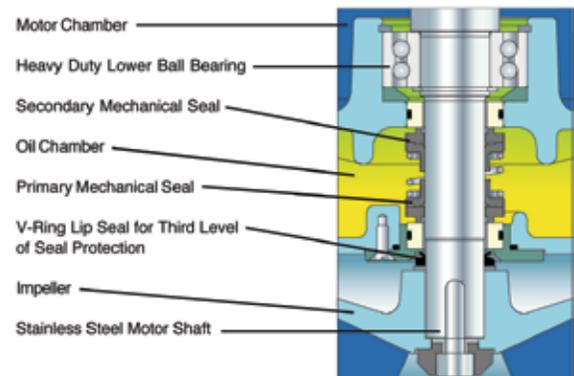


## Motor Data, 60 Hz

Model Number	Phase	Rated Output BHP	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Pole/Speed (RPM)
405011EFH	1*	0.5	115	15.0	91	U	2/3450
405012EFH	1*	0.5	230	7.5	45.5	U	2/3450
410012EF	1*	1.0	230	13.0	45.5	M	2/3450
410032EF	3**	1.0	208-230	6.4-5.8	24-21.8	K	2/3450
410034EF	3**	1.0	460	2.9	10.9	K	2/3450
410012EFH	1	1.0	230	13.0	45.5	M	2/3450

\* Start switch and capacitor integrated into top of pump.  
 \*\* These three phase motors are tri-voltage, 208/230/460.

## Triple Seal System



## Cable Specifications

Model Number	Volts	Power Cable	Diameter	Length (Feet)	Outer Jacket
405011EFH	115 Volt	14/3 SJE00W	0.36IN (9.2MM)	20ft (6m)	Thermoplastic Elastomer
405012EFH	230 Volt	14/3 SJE00W	0.36IN (9.2MM)	20ft (6m)	Thermoplastic Elastomer
410012EF	230	14/3 SJE00W	0.36IN (9.2MM)	20ft (6m)	Thermoplastic Elastomer
410032EF	208-230	16/4 SE00W	0.43IN (10.9MM)	20ft (6m)	Thermoplastic Elastomer
410034EF	460	16/4 SE00W	0.43IN (10.9MM)	20ft (6m)	Thermoplastic Elastomer

- Maximum submergence, ft. - 30  
 - Maximum temp. of pumped fluid - (40°C) 104°F continuous, (50°C) 122°F intermittent

## Thermoplastic

Reinforced Thermoplastic motor bracket and discharge with built-in guide bearing. Sizes range from 1/2 - 1 1/2 HP. 300 series stainless steel top bearing and motor coupling. The 1/2 HP through 1 HP uses composite and 1 1/2 HP uses stainless steel motor. Two wire single phase models include pump, motor, and 10' "SJOW" lead, 25', 50' & 100' available.

All four inch submersibles are supplied with grounded leads meeting the National Electrical Code (N.E.C.) specifications.

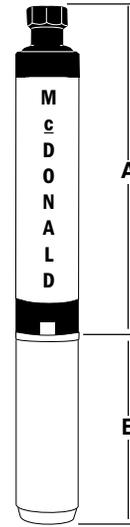
The performance curves on the following page will assist you in choosing the pump that meets your needs.

### FEATURES

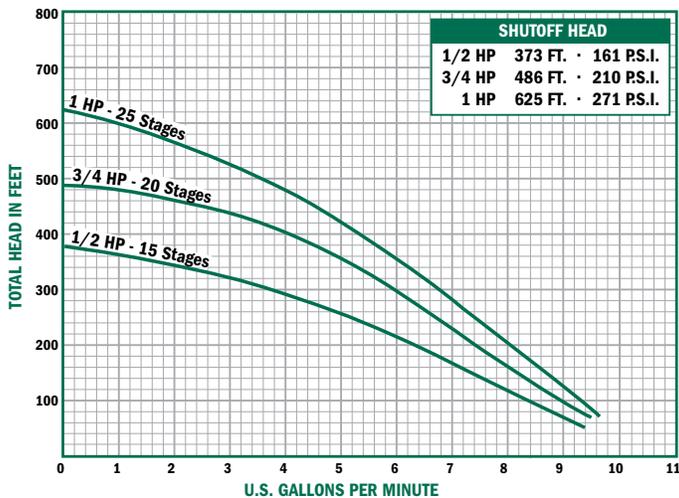
- Stainless steel pump shell and pump shaft
- Reinforced Thermoplastic diffusers and impellers
- Internal, anti-spin check valve standard
- Thermoplastic intake screen and cable guard
- Powered by Franklin Electric submersible motors 1/2 - 1 1/2 HP.
- 1 1/4" FNPT Discharge

### MODELS

- 5 GPM - J Series
- 7 GPM - V Series
- 10 GPM - K Series
- 15 GPM - L Series
- 20 GPM - P Series
- 30 GPM - E Series

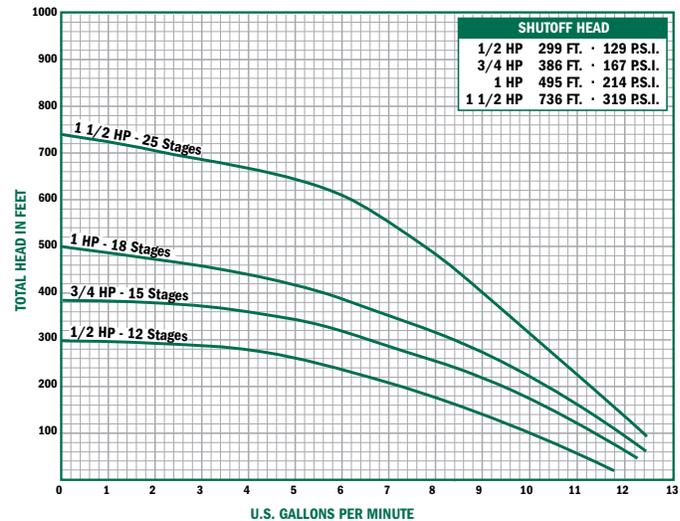


## J Series - 5 GPM



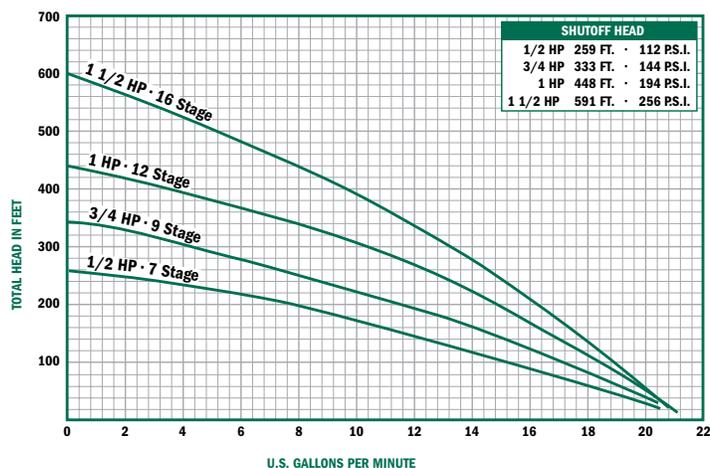
Model No.	HP	Material	Volt	Phase	A	B	Wt.
22050J2AJ	1/2	Plastic	115	1	16.6	9.5	26
22050J2J	1/2	Plastic	230	1	16.6	9.5	26
22075J2J	3/4	Plastic	230	1	20.3	10.7	30
22100J2J	1	Plastic	230	1	22.5	11.8	35

## V Series - 7 GPM



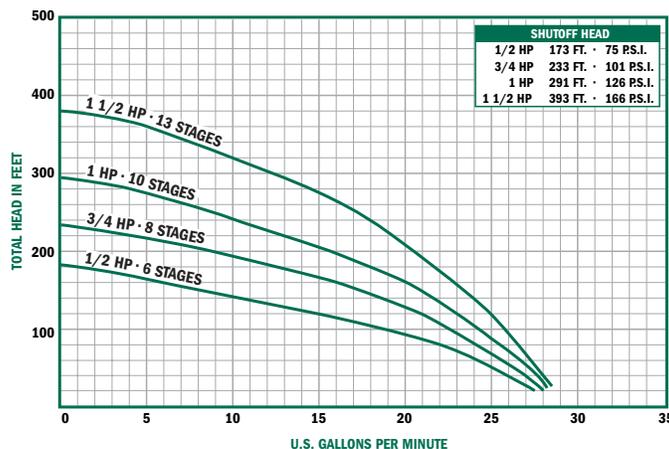
Model No.	HP	Material	Volt	Phase	A	B	Wt.
22050V2AJ	1/2	Plastic	115	1	14.3	9.5	25
22050V2J	1/2	Plastic	230	1	14.3	9.5	25
22075V2J	3/4	Plastic	230	1	16.6	10.7	28
22100V2J	1	Plastic	230	1	18.8	11.7	32
22150V2J	1 1/2	Plastic	230	1	24.0	13.6	40

## K Series - 10 GPM



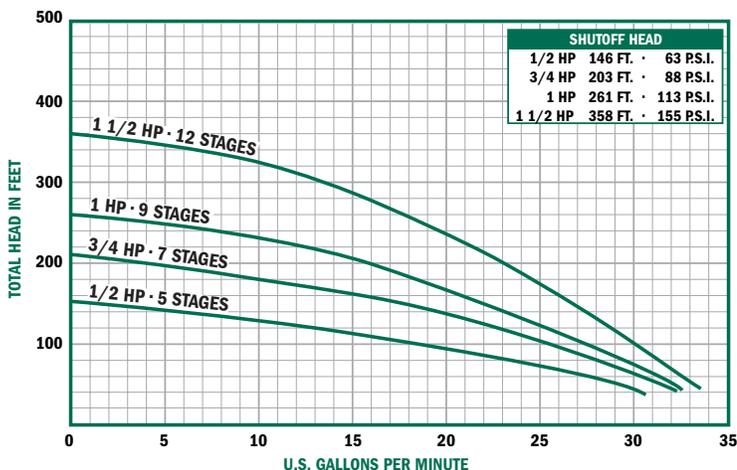
Model No.	HP	Material	Volt	Phase	A	B	Wt.
22050K2AJ	1/2	Plastic	115	1	12.3	9.53	23
22050K2J	1/2	Plastic	230	1	12.3	9.53	22
22075K2J	3/4	Plastic	230	1	13.7	10.66	27
22100K2J	1	Plastic	230	1	16.0	11.75	31
22150K2J	1 1/2	Plastic	230	1	19.7	15.12	40

## L Series - 15 GPM



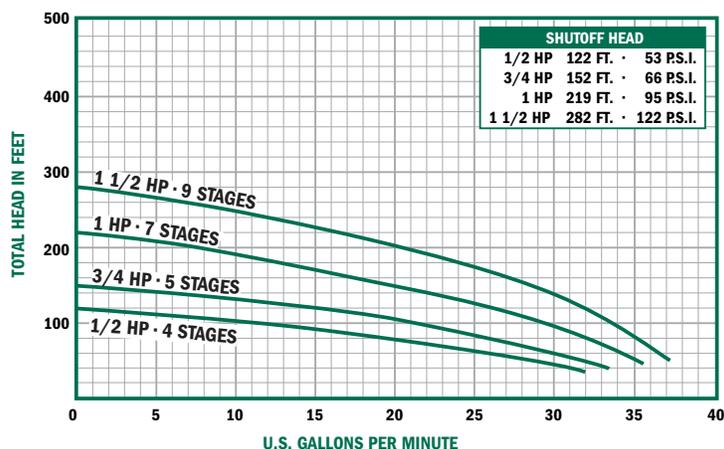
Model No.	HP	Material	Volt	Phase	A	B	Wt.
22050L2AJ	1/2	Plastic	115	1	13.55	9.53	23
22050L2J	1/2	Plastic	230	1	13.55	9.53	23
22075L2J	3/4	Plastic	230	1	15.71	10.66	27
22100L2J	1	Plastic	230	1	17.85	11.75	31
22150L2J	1 1/2	Plastic	230	1	21.07	15.12	39

## P Series - 20 GPM



Model No.	HP	Material	Volt	Phase	A	B	Wt.
22050P2AJ	1/2	Plastic	115	1	12.48	9.53	23
22050P2J	1/2	Plastic	230	1	12.48	9.53	23
22075P2J	3/4	Plastic	230	1	14.63	10.66	27
22100P2J	1	Plastic	230	1	16.78	11.75	31
22150P2J	1 1/2	Plastic	230	1	20.00	15.12	41

## E Series - 30 GPM



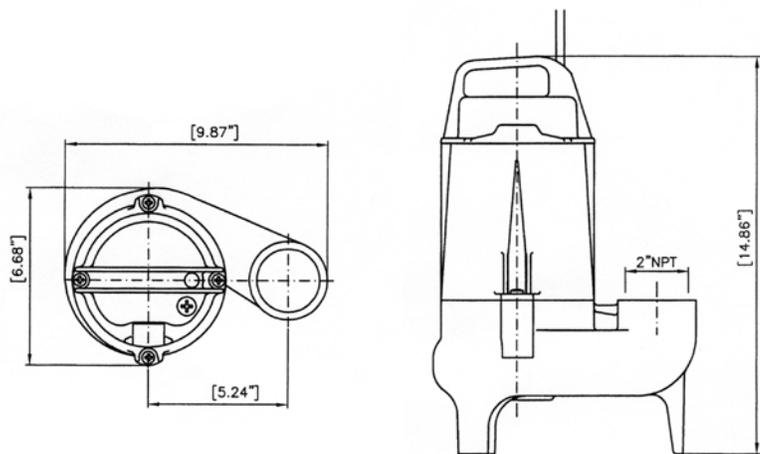
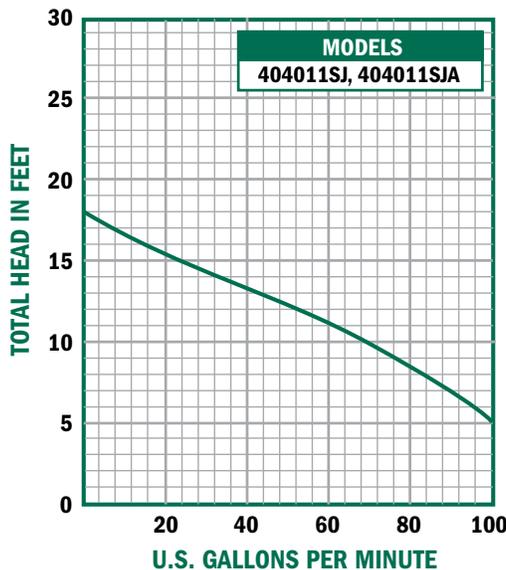
Model No.	HP	Material	Volt	Phase	A	B	Wt.
22050E2AJ	1/2	Plastic	115	1	10.94	9.53	23
22050E2J	1/2	Plastic	230	1	10.94	9.53	23
22075E2J	3/4	Plastic	230	1	12.48	10.66	25
22100E2J	1	Plastic	230	1	14.63	11.75	30
22150E2J	1 1/2	Plastic	230	1	16.78	15.12	39

## Sewage Ejector - 4/10 HP

Rugged, cast iron housing for residential and light commercial wastewater applications. Stainless steel fasteners and motor shaft, also available with or without piggyback float switch.

### FEATURES

- High torque capacitor start motors
- Upper & lower ball bearings
- 2" NPT vertical discharge, vortex impellers
- Oil-filled motors (non-toxic oil)
- Integrated clip for float switch cable



### Materials of Construction & Motor Specifications

Motor Housing	Cast Iron ASTM A48 Class 30
Volute	Cast Iron ASTM A48 Class 30
External Hardware	304 Stainless Steel
O-ring	Buna-N
Motor Shaft	420 Stainless
Oil	Non-toxic white mineral oil (Marcol 52)
Upper Bearing	Single row ball bearing
Lower Bearing	Single row ball bearing
Lower Shaft Seal	Spring loaded rotating carbon face w/ stationary ceramic face

Impeller	Polybutylene Terephthalate (PBT) 30% glass fiber, Vortex
Motor Design	NEMA design B, squirrel cage induction, oil filled (non toxic)
Motor Type	Enclosed submersible
Insulation Class	Class B, rated at 248° F(120° C)
Motor Protection	Integral Bi-Metallic current sensing switch providing over temperature shut down
Service Factor	1.10
Voltage Tolerance	± 10% from nominal

### Motor Data, 60 Hz

Model Number	Phase	Rated Output Power	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Power Factor 100% Load	Motor Efficiency 100% Load	Pole/Speed (RPM)
404011SJ	1	0.4 HP	115	6.6	17.7	F	0.92	57	4/1750
404011SJA	1	0.4 HP	115	6.6	17.7	F	0.92	57	4/1750

### Sewage Ejector & Cable Specifications

Model Number	Voltage	HP	Phase	Solids Size	Hertz	Speed (RPM)	Discharge	Weight	Cable Length(ft.)	Float Included	Outer Jacket
404011SJ	115	4/10	1	2"	60	1750	2" Vert NPT	35	15	N	Thermoplastic elastomer
404011SJA	115	4/10	1	2"	60	1750	2" Vert NPT	37	15	Y	Thermoplastic elastomer

- Power Cable - 16/3 SJTOW-A or equiv. w/ 3 prong plug
- Maximum submergence (feet) = 30
- Maximum temp. of pumped fluid = 104° F(40°C) continuous, =122°F (50°C) intermittent

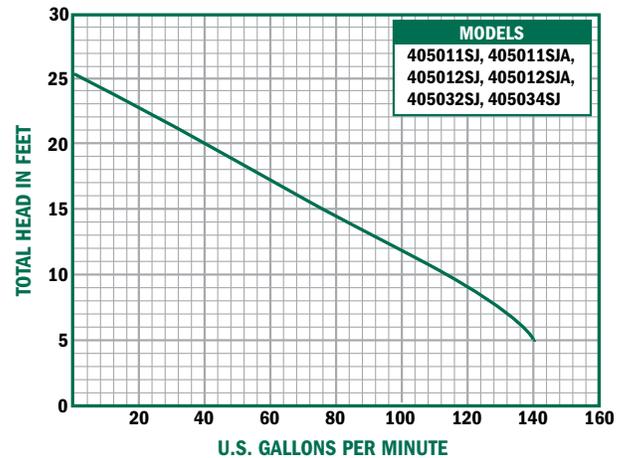
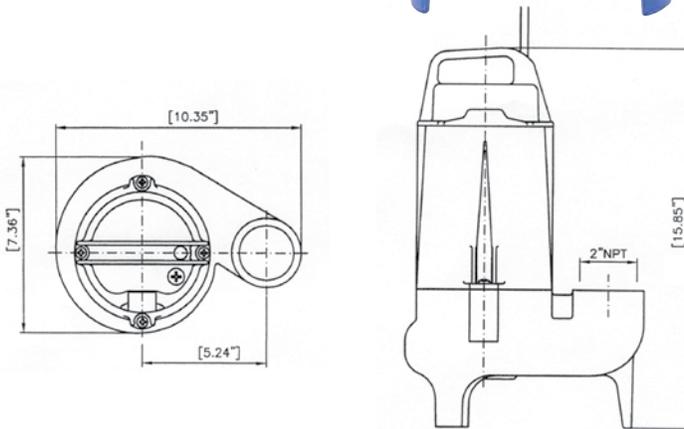
## Sewage Ejector - 1/2 HP

Rugged, cast iron housing for residential and light commercial wastewater applications. Stainless steel fasteners and motor shaft, also available with or without piggyback float switch.



### FEATURES

- High torque capacitor start motors
- Upper & lower ball bearings
- 2" NPT vertical discharge, vortex impellers
- Oil-filled motors (non-toxic oil)
- Integrated clip for float switch cable



### Materials of Construction & Motor Specifications

<b>Motor Housing</b>	Cast Iron ASTM A48 Class 30
<b>Volute</b>	Cast Iron ASTM A48 Class 30
<b>External Hardware</b>	304 Stainless Steel
<b>O-ring</b>	Buna-N
<b>Motor Shaft</b>	420 Stainless
<b>Oil</b>	Non-toxic white mineral oil (Marcol 52)
<b>Upper Bearing</b>	Single row ball bearing
<b>Lower Bearing</b>	Single row ball bearing
<b>Lower Shaft Seal</b>	Spring loaded rotating carbon face w/ stationary ceramic face

<b>Impeller</b>	Polybutylene Terephthalate (PBT) 30% glass fiber, Vortex
<b>Motor Design</b>	NEMA design B, squirrel cage induction, oil filled (non toxic)
<b>Motor Type</b>	Enclosed submersible
<b>Insulation Class</b>	Class B, rated at 248° F(120° C)
<b>Motor Protection</b>	Integral Bi-Metallic current sensing switch providing over temperature shut down
<b>Service Factor</b>	1.10
<b>Voltage Tolerance</b>	± 10% from nominal

### Motor Data, 60 Hz

Model Number	Phase	Rated Output Power	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Power Factor 100% Load	Motor Efficiency 100% Load	Pole/Speed (RPM)
405011SJ	1	0.5	115	10.6	21.4	E	0.87	59	4/1750
405011SJA	1	0.5	115	10.6	21.4	E	0.87	59	4/1750
405012SJ	1	0.5	230	5.3	10.5	E	0.87	59	4/1750
405012SJA	1	0.5	230	5.3	10.5	E	0.87	59	4/1750
405032SJ	3	0.5	208-230	3.5-3.2	22.4-20.3	S	0.87	59	4/1750
405034SJ	3	0.5	460	6.6	10.1	S	0.87	59	4/1750

### Sewage Ejector & Cable Specifications

Model Number	Voltage	HP	Phase	Solids Size	Hertz	Speed (RPM)	Discharge	Weight	Cable Length(ft.)	Float Included	Outer Jacket
405011SJ	115	1/2	1	2"	60	1750	2" Vert NPT	37	15	N	Thermoplastic elastomer
405011SJA	115	1/2	1	2"	60	1750	2" Vert NPT	39	15	Y	Thermoplastic elastomer
405012SJ	230	1/2	1	2"	60	1750	2" Vert NPT	37	15	N	Thermoplastic elastomer
405012SJA	230	1/2	1	2"	60	1750	2" Vert NPT	39	15	Y	Thermoplastic elastomer
405032SJ	230	1/2	3	2"	60	1750	2" Vert NPT	78	15	N	Thermoplastic elastomer
405034SJ	460	1/2	3	2"	60	1750	2" Vert NPT	78	15	N	Thermoplastic elastomer

- Power Cable - 16/3 SJT00W or equiv. w/ 3 prong plug
- Maximum submergence (feet) = 30
- Maximum temp. of pumped fluid = 104° F(40°C) continuous, =122° F(50°C) intermittent

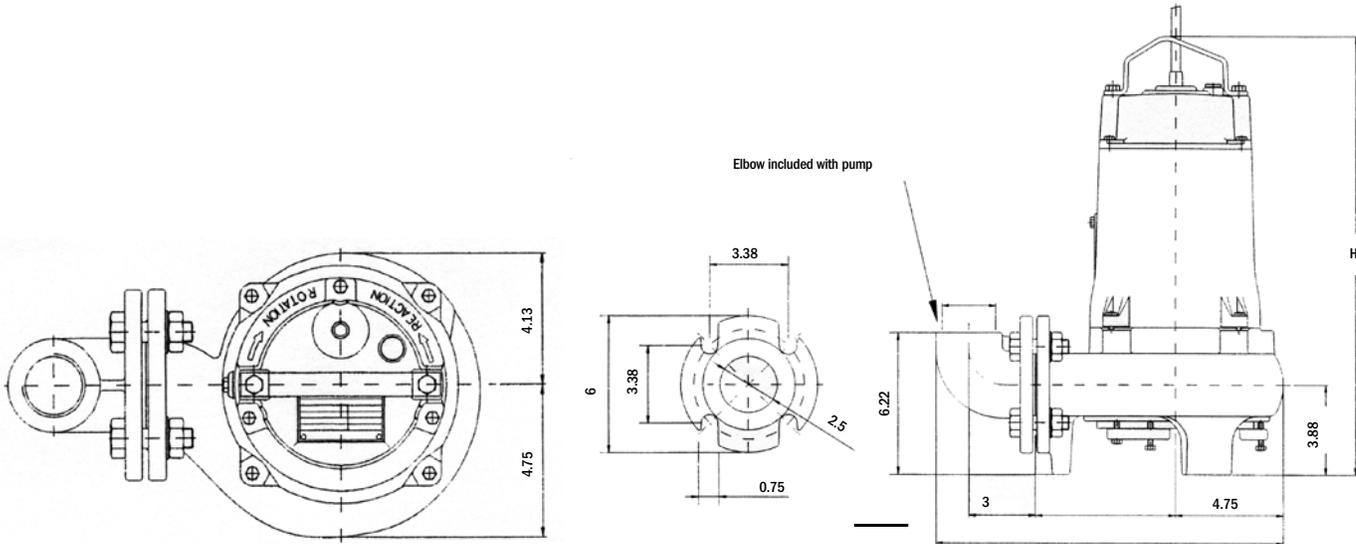
## Sewage Ejector - 3/4 & 1 HP

Rugged cast iron construction submersible pumps with stainless steel fasteners and motor shaft for residential, commercial, municipal, and industrial applications. Single phase models available with 3/4 and 1 HP and three phase models available in 3/4 and 1 HP.

With the exclusive triple seal system, this pump offers three levels of sealing for outstanding reliability! A double mechanical seal located inside the oil chamber provides two full levels of sealing. An additional V-Ring type lip seal between the oil chamber and pump volute provides a third, extra level of sealing, and enhanced mechanical seal protection.

### FEATURES

- Unique triple seal design
- Patented Contra Block® impeller with adjustable wear plate system, for clog-free operation
- 2" Discharge
- High torque capacitor start single phase motors
- Rugged cast iron construction with stainless steel fasteners and motor shaft
- Oil-filled motors (non-toxic oil)
- Stainless steel open loop lifting bale for ease of removal



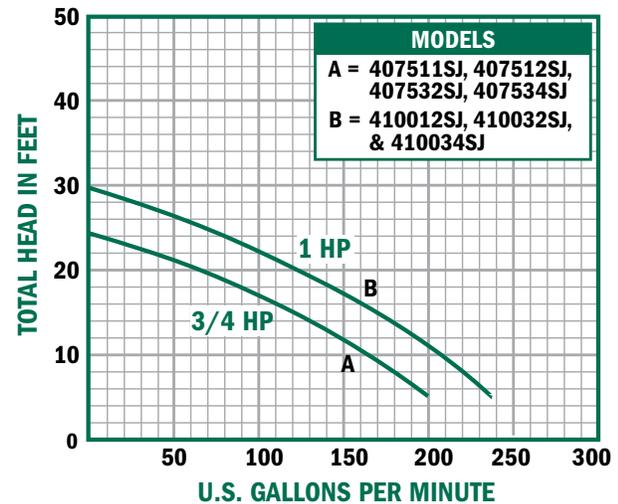
### Sewage Ejector

Model Number	Voltage	HP	Phase	Solids Size	Speed (RPM)	Amps	Discharge	Weight (lbs.)	Max Head (feet)	Max Flow (GPM)
407511SJ	115	3/4	1	2"	1750	14.0/7.7-7.0	Horiz. Flange **	84	25	200
407512SJ	208/230	3/4	1	2"	1750	14.0/7.7-7.0	Horiz. Flange **	84	25	200
407532SJ	208/230	3/4	3	2"	1750	5.5-5.0/2.5, 2.0	Horiz. Flange **	80	25	200
407534SJ	460	3/4	3	2"	1750	5.5-5.0/2.5, 2.0	Horiz. Flange **	80	25	200
410012SJ	208/230	1	1	2"	1750	11.1-10.0	Horiz. Flange **	84	30	240
410032SJ	208/230	1	3	2"	1750	11.1-10.0	Horiz. Flange **	80	30	240
410034SJ	460	1	3	2"	1750	5.5-5.0/2.5, 2.0	Horiz. Flange **	80	30	240

\*\*Pump comes complete with bolt-on discharge elbow, 2" flange x 2" NPT, standard, 2" flange x 3" NPT, optional.

## Materials of Construction & Motor Specifications

Upper Motor Lid	Cast Iron ASTM A48 Class 30
Motor Housing	Cast Iron ASTM A48 Class 30
Oil Chamber	Cast Iron ASTM A48 Class 30
Volute	Cast Iron ASTM A48 Class 30
Bottom Plate	Cast Iron ASTM A48 Class 30
Impeller	Cast Iron ASTM A48 Class 30
Lifting Bail	AISI 304 Stainless Steel
Oil (motor & oil chamber)	Non-toxic white mineral oil (Marcol 52)
External Hardware	AISI 304 Stainless Steel
O-ring	Buna-N
Motor Shaft	AISI 420 Stainless Steel
Upper Bearing	Single row ball bearing
Lower Bearing(s)	Single row ball bearing
Upper Shaft Seal (secondary)	Rotating carbon face w/ stationary ceramic face
Lower Shaft Seal (primary)	Rotating carbon face w/ stationary ceramic face. Includes V-ring lip seal for lower seal protection.
Motor Design	NEMA design B, squirrel cage induction, oil filled, non-toxic oil
Motor Type	Enclosed submersible
Insulation Class	Class B, rated at 120° C
Motor Protection	<b>Single Phase:</b> Internal thermal protection with automatic reset. Installer must provide circuit breaker for short circuit protection per N.E.C. standards. <b>Three Phase:</b> Installer must provide external motor overload protection device such as a contactor w/ thermal relay, and circuit breaker for short circuit protection per N.E.C. standards.
Service Factor	1.15
Voltage Tolerance	± 10% from name plate rating



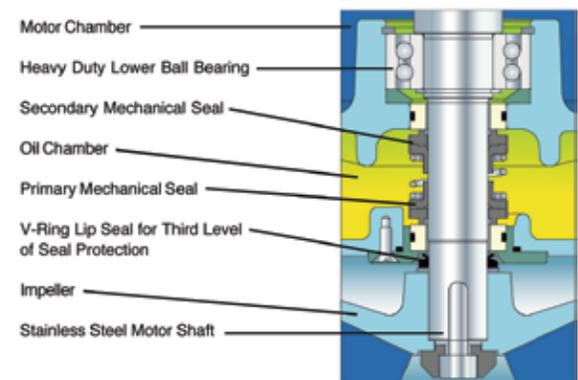
## Motor Data, 60 Hz

Model Number	Phase	Output Power BHP	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Pole/Speed (RPM)
407511SJ	1*	3/4	115	6.9	31.0	K	4/1750
407512SJ	1*	3/4	230	6.9	31.0	K	4/1750
407532SJ	3**	3/4	208/230	4.2-3.8	22.4-20.3	K	4/1750
407534SJ	3**	3/4	460	1.9	10.2	K	4/1750
410012SJ	1*	1.0	230	10.0	38	K	4/1750
410032SJ	3**	1.0	208/230	5.5-5.0	22.4-20.3	K	4/1750
410034SJ	3**	1.0	460	2.5	10.1	K	4/1750

\* Start switch and capacitor integrated into top of pump.

\*\* These three phase motors are tri-voltage, 208/230/460.

## Triple Seal System



## Cable Specifications

Model Number	Volts	Diameter	Power Cable	Length (Feet)	Outer Jacket
407511SJ	115	14/3 SJE00W	0.36in (9.2mm)	20ft (6m)	Thermoplastic Elastomer
407512SJ	208/230	14/3 SJE00W	0.36in (9.2mm)	20ft (6m)	Thermoplastic Elastomer
407532SJ	208/230	14/3 SJE00W	0.36in (9.2mm)	20ft (6m)	Thermoplastic Elastomer
407534SJ	460	16/4 SE00W	0.43in (10.9mm)	20ft (6m)	Thermoplastic Elastomer
410012SJ	230	14/3 SJE00W	0.36in (9.2mm)	20ft (6m)	Thermoplastic Elastomer
410032SJ	208/230	16/4 SE00W	0.43in (10.9mm)	20ft (6m)	Thermoplastic Elastomer
410034SJ	460	16/4 SE00W	0.43in (10.9mm)	20ft (6m)	Thermoplastic Elastomer

- Maximum submergence, ft. (m) - 65 (20)

- Maximum temp. of pumped fluid - 104°F (40°C) continuous, 122°F (50°C) intermittent

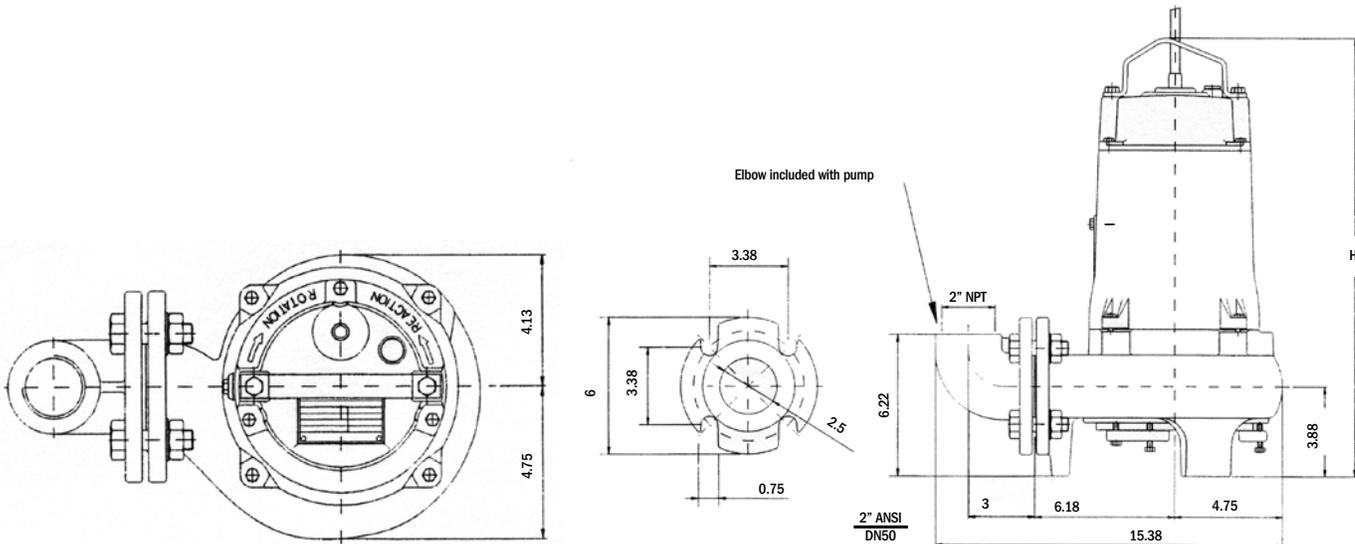
## Sewage Ejector - 1 1/2 & 2 HP

Rugged cast iron construction submersible pumps with stainless steel fasteners and motor shaft for residential, commercial, municipal, and industrial applications. Single phase models available in 3/4 and 1 HP and three phase models available in 3/4 and 1 HP.

With the exclusive triple seal system, this pump offers three levels of sealing for outstanding reliability! A double mechanical seal located inside the oil chamber provides two full levels of sealing. An additional V-Ring type lip seal between the oil chamber and pump volute provides a third, extra level of sealing, and enhanced mechanical seal protection.

### FEATURES

- Unique triple seal design
- Patented Contra Block® impeller with adjustable wear plate system, for clog-free operation
- Discharge 2"
- High torque capacitor start single phase motors
- Oil-filled motors (non-toxic oil)
- Stainless steel open loop lifting bale for ease of removal



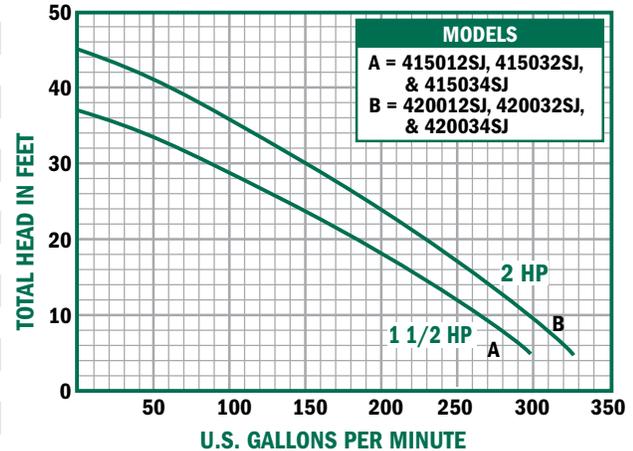
### Sewage Ejector

Model#	Height	Model Number	Voltage	HP	Phase	Solids Size	Speed (RPM)	FLA -Amps	Discharge	Weight (lbs.)	Max Head (feet)	Max Flow (GPM)
415012SJ	20.94	415012SJ	230	1 1/2	1	2"	1750	15.0	Horiz. Flange **	90	37	300
415032SJ	20.2	415032SJ	208/230	1 1/2	3	2"	1750	7.7-7.0	Horiz. Flange **	84	37	300
415034SJ	20.2	415034SJ	460	1 1/2	3	2"	1750	3.5	Horiz. Flange **	84	37	300
420012SJ	20.94	420012SJ	230	2	1	2"	1750	19.0	Horiz. Flange **	90	45	320
420032SJ	20.2	420032SJ	208/230	2	3	2"	1750	9.9-9.0	Horiz. Flange **	84	45	320
420034SJ	20.2	420034SJ	460	2	3	2"	1750	4.5	Horiz. Flange **	84	45	320

\*\*Pump comes complete with bolt-on discharge elbow, 2" flange x 2" NPT, standard, 2" flange x 3" NPT, optional.

## Materials of Construction & Motor Specifications

Upper Motor Lid	Cast Iron ASTM A48 Class 30
Motor Housing	Cast Iron ASTM A48 Class 30
Oil Chamber	Cast Iron ASTM A48 Class 30
Volute	Cast Iron ASTM A48 Class 30
Bottom Plate	Cast Iron ASTM A48 Class 30
Impeller	Cast Iron ASTM A48 Class 30
Lifting Bail	AISI 304 Stainless Steel
Oil (motor & oil chamber)	Non-toxic white mineral oil (Marcol 52)
External Hardware	AISI 304 Stainless Steel
O-ring	Buna-N
Motor Shaft	AISI 420 Stainless Steel
Upper Bearing	Single row ball bearing
Lower Bearing(s)	Single row ball bearing
Upper Shaft Seal (secondary)	Rotating carbon face w/ stationary ceramic face
Lower Shaft Seal (primary)	Rotating carbon face w/ stationary ceramic face. Includes V-ring lip seal for lower seal protection.
Motor Design	NEMA design B, squirrel cage induction, oil filled, non-toxic oil
Motor Type	Enclosed submersible
Insulation Class	Class B, rated at 120° C
Motor Protection	<b>Single Phase:</b> Internal thermal protection with automatic reset. Installer must provide circuit breaker for short circuit protection per N.E.C. standards. <b>Three Phase:</b> Installer must provide external motor overload protection device such as a contactor w/ thermal relay, and circuit breaker for short circuit protection per N.E.C. standards.
Service Factor	1.15
Voltage Tolerance	± 10% from name plate rating



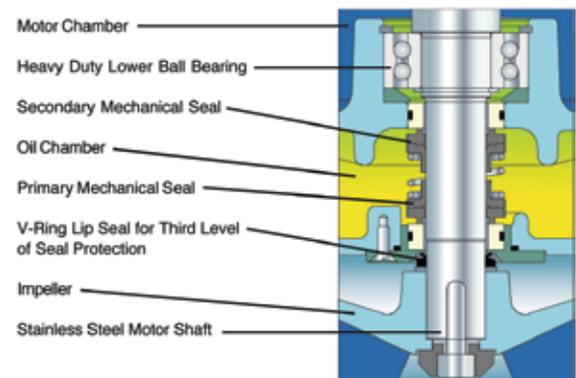
## Motor Data, 60 Hz

Models Number	Phase	Output Power BHP	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Pole Speed (RPM)
415012SJ	1*	1.5	230	15.0	59	L	4/1750
415032SJ	3**	1.5	208/230	7.7-7.0	45-40	M	4/1750
415034SJ	3**	1.5	460	3.5	20	M	4/1750
420012SJ	1*	2.0	230	19.0	59	G	4/1750
420032SJ	3**	2.0	208/230	9.9-9	40-40	K	4/1750
420034SJ	3**	2.0	460	4.5	20	K	4/1750

\* Start switch and capacitor integrated into top of pump.

\*\* These three phase motors are tri-voltage, 208/230/460.

## Triple Seal System



## Cable Specifications

Model Number	Volts	Diameter	Power Cable	Length (Feet)	Outer Jacket
415012SJ	230	14/3 SJE00W	0.36in (9.2mm)	20ft (6m)	Thermoplastic Elastomer
415032SJ	208/230	16/4 SE00W	0.43in (10.9mm)	20ft (6m)	Thermoplastic Elastomer
415034SJ	460	16/4 SE00W	0.43in (10.9mm)	20ft (6m)	Thermoplastic Elastomer
420012SJ	230	12/3 SJE00W	0.43in (10.9mm)	20ft (6m)	Thermoplastic Elastomer
420032SJ	208/230	14/4 SE00W	0.57in (14.5mm)	20ft (6m)	Thermoplastic Elastomer
420034SJ	460	16/4 SE00W	0.43in (10.9mm)	20ft (6m)	Thermoplastic Elastomer

- Maximum submergence, ft. (m) - 65 (20)

- Maximum temp. of pumped fluid - 140°F (40°C) continuous, 122°F (50°C) intermittent

**3" & 4"**  
**Pumps also available, through 10 HP**

## Grinder Pumps - 120912GRP

These submersible pumps have been designed for effective and economical dewatering tasks using discharge lines of small diameter in private, municipal and industrial areas. Grinder pumps are specially designed for private and domestic applications.

### APPLICATIONS

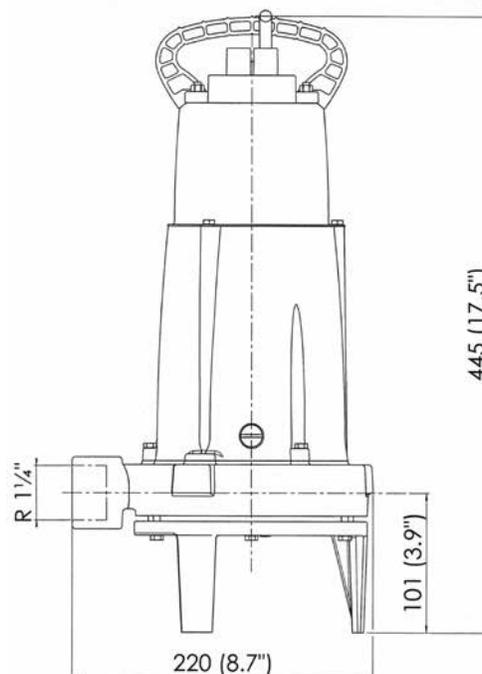
- For sewage removal from living units and houses in scattered settlements where the laying of a conventional sewer would be too expensive, or where large ground undulations are present or where it is only possible to lay pipe lines of small diameter.
- For sewage removal from motorway resting sites, communal buildings and for renovation of buildings or parts of a city.
- For use in slaughter houses, food processing plants, paper factories, agriculture, and similar areas.

### Medium Pumped

Fecal matter and heavily polluted sewage, max, medium temperature: continuous operation = 104°F (40°C) or if unit is submerged, short term to 140°F (60°C) (max. 5 min).

### FEATURES

- Unique shredding system capable of shredding cloths and plastic bags
- For the pumping of wastewater containing sewage, offall, organic and industrial effluent
- Low installation costs
- Advantage of small discharge lines from 1 1/4"
- Installations are possible where large ground undulations are present
- Do not need a control box as capacitor and relay are in upper lid



### Grinder Specifications

Model Number	Voltage	HP	Phase	Hertz	Full Load Amps	Speed (RPM)	Discharge	Height	Cable Length (ft.)
120912GRP	230	2	1	60	13.51	3450	1 1/4" Vert NPT	51	32'

## Materials of Construction

Motor Housing	Cast Iron GG-25
Rotor Shaft	Stainless Steel 1.4021 (AISI 420)
Volute, impeller	Cast Iron GG-25
Fasteners	Stainless Steel 1.4401 (AISI 316)

### Construction

The water pressure tight encapsulated fully flood proof motor and the pump section form a compact robust unit construction.

### Bearings

The motor shaft is supported in lubricated-for-life ball bearings.

### Shaft sealing

Between motor and hydraulic section by means of high quality sealing unit using a silicon carbide mechanical seal, independent of direction of rotation and resistant to temperature shock, motor side: Lip seal oil lubricated.

### Shredding System

Consists of spiral bottom plate with stationary cutter ring with cutting edges and a shredding rotor located before the impeller for optimum blockage-free running.

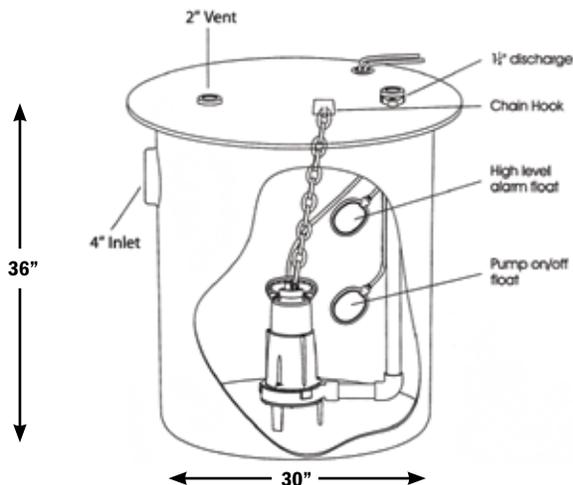


## Residential Packages Available

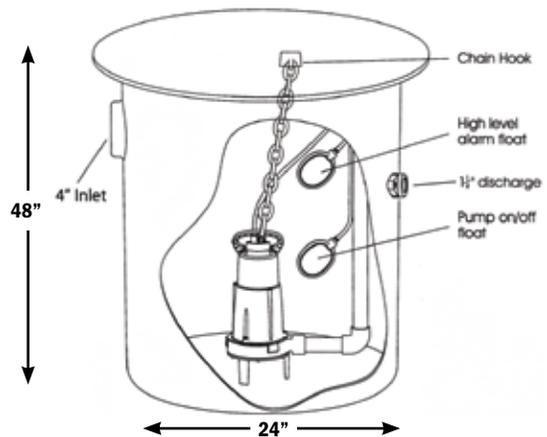
Includes 30 X 36 fiberglass basin on indoor, 24 X 48 fiberglass basin on outdoor. Steel lid with 1 1/4" discharge on indoor, solid steel cover outdoor, pump, Nema 4X tank alarm, 1 1/4" galvanized piping, 4" cast iron inlet (installed 8" from top), chain, and piggyback float.

Outdoor package has side discharge and also includes junction box, 1 1/4" bronze swing check valve, and 1 1/4" galvanized union.

### Indoor 120912GRIN



### Outdoor 120912GROUT

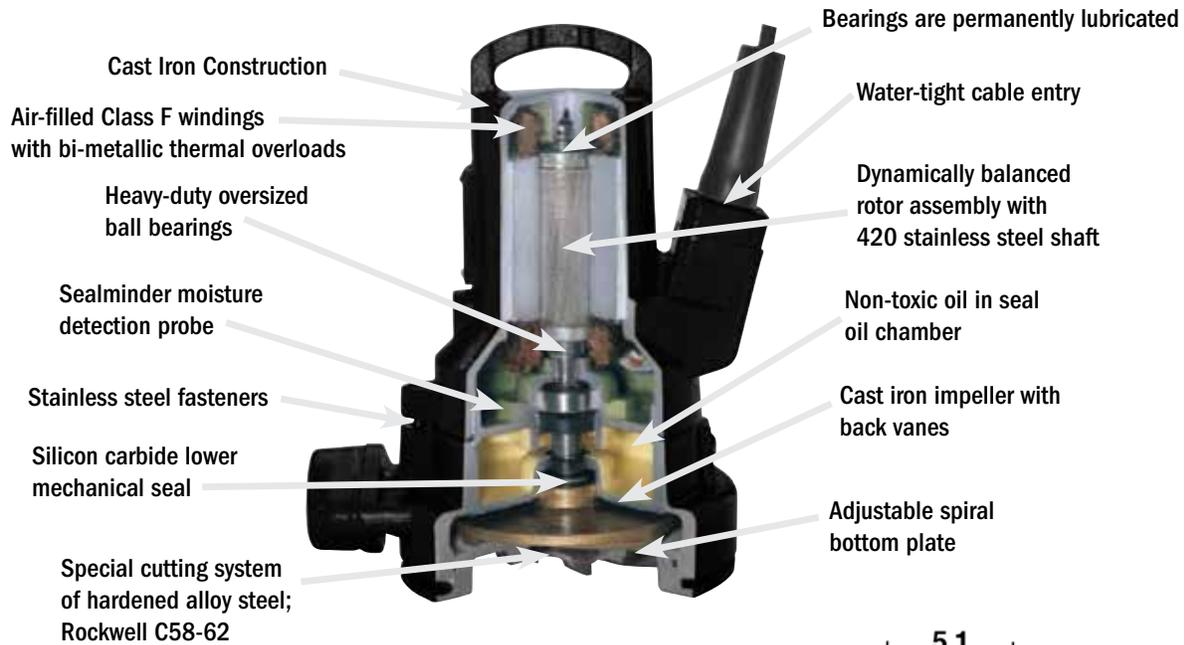


## Grinder Pumps - 120212GRP

Cast iron construction grinder pump used for residential and light commercial applications. Thermal protection, non-toxic environmentally friendly oil in seal chamber, and available in single and three phase motors.

### FEATURES

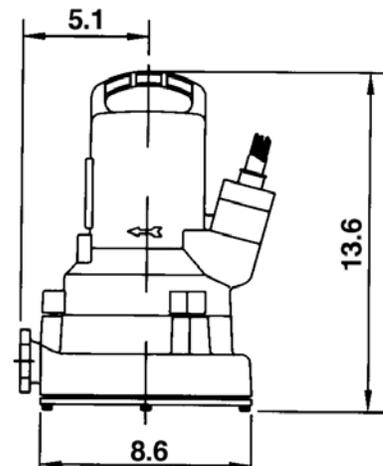
- Air-filled motor
- Sealminder safety check system
- Silicon carbide mechanical seal
- Heavy duty bearings
- Four pole version available for low-flow applications



### Grinder Specifications

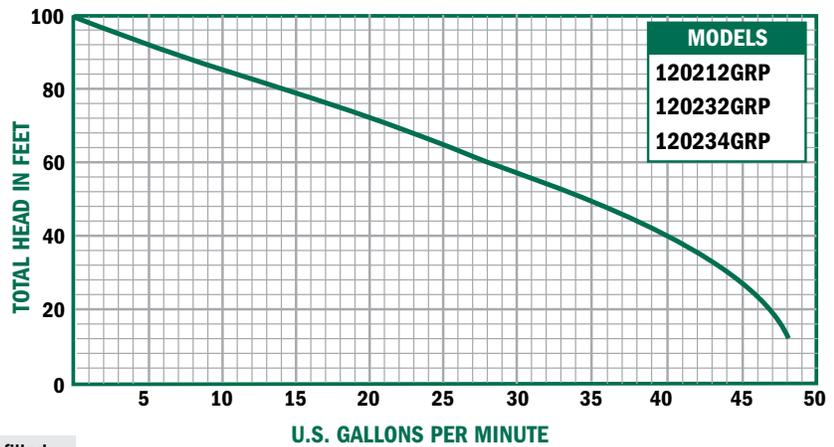
Model Number	Voltage	HP	Phase	Hertz	Speed (RPM)	Discharge	Height	Cable Length (ft.)
120212GRP	230	2.0	1	60	3450	1 1/4"	14"	32
120232GRP	230	2.0	3	60	3450	1 1/4"	14"	32
120234GRP	460	2.0	3	60	3450	1 1/4"	14"	32

Larger sizes available, contact factory.



## Materials of Construction & Motor Specifications

Motor Housing	Cast Iron ASTM A48 Class 30
Cable Cap	Cast Iron ASTM A48 Class 30
Volute	Cast Iron ASTM A48 Class 30
Oil Chamber	Cast Iron ASTM A48 Class 30
External Hardware	AISI 304 Stainless Steel
O-ring	Buna-N
Motor Shaft	AISI 420 Stainless Steel
Cutter Disc Assembly	Chrome Molybdenum Cobalt Tool Steel 58-62 Rockwell "C"
Upper Bearing	Single row ball bearing
Lower Bearing(s)	Single row ball bearing
Upper Shaft Seal	Buna N Lip Seal
Lower Shaft Seal	Silicon Carbide
Impeller	Cast Iron, Open Multi-vane
Motor Design	NEMA design B, squirrel cage induction, air-filled
Motor Type	Enclosed submersible
Insulation Class	Class F, rated at 155° C
Motor Protection	Oil Chamber Moisture Detector, bimetallic switches embedded in each phase for thermal overload protection. Installer must conform to N.E.C. standards, 1990 Ed. Art. 430
Bimetallic Temp Trip	234°F ± 9° (130°C ± 5°C)
Service Factor	1.0
Voltage Tolerance	± 10% from name plate rating



## Motor Data, 60 Hz

Model Number	Phase	Output Power	Volts BHP	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Power Factor 100% Load	Motor Efficiency 100% Load	Pole/Speed (RPM)
120212GRP*	1	2.0	230	10.8	29.4	A	0.99	73.1	2/3450
120232GRP	3	2.0	230	7.2	38.5	G	0.84	74.5	2/3450
120234GRP	3	2.0	460	3.6	19.2	G	0.84	74.5	2/3450

\*Requires external start kit mounted in the control panel

## Cable Specifications

Model Number	Volts	Diameter	Power Cable	Length (Feet)	Outer Jacket
120212GRP	230	14/7 Type SOW-A	0.36in (9.2mm)	32	Thermoplastic elastomer
120232GRP	230	14/7 Type SOW-A	0.36in (9.2mm)	32	Thermoplastic elastomer
120234GRP	460	14/7 Type SOW-A	0.36in (9.2mm)	32	Thermoplastic elastomer

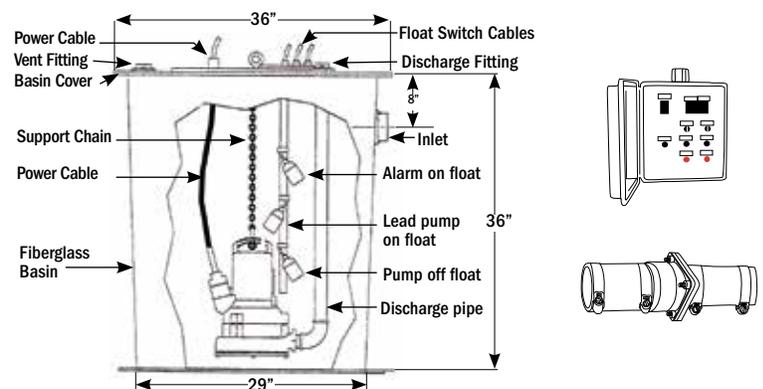
- Maximum submergence, ft. (m) - 33
- Maximum temp. of pumped fluid - 72°F (40°C)

## Residential Packages Available

Includes 30 X 36 basin, steel lid, pump, 3 float switches, Nema 4X panel, 1 1/4" galvanized piping, 1 1/4" bronze check valve, 1 1/4" discharge on cover, lifting eyes, chain, 4" cast iron inlet.

Other size packages available, Contact Factory.

<b>120212GR</b>	230V, single phase
<b>120232GR</b>	230V, three phase
<b>120234GR</b>	460V, three phase



## Pumpmaster®

Mechanically activated, wide angle switch for direct control of pumps up to 1/2 HP at 120V and 1 HP at 230V.

- 6190-011** 20' cord with piggyback plug 120V pump down, with pipe clamp.
- 6190-012** 10' cord with piggyback plug 120V pump down, with pipe clamp.
- 6190-013** 15' cord with piggyback plug 120V pump down, with pipe clamp.
- 6190-014** 15' cord with piggyback plug 230V pump down, with pipe clamp.
- 6190-015** 20' cord with piggyback plug 230V pump down, with pipe clamp.
- 6190-027** 15' cord with piggyback plug 120V pump up, with pipe clamp.



## Pumpmaster® Plus

Mechanically activated, wide angle switch designed for direct control of pumps up to 3/4 HP at 120V and 2 HP at 230V.

- 6190-016** 15' cord with piggyback plug 120V pump down, with pipe clamp.
- 6190-017** 15' cord with piggyback plug 230V pump down, with pipe clamp.
- 6190-018** 20' cord with piggyback plug 120V pump down, with pipe clamp.
- 6190-019** 20' cord with piggyback plug 230V pump down, with pipe clamp.
- 6190-008** 10' cord without plug, pump up.
- 6190-130** 10' cord without plug, pump down.
- 6190-177** 20' cord with piggyback plug, 120V, pump up, with pipe clamp.



## Verticalmaster®

Mechanically activated, switch designed designed for direct control of pumps up to 1/2 HP at 120V and 1 HP at 230V.

- 6190-020** 15' cord with piggyback plug 120V pump down, with mounting bracket and hose clamp.
- 6190-021** 30' cord without piggyback plug 230/120V pump down, with mounting bracket and hose clamp.
- 6190-022** 20' cord with piggyback plug 120V pump down, with mounting bracket and hose clamp.
- 6190-023** 20' cord with piggyback plug 230V pump down, with mounting bracket and hose clamp.



Contact factory for pricing information on other options.

# Liquid Level Alarm Systems

Alarm systems can be special ordered with other floats options (cord length, pump down, pump up, etc.). Contact factory for pricing information.



## Tank Alert AB

Indoor - 120V, Nema 1 enclosure, with auto reset and battery backup features.

**#6190-137** - With mechanical switch, 15' pipe clamp mount, normally open, SignalMaster® float, high water alarm.

**#6190-176** - With mechanical switch, 15' pipe clamp mount, normally open, SignalMaster® float, high water alarm **with auxiliary contacts.**



## Tank Alarm XT

Indoor/outdoor - 120V, Nema 3R water tight enclosure.

**#6190-025** - With mechanical switch, 15' SignalMaster® float, high water alarm.

# Signalmaster®

Control Switches can be special ordered with other floats options (cord length, pump down, pump up, etc.). Contact factory for pricing information.



Mechanically activated, narrow angle float switch designed to activate pump control panels and alarms.

**6190-044** 20' cord, normally closed, weighted externally with mounting clamp.

**6190-045** 15' cord, normally open, pipe clamp.

### Normally Open (high level) Operation

The control switch closes (turns on) when the float tips slightly **above** horizontal signaling a high level, and opens (turns off) when the float drops slightly **below** horizontal in potable water, water or sewage applications.

### Normally Closed (low level) Operation

The control switch closes (turns on) when the float tips slightly **below** horizontal signaling a low level, and opens (turns off) when the float tips slightly **above** horizontal in potable water, water or sewage applications.

## Control Panels

### Residential Series Control Panel Includes:

- Nema 4X fiberglass enclosure
- Circuit breaker with short circuit protection, per pump
- Contactor and overload relay, per pump (overload relay provides class 10 trip)
- Start & run capacitors, start relay, per pump
- Hand, Off, Auto selector switch, per pump
- Green pump run light, per pump
- Red seal fail light, per pump
- Switches and lights mounted on elevation bracket. No deadfront door included.
- Motor thermal wired into control logic to shut off pump upon an over temp. Pump will restart after thermal cools.
- High water alarm beacon, top mounted on panel
- Alarm Off-Auto selector switch
- Terminal blocks for power, pump, and float switch connections



- 6194-009** Simplex
- 6194-010** Duplex single phase for use with 120212GRP
- 6194-110** Duplex three phase for use with 120232GRP

Custom control panels available, Contact Factory.  
An extensive list of options are available for inclusion in any control panel design.

## Fiberglass Basins

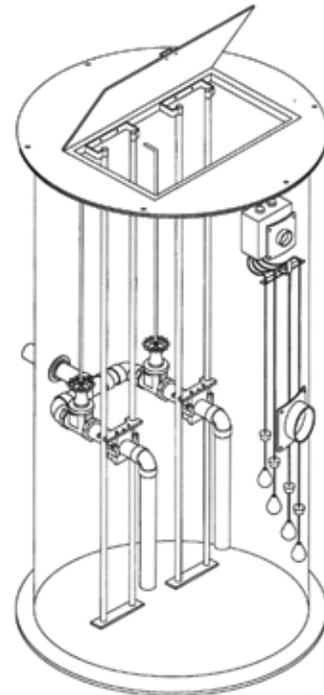
### Simplex and Duplex Packaged Systems

#### Simplex Systems

- Simplex Studs
- SS Discharge Coupling
- Nylon Electric Coupling
- 4" Inlet (Adapt-A-Flex or 4" CI Hub)
- EZ-Out Base Elbow
- Guide Rail & Bracket
- Discharge Pipe
- Brass Gate Valve
- Ball Check Valve
- Elbow
- Union
- SS Extension Handle & Bracket
- Simplex Float Bracket
- Simplex Junction Box
- Chain Package (galvanized)
- Couplings
- SS Cross Brace for Upper Guide Bracket
- Reducer Bushings
- Close Nipples
- Float Nipples (20')

#### Duplex Systems

- Duplex Studs
- SS Discharge Coupling
- Nylon Electric Coupling
- 4" Inlet (Adapt-A-Flex or 4" CI Hub)
- EZ-Out Base Elbow
- Guide Rail & Bracket
- Discharge Pipe
- Brass Gate Valve
- Ball Check Valve
- Elbows
- Union
- Tee
- SS Extension Handle & Bracket
- SS Duplex Float Bracket
- SS Nuts, Bolts & Washers
- Upper Guide Brackets (galvanized)
- Duplex Junction Box
- Chain Package (galvanized)
- Couplings
- Reducer Bushings
- Close Nipples
- Mushroom Vent
- W Floats (20')
- 2 Lifting Lugs



**Package Dimension Range**  
- 24" - 72" Diameter  
- 48" - 120" Depth

Consult factory for Pricing, Availability, and Freight.

# Basin & Covers

Poly Basin and Covers



### Simplex

- 6192-010 18"x30" Poly Basin w/ 4" adapt-a-flex
  - 6192-011 18" Structural foam cover, 2"x 2" with gaskets (ind. boxed)
  - 6192-012 18" steel cover,
  - 6192-013 18" x 30" Simplex Basin kit with structural foam cover
  - 6192-014 18" x 30" Simplex Basin kit with steel cover
- Simplex basin kits include 18"x30" basin, cover, 4" sch. 40 adapt-a-flex inlet, lid gasket, discharge and vent gasket, and cord grommet.

### Duplex

- 6192-015 36" x 30" Poly Basin-no inlet
- 6192-016 36" Duplex cover, 10 ga. steel
- 6192-017 36" Duplex cover, 1/4" steel

### Basin Accessories

- 6192-018 4" sch. 40 adapt-a-flex inlet
- 6192-019 4" caulking hub inlet

# Check Valves



- 2063 1/4" or 1/2" Combo Sump Pump Check Valve
- 2063 1 1/2", 2" Full Flow Sump Pump Check Valve
- 2065 2" Union Swing Check Valve
- 2066 2" Union Swing Check - Socket Ball Valve Combo
- 2067 2" Compression Swing Check Valve
- 2068 2" Compression Swing Check Valve - Socket Ball Valve Combo

See Plumbing Price Sheet for pricing information.

# Grinder Accessories



### Guide Rail Assemblies

#### Standard

- 6194-119 for 120212GRP

#### Ball Check

- 6194-120 for 120212GRP
- 6194-121 for 120912GRP

#### Pedestal Base

- 6194-109 for grinder pump



Contact factory for pricing on other sizes.



A.Y. McDonald Mfg. Co. is a leading manufacturer of Waterworks Brass, Plumbing Valves, Pumps and Water Systems, and High Pressure Gas Valves and Meter Bars. The Company has distinguished itself with a proud tradition of quality and reliability since its founding in 1856.

The mission of A.Y. McDonald Mfg. Co., in the words of our founder, is “to make good products and sell them honestly.” We, the stockholders and employees, accomplish this by extending the McDonald family culture through excellent customer service and by focusing on our customers’ needs.



WARNING: It is unlawful in CALIFORNIA & VERMONT (effective 1/1/2010); MARYLAND (effective 1/1/2012); LOUISIANA (effective 1/1/2013) and the UNITED STATES OF AMERICA (effective 1/4/2014) to use any product in the installation or repair of any public water system or any plumbing in a facility or system that provides water for human consumption if the wetted surface area of the product has a weighted average lead content greater than 0.25%. This prohibition does not extend to service saddles used in California, Louisiana or under USA Public Law 111-380.

