

EDGE2-C Single Plate Heat Interface Unit

For control of indirect tertiary space heating and direct cylinder supply



Overview

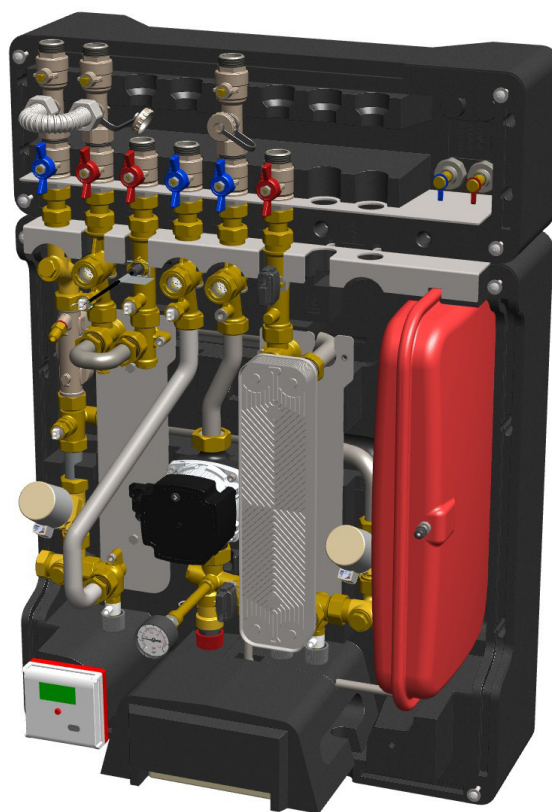
The EDGE2-C Heat Interface Unit (HIU) provides an electronic controls interface for indirect tertiary space heating (HTG) circuits and a direct cylinder feed. The heating circuit is hydraulically separated from the secondary heat network (HN), by single SWEP plate heat exchanger (PHE). The cylinder is then supplied directly from the HN and operated by the HIU control valve. The EDGE2-C HIU replaces traditional S-Plan wiring, through having a cylinder control valve operated internally by the HIU controller.

Heating

The HTG circuit is operated via mains enable signal from a room controller, or common enable from a wiring center where multiple zones are present. A Frese PICV controls the secondary flow rate from heat network into PHE, and the tertiary flow rate is controlled via PWM controlled pump.

The cylinder circuit is operated via mains enable from cylinder thermostat. A second Frese PICV opens to allow direct flow from the heat network to charge the cylinder. Direct supply to cylinder can operate while HIU is also delivering heating to the HTG circuit as the default is not to prioritise either circuit.

When there is no HTG or cylinder demand, the HIU preserves energy and sits idle, pulling no unnecessary flow rate from the heat network. The heating pump however will run at its lowest possible speed setting to prevent the pump from seizing through inactivity.



DESIGN



- Flexible plate heat exchanger options to meet project requirements
- Fully insulated HIU and valve enclosure to minimise heat losses
- Frese fast acting PICV go from closed to fully open in just two seconds to provide a fast response for heating supply

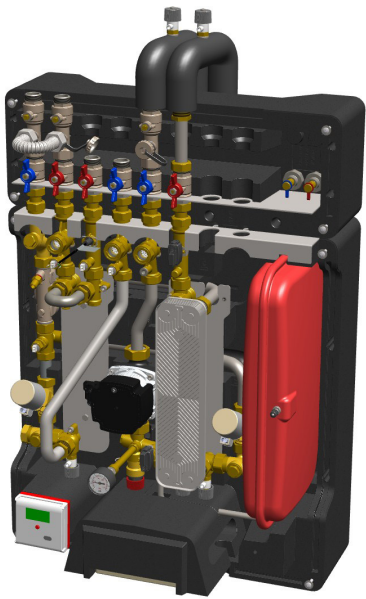
Product Codes



Product Codes							
HIU	EAHIUC-xxx						
First Fix Kit	EAFFKC-001		EAFFKC-003		EAFFKC-004		EAFFKC-002
Configuration							
	All-top		HN & HTG top CYL bottom		HN top Tertiary bottom		All-bottom
Application examples	Prefabricated Utility Cupboards (PUCs) / Heat Networks. With or without underfloor heating manifold below.					Retrofit heat network with boiler replacement	
Key	A	B	C	D	E	F	Y
	HN Flow	HN Return	CYL Return	CYL Flow	HTG Flow	HTG Return	
	Secondary		Tertiary (Direct)		Tertiary (Indirect)		To Drain

* 00 – digits can change to suit PHX options for project, ‘00’ denotes standard configuration.

Insulation Details



Pre-insulated pipe kits available



Pre-insulated PHEs as standard

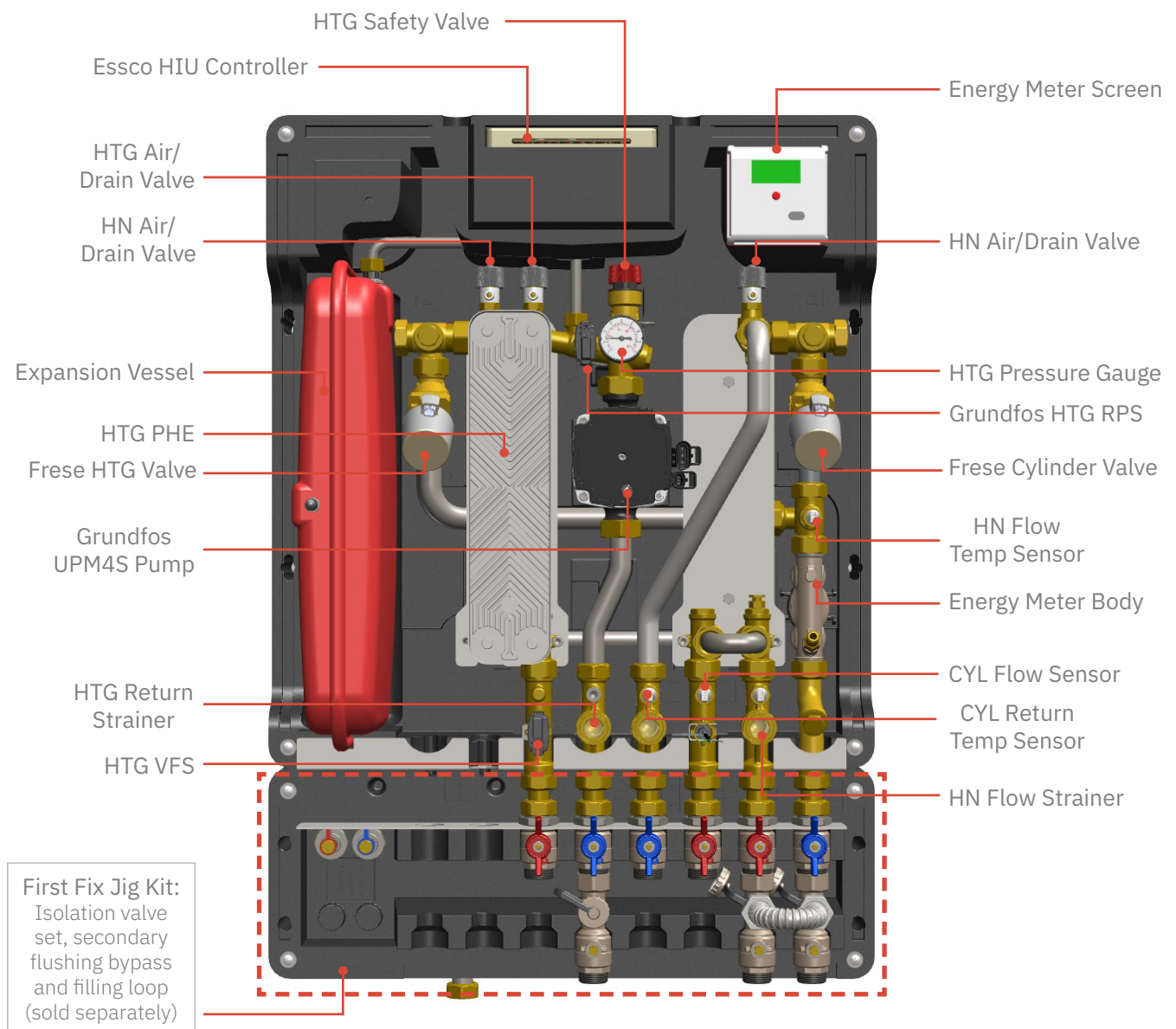


Insulated cover (standard) and first fix jig kit (sold separately)

Main Components

EDGE2 HIUs feature first-class components, including the market-leading valve from Frese and intelligent electronic flow and temperature control technology.

All components are FULLY accessible via the front of the unit for quick install and easy maintenance.



NOTE: 'HN' = Heat Network (secondary)

Technical Information

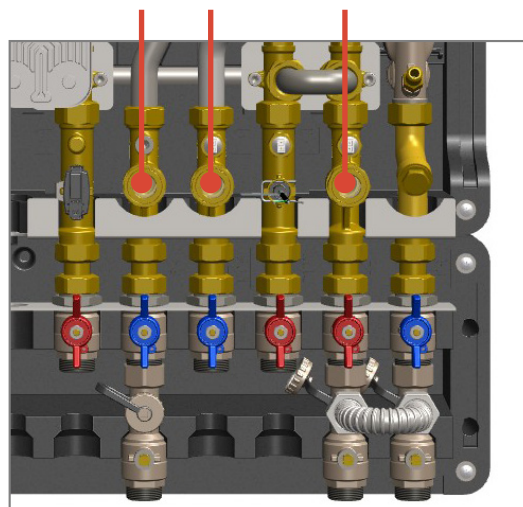


INSTALLATION & MAINTENANCE

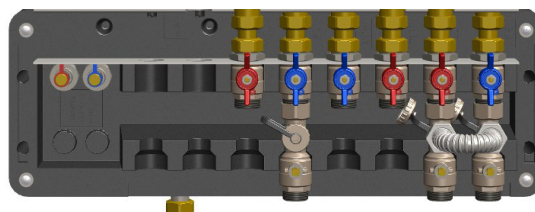


- Hydraulically reversible design allows all top or all bottom entry as standard
- Designed for quick installation with no additional brackets or jig required
- Supplied preconfigured with temperature set points such as heating F/R temperatures, and frost protection setting, for quick install and set-up
- Inbuilt rear offset as standard allows pipes to run behind HIU easily without brackets
- One of few fully front accessible HIUs on the market! All components are FULLY accessible via the front of the unit for quick install and easy maintenance
- Available with pre-insulated pipe kits
- Detachable flushing bypass (in line with CIBSE CP1) ensures all bypasses are closed
- Binder test points included as standard to replace flushing bypass post commissioning
- Inspectable strainers that feature site glass for a quick visual check and easy maintenance
- Pressure tested in accordance with BS EN 12266-1:2012 to greatly reduce risk of leaks on site
- LEDs on controller, pump and control valve shows the status for simple visual fault finding
- Web App for online access to the HIU controller with engineer access to advanced settings for quick commissioning

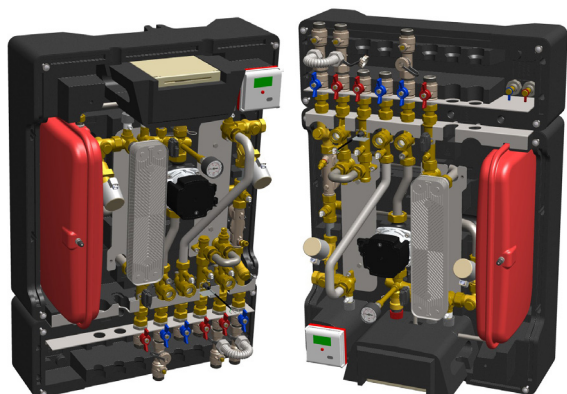
Inspectable strainers featuring sight glass



Detachable flushing bypass (in line with CIBSE CP1) ensures all bypasses are closed



Hydraulically reversible design



Technical Specification

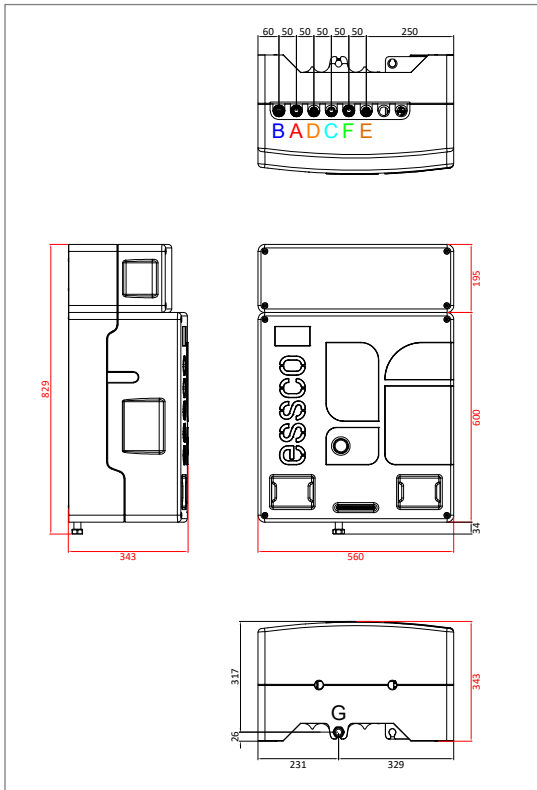


EDGE2-C HIU	
Medium	Heating / glycol mix
Maximum glycol concentration	30%
Secondary pressure rating	PN16
Tertiary space heating maximum pressure	3 bar
Expansion vessel	8 liters
Pressure relief valve presetting	3 bar
Maximum secondary temperature	90°C
Maximum differential pressure	4 bar
Installation	Vertical all-top, or all-bottom connections Preformed pipes also available for other options
HIU to first fix jig connection	Telescopic design for maximum 10mm deviation
Seals / gaskets	EPDM
Threads	¾" Male BSP
Handles	Butterfly type. Red / blue handles denote flow / return connections respectively
Insulation	Main shells EPP 45kg/m ³ , average 30mm thickness
	Internal PHE shells Material: PE Density: 30 kg/m ³ Thermal conductivity (ISO 8301): 0.0404 at 40°C W/m K
	22x13mm Pipe lagging (pre-formed pipes) Thermal conductivity (EN ISO 8497, EN 12667) λ = 0.037 W/(mK) at +40°C Permeability (EN 13469), μ > 10000 Fire properties, Euro Class BL - s2, d0
Standard space heating pump	DN15 x 130mm Grundfos UPM4S 15-60 (PWM) Features anti-blocking software restarting pump via relay every 1.33 seconds at maximum torque
Electrical requirements	230V / 50Hz, 5A switched fused spur
Acoustic sound pressure level (LP) for moving parts	Grundfos UPM4S < 32 dB(A) Frese valve < 30 dB(A)
Warranty	5 years Extended to 7 years for new installations where an appropriate protector product is installed in the plant room, and an appropriate magnetic dirt separator is fitted on the HIU tertiary heating circuit Terms and conditions apply

Dimensions

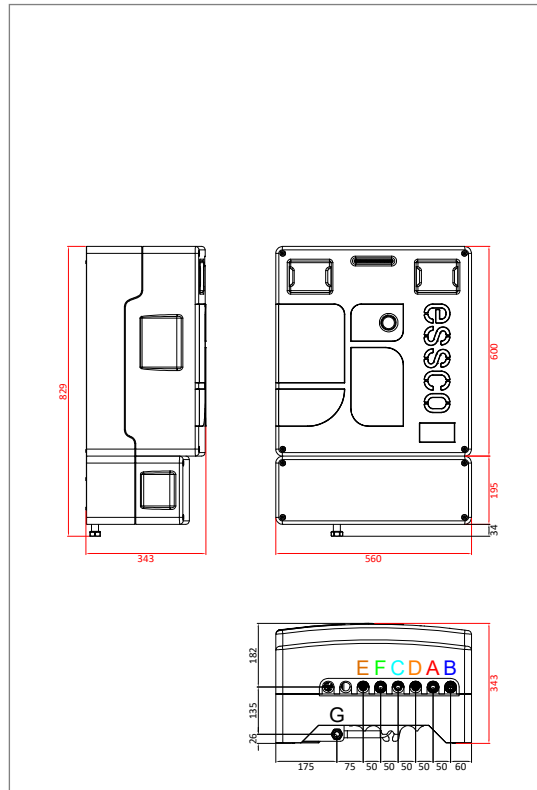
All Top

[EAHIUC-001 + EAFKHC-001]



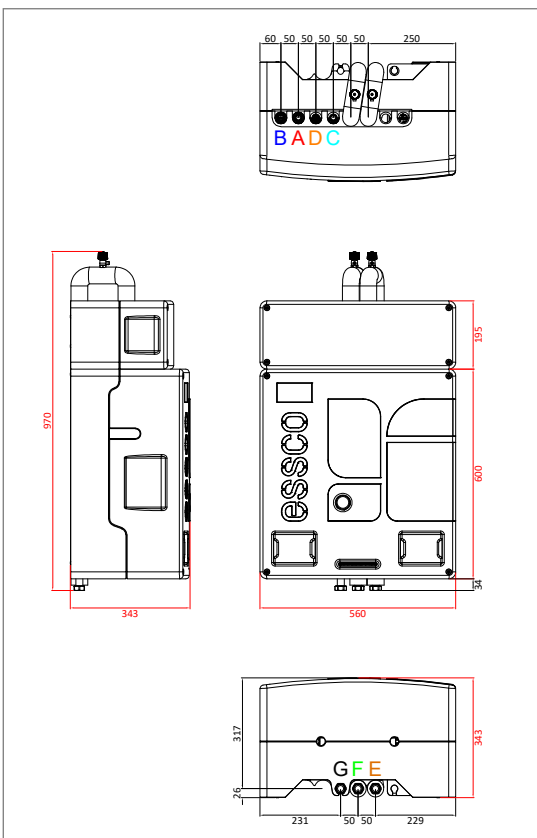
Secondary Top, HTG Bottom

[EAHIUC-001 + EAFKHC-003]



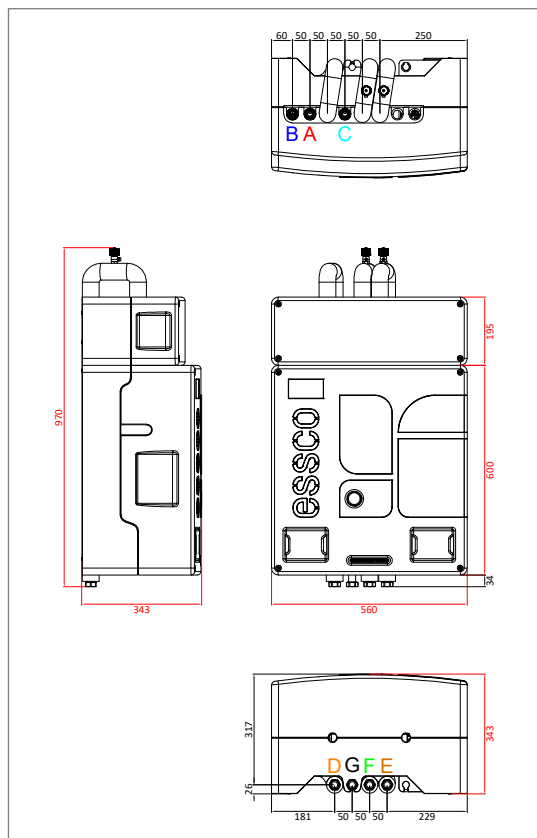
All Bottom

[EAHIUC-002 + EAFKHC-002]



Secondary Top, HTG + CYL Bottom

[EAHIUC-001 + EAFKHC-004]

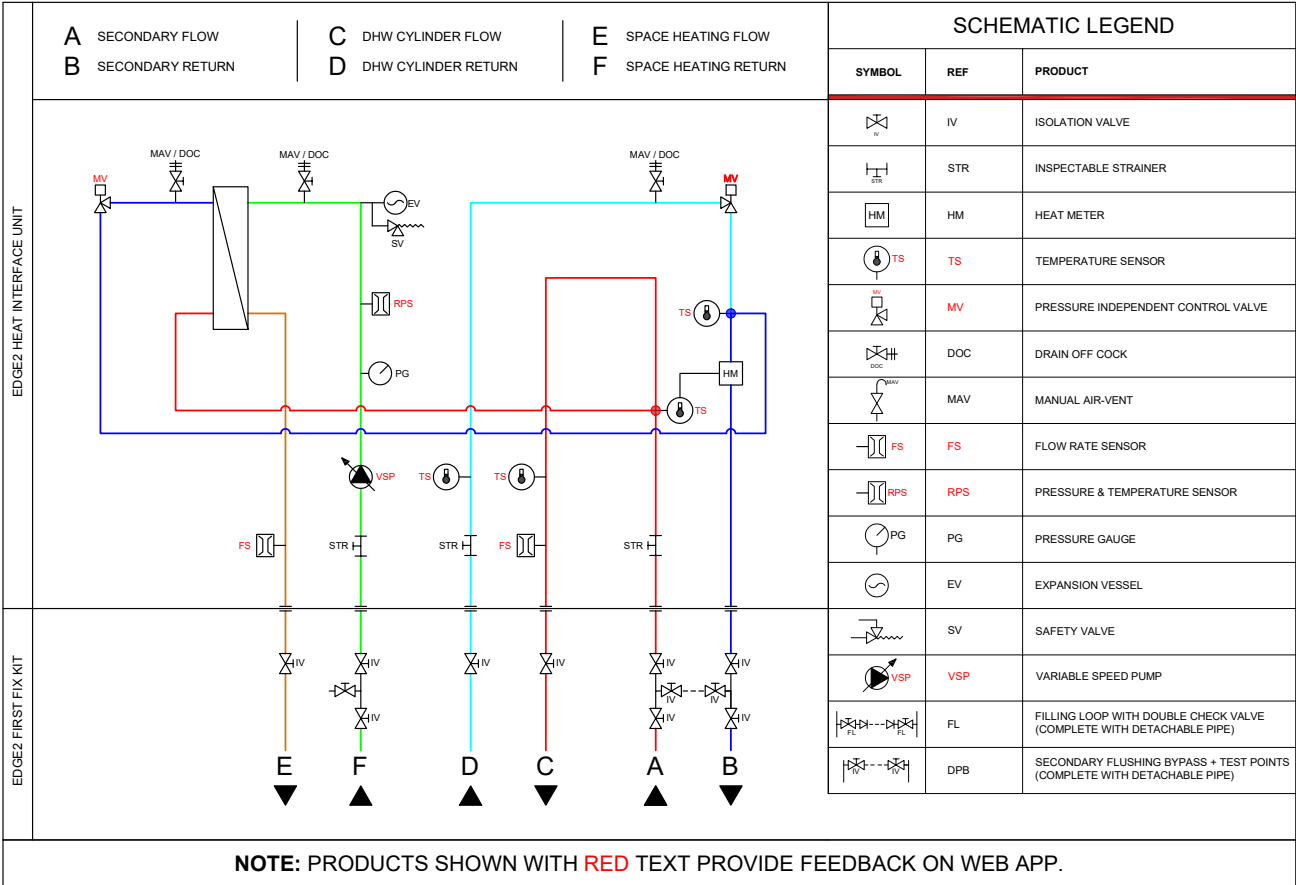


00 denotes standard PHE and pump configuration. Digits can change to suit specific selection for the project.

Hydraulic Schematics



Standard Model (EAHIUC)



EFFICIENCY & REGULATIONS

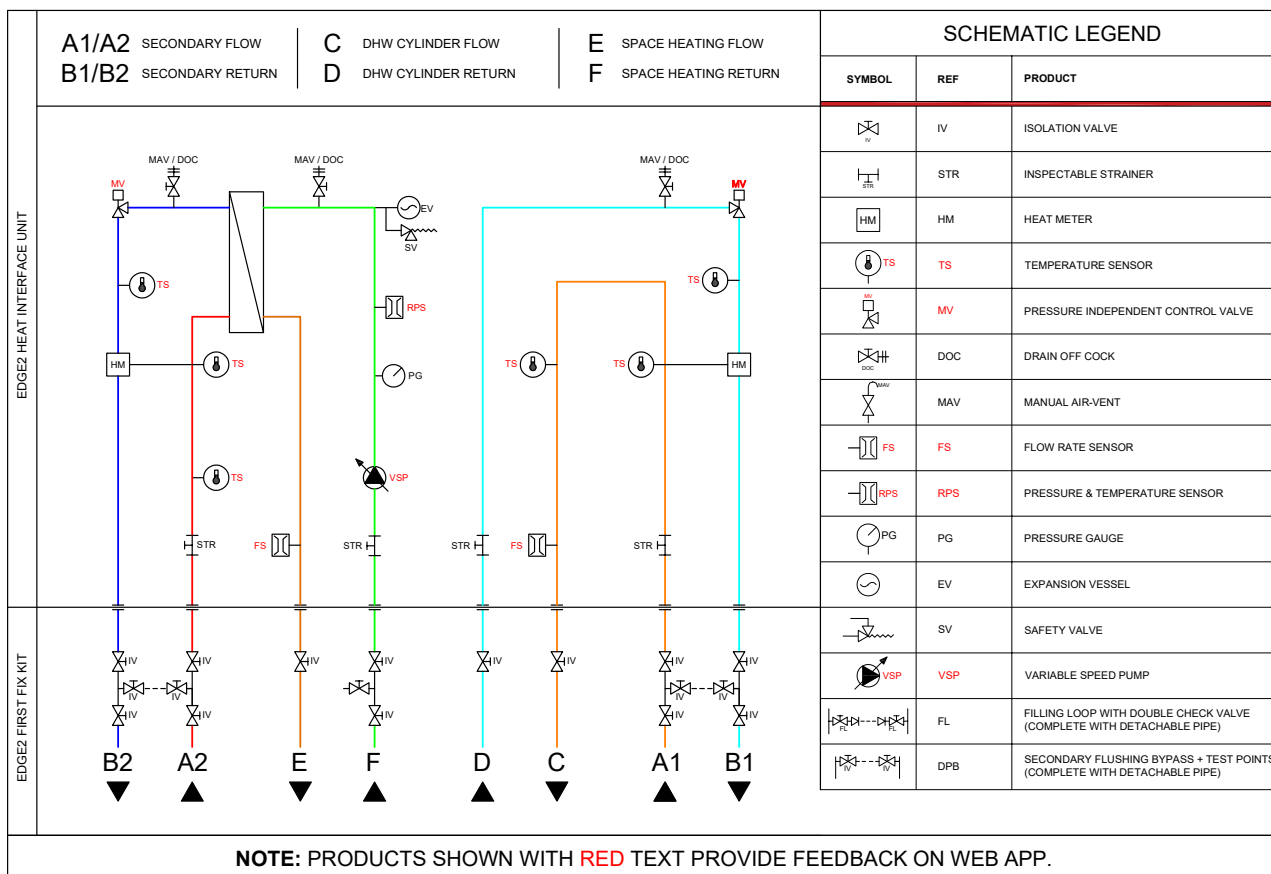


- EDGE2-T MRK1 is tested to BESA UK Standard for Heat Interface Units (2021) (VWART: 28°C / 29°C High / Low temperature test) The EDGE2-C has not undergone testing however has the same control logic

Hydraulic Schematics



Dual Secondaries Model (EAHIUC2)



Technical Information

HIU Controller Features

EDGE2-C CONTROLLER

230V AC pump supply

Wi-Fi Direct (P2P)

3 x PWM input / output

8 x analogue sensor inputs

4 x 230V switched inputs	Room thermostat
	Cylinder thermostat
	Billing controller relay
	UFH high limit thermostat

3 x outputs (voltage free or 24V)	Demand output
	2 x spare outputs

Modbus interface (optional)

Metering and Billing neutral

Status LED's for power, transformer, inputs and outputs

Free Wi-Fi web-app (P2P) for service engineers provides manual control, setpoint changes, and visibility of temperatures / flow rates and pressure

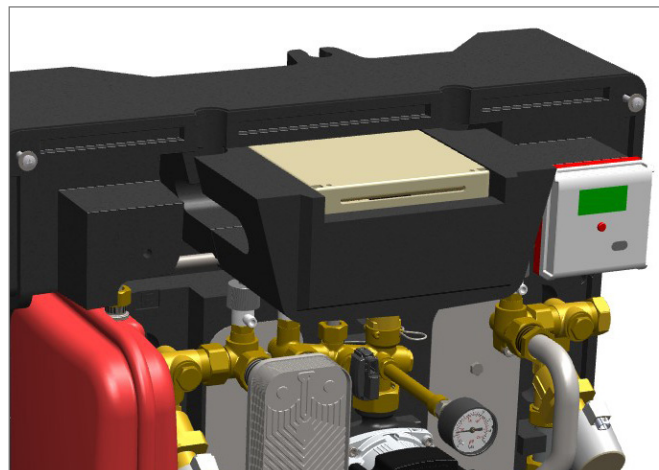
230V Installer wiring harness supplied as standard to keep connections external to controller

CONTROL

- Intelligent electronic PID control that modulates Frese control valves to match real-time project demands and improve efficiency
- Modulation of primary flow rate using Frese PICV
- Web App for online access to the HIU controller using inbuilt Wi-Fi P2P (Peer-to-Peer) Includes user levels for engineer and homeowner
- HIU can be connected to the homeowners Wi-fi network to enable remote fault finding and control
- Modbus on board for cloud connection if required

METERING AND BILLING

- Billing neutral, ready for connection to any standard Credit or PAYG system, so no tie-in's
- MID approved, Class 2 Ultrasonic M-Bus meter
- Open access to meter readings via standard M-Bus set-up or remotely via third party

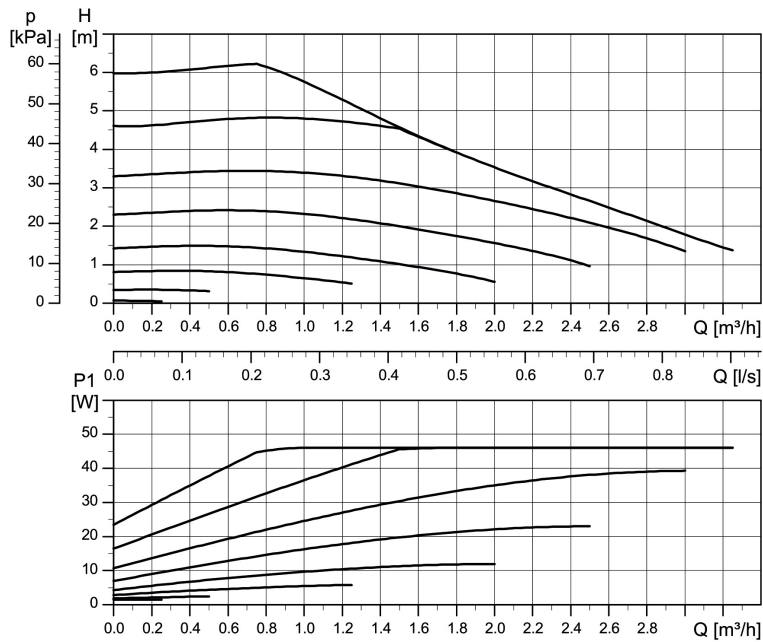




Technical Information

Space Heating Pump Curve

Standard model: Grundfos UMP4S 15-60 130.



Other models also available for larger heating loads.

