AET Heat Interface Units Explained

There is increasing demand from Developers and Users to monitor the energy consumed in apartments and other dwellings worldwide.

AET Heat Interface Units (HIU's) provide individual measurement of energy consumed, and are typically installed in large apartment complexes with multiple dwellings.

In the past apartments have been supplied with individual boilers to generate hot water and low pressure hot water heating. Today, instead of each dwelling being fitted with a boiler and chilling plant; a central boiler and central chiller can provide heating, domestic hot water services and cooling to the whole apartment block with far greater efficiency. The increasing trend is to provide centralised boilers and chillers and in some cases District Heating and Cooling systems.

AET HIU's replace the need for individual boilers and chiller plants in dwellings; providing accurate energy measurement for each user. This is not just flow measurement but includes temperature measurement as well providing total measurement and billing of kWh consumption.

Gone are the days of a central service charge for energy and the associated complaints from users; that they don't use as much as their neighbours, so why should they pay the same. This in turn leads to greater care and reduced energy, as users can set the demand, whereas in the past there was no incentive to reduce consumption.

Now each user can select temperatures and how long they want their systems to run, so they are only billed for the energy they actually consume. Each unit can be supplied with "pay as you go" card readers which users can top up as they wish, or billing can be centralised for easy monitoring and control.

A primary consideration in modern construction is conserving energy through the use of energy-efficient plant and diversity of demand. Using AET HIU; hot water or cooling water produced by a centralised heating and cooling plant is supplied to the HIU heat exchangers, which in turn pass the heat or cooling to a secondary circuit within the apartment. This allows individual users the freedom to choose what they consume whilst separating their system from the main distribution, thus avoiding total system shutdown if one tenant has a major problem. AET HIU's are fully controllable by the user to set their desired temperatures and managers have online access to the units for billing and control purposes.

AET HIU also give building services engineers the option to design multi-dwelling complexes with district heating systems, which make use of a wide variety of energy sources including gas and oil and where possible solar sources.

Domestic hot water can be generated from a second plate heat exchanger located within the HIU sized for instantaneous demand; saving space; or can be provided from a suitably sized storage tank built into a floor standing HIU. This function does not affect the heating circuit in any way and often provides higher flow rates than conventional equipment.

Heat interface units from AET Systems are available at standard capacities, up to 90kW on the heating side and maximum cooling of 16kW. Higher capacity bespoke units can be tailor made.

Simplified services design leads to greater efficiency. Rather than supplying each apartment with gas, and installing numerous domestic boilers, HIU’s require only a hot water riser connected to each apartment and a central boiler plant. This alone leads to a significant saving in space required for the boiler equipment, ventilation and flue discharge. Service and maintenance is simplified and reduced and fire risk is reduced due

to the absence of a gas distribution and eliminating potential user errors. HIU's typically require less installation work than conventional boilers and less qualification of the workforce.

AET HIU's have already been installed in more than 6000 residences in the UK. Contact info@aetenergy.co.uk for a full installation list.

AET Energy offers a range of heat metering solutions for district heating and residential applications

HIU Range

- SND ultrasonic heat meter
- ESC satellite heating unit
- MTP / MSP heating/cooling units
- WM / FS storage units

Applications

- Residential
- District Heating
- CHP

For more information please contact AET Energy

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