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HEATBANK® Pandora Thermal Store

Communal Heating and Hot Water

Renewable Heat Products

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Features and Benefits

High Pressure Water Supplies

The HEATBANK® Pandora thermal store can supply portable domestic hot water at up to 10 bar pressure, and flow rates of over 35 litres per minute (over 100kW).

No Discharge Pipes

Unlike other water storage systems, the HEATBANK® Pandora thermal store does not need a discharge pipe to the outside. As central heating is pumped directly from the stored water, sharing the same water, there is no need for any discharge pipes. Other forms of district interface systems typically require a discharge from the central heating system, as well as one from the hot water store resulting in two discharges.

Smaller Primary Supply Pipework

District interface systems that do not utilise stored water require high flow rates to be delivered from the central boiler plant in order to drive maximum simultaneous hot water loading. To drive 30 litres of hot water to taps will require similar or greater flow rates to be supplied from the boiler plant, and if there are a number of flats drawing water at the same time the load on the boiler plant can be very large. The HEATBANK® Pandora thermal store uses stored heat to drive heavy water loads, and as such will typically only need 5 to 10 litres per minute to be supplied from the boiler. Load on the boiler is spread over time, reducing the peak instantaneous loading substantially.

Control over Volumes of Water Heated

Unlike any other storage system, the HEATBANK® Pandora thermal store allows the tenant to heat up only small quantities of hot water, if that is all that is required, or to heat up a full cylinder of water in preparation for periods of hefty water demand. The system can even be set-up to automatically vary the quantities of hot water stored to match the demands of the tenant. In addition, hot water can be obtained within minutes of a cold start, again unlike any other storage system.

Cooler Pipework

District interface systems that do not utilise stored water require the boiler supply pipes to be kept hot in order to avoid long delays in supplying hot water once a tap is opened. In Summer, this results in constantly hot pipework and is a major cause of overheating cupboards and corridors, especially in well insulated modern developments. As the HEATBANK® Pandora thermal store uses stored heat within each property, hot water is always available instantly, while boiler pipework can be left to stand cold until a system calls to be reheated, and as this is usually timed it is quite common for primary pipework in corridors to stand cold for the majority of the time.

Lower Return Temperatures to Boiler

Nearly all storage systems make use of a primary coil to transfer heat from the boiler pipework into the stored water. As the cylinders get hotter, the return temperatures to the boiler also climb, and it becomes impossible to keep return temperatures below 50°C at all times. The HEATBANK® Pandora thermal store uses a plate heat exchanger and can maintain low return temperatures at all times during normal reheating.

Electric Back-Up of both Hot Water and Central Heating

As central heating is driven using stored water in the HEATBANK® Pandora thermal store, it is quite simple to fit the HEATBANK® Pandora thermal store with immersion heaters that can back-up both hot water and central heating. This is invaluable with central boiler applications to avoid complaints from tenants during periods when the central boiler feed is unavailable for any reason. Instead of possibly going without hot water or central heating for days on end, tenants can simply flick a switch and use the electrical supply instead. Experience has shown this to be of considerable advantage to both tenants and the engineers who otherwise need to attend properties the same day.

Not a Pressurised Unvented System

The stored water in the HEATBANK® Pandora thermal store is kept at atmospheric pressure with a vent to atmosphere, and as such is not bound by the safety regulations that apply to pressurised unvented systems.

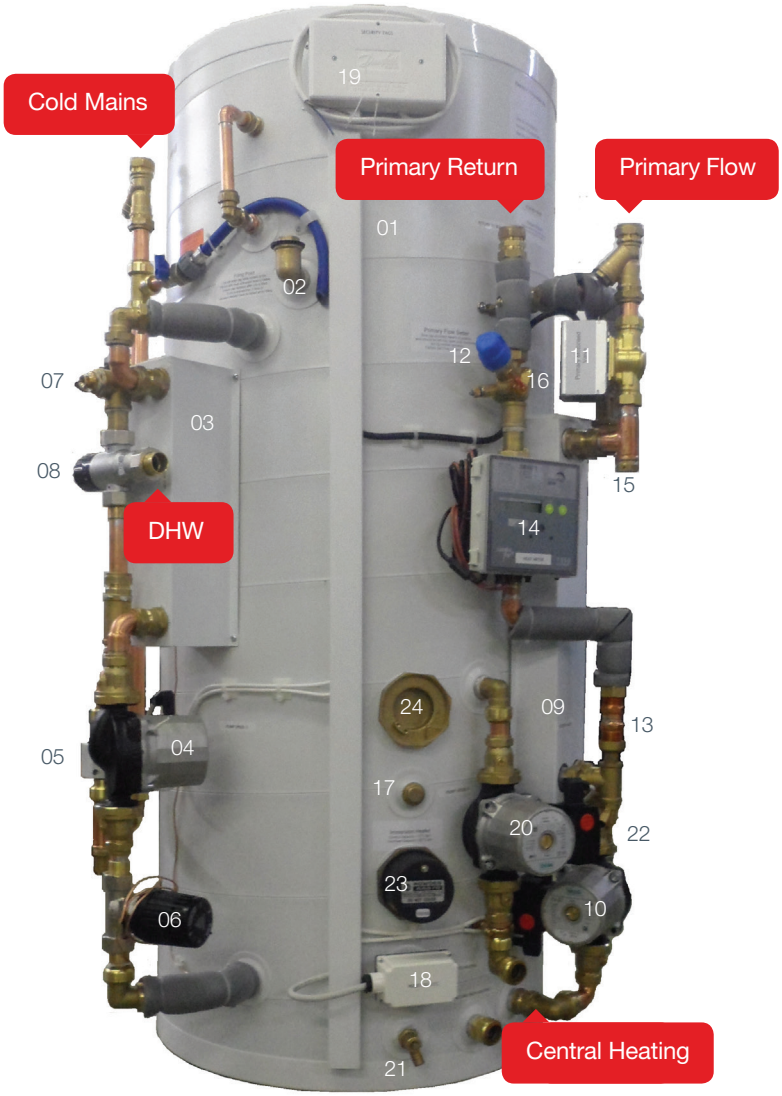
No Limescale Build-Up In Store

It is the same water in the store in 10 years as the day it was installed, overcoming the problems of limescale build-up experienced with other types of storage system.

Fully Pre-Fabricated Systems

In order to make installation as simple as possible, the HEATBANK® Pandora thermal store can be supplied with all components and controls factory fitted, wired and tested, reducing installation to little more than connecting to pipework. The fitted control options extend to include full heat metering services, and even radio linked room thermostats, further simplifying installation on site.

Key Components and Details



Key

HEATBANK® Pandora Thermal Store Cylinder	01
Filling Point	02
Plate Heat Exchanger, DHW	03
Heat Exchanger Pump	04
Flow Switch	05
Thermostatic Flow Regulator	06
DHW Sensor Point	07
Thermostatic Mixing Valve, 22mm	08
Plate Heat Exchanger, Primary	09
Heat Exchanger Pump	10
Motorised Valve	11
AB-QM Flow Regulating Valve	12
Thermoelectric Isolating Actuator (Security)	13
Heat Meter	14
Sensor Point	15
Visual Flow Regulator (behind 11)	16
Spare Boss	17
Control Thermostat 55°C	18
Wiring Centre	19
Central Heating Pump	20
Store Drain Point	21
Primary Drain Point	22
Immersion Heater 3kW	23
Spare Boss for Second Immersion Heater	24

Description	Interface unit DHW only	Interface unit DHW + Heating	Interface unit Heating only unvented storage	HEATBANK® Pandora Thermal Store
DHW up to 50kW	●	●	●	●
DHW up to 140kW, 30 lpm	–	–	●	●
Return temperatures below 50°C	●	●	–	●
Primary pipes sized to average demand	–	–	●	●
No discharge pipes from property	●	–	–	●
DHW volumes heated to match demand	●	●	–	●
Primary pipework does not have to remain hot at all times (cooler landings)	–	–	●	●
Electric back-up of hot water	–	–	●	●
Electric back-up of central heating	–	–	–	●
Not classified as a pressurised unvented system with requirement for annual safety checks	●	●	–	●
Supplied fully pre-fabricated	●	●	–	●

DHW = Domestic Hot Water

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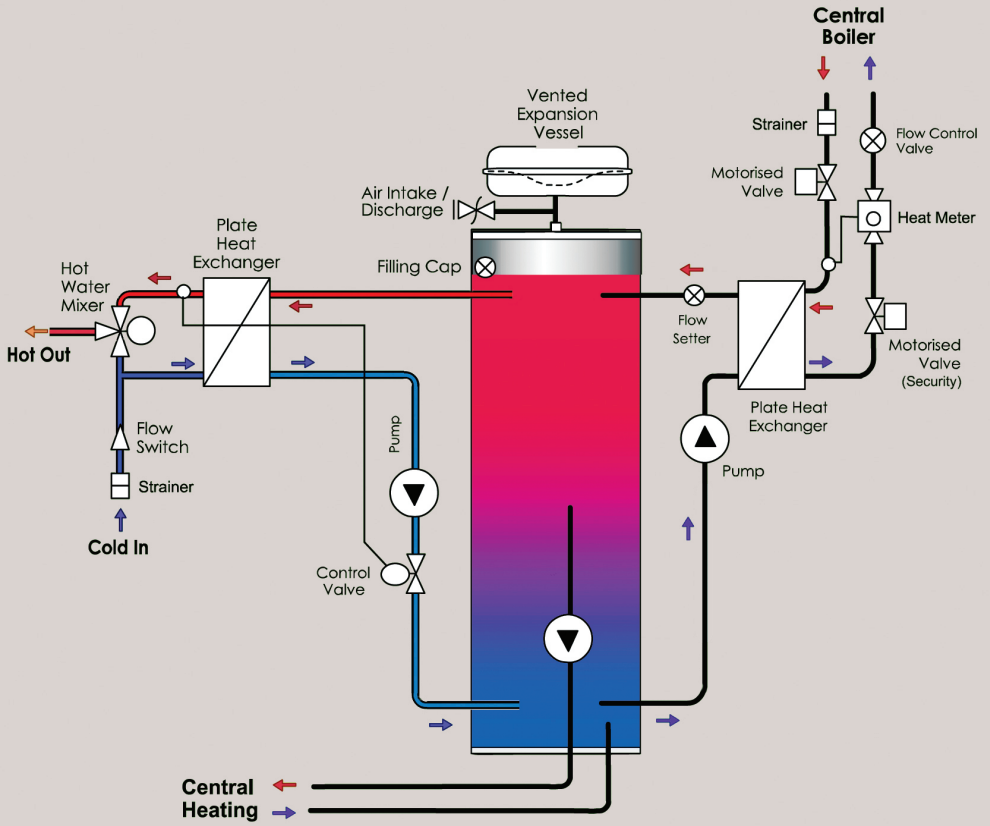
General Specifications



General Specifications

Material	Duplex Stainless Steel LDX 2101
Base Diameter	450mm
Overall Diameter	533mm
Storage Capacity	150 litres
Store Pressure	Unpressurised
Heat Input	Plate heat exchanger assembly, including 14 plate heat exchanger, charge pump with fitted isolating valves, visual flow regulating valve (2-8 litres/minute) for store-side circuit, Danfoss AB-QM DN15 (1.5 - 7.5 litres/minute) for primary side flow regulation, two port motorised valve, and cylinder thermostat (tamperproof).
DHW Output	Plate heat exchanger assembly, including 40 plate heat exchanger (100kW, 35 litres/minute), store circuit pump with fitted isolating valves, thermostatic mixing valve, 1" (22mm) for high flow and high temperatures, and thermostatic pump flow control.
Maximum Mains Pressure	6 bar
Electric Back-Up	3kW fitted immersion heater with control thermostat and overheat thermostat. Includes dry-fire protection.
Feed & Expansion	Integral 12 litre vented expansion vessel, air vent with evaporation protection, anti-vacuum valve, filling point, and filling hose. No discharge pipe required from store. No separate feed and expansion tank required.
Chemical Protection	2 litres of corrosion inhibitor to be added.
Servicing Requirements	Refreshing of corrosion inhibitor every two years. Visual checks and operation checks as per client requirements (minimum every 5 years).

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