

Surface HRE Pump - SHRE

Solar Surface Pump System

Description

The Surface HRE housing - SHRE - provides a solution for using the LORENTZ range of HRE submersible pumps in surface pumping applications.

Converting an HRE to SHRE pump extends the use cases of where the benefits of HRE pumps can be used.

- **Tanks, rivers and ponds:** Perfect for drawing water from tanks for livestock watering and agricultural use. Efficiently pumps water from ponds for livestock management, landscaping, or drainage applications.
- **Pressure boosting:** Can be used as an inline booster pump to enhance water pressure in long pipelines, or to boost pressure for residential, commercial, or industrial purposes.
- **Bores with Positive Pressure:** Suitable for pumping from bores where natural water pressure exists, such as artesian wells.



Features

- **Durable:** Constructed with a 2 mm precision-drawn stainless steel pipe and cast stainless steel front and end caps for enhanced durability and corrosion resistance. The SHRE housing provides added protection and pump longevity. Rubber centralizers inside the pipe keep the motor and pump securely in place, ensuring optimal alignment and reduced wear.
- **Adjustable Inlet Pipe:** The inlet pipe angle can be rotated to match existing pipework locations or adjusted to suit your specific setup.
- **Sturdy Support:** Welded stainless steel support legs provide stability and strength, making sure the pump remains secure even under demanding conditions.
- **Easy Servicing:** Simple maintenance with removable cast stainless steel end caps, allowing quick extraction of the entire pump for servicing or replacement, minimizing downtime and service costs.
- **Pump connection box available:** An optional connection box makes connecting the pump and sensor cables simple, neat and safe.
- **Mounting Base available:** An optional galvanized steel frame for securing the pump to the foundation is available and can be ordered separately.



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Controller PS2-1800 and PS2-4000

The system offers comprehensive control and monitoring features, ensuring optimal performance and protection. It allows for control inputs for various functions such as dry running protection and remote control, providing versatility and safety in operation. The system is safeguarded against reverse polarity, overload, and overtemperature, enhancing durability and reliability. Additionally, it includes integrated MPPT (Maximum Power Point Tracking) for efficient energy management, along with an integrated sun sensor to maximize energy capture from solar sources.

Technical data

Power	max. 1.8 kW [2.4 hp] (PS2-1800) max. 4.0 kW [5.4 hp] (PS2-4000)
Input voltage	max. 200 V (PS2-1800) max. 375 V (PS2-4000)
Optimum Vmp*	> 102 V (PS2-1800) > 238 V (PS2-4000)
Motor current	max. 14 A
Efficiency	max. 98 %
Ambient temp.	-40 ... 50 °C [-40 ... 122 °F]
Enclosure class	IP68 [NEMA 6P]

*Vmp: MPP voltage under Standard Test Conditions (STC):
1000 W/m² solar irradiance, 25°C cell temperature



Motor ECDRIVE 1800-HRE and 4000-HRE

The system is powered by a maintenance-free brushless DC motor, ensuring long-lasting performance without the need for regular upkeep. The motor is water-filled, enhancing cooling and efficiency during operation. Constructed with premium materials, including stainless steel (AISI 304/316), the system offers superior durability and corrosion resistance. Notably, there are no electronics within the motor, which improves reliability and reduces the risk of failure in challenging environments.

Technical data

Related power	1.7 kW [2.2 hp] (ECDRIVE 1800-HRE) 4.0 kW [5.4 hp] (ECDRIVE 4000-HRE)
Efficiency	max. 92 %
Motor speed	1,500 ... 3,000 rpm
Insulation class	F
Enclosure class	IP68 [NEMA 6P]



Suitable for PU1800 and PU4000

Pump model	max. head	max. flow rate
PU1800	120 m	1.3 m³/h
SHRE-07, Rp 2"	[394 ft]	[5.7 USG/min]
PU1800	160 m	1.4 m³/h
SHRE-07H, Rp 2"	[525 ft]	[6.2 USG/min]
PU1800	120 m	2.7 m³/h
SHRE-14H, Rp 2"	[394 ft]	[11.9 USG/min]
PU1800	80 m	3.9 m³/h
SHRE-23, Rp 2"	[262 ft]	[17.2 USG/min]
PU1800	50 m	5.9 m³/h
SHRE-32, Rp 2"	[164 ft]	[26 USG/min]
PU4000	120 m	5.9 m³/h
SHRE-32, Rp 2"	[394 ft]	[26 USG/min]

There are five temperature classes available for each pump unit, according to the corresponding water temperature. To find the ideal pump model for your specific needs, please contact LORENTZ.

Suction head

The suction head of a surface pump refers to the vertical distance between the surface of the liquid source (e.g. water level in a well, reservoir, or tank) and the pump's inlet or suction port. This distance represents the height that the pump needs to lift the fluid to reach the pump.

Pump type	Suction head
SHRE-07, Rp 2"	7.0 m [23.0 ft]
SHRE-07H, Rp 2"	7.0 m [23.0 ft]
SHRE-14H, Rp 2"	5.0 m [16.4 ft]
SHRE-23, Rp 2"	4.5 m [14.8 ft]
SHRE-32, Rp 2"	4.0 m [13.1 ft]

These values represent the maximum suction lift at sea level and 20 °C [68 °F] for a motor speed of 3300 rpm. However, additional losses due to fittings and pipe friction will reduce the suction lift and should be taken into account for the system.

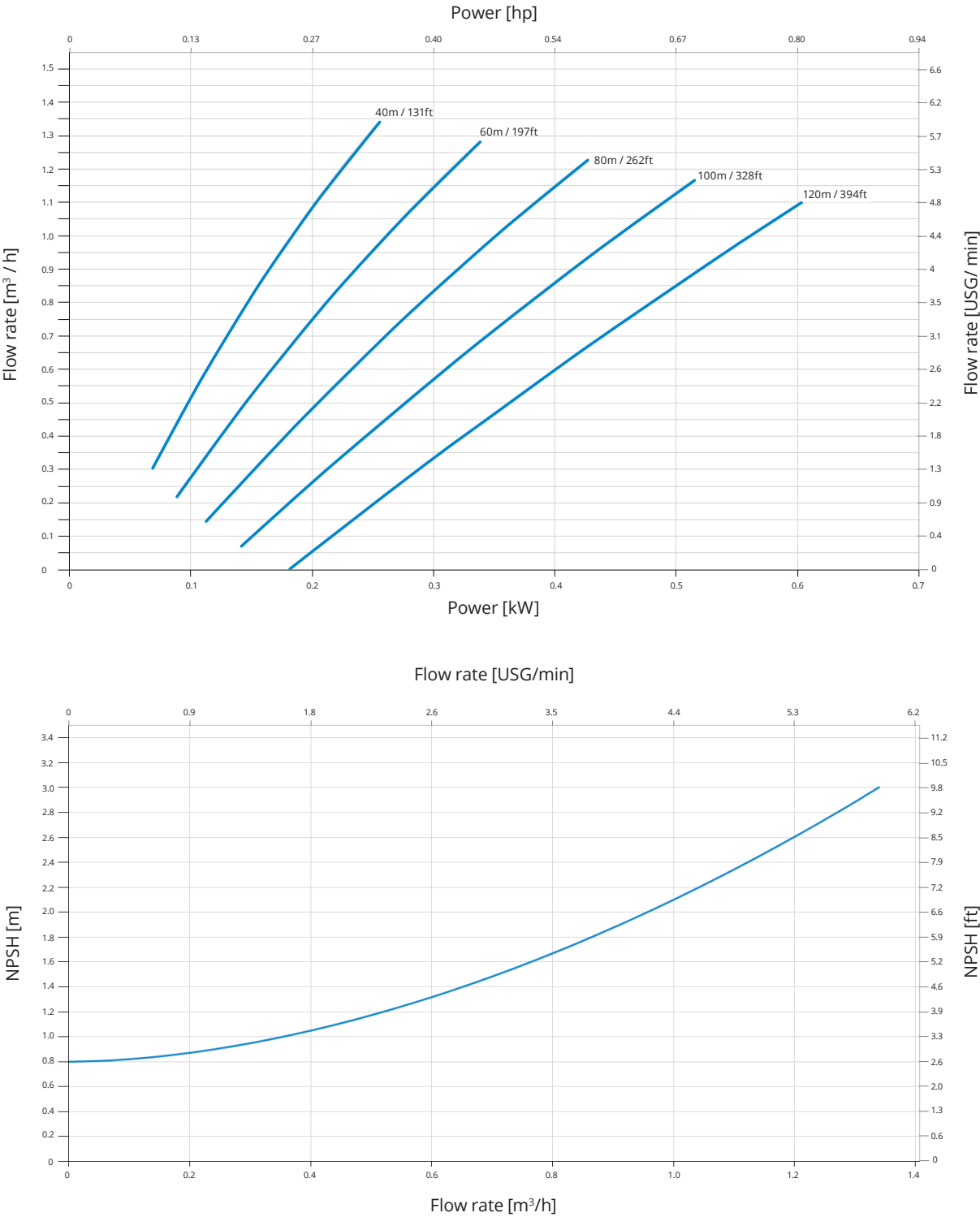
For higher suction head requirements on SHRE, please contact LORENTZ.

Surface HRE Pump - SHRE

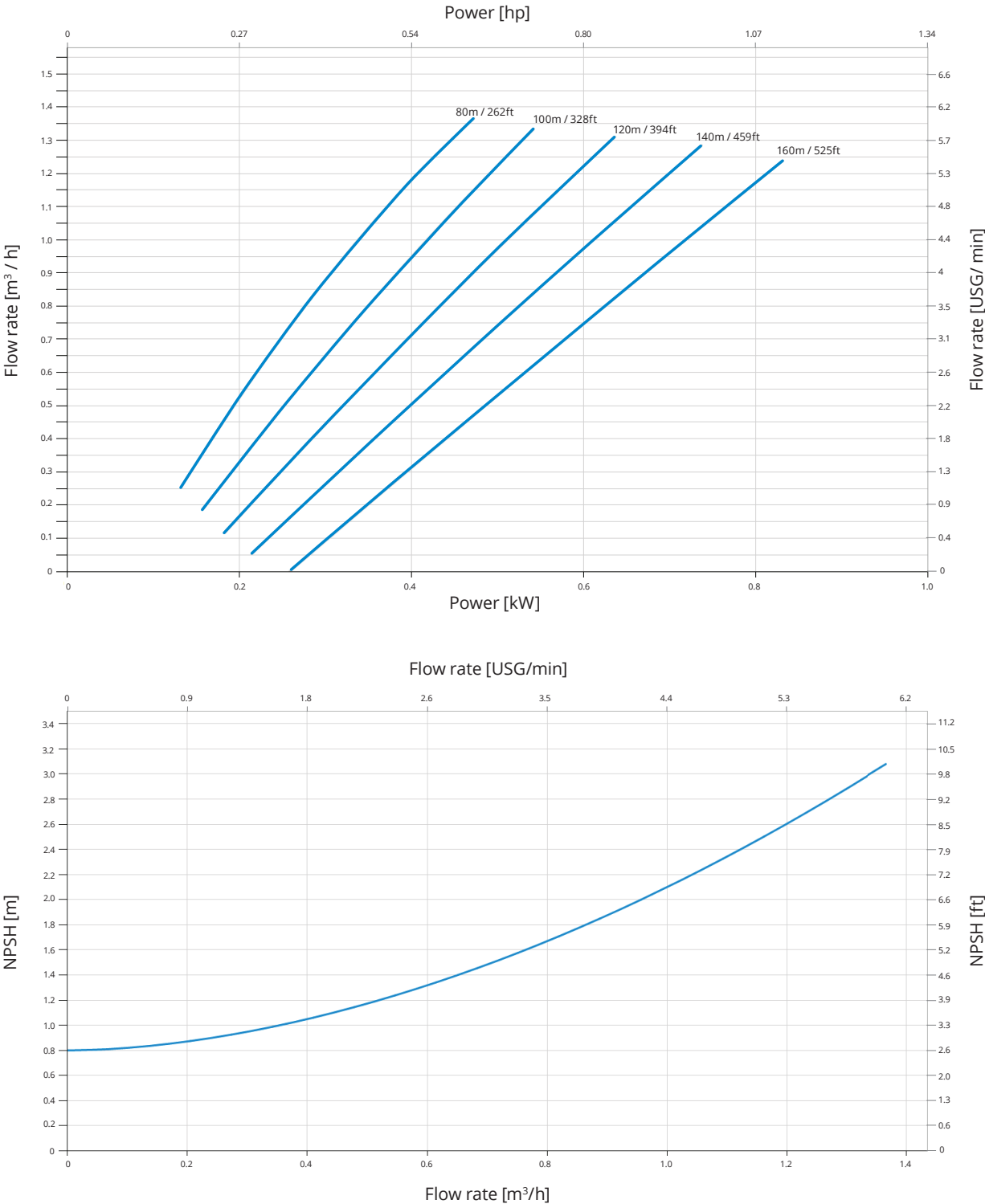
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Pump Charts

PU1800 SHRE-07



PU1800 SHRE-07H

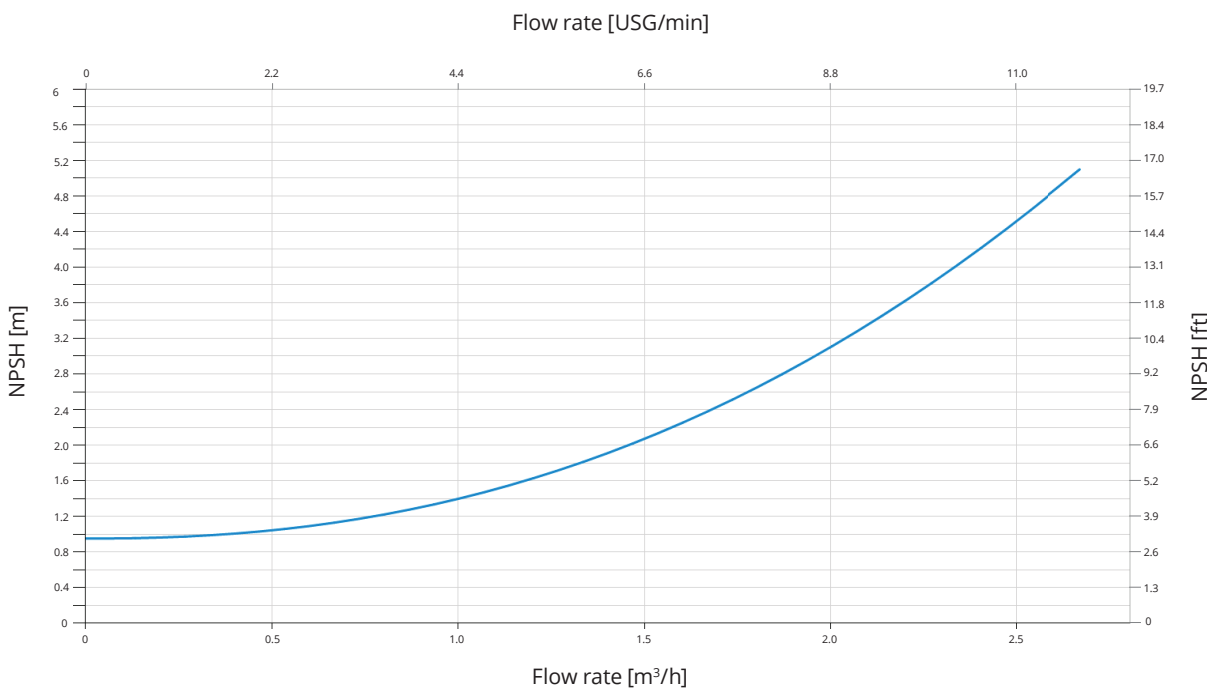
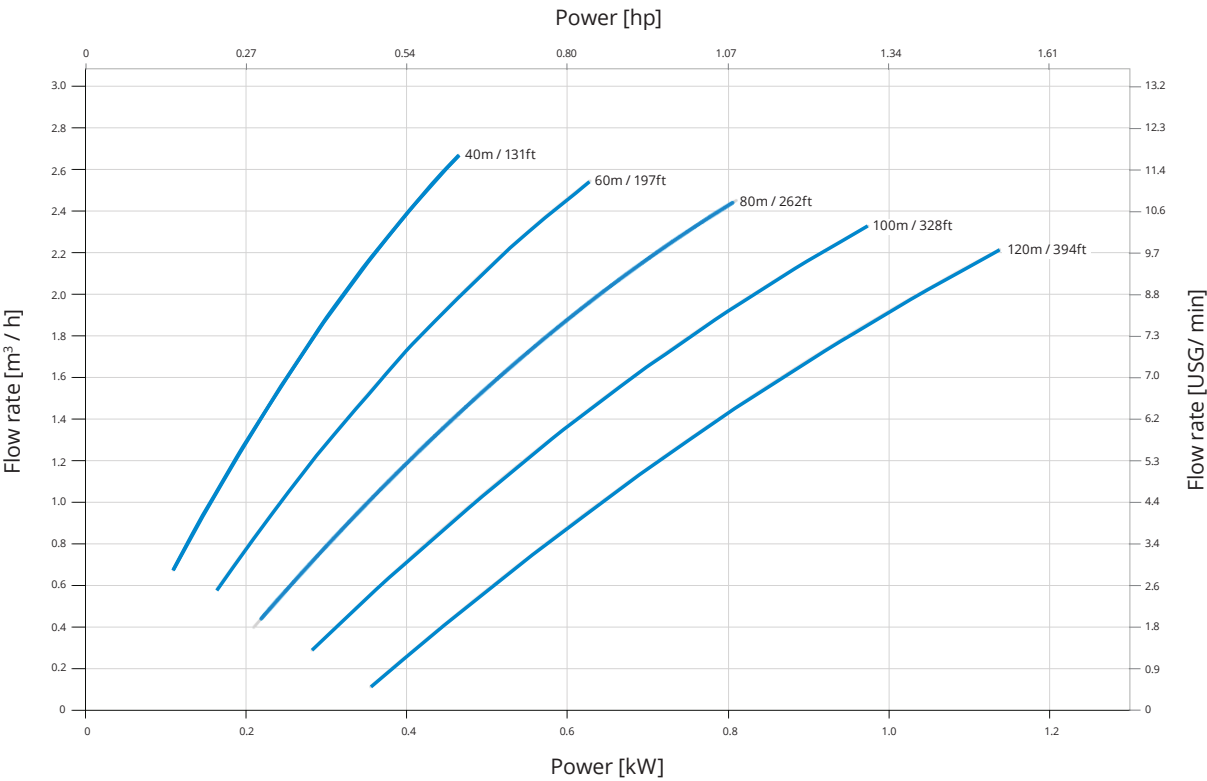


Surface HRE Pump - SHRE

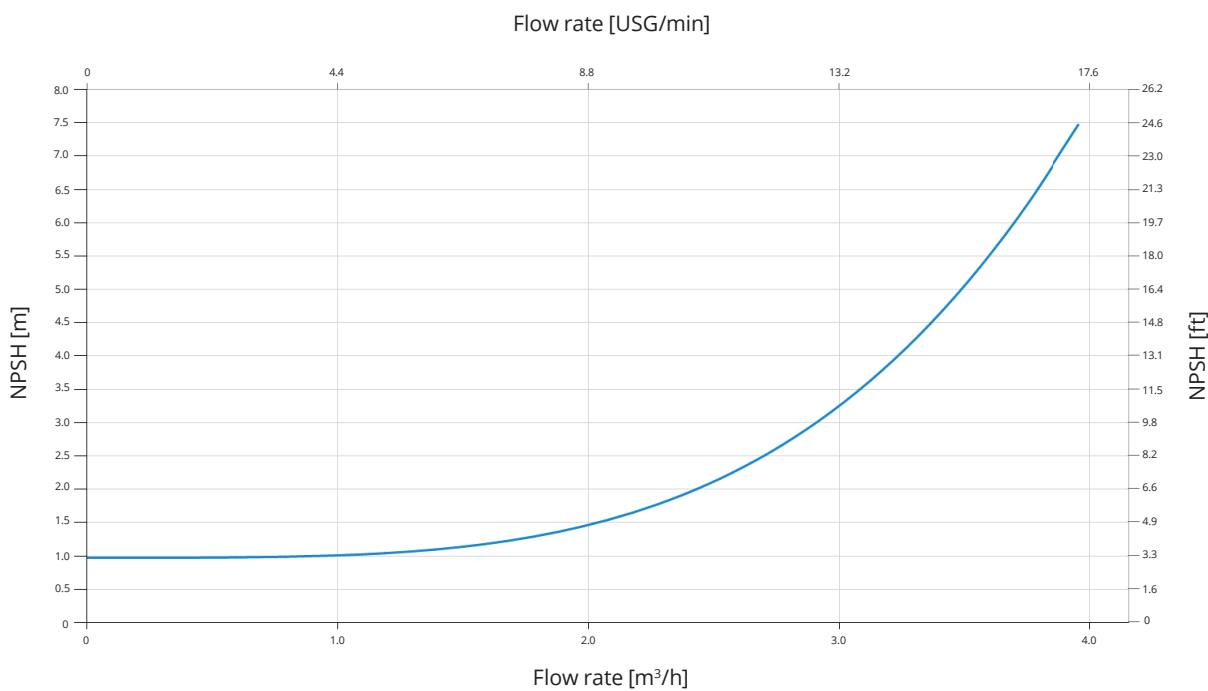
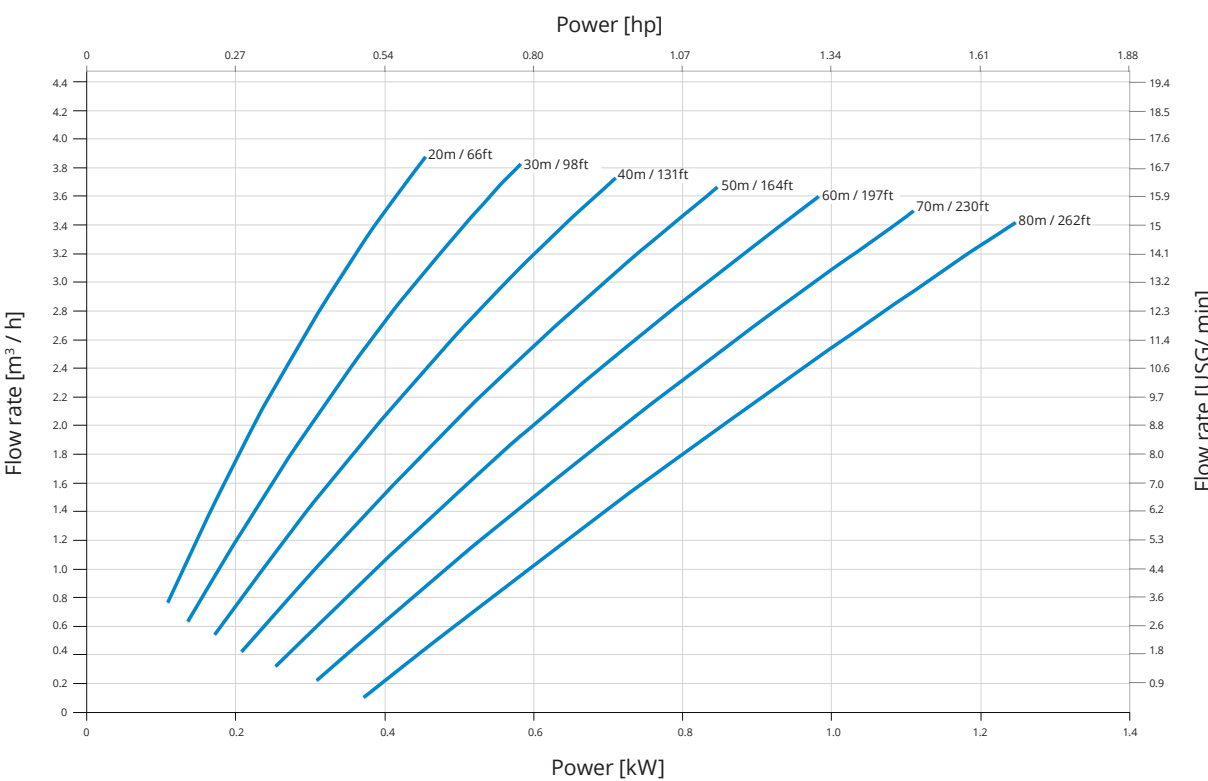
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Pump Charts

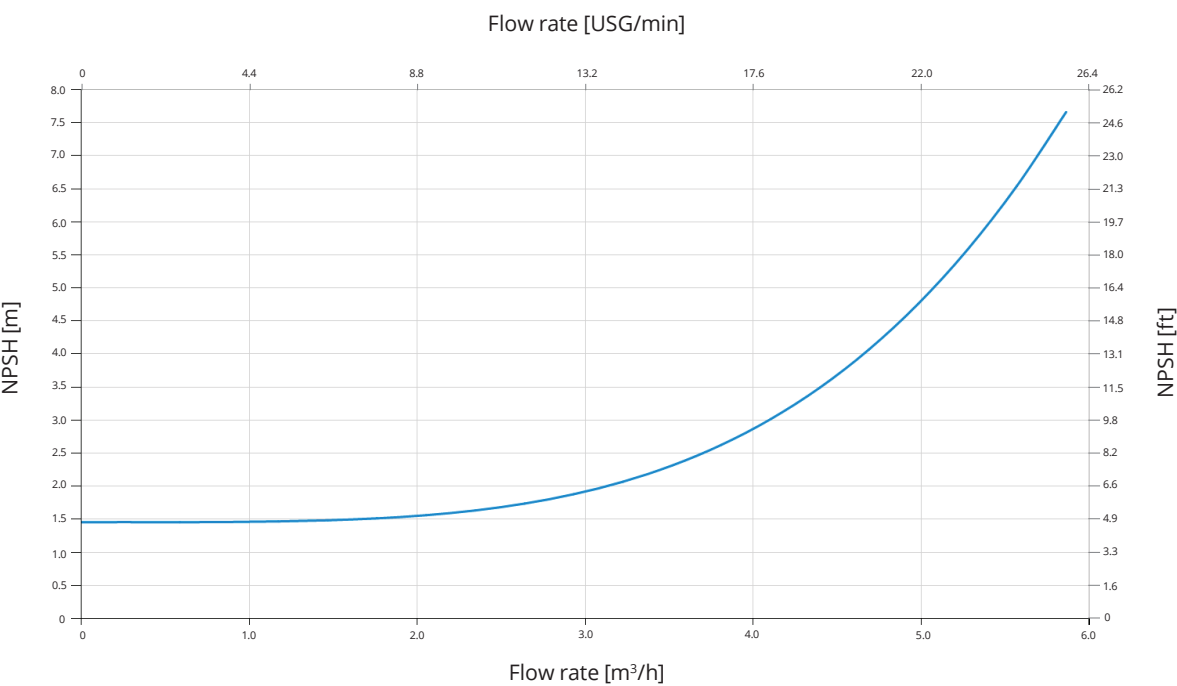
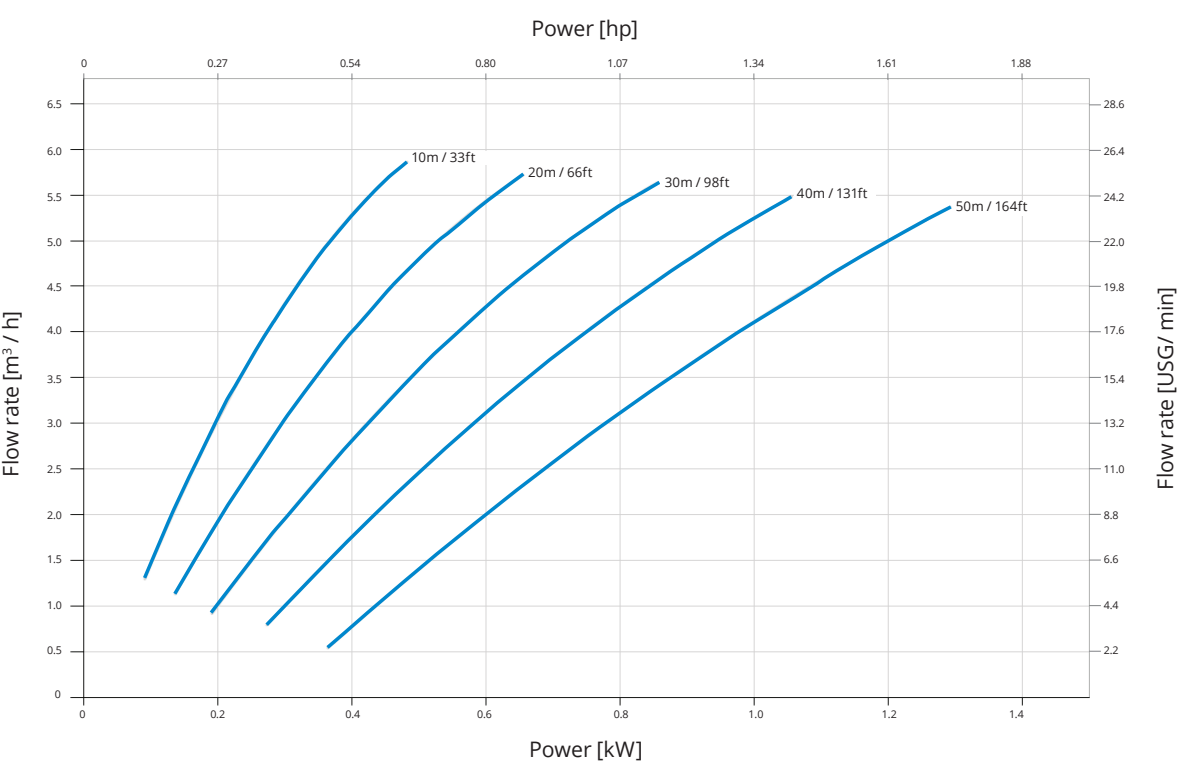
PU1800 SHRE-14H



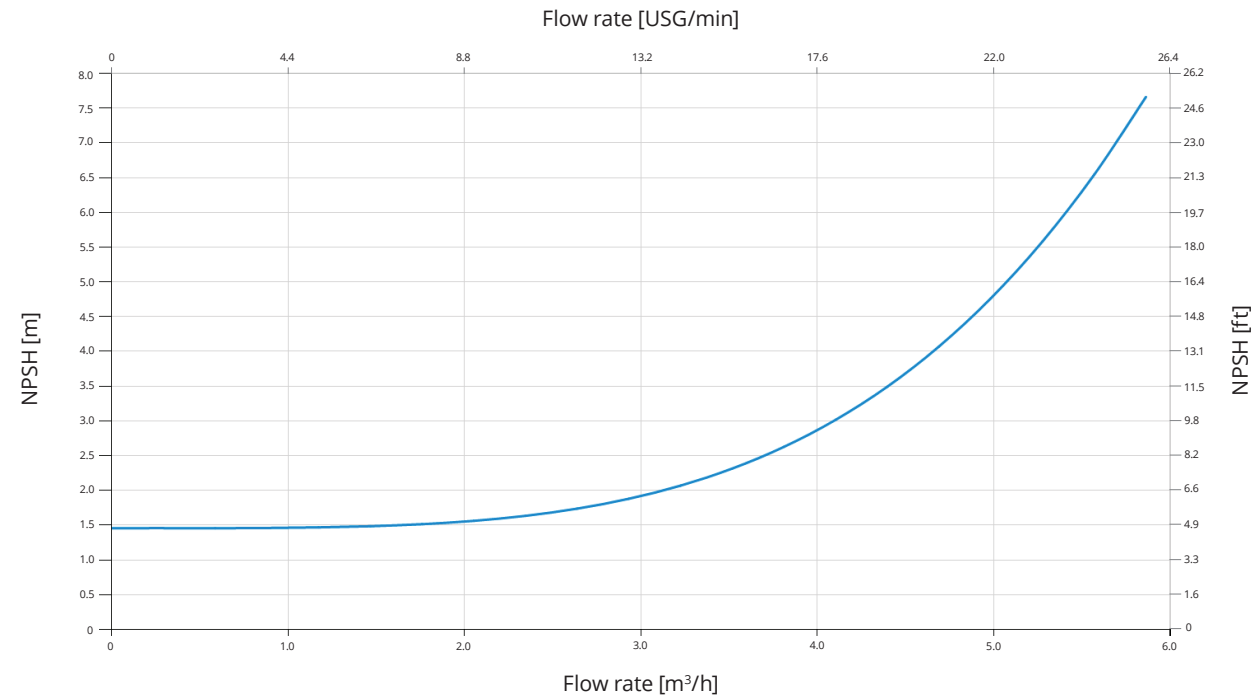
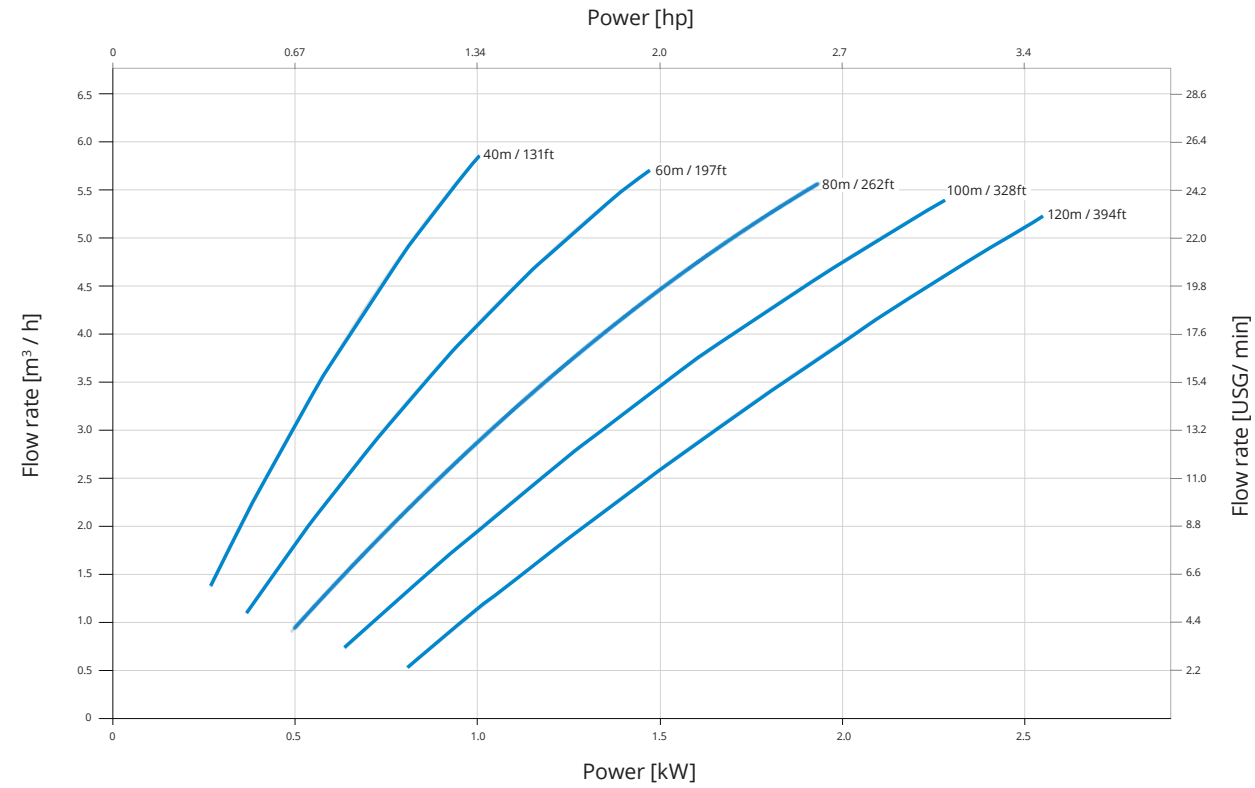
PU1800 SHRE-23



PU1800 SHRE-32



PU4000 SHRE-32



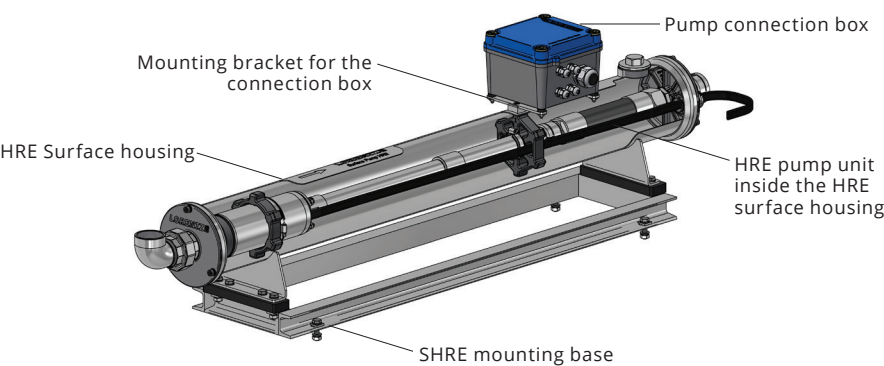
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The complete system

Basic components of the LORENTZ surface HRE pump system are the HRE surface housing, a HRE pump unit which sits inside the housing, the PS2 controller and solar modules to power the controller.

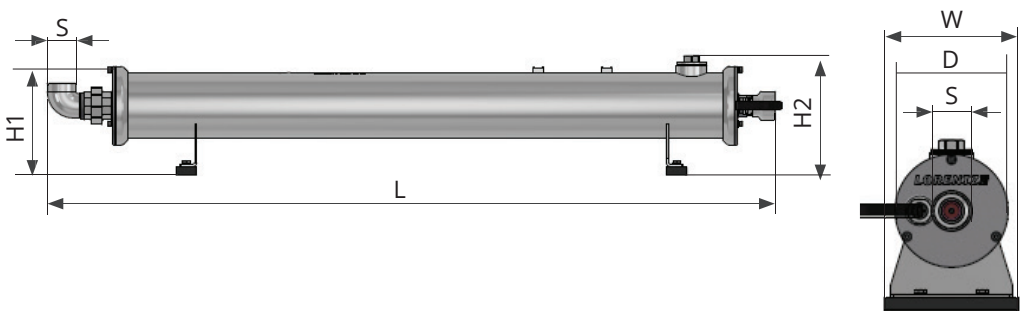
You can get the components mentioned above from LORENTZ, including useful optional accessories like the SHRE mounting base or pump connection box. Contact us for further information.



HRE Surface housing

The HRE Surface housing can be used with PU 1800 HRE-14H, -23 and -32 and PU 4000 HRE-32.

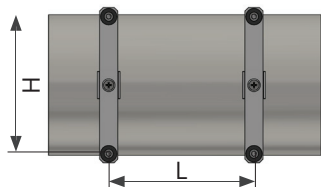
- H1 = 254 mm [10.0 in]
- H2 = 278 mm [10.9 in]
- L = 1709 mm [67.3 in]
- S = Rp 2" [Rp 2"]
- W = 220 mm [8.7 in]
- D = 184 mm [7.2 in]



Mounting bracket for the connection box

If you want to use a connection box, the mounting bracket helps you to fix the box on the HRE surface housing. The mounting bracket is included in the HRE Surface housing delivery and does not need to be ordered separately.

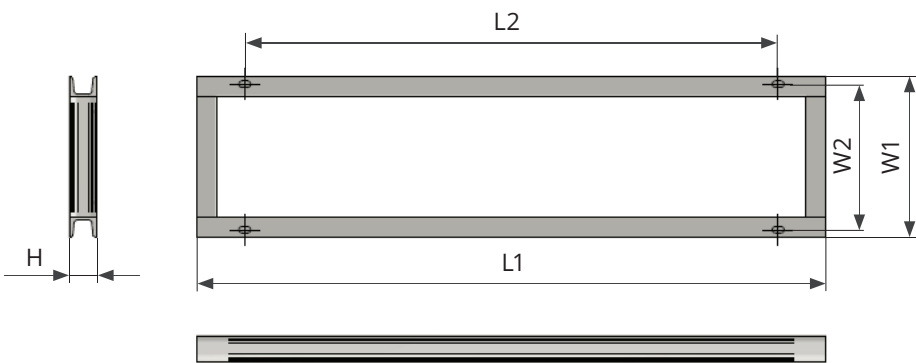
- H = 160 mm [6.3 in]
- L = 150 mm [6 in]



Mounting base for HRE Surface housing (optional)

A galvanized steel frame for securing the pump to the foundation is available and can be ordered separately.

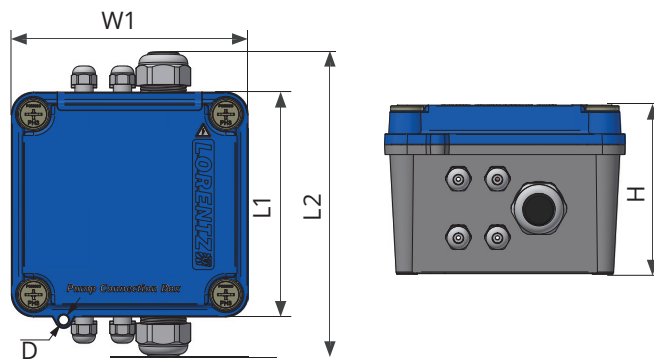
- W1 = 300 mm [11.8 in]
- W2 = 272 mm [10.7 in]
- L1 = 1178 mm [46.4 in]
- L2 = 1000 mm [39.3 in]
- H = 50 mm [2 in]



Pump connection box (optional)

With the pump connection box you can connect the PS2 pump unit and sensors, offering a streamlined electrical setup.

- W1 = 197 mm [7.8 in]
- L1 = 187 mm [7.4 in]
- L2 = 254 mm [10 in]
- D = 8 mm [0.3 in]
- H = 139 mm [5.5 in]



Packaging and order information

	HRE Surface housing	Mounting base for HRE surface housing	Pump connection box
Packed gross weight	41.5 kg [91.5 lb]	13.5 kg [29.8 lb]	2.25 kg [5.0 lb]
Packaging dimensions	1770 x 260 x 390 mm [70 x 10 x 15 in]	1200 x 360 x 80 mm [47 x 14 x 3 in]	280 x 305 x 250 mm [11 x 12 x 9.8 in]
Item number	19-006070	19-005910	19-000400