

EnergyMasterHP

user guide

**Cylinder for use with
NIBE heat pump systems**



UNDERFLOOR
HEATING



HEAT
PUMPS



SOLAR
THERMAL

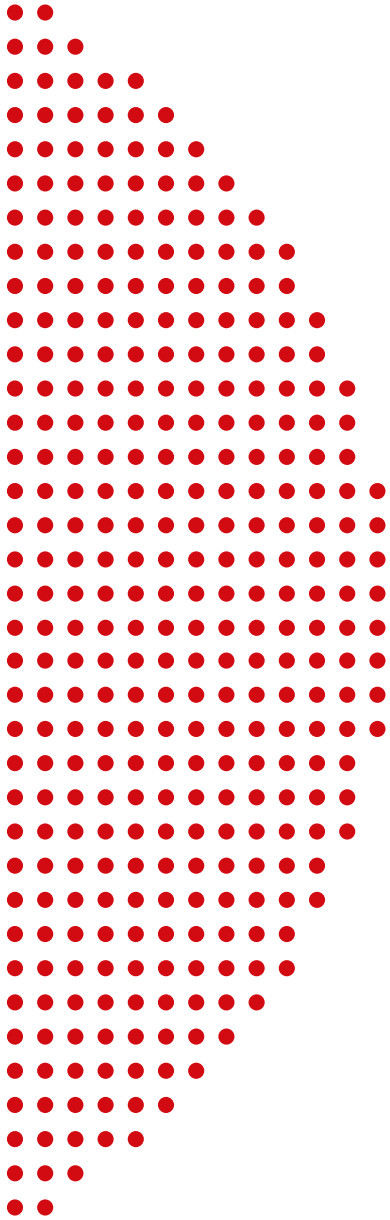


working with you
**before,
during
& after**
your project

**Nu-Heat
Know-How**

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System Ref: _____

Every Nu-Heat system is a custom design. Please record your unique system reference number above for future identification.

Welcome

This guide is aimed at providing a basic understanding of the EnergyMaster HPT™ cylinder installed at your property. You will find references here to other leaflets such as NIBE's user guide and also the Nu-Heat *Underfloor Heating User Guide*.

Installer details

Company: _____

Contact name: _____

Contact telephone no: _____

Address: _____

Contact numbers

- In the case of breakdowns or for product and installation information always contact your heating engineer or electrician in the first instance.
- Product support for your heating engineer or electrician is also available from Nu-Heat's Technical Support Department. Tel: 01404 540745.

The Nu-Heat EnergyMasterHP™ cylinder

Comprehensive information about the heat pump installation is in the Nu-Heat *Handover Pack* you should have received from your system installer.

OPERATION

The EnergyMaster HP™ cylinders work in the same way as any conventional unvented cylinder. Hot water, heated by the heat pump, is pumped around a coil in the cylinder, and heat is transferred to the domestic water stored in the main body of the cylinder.

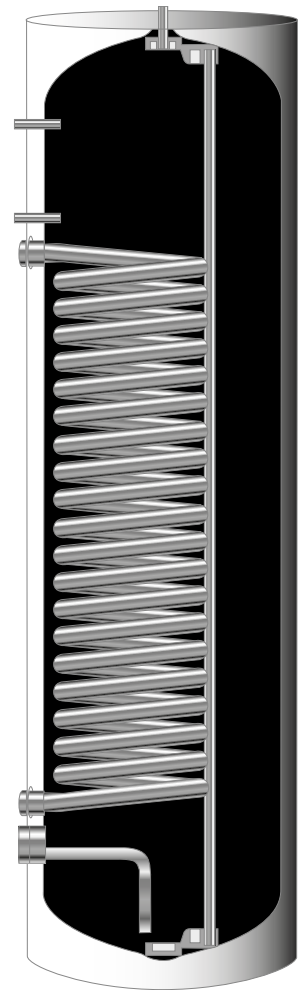
The significant difference is that the cylinder's heat pump coil has a larger surface area than would be needed for a boiler, and the diameter is greater so as to minimise pressure drop.

In certain models there will also be a solar coil, occupying the lower portion of the cylinder. A glycol mix is heated by the solar panels, and is pumped around the solar coil, transferring heat to the domestic water in the main body of the cylinder.

CONTROL

Cylinder time & temperature settings

How long the cylinder is heated for, and the operating temperature, are both managed by the heat pumps controller. This will have been set up during system commissioning, however should it be desirable to change these settings please refer to the heat pump user guide.



The Nu-Heat EnergyMaster HP™ cylinder

Nu-Heat EnergyPro secondary hot water loop (SHWL)

A secondary hot water loop (SHWL) may have been installed to circulate domestic hot water out to the taps and back to the cylinder to provide an instantaneous supply of hot water.

Note: the SHWL is not a booster pump and will not increase the flow of hot water to the outlets.

Controlling the SHWL

There are two possible sizes of pump:

- 1 The **EnergyPro SHWL** pump has an integral timer, and thermostat. The hot water loop time clock can be set to suit your requirements for instant hot water. Note that hot water is still available during the off periods although you will have to wait a little longer for the water to run hot.

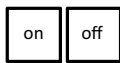
The pump has digital settings indicated by the following icons:



ON/OFF – Up to 3 switched ON/OFF times can be programmed. It is recommended that the hot water loop pump is controlled from the heat pump controller. If this is done, set the SHWL pump timer on the pump to be 'ON'.



TEMPERATURE – Maintains a set temperature in the pipework by switching pump on and off.



THERMAL DISINFECTION – Detects temperatures over 68 °C and runs the pump for 2 hours irrespective of other settings. Helps to prevent legionella.

The return temperature to the cylinder should be 50 °C or higher in line with the *HSC's Legionnaires Disease: the control of legionella bacteria in water systems – Approved Code of Practise and Guidance*.

Note: The thermal disinfection feature can be disabled on heat pump systems.

- 2 The **EnergyPro SHWL Plus** pump has a separate timeclock and a pipe thermostat.

The pipe thermostat has the temperature in °C printed on the dial. Note that the return temperature to the cylinder should be 50 °C or higher in line with the *HSC's Legionnaires Disease: the control of legionella bacteria in water systems – Approved Code of Practise and Guidance*.

Timing

The hot water loop should be timed to run during periods of hot water usage (e.g. in the mornings and evenings). At other times it should be timed off to prevent excess energy usage, which in extreme cases could lead to high running costs.

Important

The hot water loop should be allowed to run throughout the year. If it is inactive for more than a week then there is a risk of bacteria growth such as legionella.



The **EnergyPro SHWL** with digital display



The **EnergyPro SHWL Plus** has a larger pump and separate time clock



EnergyPro SHWL Plus: turn the pipe thermostat to achieve 50 °C return at the cylinder

Hygiene purge

A high temperature hygiene purge is required against bacterial growth such as legionella. This is either performed by the cylinder immersion, or by an external heat source, e.g. ground source heat pumps have an integral immersion which performs the purge.

As part of the system commissioning the hygiene purge will have been set up – details of the times set can be found in the [Heat Pump Commissioning Procedure](#).

If it is necessary to alter these settings see the [Heat Pump User Guide](#).

Note: The immersion heater supplied is fitted with a thermal cut-out – if the thermostat in the immersion goes over temperature for any reason it will need to be manually reset. This involves removing the cover – the immersion heater must be isolated from the mains before the heat pump or immersion cover is removed.

Important: *Compliance with the relevant requirements of the Water Supply (Water Fittings) Regulations 1999 has been assessed for this product only as a component of a heating system. If it is to be installed as part of a system using solar energy or ground- or air-source heat pumps for pre-heating water which is to be used as domestic hot water, the Water Fittings Regulations place a legal duty on the installer and user to ensure that the installation and operation of the complete system prevents contamination of domestic hot water by Legionella bacteria, which can grow in water stored at temperatures between 20° C and 45° C. Where disinfection by heating is relied on to meet this obligation, information on minimum conditions for thermal disinfection of Legionella bacteria can be found on the WRAS website: www.wras.co.uk.*

Servicing requirements

ANNUALLY

Nu-Heat EnergyMasterHP™ cylinder

It is important to have the cylinder serviced annually to ensure safe operation and as a requirement of the warranty. To qualify for the warranty service records must be kept on pages 9–11 of this User Guide.

Please note: warranties are void without service records and a commissioning certificate (see cylinder label or contact Nu-Heat for confirmation of commissioning).

The following should be checked:-

	Yes	No
1 Is the incoming pressure controlled at 3 bar maximum?	<input type="checkbox"/>	<input type="checkbox"/>
2 If not has it been reset?	<input type="checkbox"/>	<input type="checkbox"/>
3 The DHW expansion vessel must be maintained annually. The charge should be checked with mains water isolated and pressure released, using an accurate pressure gauge, and maintained at 3 bar. Recharge if necessary. Does it hold pressure?	<input type="checkbox"/>	<input type="checkbox"/>
4 If not, has it been replaced?	<input type="checkbox"/>	<input type="checkbox"/>
5 Is the discharge pipework from the expansion valve and T&P relief valve adequate to safely carry discharge water away?	<input type="checkbox"/>	<input type="checkbox"/>
6 If not, has any blockage been cleared?	<input type="checkbox"/>	<input type="checkbox"/>
7 Open the pressure relief valve cap on the expansion vessel to check that it can manually discharge water and reseats correctly. Does it discharge water effectively?	<input type="checkbox"/>	<input type="checkbox"/>
8 If not, has it been replaced?	<input type="checkbox"/>	<input type="checkbox"/>
9 Open the pressure and temperature relief valve cap on the cylinder to check that it can manually discharge water effectively and reseated correctly. Does it discharge water effectively?	<input type="checkbox"/>	<input type="checkbox"/>
10 If not, has it been replaced?	<input type="checkbox"/>	<input type="checkbox"/>
11 Is the immersion set such that it does not allow the hot water temperature to exceed 60 °C?	<input type="checkbox"/>	<input type="checkbox"/>
12 If not, have they been reset?	<input type="checkbox"/>	<input type="checkbox"/>

Maintenance log

UPON COMPLETION OF THE ANNUAL CYLINDER SERVICE THE FOLLOWING RECORD MUST BE COMPLETED – THE WARRANTY IS DEPENDENT ON SERVICE RECORDS BEING KEPT

Service 1

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 2

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 3

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 4

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 5

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 6

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 7

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 8

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 9

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 10

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 11

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 12

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 13

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 14

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 15

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 16

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 17

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 18

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 19

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 20

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 21

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 22

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 23

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Service 24

Date: _____
Engineer's Name: _____
Company Name: _____
Tel No.: _____
ID Serial No.: _____
Comments: _____

Signature: _____

Product support

For further information on the operation of your EnergyMaster HP™ cylinder or help with troubleshooting, please register on the Nu-Heat website at www.nu-heat.co.uk.

Nu-Heat

UNDERFLOOR & RENEWABLES



Online
www.nu-heat.co.uk



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