



Passive chilled beams

Type TCB-RB

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Product overview

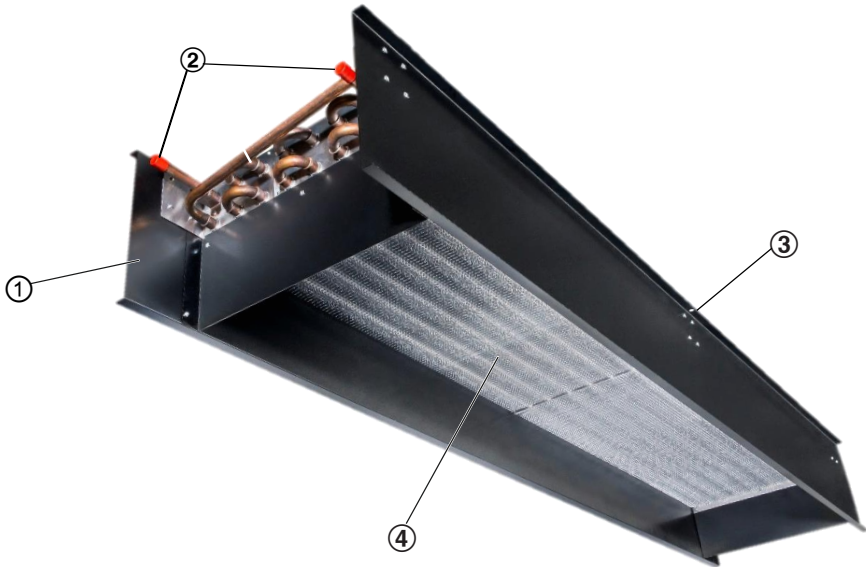


Image of the TCB-RB

- ① Casing
- ② Water connections, Ø15 mm, horizontal (90° vertical as an option)
- ③ Pre-punched installation holes in top flange
- ④ Heat exchanger

Important notes

Information on the installation manual

This manual enables operating or service personnel to correctly install the product described below and to use it safely and efficiently.

It is essential that these individuals read and fully understand this manual before starting any work. The basic prerequisite for safe working is to comply with the safety notes and all instructions in this manual.

The local regulations for health and safety at work and general safety regulations also apply.

Qualified staff

Specialist personnel

Specialist personnel are individuals who have sufficient professional or technical training, knowledge and actual experience to enable them to carry out their assigned duties, understand any potential hazards related to the work under consideration, and recognise and avoid any risks involved.

Limitation of liability

The information in this manual has been compiled with reference to the applicable standards and guidelines, the state of the art, and our expertise and experience of many years.

The manufacturer does not accept any liability for damages resulting from:

- Non-compliance with this manual
- Incorrect use
- Operation or handling by untrained individuals
- Unauthorised modifications

The actual scope of delivery may differ from the information in this manual for special constructions, additional order options or as a result of recent technical changes.

Personal protective equipment

Personal protective equipment must be worn for all work in order to reduce health or safety hazards to the minimum.

The appropriate protective equipment for a job must be worn for as long as the job takes.

Industrial safety helmet



Industrial safety helmets protect the head from falling objects, suspended loads, and the effects of striking the head against stationary objects.

Protective gloves



Protective gloves protect hands from friction, abrasions, punctures, deep cuts, and direct contact with hot surfaces.

Safety shoes



Safety shoes protect the feet against crushing, falling parts, and slipping on slippery ground.

Correct use

Passive chilled beams use heat exchangers for cooling purposes only.

Important notes

Incorrect use



WARNING!

Danger due to incorrect use!

Incorrect use of the unit can lead to dangerous situations.

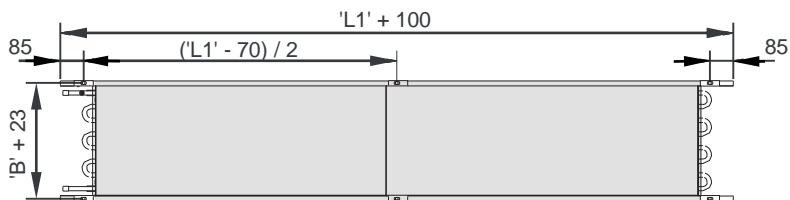
Never use the unit:

- in areas with potentially explosive atmospheres
- in humid rooms
- in rooms with aggressive or dust-laden air

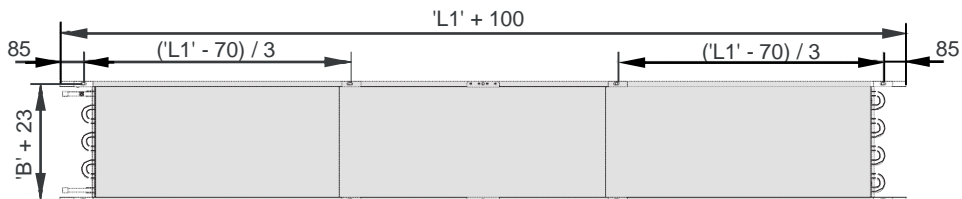
Technical data

| Designation | Value |
|-------------------------------------|--|
| Cooling capacity | Refer to sizing tables in product literature |
| Max. operating pressure, water side | 15 bar |
| Minimum operating condition | 1 K above room dew point |

Dimensions




'L1' = Size Range 1200mm - 2359mm



'L1' = Size Range 2360mm - 4500mm

Technical data

| | |
|--|---|
| Length | 1200 to 4500 mm in 100 mm increments |
| Nominal width | 250, 300, 350, 400, 450, 500, 550, 600 mm |
| Height | 200, 250, 300 mm |
| Cooling capacity | Refer to tables |
| Max. operating pressure, water side | 15 bar |

| Dimensions in mm | | | |
|---|----------|----------|----------|
| L_1 | B | W | H |
| 1200 | 250 | 290 | 200 |
|  | 300 | 340 | 250 |
| | 350 | 390 | 300 |
| | 400 | 440 | |
| | 450 | 490 | |
| | 500 | 540 | |
| | 550 | 590 | |
| 4500 | 600 | 640 | |

| Beam Weight | |
|-------------|---------------|
| Beam Type | Weight (kg/m) |
| TCB-RB/RB-S | 15 |

Note:

(coil width 500 mm)

Transport and storage

Transport and storage

Transport



CAUTION!

Danger of injury from sharp edges, sharp corners and thin sheet metal parts!

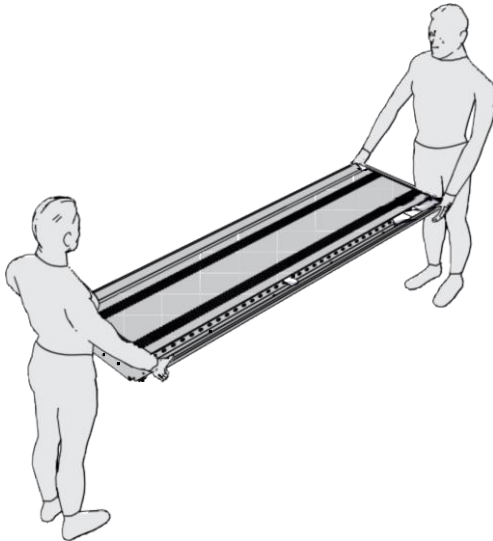
Sharp edges, sharp corners and thin sheet metal parts may cause cuts or grazes.

- Be careful when carrying out any work.
- Wear protective gloves, safety shoes and a hard hat.



NOTICE!

Carry the unit in pairs in order to prevent any damage.



Carrying the unit in pairs

Use only lifting and transport gear designed for the required load. Always secure the load against tipping and falling.

Upon delivery, carefully remove the packaging and check the unit for transport damage and completeness.

Storage

Please note:

- Store the unit only in its original packaging
- Protect the unit from the effects of weather
- Protect the unit from humidity, dust and contamination
- Storage temperature: -10 to 50 °C
- Relative humidity: 95 % max., non-condensing

Ceiling installation

Ceiling installation

Personnel:

- Specialist personnel

Protective equipment:

- Industrial safety helmet
- Safety shoes
- Protective gloves

The TCB-RB passive chilled beam can be installed freely suspended or above an open cell ceiling.

Only work in pairs; preferably use a lift.

TROX TCB-RB chilled beams are provided with $\varnothing 10$ mm holes, pre-punched within the top flange to fix it to the soffit using threaded rods, metal hangers, or wires (fixings not supplied)



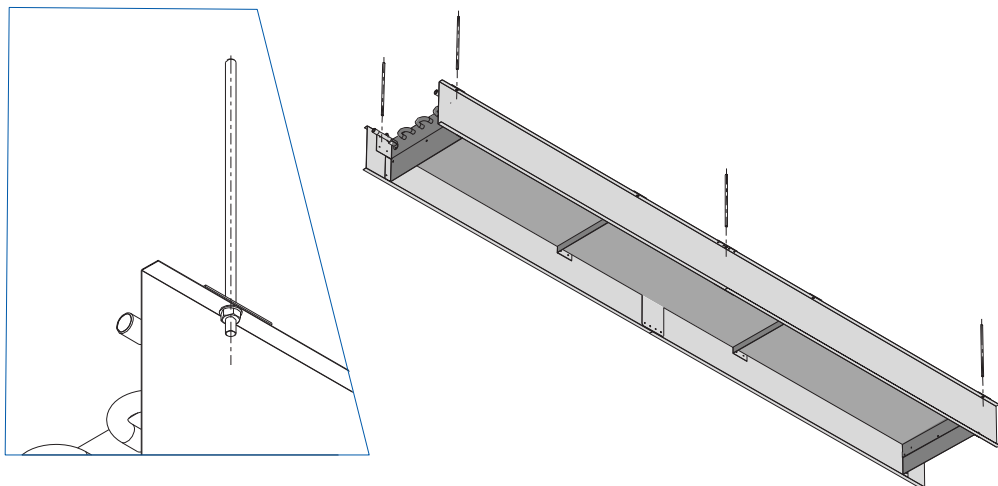
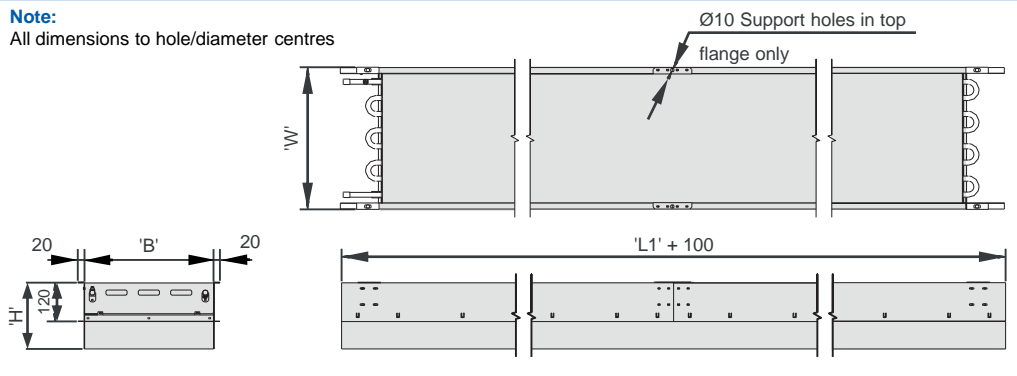
DANGER!

Danger of death from the fall of suspended loads!

- Only use fixing materials designed for the required load.
- Stand clear of suspended loads, unless properly secured.
- Check secure fixing after installation.

Note:

All dimensions to hole/diameter centres



Connecting the water pipes

Connecting the water pipes

The heat exchanger is fitted with water flow and water return connections (one each):

Make sure that the water temperature does not fall below the dew point.

| Water connection | Spanner | Type of connection |
|--------------------------------------|---------|----------------------------|
| Copper tubes 15 × 1 mm | - | Soldered (rigid) |
| | | Flexible hoses (accessory) |
| G 1/2" external thread and flat seal | SW22 | Screw connection (rigid) |
| | | Flexible hoses (accessory) |
| G 1/2" union nut and flat seal | SW24 | Screw connection (rigid) |
| | | Flexible hoses (accessory) |

Connecting the unit – screw connection

Personnel:

- Specialist personnel

Protective equipment:

- Industrial safety helmet
- Safety shoes
- Protective gloves

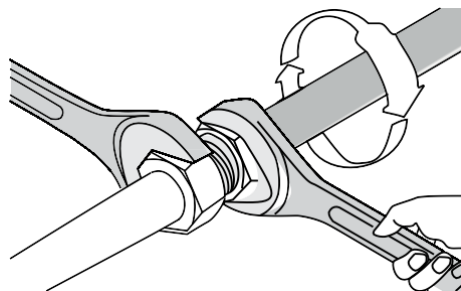
Ensure that the surfaces are clean

1. ▶ Insert seal and tighten screw connection by hand.



Heat exchanger and pipes may easily become damaged.

Always use a suitable tool to counter the tightening force in order to prevent any damage.



Tightened screw connection

2. ▶ Tighten screw connections with a spanner.



NOTICE!

Subzero temperatures will damage the heat exchanger.

Only fill the heat exchanger if there is no danger of freezing.

3. ▶ Fill the heat exchanger and vent it. To fill the system, use clean tap water (pH value 6.5 to 9) or a water glycol mixture (max. 30% glycol).
4. ▶ Check the system for leaks immediately after installation and then in regular intervals.

Commissioning

Before you start commissioning:

- Ensure that all connections are correct
- Ensure that all passive chilled beams are clean and free from residues and foreign matter
- Ensure that the water system including the heat exchanger has been filled and vented

Cleaning

Cleaning the casing

The casing may be cleaned with a damp cloth. Sticky dirt or contamination may be removed with a commercial, non-aggressive cleaning agent. Cleaning agents that contain chlorine must not be used.

Cleaning the heat exchanger

Carefully clean the heat exchanger with an industrial vacuum cleaner. Be careful to not damage the fins. We recommend using a soft brush on the suction inlet.



Contamination tends to deposit mainly above the heat exchanger. We therefore recommend cleaning both the top and the bottom of the heat exchanger.