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Herz Ecosse Heat Interface Unit

The Modern Solution for Apartment Heating and Domestic Hot Water Services

General Description

The Herz Ecosse HIU is suitable for all community heating schemes and enables LTHW from a central plant to provide heating and DHWS (if required) to each dwelling with complete hydraulic separation between the LTHW primary and secondary heating and storage type DHW systems.

The HIU has a single heat exchanger providing heated water. The heating supply from the HIU can be utilised for space heating and DHW cylinder storage in an “S Plan” configuration if required, or alternatively can be used for single use, either for space heating or for DHW storage systems.

The HIU is a complete package comprising of all components mounted on a frame, factory assembled and tested.

Main Components

Differential Pressure Control/Zone Valve

A combination valve consisting of a fixed spring differential pressure control valve set at 50kPa installed with an actuator which operates as a control valve. The differential pressure control valve sits across the primary flow and return and protects the temperature limiting valve and also stabilises the flow rate. The actuator is connected to the apartment heating controls and allows the primary heating to flow through the heat exchanger on demand.

Temperature Limiting Valve

A temperature limiting valve is installed in the primary return to aid low primary return temperatures and maximise system efficiency. The valve controls the secondary flow temperature by means of a thermostatic head with a contact sensor attached to the secondary flow pipe.

Pre-insulated Heat Exchanger

High ambient temperatures can be experienced when an HIU is operating at full heating demand. The Ecosse HIU has a pre-insulated heat exchanger and all heating pipework is also insulated. The unit also has a ventilated cover to allow air circulation within the HIU.

First Fix Rail

The First Fix Rail is a pre-assembled unit fitted with all the isolation ball valves required for the various circuits installed within the HIU. The unit is installed at first fix and allows shell and core pipework to be completed without the HIU being fitted. The first fix rail ball valves are fitted with drain valves to facilitate draining with integral test points fitted on the primary and secondary heating circuits to aid additional temperature or pressure measurement if required. The first fix rail with ball valves also allows maintenance to be carried out on the HIU as the main unit can be removed easily.

Top Entry stand-off Bracket

The Ecosse HIU has the option to have a stand-off bracket installed to enable the services to be connected from the top of the unit. The top entry bracket is available purely as a stand-off bracket to enable installation of some or all the services, or fully installed with all the pipes so that all that is required on site is to connect the pipework to the connections on the top of the unit.

Main Features

- Single heat exchanger provides hydraulic separation
- Low primary return temperature maximises system efficiency
- ”S type” configuration for secondary heating and hot water storage systems if required
- Differential pressure control valve across the primary
- Zone valve to ensure that water circulates through the heat exchanger only when there is a demand
- First fix rail to aid easy installation
- Top and bottom connections available
- Suitable for radiators or under floor heating systems
- Insulated heat exchanger
- Insulated pipework within the HIU
- Insulated HIU backboard and cover
- Option for heat meter (110mm Spool piece provided as standard)
- Viewing window allows meter reading without casing removal
- 18mm stainless steel pipe work

Functions

a) Primary Heating

The primary heating temperature is controlled by a **Herz** temperature limiting valve located in the return.

A **Herz** fixed spring differential pressure control valve is also fitted as an integral part of the HIU to protect the temperature limiting valve and govern flow rate.

b) Residents Heating System

If the HIU is only supplying the space heating, then the primary flow to the heating system heat exchanger is controlled by a two port on/off actuated valve linked to a programmable room thermostat (Herz 1 7791 23). This valve will close when the room temperature setting has been achieved or when the heating system is not in use.

The secondary heating circuit is provided with an expansion vessel and secondary domestic heating pump which varies the system flow rate automatically based on demand.

c) Residents Hot Water (DHW)

If a hot water storage cylinder is being used, the common heating circuit from the secondary side of the heat exchanger divides and supplies the apartment heating system utilising a zone valve (supplied by others) which is controlled by a room thermostat. The common secondary heating circuit also provides primary heating to a hot water storage cylinder (not supplied). This circuit is controlled via a zone valve and cylinder thermostat (not supplied) which opens the zone valve when the cylinder temperature begins to drop.

Both DHW and Secondary heating will work to the dictates of a central heating programmer.

Energy Metering

As an option the HIU can be provided with a built in battery powered energy meter mounted in the primary heating return pipe.

The meter will measure flow using the ultrasonic principle with an accuracy complying with EN1434 and MID in Class 2 with dynamic range of 1:250 (qi:qp)

The heat meter has options for pulse, M bus or radio to allow remote reading with hand held scanner, drive by or remotely via GPRS. All necessary system hardware and software is available on request.

If a cold water meter is fitted this can be pulse linked to the energy meter.

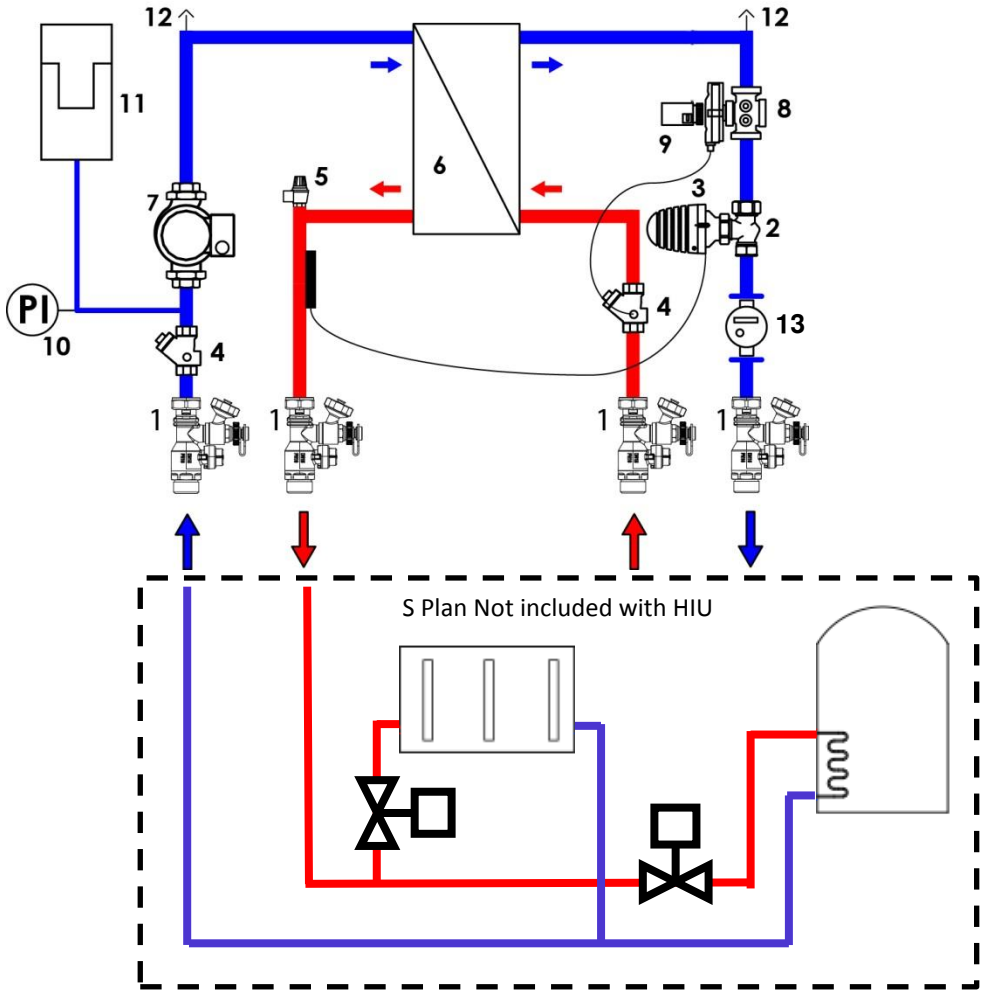
The heat calculator will display energy usage in kW hours.

Battery life approximately 12 years.

Pre-payment options are available on request.

Technical Data

Ecosse HIU Schematic



Please note: all diagrams are indicative in nature and do not claim to be complete

1	Isolation ball valves with drain valves
2	Thermostatic valve
3	Thermostatic head with contact sensor
4	Strainer
5	Pressure relief safety valve
6	Space heating heat exchanger
7	Secondary circulating pump
8	Differential pressure control/zone valve
9	Actuating drive for zone valve
10	Pressure gauge
11	Expansion vessel
12	Air vent
13	Heat meter (optional)

Ecosse HIU Data

Ecosse HIU Flow Data

Description	Data
Height	830mm (top entry option 850mm)
Width	580mm (top entry option 650mm)
Depth	220mm (top entry option 280mm)
Total unit weight	36kg
Total unit weight (top entry option)	43kg
Maximum secondary heating output	15 kW
Maximum primary supply temperature	90°C
Minimum DP at 85°C	25 kPa
Maximum working pressure primary side	10 bar
Safety relief valve setting secondary heating side	3 bar
Expansion vessel capacity	7.5 litres
Ball valve connections	22mm compression
Safety relief valve stainless steel tail	18mm
Electrical power supply voltage	230V
Frequency	50Hz
Maximum power consumption	40W

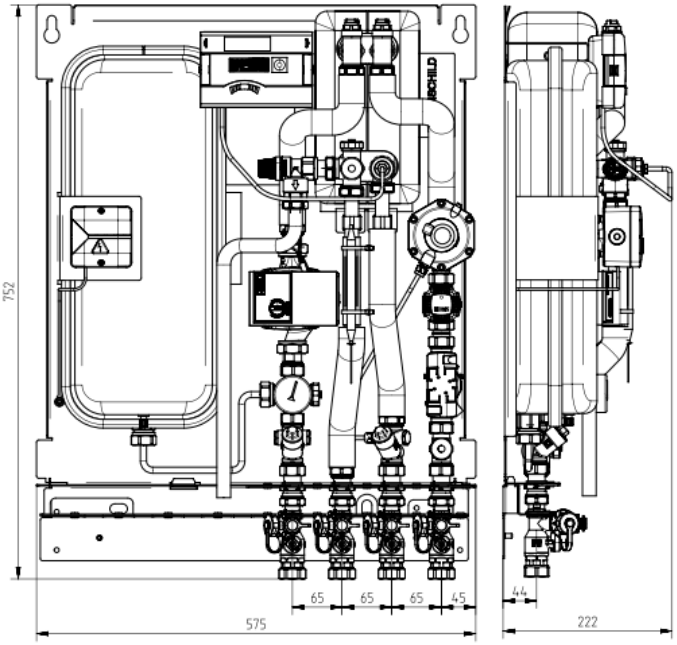
Heating capacity examples			
Output	Primary Flowrate	Primary Flow Temperature	Secondary Flow Temperature
5 kW	162 l/h	85°C	70°C
10 kW	382 l/h	85°C	70°C
15 kW	660 l/h	85°C	70°C

Ecosse HIU Part Numbers

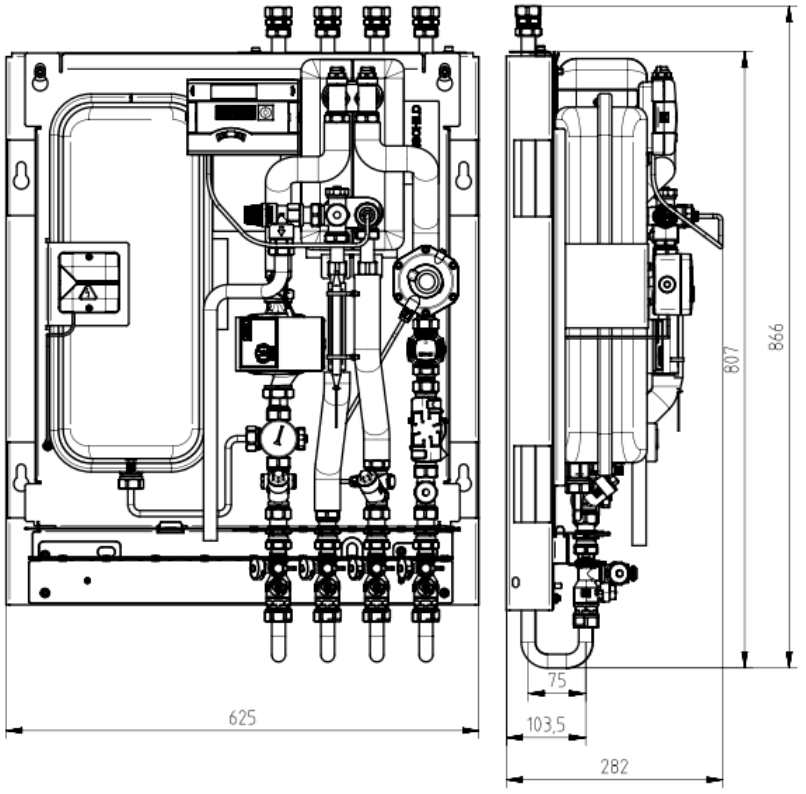
Part no	Description
1402100	Herz Ecosse Single Heat Exchanger Indirect HIU
1402101	Herz Ecosse Single Heat Exchanger Indirect HIU inc. Heat Meter
1402103	Herz Ecosse HIU Cover
1402102	Herz Ecosse HIU Cover for Top Entry
1402104	Herz Ecosse First Fix Pre-Mounting Rail
1402105	Herz Ecosse Top Entry Bracket
1402106	Herz Ecosse Top Entry Bracket + Pipes

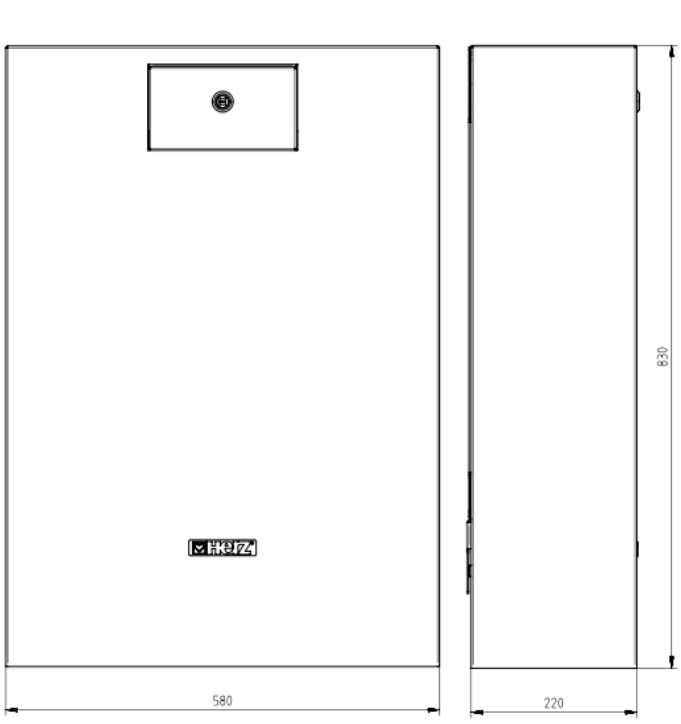
Ecosse HIU Drawings

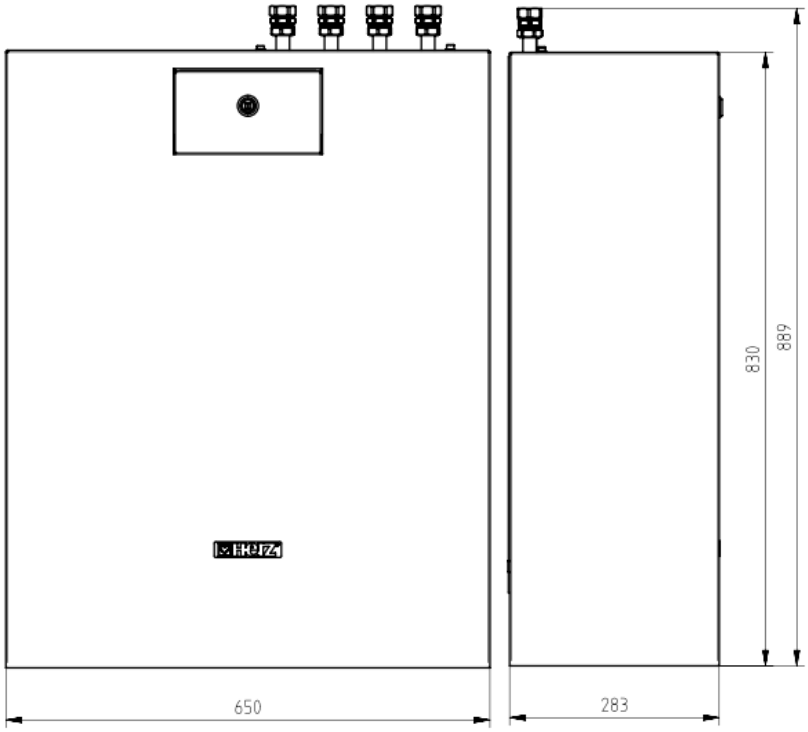
Bottom entry version

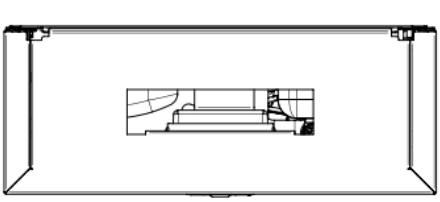


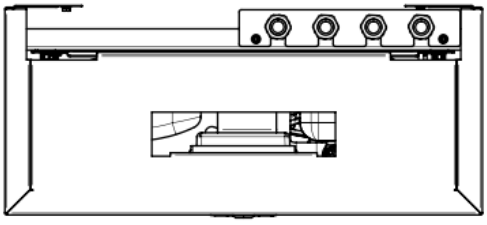
Top entry version











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