

SPECIFICATION FOR HERZ CALEDONIA HEAT INTERFACE UNITS

1.0 General requirements

- a) Direct 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 a brazed stainless steel heat exchanger between the LTHW primary and the DHW systems as **Herz Caledonia** pattern HIU. Furthermore the secondary heating shall be controlled by the HIU but be supplied directly from the primary heating supply.
- b) A **Herz** 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 **Caledonia** HIU as per BSRIA Guide BG 62/2015.
- c) The option should be provided to incorporate a cold water booster pump to assist when the mains pressure is too low to provide hot water through the HIU eg. in multiple floor developments where MCW booster pumps have not been installed.
- d) The HIU shall be a complete package comprising of all components and controls mounted on a frame, factory assembled and tested.
- e) 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.
- 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) 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.
- h) 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. Each ball valve shall have a drain valve to facilitate draining and have test points fitted on the primary and secondary heating to aid additional temperature or pressure measurement if required.
- i) Integral strainers shall be included in the primary flow and heating return of the HIU.
- j) A white powder coated casing shall incorporate a viewing window to allow meter reading without casing removal.
- k) All distribution pipe work within the HIU shall be 18mm stainless steel.
- l) The HIU shall be UK water Regulation 4 compliant.

2.0 Apartment Heating System (LTHW)

- a) The primary flow to the heating system shall be controlled by a **Herz** fixed spring differential pressure control/zone 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.
- b) A **Herz** 23kPa fixed spring differential pressure control/zone valve installed across the secondary heating circuit shall 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.

C) **Herz** presettable TRVs should be used on radiators as per CIBSE CP1 (2020) 3.4.11 & BSRIA Guide BG 62/2015, this will aid balancing to achieve the design temperature difference and reduce volume flowrates and hence return temperatures under part load and ensure low return temperatures as per CIBSE CP1 (2020) 3.5.7.

d) 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 mounted in the HIU

b) DHW flow rate and temperature shall be controlled via a **Herz** pressure temperature control valve which shall be temperature compensated. 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. 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) A **Herz** thermostatic control valve shall ensure constant DHW temperature over a primary flow temperature range of 60 – 90°C. The **Herz** thermostatic control valve shall limit the DHW temperature and maintain a constant temperature of 50°C to 60°C depending on requirements.

d) The pressure temperature control valve shall have an integral hot water priority valve 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 head 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 energy they are not using on 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