

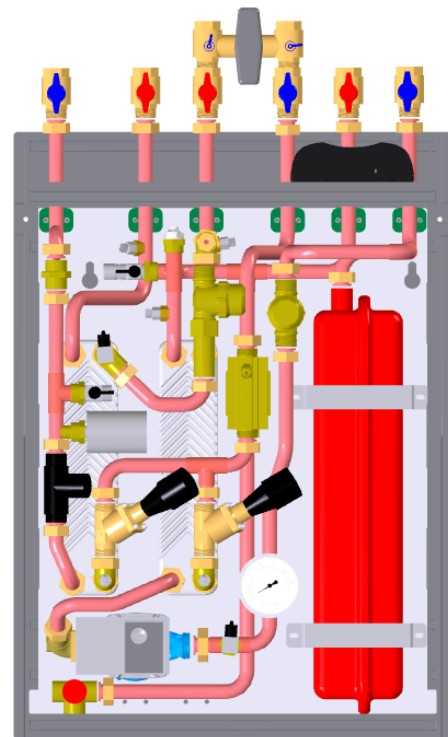
## Frese AquaHeat - IWH & IH Heat Interface Unit

### Application

The Frese AquaHeat Twin Plate heat interface unit (HIU) is designed for the generation of instantaneous domestic hot water and the supply of indirect space heating. This HIU provides hydraulic separation between the domestic hot water and the space heating circuits and the primary heat network via a pair of stainless steel Copper brazed plate heat exchangers. The HIU is available with top or bottom secondary heating connections suitable for radiator or underfloor heating and is complete with an electronic controller for precise and efficient water temperature control and MODBUS communication.

### Design

- The electronic HIU controller makes it possible to deliver water at the correct temperature, even in the event of lower supply temperatures and pressures on the primary heating system.
- Very fast reaction time with accurate temperature control when there is a demand for DHW based on the feed forward principle.
- Insulated cover minimises heat loss from the unit.
- Features two pressure independant control valves with fast acting stepper motors.
- Advanced programmable electronic controller providing:
  - ~ 100% Hot water priority within 10 seconds
  - ~ Anti-legionella programme
- Compact and light weight design for easy handling.
- DHW & Indirect Heating control.
- 100% priority on DHW tapping.
- No moving parts in DHW circuit (low pressure drop).
- Adjustable or disabled idle temperature function.



Typical configuration with top entry heating

### Features and Benefits

- Compact design.
- DHW programmable electronic controller.
- Programmable DHW temperature range
- Prepared for thermostat or weather compensator control
- Compact brazed plate stainless steel heat exchangers.
- 8 litre expansion vessel.
- Programmable heating supply temperature range.
- Very low standby losses.
- EPP Polypropylene cover.
- Direct volt free or Opentherm connection to controller for programmable room thermostat. (not included)
- Frese OPTIMA Compact pressure independant control valves:
  - ~ Adjustable DHW and heating design flow
  - ~ +/- 2K hot water temperature control

### Optional

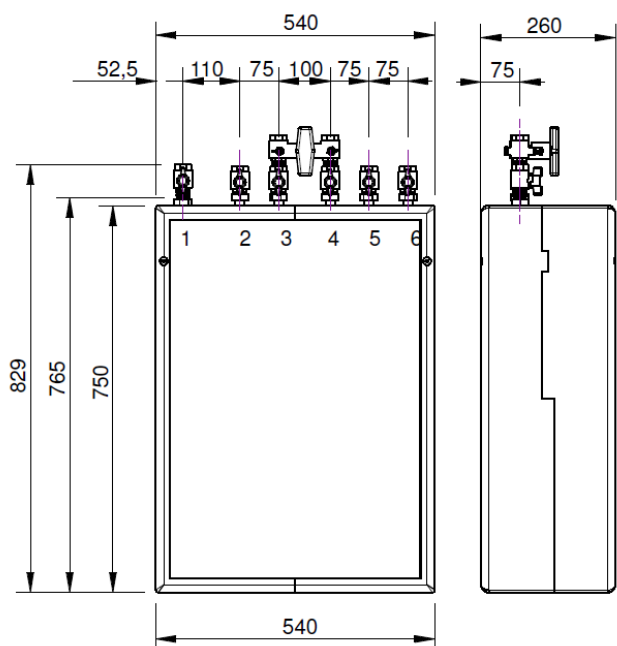
- Flushing bypass assembly complete with P/T plugs.
- Ultra-sonic MID heat meter
- DHW Recirculation pump.
- Modbus I/O Communication from HIU controller

## Frese AquaHeat - IWH & IH Heat Interface Unit

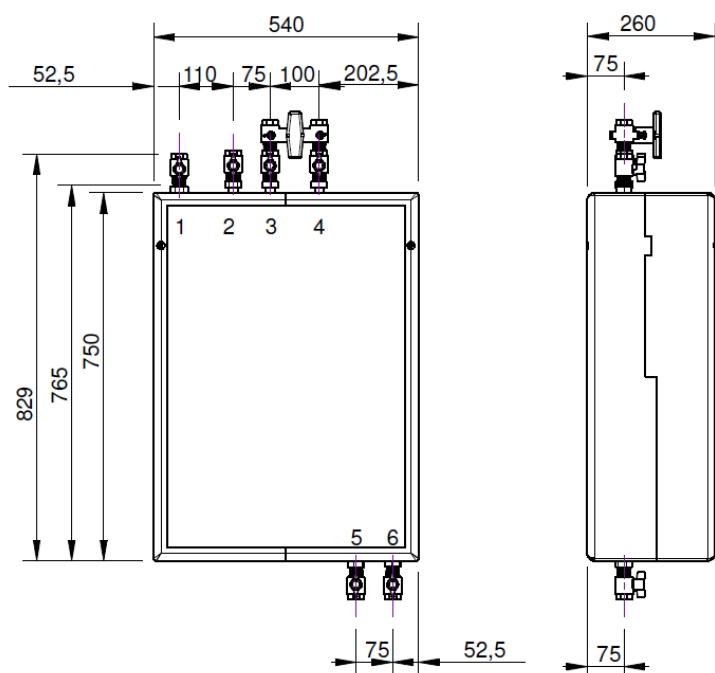
### Operation

- Hot water priority within 10 seconds.
- LEDs indicate operational status.
- Anti-legionella program

### Dimensions



Top Entry Secondary Heating



Bottom Entry Secondary Heating

### Connections

- 1 Domestic cold water
- 2 Domestic hot water
- 3 Primary heating supply
- 4 Primary heating return
- 5 Secondary heating supply
- 6 Secondary heating return

### Technical Specification

#### Additional Connections

Relief valve drain:	15mm compression
Heat meter spool piece:	110mm x G $\frac{3}{4}$ "
Heat meter temperature sensor pocket:	M10

#### Primary heat - centralised boiler plant

Max. supply temperature:	95°C
Min. supply temperature:	55°C
Nominal supply temperature:	70°C
Pressure class:	PN16
Max. differential pressure:	800 kPa
Min. differential pressure:	50 kPa

#### Secondary Heating

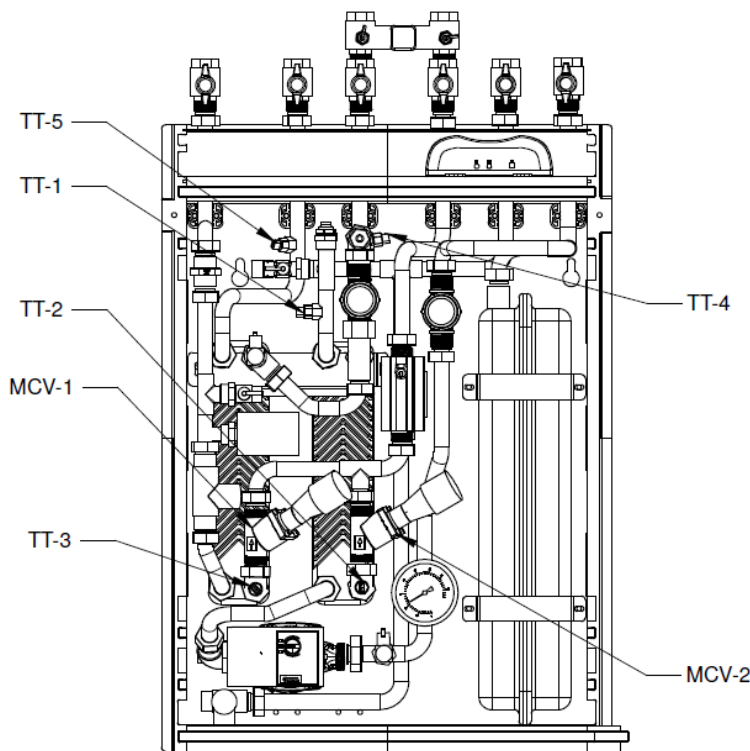
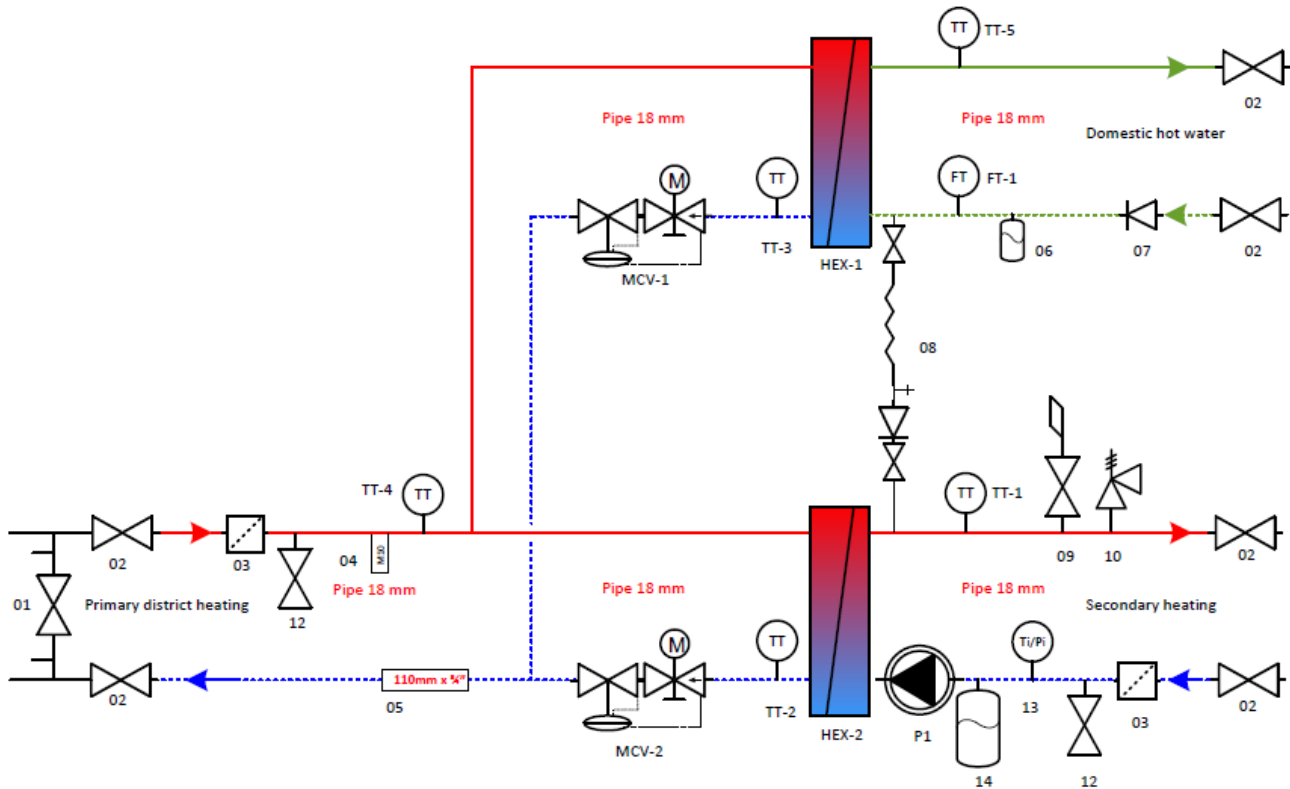
Controls:	Electronic
Max. temperature set point:	90°C
Heat exchanger:	Cu Brazed SS
Circulation pump:	Wilo Yonos 15/60
Pump over run time:	5 minutes max
Expansion vessel:	8 Litres
Pressure relief valve setting:	2.5 bar

#### Domestic Hot Water Circuit

Pressure class:	3 bar
Max. output:	33 l/m
Max. output @ 10/55:	115 kW
Heat exchanger:	SWEP
Max. pressure loss @ 33 l/m:	50 kPa
Nominal cold water temperature:	10°C
Nominal DHW temperature:	55°C
DHW temperature set point range:	40 to 70°C

# Frese AquaHeat - IWH & IH Heat Interface Unit

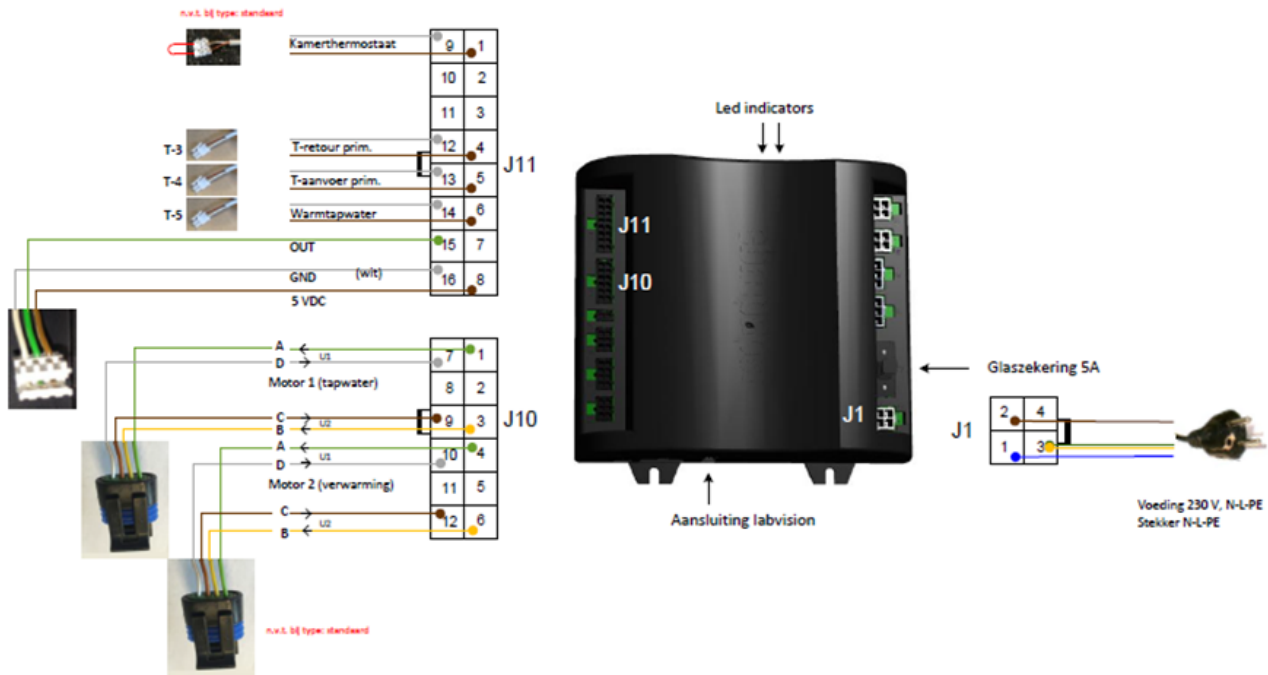
## Mechanical Schematic



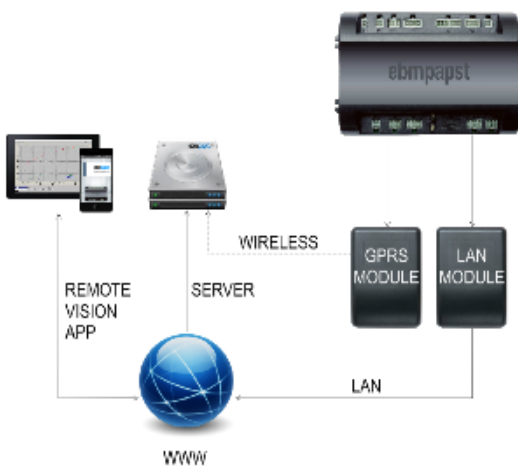
Item	Description
TT-1	Space heating supply temperature sensor
TT-2	Primary heating return temperature sensor
TT-3	Primary hot water return temperature sensor
TT-4	Primary supply temperature sensor
TT-5	Domestic hot water supply temperature sensor
FT-1	Domestic hot water flow sensor
MCV-1	Domestic Hot Water PICV
MCV-2	Space heating PICV
P1	Space heating circulating pump
1	Flushing bypass
2	Isolation valve
3	Strainer
4	Meter sensor pocket
5	Heat meter spool piece
6	Shock arrestor
7	Non return valve
8	Fast fill loop
9	Manual air vent
10	Safety relief valve
12	Drain cock
13	Pressure & temperature gauge
14	Expansion vessel

# Frese AquaHeat - IWH & IH Heat Interface Unit

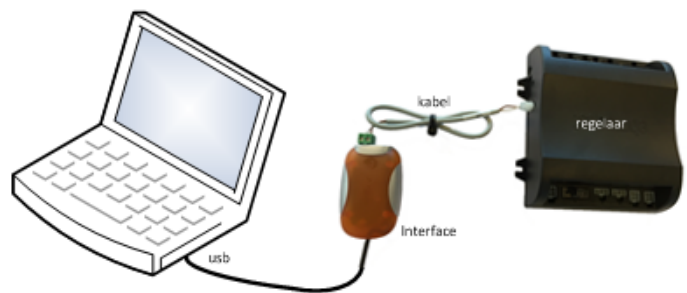
## Advanced Electronic Controller with MODBUS & OpenTherm Communications



### Remote Monitoring & Control



### PC Diagnostics



- Log data
- Operating different components
- Real time graphics of selected values
- Visible actual values of unit, valve position, control status, malfunction

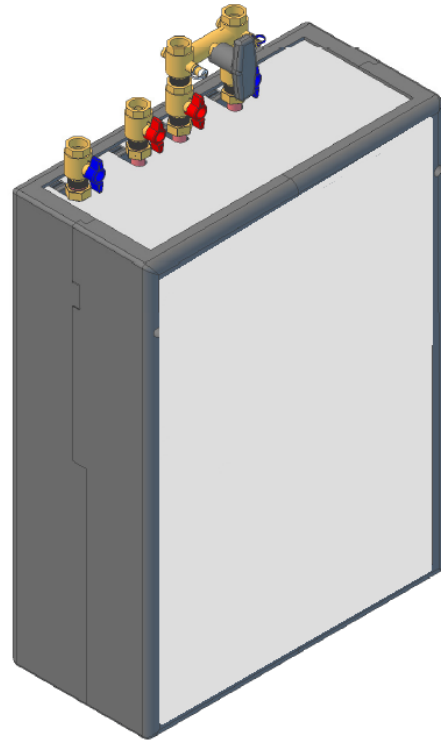
## Frese AquaHeat - IWH & IH Heat Interface Unit

### Specification Text

Hot water and heating to each apartment shall be provided by means of an indirect wall mounted twin plate heat interface unit (HIU) for the generation of instantaneous domestic hot water and indirect space heating.

The HIU shall provide hydraulic separation between the domestic hot water (DHW), space heating circuit and the primary low temperature heating system via a pair of stainless steel brazed plate heat exchangers.

Primary water flow to the hot water and heating plates shall be regulated by a pair pressure independent control valves with fast acting stepper motors under the control of a programmable electronic controller. The unit shall be able to achieve DHW temperature from the plate and 100% hot water priority within 10 seconds.



Typical configuration with bottom entry heating

### Part Numbering

FA - IH - 50 / 5 - TE

Frese AquaHeat	FA
Indirect Heating	IH
DHW Duty	30 - 115 kW
HTG Duty	1 - 20 kW
Heating Connections	Top (TE) or Bottom (BE)