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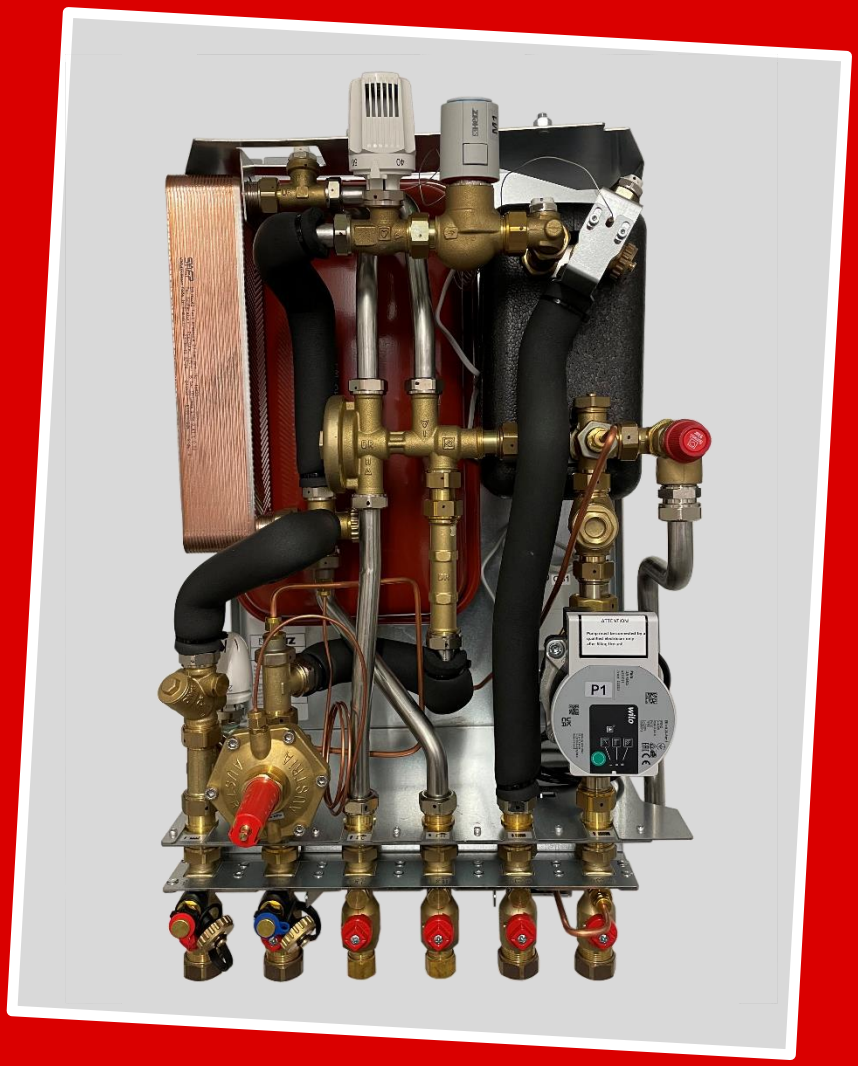
Herz Dublin
Heat Interface Unit

The Modern Solution for Apartment Heating and Domestic Hot Water Services



kiwa approved

UK WATER REGULATION 4

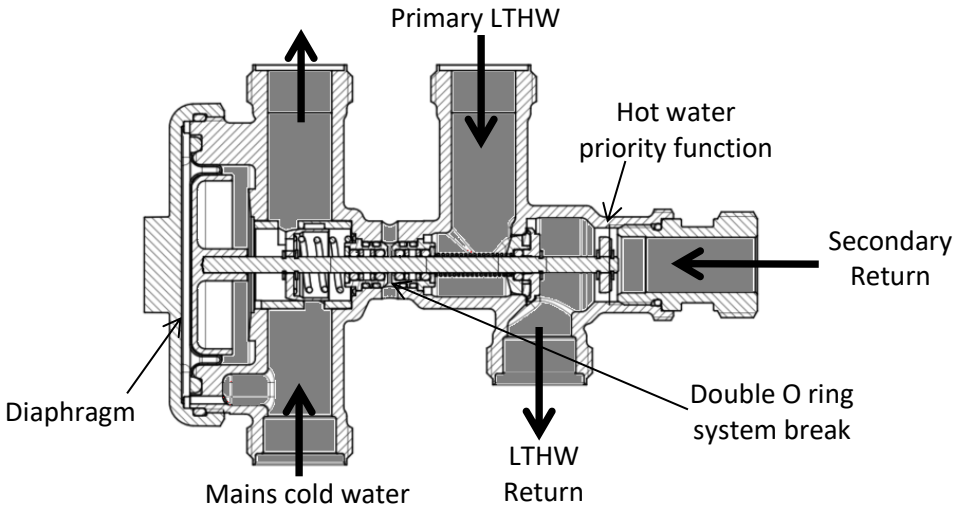
General Description

The Herz Dublin HIU is suitable for all community schemes and enables LTHW from a central plant to provide heating and DHWS to each dwelling with complete hydraulic separation between the LTHW primary and secondary heating and DHWS systems.

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

Main Components

Pressure Temperature Control Valve



As a hot water tap is opened the pressure temperature control valve reacts to the difference in pressure via a diaphragm and opens allowing the cold and primary heating water to flow through the heat exchanger. The valve has proportional control and only allows the minimum amount of primary water required to produce the requisite amount of hot water at the tap, maximising system efficiency. At the same time, the hot water priority function within the valve closes the secondary return circuit, thus ensuring maximum flow is available at the domestic heat exchanger. In order to prolong the life of the DHW heat exchanger and prevent lime scale build up, the temperature of the domestic hot water is controlled by the differential pressure control valve combining with the valve's proportional control to limit the amount of energy used thus maximising the energy efficiency of both the HIU and the primary system.

Zone Valve

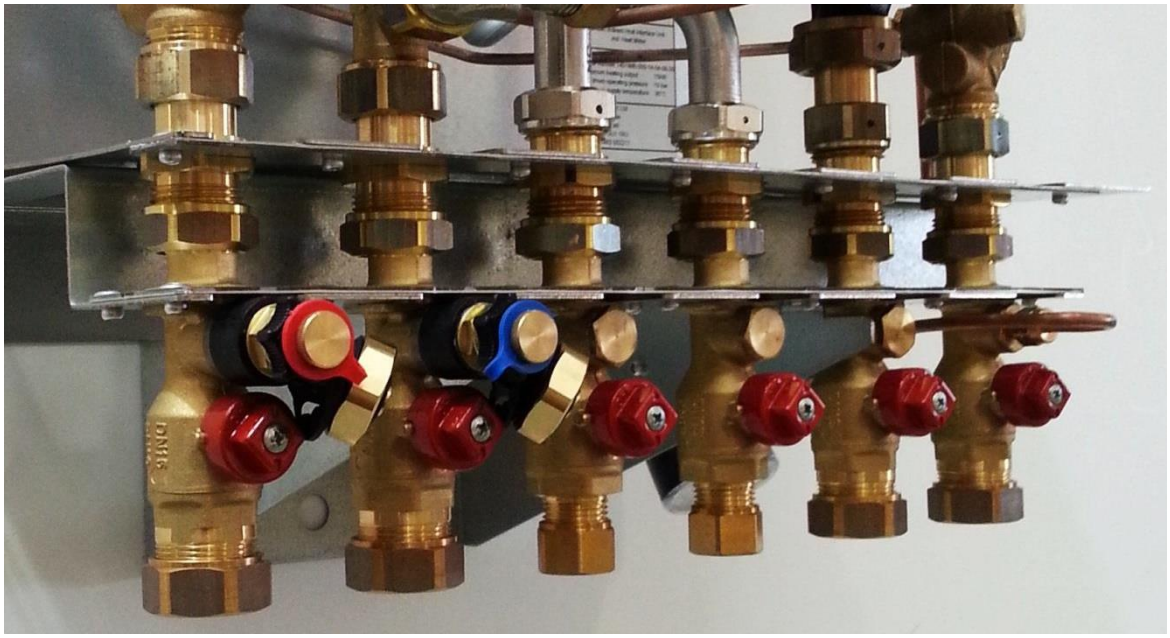
The primary flow to the heating system heat exchanger is controlled by a two port on/off actuated valve linked to a programmable room thermostat. This valve will close when the room temperature setting has been achieved or when the heating system is not in use.

Summer Bypass Valve

The "Summer bypass" valve utilises a return temperature limiter head fitted to a thermostatic valve installed in a bypass between the primary flow and return pipework within the HIU. This maintains a minimum primary temperature when the space heating is not in use.

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 with integral test points on the primary flow and return to facilitate draining and 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 Herz Dublin 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 stand-off bracket enables any combination of services to be piped from above or below the HIU.

Other Features

- Instantaneous hot water and space heating to properties
- Twin heat exchangers provide hydraulic separation
- Hot water temperature control
- ”Summer bypass” valve
- First Fix pre-mounting rail
- Low primary return temperature maximises system efficiency
- Primary Differential Pressure Control Valve
- Secondary temperature control
- Option for heat meter (110mm Spool piece provided as standard)
- Insulated back board, secondary heating heat exchanger & heating pipework
- 18mm stainless steel pipe work

Functions

a) Residents Heating System

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 3 F799 17). This valve will close when the room temperature setting has been achieved or when the heating system is not in use.

A Thermostatic head, connected to an immersion sensor in the secondary flow, allows the flow temperature of the secondary heating circuit to be adjusted dependent on whether underfloor heating or radiators are utilised.

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

b) Residents Hot Water (DHW)

Domestic hot water is generated via the DHW heat exchanger mounted in the HIU and provides instantaneous hot water on demand.

DHW flow rate and temperature is controlled via the Pressure temperature control valve which is temperature compensated and requires no auxiliary power to operate.

When a hot water tap is opened the drop in pressure in the hot water pipe will open the 4 port pressure temperature control valve which in turn will allow primary hot water into the heat exchanger.

When the hot water demand ceases the pressure temperature control valve will immediately stop the primary flow into the heat exchanger. Therefore there is no drain on the primary heating when there is no demand, so no “extra energy usage” when residents are on holiday for example.

A thermostatic “summer” bypass valve is fitted to maintain a minimum primary temperature when the space heating is not in use. This provides a quick DHW response and avoids unnecessary energy usage.

Energy Metering

A battery powered energy meter can be provided as an option.

The meter will measure flow using the ultrasonic principle with an accuracy complying with EN1434 and MID in Class 2.

The heat meter will have options for M bus or radio.

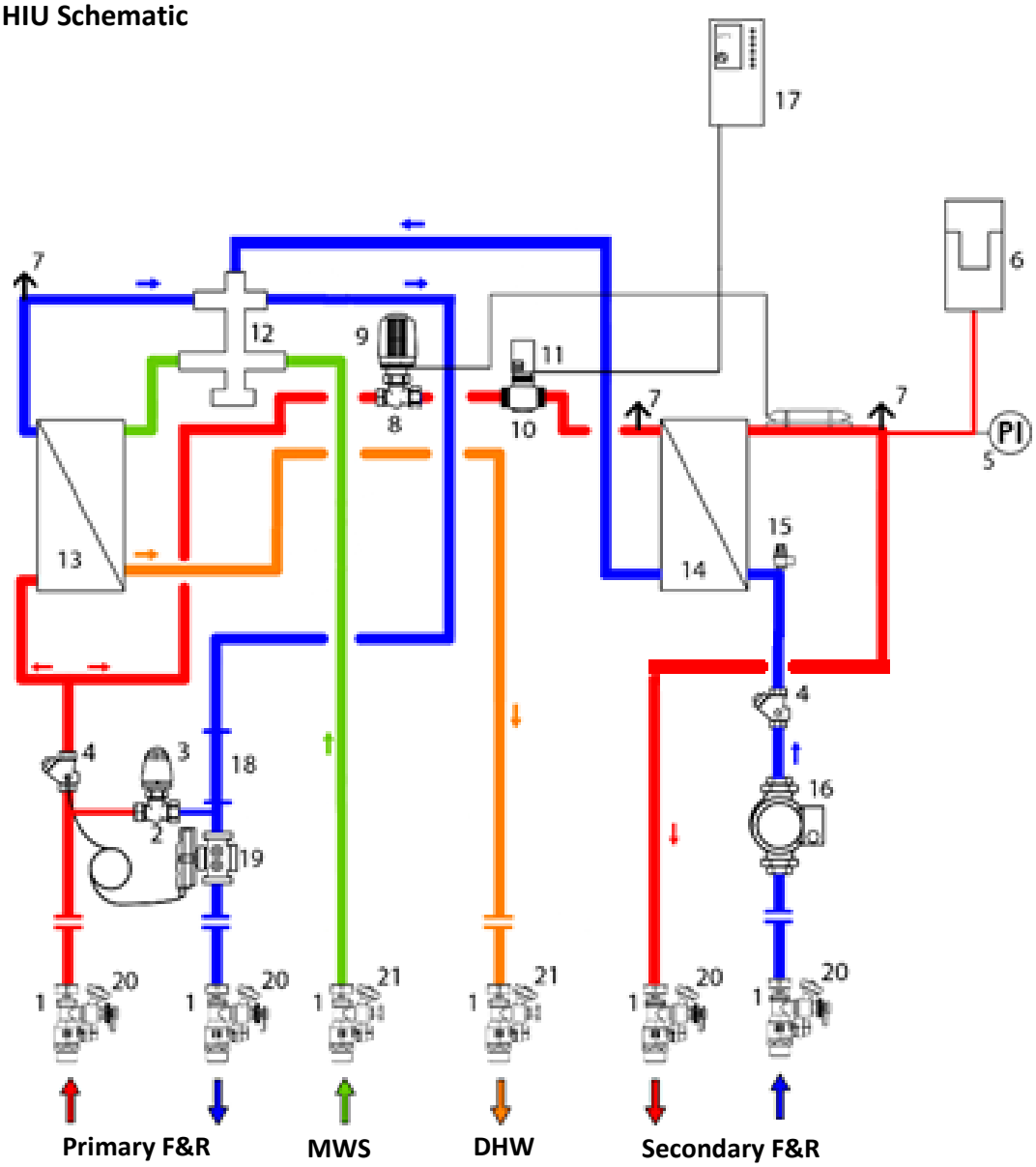
Pre-payment options are available on request.

System Balancing

BSRIA BG 62/2015 states that each HIU should include a differential pressure control device so that the operation of the HIU is independent of fluctuations in the primary pressure. A Differential Pressure Control Valve is included in the Herz Dublin HIU to protect the HIU from pressure fluctuations in the primary system and to govern the primary flow rate to the HIU and control the hot water temperature. This means that the Herz Dublin HIU is effectively self-balancing and requires no other commissioning valves.

Technical Data

Dublin HIU Schematic



No	Description
1	Ball valves 15mm compression (MWS & DHW)
1	Ball valves 22mm compression (Prim & Sec F&R)
2	Summer bypass valve
3	Return temperature limiter
4a	Primary Strainer 0.5mm mesh
4b	Secondary Strainer 0.5mm mesh
5	Pressure gauge
6	Expansion vessel
7	Air vent
8	Thermostatic valve
9	Thermostatic head with contact sensor
10	Zone valve
11	Actuating drive for zone valve
12	Pressure temperature controller with priority
13	DHW heat exchanger - Stainless Steel brazed
14	Space heating heat exchanger - Stainless Steel
15	Pressure relief safety valve
16	Secondary circulating pump
17	Room temperature controller (accessory)
18	Heat meter spool piece
19	Differential pressure control valve
20	Drain valve with test point
21	Drain Valve

Dublin HIU Data

Description	Data
Maximum DHW output	52 kW
Maximum secondary heating output	15 kW
Maximum primary supply temperature	90°C
Maximum DHW temperature	55°C
Maximum DHW flowrate	18 l/min
Recommended minimum DP	Up to 60kPa temperature dependent
Maximum working pressure primary side	16 bar
Maximum working pressure DHW side	10 bar
Minimum dynamic cold water pressure for max output	2.5 bar
Safety relief valve setting secondary heating side	3 bar
Safety relief valve copper tail	15mm
Expansion vessel capacity	10 litres
Ball valve connections	22mm/15mm compression
Dimensions H x W x D	750mm x 450mm x 365mm

Water Quality

Consideration should be given to the use of a scale prevention device when aggressive water supplies are present.

UK Water Regulation 4 Compliant

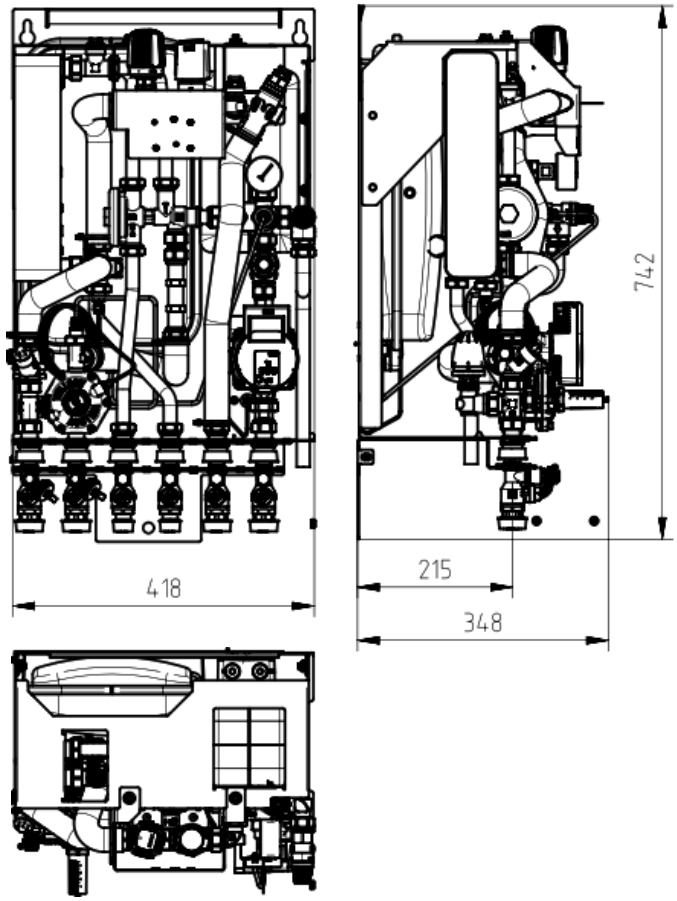
Herz Dublin HIU is KUKReg4 Approved

Herz Dublin HIU Accessories

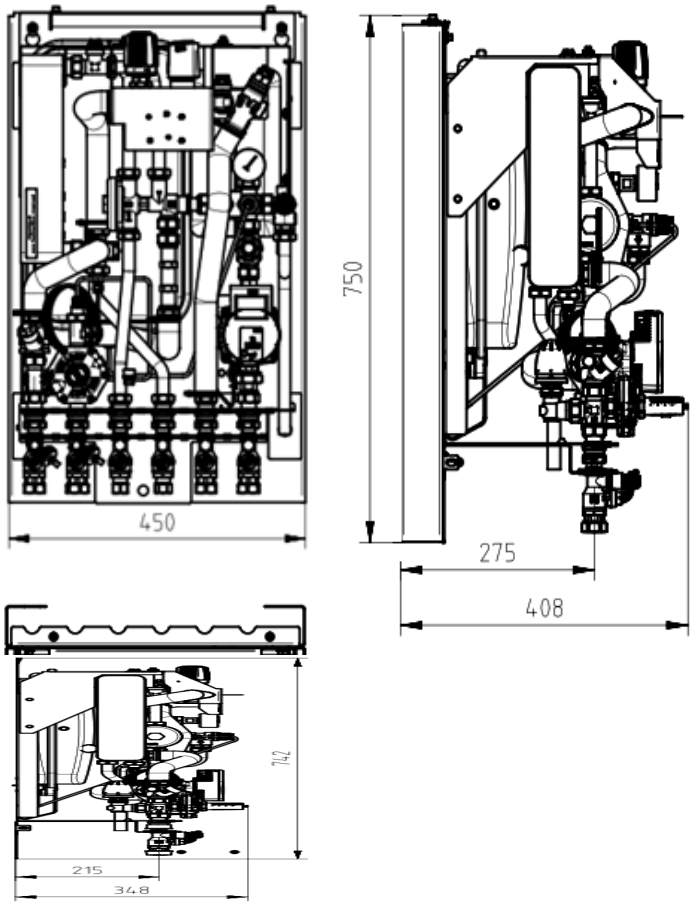
Top entry pipe 1401887 First fix entry 1401888	Flushing bypass can be connected to the primary flow & return ball valves on the first fix pre-mounting rail or the pipes in the top entry bracket	
HVHIUFL-01	WRAS approved filling loop for charging a secondary sealed system via temporary connection to the mains supply	
3F79917	230V Programmable digital thermostat with individual time and temperature adjustment on a weekly basis	
HVHIUSV-01	Solenoid Valve for pre-payment applications supplied separately ½" NC 230V/50hz DIN plug included	
HVHIUTRV-99 HVHIUTRV-98	Pre-settable TRV kits for HIU radiator heating systems, TRVs available for radiators up to 3kW or 6kW @ 20$^{o}\Delta$t	

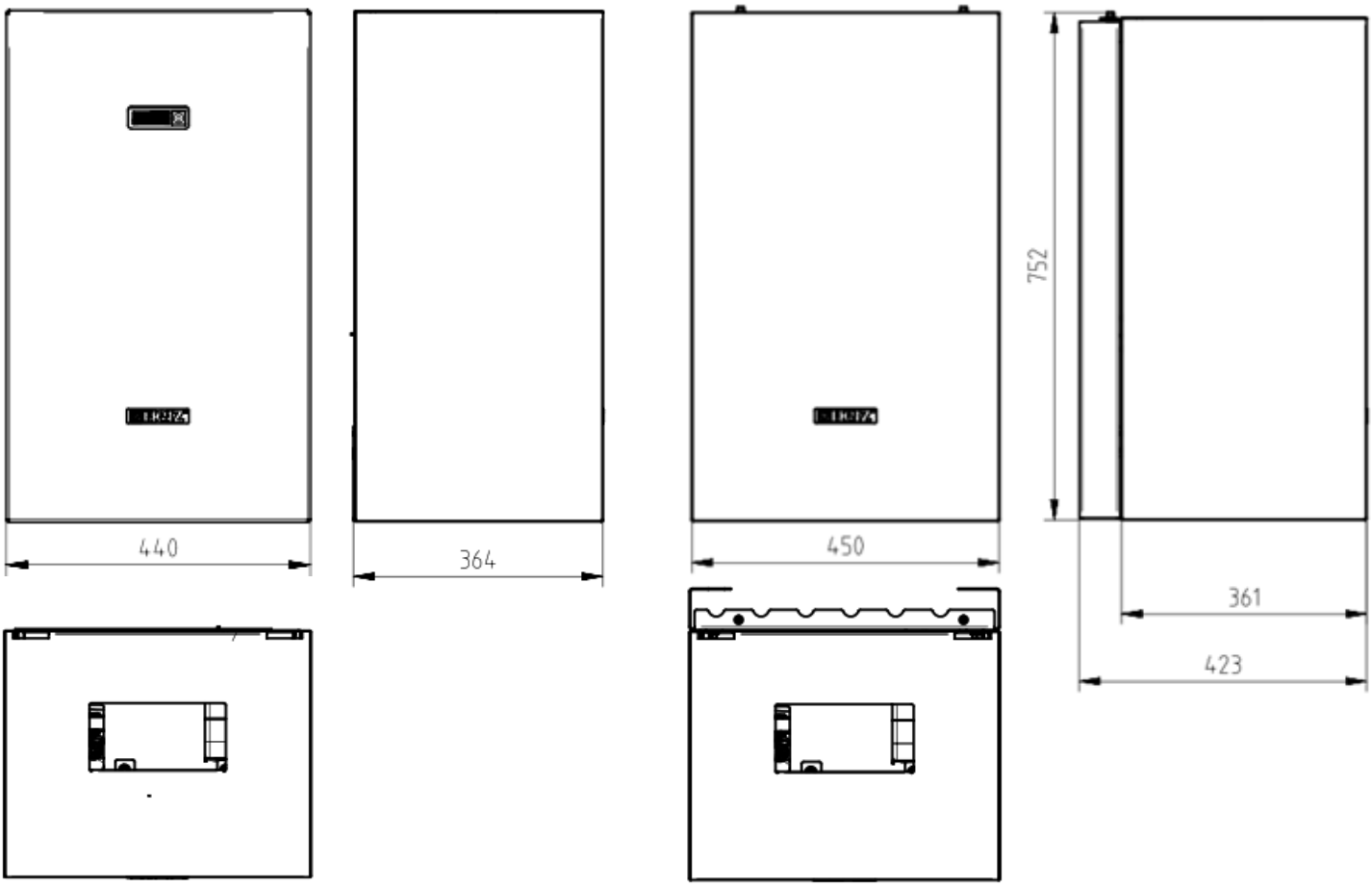
Dublin HIU Drawings

Bottom entry version



Top entry version





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