



## **INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE WORLD HEAT RANGE OF STEAM SEPARATORS**

### **1.0 DESCRIPTION**

World Heat range of Steam Separators are designed to separate liquid condensate from steam in horizontal pipelines. Steam enters the separator and is directed towards the internal baffle, the relatively heavy droplets of condensate are then directed by the baffle to the drain connection located at the bottom of the separator.

World Heat manufactures Steam Separators in P265GH Carbon Steel. The standard range covers sizes DN15 to DN300.

### **2.0 PED INFORMATION**

The World Heat standard range of Steam Separators 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 unit 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 unit to prevent damage.
- e) Do not lift the unit using chains which are directly in contact with the shell.
- f) Do not allow operatives to stand on the unit.

**WARNING: When lifting, please ensure a clean lift of the separator using the lifting lugs or attachments provided. The unit is not designed for pivoting during lifting/siting/installation. Units 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.
- 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 unit must be sited indoors.
- b) Unless specified at enquiry stage and specifically ordered, the unit must be installed in a level position.
- c) Larger units are fitted with support brackets which can be used to minimise piping loads. However, it is the responsibility of the installer to ensure that the unit and associated pipe-line is adequately supported.

#### 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 may have got into the unit during transportation or storage on site.
- d) Pipe-work connected to the unit must be adequately supported to prevent any loads being transmitted to the separator. Consideration must be taken with regards to thermal expansion through the use of bends and expansion joints.
- e) To avoid corrosion, use appropriate pipe materials to suit the application.
- f) To connect to the screwed connections, a suitable thread sealant should be used.
- g) To connect to any 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.
- h) A suitable safety relief valve should be fitted to the adjoining pipe-work to prevent over pressure.
- i) Ensure the separator is installed according to the direction of flow and relevant markings on the unit.
- j) The separator should be installed within a horizontal pipeline with the drain directly below.
- k) To ensure any separated liquid is drained quickly, it is recommended that Float-Type Steam Trap is fitted to the drain connection.
- l) For systems where air could be present, a suitable air vent should be installed to the vent connection. If a vent is not fitted than the connection must be plugged with a Carbon Steel Class 3000lb plug.

### 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 unit to conditions of vacuum or partial vacuum. For example, partial vacuum may occur if the inlet or vent is restricted during draw off or drain down.



Once installed, ensure that the system is fully functioning. Tests should be carried out on any system alarms or protection devices.

## **6.0 MAINTENANCE**

There are no internal maintainable parts within a standard World Heat Steam Separator itself.

However, it is recommended that the ancillaries fitted to the unit (i.e. air vent, strainer, trap-set etc.) are periodically checked to ensure they are operating correctly.

The separator may also require periodic examination as per any written schemes of examination in place on site.

## **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.

## **8.0 SPARES**

There are no spare parts available for the World Heat standard range of Steam Separators.