

HARNiTEK



INSTALLATION GUIDE FOR MONO AIR TO WATER HEAT PUMP



Contents

- 1 - What is included in the kit
- 2 - Connections on the unit
- 3 - Connecting the mono unit
- 4 - Pipe work schematic
- 5 - Wiring diagram
- 6 - Mono unit power supply
- 7 - Mono unit to fan unit communication connections
- 8 - Mono unit sensor cables
- 9 - Turning the system on and basic settings

About Harnitek:

Harnitek specialises in the manufacture of air source heat pumps. Our designs make installation and maintenance simple and fast. Typically saving 30% or more in installation time.

Our range includes: Solar assisted heat pumps, R32 air source heat pumps and high temperature CO2 heat pumps. We manufacture heat pump solutions for, HVAC and hot water systems. Harnitek manufactures unit suitable for residential, commercial and industrial sites. Harnitek have patented several innovative heatpump components and obtained CE, ERP, MCS, ISO9000 and many other certifications from world-renowned testing labs TUV and INTERTEK. We work continually to improve the technology in our products, and operate in an environmentally conscious way. Next Generation Efficiency: Introducing Harnitek's range of A+++ R32 Heat pumps.

All units are fully MCS accredited. Market leading SCOP of 4.7 means exceptional year round performance and faster recovery times.

All Harnitek Heat pumps have built in online monitoring, through the integrated WiFi module. The online monitoring gives end users and installers a fully programmable platform for controlling the system and optimising performance. .

Harnitek indoor units have a large simple to use touch screen LED controller. Basic quick functions and extended system analysis can be carried out directly through the control screen.

Lightweight outdoor units makes handling and installing the heat pumps manageable for a 2 person team. Suitable for easy wall mounting options without the need for heavy lifting equipment.

Harnitek heat pumps are exceptionally quiet, rated at only 38db at 2.1m. It is hard to define how quiet something is, but we are confident you will be astonished at the performance. Settings allow additional 'quiet mode' for the most sensitive locations.

Harnitek heat pumps are supported by a UK based training and support centre. Harnitek installations should be successful first and every time, with system support carried out remotely using the online monitoring platform.

Hybrid Compatible: Harnitek heat pumps can also control a secondary heating source. Simply connect to the indoor unit to allow secondary sources to contribute to your overall heating demand.

Harnitek heat pumps have simplicity of installation & maintenance at the core of their design. Many of the technical aspects of heat pump installation are pre-assembled into the indoor units, saving installation time and allowing all key components to be continually monitored via Harnitek's cloud based platform

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Whats included in the kit



Connections on the unit



The outdoor unit has two 1" male connections, the top connection is the flow to mono unit and bottom is return



The indoor unit has three 1" female connections

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Connecting the mono unit



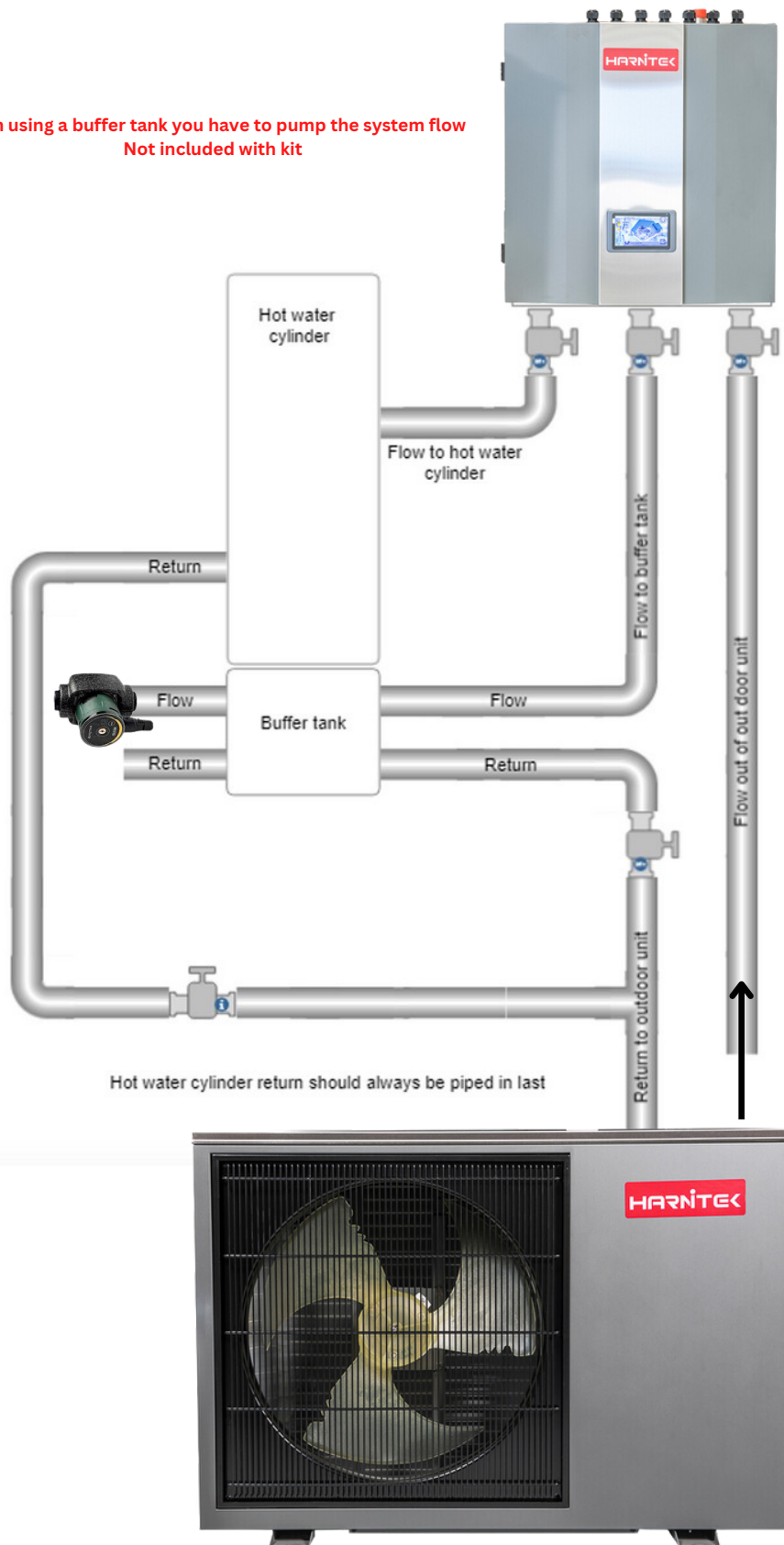
Flow to hot
water
cylinder

Flow to
Buffer / low loss header

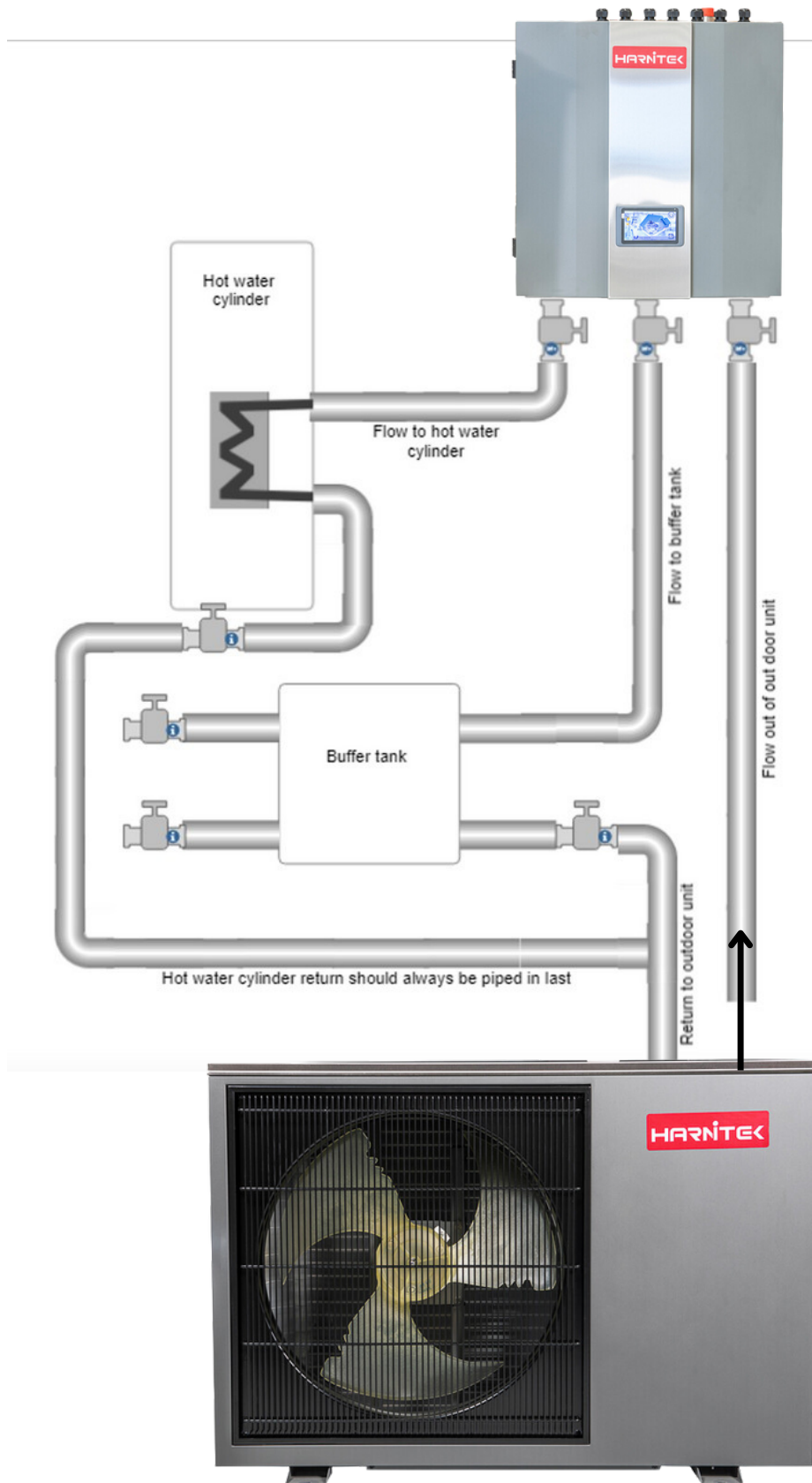
Water in
from heat
pump

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When using a buffer tank you have to pump the system flow
Not included with kit

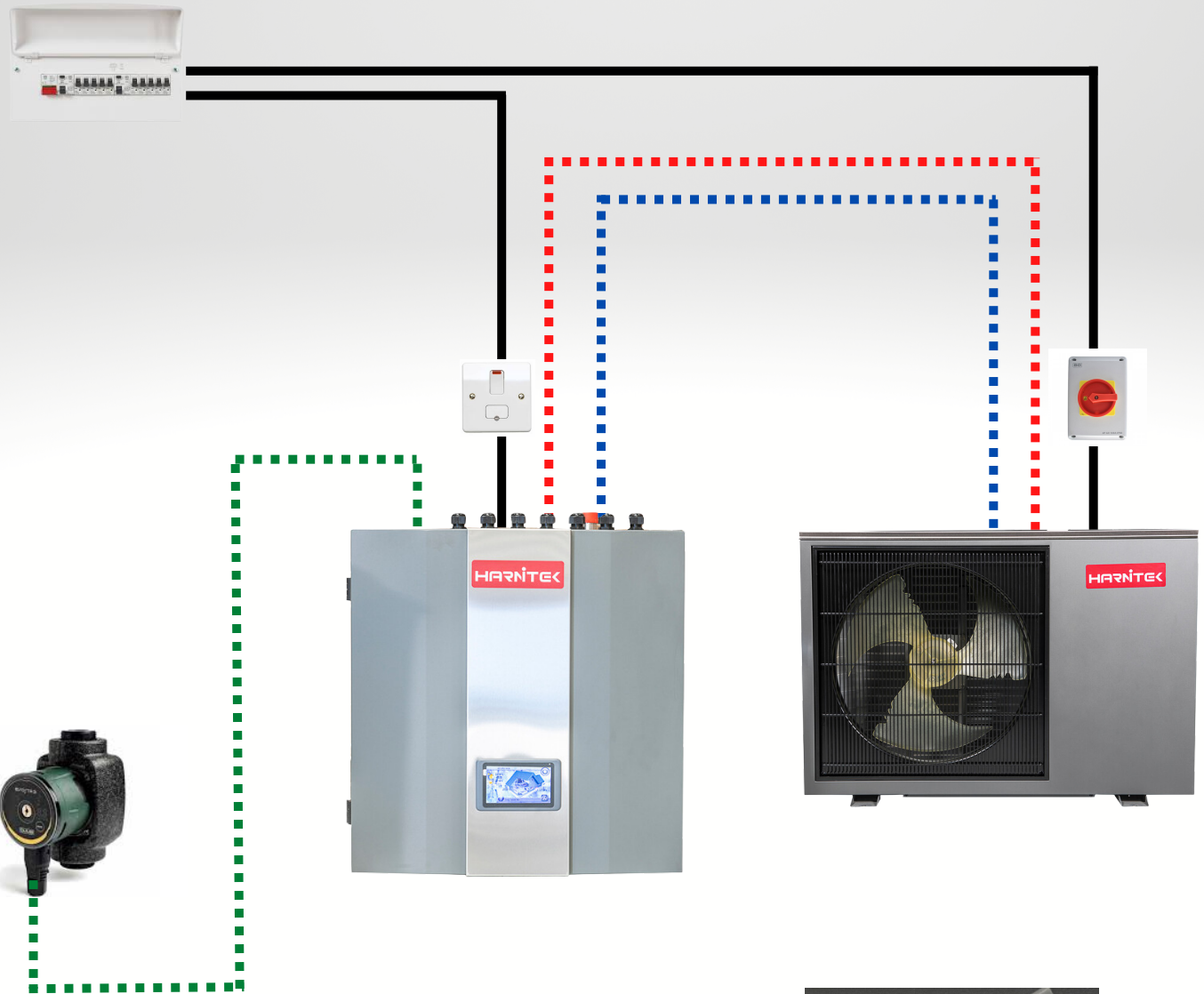


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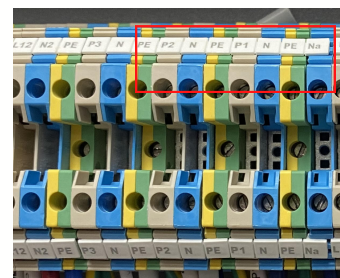
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Wiring up the unit

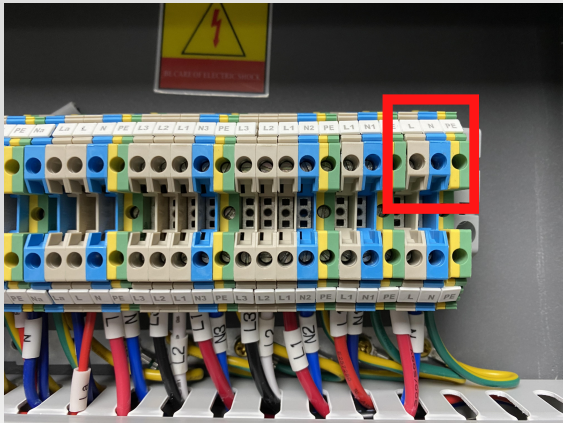


Key
CAT 5 cable
AB cable

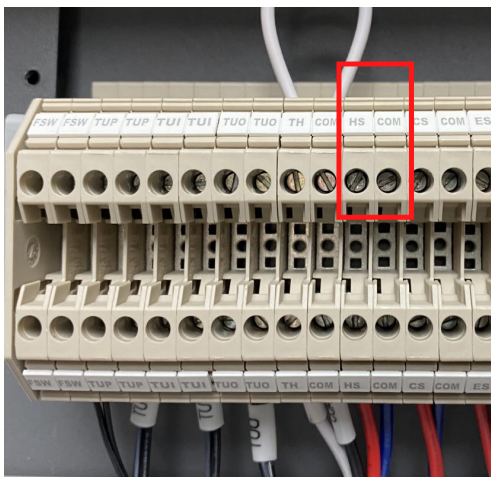
Power for the heating system circulation pump(s) is supplied from the indoor unit or use 3rd party wiring centre



Wiring Schematic

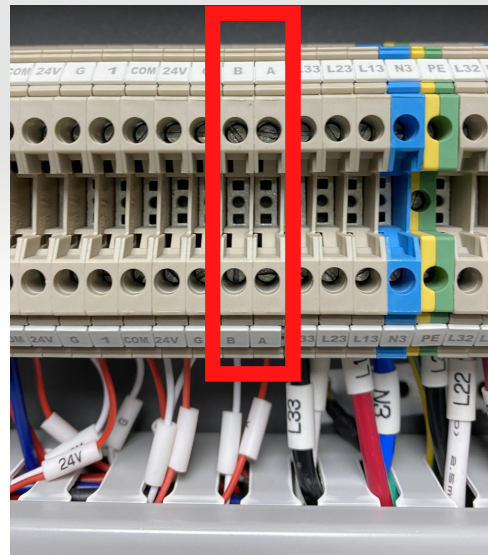
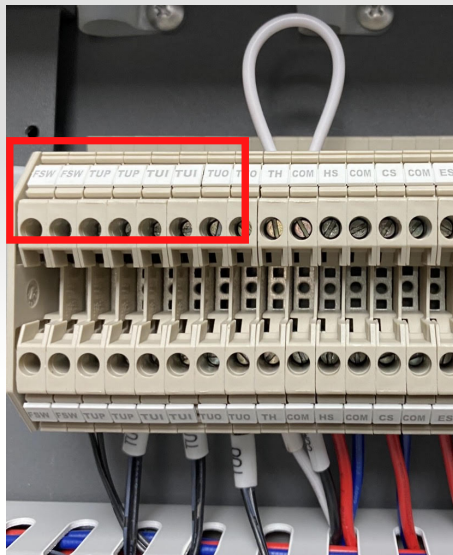


This is the connection for the power supply to the indoor unit.



For external controls your call for heat should go into "hs" and "com" The neutral wire from your heating controls should be connected into com.

Mono unit to fan unit connections



These are the connections for the supplied communication cables that go between the fan unit and indoor unit. please ensure they match on both units i.e FSW - white orange / orange, TUP - white green / green, TUI - white blue / blue, TUO - white brown / brown. The Grey communication cable is labelled A and B and should match on the indoor and outdoor unit.



Sensor locations

Once the indoor unit has been connected to the power supply a live system diagram is displayed in the menu. This system diagram shows you exactly where to place the sensors.

TV1- Heating system flow after the buffer

TV2 - Heating system return before buffer

TC - Buffer tank temperature sensor
(not required with combi unit)

TW - hot water cylinder temperature sensor
(not required with combi unit)

TR - Room temperature sensor (if using third party heating controls this is not required but should be connected)

Basic settings

When setting up the heat curve, anti legionella cycle, third party controllers and other settings please refer to the full installation manual

Hot water temperature setting

Blue arrows confirm communication with outdoor unit

On and off for the unit



Settings

Heating temperature setting

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INSTALLATION GUIDE FOR COMBI AIR TO WATER HEAT PUMP

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Contents

- 1 - What is included in the kit
- 2 - Pipe work connection sizes
- 3 - Connecting the combi unit
- 4 - Fan unit to combi unit and optional mixing valve
- 5 - Wiring diagram
- 6 - Fan unit to combi communication connections
- 7 - Combi unit sensor locations
- 8 - Turning the system on and basic settings

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What is included in the kit



Connections on the unit



The outdoor unit has two 1" male connections

3/4" male connection for filling loop inlet

1" male connection for cold inlet

Two 1" male connections middle and high temp hot outlet

Two 1" male connections for outdoor unit connections



Two 1" male connections for heating/cooling side

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Piping up the unit

The combi system has built in expansion vessels for both hot water and heating

Optional
middle
temp hot

Safety
valve

Cold in

Filling
loop

Water in
from heat
pump

Hot out

Heating
return

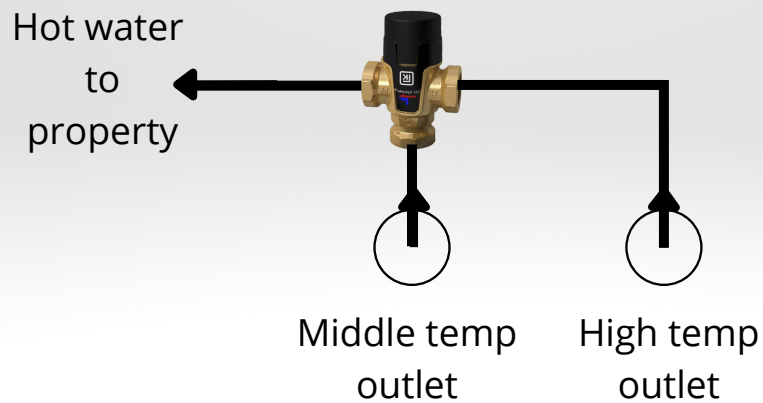


Water out to
heat pump

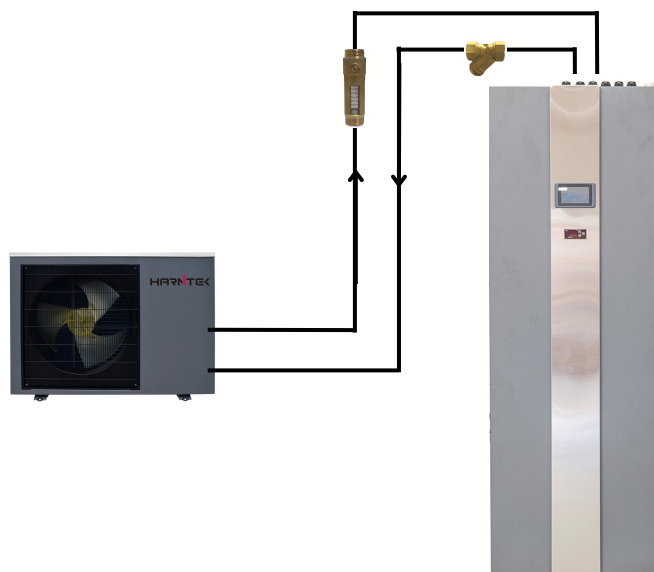
Heating
flow (if zoning a low
loss header and
system pump is
required)

Piping up the unit

How to install mixing valve if required

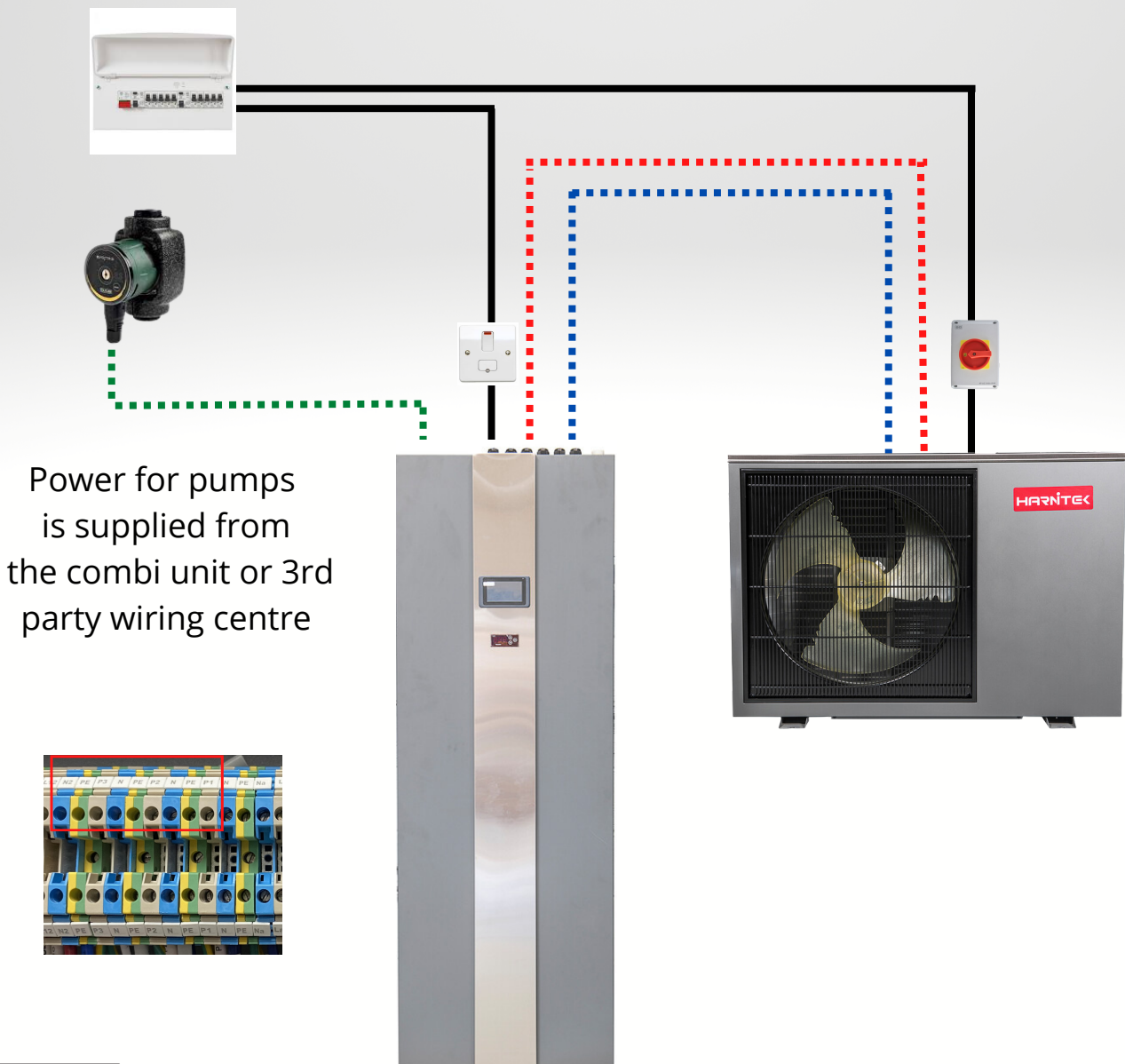


Pipe work to outdoor unit

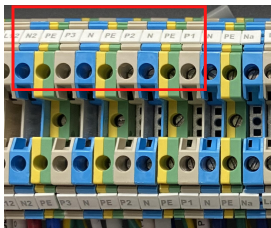


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Wiring up the unit



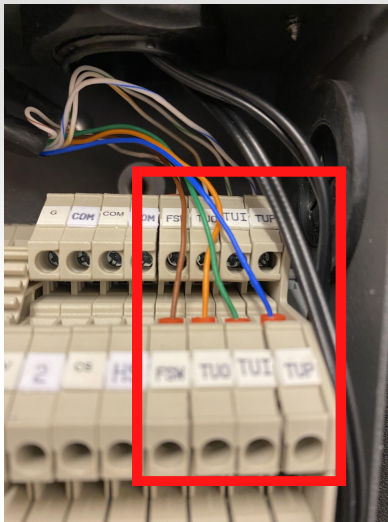
Power for pumps is supplied from the combi unit or 3rd party wiring centre



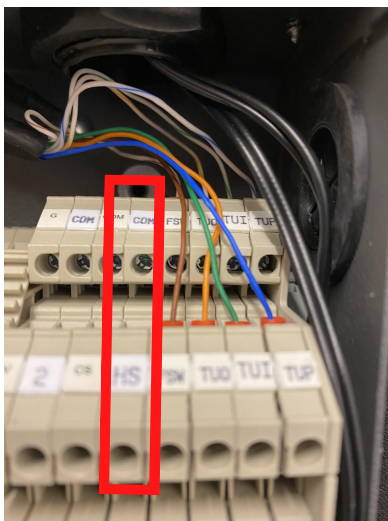
Key
CAT 5 cable
AB cable

Wiring Schematic

These are the connections for the supplied communication cables that goes between the fan unit and indoor unit. please ensure they match on both units i.e FSW - white orange / orange, TUP - white green / green, TUI - white blue / blue, TUO - white brown / brown.



These are the connections for the premade cable that goes between the heat pump and indoor unit



For external controls your call for heat should go into hs and com (neutral into com).



Sensor locations

TV1- system flow after low loss header/buffer

TV2 - system return before low loss header/buffer

TC - low loss header/buffer temperature sensor
(not required with combi unit)

TW - hot water cylinder temperature
(not required with combi unit)

TR - room temperature (not required if using third party heating controls)

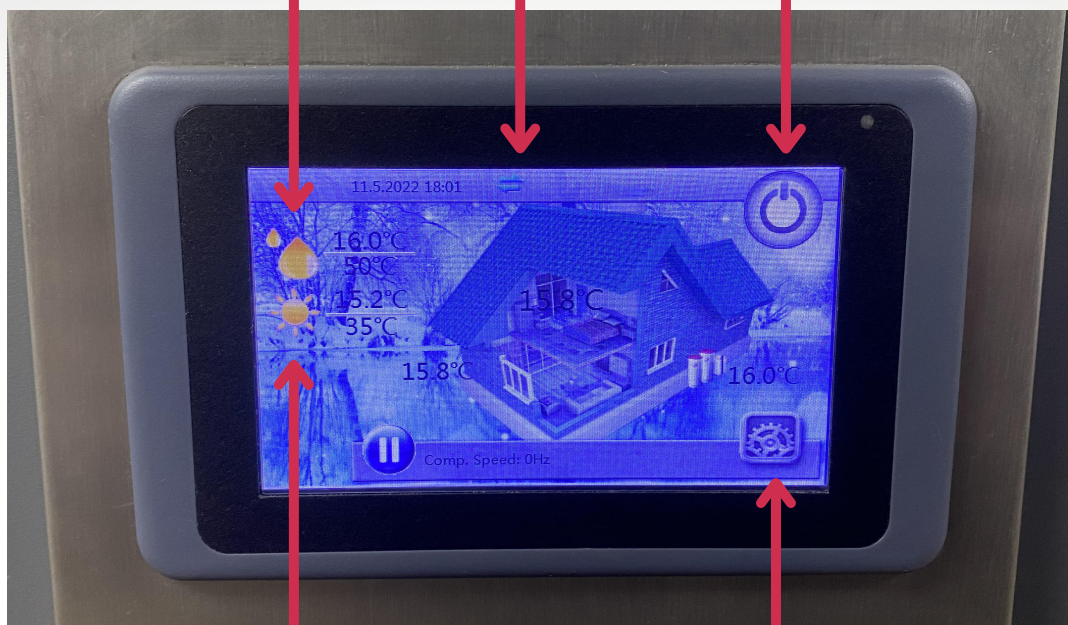
Basic settings

When setting up the heat curve, anti legionella cycle, third party controllers and other settings please refer to the full installation manual

Hot water temperature setting

Blue arrows confirm communication with outdoor unit

On and off for the unit



Settings

Heating temperature setting

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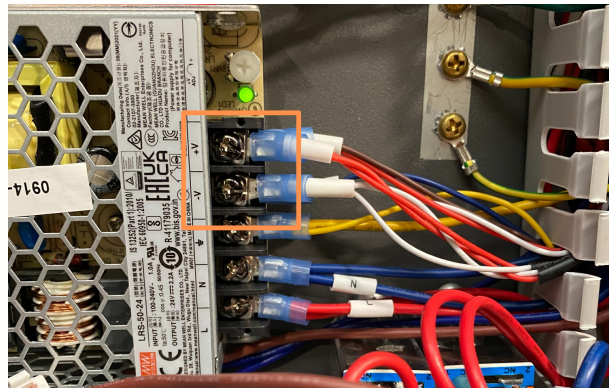
Connecting the Wifi Dongle

Firstly unpack the wifi dongle , aerial and all cables

Attach the 2 core cable (red and white to the green connector on top of the dongle) Red been the positive and white been the negative

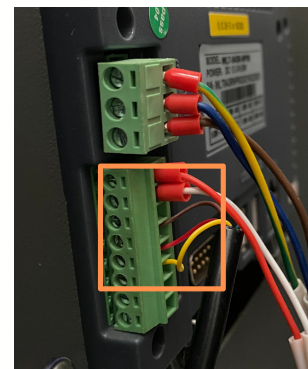
Now connect the VGA cable in to the bottom of the dongle, and the aerial on to the top

The next step is to wire the power supply in. For the mono system this wires in to the V+ and V- located on the right hand side of the transformer. Please see image



For the Combi System this will either wire in to the same place or use the pre-made lead and plug

Once you have done this the VGA cable then connects in to the back of the screen in the lower green connection block. The order of wires should go as follows:-
Brown, Red, Yellow are the connections from the VGA cable



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Please follow the following steps on your laptop, mobile device. Go to your wifi settings and connect to USR-600 once you are connected open a web browser and on the address bar type in **10.10.100.254**

You will then be prompted to type a username and password

- **Username - admin**
- **Password - admin**

Once the domain is accessed in the top right corner please change the language to English

The next step is to select **wifi settings** change the wifi work mode from **AP Mode** to **STA Mode**, then next to **Network Name** press **Search**. This will then display the available wifi networks. Select the network you wish to use and press ok. Once you have done this select **STA Password** and type in the wifi password. at this point do not press restart.

The next step is to select **Trans Settings** and under the lower options labelled **Socket B Connect setting** Change **Protocol** from **Off** to **TCP-Client**, in **Port** change to read - **18899**, in **server ip address** delete **10.10.100.254** and replace with **www.myheatpump.com**

Now press restart

Once you have done the above return to the heat pump controller, access the setting menu scroll right and select **Other Options**, Once you have done this scroll down to page 4 change **internet selection** to **wifi module** and click the box saying **accept setting from wifi module**.

Once you have done this wait a few minutes and the connection to the server should say connected and the connection to the router should say connected.

Once this is succesful please take note / copy of the **MAC number**. **This will be required in order to access the system remotely.**

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