



ADDENDUM
to
INSTALLATION INSTRUCTIONS
for
Grant Solar Pump Station

DOC.96-05/01 Rev01 - May 2015

ATTENTION INSTALLERS - UPDATED INFORMATION!

There has been a recent change to the Grant Solar Thermal System Pump Station that differs from the Installation & Servicing Instructions supplied with the unit. This change is due to compliance with new UK and European Legislation.

Please read this Addendum and use the information in conjunction with the corresponding sections of the Installation & Servicing Instructions supplied with the Pump Station.

After installation and commissioning the Solar Thermal System, please ensure that both the Installation & Servicing Instructions and this Addendum are left with the user for future reference.

HIGH EFFICIENCY CIRCULATING PUMPS

Grant Solar Thermal Pump Stations are now supplied with Grundfos UPM3 Solar High Efficiency solar circulating pumps. These conform to the requirements of the Energy Related Products (ErP) Directive that is effective from the 1st August 2015:



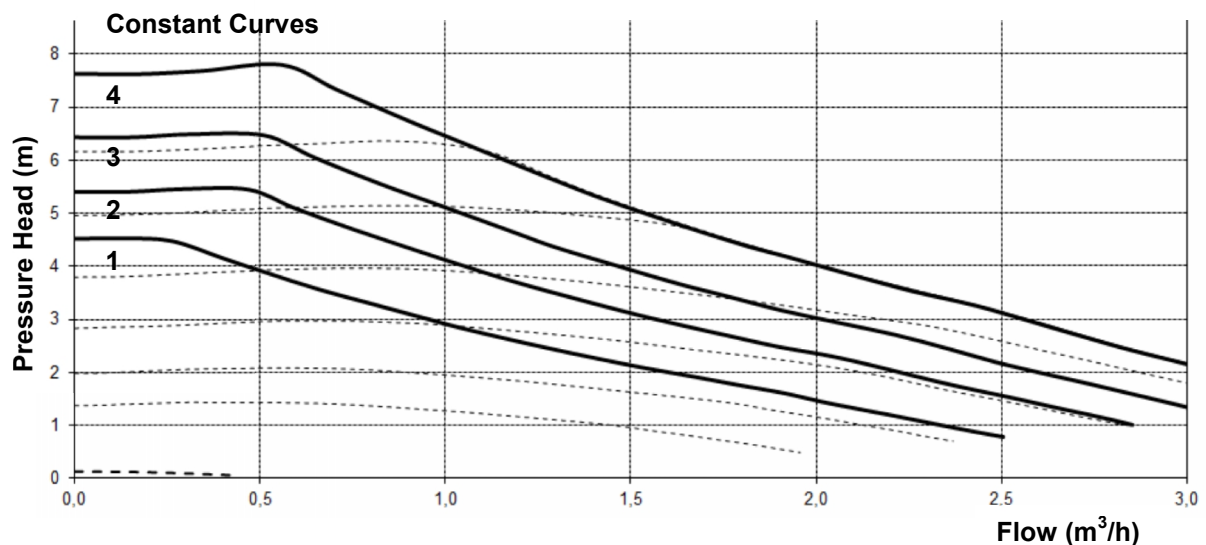
Figure A: Grundfos UPM3 Solar circulating pump

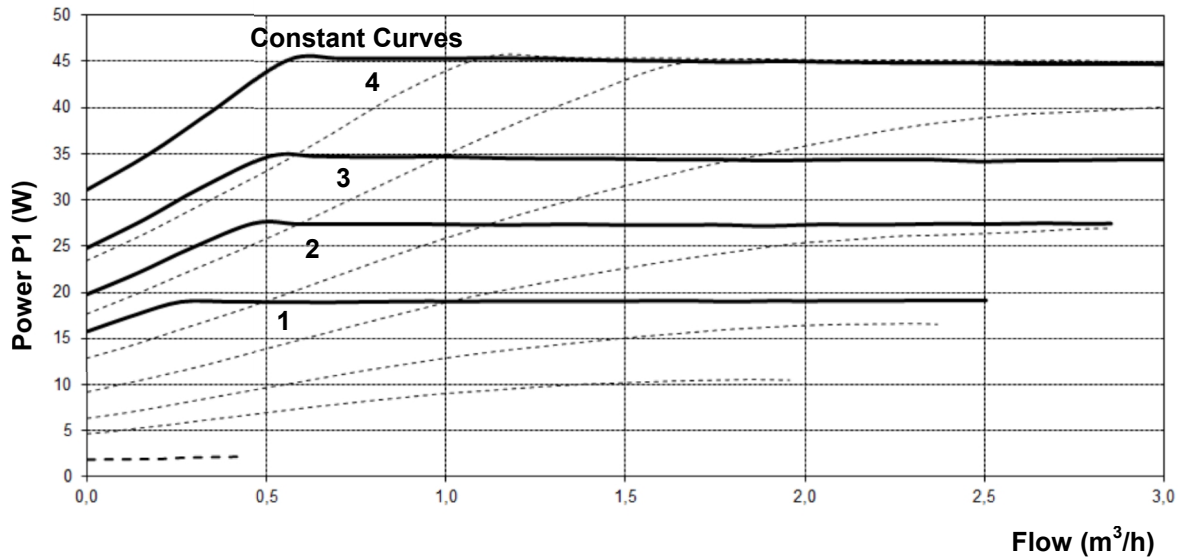
PUMP SPECIFICATION

Make and Model	Grundfos UPM3 25-75 130 Solar
Construction	
Pump housing	Cast iron
Impeller	Composite/ PES 30% GF
Pump Shaft	Ceramic
Bearing	Ceramic
Protection Class	IPX4D
Temperature Rating	TF110
Motor Protection	Integrated in control box electronics
Performance	
Max Delivery Head	7.5m @ Q = 0 m ³ /h
Minimum Suction Pressure @ 75/95/110°C	0.05/0.5/1.08 bar
Power Consumption (P _{1nom})	19W – Curve 1 21W – Curve 2 35W – Curve 3 45W – Curve 4/Max
Min Power Consumption	2W
Nominal Motor Power (P _{L avge})	≤ 20W
Current @ 1 – 230V	0.04A Min – 0.48 A Max
EEL	≤ 0.20
Settings	Constant Speed Curves 1, 2, 3 & MAX
Application	
Maximum System Pressure	10 bar
Maximum Ambient Temperature	70°C
Max medium temperature @ Ambient Temperature	Ambient temperature 10°C: 110°C Ambient temperature 55°C: 110°C Ambient temperature 60°C: 90°C Ambient temperature 65°C: 80°C Ambient temperature 70°C: 70°C

PUMP PERFORMANCE CURVES

The following information replaces that given in Section 2.2 of the Installation & Servicing Instructions supplied with the Grant Solar Pump Station





Energy Efficiency Index

The Grundfos UPM3 Solar circulating pump complies with the current ErP requirement for all circulating pumps to have an Energy Efficiency Index (EEI) of not more than 0.23.

ELECTRICAL CONNECTION

The following instructions replace the information given in Section 3.6 of the Installation & Servicing Instructions supplied with the Grant Solar Pump Station.

The pump requires a 230V 50Hz power supply from the Solar Controller to operate. Refer to the Installation instructions provided with the Solar Controller for further information on the electrical control system wiring.

IMPORTANT

The electrical supply must be isolated before making the connections to the solar pump.

The pump is supplied with a 3-core mains cable fitted with a moulded plug to provide a safe but easy connection at the pump. This cable is supplied already connected to the pump.

Disconnect the cable from the pump. Using a small flat screwdriver, carefully prise the white clip away from the plug socket to release it from the catch. Grip the plug between two fingers (not the cable) and carefully pull the plug from the socket.

Connect the pump cable to the power supply ensuring that the three wires of the pump cable are connected as follows:

Brown:	Live
Blue:	Neutral
Yellow/Green:	Earth

Reconnect the pump cable using the reverse of the above procedure. Ensure the plug is fully pushed home until the white clip is engaged on the catch.

To disconnect the plug (after wiring is completed): Check that the power to the pump is switched off. Then remove the plug from the socket as described above.

USER INTERFACE

The pump has a simple User Interface, located on the front of the pump motor, that consists of a single push button and five LEDs (one red/green LED and four yellow LEDs).

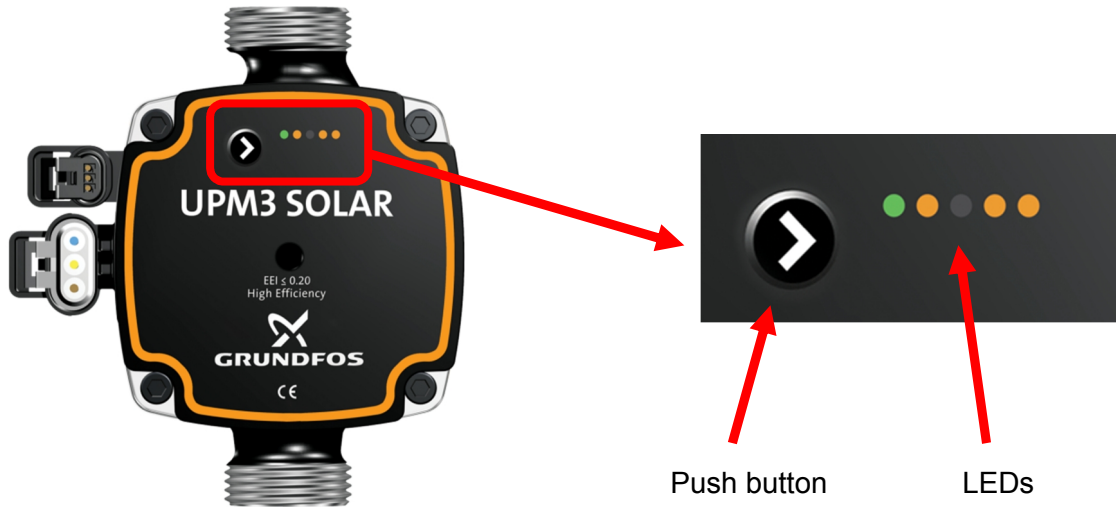


Figure B: Solar Pump User Interface

This User Interface can display two different views, as follows:

- The ‘Performance’ view (during operation)
- The ‘Settings’ view (after pressing the button)

PERFORMANCE VIEW

During pump operation the display will show the ‘performance’ view. This view shows either the ‘Operation status’ or the ‘Alarm status’.

Operation Status

When the pump is running LED1 is green. The four yellow LEDs indicate the power consumption, as shown in Figure C below.

LED Display	Performance Level	Percentage of maximum power
	Low	0-25%
	Medium low	25-50%
	Medium high	50-75%
	High	75-100%

Figure C: Operation Status – percentage of maximum power consumption

Alarm Status

If the pump has detected one or more faults LED1 switches from green to red and the yellow LEDs indicate the type of fault, as shown in Figure D below.

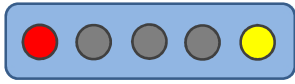
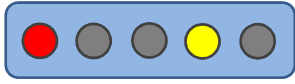

LED Display	Fault	Pump Operation	Action
	Rotor is blocked	Trying to start again every 1.33 seconds	Wait for pump to clear blockage/replace pump
	Supply voltage too low	Only a warning – pump continues to run	Check and rectify fault with supply voltage
	Electrical fault	Pump is stopped due to low supply voltage or serious electrical failure	Check and rectify fault with supply voltage / replace pump

Figure D: Alarm Status – fault indications

SETTINGS VIEW

During pump operation the display will show the ‘performance’ view, as the default.

To switch to the ‘Settings’ view, press and hold the button for at least 2 seconds (but less than 10 seconds). Note that once in the ‘Settings’ view, if the button is then left untouched for 5 seconds the display will automatically revert to the ‘Performance’ view.

When in the ‘Settings’ view the Grundfos UPM3 Solar circulating pump can be set to one of four ‘Constant Curve’ or constant speed settings. The pump speed is not automatically regulated but operates constantly at one of the four possible speeds (1, 2, 3 or MAX), as required.

The ‘Key Lock’ Function

The purpose this function is to prevent tampering or accidental changes to the setting. When the ‘Key Lock’ function is enabled, it is not possible to access the ‘settings’ view and change the speed setting of the pump.

To enable the ‘Key Lock’ function again: press and hold the button for more than 10 seconds. Whatever setting is on the display will flash through the 10 seconds and finally the green and all four yellow LEDs will flash twice to indicate the ‘Key Lock’ is enabled again.

To disable the ‘Key Lock’ function: press and hold the button for more than 10 seconds. The display (the green and all four yellow LEDs) will then flash twice to indicate ‘Key Lock’ is disabled.

SETTING THE FLOW RATE

The following instructions replace the information given in Section 4.8 in the Installation & Servicing Instructions supplied with the Grant Solar Pump Station.

The setting of the solar fluid flow rate is made via the speed setting of the circulating pump and the Filling/Shut-off valve. For required system flow rates refer to Table 4-2 in the Solar Pump Station Installation & Servicing Instructions.

The flow indicator displays the fluid flow rate. The display range is between 1 and 13 litres per minute. See Figure 4-8 in the Solar Pump Station Installation & Servicing Instructions.

PUMP SPEED SETTING

When the pump is switched on it will run at the factory pre-set value or the last setting. The LED display will indicate the current operating speed.

To adjust the pump speed

- Ensure that the 'Key Lock' function is disabled. See above for how to do this.
- Press and hold the button for at least 2 seconds (until the display LEDs flash).
- Press the button to 'toggle' through the available pump settings. These settings appear in a particular order in a closed loop so continue to press the button until the required speed is indicated by the LEDs. Refer to Figure E.
- Once the required speed is set, stop pressing the button. The display will automatically stop flashing 5 seconds after the button was last pressed.
- The display LEDs will momentarily show the previous speed setting but will then change to indicate the new setting.
- Once the speed is set, the 'Key Lock' function can then be re-enabled, as previously described to prevent tampering or accidental changes to the setting.

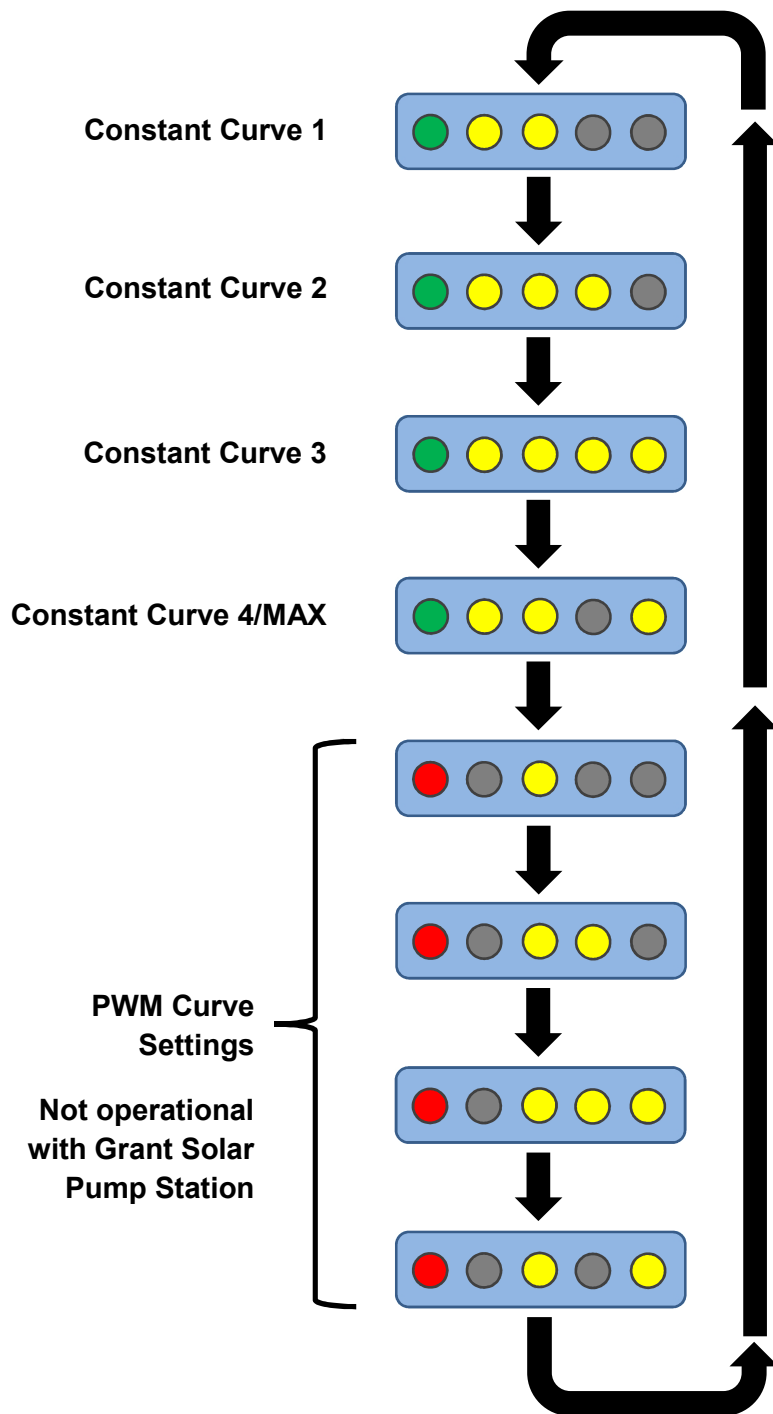


Figure E: Pump Curve (speed) Setting Sequence

RECYCLING & DISPOSAL

This circulating pump must not be disposed of in normal domestic waste as most of the materials used in it's construction can be recycled. For details on how to responsibly dispose of this pump please go to www.grundfos.com/products-recycling.

Select UPM3 from the list of different pumps for specific information on the disassembly of the pump and the the materials used for each component.



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