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HIPER
Xi45



Heat Interface Unit
Heat Loss Figures



Heat Interface Unit Heat Loss Figures





Heat Interface Unit Heat Loss Figures



The Hiper HIU has an average heat loss through its casing that is approximately of 0.5% of its duties.

The heat transfer (heat loss) is directly related to the:

- *Material characteristics (i.e. insulation properties)*
- *HIU average temperature $T_{HIU,av}$*
- *$\Delta T = T_{HIU,av} - T_{amb}$*

Where T_{amb} is assumed to be the ambient temperature



Heat Interface Unit Heat Loss Figures



Assumption: HIU in heating mode (most of the operating timelife)

- *CASE 1 (unrealistic scenario)*
 - 1) *CH flow Temperature = 80°C*
 - 2) *CH return Temperature = 60°C*

$$T_{HIU,av} \sim 70^{\circ}\text{C}$$

$$\Delta T = T_{HIU,av} - T_{amb} = 70^{\circ}\text{C} - 20^{\circ}\text{C} = 50^{\circ}\text{C}$$

Under the above conditions and considering the Hiper HIU max duties in heating as 30 kW the average heat loss through the casing is:

$$\text{Heat Loss} = 150\text{W} \rightarrow 252 \text{ kWh/year}$$

Year assumed in 1680hrs of operation without interruption (8hrs/day, 7months)



Heat Interface Unit Heat Loss Figures



Assumption: HIU in heating mode (most of the operating timelife)

- *CASE 2 (more realistic scenario)*
 - 1) *CH flow Temperature = 60°C*
 - 2) *CH return Temperature = 40°C*

$$T_{HIU,av} \sim 50^{\circ}\text{C}$$

$$\Delta T = T_{HIU,av} - T_{amb} = 50^{\circ}\text{C} - 20^{\circ}\text{C} = 30^{\circ}\text{C} \quad (60\% \text{ of } \Delta T 50^{\circ}\text{C})$$

Heat Loss = 90W → 151 kWh/year (calculated for 30 kW continues and 1680 hrs)

HIPER HIU modulates its duties and even considering DHW deliveries can be assumed this modulation from 10 kW to 30 kW (average 20 kW), which means:

Heat Loss = 60W → 175 kWh/year (calculated in 2920 hrs of operation)

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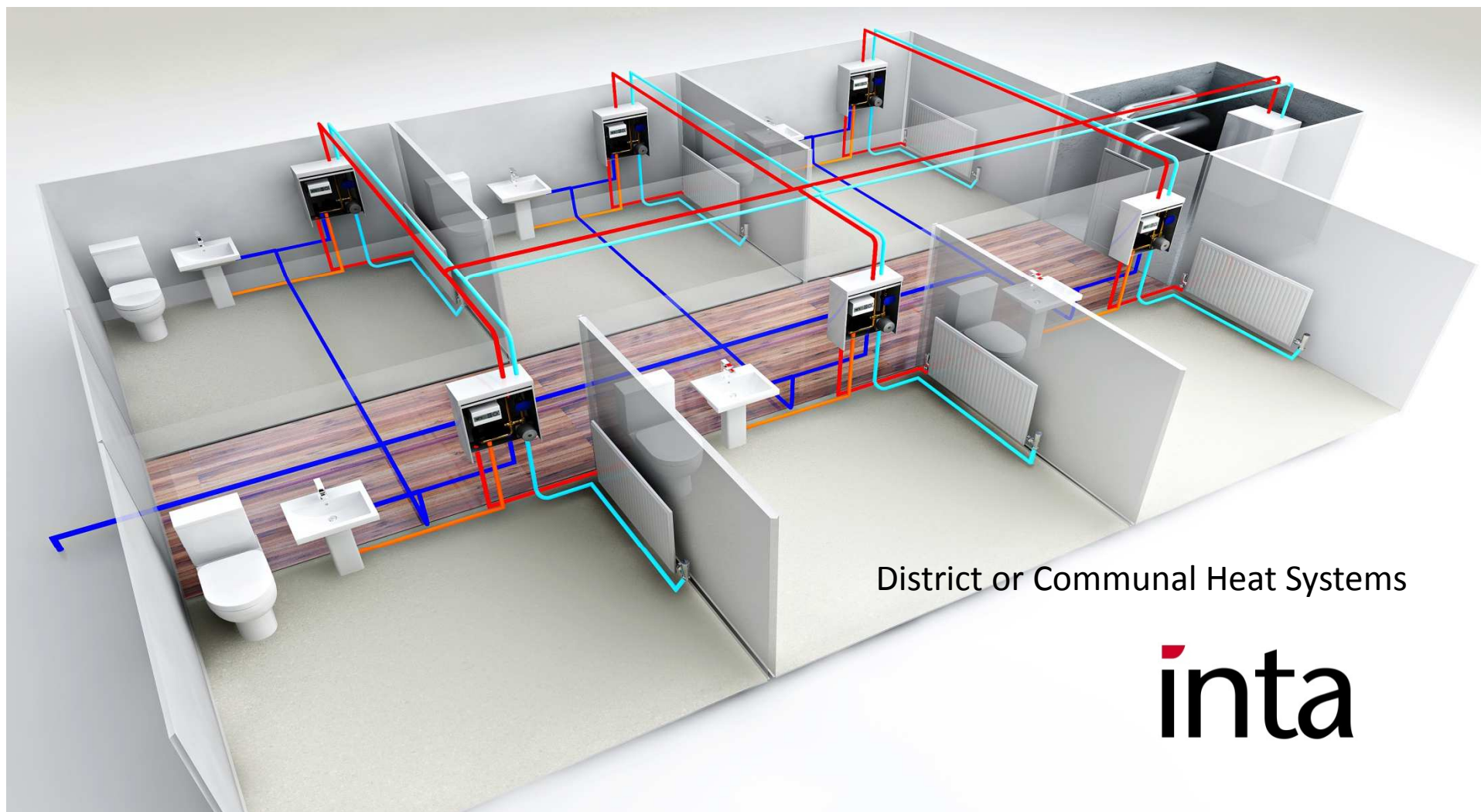
Hiper HIU range

Hiper Xi45 INDIRECT HIU 45DHW/10HTG

Hiper Xi60 INDIRECT HIU 60DHW/10HTG

Hiper Xi60 INDIRECT HIU 60DHW/15HTG *

Hiper Xi60 INDIRECT HIU 70DHW/15HTG *



District or Communal Heat Systems

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