luwinox
Komponenten in Edelstahl

Manual/
Installation regulations

heat exchanger
RBW-300-1800

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Table of Contents

1. description of pressure device

1.1 usage

The intended use is the transfer of characteristics of a captured fluid to another, the pressure device by flowing fluid in compliance with the operating conditions which must be within the specified limits. The equipment is designed, constructed and tested in accordance with the Pressure Equipment Directive 2014/68 / EU.

1.2 data

See nameplate

1.3 scope of delivery

1 item heat exchanger, 1 item manifold, 1 item manual

2. transport and storage

The pressure equipment may only be transported in the unpressurized state.
By suitable stop means is to ensure that this does not deformation or other damage to the surfaces / sealing surfaces arise. The abutment of the pressure device to connection pieces, flanges, etc. is not permitted. The transport must be carried out on lying pressure device to the designated and marked lifting points. The depositing and storing the container may only be on appropriate conditions (wooden saddles). Spot loading the vessel wall can lead to inadmissible deformations.
Transport and storage is below the frost line (0 ° C) are not permitted (risk of freezing of possible residual water in the tank). All openings such as nozzles, flanges, etc. must be sealed with suitable means and may only be removed by trained staff (attention: do not damage the sealing surfaces)

3. assembly

3.1 installation conditions

Pressure equipment must be installed so that users or third parties are not endangered. Required separation distances shall be in conformity with the applicable national regulations of the country's formation.
Pressure equipment shall be positioned and assembled so that:
-They are accessible to any necessary visits and inspections and all sides can be visited
-The nameplate is clearly visible
-The operator of the pressure device and its equipment from a safety point of view is possible
The pressure device is to start so that:
-By establishing itself
-By the weight of the pressure device including the charging material or pressure testing material (at a later pressure testing)
-Can by external forces enter any impermissible displacements or inclinations

The pressure equipment must resist against external mechanical impact, z. B. by vehicles, as far as this protected that damage to the pressure device are not expected.
The pressure device and its equipment shall be protected against interference by unauthorized persons. When a fire load is, which can cause the failure of pressure-bearing wall parts, safety-relevant equipment or structural elements (steel pillars, skirted, support brackets) from the pressure device by excessive heating in case of fire, appropriate protective measures (fire prevention, fire protection or firefighting measures) are to be provided.

3.2 connecting the pressure device

The pressure device must be connected to the intended connection and terminals. Additional introduction of forces, bending moments or vibrations on connecting piece by pipe connections are to be avoided. Welding Technically produced seams on nozzles are to be made for valid and recognized welding process and having to be tested.

3.3 equipment and limitation devices

To prevent the permissible operating limits as pressure, temperature, level be exceeded, the pressure equipment must be equipped with the following limitation devices:

- **regulation equipment**
Suitable, manually operated or automatic operating- and control devices for compliance with the operating parameters, such as measuring, control and regulation systems (MSR), pressure, temperature, level switch to the operating conditions during the intended operation to keep within the permissible minimum / maximum limit values.
- **monitoring equipment**
Adequate monitoring means for monitoring the operation parameters such as e.g. Measurement, control and regulation systems (MSR), measured value displays, alarms, pressure, temperature and level switches, which allow appropriate manual or automatic intervention, trigger corrective action and / or provide retraction and locking to keep the pressure equipment within acceptable operating limits.
- **safety equipment**
Appropriate safety equipment such as safety valves, burst disks, buckling pin devices, etc. or security MSR equipment which assures the last emergency measure that the permissible operating limits are not exceeded.

4. commissioning
Commissioning may only take place when the pressure device - properly mounted in a system and corresponding limiting devices provided and are set, the preparation conditions were taken into account and - for their proper condition with regard to the installation, the installation conditions and the safe function were examined. In each country of installation, the relevant national rules for testing are to be observed prior to commissioning.

5. usage

5.1 general hints

The operator has with its accessories to operate the printing apparatus by fully trained and qualified personnel to monitor that employees or third parties are not endangered. Protection zones are observed.

The operator must develop appropriate operating instruction, so that the operating and maintenance personnel on the operation of the printing device or plant is given the necessary instructions. Corresponding national regulations the country of installation of the operation of the pressure equipment must be observed.

5.2 starting operation

The pressure device is to drive that result from the increase of the temperature or pressure does not cause inadmissible internal stress.

The max. allowable temperature rise on the secondary side is 50 K/h. Rotating pressure equipment should be warmed up slowly and during running. In start-up the pressure equipment is under constant review and to check for possible leaks.

A review of the tube bundle has to be performed after commissioning 3 times at all 60 operating hours. The maintenance intervals have to be discussed with SMT and perform as specified by the operator.

5.3 normal operation

Pressure equipment may only be operated when the safety equipment required parts are permanently active and can´t be set out during the operation or changed in its intended effect.

5.4 shut down

The pressure device is to shut down, that the result from the drop in the temperature or pressure does not cause inadmissible internal stress. The max. allowable temperature drop is 50 K/h.

5.5 improper usage

If during running a danger state reveals, for example as by an unforeseen reaction sequence or a dangerous action from outside, so the necessary reaction has to be taken and if necessary to Shut down the device.

A special check of the pressure device is necessary if the malfunction of the permissible pressure was by more than 10% as been exceeded or the permissible operating temperature has been significantly exceeded or undershot.

6. maintenance and repair

6.1. general information

All necessary steps for inspection, maintenance and repair should comply with regulations of the installation country.

6.2 closing and opening of pressure device

Pressure equipment must be closed, that all constructive envisaged closures are used as intended. Sealing surfaces must be clean and undamaged. Locking screws may only be carefully and evenly tightened as far as it is necessary for sealing. Specified tightening torques must be observed.

On pressurized pressure equipment locking screws are to be tightened only by this specialist staff under special precautions. At the pressurized pressure equipment, the locking screws are not allowed to be loosened.

Closures and inspection openings to the pressure equipment may only be opened when the pressure compensation is made with the atmosphere. The pressure equalization with the atmosphere is produce after closing the pressure line and by venting or aerating while observing the pressure gauge. Thereafter, the locking screws must be loosened so that they can keep the cap yet. Then, this is easy to ventilate and to loosen the extent that he no longer adheres to its seat. Can we expect opening of closures involving a hazard due to leaking fluid, are special protective measures. e.g. personal protective equipment required.

6.3 maintenance and repair

The pressure equipment is to be maintained regularly by trained staff so that they expected mechanical at the basis of the planned operation, chemical and thermal stresses in the long run does not leak.

According to the operating conditions and experiences are to be fixed by the operator by operating instructions the necessary steps for the maintenance and inspection.

The inspection- and maintenance work includes in particular the monitoring and ensuring of:

-Leaks
-Formation conditions and protection zones
-Marking
-Proper functioning of the safety and warning equipment
-Wall thickness in corrosion resistance
-Cleaning of the exchanger surfaces

6.3.1 recurrent audit
The operator has to check the national regulations at the installation country.

6.4 refurbishing
Any defective fastener elements as worn, cracked and bent screws, broken or otherwise damaged nuts, bent parentheses or brackets, damaged seals may no longer be used and must be replaced by the same type.
Repairs which may affect the safety of the pressure equipment, such as steps that the material properties, for example, change by welding, cold and hot deformation may be carried out only in accordance with the national regulations of the installation country.

7. co-applicable documents
PED 2014/68/EU

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