

SPECIFICATION FOR HERZ *DUBLIN* HEAT INTERFACE UNITS

1.0 General requirements

- a) Heat Interface Units (HIU) shall enable LTHW from the central plant to provide heating and DHWS to each apartment and provide complete hydraulic separation with braised stainless steel heat exchangers between the LTHW primary and the secondary heating and DHW systems as **Herz Dublin** pattern HIU. Furthermore the secondary heating and DHW flow temperatures and flow rates shall be controlled.
- b) The HIU shall be a complete package comprising all components and controls mounted on a frame, factory assembled and tested.
- c) The mounting frame shall be sufficient to support all the components of the HIU. Excess support and metal plate shall be avoided to reduce unnecessary and unwanted heat emission.
- d) The option should be provided to insulate all components in the HIU where practical to reduce heat loss and to reduce heat rise in the cupboard, this shall include all heating pipework and the heating heat exchanger.
- e) A first fix rail with isolating ball valves shall be provided with each HIU to allow the shell and core pipework to be installed and tested before introducing the HIU. Primary ball valves shall have a drain valve fitted with test points to facilitate draining and aid additional temperature or pressure measurement if required.
- f) The HIU shall be able to facilitate top entry by means of a stand-off bracket to enable any combination of services to be piped from above or below by means of insulated pipework.
- g) A **Herz** variable spring differential pressure control valve shall be fitted across the primary flow and return circuits on **each** HIU to protect the control valves from excessive differential pressure and to govern the primary flow rate. The differential pressure control valve shall form part of the assembled **Dublin** HIU as per BSRIA Guide BG 62/2015.
- h) Integral strainers shall be included in the primary flow and secondary return of the HIU.
- i) A white powder coated casing shall be provided and have the means to be secured to the HIU.
- j) All distribution pipe work within the HIU shall be 18mm stainless steel.
- k) The HIU shall be UK water Regulation 4 compliant.

2.0 Apartment Heating System (LTHW)

- a) The primary flow to the heating system plate heat exchanger (HE1) shall be controlled by a two port on/off actuated valve linked to the room thermostat and will close when the room temperature setting has been achieved or when the heating system is not in use.

Flow rate through HE1 will be controlled via a thermostatic control valve installed in the primary flow. A thermostatic head with remote sensor shall be mounted on the control valve to limit the secondary flow temperature by controlling the primary flow through HE1 as per BSRIA Guide BG 62/2015.

b) The secondary heating circuit shall be provided with a 10 litre expansion vessel, pressure relief safety valve and a variable speed secondary space heating pump selected to provide a constant DP to assist in setting the correct flow rates to each radiator as per CIBSE CP1 (2020) 3.4.10 & BSRIA BG 62/2015. The circulation pump shall be mounted in the secondary return to aid in the removal of air during the commissioning process, an air vent shall also be installed in the secondary circuit.

c) A **Herz** programmable room thermostat (Fig 3 F799 17) shall be provided separately for each apartment and shall be mounted within the apartment living area. The programmable room thermostat shall be set for day/night/summer/winter operation and will close the two port actuated valve and stop the secondary domestic heating pump during the heating off periods.

3.0 Apartment Domestic Hot Water (DHW)

a) Domestic hot water (DHW) for each apartment shall be generated via a plate heat exchanger (HE2) mounted in the HIU

b) DHW flow rate and temperature shall be controlled via a **Herz** pressure temperature control valve which shall have proportional control. When a hot water tap is opened, the drop in pressure in the hot water pipe shall open the 4 port pressure temperature controller which in turn shall allow primary hot water into the HE2. The pressure temperature controller shall proportionally control the amount of primary water flowing through HE2 for maximum system efficiency. When the DHW tap or shower mixer unit is closed the pressure temperature controller shall immediately stop the primary flow into HE2 thus reducing the risk of high temperatures building up in HE2 causing lime scale and bacteria build up. The operation of the pressure temperature controller shall be mechanical and require no auxiliary power.

c) The proportional control of the pressure temperature controller shall ensure constant DHW temperature in combination with the primary differential pressure control valve. The operation of the pressure temperature controller shall be mechanical and require no auxiliary power.

d) The pressure temperature control valve shall have an integral hot water priority function which will isolate the primary supply to the secondary heat exchanger when there is DHW demand.

e) A **Herz** thermostatic “summer” bypass valve fitted with a return temperature limiter shall be installed between the primary flow and return to ensure a quick DHW response and maintain primary temperatures when there is no heating demand.

f) There shall be no standing losses or meter creepage resulting in the end user being charged for periods of no demand.

4.0 Energy Metering

The HIU should have the facility for an energy meter to be mounted in the primary heating return pipe if required, it should meet the following minimum specification: -

a) Flow measurement using the ultrasonic principle

b) Measuring accuracy meets EN1434 Class 2

c) 2 x Pt500 sensors mounted in the pipework

d) Battery operated with minimum 10 year life battery

e) M Bus or Wireless operation