

# HYDROMATIC®

## SPD50H/100H SUBMERSIBLE HIGH HEAD, DOUBLE SEAL EFFLUENT

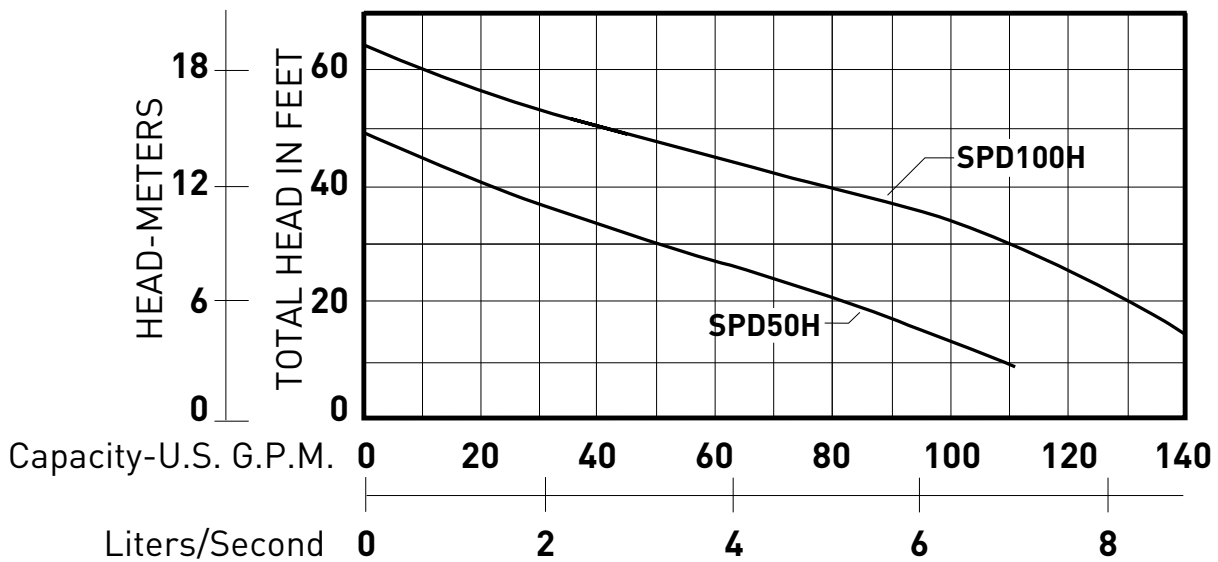
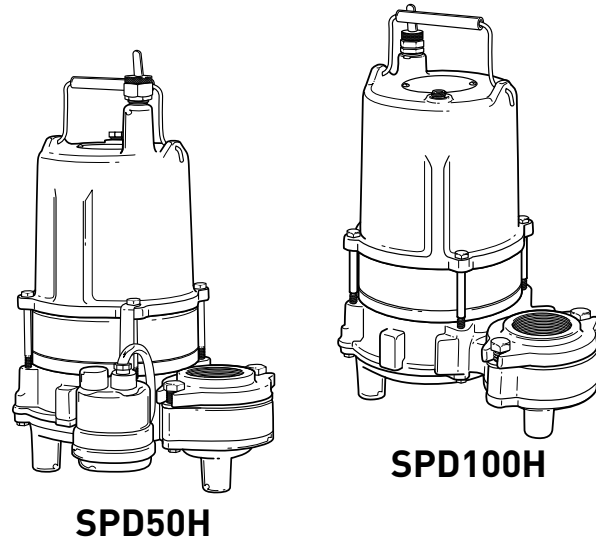
### PERFORMANCE DATA

Wholesale Products Page: 6130-1

Dated: September 2011

Supersedes: April 2002

RPM: **3450** Discharge: **2"** Solids: **¾"**



The curves reflect maximum performance characteristics without exceeding full load (Nameplate) horsepower. All pumps have a service factor of 1.2. Operation is recommended in the bounded area with operational point within the curve limit. Performance curves are based on actual tests with clear water at 70° F. and 1280 feet site elevation.

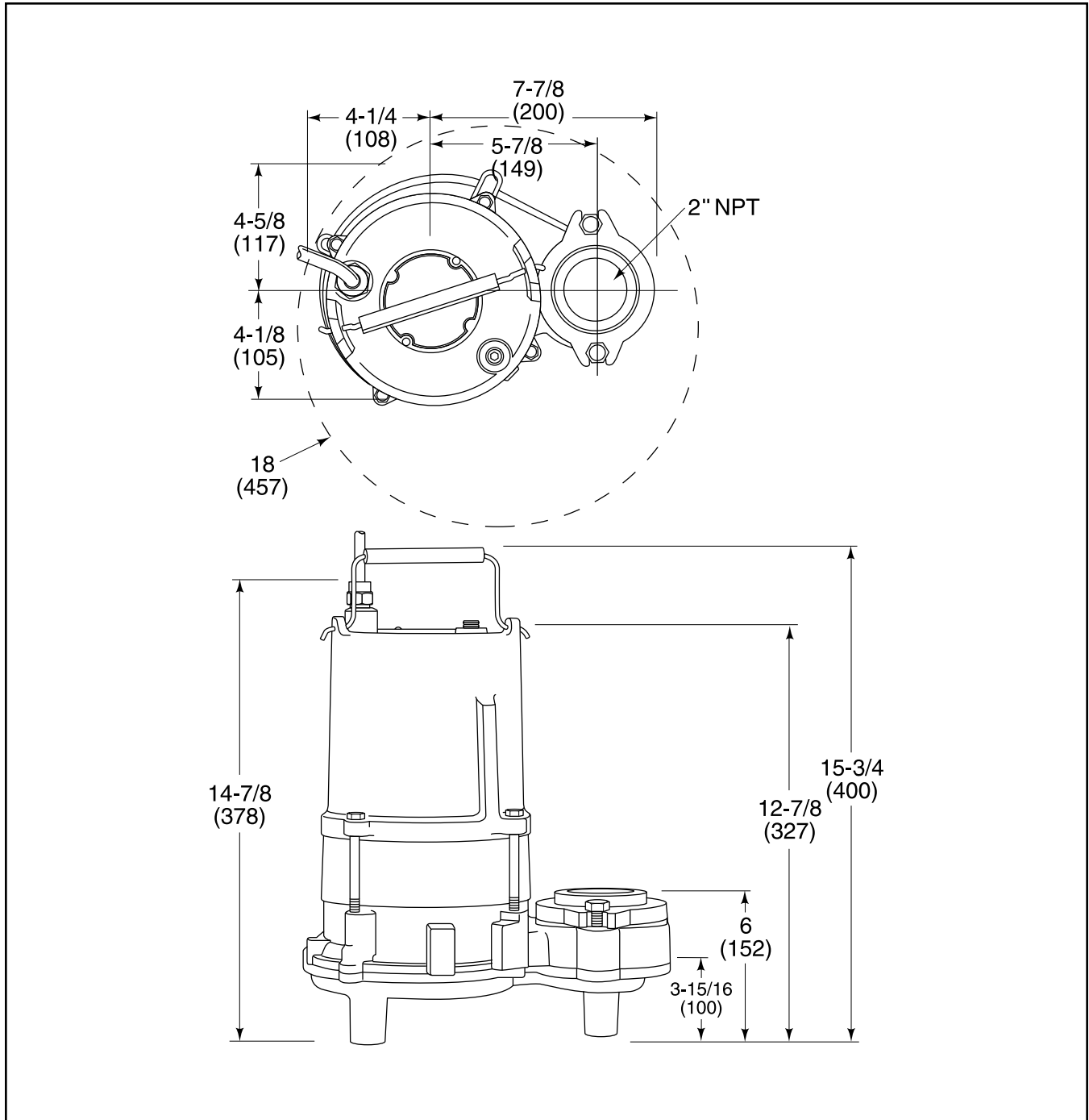
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### DIMENSIONAL DATA

Wholesale Products Page: 6130-2

Dated: September 2011



All dimensions in inches. Metric for international use. Component dimensions may vary  $\pm 1/8$  inch. Dimensional data not for construction purpose unless certified. Dimensions and weights are approximate. On/Off level adjustable. We reserve the right to make revisions to our product (s) and the product (s) specifications without notice.

# HYDROMATIC®

## ELECTRICAL DATA

### SPD50H/100H SUBMERSIBLE HIGH HEAD, DOUBLE SEAL EFFLUENT

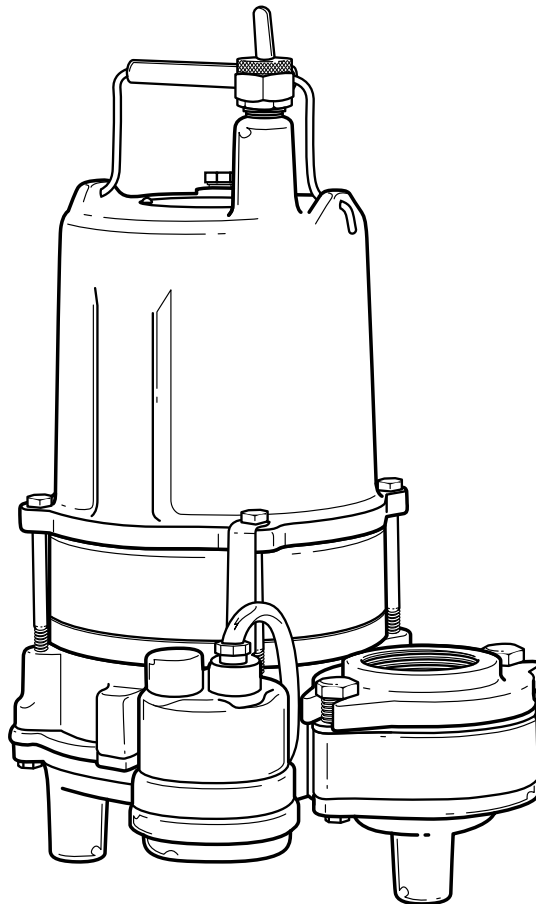
Wholesale Products Page: 6130-3

Dated: September 2011

#### MODEL: SPD50H

R.P.M.	3450
MOTOR TYPE	OIL FILLED WITH AUTOMATIC RESET OVERLOAD
MOTOR PROTECTION	THERMAL OVERLOAD WITH AUTOMATIC RESET

HP	VOLTAGE	PHASE	NEC CODE	SERVICE FACTOR	FULL LOAD AMPS
1/2	115	1	-	1	14
	230				7
	200	3			3.6
	230				3.5
	460				1.8
	575				1.9



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## ELECTRICAL DATA

### SPD50H/100H SUBMERSIBLE HIGH HEAD, DOUBLE SEAL EFFLUENT

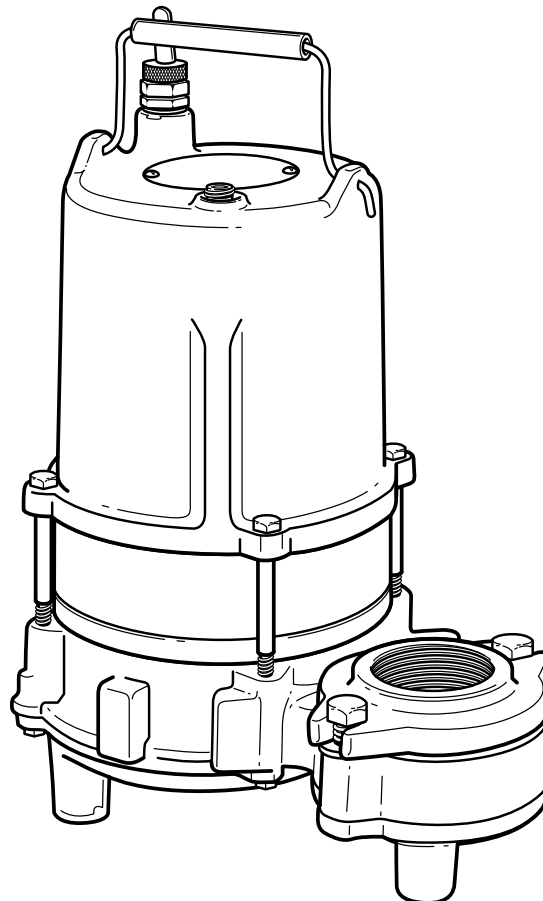
Wholesale Products Page: 6130-4

Dated: September 2011

#### MODEL: SPD100H

R.P.M.	3450
MOTOR TYPE	OIL FILLED WITH THERMAL OVERLOAD
MOTOR PROTECTION	THERMAL OVERLOAD WITH AUTOMATIC RESET

HP	VOLTAGE	PHASE	NEC CODE	SERVICE FACTOR	FULL LOAD AMPS
1	230	1	-	1	9.9
	200	3			5.5
	230				5.2
	460				2.5
	575				2.5



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## SPD50H/100H SUBMERSIBLE HIGH HEAD, DOUBLE SEAL EFFLUENT

### TECHNICAL DATA

Wholesale Products Page: 6130-5

Dated: September 2011

#### MODEL: SPD50H

##### Physical Data

DISCHARGE SIZE	2" NPT (STANDARD), 3" NPT (OPTIONAL)
SOLIDS SIZE	3/4"
IMPELLER TYPE	2 VANE NON CLOG
CABLE LENGTH	10' STANDARD 20' OPTIONAL
PAINT	PAINTED AFTER ASSEMBLY, DARK GREEN, WATER REDUCIBLE ENAMEL, ONE COAT, AIR DRIED.

##### Temperature

MAXIMUM LIQUID	140°F
MAXIMUM STATOR	-
OIL FLASH POINT	-

##### Technical Data

POWER CORD TYPE	SJTW / STW-A	
MATERIALS OF CONSTRUCTION	MOTOR HOUSING	CAST IRON
	CASING	CAST IRON
	IMPELLER	CAST IRON
	MOTOR SHAFT	-
	HARDWARE	STAINLESS STEEL
	"O" RINGS	-
MECHANICAL SEALS Standard:	CARBON / CERAMIC	
UPPER BEARING	BALL	
LOWER BEARING	BALL	

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## SPD50H/100H SUBMERSIBLE HIGH HEAD, DOUBLE SEAL EFFLUENT

### TECHNICAL DATA

Wholesale Products Page: 6130-6

Dated: September 2011

### MODEL: SPD100H

#### Physical Data

DISCHARGE SIZE	2" NPT (STANDARD) 3" NPT (OPTIONAL)
SOLIDS SIZE	3/4"
IMPELLER TYPE	2 VANE NON CLOG
CABLE LENGTH	20' STANDARD
PAINT	PAINTED AFTER ASSEMBLY, DARK GREEN, WATER REDUCIBLE ENAMEL, ONE COAT, AIR DRIED.

#### Temperature

MAXIMUM LIQUID	140°F
MAXIMUM STATOR	-
OIL FLASH POINT	-

#### Technical Data

POWER CORD TYPE	STW-A	
MATERIALS OF CONSTRUCTION	MOTOR HOUSING	CAST IRON
	CASING	CAST IRON
	IMPELLER	CAST IRON
	MOTOR SHAFT	416 STAINLESS STEEL
	HARDWARE	STAINLESS STEEL
	"O" RINGS	BUNA-N
MECHANICAL SEALS Standard:	CARBON / CERAMIC	
UPPER BEARING	BALL	
LOWER BEARING	BALL	

# SPD50H/100H SUBMERSIBLE HIGH HEAD, DOUBLE SEAL EFFLUENT

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Dated: September 2011

## MODELS: SHEF50 and SHEF100

### 1.01 GENERAL

Contractor shall furnish all labor, materials, equipment and incidentals required to provide \_\_\_\_\_ (Qty.) submersible centrifugal high head double seal effluent pump(s) as specified herein. The pump models covered in this specification are the SPD50H and SPD100H. The pump furnished for this application shall be MODEL \_\_\_\_\_ as manufactured by Hydromatic Pumps.

### 2.01 DESIGN CONDITIONS

Each pump shall be rated \_\_\_\_\_ H.P., \_\_\_\_\_ volts, \_\_\_\_\_ phase, \_\_\_\_\_ hertz and operate at \_\_\_\_\_ RPM.

### 3.01 OPERATING CONDITIONS

The pump shall deliver \_\_\_\_\_ U.S. GPM/LPS at feet/meters TDK, and handle a \_\_\_\_\_ inch solid. The curve submitted for approval shall state, in addition to head and capacity performance, solid handling capability, amp rating, and design impeller diameter.

### 4.01 CONSTRUCTION

Each pump shall be of the sealed submersible type, incorporating features normally found in pumps furnished for the residential market.

These features include:

1. The pump volute and motor housing shall be high quality gray cast iron, ASTM A-48, Class 30.
2. The pump inlet shall be open and clear, without screening to provide access for effluent and septic tank solids.
3. All external mating parts shall be machined and Buna N, O-Ring sealed.
4. All fasteners exposed to the pumped liquid shall be 300 series stainless steel.
5. All power cords shall be water resistant UL or CSA approved, with double insulation, and sized as a function of Amp. draw.

### 5.01 MOTOR AND SHAFT

The stator, rotor and bearings shall be mounted in a sealed submersible type housing. Single phase motors shall be split phase with solid state switch and start capacitor. Three phase motors shall be Polyphase. Full Load and Locked Rotor Amps as well as Start and Run winding resistance shall be tabulated for each pump.

### 6.01 BEARINGS AND SHAFT

A thrust bearing shall be required. It shall be heavy duty single row ball bearings which are permanently and continuously lubricated and cooled by the dielectric oil which fills the motor housing. The motor shaft shall be stainless steel and sealed from the pumped liquid with a carbon ceramic mechanical seal.

### 7.01 SEALS AND SENSORS

The rotor and stator in the motor housing shall be separated and protected from the pumped liquid by an oil filled housing incorporating two type 21 carbon ceramic mechanical seals mounted in tandem.

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## SPECIFICATION DATA

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This seal housing shall be equipped with a moisture sensing probe installed between the seals, and the sensing of moisture in the seal chamber shall be automatic, continuous and not require the pump be stopped or removed from the wet well.

#### 8.01 EXCEPTIONS (SENSOR)

The seal failure sensor is optional on single phase automatic and single phase manual pumps.

#### 9.01 IMPELLER

The Impeller shall be high capacity, two vane, high head design with pump out vanes on the back side. These vanes wash out grit and stringy material that will damage the shaft and mechanical seal.

#### 10.01 AUTOMATIC CONTROL

All single phase pumps should be capable of automatic operation.

#### 11.01 PRESSURE SWITCH

The Single Phase SPD50H pump is furnished with a pressure diaphragm switch that is UL listed for water and sewage and CSA certified. The diaphragm switch cord shall be fitted with a piggy-back plug that allows the pump to be operated manually without removal from the sump.

#### 12.01 FLOAT SWITCH

The SPD100AH pump (automatic version) is supplied with a tilt-sensitive wide-angle float switch which is sealed in a non-corrosive PVC enclosure. The switch is UL listed for water and sewage and CSA certified. The float switch cord shall also be fitted with a piggy-back plug that allows the pump to be operated manually without removal from the sump.

#### 13.01 PAINTING

All cast iron parts shall be painted before assembly with a water reducible alkyd air dried enamel. The paint shall be applied in one coat with a minimum thickness of 3 to 4 mils.

#### 14.01 TESTING

All pumps shall be individually tested to include the following:

1. The pump and power cord shall be visually inspected for imperfections, cuts or nicks.
2. The pump shall have a ground continuity check and the motor chamber shall be Hi-potted to test for moisture content and/or insulation defects.
3. The motor and volute housing shall be pressurized and a 10 second air leak decay test run.
4. Oil is added, and the pump is run. Voltage and current are monitored visually, electronically, and the tester listens for any noise or malfunction.



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Because we are continuously improving our products and services, Pentair reserves the right to change specifications without prior notice.