

Executive Demonstration Unit Handbook



Introduction

The LORENTZ Executive Demonstration Unit has been designed for the purpose of demonstrating LORENTZ solar pump systems. The unit has been constructed solely for this purpose; it is a high quality unit that has been designed to be constructed and to have a pump system installed by a competent solar pump engineer.

This document should always be read in conjunction with the relevant manual for the pump and controller that is installed.

Choice of Pump and Power Source

The unit is provided without a pump or controller. This gives the partner a choice to install a pump that best fits the demonstration situation and local market requirements (see table below.)

PS1800 HR23 delivers a nice amount of water running at approx. 1500 rpm. This is quiet and shows what a HR pump can do. The HR pump is also very nice to look at, but the higher voltage requirements might make it difficult where a solar power supply is required.

The PS150C is a good choice for outdoor shows where only a single module can be used. It can be ordered with an aluminium housing instead of the plastic housing if this is required.



These suggestions and product combinations are made for the specific purpose of using with the demo unit; they should not be deployed in commercial installations.

Care of the Unit

The demonstration unit is made of corrosion resistant materials. It is also made with a very high quality finish. To preserve the aesthetics of the unit please note the following:

- Only clean it with water and a soft cloth
- Do not use chemical cleaners or abrasives
- Run any new pump you are using in clean water before using in the demo unit. This will prevent any surface dirt, oils etc from being seen in the water
- Only use clean water in the unit from a known good source, sand or particles could damage the surface finish
- Only use recommended additives (see below) to the water
- Rinse the unit after use with clean water
- Do not drop or shock the unit as this could weaken the glue joints and result in leaks

Use, location	Pump, controller	Power source
Indoor shows / exhibitions	PS1800 HR23	PP600H PowerPack
Outdoor shows	PS1800 HR23	5 to 7 12V PV modules (approx. 600W)
Outdoor shows	PS150 C-SJ5-8	12V battery or single module (185Wp)

Packing and Shipping

Please pay attention to the unpacking of the unit. It is strongly recommended that the unit is repacked in the same way after use.

Do not transport the unit with a pump pre-installed as this will damage the unit.

Recommended Additives

To give the water a blue tint a blue food / aquatic grade dye can be used. The unit has been tested with Microbe-Lift Bio Blue at a concentration of approximately 5ml per 150 litres of water.

Chlorine can also be added to the water keep the water chemically clean if it will be standing for long periods of time. A concentration of ca. 100 mg/l active chlorine is sufficient. Overdosing chlorine will cause the typical unpleasant chlorine smell.

Emptying the Unit

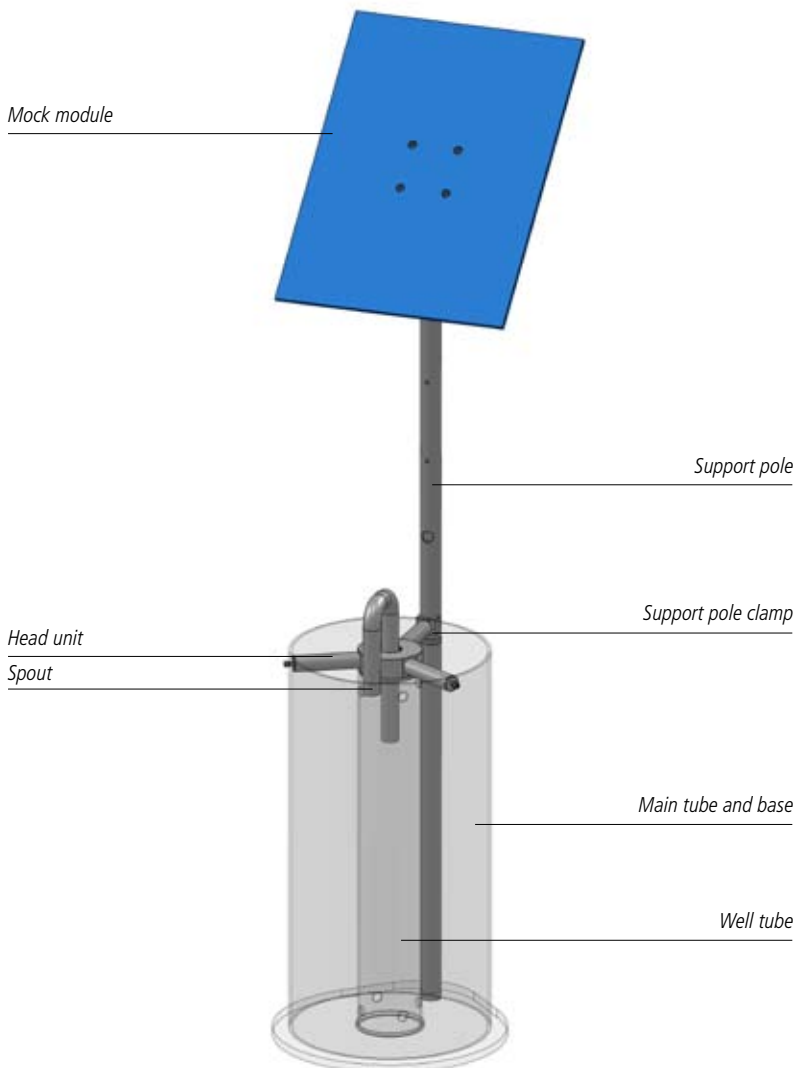
The unit must be completely emptied before it is moved. The easiest method of emptying is to use a syphon pipe to a drain or to good draining ground.

Siting the Unit

The unit should be sited on a level surface. The total weight of the system when full of water is approximately 200 kg (440 lb) so please ensure the floor is strong.

It is recommended that the unit is installed on a cushioned surface (carpet/rubber mat) to remove any surface irregularities and reduce any vibration transfer to the floor below. This can be important when using a large HR pump.

The unit should be positioned accurately before it is filled. Moving the unit when it has water in will damage the unit and may result in leaks.



Unit Overview

The unit is shipped in parts and when assembled looks like on the diagram on the left.

Before starting assembly ensure all parts are present.

The unit can be installed with an external PowerPack.

When the unit is powered from a PowerPack the mock acrylic blue module can be used to display a marketing message. Templates are available for this on partnerNET.

Before following the assembly and wiring steps the head unit (3 legged piece on the top of the main tube) should be removed.

Please keep the washers and hex bolts safe when removing the head unit.

Assembly and Wiring

In the assembly diagrams the wiring is colour coded in the following way:

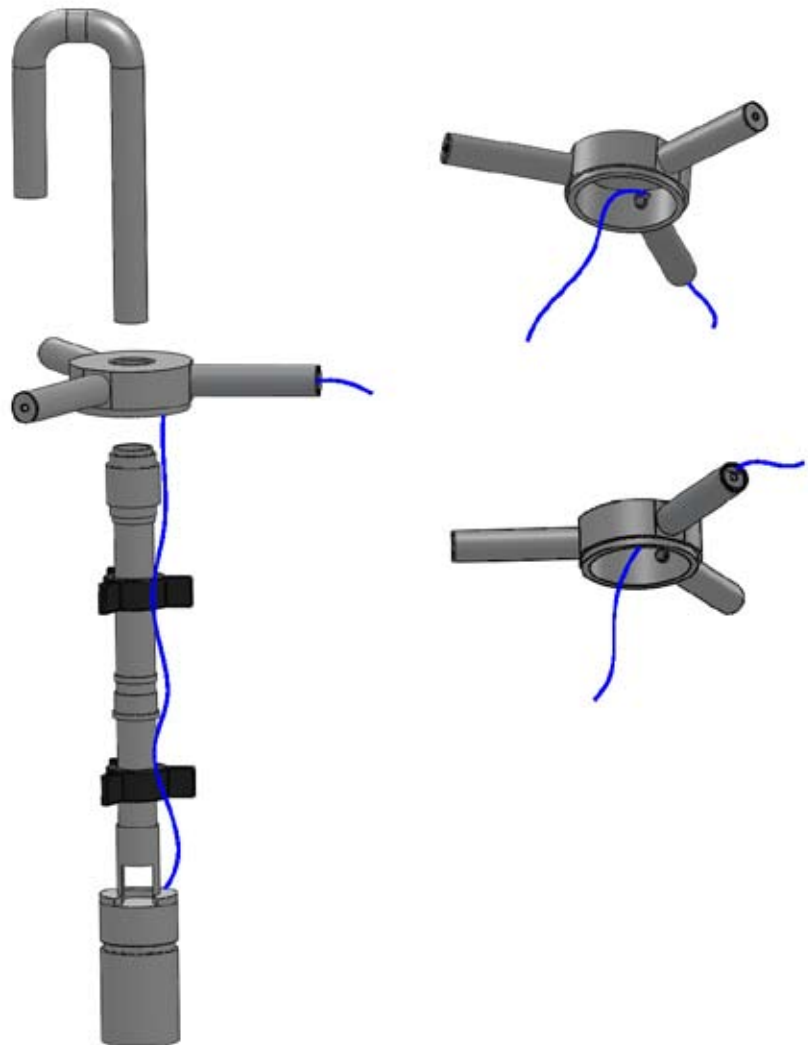
BLUE	pump wiring
RED	PowerPack wiring (or external PV array)
GREEN	module wiring (if a PV module is used in place of the mock module)

Step 1

Route the cable from the pump through the hollow arm of the head unit.

Attach the spout to the top of the pump. If you are using a shorter centrifugal pump (C pump) then use the long spout. If you are using a longer HR pump use the short spout.

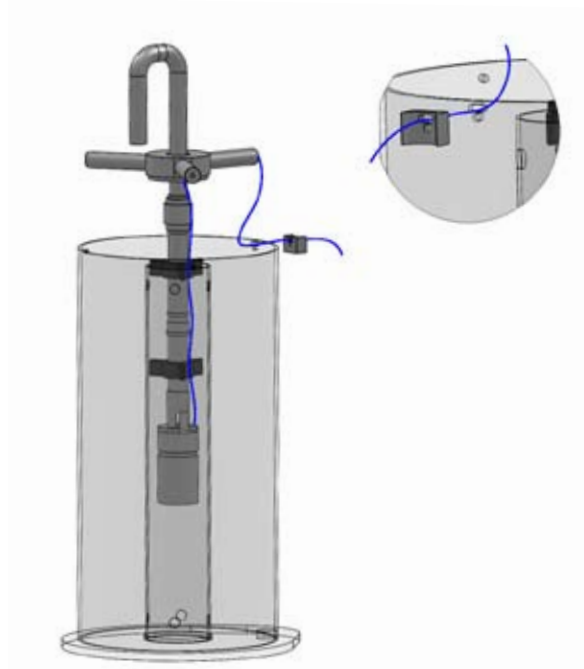
Tip: It may be easier to splice a round submersible 4 core cable to the fitted pump cable rather than route a flat cable through the head unit.



Step 2

Route the cable through the washer, then the side of the main tube and through the support bracket.

Ensure the well tube is sitting in the square in the main tube base and that the rubber disk is in place to minimise vibration during running.



Step 3

Prepare the two support pole parts and the support pole clamp. The upper pole has more holes than the lower pole.

Route the cable from the pump up and out of the controller access point (blue wire).

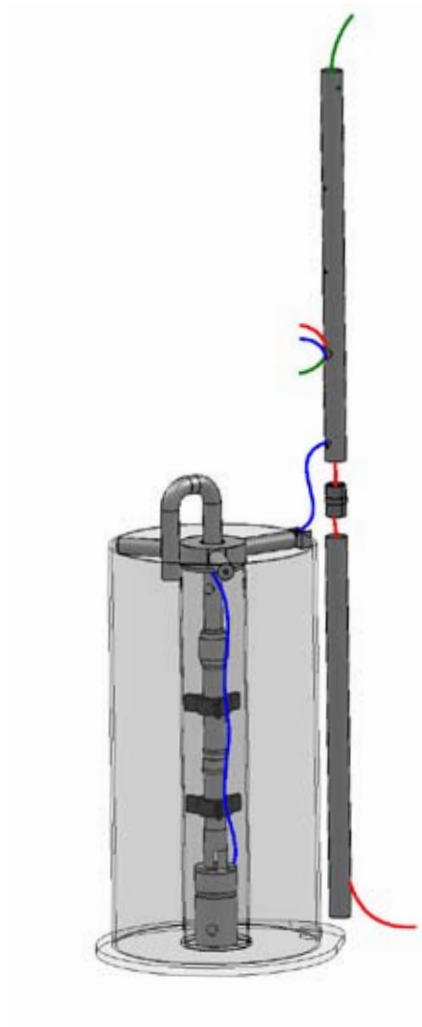
Tip: Use a draw wire from the controller access point and pull the pump wire up.

If using a power pack or external PV array then route a power cable from the controller access point to the rear access point on the lower pole (red wire).

If using a PV module on the top of the pole route a power cable from the top of the upper pole to the controller wiring access point (green wire)

When the cables are in place:

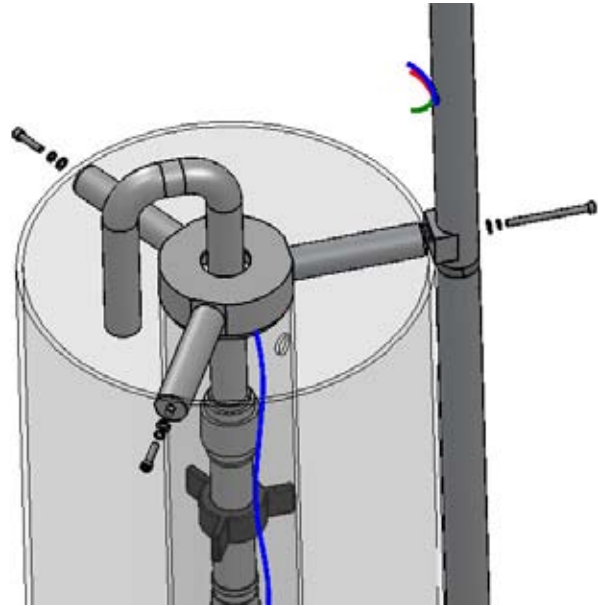
- Fit the lower pipe into the base
- Clamp the upper and lower poles together



Step 4

Fix the hex bolts through the main acrylic tube to the head unit, ensure the washers are fitted to protect the acrylic tube.

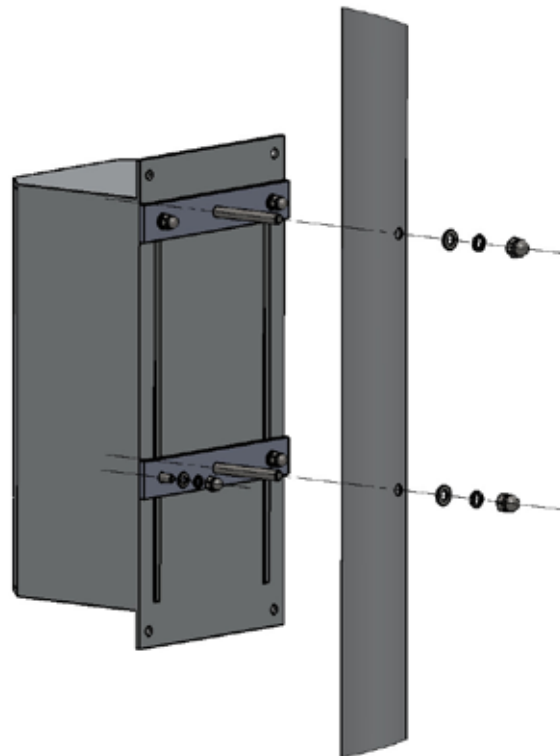
Ensure the cables are not damaged by the long hex bolt on the rear of the unit.



Step 5

Attach the controller brackets to the controller. Attached the brackets to the upper support pole as shown.

The controller can be wired up at this point as per the instructions provided with the pump and pump controller.



Step 6

If the mock module is being installed then the counter-sink machine screws are installed through the blue acrylic with nuts and washers on the back to the support pole top bracket.

If a PV module is being used then an approximate rail system to support the chosen module should be fitted to the support pole top bracket. The Pv module cable (green) should exit the support pole top bracket through the wiring access point at the rear.

