



## **INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE WORLD HEAT RANGE OF BOILER HOTWELL FEED WATER TANKS**

### **1.0 DESCRIPTION**

World Heat range of Boiler Hotwell Feed Water Tanks are the meeting place for cold water make-up, flash steam and condensate return. They are designed to be low maintenance and to increase efficiency within the plant.

World Heat manufacture Boiler Hotwell Feed Water Tanks in the following materials; Mild Steel, Galvanised Mild Steel and Stainless Steel (various grades). The standard range covers 200 litres up to 8,000 litres.

### **2.0 PED INFORMATION**

The World Heat standard range of Boiler Hotwell Feed Water Tanks are designed and manufactured in accordance with the requirements of the Pressure Equipment Directive 2014/68/EU. As per the requirements of the directive, units that fall within the SEP (Sound Engineering Practice) category are not supplied with a CE Mark. Units that fall within categories I to IV are CE Marked and provided with the necessary markings, certification and inspectorates.

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 detailed within this document.

### **3.0 COSHH**

Research has suggested that there are no specific items to highlight during normal operating conditions. However, during manufacture, dye-penetrant may be used as part of our pre-inspection process of testing welds. It is therefore essential that adequate flushing and sterilization is carried out before use and that the quality of water produced is to acceptable standards.

### **4.0 INSTALLATION**

#### **4.1 LIFTING AND HANDLING**

- a) Lifting lugs, where fitted, should be used for lifting purposes.
- b) For units without lifting lugs, the user must arrange suitable lifting arrangements (i.e. the use of slings, lifting eyes etc.) to avoid damaging the tank or its attachments during installation, taking into consideration the weight and design of the unit.
- c) Where fitted, insulation should not be used for lifting purposes.
- d) Due to the insulation and case characteristics, care should be taken when lifting and handling the vessel to prevent damage.
- e) Avoid the use of lifting straps where insulation is fitted, as they may damage or crush the insulating material or case.
- f) Do not lift the tank using chains which are directly in contact with the tank shell.
- g) Do not allow operatives to stand on the tank, specialist ladder and platforms can be ordered at an additional cost.

**WARNING: When lifting, please ensure a clean lift of the tank using the lifting lugs provided. The supports and base of the tank are not designed for pivoting during lifting/siting/installation. Tanks should be kept in the upright position.**



#### 4.2 STORAGE – *If storing the unit for any period of time before installation*

- a) Upon receipt of the unit, please check the packaging to ensure that it has not been damaged during transport. Any damage to the packaging should be fixed or replaced as necessary.
- b) It is recommended that the unit be stored indoors within a dry, frost-free environment with ambient temperatures between 4°C and 40°C. Units supplied with Electrical Controls must be stored indoors.
- c) The integrity of the packaging should be checked monthly. Should the external seal be found to have broken or its condition found to have deteriorated (i.e. become wet, hardened or split), the packaging should be repaired or replaced.
- d) Once sited and the packaging has been removed, the condition of the unit should be thoroughly examined for any signs of corrosion or contaminant ingress.

#### 4.3 SITING

- a) Unless specified at enquiry stage and specifically ordered to suit an external installation, the tank must be sited indoors.
- b) Foundations or plinths must be firm and level to prevent settling, pipe strain or distortion of shell.
- c) Unless specified at enquiry stage and specifically ordered, the tank must be installed in a level position.
- d) Ensure that there is sufficient maintenance space surrounding the tank. For units supplied with an Electrical Control Panel ensure that the panel is easily accessible and the panel door able to be opened fully.

#### 4.4 INSTALLATION

- a) Protective covers and plugs may be fitted to connections to protect them in transit, these must be removed prior to use.
- b) If a connection is not required for any reason, the connection must be sealed appropriately.
- c) Check for any signs of contaminant ingress which could have got into the unit during transportation or storage on site.
- d) Pipe-work connected to the unit must be adequately supported to prevent loads being transmitted to the tank. Consideration must be taken with regards to thermal expansion through the use of bends and expansion joints.
- e) Isolation valves should be fitted to the unit, where safe to do so, to facilitate future maintenance and servicing.
- f) To avoid corrosion, use appropriate pipe materials to suit the tank material.
- g) To connect to the tank screwed connections, a suitable thread sealant should be used.
- h) To connect to the tank flanged connections, bolts should be tightened in a diametrically opposite sequence in order to load the flanges evenly onto the gasket. The gasket should be suitably chosen for the application.

#### NOTE REGARDING VENTING

The vent pipe from the tank should go vertically up and not join other vent pipes. If it is required to run horizontally, then it should have an incline draining back to the tank.

A vent head may be supplied with the unit which is fitted to maximise the separation of any entrained water. The vent head will impose a minimal back pressure on the tank.



The vent connection must never be blanked off and under no circumstances should an isolating valve or check valve be fitted in the vent pipe.

For specific information regarding the maintenance of the Vent Head, please refer to WH-IOM-017 – Vent Head, which is available for download from our website [www.whcylinders.co.uk/technical-literature/](http://www.whcylinders.co.uk/technical-literature/).

#### NOTE REGARDING OVERFLOW

The overflow connection should always be piped to a drain at a lower level than the feed tank. It is useful for the overflow to have an air break so that any discharge from the tank can be observed. It is also recommended that a suitable U-Bend is fitted to avoid steam discharge into the drain.

The overflow connection must never be blanked off and under no circumstances should an isolating valve or check valve be fitted in the overflow pipe.

### 5.0 COMMISSIONING & OPERATION

Do not operate the equipment at pressures or temperatures in excess of those specified on the nameplate of the unit. Do not subject the tank to conditions of vacuum or partial vacuum. For example, partial vacuum may occur if the vent is restricted during draw off or drain down.

The standard range of Boiler Hotwell Feed Tanks are designed to be reasonably quiet and free of vibration during operation, although the mixing of steam and water will inevitably cause a small amount of vibration within the tank. If excessive noise is observed, the unit should be shut down until the problem has been identified and rectified.

### 6.0 MAINTENANCE

The standard range of Boiler Hotwell Feed Tanks are designed for long life and require no regular maintenance.

However, it is recommended that the tank is periodically inspected, drained and cleaned of any debris during every major boiler inspection. Checks for corrosion should also be made.

For specific information regarding the maintenance of any control valves, solenoids, cooling systems, circulating pumps etc., please refer to the model specific IOMs supplied separately.

### 7.0 RECYCLING

For details on the end of life disassembly, recycling and disposal requirements of the unit, please consult the general assembly drawing and technical data sheet issued at quote/order stage, to determine the materials used.

All materials should be disposed of responsibly and in accordance with local regulations.

Please contact our technical team for further information.



**WORLD HEAT**  
C Y L I N D E R S

## WH-IOM-015

### Installation, Operation & Maintenance Instructions

Unit 4, Tudor Industrial Estate, Ashton Street, Dukinfield SK16 4RN  
Tel: 0161 343 8610 Email: [sales@whcylinders.co.uk](mailto:sales@whcylinders.co.uk)

#### 8.0 SPARES

World Heat recommends the following spares for a standard Boiler Hotwell Feed Tank;

- Manhole Gasket
- Sight Glass (if supplied on original unit)

Please contact our sales department for recommended spares and availability, please quote the unit serial number in order for our sales team to correctly specify the spares required.