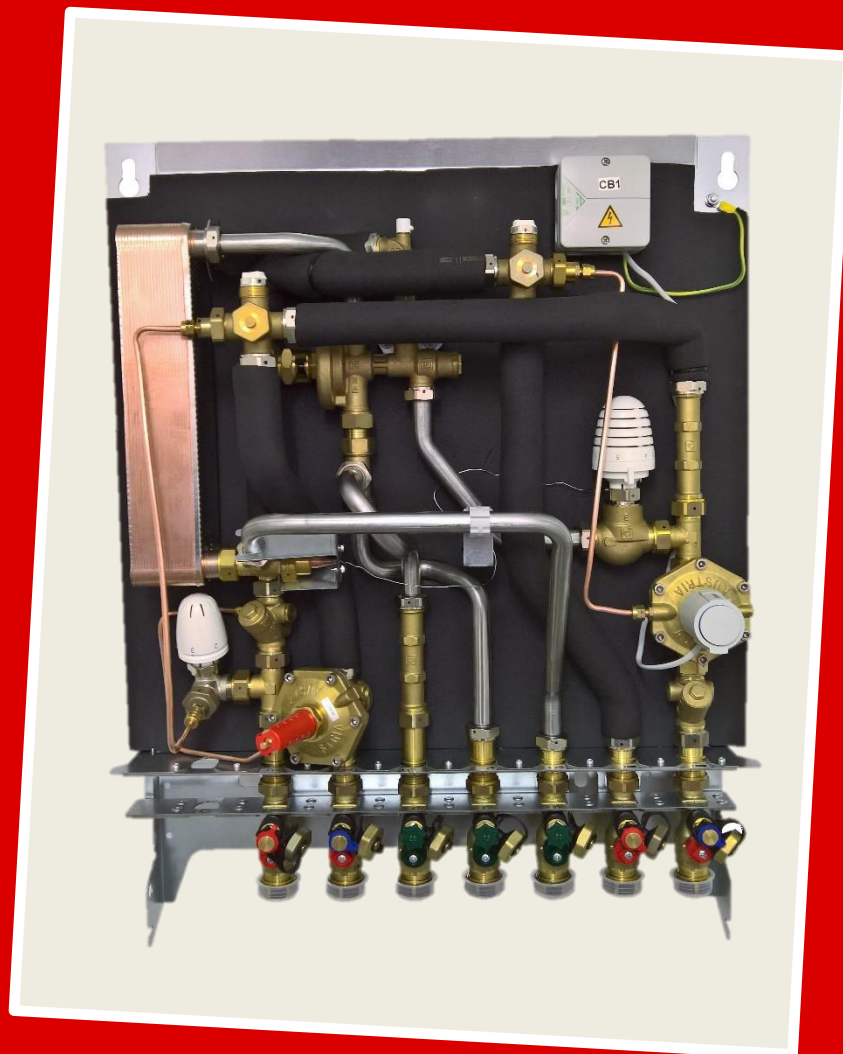


# Herz York Direct Heat Interface Unit

The Modern Solution for Apartment Heating and  
Domestic Hot Water Services



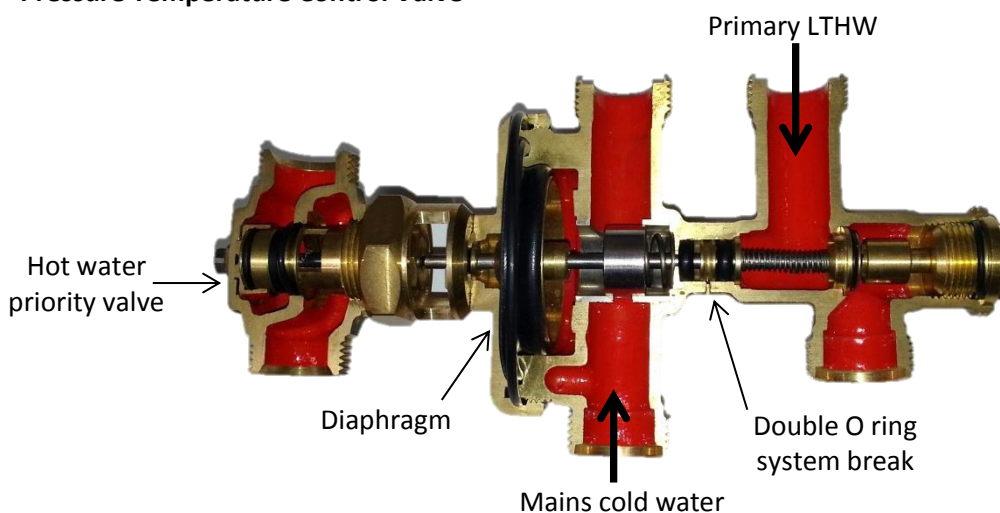
## General Description

The Herz York Direct 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 DHWS system.

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. At the same time, a hot water priority valve closes the primary feed to the secondary heating system, 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 a thermostat fitted to a thermostatic control valve. Using an immersion sensor, this thermostat controls the temperature of the hot water that exits the heat exchanger and regulates the thermostatic control valve thus maximising the energy efficiency of both the HIU and the primary system.

### 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. The thermostatic bypass valve is installed upstream of the heat meter. Combined with the Pressure Temperature Control Valve, which only allows water through the DHW heat exchanger when there is a demand, ensures that it is impossible to have meter creepage or standing losses from the Herz York Direct 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 Herz York Direct 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. Pre-formed, pre-insulated pipes, complete with all connections, are available to provide full flexibility.

## Other Features

- ▶ Instantaneous hot water and space heating to properties
- ▶ DHW heat exchanger provides hydraulic separation
- ▶ Thermostatic hot water temperature control
- ▶ Primary Differential Pressure Control Valve
- ▶ Secondary Differential Pressure Control/Zone Valve
- ▶ Insulated heating pipework & cover
- ▶ Low primary return temperature maximises system efficiency
- ▶ Optional primary flushing bypass available
- ▶ Option for heat meter (110mm Spool piece provided as standard)
- ▶ Option for water meter (110mm Spool piece provided as standard)
- ▶ Optional return temperature limiter available for installation in the secondary radiator system
- ▶ 18mm stainless steel pipe work

## Functions

### a) Residents Heating System

The primary flow to the secondary heating system is controlled by an integrated fixed spring differential pressure control valve with on/off actuated zone valve linked to a programmable room thermostat (Herz 1 7795 01). This valve will close when the room temperature setting has been achieved or when the heating system is not in use. The differential pressure controller is fitted across the secondary flow and return circuit on each HIU to ensure that the delta t is maintained to maximise system efficiency and the return temperature.

### 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 temperature is controlled by a thermostat fitted to a thermostatic control valve. Using an immersion sensor, this thermostat controls the temperature of the hot water that exits the heat exchanger and regulates the thermostatic control valve thus maximising the energy efficiency of both the HIU and the primary system.

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

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.

Pre-payment options are 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.



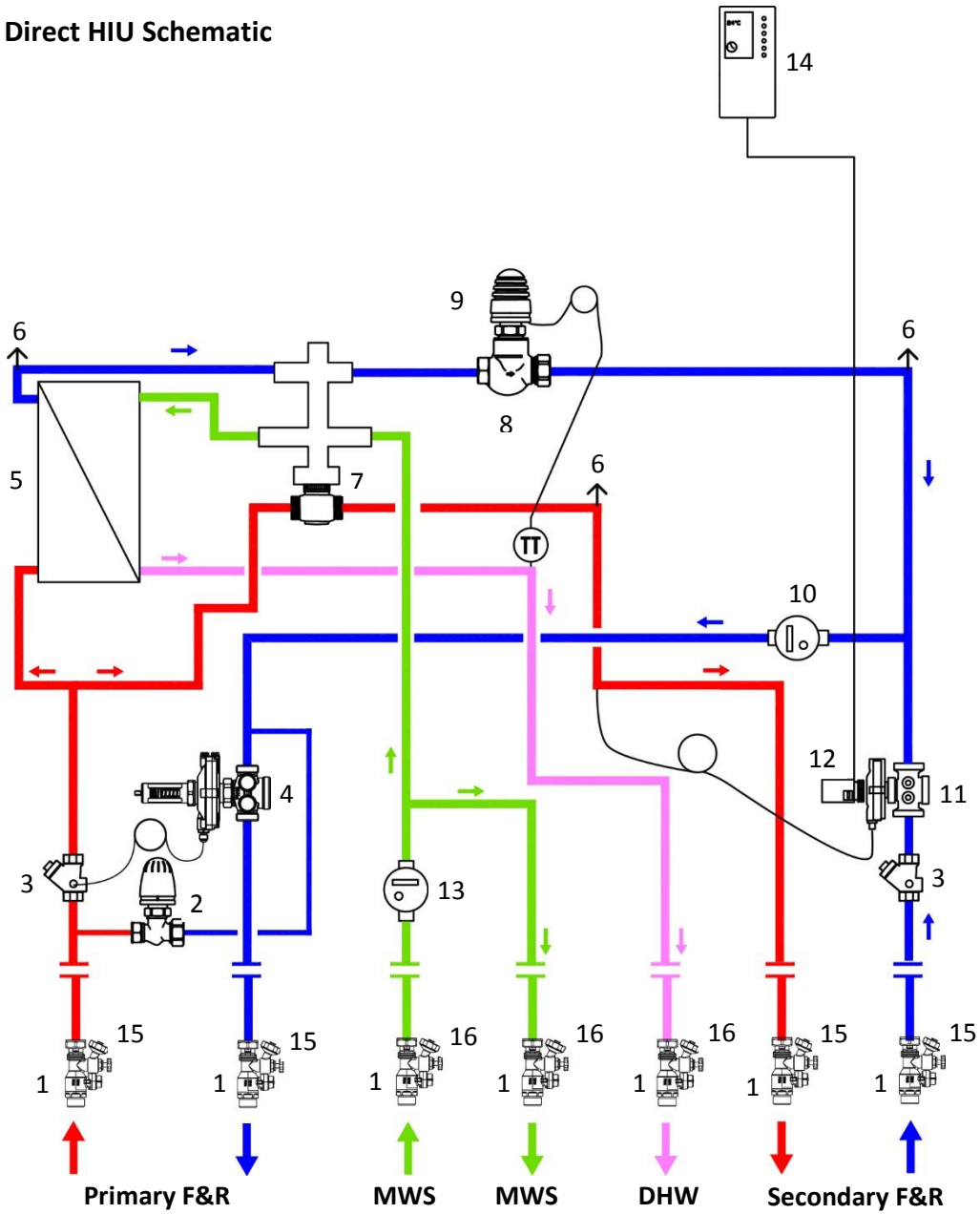
## System Balancing

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 across the primary in the Herz York Direct HIU to protect the HIU from pressure fluctuations in the primary system and to govern the primary flow rate to the HIU. A fixed spring differential pressure control/zone valve with actuator is also fitted across the secondary circuit to ensure that the delta t is maintained to maximise system efficiency and the return temperature. This means that the Herz York Direct HIU is effectively self-balancing and requires no other commissioning valves.



# Technical Data

## Herz York Direct HIU Schematic



No	Description
1	First fix pre-mounting rail ball valves
2	Thermostatic circulation "Summer bypass" valve
3	Strainer 0.5mm mesh
4	Primary Differential pressure control valve
5	DHW heat exchanger - Stainless Steel brazed
6	Air vent
7	Pressure temperature control valve with hot water priority valve
8	Thermostatic control valve
9	Thermostatic head with contact sensor
10	Ultrasonic Heat meter with pockets (optional)
11	Secondary Differential pressure control/zone valve
12	Actuating drive for zone valve
13	Spacing piece (110mm) for water meter
14	Room temperature controller (optional)
15	Drain valve with test point
16	Drain valve

## Herz York Direct HIU Data

Description	Data
Maximum DHW output	73 kW (26 l/min)
Maximum primary supply temperature	90°C
Maximum DHW temperature	55°C
Maximum DHW flowrate	26 l/min
Recommended DP	50 kPa
Maximum Secondary DP	23 kPa
Maximum working pressure primary side	10 bar
Maximum working pressure DHW side	10 bar
Minimum cold water pressure for maximum output	2.5 bar
Ball valve connections	22mm/15mm compression
Dimensions H x W x D	610mm (780mm c/w ball valves) x 625mm x 220mm
Dimensions H x W x D (top entry)	610mm (780mm c/w ball valves) x 675mm x 280mm

## Herz York Direct HIU Flow Data

DHW		50/10°C	50/10°C	50/10°C	50/10°C	DHW Temperature
Output	Flowrate	70°C	75°C	80°C	85°C	Primary Flow Temperature
33 kW	12 l/min	19	18	14.5	14.2	Primary Return Temp (°C)
		554	506	437	406	Primary Flowrate (l/h)
42 kW	15 l/min	20.6	17.8	15.3	15	Primary Return Temp (°C)
		721	627	547	513	Primary Flowrate (l/h)
55 kW	20 l/min	18	18.4	15.9	15.7	Primary Return Temp (°C)
		880	832	731	689	Primary Flowrate (l/h)
73 kW	26 l/min	16.4	17.7	17.5	16.9	Primary Return Temp (°C)
		1022	999	946	877	Primary Flowrate (l/h)

## Water Quality







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

## WRAS Approval

All components in contact with domestic cold and hot water are WRAS approved.



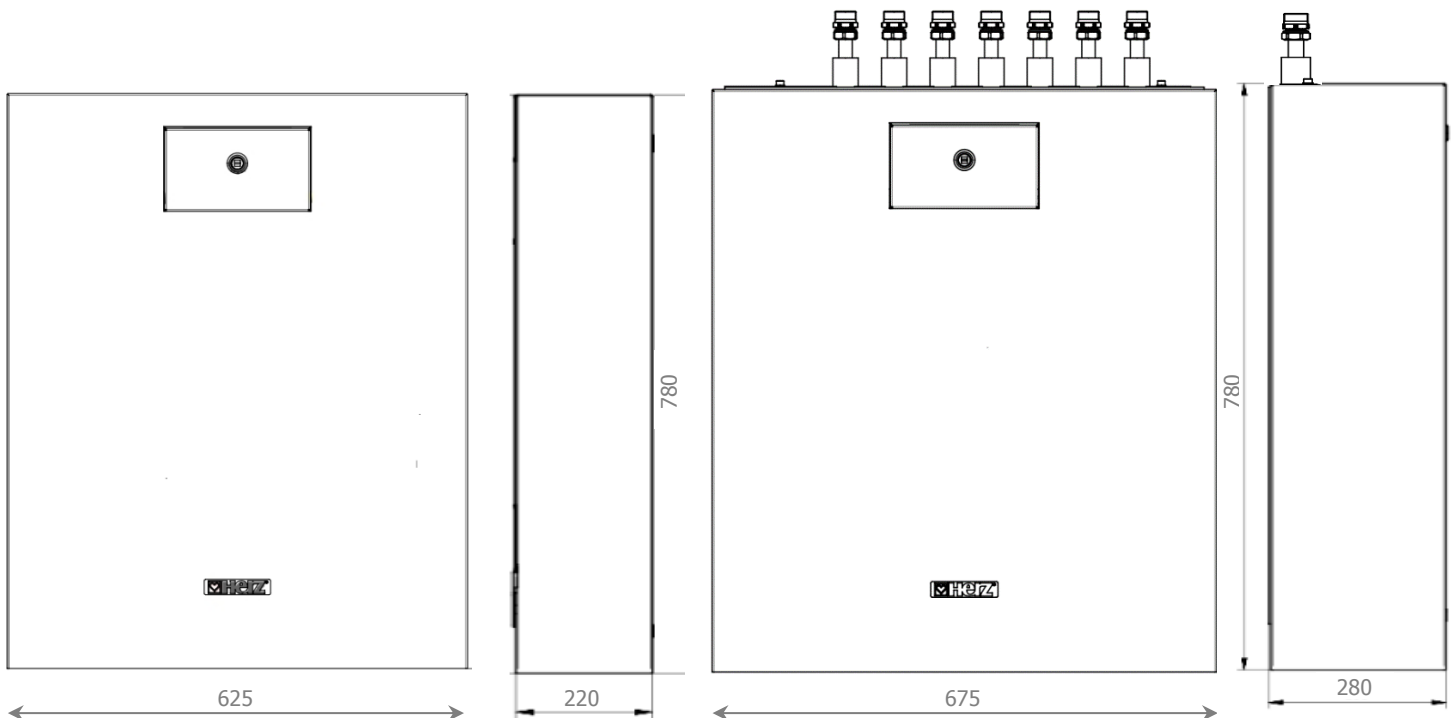
## Herz York HIU Accessories

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	
1664002	Temporary flushing bypass can be connected onto the first fix pre-mounting rail before the HIU is fitted	
1779501	Digital thermostat with individual time and temperature adjustment on a weekly basis with 9 fixed programs and 4 user programs, battery operated	
HVHIUSV-01	Solenoid Valve for pre-payment applications supplied separately ½" NC 230V/50hz DIN plug included	
HVHIUWM-01	SMART C+ single jet water meter WRAS approved, MID approved, can be installed in the York HIU and fitted with a radio or pulse emitter	
	Pre-settable TRV kits for HIU radiator heating systems, TRVs available for radiators up to 1.5kW and 1.5 – 3.5kW in size	

## Herz York HIU Drawings

Bottom entry version

Top entry version



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