

# SUBMERSIBLE HIGH HEAD EFFLUENT

## SHEF50S/SHEF100S SERIES

The SHEF50S and SHEF100S series effluent pumps are designed specifically for effluent pressure distribution mounds, trenches, and high-flow drainage applications. Heavy duty construction with finest corrosion-resistant materials for years of extended service in the harshest environments.

### APPLICATIONS

Effluent removal, sump drainage, water transfer, flood control.



### FEATURES

- ◆ **Cast Iron Tough:** All cast-iron housing and volute case resists the most extreme corrosive environments.
- ◆ **High-Efficiency Dosing:** Engineered thermoplastic or bronze (optional) two-vane impeller provides ideal performance for efficient dosing.
- ◆ **Jam-Proof:** Enclosed impeller design eliminates jamming between impeller and volute.
- ◆ **Powerful Torque:** High-torque, permanent split capacitor (PSC) motor; no starting switches or relays to wear out.
- ◆ **Runs Cooler:** Rugged, oil-filled motor for bearing lubrication and maximum heat dissipation.
- ◆ **Thermal Protection:** Heat sensor overload protection with automatic reset when motor cools to a safe operating temperature (single phase only).

### SPECIFICATIONS

- ◆ **Capacities:** Max Flow is 112 GPM (423.9 LPM)
- ◆ **Shut-Off Head:** Max shutoff is 85' (25.9 m)
- ◆ **Max. Spherical Solids:** 3/4" (19 mm)
- ◆ **Liquids Handling:** Domestic effluent and drain water
- ◆ **Intermittent Liquid Temperature:** Up to 140°F (60°C)
- ◆ **Motor/Electrical Data:** 1/2 HP 115V, 230V 1Ø, 575V 3Ø; 1 HP 230V 1Ø, 230V, 575V 3Ø; oil-filled, permanent split capacitor type, 1Ø, 3450 RPM, 60Hz
- ◆ **Acceptable pH Range:** 6-9
- ◆ **Specific Gravity:** .9-1.1
- ◆ **Viscosity:** 28-35 SSU
- ◆ **Discharge, NPT:** 2" (50.8 mm)
- ◆ **Housing:** Cast iron
- ◆ **Volute Case:** Cast iron
- ◆ **Impeller:** Thermoplastic
- ◆ **Minimum Sump Diameter:** Simplex: 24" (61.0 cm)  
Duplex: 36" (91.4 cm)
- ◆ **Power Cord:** 20'

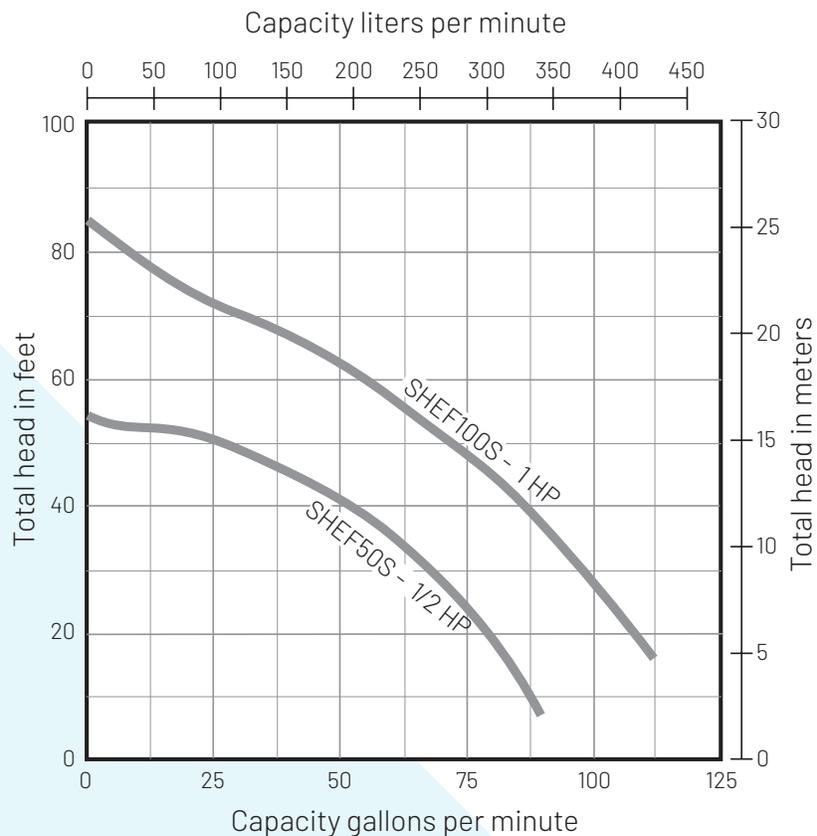
## HYDROMATIC SUBMERSIBLE HIGH HEAD EFFLUENT

### ELECTRICAL DATA

- ◆ **R.P.M.:** 3450.
- ◆ **Motor Type:** PSC Single Phase or 3Phase.
- ◆ **Motor Protection:** Automatic reset / thermal overload on Single Phase.

MODEL NUMBER	HP	VOLTS	PHASE/ CYCLES	DISCHARGE SIZE	SWITCH TYPE	APPROX CORD LENGTH	WT. LBS
SHEF100SA2 20	1	230	1/60	2"	Automatic	20'	83
SHEF100SM2 20	1	230	1/60	2"	Manual	20'	83
SHEF100SM3 20	1	230	3/60	2"	Manual	20'	83
SHEF100SM5 20	1	575	3/60	2"	Manual	20'	83
SHEF50SA1 20	1/2	115	1/60	2"	Automatic	20'	73
SHEF50SA2 20	1/2	230	1/60	2"	Automatic	20'	74
SHEF50SM1 20	1/2	115	1/60	2"	Manual	20'	73
SHEF50SM2 20	1/2	230	1/60	2"	Manual	20'	74
SHEF50SM5 20	1/2	575	3/60	2"	Manual	20'	74

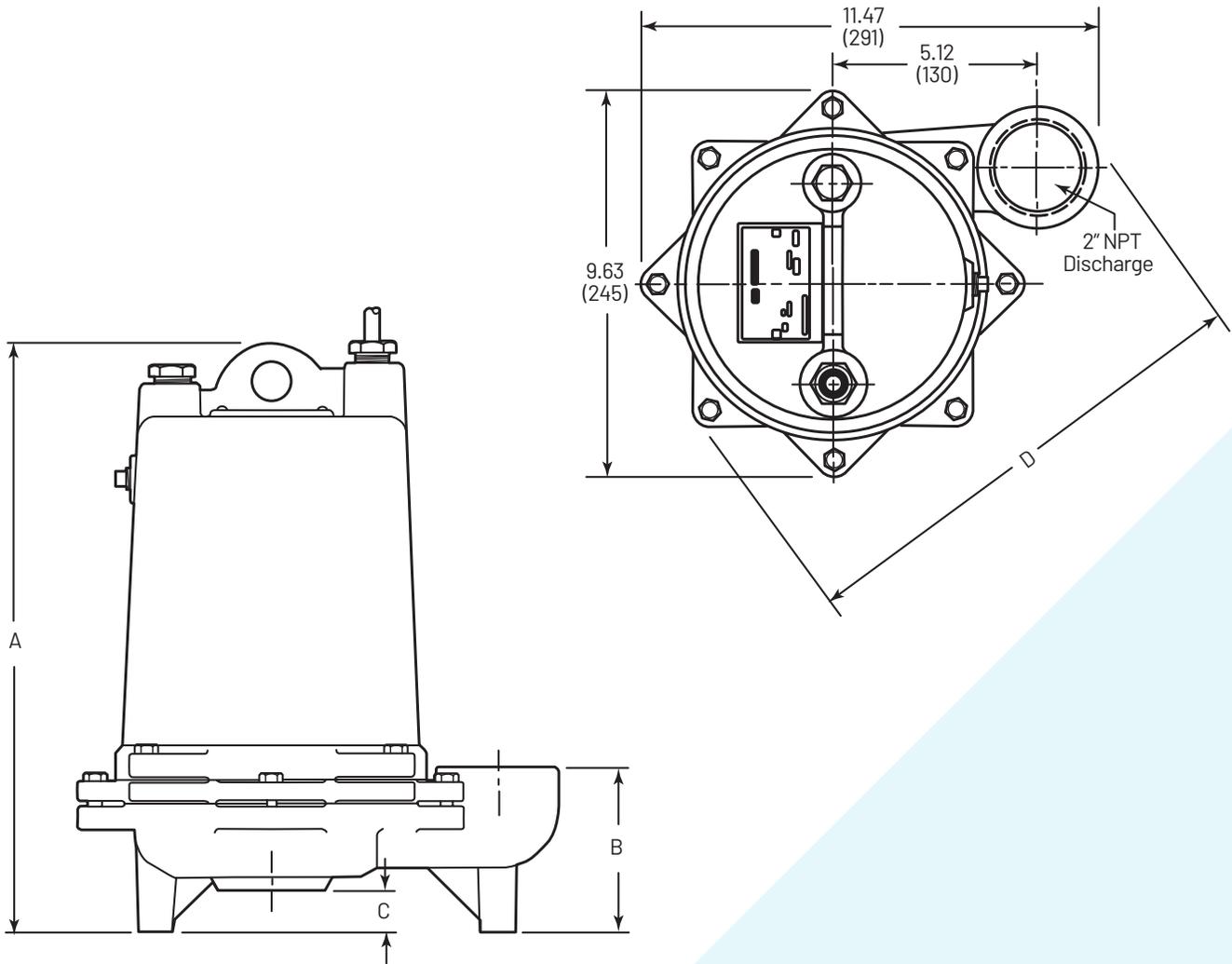
### PERFORMANCE DATA



**DIMENSIONAL DATA**

Measurements shown in inches (mm).

MODEL SERIES	A	B	C	D
SHEF50S	16.8 (427)	4.09	1.03	12.13
SHEF100S	16.8 (427)	4.00	1.06	12.5



**TECHNICAL DATA**

**PHYSICAL DATA**

<b>DISCHARGE SIZE</b>	2" NPT
<b>SOLIDS SIZE</b>	SHEF50S, SHEF100S = 3/4"
<b>IMPELLER TYPE</b>	Enclosed, Two Vane
<b>CABLE LENGTH</b>	20' Standard
<b>PAINT</b>	Painted after assembly dark green, water reducible enamel, one coat, air dried.

**TECHNICAL DATA**

<b>POWER CORD TYPE</b>		SJ00W/S00W
<b>MATERIALS OF CONSTRUCTION</b>	<b>MOTOR HOUSING</b>	Cast Iron
	<b>CASING</b>	Cast Iron
	<b>IMPELLER</b>	Thermoplastic
	<b>MOTOR SHAFT</b>	Stainless Steel
	<b>HARDWARE</b>	Stainless Steel
	<b>"O" RINGS</b>	BUNA-N
<b>MECHANICAL SEALS STANDARD</b>		Carbon / Ceramic
<b>UPPER BEARING</b>		Ball
<b>LOWER BEARING</b>		Ball

## SPECIFICATIONS SHEET

**General** - Contractor shall furnish all labor, materials, equipment and incidentals required to provide \_\_\_\_\_(Qty.) submersible centrifugal high head effluent pump(s) as specified herein. The pump models covered in this specification are the SHEF 50S and SHEF100S. The pump furnished for this application shall be MODEL \_\_\_\_\_ as manufactured by Hydromatic Pumps.

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

**Operating Conditions** - The pump shall deliver \_\_\_\_\_ U.S. GPM/LPS at feet/meters TDH, 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.

**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, motor, and seal 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.

**Motor and Shaft** - The stator, rotor and bearings shall be mounted in a sealed submersible type housing. Single Phase motors shall be Permanent Split 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.

**Bearings, Shaft and Mechanical Seal** - An upper radial and lower thrust bearing shall be required. The upper and lower bearings in the SHEF50S and SHEF100S shall be heavy duty single row ball bearings. The bearings will be permanently and continuously lubricated and cooled by the dielectric oil which fills the motor housing. The motor shaft shall be corrosion resistant steel and sealed from the pumped liquid with a carbon ceramic mechanical seal.

**Impeller** - The Impeller in the SHEF50S / SHEF100S shall be high capacity two vane enclosed impeller.

**Automatic Control** - All single phase pumps should be capable of automatic operation.

**Float Switch** - The SHEF50S and SHEF100S pumps are 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 shall also be fitted with a piggy-back plug that allows the pump to be operated manually without removal from the sump.

**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.

**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 chamber 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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