



**PUMP COMPANY**

*Zoeller Family of Water Solutions™*

## Product Specifications & Technical Data Sheets

*Please use this reference to select the appropriate pump.*

### Pump Overview

<b>Product</b>	<b>Horsepower</b>	<b>Maximum Head</b>	<b>Maximum Flow Rate</b>
BN-53	3/10	19.25' (5.9 m)	43 GPM (163 LPM)
BN-98	1/2	23' (7 m)	72 GPM (273 LPM)
BN-137	1/2	26' (8 m)	93 GPM (352 LPM)
BN-140	1	50' (15.2 m)	86 GPM (326 LPM)
BN-151	1/3	30' (9.1 m)	50 GPM (186 LPM)
BN-152	4/10	38' (11.6 m)	69 GPM (261 LPM)
BN-153	1/2	44' (13.4 m)	77 GPM (291 LPM)
BN-161	1/2	56' (17 m)	100 GPM (379 LPM)
BN-267	1/2	21.5' (6.6 m)	128 GPM (484 LPM)
BN-282	1/2	26' (7.9 m)	127 GPM (481 LPM)



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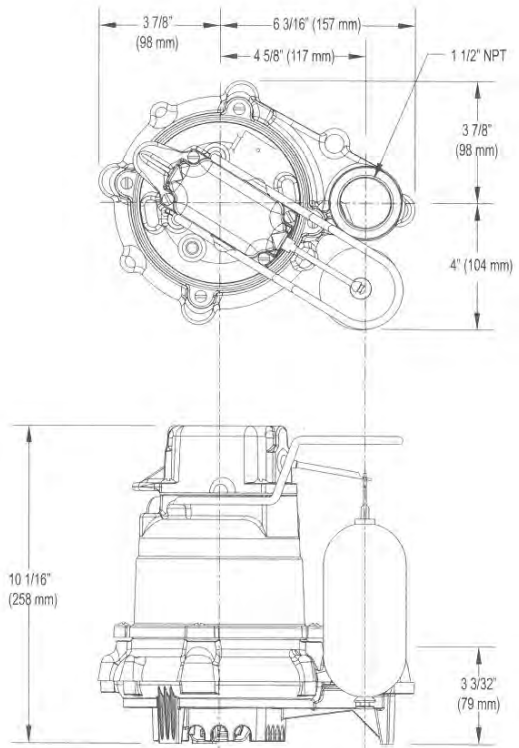
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Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

**TECHNICAL DATA SHEET**  
**MIGHTY-MATE SERIES**  
*Cast Iron Models 53, 57 and Bronze Models 55, 59*  
*Submersible Effluent / Dewatering Pumps*

**PRODUCT SPECIFICATIONS**

<b>MOTOR</b>	Horse Power	3/10
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	1550
	Type	Shaded pole
	Insulation	Class B
	Amps	4.8 - 9.7
<b>PUMP</b>	Operation	Automatic or nonautomatic
	Auto On/Off Points	7-1/4" (18.4 cm) / 3" (7.6 cm)
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (12 mm) spherical solids
	Cord Length	9' (3 m) automatic, 15' (5 m) nonautomatic
	Cord Type	UL listed, 3-wire, grounded plug
	Max. Head	19.25' (5.9 m)
	Max. Flow Rate	43 GPM (163 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
<b>MATERIALS</b>	Cap	Cast iron or bronze
	Motor Housing	Cast iron or bronze
	Pump Housing	Cast iron or bronze
	Base	Cast iron, bronze or engineered thermoplastic
	Upper Bearing	Sleeve bearing
	Lower Bearing	Sleeve bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Plastic, cast iron or bronze
	Hardware	Stainless steel
	Motor Shaft	AISI 1215 cold rolled steel
	Gasket	Neoprene



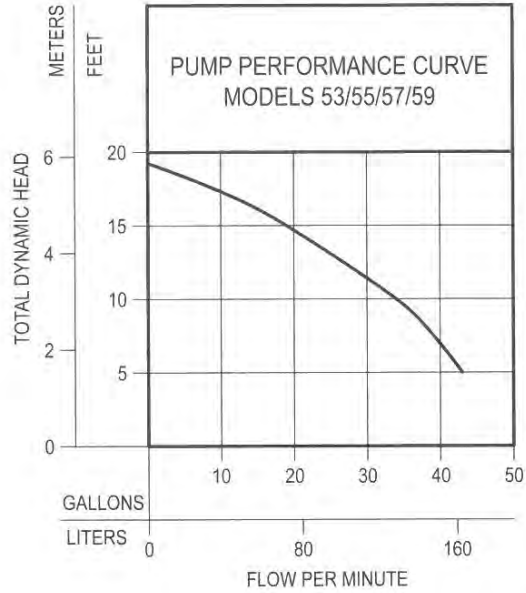
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NOTE: See model comparison chart for specific details.



**TOTAL DYNAMIC HEAD  
FLOW PER MINUTE**

MODEL		53/55/57/59	
Feet	Meters	Gal.	Liters
5	1.5	43	163
10	3.0	34	129
15	4.6	19	72
Shut-off Head:		19.25 ft.(5.9m)	



009897

Model	MODEL COMPARISON											CERTIFICATIONS
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex	cCSAus
M53/M55	Single	Auto	115	1	9.7	3/10	60	23	10	1	---	Y
N53/N55	Single	Non	115	1	9.7	3/10	60	23	10	2	3 & 4	Y
* BN53	Single	Auto	115	1	9.7	3/10	60	25	11	*	---	Y
* BE53/BE57	Single	Auto	230	1	4.8	3/10	60	24 / 30	11 / 13	*	---	Y
D53	Single	Auto	230	1	4.8	3/10	60	23	10	1	---	Y
E53/E55	Single	Non	230	1	4.8	3/10	60	22	10	2	3 & 4	Y
M57/M59	Single	Auto	115	1	9.7	3/10	60	29 / 33	13 / 15	1	---	Y
N57/N59	Single	Non	115	1	9.7	3/10	60	28 / 29	12 / 13	2	3 & 4	Y
* BN57	Single	Auto	115	1	9.7	3/10	60	30	13	*	---	N
D57/D59	Single	Auto	230	1	4.8	3/10	60	30 / 33	13 / 15	1	---	Y
E57/E59	Single	Non	230	1	4.8	3/10	60	28 / 29	12 / 13	2	3 & 4	Y
E59	Single	Non	230	1	4.8	3/10	60	29	13	2	3 & 4	Y

\* Single piggyback switch included.

**SPECIAL MODEL FEATURES**

Additional cord lengths are available in 15' (5 m), 25' (8 m) and 35' (11 m). 50' (15 m) cord lengths available for 230 V units only.

BE and BN models include a piggyback variable level pump switch.

Model 53: cast iron switch case, motor and pump housing, a plastic impeller and base. Model 57: all cast iron construction with a cast iron impeller. Model 55: bronze switch case, motor and pump housing, a plastic impeller and base. Model 59: bronze construction with a bronze impeller.

Optional pump stand (P/N 10-2421).

**SELECTION GUIDE**

1. Integral float-operated mechanical switch, no external control required.
2. Single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM0712 for correct model of Electrical Alternator.
4. Variable level control switch 10-0743 used as a control activator with electrical alternator (3) or (4) float system.

**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).

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SECTION: 2.15.050

FM2779

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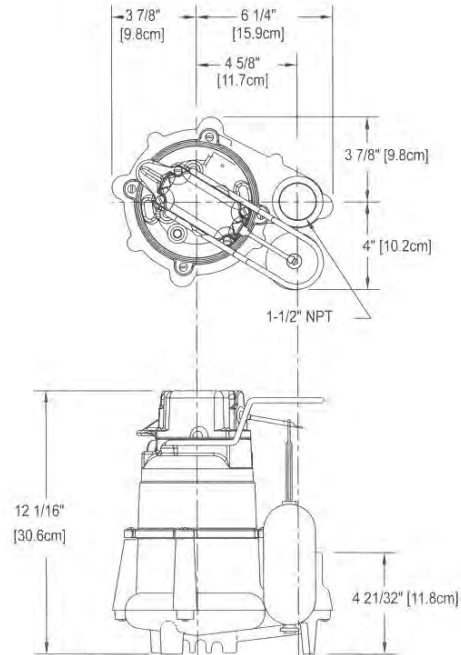
Supersedes

New

## TECHNICAL DATA SHEET FLOW-MATE SERIES Model 98 Submersible Effluent/Dewatering Pump

### PRODUCT SPECIFICATIONS

<b>MOTOR</b>	Horse Power	1/2
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	1725
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	4.7 - 9.4
	<b>PUMP</b>	Operation
Auto On/Off Points		9-1/2" (24 cm) / 3" (7.6 cm)
Discharge Size		1-1/2" NPT
Solids Handling		1/2" (13 mm) spherical solids
Cord Length		15' (5 m) standard
Cord Type		UL listed
Max. Head		23' (7 m)
Max. Flow Rate		72 GPM (273 LPM)
Max. Operating Temp.		130° F (54° C)
Cooling		Oil filled
Motor Protection	Auto reset thermal overload	
<b>MATERIALS</b>	Cap	Cast iron
	Motor Housing	Cast iron
	Pump Housing	Cast iron
	Base	Cast iron
	Upper Bearing	Oil-fed cast iron
	Lower Bearing	Oil-fed cast iron
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Engineered plastic
	Hardware	Stainless steel
	Motor Shaft	AISI 1215 cold rolled steel
	Gasket	Neoprene



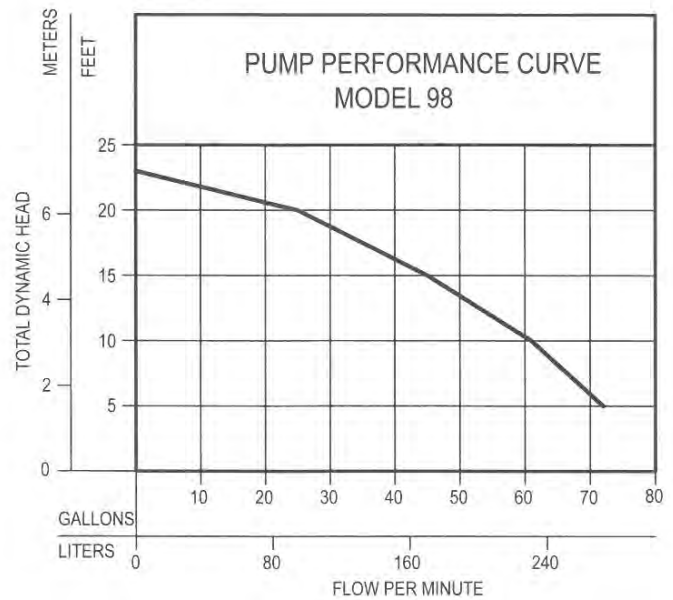
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NOTE: See model comparison chart for specific details.



**TOTAL DYNAMIC HEAD  
FLOW PER MINUTE**

MODEL		98	
Feet	Meters	Gal.	Liters
5	1.5	72	273
10	3.0	61	231
15	4.6	45	170
20	7.1	25	95
Shut-off Head:		23 ft.(7.0m)	



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Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
M98	Single	Auto	115	1	9.4	1/2	60	36	16	1	4
N98	Single	Non	115	1	9.4	1/2	60	36	16	2 or 3	4
D98	Single	Auto	230	1	4.7	1/2	60	36	16	1	4
E98	Single	Non	230	1	4.7	1/2	60	35	16	2 or 3	4
BN98	Single	Auto	115	1	9.4	1/2	60	37	17	*	--
BE98	Single	Non	115	1	9.4	1/2	60	40	18	*	--

\*BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 25' (8 m) and 35' (11 m). 50' (15 m) cords are available for 230 V units only.

**SELECTION GUIDE**

1. Integral float operated mechanical switch, no external control required.
2. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM1228 for correct model of simplex control panel.
4. See FM0712 for correct model of duplex control panel or FM1663 for a residential alternator system.



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).



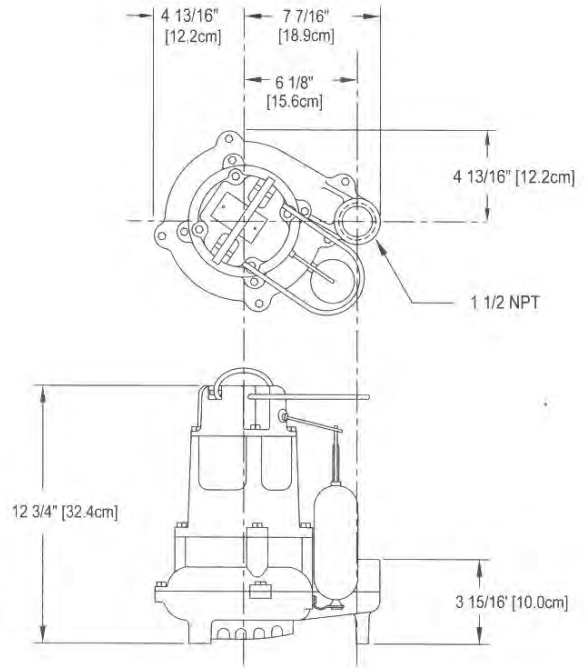
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**TECHNICAL DATA SHEET**  
**FLOW-MATE SERIES**  
*Models 137, 139 Effluent / Dewatering Pumps*

**PRODUCT SPECIFICATIONS**

<b>MOTOR</b>	Horse Power	1/2
	Voltage	115 - 460
	Phase	1 or 3 Ph
	Hertz	60 Hz
	RPM	1750
	Type	Split phase or 3 phase
	Insulation	Class A or B
	Amps	1.4 - 10.7
	<b>PUMP</b>	Operation
Auto On/Off Points		10" (25.4 cm) / 2-3/4" (7 cm)
Discharge Size		1-1/2" NPT
Solids Handling		5/8" (15 mm) spherical solids
Cord Length		10' (3 m) automatic, 15' (5 m) nonautomatic
Cord Type		UL listed, neoprene cord
Max. Head		26' (8 m)
Max. Flow Rate		93 GPM (352 LPM)
Max. Operating Temp.		130° F (54° C) [extra duty 140°F (60°C)]
Cooling		Oil filled
Motor Protection	Auto reset thermal overload (1 Ph)	
<b>MATERIALS</b>	Motor Housing	Cast iron (137) or bronze (139)
	Pump Housing	Cast iron (137) or bronze (139)
	Base	Cast iron (137) or bronze (139)
	Upper Bearing	Sleeve bearing
	Lower Bearing	Sleeve bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Cast iron or bronze
	Hardware	Stainless steel
	Motor Shaft	AISI 1215 cold rolled steel
Gasket	Neoprene	



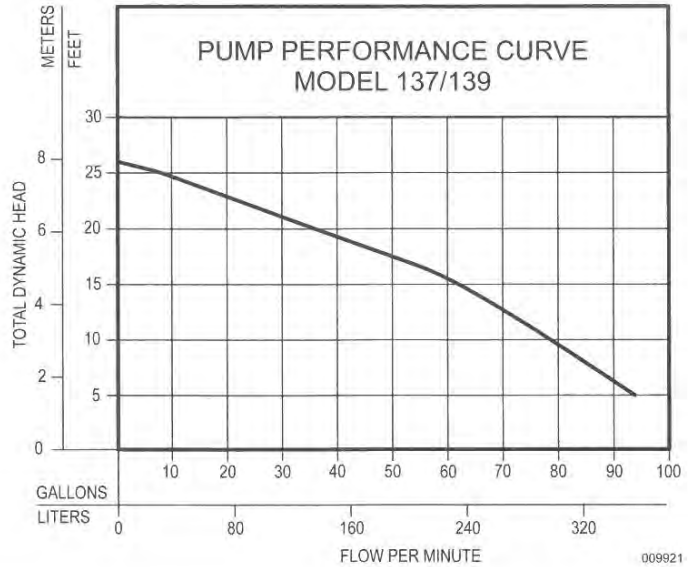
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NOTE: See model comparison chart for specific details.



**TOTAL DYNAMIC HEAD  
FLOW PER MINUTE**

MODEL		137/139	
Feet	Meters	Gal.	Liters
5	1.5	93	352
10	3.0	79	299
15	4.6	64	242
20	6.1	36	136
25	7.6	8	30
Shut-off Head:		26 ft. (8.0m)	



Model	MODEL COMPARISON											CERTIFICATIONS	
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex	CSA	UL
M137	Single	Auto	115	1	10.7	1/2	60	47	21	1	4	Y	Y
N137	Single	Non	115	1	10.7	1/2	60	46	21	2 or 3	2 or 4	Y	Y
BN137	Single	Auto	115	1	10.7	1/2	60	48	22	**	4	Y	Y
D137	Single	Auto	230	1	5.8	1/2	60	47	21	1	4	Y	Y
E137	Single	Non	230	1	5.8	1/2	60	48	22	2 or 3	4	Y	Y
* H137	Single	Auto	200	1	6.2	1/2	60	48	22	1	4	Y	N
* I137	Single	Non	200	1	6.2	1/2	60	48	22	3	4	Y	N
* J137	Single	Non	200	3	2.6	1/2	60	46	21	3	4	Y	Y
* F137	Single	Non	230	1	2.6	1/2	60	48	22	3	4	Y	Y
* G137	Single	Non	460	3	1.4	1/2	60	48	22	3	4	N	N
BE137	Single	Non	230	1	5.8	1/2	60	48	22	**	---	Y	Y
M139	Single	Auto	115	1	10.7	1/2	60	51	23	1	4	Y	Y
N139	Single	Non	115	1	10.7	1/2	60	51	23	2 or 3	2 or 4	Y	Y
D139	Single	Auto	230	1	5.8	1/2	60	47	21	1	4	Y	Y
E139	Single	Non	230	1	5.8	1/2	60	48	22	2 or 3	4	Y	Y
H139	Single	Auto	200	1	6.2	1/2	60	48	22	1	4	Y	N
I139	Single	Non	200	1	6.2	1/2	60	48	22	3	4	Y	N
J139	Single	Non	200	3	2.6	1/2	60	50	23	3	4	Y	Y
F139	Single	Non	230	3	2.6	1/2	60	48	22	3	4	Y	Y
G139	Single	Non	460	3	1.4	1/2	60	48	22	3	4	N	N

\* No molded plug      \*\* Single piggyback switch included      BE and BN models include a piggyback variable level pump switch.

**SELECTION GUIDE**

1. Integral float operated mechanical switch, no external control required.
2. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM1228 for correct model of simplex control panel.
4. See FM0712 for correct model of duplex control panel or FM1663 for a residential alternator system.

**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).

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## TECHNICAL DATA SHEET FLOW-MATE SERIES

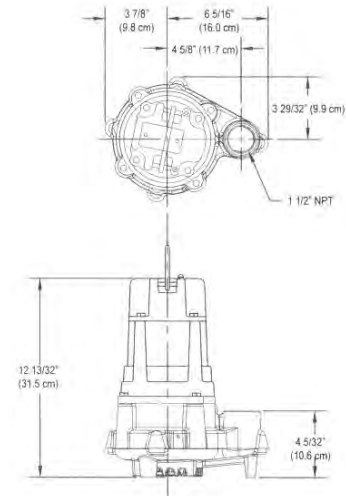
### Models 140/4140, 145/4145 Effluent / Dewatering Pumps

#### PRODUCT SPECIFICATIONS

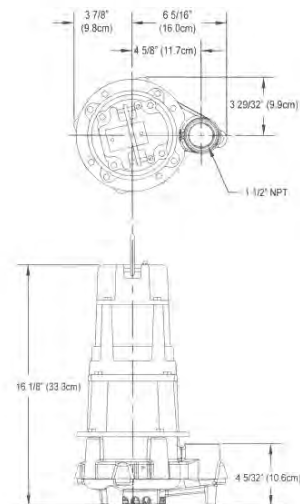
<b>MOTOR</b>	Horse Power	3/4 - 1
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	6.0 - 13.0
	<b>PUMP</b>	Operation
Discharge Size		1-1/2" NPT
Solids Handling		1/2" (12 mm), 3/4" (19 mm) spherical solids
Cord Length		20' (6 m)
Cord Type		UL listed, neoprene cord
Max. Head		50' (15.2 m) or 74' (22.6 m)
Max. Flow Rate		86 GPM (326 LPM) or 61 GPM (232 LPM)
Max. Operating Temp.		130° F (54° C)
Cooling		Oil filled
Motor Protection	Auto reset thermal overload	
<b>MATERIALS</b>	Cap	Cast iron
	Motor Housing	Cast iron
	Pump Housing	Cast iron
	Base	Cast iron
	Upper Bearing	Sleeve bearing
	Lower Bearing	Ball bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Single vane (145) or non-clogging vortex (140)
	Impeller	Engineered thermoplastic
	Hardware	Stainless steel
	Motor Shaft	JIS S45C steel
	Gasket	Neoprene

NOTE: See model comparison chart for specific details.

#### SINGLE SEAL



#### DOUBLE SEAL



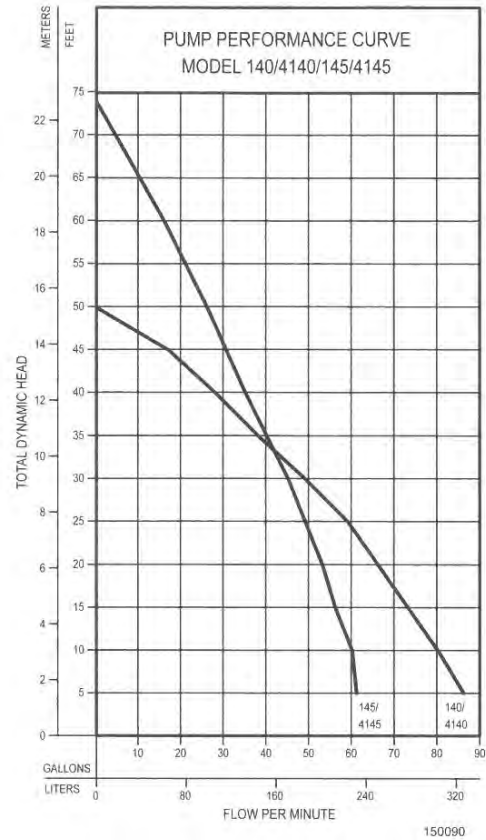
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**TOTAL DYNAMIC HEAD  
FLOW PER MINUTE**

MODEL		140/4140		145/4145	
Feet	Meters	Gal.	Liters	Gal.	Liters
5	1.5	86	326	61	232
10	3.0	80	303	60	228
15	4.6	73	276	56	213
20	6.1	66	250	53	201
25	7.6	59	223	49	186
30	9.1	49	185	45	171
40	12.2	28	106	35	133
50	15.2	--	--	26	99
60	18.3	--	--	16	61
Shut-off Head:		50 ft.(15.2m)		74 ft.(22.6m)	



Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
N140	Single	Non	115	1	12.0	1	60	43	20	1 or 2	3
E140	Single	Non	230	1	6.0	1	60	44	20	1 or 2	3
BN140	Single	Auto	115	1	12.0	1	60	44	20	*	---
BE140	Single	Auto	230	1	6.0	1	60	46	21	*	---
E145	Single	Non	230	1	6.0	3/4	60	46	21	1 or 2	3
N145	Single	Non	115	1	13.0	3/4	60	54	24	1 or 2	3
BN145	Single	Auto	115	1	13.0	3/4	60	55	25	*	---
N4140	Double	Non	115	1	12.0	1	60	50	23	*	---
E4140	Double	Non	230	1	6.0	1	60	51	23	1 or 2	3
BN4140	Double	Auto	115	1	12.0	1	60	63	29	*	---
BE4140	Double	Auto	230	1	6.0	1	60	63	29	*	---
N4145	Double	Non	115	1	13.0	3/4	60	63	29	1 or 2	3
BN4145	Double	Auto	115	1	13.0	3/4	60	63	29	*	---

\* Single piggyback switch included.

BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 15' (5 m), 25' (8 m), 35' (11 m) and 50' (15 m).

**SELECTION GUIDE**

1. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
2. See FM1228 for correct model of simplex control panel.
3. See FM0712 for correct model of duplex control panel.

**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).

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SECTION: 2.15.080  
FM2784  
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Supersedes  
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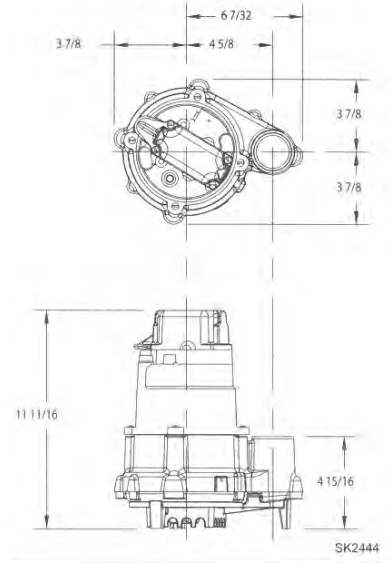
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## TECHNICAL DATA SHEET DOSE-MATE SERIES Models 151, 152, 153 Effluent Pumps

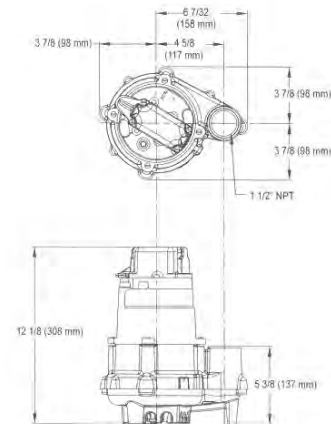
### PRODUCT SPECIFICATIONS

<b>MOTOR</b>	Horse Power	1/3 (151), 4/10 (152), 1/2 (153)
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	3.2 - 10.5
<b>PUMP</b>	Operation	Automatic or nonautomatic
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (13 mm), 3/4" (19 mm) spherical solids
	Cord Length	20' (6 m)
	Cord Type	UL listed power cord
	Max. Head	44' (13.4 m)
	Max. Flow Rate	77 GPM (291 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
	<b>MATERIALS</b>	Cap
Motor Housing		Cast iron
Pump Housing		Cast iron
Base		Plastic or cast iron
Upper Bearing		Sleeve bearing
Lower Bearing		Ball bearing
Mechanical Seals		Carbon and ceramic
Impeller Type		Non-clogging vortex
Impeller		Engineered thermoplastic
Hardware		Stainless steel
Motor Shaft		AISI 1215 steel
Gasket		Neoprene

### MODEL 151



### MODELS 152 & 153



NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

NOTE: See model comparison chart for specific details.

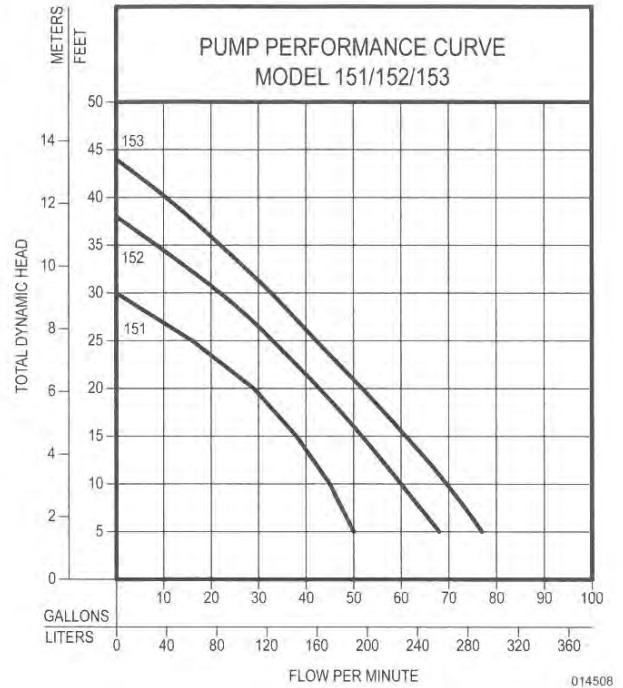


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## TOTAL DYNAMIC HEAD FLOW PER MINUTE

MODEL		151		152		153	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	50	189	69	261	77	291
10	3.0	45	170	61	231	70	265
15	4.6	38	144	53	201	61	231
20	6.1	29	110	44	167	52	197
25	7.6	16	61	34	129	42	159
30	9.1	--	--	23	87	33	125
35	10.7	--	--	--	--	22	85
40	12.2	--	--	--	--	11	42
Shut-off Head:		30 ft. (9.1m)		38 ft. (11.6m)		44 ft. (13.4m)	



014508

Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
N151	Single	Non	115	1	6.0	1/3	60	32	15	1	2 or 3
E151	Single	Non	230	1	3.2	1/3	60	32	15	1	2 or 3
BN151	Single	Auto	115	1	6.0	1/3	60	33	15	*	2 or 3
BE151	Single	Auto	230	1	3.2	1/3	60	33	15	*	2 or 3
N152	Single	Non	115	1	8.5	4/10	60	37	17	1	2 or 3
E152	Single	Non	230	1	4.3	4/10	60	37	17	1	2 or 3
BN152	Single	Auto	115	1	8.5	4/10	60	39	18	*	2 or 3
BE152	Single	Non	230	1	4.3	4/10	60	39	18	*	2 or 3
N153	Single	Non	115	1	10.5	1/2	60	37	17		
BN153	Single	Auto	115	1	10.5	1/2	60	39	18	*	2 or 3
E153	Single	Non	230	1	5.3	1/2	60	37	17	1	2 or 3
BE153	Single	Non	230	1	5.3	1/2	60	39	18	*	2 or 3

\*BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 25' (8 m) and 35' (11 m). 50' (15 m) cords are available for 230 V units only.

NOTE: Model 151 has a plastic base. Models 152 & 153 have a cast iron base.

### SELECTION GUIDE

- For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.

**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).

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

## TECHNICAL DATA SHEET

# HIGH HEAD FLOW - MATE SERIES

### Models 161/4161, 163/4163, 165/4165 Effluent Pumps

#### PRODUCT SPECIFICATIONS

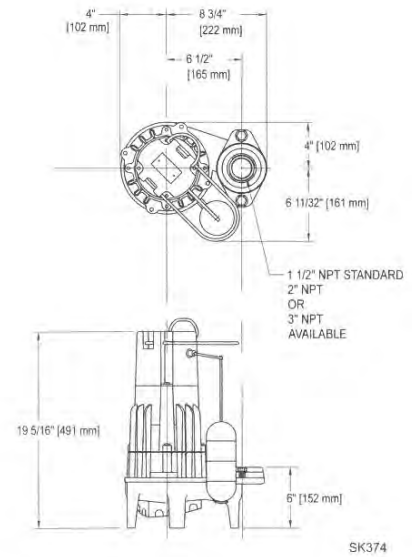
<b>MOTOR</b>	Horse Power	1/2 (161/4161, 163/4163) or 1 (165/4165)
	Voltage	115 - 575
	Phase	1 or 3 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Permanent split capacitor or 3 Ph
	Insulation	Class B
	Amps	2.4 - 15.5
<b>PUMP</b>	Operation	Automatic or nonautomatic
	Auto On/Off Points	15-3/4" (400 mm) / 5-1/4" (133 mm)
	Discharge Size	1-1/2" NPT (optional 2" or 3" flange)
	Solids Handling	3/4" (19 mm) spherical solids
	Cord Length	20' (6 m) standard
	Cord Type	1 Ph: UL listed 3-wire neoprene cord and plug or 3 Ph: 4-wire with no plug
	Max. Head	86.5' (26 m)
	Max. Flow Rate	100 GPM (379 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload (1 Ph)
	<b>MATERIALS</b>	Upper Bearing
Lower Bearing		Ball bearing
Mechanical Seals		Carbon and ceramic
Impeller Type		Non-clogging vortex
Impeller		Bronze
Hardware		Stainless steel
Motor Shaft		SAE 1117 carbon steel or 416 stainless steel
Gasket		Neoprene square ring and gasket

All Class 30 cast iron construction.

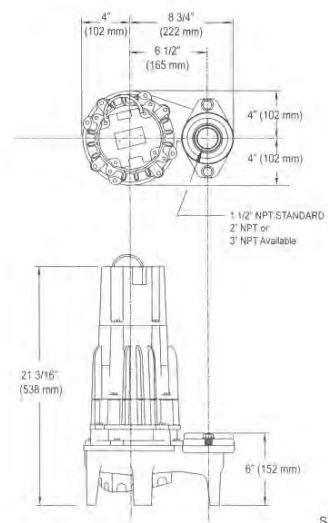
NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

NOTE: See model comparison chart for specific details.

#### SINGLE SEAL

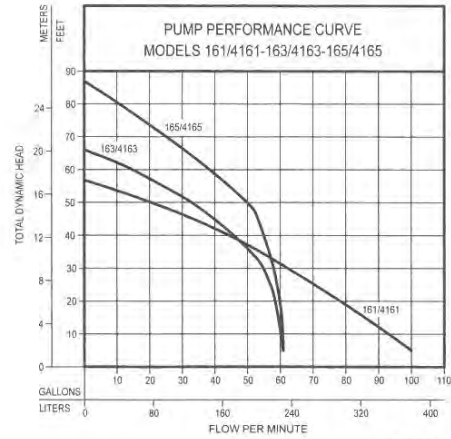


#### DOUBLE SEAL



## TOTAL DYNAMIC HEAD FLOW PER MINUTE

MODELS		161/4161		163/4163		165/4165	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	100	379	61	231	61	231
10	3.0	93	352	61	231	61	231
15	4.6	85	322	60	227	61	231
20	6.1	79	297	59	223	60	227
25	7.6	70	265	57	216	59	223
30	9.1	62	233	55	206	58	220
40	12.2	45	170	46	172	55	208
50	15.2	20	76	33	125	50	189
60	18.3	--	--	15	57	39	148
70	21.3	--	--	--	--	23	87
80	24.4	--	--	--	--	10	38
Shut-off Head:		56 ft. (17m)		66 ft. (20m)		86.5 ft. (26m)	



009920

NOTE: No UL listing for 200/208 1 Phase pumps, model 186 & 191, or double seal series.

Model	MODEL COMPARISON											CERTIFICATIONS	
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex	CSA	UL
M161	Single	Auto	115	1	15.5	1/2	60	80	36	1	---	Y	Y
N161 / N4161	Single / Double	Non	115	1	15.0	1/2	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	N <sup>(1)</sup>
D161	Single	Auto	230	1	7.5	1/2	60	80	36	1	---	Y	Y
E161 / E4161	Single / Double	Non	230	1	7.5	1/2	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	Y
* H161	Single	Auto	200	1	8.8	1/2	60	80	36	1	---	Y	N
* I161 / I4161	Single / Double	Non	200	1	8.8	1/2	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	N
* J161 / J4161	Single / Double	Non	200	3	6.4	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* F161 / F4161	Single / Double	Non	230	3	5.2	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* G161 / G4161	Single / Double	Non	460	3	2.9	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* BA161/BA4161	Single / Double	Non	575	3	2.4	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	N
M163	Single	Auto	115	1	15.0	1/2	60	80	36	1	---	Y	Y
N163 / N4163	Single / Double	Non	115	1	15.0	1/2	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	N <sup>(1)</sup>
D163	Single	Auto	230	1	7.5	1/2	60	80	36	1	---	Y	Y
E163 / E4163	Single / Double	Non	230	1	7.5	1/2	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	Y
* H163	Single	Auto	200	1	8.5	1/2	60	80	36	1	---	Y	N
* I163 / I4163	Single / Double	Non	200	1	8.5	1/2	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	N
* J163 / J4163	Single / Double	Non	200	3	6.0	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* F163 / F4163	Single / Double	Non	230	3	4.8	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* G163 / G4163	Single / Double	Non	460	3	2.9	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* BA163/BA4163	Single / Double	Non	575	3	2.4	1/2	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	N
D165	Single	Auto	230	1	10.2	1	60	80	36	1	---	Y	Y
E165 / E4165	Single / Double	Non	230	1	10.2	1	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	Y
* H165	Single	Auto	200	1	12.6	1	60	80	36	1	---	Y	N
* I165 / I4165	Single / Double	Non	200	1	12.6	1	60	80 / 87	36 / 39	2 or 3 & 5	4 & 5	Y	N
* J165 / J4165	Single / Double	Non	200	3	7.5	1	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* F165 / F4165	Single / Double	Non	230	3	7.4	1	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* G165 / G4165	Single / Double	Non	460	3	3.7	1	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	Y
* BA165/BA4165	Single / Double	Non	575	3	3.0	1	60	80 / 87	36 / 39	3 & 5	4 & 5	Y	N

\* no molded plug (1) UL listed unit available with 20 Amp plug. (2) CSA approval with 20 Amp plug. (3) 20 Amp outlet, P/N 10-0060 must be used. Additional cords lengths are available in 25' (8 m), 35' (11 m), and 50' (15 m).

## SELECTION GUIDE

- Integral float operated mechanical switch, no external control required.
- For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.
- Variable level control switch 10-0743 used as a control activator, specify simplex (3) float or duplex (4) float system. Refer to FM0526.



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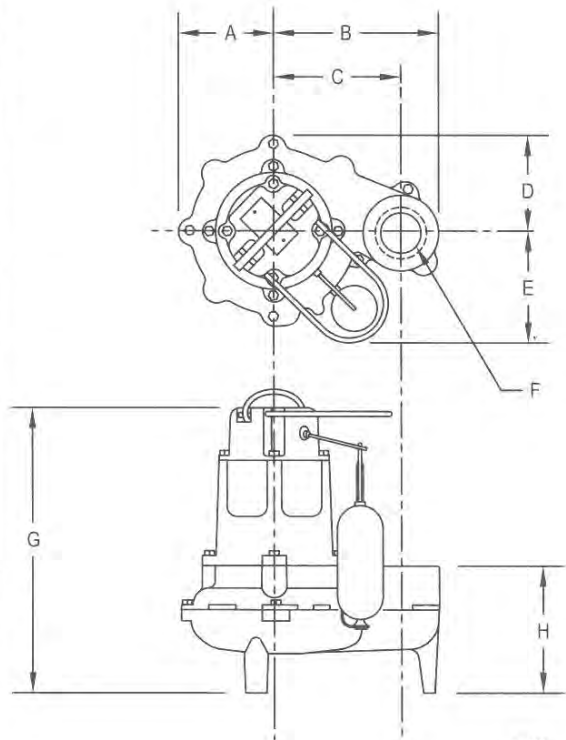
Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

## TECHNICAL DATA SHEET WASTE-MATE SERIES

*Models 266, 267, 268 Sewage/\*Effluent or Dewatering Pumps*

### PRODUCT SPECIFICATIONS

<b>MOTOR</b>	Horse Power	1/2
	Voltage	115 - 460
	Phase	1 or 3 Ph
	Hertz	60 Hz
	RPM	1725
	Type	Split phase or 3 Ph
	Insulation	Class A or B
	Amps	1.5 - 10.4
<b>PUMP</b>	Operation	Automatic or nonautomatic
	Auto On/Off Points	12" (30 cm) / 4" (10 cm)
	Discharge Size	2" female or 3" NPT male
	Solids Handling	2" (50 mm) spherical solids
	Cord Length	10' (3 m) automatic or 15' (5 m) nonautomatic
	Cord Type	UL listed neoprene cord and plug
	Max. Head	21.5' (6.6 m)
	Max. Flow Rate	128 GPM (484 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload (1 Ph)
<b>MATERIALS</b>	Cap	Cast iron
	Motor Housing	Cast iron
	Pump Housing	Cast iron
	Base	Cast iron or engineered plastic
	Upper Bearing	Sleeve bearing
	Lower Bearing	Sleeve bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Engineered plastic w/ metal insert
	Hardware	Stainless steel
	Motor Shaft	AISI 1215 cold rolled steel
	Gasket	Neoprene
	Min. Basin Size	Simplex: 18" x 30" (45.7 x 76.2 cm) Duplex: 30" x 36" (76.2 x 91.4 cm)



SK375

NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps. See model comparison chart for specific details.

\* May be used in those states where codes do not restrict solids size in effluent systems.

### MODEL DIMENSIONS

MODEL	A	B	C	D	E	F	G	H
266	4 3/4" [12.1cm]	8 5/16" [21.1cm]	6 13/32" [16.3cm]	4 3/4" [12.1cm]	6 15/32" [16.4cm]	2" NPT	14 1/32" [35.6cm]	6 3/32" [15.5cm]
267	4 3/4" [12.1cm]	8 5/16" [21.1cm]	6 13/32" [16.3cm]	4 3/4" [12.1cm]	6 15/32" [16.4cm]	2" NPT	14 5/8" [37.2cm]	6 3/4" [17.1cm]
268	4 3/4" [12.1cm]	8 13/32" [21.4cm]	6 13/32" [16.3cm]	4 3/4" [12.1cm]	6 15/32" [16.4cm]	2 1/3" NPT	14 5/8" [37.2cm]	9 1/16" [23.0cm]



Tested to Standard UL778 and Certified to CSA Standard C22.2 No. 108



### SELECTION GUIDE

1. Integral float operated mechanical switch, no external control required.
2. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM1228 for correct model of simplex control panel.
4. See FM0712 for correct model of duplex control panel or FM1663 for a residential alternator system.

### SPECIAL MODEL FEATURES

- Model 266 features a plastic base.
- Models 267 and 268 feature a cast iron base.
- Model 267 is available with a cast iron impeller, which is standard on all 3 Ph units.
- Model 268 includes a 2" NPT female and 3" NPT male discharge.
- BN and BE models include a variable level pump switch.
- Additional cord lengths are available in 15' (5 m), 35' (11 m) and 50' (15 m).

### CONSULT FACTORY FOR SPECIAL APPLICATIONS

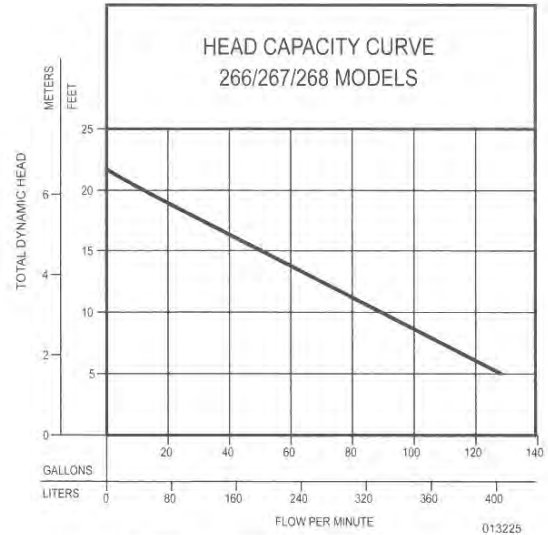
- Minimum recommended basin size (Small load applications)  
Simplex - 18" x 30" (45.7 x 76.2 cm)  
Duplex - 30" x 36" (76.2 x 91.4 cm)
- High water alarms available

#### Standard All Models:

- 266 - Weight 41 lbs. (18.6 kg)
- 267 - Weight 47.5 lbs. (21.5 kg)
- 268 - Weight 51 lbs. (23.1 kg)

For "M" and "D" models, the approximate volume pumped out per cycle are:

Tank Diameter	Volume Pumped
18" Simplex	8 Gal (30.2 L)
24" Simplex	15 Gal (56.8 L)
30" Duplex	22 Gal (83.3 L)
36" Duplex	33 Gal (124.9 L)
48" Duplex	60 Gal (227.1 L)



MODEL		266/267/268	
Feet	Meters	Gal.	Liters
5	1.5	128	484
10	3.0	89	337
15	4.6	50	189
20	6.1	10	38
Shut-off Head:		21.5 ft.(6.6m)	

**CAUTION** Maximum temperature of sewage or dewatering must be limited to 130°F (54°C). For over 130°F (54°C), special quotation required.

Model	MODEL COMPARISON											CERTIFICATIONS	
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex	cCSAus	UL
M266/BN266	Single	Auto	115	1	10.4	1/2	60	41.0	19	1	4	Y	Y
N266	Single	Non	115	1	10.4	1/2	60	41.0	19	2 or 3	2 or 4	Y	Y
D266/BE266	Single	Auto	230	1	5.5	1/2	60	41.0	19	1	---	Y	Y
E266	Single	Non	230	1	5.5	1/2	60	41.0	19	2 or 3	4	Y	Y
H266	Single	Auto	200-208	1	6.2	1/2	60	41.0	19	1	---	Y	N
I266	Single	Non	200-208	1	6.2	1/2	60	41.0	19	3	4	Y	N
J266	Single	Non	200-208	3	2.6	1/2	60	41.0	19	3	4	Y	Y
F266	Single	Non	230	3	2.6	1/2	60	40.0	18	3	4	Y	Y
G266	Single	Non	460	3	1.5	1/2	60	40.0	18	3	4	Y	Y
M267/BN267	Single	Auto	115	1	10.4	1/2	60	47.5	22	1	4	Y	Y
N267	Single	Non	115	1	10.4	1/2	60	47.5	22	2 or 3	4	Y	Y
D267/BE267	Single	Auto	230	1	5.5	1/2	60	47.5	22	1	---	Y	Y
E267	Single	Non	230	1	5.5	1/2	60	47.5	22	2 or 3	4	Y	Y
H267	Single	Auto	200-208	1	6.2	1/2	60	47.5	22	1	---	Y	N
I267	Single	Non	200-208	1	6.2	1/2	60	47.5	22	3	4	Y	N
J267	Single	Non	200-208	3	2.6	1/2	60	47.5	22	3	4	Y	Y
F267	Single	Non	230	3	2.6	1/2	60	47.5	22	3	4	Y	Y
G267	Single	Non	460	3	1.5	1/2	60	47.5	22	3	4	Y	Y
M268/BN268	Single	Auto	115	1	10.4	1/2	60	51.0	23	1	4	Y	Y
N268	Single	Non	115	1	10.4	1/2	60	51.0	23	2 or 3	4	Y	Y
D268/BE268	Single	Auto	230	1	5.5	1/2	60	51.0	23	1	4	Y	Y
E268	Single	Non	230	1	5.5	1/2	60	51.0	23	2 or 3	4	Y	Y
H268	Single	Auto	200-208	1	6.2	1/2	60	51.0	23	1	---	Y	N
I268	Single	Non	200-208	1	6.2	1/2	60	51.0	23	3	4	Y	N
J268	Single	Non	200-208	3	2.6	1/2	60	51.0	23	3	4	Y	Y
F268	Single	Non	230	3	2.6	1/2	60	51.0	23	3	4	Y	Y
G268	Single	Non	460	3	1.5	1/2	60	51.0	23	3	4	Y	Y

**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).

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

**TECHNICAL DATA SHEET**  
**HIGH HEAD WASTE-MATE SERIES**  
*Models 282/4282, 284/4284 Sewage Pumps*

**PRODUCT SPECIFICATIONS**

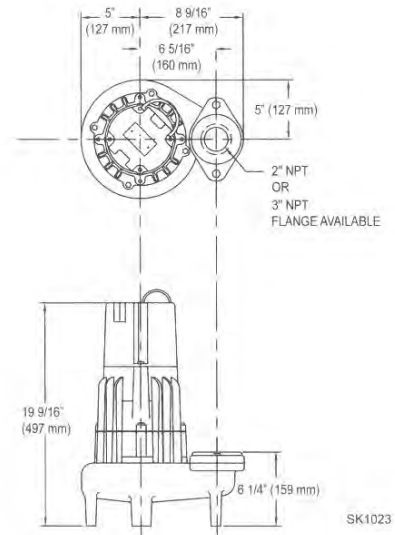
<b>MOTOR</b>	Horse Power	1/2 (282/4282) or 1 (284/4284)
	Voltage	115 - 575
	Phase	1 or 3 Ph
	Hertz	60 Hz
	RPM	1750
	Type	Permanent split capacitor or 3 Ph
	Insulation	Class B
	Amps	1.4 - 10.3
<b>PUMP</b>	Operation	Automatic or nonautomatic
	Auto On/Off Points	16-1/2" (40.6 cm) / 5-1/4" (13 cm)
	Discharge Size	2" or 3" NPT female, flanged vertical
	Solids Handling	2" (50 mm) spherical solids
	Cord Length	10' (3 m) automatic, 15' (5 m) nonautomatic
	Cord Type	1 Ph-UL listed 3-wire neoprene cord and plug 3 Ph-4wire with no plug
	Max. Head	35' (10.7 m)
	Max. Flow Rate	179 GPM (678 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
<b>MATERIALS</b>	Motor Protection	Auto reset thermal overload (1 Ph)
	Upper Bearing	Ball bearing
	Lower Bearing	Ball bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Cast iron
	Hardware	Stainless steel
Motor Shaft	1117 carbon steel or 416 stainless steel	
Gasket	Neoprene square ring and gasket	

All Class 30 cast iron construction.

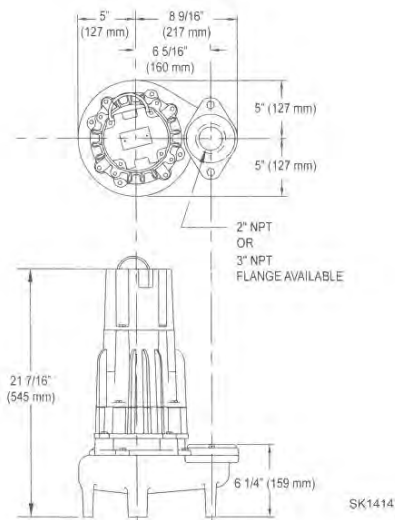
NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

NOTE: See model comparison chart for specific details.

**SINGLE SEAL**



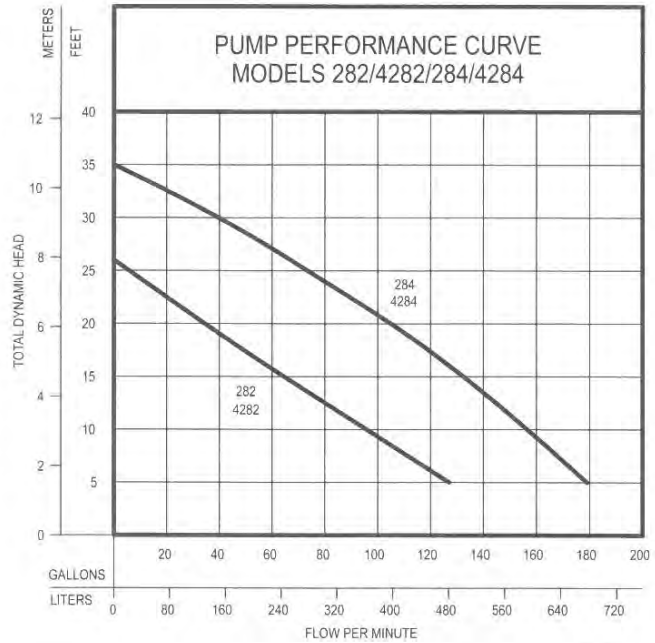
**DOUBLE SEAL**





## TOTAL DYNAMIC HEAD FLOW PER MINUTE

MODELS		282/4282		284/4284	
Feet	Meters	Gal.	Liters	Gal.	Liters
5	1.5	127	481	179	678
10	3.0	96	363	157	594
15	4.6	64	242	133	503
20	6.1	34	129	106	401
25	7.6	6	23	73	276
30	9.1	--	--	42	159
Shut-off Head		26 ft. (7.9m)		35 ft. (10.7m)	



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Model	MODEL COMPARISON											CERTIFICATIONS	
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex	cCSAus	UL
M282	Single	Auto	115	1	10.3	1/2	60	82	37	1	---	Y	Y
N282/N4282	Single / Dbl	Non	115	1	10.3	1/2	60	82 / 88	37 / 40	2 or 3	4	Y	Y
D282	Single	Auto	230	1	5.0	1/2	60	82	37	1	---	Y	Y
E282/E4282	Single / Dbl	Non	230	1	5.0	1/2	60	82 / 88	37 / 40	2 or 3	4	Y	Y
* H282	Single	Auto	200	1	6.1	1/2	60	82	37	1	---	N	N
* I282/I4282	Single / Dbl	Non	200	1	6.1	1/2	60	82 / 88	37 / 40	3	4	N	N
* J282/J4282	Single / Dbl	Non	200	3	3.6	1/2	60	82 / 88	37 / 40	3	4	Y	Y
* F282/F4282	Single / Dbl	Non	230	3	3.0	1/2	60	82 / 88	37 / 40	3	4	Y	Y
* CF282	Single	Auto	230	3	3.0	1/2	60	82	37	1	---	N	Y
* G282/G4282	Single / Dbl	Non	460	3	1.7	1/2	60	82 / 88	37 / 40	3	4	Y	Y
* BA282/BA4282	Single / Dbl	Non	575	3	1.4	1/2	60	82 / 88	37 / 40	3	4	Y	N
D284	Single	Auto	230	1	8.9	1	60	85	39	1	---	Y	Y
E284/E4284	Single / Dbl	Non	230	1	8.9	1	60	85 / 91	39 / 41	2 or 3	4	Y	Y
* H284	Single	Auto	200	1	9.3	1	60	85	39	1	---	N	N
* I284/I4284	Single / Dbl	Non	200	1	9.3	1	60	85 / 91	39 / 41	3	4	N	N
* J284/J4284	Single / Dbl	Non	200	3	5.5	1	60	85 / 91	39 / 41	3	4	Y	Y
* F284/F4284	Single / Dbl	Non	230	3	5.0	1	60	85 / 91	39 / 41	3	4	Y	Y
* CF284	Single	Auto	230	3	5.0	1	60	85	39	1	---	N	Y
* G284/G4284	Single / Dbl	Non	460	3	2.6	1	60	85 / 91	39 / 41	3	4	Y	Y
* BA284/BA4284	Single / Dbl	Non	575	3	2.2	1	60	85 / 91	39 / 41	3	4	Y	N

\* no molded plug Additional cord lengths are available in 15' (5 m), 25' (8 m), 35' (11 m) and 50' (15 m).

### SELECTION GUIDE

1. Integral float operated mechanical switch, no external control required.
2. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM1228 for correct model of simplex control panel.
4. See FM0712 for correct model of duplex control panel.
5. Variable level control switch 10-0743 used as a control activator, specify simplex (3) float or duplex (4) float system. Refer to FM0526.

#### 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).

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