



INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE WORLD HEAT RANGE OF DE-AERATOR HEADS

1.0 DESCRIPTION

World Heat range of De-Aerator Heads comprise of a mixing head and immersion tube. The mixing head is designed to mix incoming flows of condensate, flash steam and make-up water. Each inlet connection has an internal sparge which is designed to spray flows in different directions. Gases are vented to atmosphere through an air vent connection on the top of the unit.

World Heat manufacture De-Aerator Heads in the following materials; Mild Steel, Galvanised Mild Steel and Stainless Steel (various grades). The standard range covers pipe connections from DN150 to DN350.

2.0 PED INFORMATION

The World Heat standard range of De-Aerator Heads 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 marking, 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 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 unit using chains which are directly in contact with the vessel shell, particularly with light gauge units.
- g) Do not allow operatives to stand on the unit.

WARNING: When lifting, please ensure a clean lift of the unit using the lifting lugs or attachments provided. The flange and immersion tube are 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 vessel must be installed in a level position.
- c) Ensure that there is sufficient maintenance space surrounding the unit.

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 unit. Consideration must be taken with regards to thermal expansion through the use of bends and expansion joints.
- e) Isolation valves should be fitted prior 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 unit application.
- g) To connect to the units screwed connections, a suitable thread sealant should be used.
- h) To connect to the units 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.

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.

Whilst the unit is operating, check that all of the gaskets supplied/fitted to the unit are effective. Some bolt tightening may be required after the unit has been subjected to its first heating cycle and subsequently maintained.

When the unit is taken out of operation, all fluids must be drained from the unit preventing freezing or possible corrosion.



6.0 MAINTENANCE

The unit is designed to be maintenance free.

However it is recommended to annually inspect the unit's internal surfaces and gaskets. Site insurers may also require annual inspection of the shell conditions.

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

World Heat recommends the following spares for a standard De-Aerator Head and Immersion Tube;

- De-Aerator Head/Immersion Tube Connection Gasket

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