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 of 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) 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.

e) Integral strainers shall be included in the primary flow and secondary return of the HIU.

f) A white powder coated casing shall incorporate a viewing window to allow meter reading without casing removal.

g) All distribution pipe work within the HIU shall be 18mm stainless steel.

h) All components in contact with domestic cold and hot water shall be WRAS approved.

i) A **Herz** fixed spring differential pressure control valve should be fitted across the primary flow and return circuits to **each** HIU to protect the control valves from excessive differential pressure and to govern the primary flow rate.

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.

b) The secondary heating circuit shall be provided with a 10 litre expansion vessel, pressure relief safety valve and secondary domestic heating pump which will vary the system flow rate automatically based on demand.

c) A **Herz** programmable room thermostat (Fig 1 7791 23) 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 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) The temperature function of the pressure temperature controller shall ensure constant DHW temperature over a primary flow temperature range of 60 – 90°C. The pressure temperature controller shall limit the DHW temperature.

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 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.

4.0 Energy Metering

If required the HIU may be provided with a built in energy meter mounted in the primary heating return pipe.

The meter should meet the following minimum specification

a) Flow measurement using the ultrasonic principle

b) Measuring accuracy meets EN1434 Class 2

c) Heat calculator to have read out in kW/hr

d) 2 x Pt500 sensors mounted in the pipework

e) Battery operated with 12 year life battery

f) 24 month data storage

g) Data collection shall be via M-bus or remote reading via hand held scanner