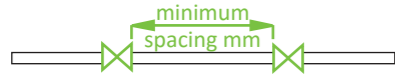


C21 - NIBE Air Source Heat Pump - Heating and Domestic Hot Water with Electric Backup - Plumbing Schematic

IMPORTANT RHI

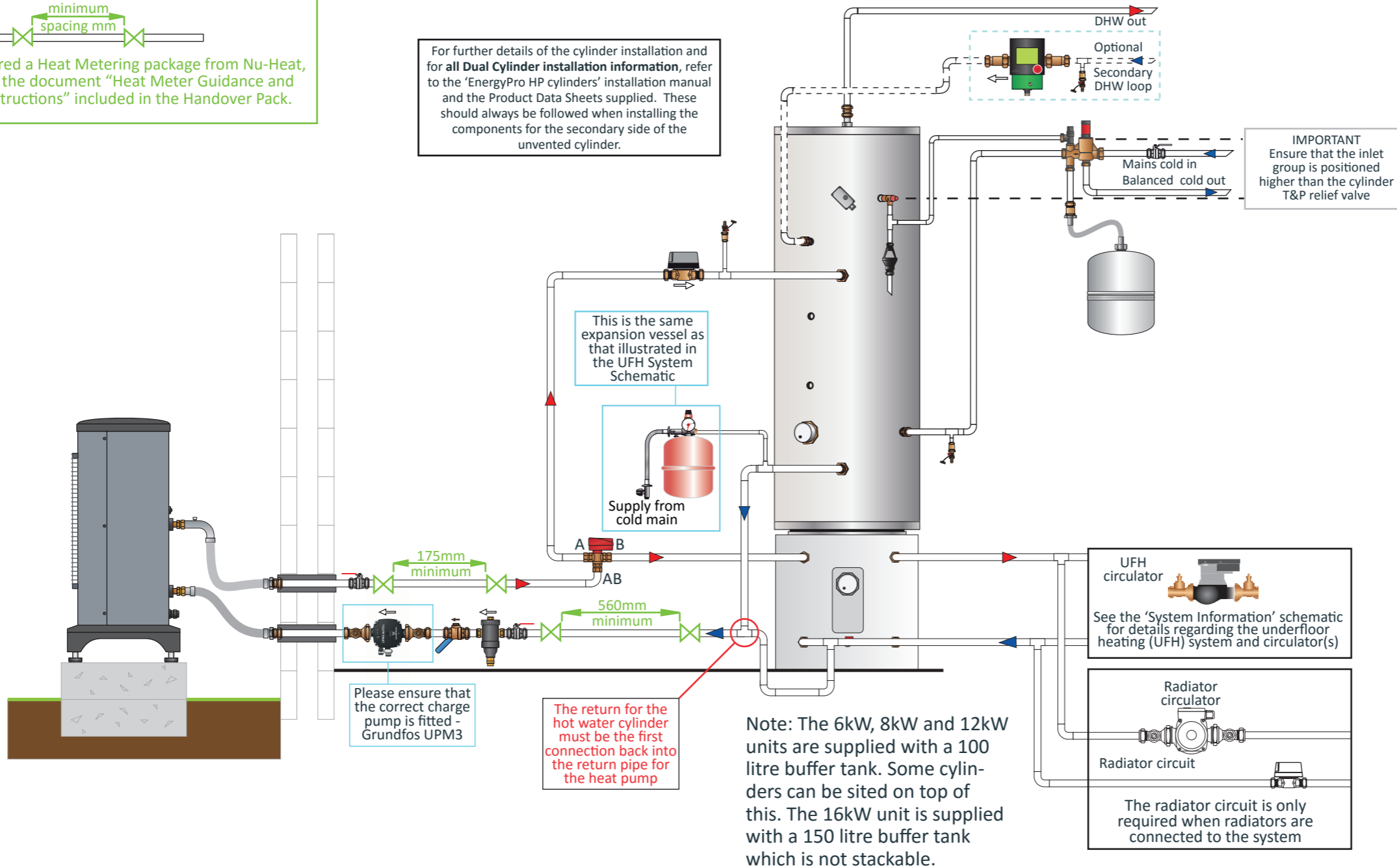
Where the system is to be eligible for the Renewable Heat Incentive (RHI) a number of electric kWh meters (supplied) must be installed and allowance made for heat metering equipment to be installed and serviced in the future.

Gate valves or similar low pressure drop valves (supplied with heat meter kits only) must be installed with sufficient space between even if metering is not being installed at the time of system installation - see diagram below.



If you have ordered a Heat Metering package from Nu-Heat, please refer to the document "Heat Meter Guidance and Installation Instructions" included in the Handover Pack.

For further details of the cylinder installation and for all Dual Cylinder installation information, refer to the 'EnergyPro HP cylinders' installation manual and the Product Data Sheets supplied. These should always be followed when installing the components for the secondary side of the unvented cylinder.



Plumbing Schematic

Notes:

The plumbing schematic should be read in conjunction with the manufacturers' manuals and other documents provided.

Any radiators installed on the system must be sized to account for the lower flow temperatures produced by heat pumps. The design flow temperature is stated on the Energy Summary sheet of the Handover Pack. The maximum flow temperature must not exceed the UFH design temperature.

Towel rails must not be installed on either the heating circuit or the radiator circuit as the heat pump operates in a weather compensating mode, and will not produce the required flow temperature. Electric towel rails must be used and should be installed with timed temperature control.

Additional air vents must be supplied and fitted by the installer at high points in the system to prevent air locks.

All outlined components must be sourced by the installer.

For details of mounting the heat pump please see the NIBE manual.

If the heat pump is being installed under permitted development rights it must be correctly positioned so as to comply with MCS020. For details on compliance consult the latest edition of MCS Planning Standards for permitted development installations available through the MCS website.

The heat pump must normally be located no further than 10m from the property. Any underground pipework between the heat pump and property must be pre-insulated PEX.

If the distance exceeds 10m, contact your Project Engineer.

Pipework between the heat pump and cylinder must be at least 28mm hard copper pipe.

Pipe work sizing for the UHF manifolds must be taken from Nu-Heats CAD drawings.

Docking Drawing C21 Mechanical

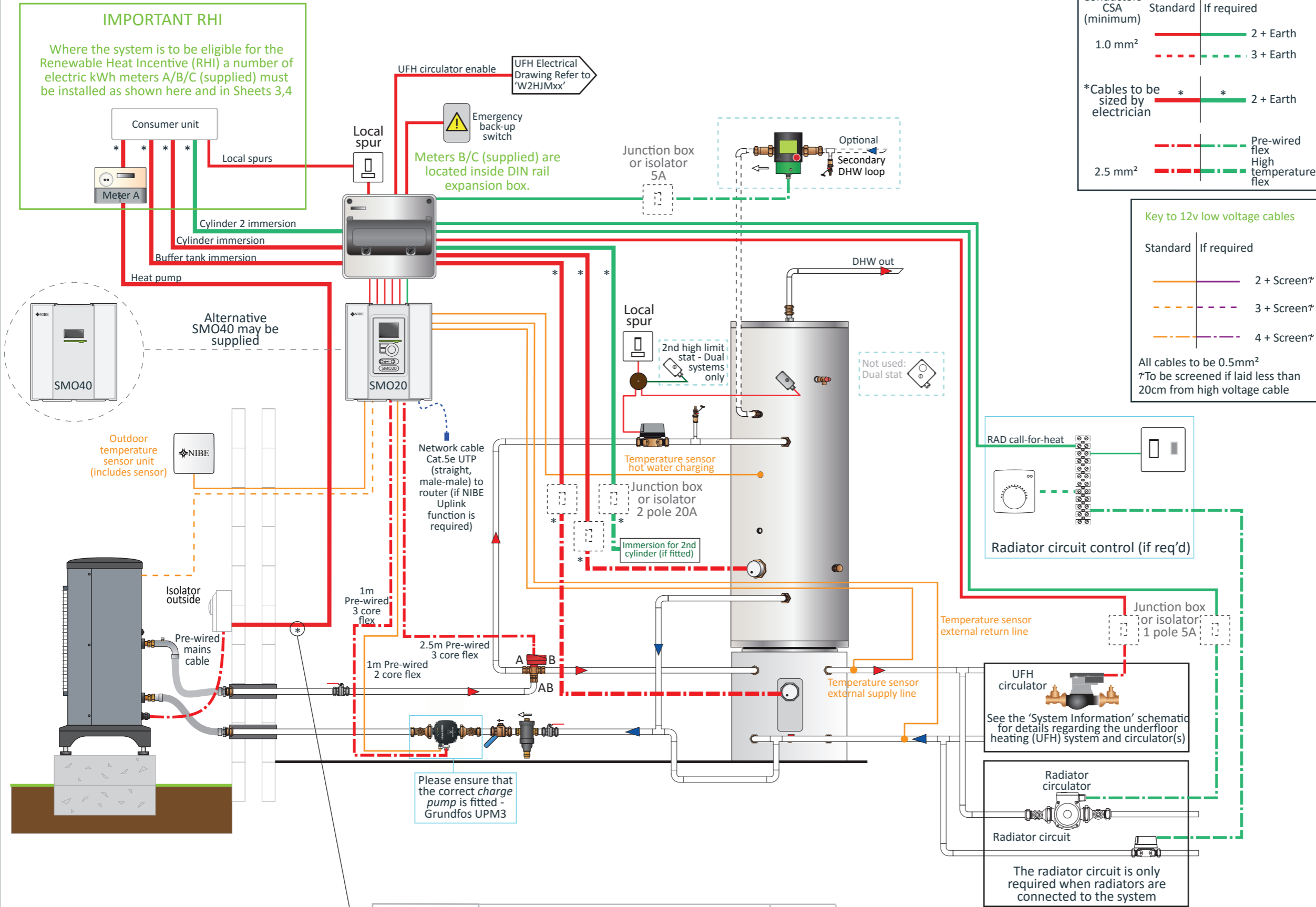
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C21 - NIBE Air Source Heat Pump - Heating and Domestic Hot Water with Electric Backup - First Fix Electrical Schematic



First Fix Electrical Schematic

Notes:
The electrical schematic should be read in conjunction with the manufacturers' manuals.
All outlined components must be sourced by the installer.
The outdoor sensor must be located out of direct sunlight preferably on a north or north-west facing wall. The sensor should be located approximately 2m from the ground and 1m away from any doors, windows or extract vents.
Isolation switches must be fitted where required in accordance with current regulations. All fused spurs must be fitted with 5 amp fuses unless otherwise stated.
Radiator circuit control (as required) is shown as an indicative scheme. The electrician should check the scheme meets the requirements of the installed system and of current regulations. Timed control is not recommended.

For further details of the cylinder installation and for all Dual Cylinder installation information, refer to the 'EnergyPro HP cylinders' installation manual and the Product Data Sheets supplied. These should always be followed when installing the components for the secondary side of the unvented cylinder.

Docking Drawing
C21
First Fix Electrical
Sheet 2 of 5

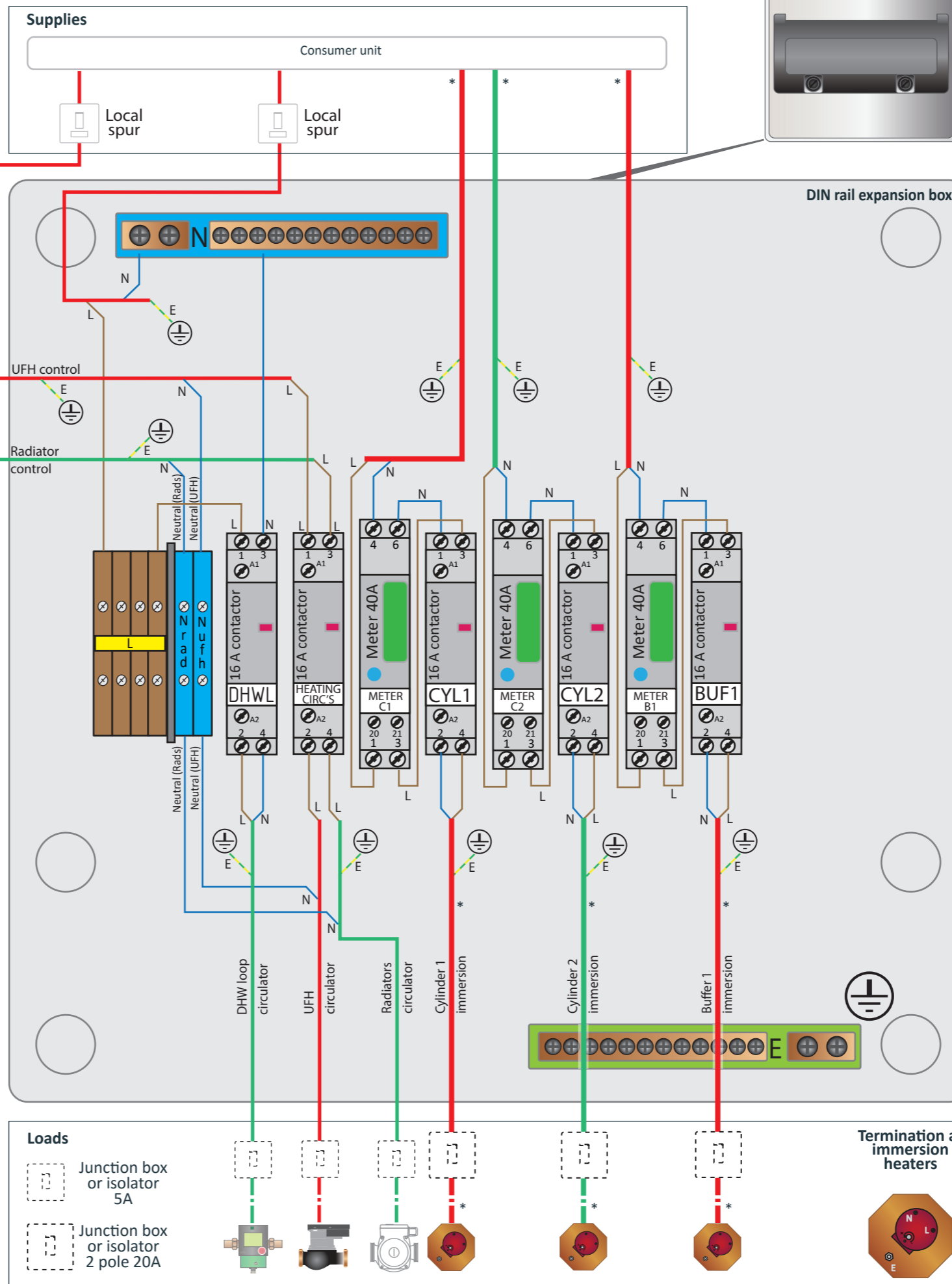
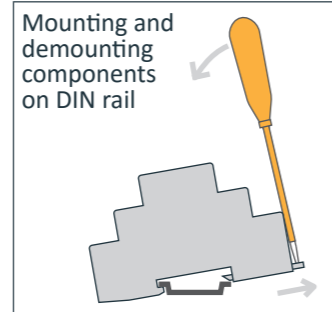
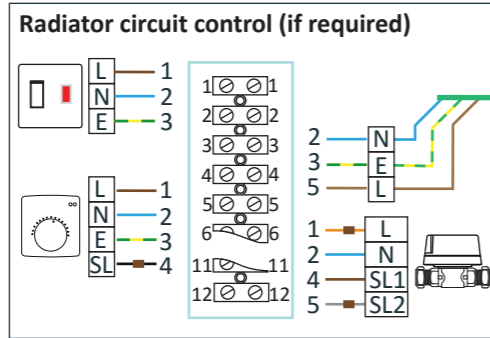
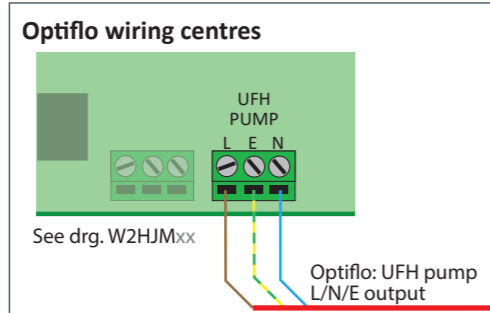
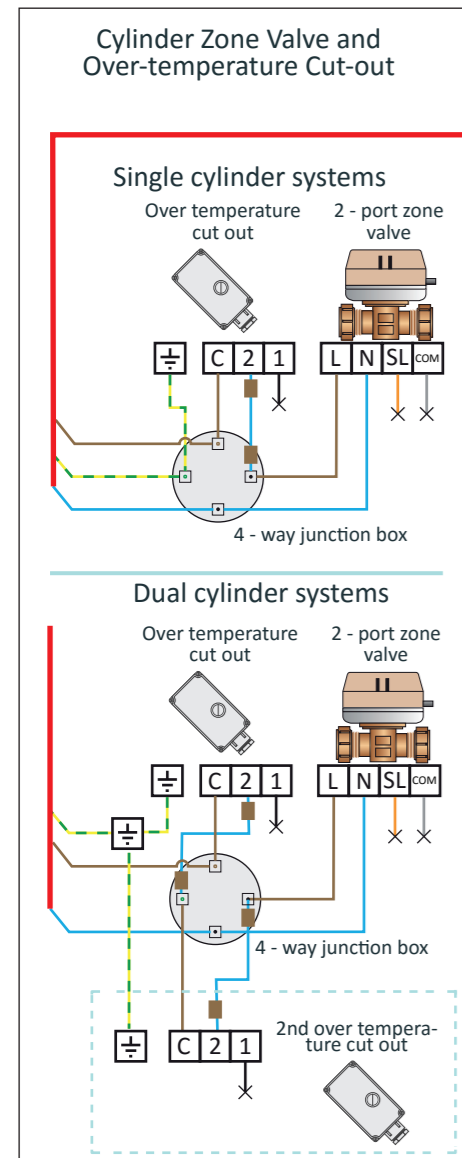
Cable to be sized by electrician, according to this table:	Model		Maximum Heat Pump running current
	Code	Description	
	HPA2040/6(4)-C	F2040-6 Air Source Heat Pump	15 A
	HPA2040/8(7)-C	F2040-8 Air Source Heat Pump	16 A
	HPA2040/12(10)-C	F2040-12 Air Source Heat Pump	23 A
	HPA2040/16(13)-C	F2040-16 Air Source Heat Pump	32 A

The heat pump size can be identified on both the unit and the quote provided for the system

Max. additional system current draw for buffer tank and EnergyPro cylinder immersions. Assembly codes		
HPBT100/C-A HPBT150-A	ENHP200-A ENHP300-A ENHP400-A ENHP500-A	ENHP400T-A ENHP600T-A ENHP800T-A ENHP1000T-A
13.1 A	13.1 A	26.2 A

C21 - NIBE Air Source Heat Pump - Heating & Domestic Hot Water with Electric Backup - Second Fix Mains Voltage Electrical Schematic

Connection of supplies and loads



Second Fix Mains Voltage Electrical Schematic

Notes:

This schematic should be read in conjunction with the 'First Fix Electrical Schematic' which shows the component locations, and all manufacturers' manuals supplied with the equipment.

All fused spurs must be fitted with 5 amp fuses unless otherwise stated. All fused spurs must be supplied from the same phase.

Isolation switches must be installed where required in accordance with current regulations.

All earth cables should be connected into the nearest available earth terminal.

Key to 230v mains cables

Conductors (minimum)	Standard	If required
1.0 mm ²	—	2 + Earth 3 + Earth
*Cables to be sized by electrician	* —	* 2 + Earth
2.5 mm ²	—	Pre-wired flex High temperature flex

IMPORTANT RHI
Where the system is to be eligible for the Renewable Heat Incentive (RHI) electric kWh meters (supplied) must be installed as shown

Docking Drawing C21 Second Fix Mains

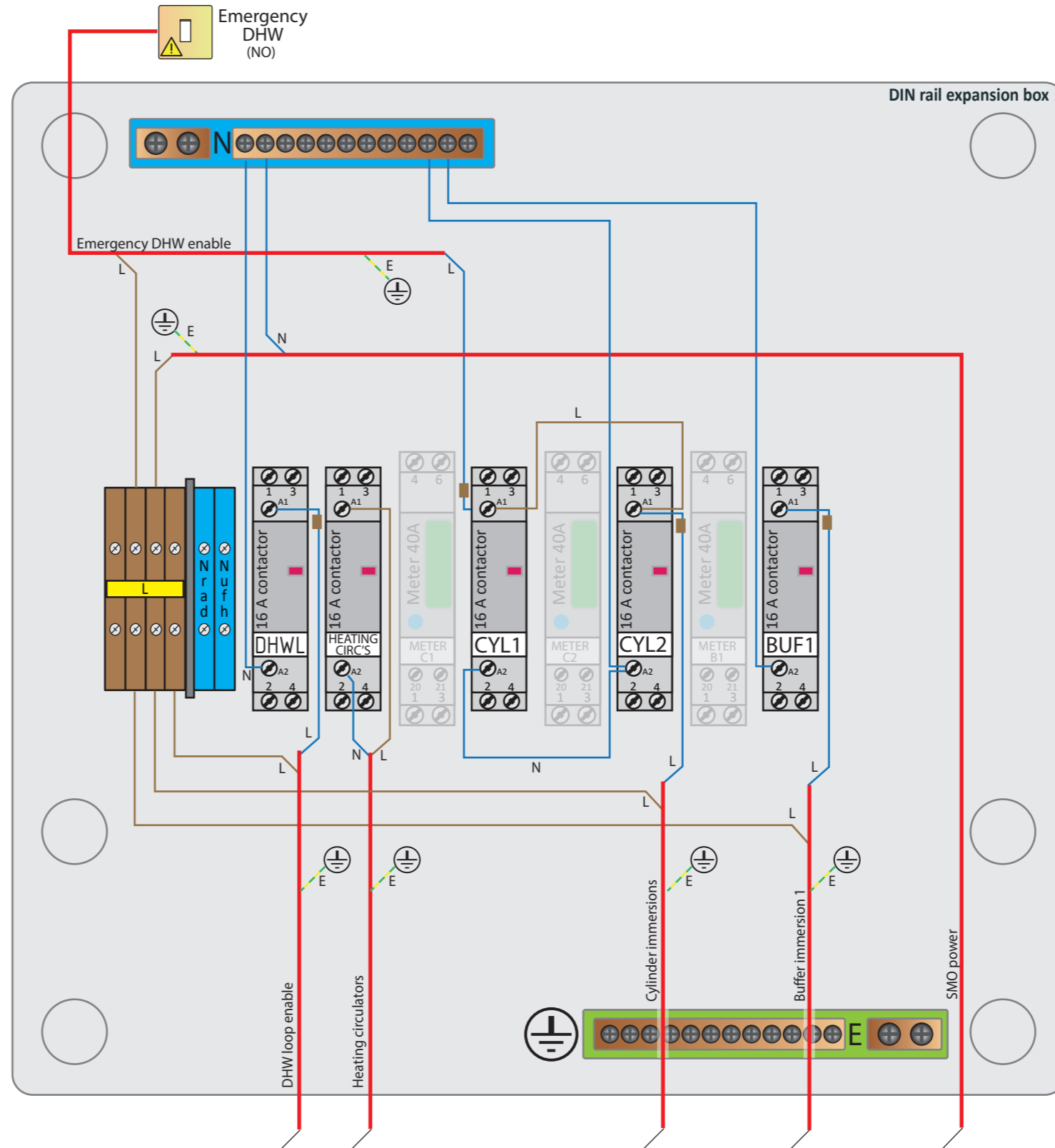
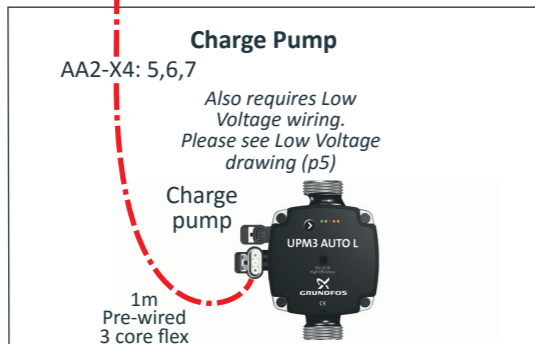
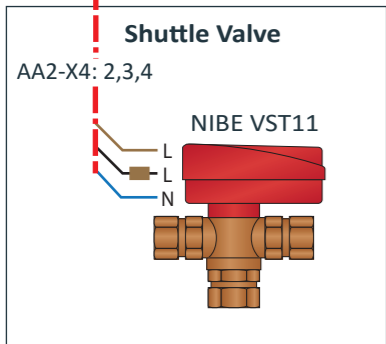
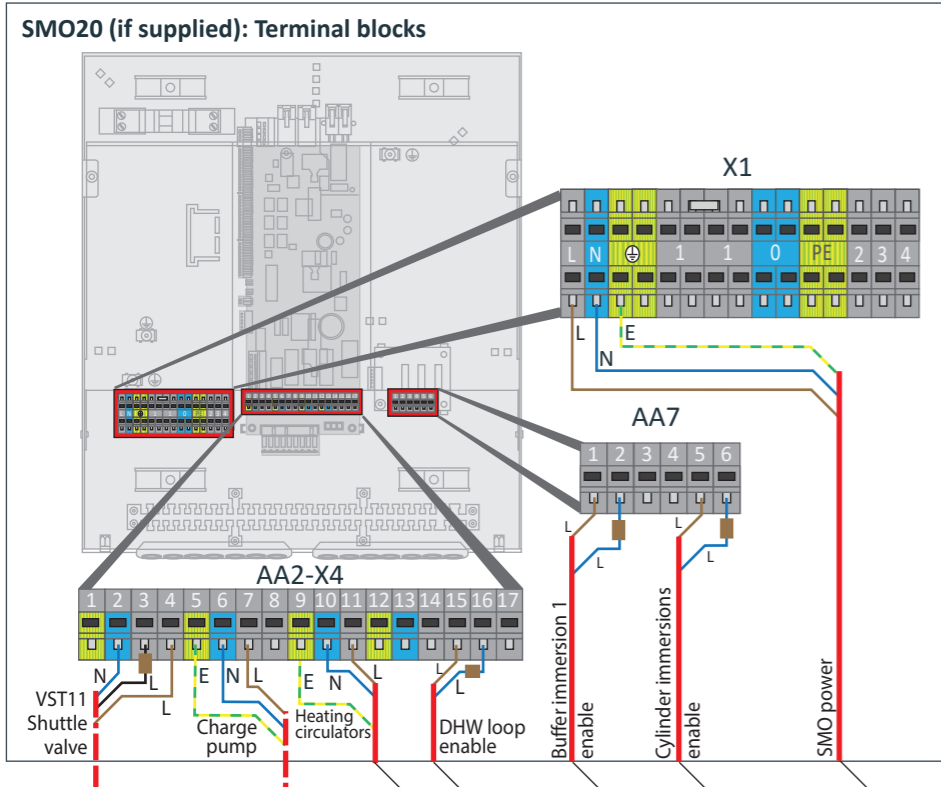
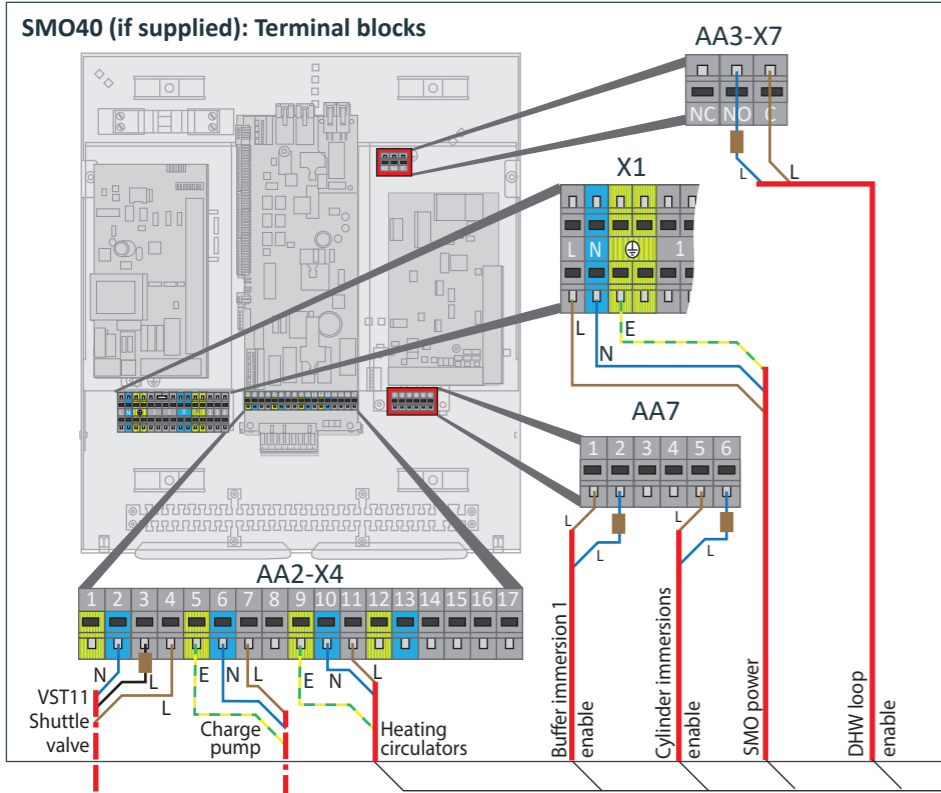
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C21 - NIBE Air Source Heat Pump - Heating & Domestic Hot Water with Electric Backup - Second Fix Mains Voltage Electrical Schematic



Connection of SMO and control circuits

Second Fix Mains Voltage Electrical Schematic

Notes:

This schematic should be read in conjunction with the 'First Fix Electrical Schematic' which shows the component locations, and all manufacturers' manuals supplied with the equipment.

All fused spurs must be fitted with 5 amp fuses unless otherwise stated. All fused spurs must be supplied from the same phase.

Isolation switches must be installed where required in accordance with current regulations.

All earth cables should be connected into the nearest available earth terminal.

Key to 230v mains cables

Conductors (minimum)	Standard	If required
1.0 mm ²	— (Red)	— (Green) 2 + Earth - - - (Green) 3 + Earth
*Cables to be sized by electrician	* (Red)	* (Green) 2 + Earth
2.5 mm ²	— (Red)	- - - (Green) Pre-wired flex - - - (Green) High temperature flex

IMPORTANT RHI

Where the system is to be eligible for the Renewable Heat Incentive (RHI) electric kWh meters (supplied) must be installed as shown

Docking Drawing C21 Second Fix Mains

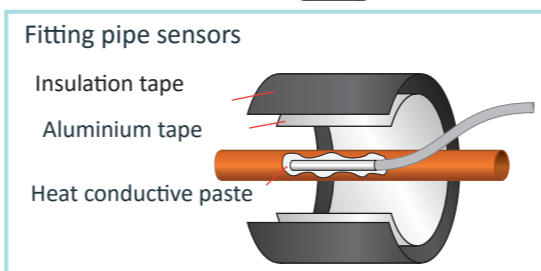
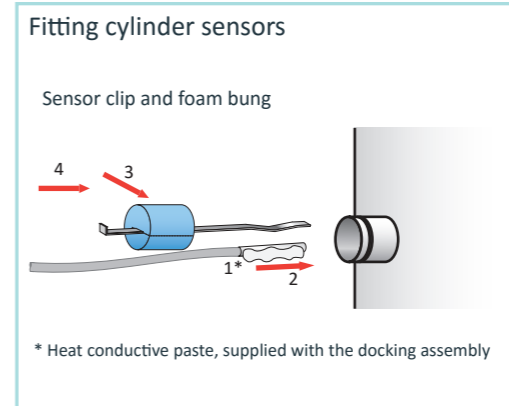
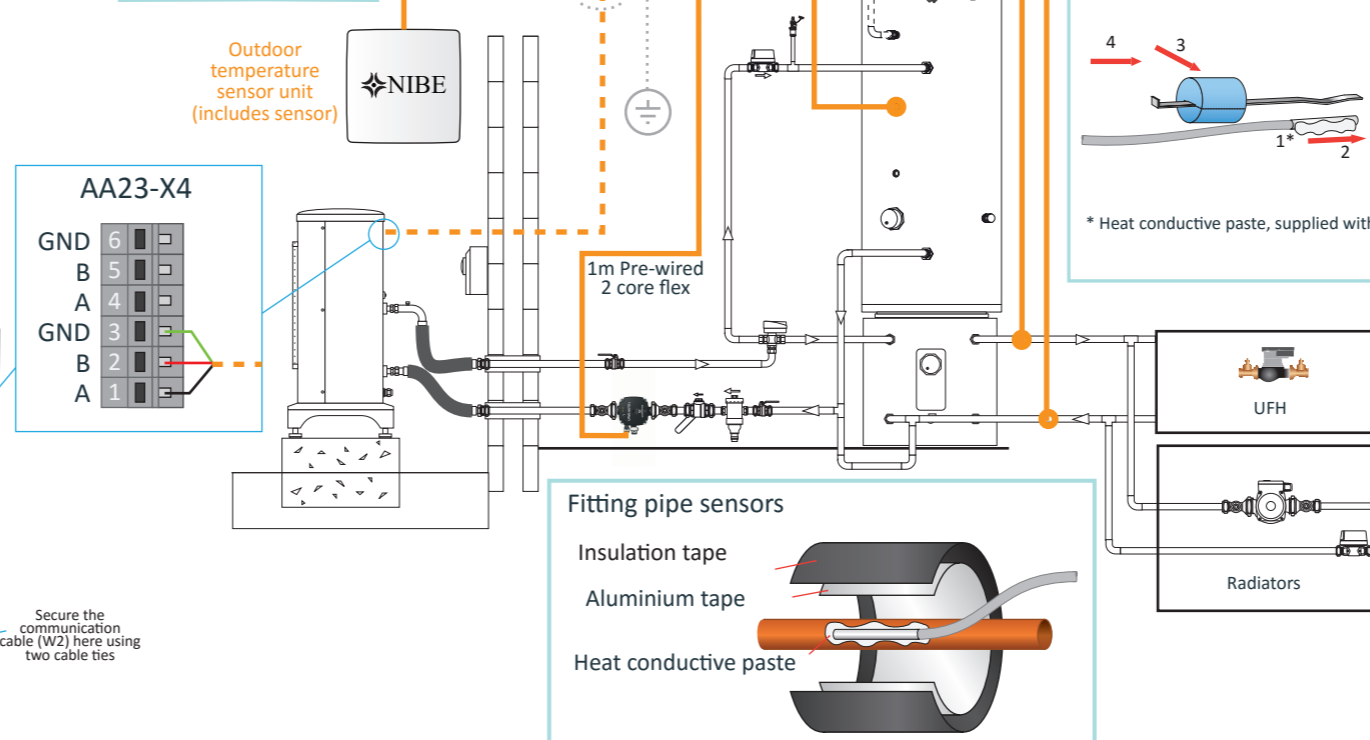
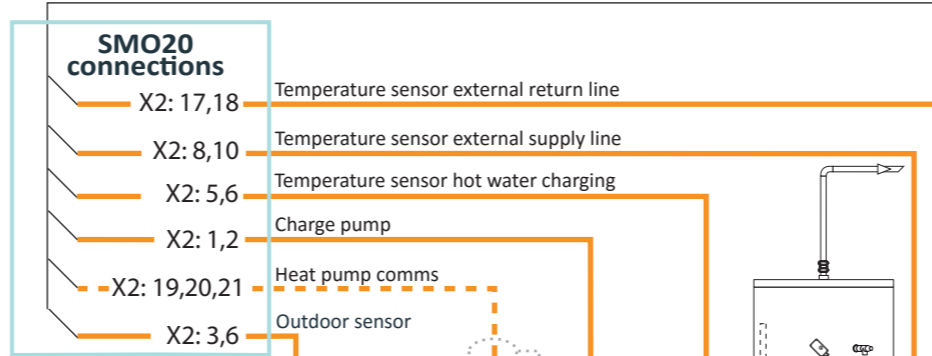
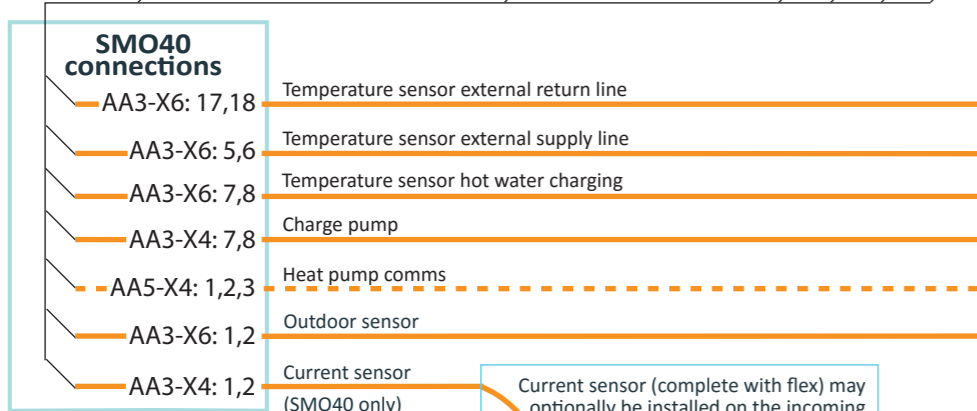
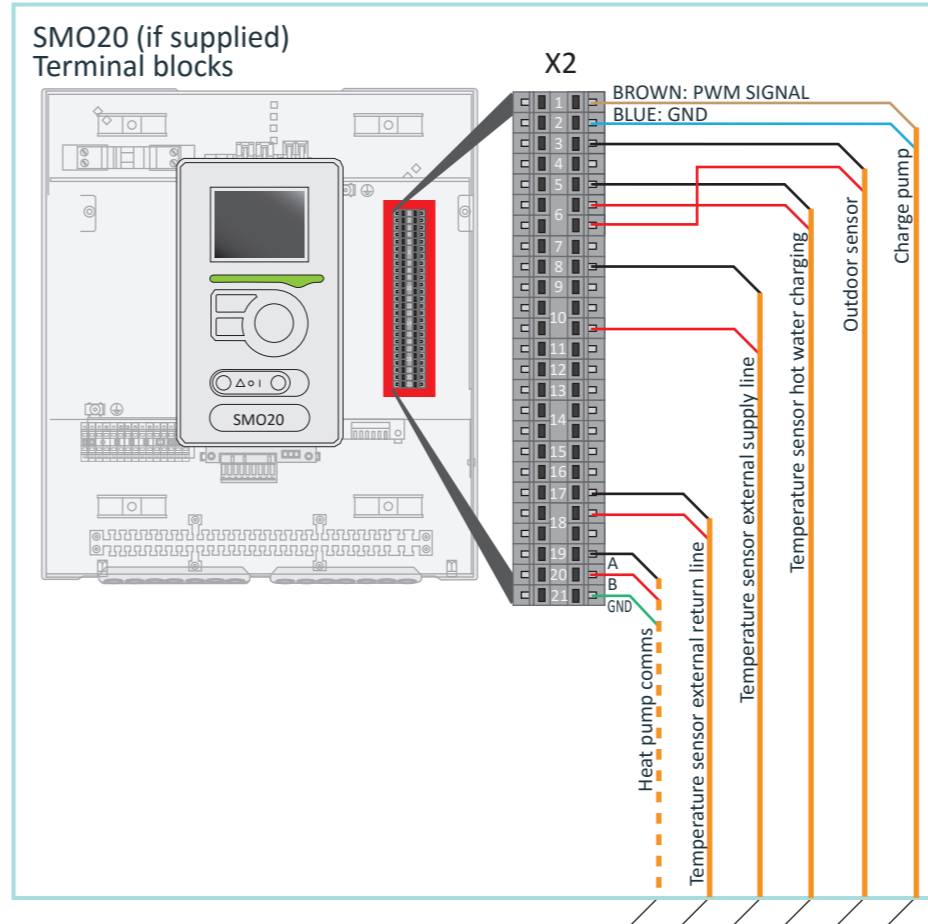
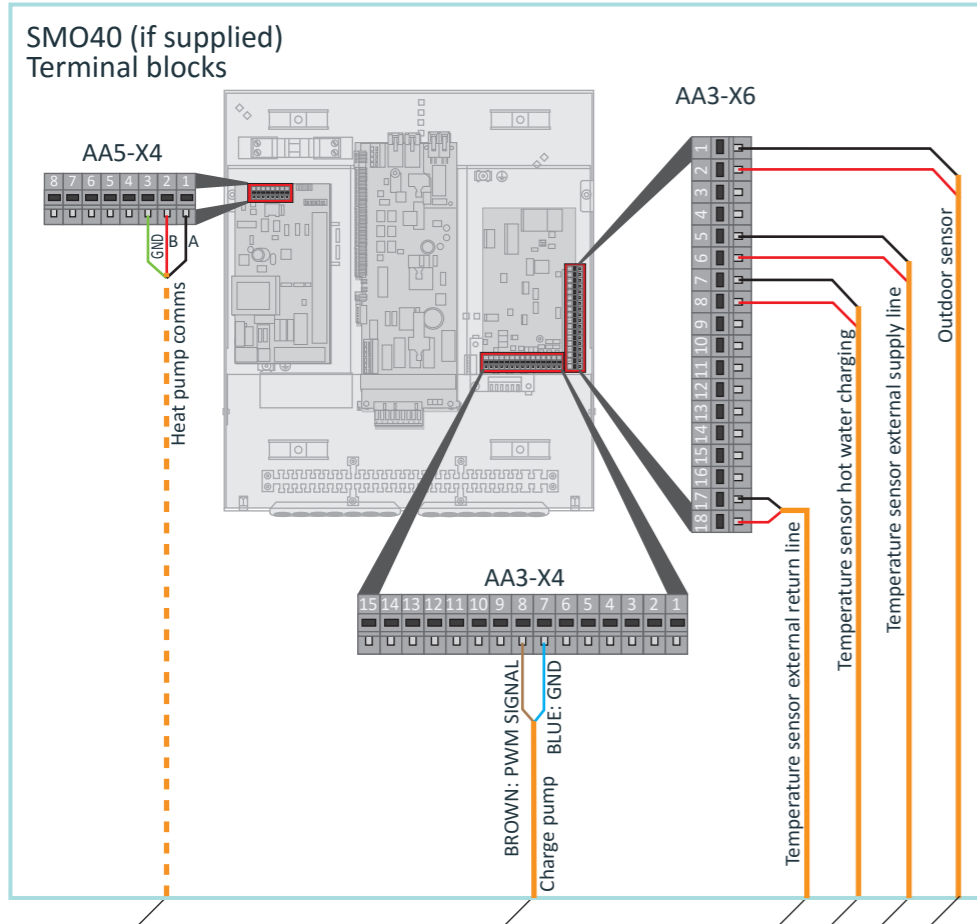
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C21 - NIBE Air Source Heat Pump - Heating and Domestic Hot Water with Electric Backup - Second Fix Low Voltage Electrical Schematic



Second Fix Low Voltage Electrical Schematic

Notes:

This schematic should be read in conjunction with the 'First Fix Electrical Schematic' which shows the component locations, and all manufacturers' manuals supplied with the equipment.

Any cable screens required should be connected into the nearest available earth terminal.

The outdoor sensor must be located out of direct sunlight preferably on a north or north west facing wall. The sensor should be located approximately 2m from the ground and 1m away from any doors, windows or extract vents.

Key to 12v low voltage cables

Standard	If required
	2 + Screen*
	3 + Screen*
	4 + Screen*

All cables to be 0.5mm²
*To be screened if laid less than 20cm from high voltage cable

Docking Drawing C21 Second Fix L.V.

Sheet 5 of 5



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