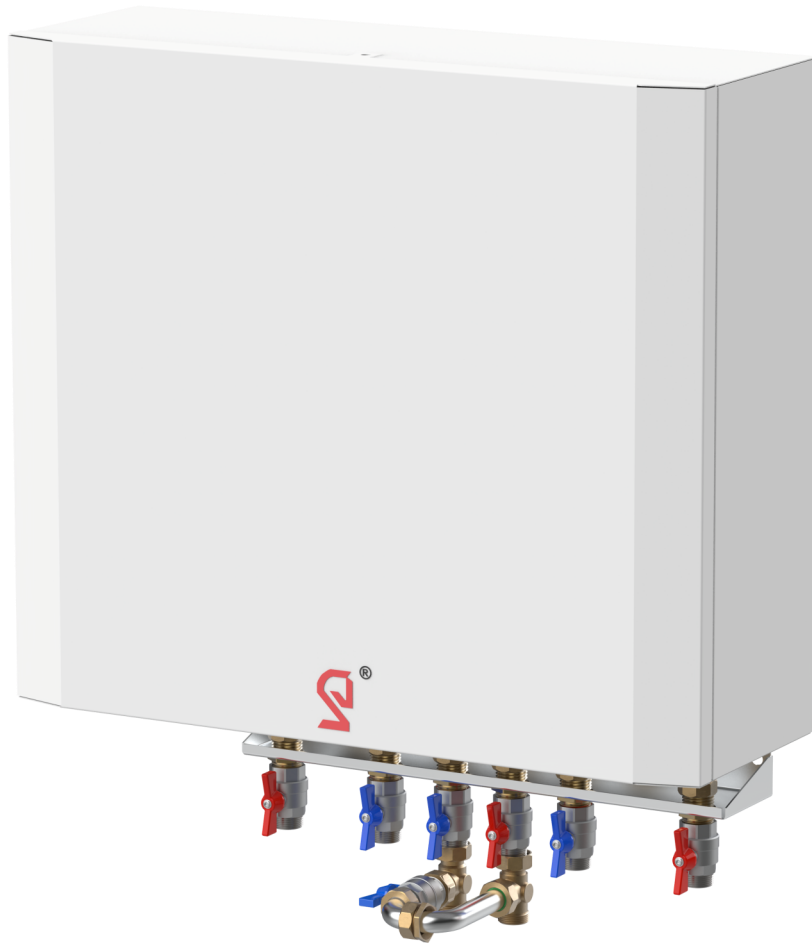




DIRECT HYDRO EM UFH

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1 Explanation of Symbols and Abbreviations

Symbols



CAUTION General Safety Remark



CAUTION Hot Surface, Risk of Burn



CAUTION Risk of electrical shock



Requirement of 230V Alternating Current



Requirement of Handtool



Important Note



Phillips Screwdriver



Insulated flathead Screwdriver



Recycle component if possible



Dispose component



Motorized tool



Manual operation no need

Abbreviations

DH	District Heating
SH	Space Heating
DHW	Domestic Hot Water
DCW	Domestic Cold Water
VAC	Volts Alternating Current
VDC	Volts Direct Current
A	Current in Amps
N	230VAC Neutral
L	230VAC Live (phase)

PE	Protective Earth
°C	Temperature in degrees Celsius
kPa	Pressure Kilopascal
kg	Weight in kilograms
mm	Distance in millimetres
PN	Pressure class in Bar
"	Thread size in inch (ISO 228/1)
HIU	Heat Interface Unit

2 Operation

2.1 Space Heating (SH)

Direct Hydro-EM UFH is designed for underfloor heating systems. By regulating low-temperature water, it provides balanced and efficient room heating.

The unit features an integrated mixing circuit with a temperature control valve and a circulation pump. This ensures that water at the appropriate temperature is supplied to the underfloor heating circuits.

CAUTION!



Components, pipes and radiators in, and connected to, the unit may be hot. The heat interface unit is designed for use with space heating systems up to 90°C. The pipes and components in the unit as well as the pipes and radiators in the space heating installation can reach these temperatures. Contact may lead to burns.

2.2 Domestic Hot Water (DHW)

The plate heat exchanger transfers heat from the primary system to the domestic hot water. Thanks to the low surface temperature, the risk of scaling is reduced, ensuring long-term efficient operation. Equipped with a flow control valve and a 3-way diverter valve, the system operates with high efficiency. It is compatible with condensing boilers due to its low return temperatures.



CAUTION! Hot Water

The hot water temperature is regulated to 55°C (default value). If there is a power outage during tapping conditions the unit will stop regulating the domestic hot water temperature. This may lead to a domestic hot water temperature that is higher or lower than its set point. Hot water can cause burns.

2.3 Priority Switching

The HIU is fitted with priority switching. When hot water is drawn off, the HIU diverts all the DH flow to heat up the domestic water. If there is a power outage during tapping conditions or during a situation where there is no request for heat from the (connected) thermostat, the space heating valve will stay in closed position. This may lead to a decrease in temperature of the space heating installation/circuit.

3 General Plumbing Requirements

New System Installations

When carrying out a completely new heating system installation in a new build property or a first time installation in an existing property, then the heating system must conform to current building regulations Part L1a. All new domestic heating systems must have a minimum of two heating zones. Each of these zones should be controlled by a thermostat and zone valve. Alternatively individual electronically controlled Thermostatic Radiator Valves may be fitted. If domestic hot water is provided by a storage system then the storage system or cylinder will require separate time and temperature control.

All radiators must have TRV's fitted in all rooms except bathrooms and any rooms where a thermostat is located. The exception to this are single storey, open plan dwellings where the living area is more than 70% of the total usable floor area. Then this type of dwelling can be controlled as one zone.

Existing Installations

When carrying out boiler replacements on an existing system, the regulations do not require separate zoning of the upstairs and downstairs and compliance with the regulations can be achieved by a single room thermostat or programmable room thermostat. It is however recommended that TRV's are fitted to all rooms except the bathrooms and the room where a thermostat is located.

3.1 Fitting and Modifications

Fitting the appliance and any controls to the appliance may only be carried out by a competent engineer. Any misuse or unauthorised modifications to the appliance or associated components and systems could invalidate the guarantee and may lead to serious injury or even death. The manufacturer accepts no liability arising from any such actions, excluding statutory rights.

3.2 District Heating



CAUTION!

Components, pipes and radiators in, and connected to, the unit may be hot. The heat interface unit is designed for use with centralized heating systems up to 90°C. The pipes and components in the HIU as well as the pipes and radiators in the space heating installation can reach these temperatures. Contact may lead to burns.

Keep following conditions in mind during installation:

- Maximum pressure supplied by the district heating network is 16 bar.
- Maximum differential pressure supplied by the district heating network is 450 kPa.
- Maximum supplied temperature by the district heating network is 90°C.

Minimal supply temperature is set-point DHW + 5°C.

3.3 Servicing

The end user should be advised to have the system serviced annually by a competent engineer. Contact your supplier for a list of approved engineers. Approved spares must be used to help maintain the economy, safety and reliability of the appliance. The service engineer must complete the Service Record after each service.

4 General Wiring Requirements

These instructions apply in the UK and Ireland only and must be followed except for any statutory obligations. Component specific electrical information may also be supplied in support of these instructions.

FAILURE TO INSTALL APPLIANCES CORRECTLY COULD LEAD TO PROSECUTION.



CAUTION!

Isolate the mains supply before starting any work and observe all relevant safety precautions. The HIU uses electrical components (230VAC). These components must stay dry at all times. Touching these components can result in an electrical shock, burn, or electrocution.

When the HIU is permanently connected to the 230VAC installation, a switch or circuit-breaker must be included in the installation as the means for disconnection. The switch or circuit-breaker must be suitably located next to the appliance and easily reached. The switch or circuit-breaker must be marked as the disconnecting device for the equipment.

4.1 Danger of Short-Circuit

When connecting the cables ensure that no cable pieces fall inside the control panel. Unless otherwise stated, all HIU's should be connected to a mains 230V 50Hz Supply fused at 3 Amps. All electrical connections with the HIU control panel are clearly marked as follows:

L = Live 230V

N = Neutral

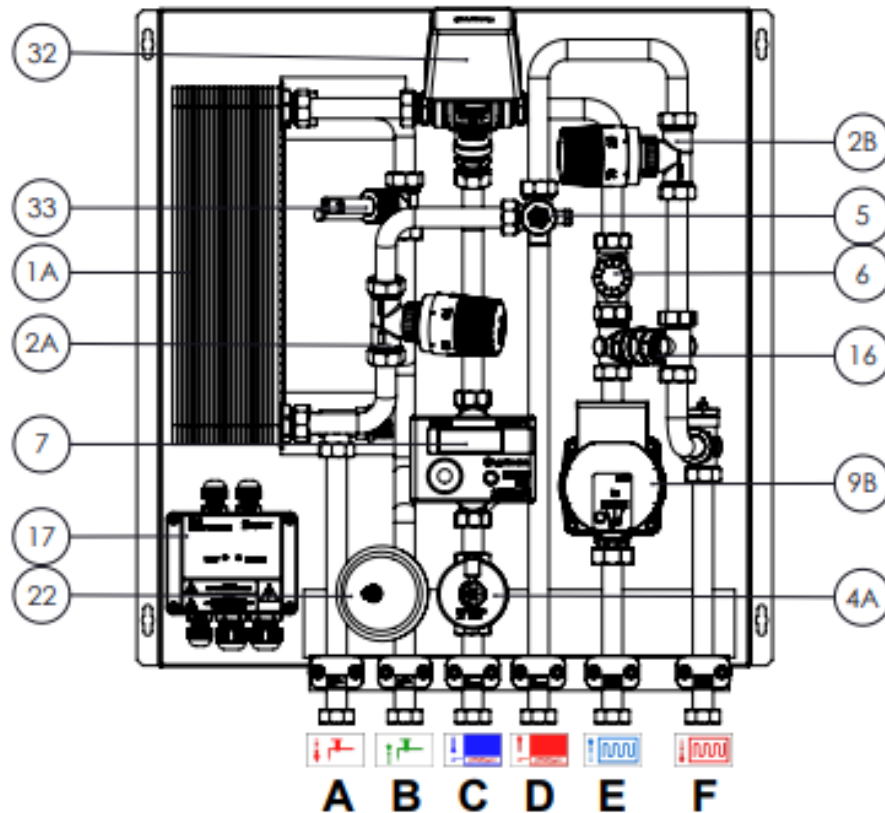
E = Earth 

PE = Protective Earth

Any additional mains cable should comply fully with the current I.E.E. wiring regulations. It must have a minimum section of 1.5mm² and be capable of withstanding a minimum of 90°C.

5 Specifications

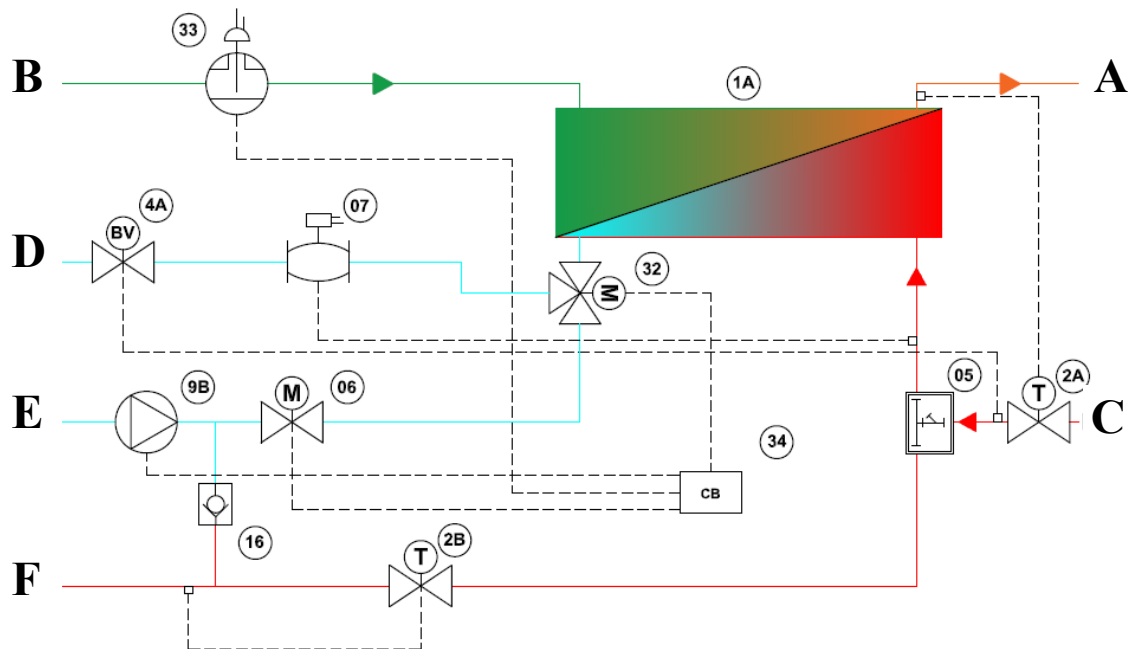
5.1 Component List



- | | |
|---|------------------------------------|
| 1A Heat Exchanger (DHW) | 17 Junction Box |
| 2A Thermostatic Valve (DHW) | 22 Water Hammer Arrestor |
| 2B Thermostatic Valve (SH) | 32 3 Way Directional Control Valve |
| 4A Differential Pressure Controller | 33 Flow Switcher |
| 5 District Heating Strainer | |
| 07 Space for the Calorimeter (Heat Meter) | |
| 06 Zon Valve (Suitable with Thermal Actuator) | |
| 16 Check Valve | |
| 9B Circulation Pump | |

5 Specifications

5.2 Flow Diagram

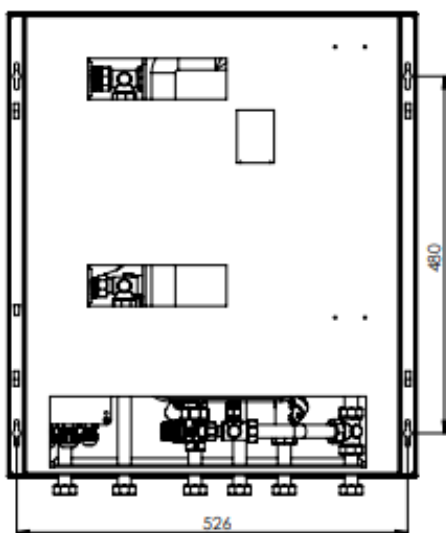


- A — DHW - Domestic Hot Water
B — DCWI - Domestic Cold Water Inlet
C — DHR - District Heating Return
D — DHS - District Heating Supply
E — SHR - Space Heating Return
F — SHS - Space Heating Supply

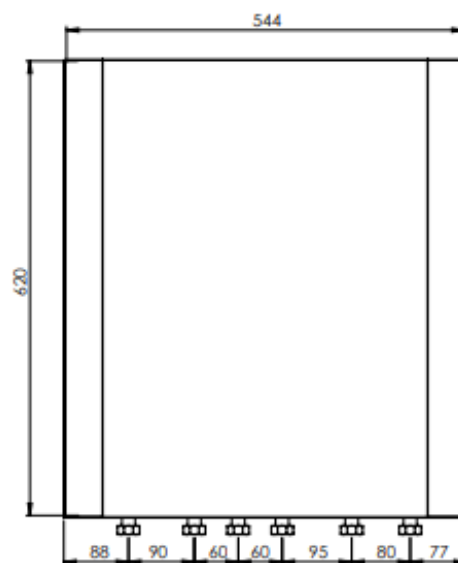
5 Specifications

5.3 Dimensions

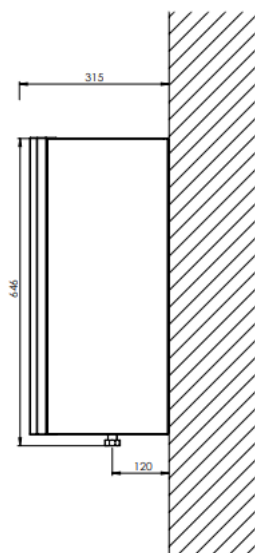
Back View



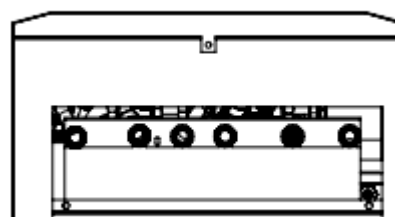
Front View



Wall Mounted View



Bottom View



5 Specifications

5.4 Technical Data

Description	Data
Nominal primary supply temperature	80°C
Maximum primary supply temperature	85°C
Minimum primary supply temperature	55°C *
Nominal DHW supply temperature	45°C
DHW Set Range	45°C to 60°C
Return Temp Limit Range	35°C to 65°C
CH Limit Range	30°C to 80°C
Primary connections	Female / 18mm
Mains & DHW connections	Female / 18mm
Central heating connections	Female / 18mm
Pressure relief	15mm
Maximal primary differential pressure (without dP regulator)	450 kPa
Pressure class DH circuit	PN10
Pressure class DHW circuit	PN10
CH Maximum working pressure	2.5 Bar
Casing width	540mm
Casing height	580mm
Casing depth	200mm
Casing Material	Metal case with Insulation
Weight	25
Electrical supply info	230V 50Hz
Fuse ratings	3 Amp

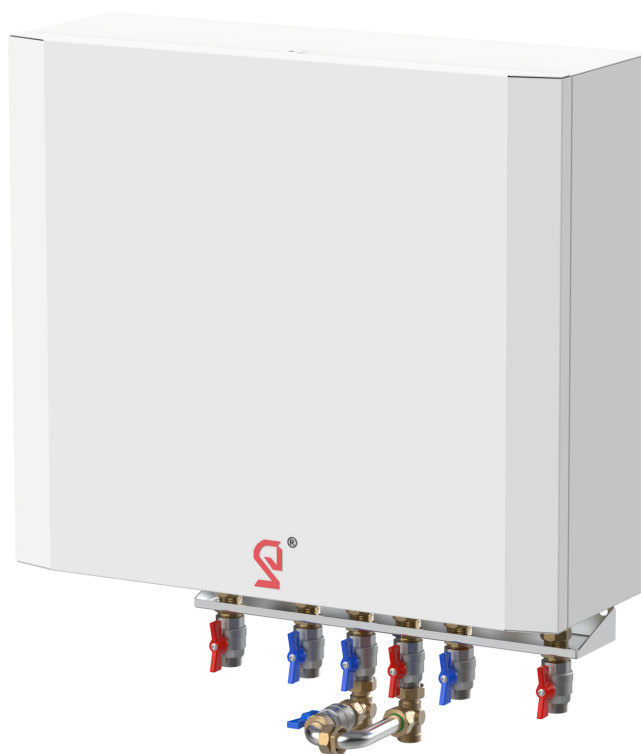
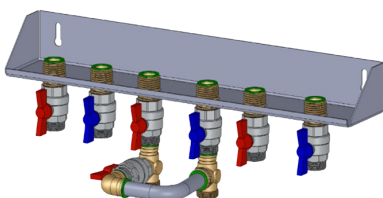
* Minimum required DH supply temperature is DHW setpoint + 5°C with a minimum of 65°C.

** Unit weight may vary depending on the optional components built into the unit.

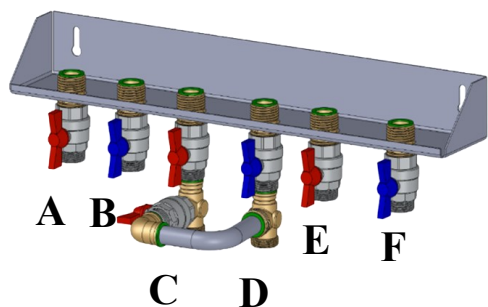
6 Installations



Additional Items Required



Connections



- A — DHW - Domestic Hot Water
- B — DCWI - Domestic Cold Water Inlet
- C — DHR - District Heating Return
- D — DHS - District Heating Supply
- E — SHR - Space Heating Return
- F — SHS - Space Heating Supply

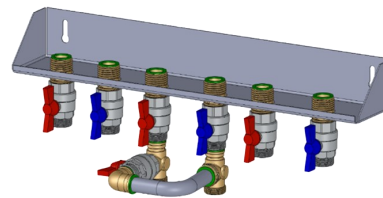
6 Installations

6.1 Mounting to the Wall

The wall needs to be strong enough to support the HIU. If the wall is of drywall construction make sure that there is a board installed (e.g. plywood, min. 18mm) to support the structure, which is strong enough to hold the HIU. Use a 4mm drill bit (at least 40mm depth for the wall plugs).

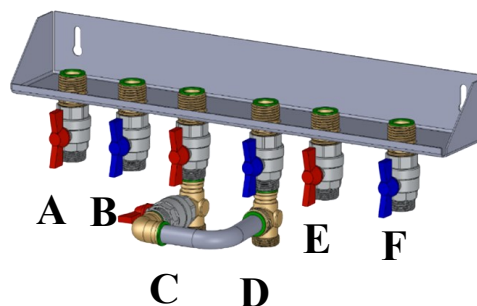
If the wall is of concrete or brick construction use a 10mm drill bit (at least 60mm depth for the wall plugs).

The PPB (Pre-Plumbing Brackets) requires 6 fixing screws, the HIU requires 4 fixing screws.



6.2 Flushing the System

Before mounting the HIU and connecting it to the PPB all pipework that is to be connected must be thoroughly cleaned and flushed out. Any debris or flux that could collect in the narrow channels of the heat exchangers will be difficult to remove once they are installed. Any remaining debris and flux may cause serious corrosion problems, as well as restricting flow and reducing the efficiency of the HIU. Use the flushing by-pass (optional accessory) and connect it to the PPB (C-D).



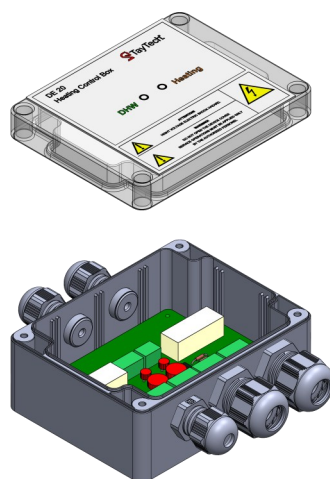
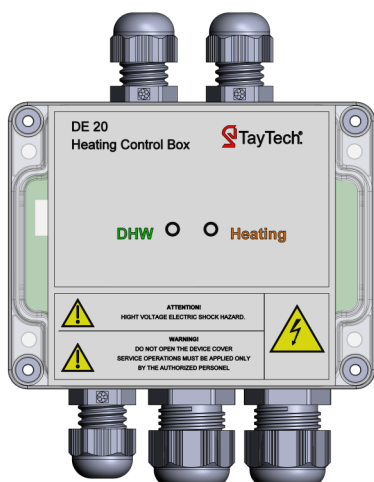
7.1 Power Supply



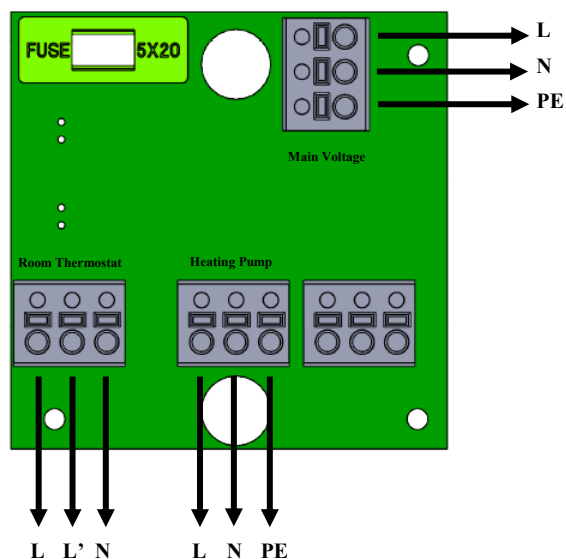
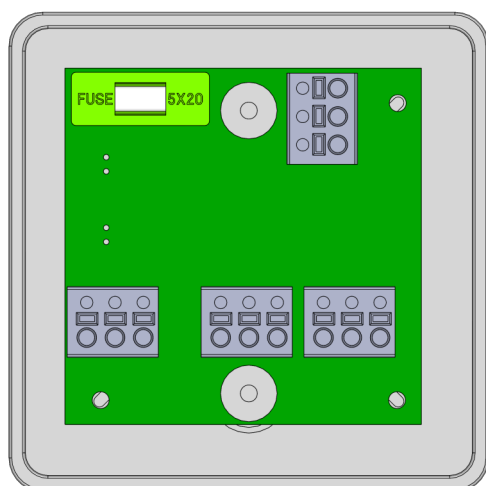
The HIU is equipped with an electric connection box that converts the 230VAC power supply to 24 VDC and powers the equipped SH pump and optional DHW pump. It also houses the fuse of the unit.

CAUTION!

The HIU uses electrical component (230VAC). Touching these components can result in an electrical shock, burn, or electrocution. The casing shall only be opened by authorised personnel when the power supply is cut off



JB20 CONNECTION



7.2 Circulation Pump (Optional)

- The pump offers **three control modes**: **constant speed (I–III)**, **variable differential pressure ($\Delta p-v$)**, and **constant differential pressure ($\Delta p-c$)**.
- **$\Delta p-v$ (Variable pressure)**: Automatically decreases the pressure as the flow rate increases.
- **$\Delta p-c$ (Constant pressure)**: Maintains a constant pressure regardless of changes in system flow.
- **n-const (Constant speed)**: Operates at a fixed speed selected by the user.
- Each mode provides **three performance curves** (I, II, III), giving a total of 3 modes $\times$ 3 settings.
- A **single push-button** allows selection of mode and curve; short presses change the setting, long presses activate functions such as venting, manual restart, lock mode, or reset to factory defaults.

LED indicators:

Green LED shows normal operation or flashes to indicate a fault.

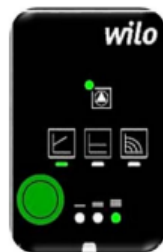
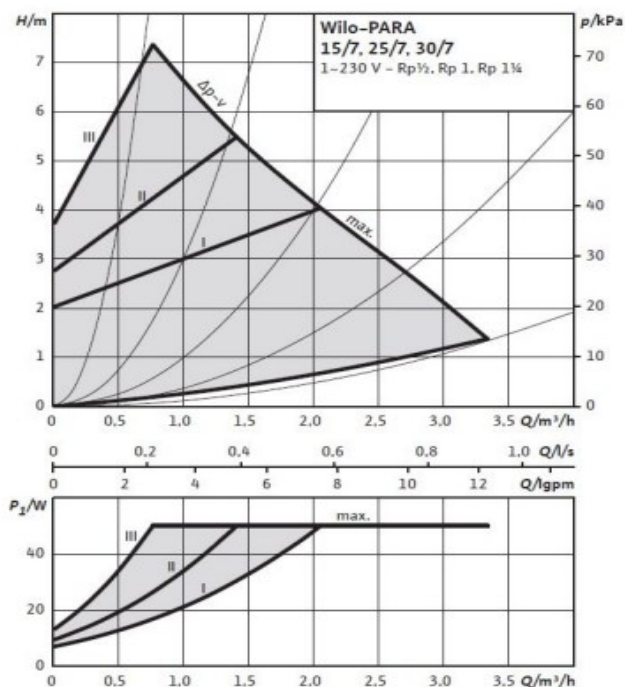
Yellow LEDs (typically four) display the selected control mode and performance curve.



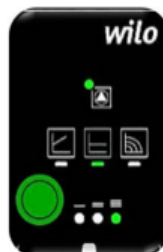
Settings

The Wilo Para 7 circulator pump offers selectable operating modes via a single push-button interface, enabling constant speed, variable differential pressure ($\Delta p-v$), or constant differential pressure ($\Delta p-c$) control, each with multiple performance curves. Operating parameters are indicated through a combination of green and yellow LEDs, and settings are stored in non-volatile memory. Additional long-press functions allow commissioning and service operations such as venting, manual restart, and lock mode, ensuring both flexibility and operational safety in hydronic systems.

7.3 Performance View



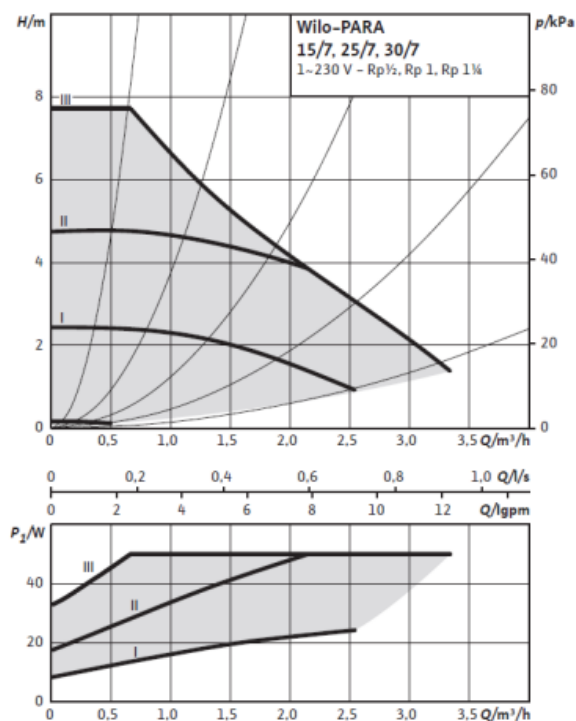
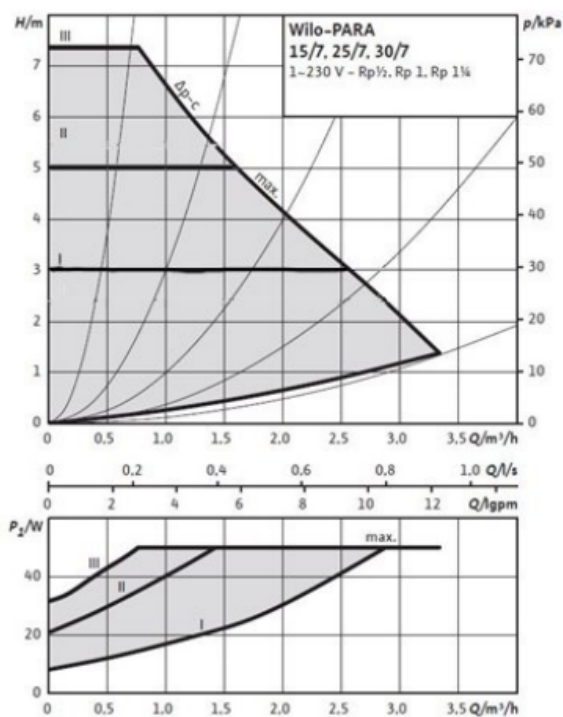
Δp -v (Variable Pressure Mode)



Δp -c (Constant Pressure Mode)



n -const (Constant Speed Mode)



8 Declaration Of Conformity



DECLARATION OF CONFORMITY

Taytech Otomasyon ve Bilisim Teknolojileri

İnönü Mahallesi, Atatürk Blv. No:7/2 41400 Gebze Plastikçiler
O.S.B Gebze / Kocaeli

We, Taytech Otomasyon ve Bilisim Teknolojileri, declare under our sole responsibility that the product;

Product Name: Direct Hydro EM UFH

to which this declaration relates is in conformity with the following EU Directives:

Machinery Directive 2006/42/EG

Low Voltage Directive 2014/35/EU

Electromagnetic Compatibility Directive 2014/30/EU

using the provisions set in the following standards, insofar as they are relevant:

EN 60335-1 : 2012-10

EN 60335-2-51

EN 55014-1&2

EN 60730-1

EN 61000-3

Date and Place of Issue

November 12, 2025 Kocaeli

Name, position and signature of authorized person

Cenk ŞEN
Electromechanical Group Leader

Seyrani AKTAŞ
Deputy of General Manager

NOTES

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