



robatherm ATEX unit.

Operation and incidents.

March 2024

English translation of the original German operating instructions

Air handling units for potentially explosive atmospheres | Type TI-50

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Subject to change.

For reasons of better readability, we will use gender-neutral language forms. All references to persons apply equally to all genders.

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General remarks

Information about these instructions

These instructions will facilitate safe and efficient use of the AHU.



All persons working on the AHU must thoroughly read and understand these instructions before starting any kind of work.

Safe working is dependent on adhering to all safety information and instructions.

Further information

The instructions describe all the available options. Whether and which options are available in the AHU depends on the options selected and the country for which the AHU is intended. The illustrations serve as an example and may differ.

The instructions consist of several parts and have the following structure:



Fig. 1: Parts of the instructions

Main operating instructions

- ➔ Transport and unloading
- ➔ Installation and assembly
- ➔ Commissioning
- ➔ Operation and faults
- ➔ Maintenance and cleaning
- ➔ Disabling and disposal

Security

General risk sources

WARNING



Risk of explosion from explosive atmosphere

There is a risk of explosion, as the AHU may convey a potentially explosive atmosphere. In conjunction with a source of ignition, this may result in an explosion.



- Use electrostatically dissipative safety footwear.
- Use electrostatically dissipative protective clothing.
- Use tools complying with DIN EN 1127-1 Annex A.
- Do not take sources of ignition into the danger zone (e.g. hot surfaces, spark discharge, naked flame).
- Alternatively: gauge the danger zone to eliminate a potentially explosive atmosphere.

WARNING



Risk of explosion from explosive atmosphere

There is a risk of explosion, as the AHU may convey a potentially explosive atmosphere.

- Purge the AHU with fresh air before opening to remove any potentially explosive atmosphere.
- Only open the AHU if it is certain that there is no potentially explosive atmosphere.
- Follow the instructions in the operating instructions.

WARNING



Risk of explosion from casing air leakage

AHUs have an inevitable casing air leakage. Leakage may cause zone entrainment into the machine room. Zone entrainment may cause an explosive atmosphere outside the AHU. In conjunction with a source of ignition, this may result in an explosion.

- Ventilate the machine room sufficiently.
- Do not open the AHU when in operation.

WARNING



Risk of death due to moving parts

Risk of death when closing fins, moving coupling bars or gears due to crushing between two moving parts.

- Attach separating protective devices (e.g., downstream grid, duct) to the damper.
- Before opening the door, switch off the AHU and secure it against restarting.
- Do not reach between the fins.

WARNING



Danger to life from falling!

When stepping on the protection roof, there is a risk to life from falling, as the protection roof is unsuitable for supporting loads.

- Do not enter the protection roof.

WARNING



Danger to life due to burns

When working on the steam heater, there is a danger to life due to burns.

- Let the fan run to cool down to room temperature.
- Do not touch the hot surface.

WARNING



Danger to life from parts flying around

Serious personal injury or even death may be caused by flying parts as a result of impeller breakage.

- Pay attention to unusual vibrations during commissioning, especially when starting the fan for the first time.
- Do not exceed the maximum fan speed specified on the nameplate and in the technical data sheet.
- Do not operate the fan in the event of unusual vibrations.

CAUTION



Risk of injury due to cold surfaces

There is a risk of injury from ice burns or frostbite when touching cold pipes.

- Pipes outside the AHU must be insulated by the customer to make them impermeable.

CAUTION



Risk of injury due to cold surfaces

Cold surfaces of components (e.g., cooling coils, refrigeration technology) pose a risk of injury from ice burns or frostbite during operation and even after the AHU has been switched off.

- Wait until the temperature of components matches room temperature.
- Do not touch cold surfaces.

NOTE**Heat damage to the AHU due to steam heater**

Overheating of the steam heater causes heat damage to the AHU.

- Operate the steam heater only when the fan is running.
- Provide airflow monitoring or temperature limiters.

Personnel qualification

The work described in this section may only be performed if the person has the following qualifications:

- ➔ Operator
- ➔ Person trained in explosion protection

Heating and cooling coils

Steam heater

For ATEX units, the maximum surface temperature must not override the required ignition protection (temperature class). According to DIN EN ISO 80079-36, the maximum surface temperature must not exceed the following values depending on the temperature class. Compliance with these values must be ensured on site.

Temperature class	Max. flow temperature [°C]
T1	440
T2	290
T3	195
T4	130

Table 1: Temperature classes and max. flow temperature in [°C]

To determine this maximum surface temperature, the sensor's degree of error (e.g. flow temperature sensor on the steam heater) must not exceed 2% of the measured value in °C or +/-2K, whichever is greater.

Directory

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Fig. 1: Parts of the instructions

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