OM017

GMS Thermal Products Ltd

Installation, Operation and Maintenance Instructions for 'Hotwell' Boiler Feed Tanks

The operating and maintenance instructions contained within this package are for standard 'Hotwell' Boiler Feed Tanks. GMS Hotwells store boiler feed water for steam boilers. They also allow condensate return, make-up water inlet, heating and venting. GMS Hotwells are designed to handle such fluids as water, steam, steam condensate, flash steam and air. GMS Hotwells must be adequately vented to atmosphere. Please note that an electronic version of these instructions is available from our website and also on a CD. Please contact our sales office for further information.

Rev	Date	By	Details

Revision Details

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1.0 Standard Unit Information & Description

The standard range of electric storage calorifiers range from 230 litres to 9000 litres. These are mostly used in systems to heat domestic hot water. The water is heated by an electric immersion heater. Other applications may also arise with different water temperatures and materials of construction. This manual covers types ‘EC’, ‘EL’, ‘ES’, ‘EG’ & ‘EP’ calorifiers.

Standard Material Options Schedule	
Shell	304L Stainless Steel 316L Stainless Steel Carbon Steel
(Other materials on request)	

Design Data	Shell Side
Maximum Working Pressure	Refer to Vessel Nameplate
Hydraulic Test Pressure	Refer to Vessel Nameplate
Design Code	Refer to Vessel Nameplate

Please refer to our brochure for standard connection and dimensional data.

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2.0 PED Information

The standard range of Hotwell Boiler Feed Tanks is designed in accordance with the requirements of the Pressure Equipment Directive 97/23/EC. Units classed as SEP in the PED category are not supplied with a CE mark. Units in category I & II are CE marked and appropriate markings and certification is supplied with each unit.

It is the responsibility of the user and/or installer to ensure that the unit is installed and operated safely, and in accordance with the instructions supplied within this manual.

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3.0 Installation

The Hotwell must not be installed in any system where system pressure and temperature (including under fault conditions) could exceed the limits given on the data plate. It must be adequately vented.

Lifting & Handling: Use lifting eyes where fitted. Use soft slings around the hotwell on units without lifting eyes. Care should be exercised when handling and moving the unit not to damage it. Do not lift the hotwell using chains directly in contact with it. Do not allow operatives to stand on the hotwell.

Siting: The hotwell must be located on a firm base bolted to the floor. Ensure enough room exists to gain access to any sight-holes or inspection openings (where fitted). Although the tank sides are of a strong fabrication, they are not designed for heavy items to be attached to them.

Remove any protective covers/plugs which may have been fitted to connections to protect them in transit.

Check for and remove any foreign material which may have got into the hotwell

Pipe-work connected to the hotwell should be supported to prevent loads being transmitted to the condensate receiver vessel. Provide for thermal expansion with bends, expansion joints or flexible connections. For screwed connections use a thread sealant suitable for the particular application.

Vent: The vent pipe should go vertically upwards and should not join other vent lines. If it has to run horizontally, then it should have a slight incline, draining back to the tank.

Under no circumstances should an isolating or check valve be fitted in the line.

A vent head (may be supplied with the tank) should be fitted to maximise the separation of any entrained water. The vent head will impose a minimal back pressure on the tank. The drain connection on the vent head must be piped to drain, ideally with an air break. Drainage back into the tank is not recommended.
The vent & overflow connections must never be blanked off.

Overflow: This should always to piped to a drain at a lower level than the tank. It is useful for the overflow to have an air break so that any discharge is easily seen.
Under no circumstances should an isolating or check valve be fitted in the connection. It is recommended that a u-bend is incorporated into the line to eliminate steam discharge into the drain.

Lagging the Tank: The whole tank should be lagged (including the inspection opening) to avoid loss of heat. The inspection opening should be lagged with a removable cover.

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4.0 Commissioning and Operation

Do not operate the hotwell at working pressures or temperatures in excess of those specified on the nameplate.

Do not subject the hotwell to fire or any similar source of heat

The hotwell is designed to be reasonably quiet & vibration free during operation although the mixing of steam and water will inevitably induce a small amount of vibration within it.

If excessive noise, vibration or movement of pipework is experienced, then it is essential that the tank is not operated for any prolonged period of time to avoid damage. The tank should be drained and inspected as soon as possible.

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5.0 Maintenance

Drain and flush out any debris or deposits and check for corrosion at every major boiler inspection.

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6.0 Recommended Spares

Please contact our sales department for recommended spares prices and availability.

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