### PANDORA UNDER-WORKTOP TANK WITH SOLAR DRAIN-DOWN AND COMBI-BOILER BOOST











17 Manor Green Road, Epsom, Surrey KT19 8RA Company No.: 2963502 V.A.T. No.: 644221955

### Under Worktop Pandora Tank Units

- Space saving 'under worktop' design. 730mm tall, 590mm deep, width 590mm on 110 ltr, width 740mm on 145 ltr,
- No cold water storage.
- Very high flow rates of mains pressure hot water, up to 6 bar pressure, with thermostatic temperature control.
- Supplying enough hot water to easily fill a bath, as well as multiple hot water outlets at the same time.
- Vented storage not classed as an unvented cylinder in relation to training and regulations.
- High duty 12 turn primary coil for connection to a boiler, with backup 3kW electric element.
- Fully assembled and wired, ready for quick installation and commissioning.
- Stainless steel with 20 year guarantee on store, 1 year on site, and 2 years components.
  5 years on components upon application.



- Photo of Pandora Under Worktop Tank with integral expansion vessel (increases height to 835mm).
- As standard the expansion vessel is fitted on top of the tank, connected by flexible hose, allowing sideways removal of the vessel for servicing access.
- Very high efficiency plate heat exchanger allowing storage temperatures as low as 60°C. Maximum storage temperature of 83°C.

The range of DPS Heat Banks has been specifically developed to meet the demands of designers, installers and end users alike. The hot water performance cannot be matched by any other system on the market, and the same goes for ease of installation.

Tried and tested and shown to be one of the most reliable systems around, the Heat Banks also make perfect sense for long term installations, with the store itself immune to build-up of scale over years, and capable of ticking over for years without a service.







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The unit is available in two handed versions. The 'left' handed unit has the controls fitted on the left end of the unit - the front is taken as the longer face fitted with the immersion heater.



The wiring is as per the Honeywell standard wiring design for S-Plan primary controls.

The Heat Bank Pump and Flow Switch are connected using terminal 9 (by DPS).

**Dedicated Pressure Systems Ltd.** 

# XCEL TANK CASED

## SHEET7927X

6/12/05

136 LITRES EFFECTIVE 145 LITRES VOLUME



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# XCEL TANK CASED

## SHEET7927XR

#### 6/12/05



136 LITRES EFFECTIVE 145 LITRES VOLUME









### SOLAR DRAIN DOWN HEAT BANKS

The Solar Drain Down option for DPS Heat Banks is aimed at integrating solar panels to the store in the simplest possible system.

- No coil the water in the store is pumped directly into the panels, giving the maximum possible heat transfer into the store, while removing the need for pressurisation kit for the solar system.
- The panels can be drained to protect them from freezing or overheating, removing the need for anti-freeze or a solar heat dump (radiator).



The panels are filled by pumping water from the Heat Bank up to the panel, using the positive pressure of the pump to lift the water up to the roof.

The Drain Down valve is shut, preventing the water from draining back into the store. When the pump turns off, the water remains in the panels under negative head.

The pump is turned on and off by the a Solar Controller that with power the pump when it detects the temperature in the panel is 5°C or more hotter than the store.



Under problem conditions such as freezing or overheat, it becomes necessary to drain the panels to prevent them from freezing or to prevent further heat input from the sun.

Drain down is achieved by opening the Drain Down valve, by removing power to it. Once open the valve allows air from the top of the store to clear up into the panels, and thereby let the water drop back into the store.

IMPORTANT: Some evacuated tube solar panels are not suitable for drain down operation. Please check with the proposed panel manufacturer in advance.



#### Pandora Heat Banks, with Drain Down Solar

The Pandora Heat Banks are most popular hot water cylinder in our range. They can will outperform <u>ANY</u> other make of hot water cylinder in terms of flow rates, pressures, and ease of installation.

The Pandora can be connected to most types of solar panel directly, without the need for a coil, anti-freeze or additional overheat protection. The only limit for direct connection is that the solar panel must be within 4m from the base of the store, so that the panel can be filled by the positive head of the pump.

The only solar components required, apart from the Pandora and solar panel, are a standard 6m heating pump, a solar controller, a non-return valve, and pipework. The solar panels are filled with water from the Heat Bank, removing the need for separate filling and expansion controls.

To protect the water in the panels from freezing, the water can be drained out of the panel. This is activated by either the solar controller, or a separate frost thermostat. The panels will also drain during power cuts. Re-filling of the panel is done automatically once temperatures rise.

Unlike other drain-down or drain-back systems, the panel only empties of water during problem conditions, and not every time the solar pump turns off. This is a big improvement, as drain-back systems are often known to be noisy as a result of the continual draining and refilling.



- Mains Pressure Hot Water (9 bar)
- Direct Connection to Solar Panels
- Pre-Fabricated, Wired & Tested
- Built in Drain-Down Frost Protection
- No Anti-Freeze or Pressurisation Kit
- No Discharge Pipes
- Fit & Forget
- 1 Year On-Site Backup
- 25 Year Guarantee on Store



The Indirect Pandora Heat Bank with fitted Solar Controls Patented DPS Technology





#### GXV Heat Bank, with Drain Down Solar

■ The GX Heat Banks are the most versatile hot water systems in our range. Like all other Heat Banks they can will outperform <u>ANY</u> other make of hot water cylinder in terms of flow rates, pressures, and ease of installation, however the GX will also outperform <u>ANY</u> other make in terms of recovery rates, use of multiple heat sources, and the volume of water that can be extracted from a cylinder.

The GX is unique in so far as it allows heat gained from solar panels to be used to run radiators or underfloor heating. It can even be set to run radiators off the boiler and underfloor of the solar. Although the times you want heating do not usually correspond with the best solar input, there is definitely potential for taking the chill off some rooms on bright days, and this doubles as a useful heat dump for overheat protection.

Connection between the store and the boiler is direct, without any coils. This enables the GX to heat up from the top down, with the full boiler output, while allowing adjustable control of how much water the boiler heats up. This is especially useful for solar, as it reduces the need for a separate volume of storage to be reserved for the solar panels to work on. The system only needs 5-10 minutes notice to heat-up enough of the store for a bath using the boiler if the solar hasn't done much.

The GX can run central heating using the backup immersion heater (standard 3kW with higher outputs on request), as well as any other heat sources it is connected to, such as a wood burner, or oven unit (Aga, Rayburn).

A limitation on the GX is that it is only suitable for vented primary (boiler) systems, with a feed and expansion tank higher than all radiators, but lower than the solar panel if drain-down protection is desired. The store acts as the perfect air separator and neutraliser, overcoming the pumping over the vent and hence problems sometimes associated with vented systems.

- Mains Pressure Hot Water (9 bar)
   Direct Connection to Solar Panels
   Direct 40kW Connection to Boiler
   Adjustable Volume heated by Boiler
   Run Heating off Boiler, Solar or Electric
   Pre-Fabricated, Wired & Tested
   Built in Drain-Down Frost Protection
- No Anti-Freeze or Pressurisation Kit
- Fit & Forget
- 1 Year On-Site Backup
- **25** Year Guarantee on Store
- \* Requires Vented Primary System



The GX Heat Bank with fitted Solar Controls Patented DPS Technology



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