HENNLICH

Accumulators & Cooling

Bedienungs- und Wartungsanleitung
Instruction and Maintenance Manual

Rohrbündelwärmetauscher
Shell & Tube Heat Exchanger

DE GB

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1. Scope of Use

Our range of heat exchangers is composed of floating tube bundle and cast shell design and is
devised for the liquid phases cooling or heating, both liquids flowing through independent circuits. Both fluids shall flow counter-current and are driven, through a series of baffle arrangement, from inlet to outlet ports. An amount of heat is transferred and dissipated along the fluid passage.

IMPORTANT SAFETY WARNING
The Plant application engineer is the sole responsible of the correct selection of the suitable exchanger for the required use. Always check whether the exchanger materials are compatible to the service fluids, working Pressure and temperature. IF IN DOUBT, PLEASE DO NOT INSTALL IT AND CONTACT HENNLICH -HCT.
Please check the data sheets available with our technical department.

2. Reception / Preservation / packing

All exchangers are provided with a riveted name plate where the essential traceability data are contained. Please check that the model number, serial number, tube material specification, design Pressure and Ce marking, if applicable, are on there.

IMPORTANT SAFETY WARNING
In case the exchanger was not provided with the above mentioned name plate, PLEASE DO NOT INSTALL IT AND CONTACT HENNLICH -HCT.

The exchangers are always preserved for transit with air bubble plastic wraps and then boxed in cardboard. However, please check that the exchanger is in adequate condition and the packing is correct, otherwise, please contact **HENNLICH -HCT.**

3. Installation and start-up

IMPORTANT SAFETY WARNING
ONLY Qualified and authorise Plant personnel should carry out the installation, power pack commissioning and start-up the heat exchangers.

The exchangers can be installed vertically or horizontally, however, and for the shake of its best performance, both system fluids must flow counter-current.
It should be observed that there are by-pass isolating valves at the inlet / outlet ports of the exchanger to prevent maintenance operations. It is highly recommended to install the exchanger in the process return line to the tank.
It is highly recommended that the exchangers work full of cooling fluid in the tube side and is the responsibility of the Application Engineer to properly size the exchanger.

IMPORTANT SAFETY WARNING
It is strongly recommended to observe all local regulations in addition to the Pressure equipment Directive 97/23/CE.
Before proceeding to the exchanger installation, ensure that the Maximum Flow rate and
Volumes shown in this Operating manual are compatible with the plant system. This is an Essential safety requirement as per defined by the PED 97/23/CE.

Before the start-up ensure that the tube material is compatible to the duty. **NEVER USE pure copper tubes for sea water service.**

The following checking points should be followed before the start-up:

- Ensure a screen strainer up-stream the shell and tube side in order to avoid an excessive ingress of foreign matter causing fouling on the tube side and choking on the shell side.
- Ensure that the temperature control valve is properly selected.
- Remove the plastic end caps and observe that the machined surface is correct before starting up the system.

IMPORTANT SAFETY WARNING
Ensure that the system is depressurised and without temperature before installing the exchanger. Ensure that all operators are skilled and wear the adequate hand tools.

4. Maintenance

The floating tube stack design allows an easy maintenance by removing the full stack through one side of the exchangers.
A proper and regular maintenance service will extend the exchanger life span, However, the following key points might have an influence on the exchanger cycling span:

- Tube Side Flow Velocity: In order not to erode the inner tubes, It must not exceed the recommended limits by the Plant Engineer.
- Max. Flow rates and Pressure Drops: Not using a suitable exchanger to these parameters will shorten the exchanger life span.
- Acidity of water: Ensure that the water Ph is not lower than 7. The water must flow clean and free of deposits.

In the event that a maintenance be required, the floating tube stack can be removed from the shell and sent to the nearest **HENNLICH -HCT** Service Centre, should no spare tube stack be available at the plant, an in-place maintenance can be done through the following process: Insert a rod through the inner side of the tubes, assist with pressurised water and dry off with compressed air.

5. Recommended spare parts

Only genuine PILAN spare parts should be used to ensure a proper guarantee service. A gasket kit is recommended for Start-up. For two year service a spare tube stack is recommended, however, it is the Plant Engineer the responsible to plan the number and assortment of spare.
ASK YOUR CODED SPARE LIST TO YOUR PILAN DISTRIBUTOR.

6. Ce Marking – Documentation

The Pressure Equipment Directive 97/23/CE is mandatory to all EU estate members and rules the Documentation to be delivered along with the Pressure equipment. This document is comprehensive of a Declaration of Conformity where the basic responsibility is defined as well as the Module under which the Product is classified according to the Directive. This Operating manual is part of the compliance and points out all essential safety requirements to be observed.
These documents do not rule out any other technical or commercial documentation.

IMPORTANT SAFETY WARNING
Ensure that this manual is always available with the exchanger.