Installation instructions

chamber manifolds type FRANK WM

General information

- FRANK chamber manifolds are factory assembled and are supplied with pressure-tested manifolds.
- The WM type chamber manifolds are designed for connecting geothermal probes, geothermal collectors and energy cages. When connecting geothermal probes, observe the maximum recommended flow rate.
- No liability shall be assumed in the case of incorrect use or modifications of the product.

Do not use the pipe spigots as grips/load hooks

To be agreed before installation:

- Clarify the traffic load prior to installation.
- The use of the chamber manifold in groundwater, stratum water or slack water is not permitted.
- The chamber manifold/cover is designed for a 200 kg load (pedestrian loads only)
- Agree on the installation depth on the later top ground surface. The chamber manifold cover must not be covered with soil.

Bedding and installation

- The WM type chamber manifold is designed for wall mounting.
- To ensure that it is firmly fastened to the wall, suitable screws must be selected by the client.
- The soil surrounding the tank must be permeable.
- The working area must be measured in such a way as to provide a stress-free alignment of the pipe connections. The minimum working area width is 500 mm.
- When installing and backfilling the chamber manifold, the static requirements must be taken into account, or must be requested separately, if applicable.
- Optional version with a screw-on cover:
  - The chamber manifold cover is suitable for a soil cover height up to 20 cm.
  - If installed covered with soil, access must be provided for inspections.

Pipe connection

- The pipe lines must be connected to provide a permanent, stress-free connection.
- The circuit and heat pump lines are connected using welded fittings.
- The DVS guideline 2207 must be observed for the welding work.
- When using electro fusion fittings, remove the oxide layer of the pipe spigots using a rotational scraper.

Backfilling

- Use graded, non-cohesive material for backfilling. Requirements according to ATV 127: soil group G1 (SW, SI, SE, GW, GI and GE) or G2 (GU, GT, SU, ST).
- The material used for filling must be compressible, permeable, shearing resistant, frost-proof and free of sharp objects.
- The maximum particle size of rounded gravel material must be no larger than 22 mm and 11 mm if broken material is used (crushed sand/grit mixture).
- Cohesive soils are not suitable for backfilling. This is because standing/accumulating water can penetrate.
- Place the backfill material carefully in layers around the chamber manifold and compact it.
- During backfilling, make sure that the pipe connections are stress-free and permanently mounted.
- Use only hand tampers to compact the filling material near the pipe connections.
- Maintain a sufficient distance if using a heavy compactor (e.g. vibrating rollers).

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Information on installation and operation

- The foldable and lockable (optionally screw-on) cover is designed to be surface waterproof.
- Easy access for inspection purposes must always be ensured.
- A sufficient distance must be maintained if planting deep-rooted plants (trees, shrubs).
- For optical reasons, the chamber manifold can be covered lightly, e.g. with pebbles or gravel.

Technical data:	
Max. working temperature	-20°C to +40°C
Operating pressure	max. 3 bar
Test pressure	max. 6 bar
Max. recommended flow rate (water):	7.7 m³/h
Max. recommended flow rate (water/ethylene glycol):	6 m³/h

No construction vehicles must run up to or over the chamber manifold.

Before closing the chamber manifold, clean the seals and contact surfaces of the cover.

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Applicable standards and regulations:

- Existing standards and regulations must be observed for the planning and installation of a chamber manifold.
- The accident prevention regulations must also be observed.

Standards and regulations	Contents
ATV A 127	Static Calculation for the Rehabilitation of Drains and Sewers
ATV A 139	Installation and Testing of Drains and Sewers
DIN EN 1610	Construction and Testing of Drains and Sewers
DIN 18196	Earthworks and Foundations - Soil Classification for Civil Engineering Purposes
DIN 1054	Subsoil - Verification of the Safety of Earthworks and Foundations
DIN 4123	Excavations, Foundations and Underpinnings in the Area of Existing Buildings
DIN 4124	Excavations and Trenches - Slopes, Planking and Strutting Breadths of Working Spaces
DIN 4084	Soil - Calculation of Embankment Failure and Overall Stability of Retaining Structures
DIN 18920	Vegetation Technology in Landscaping - Protection of Trees, Plantations and Vegetation Areas During Construction Work
DVGW W400-2	Engineering rules for water supply systems

Standards for road construction:	
ZTVE-StB 94	German Technical Terms and Conditions of Contract and Guidelines for Earthworks in Road Construction
RSto	German guidelines for the standardisation of pavement structures of traffic areas

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