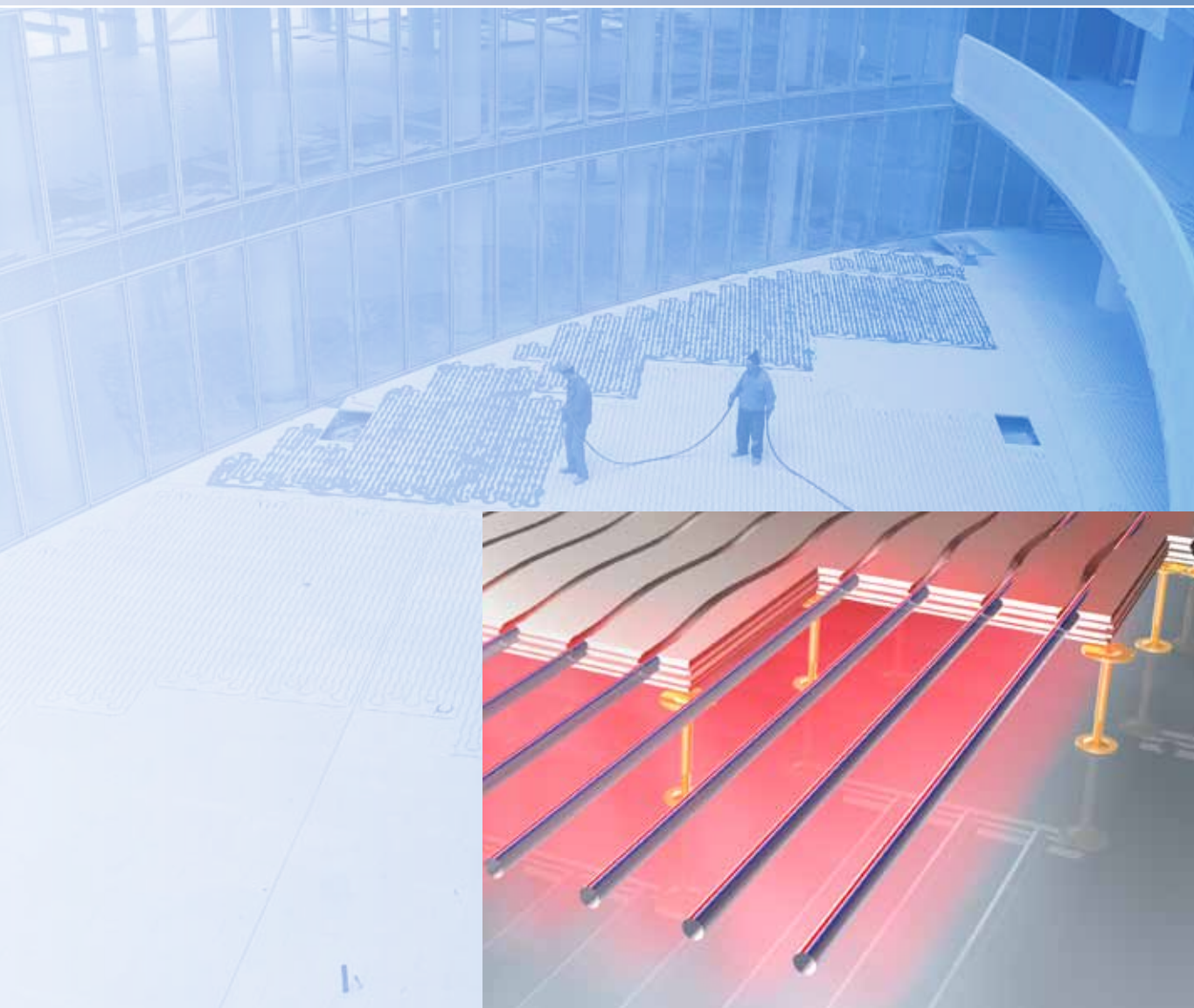


# MERO Hollow Floor Combi T Thermo

## Innovative solutions from one source

Development  
Consulting  
Planning  
Manufacturing  
Installation

Access Floor  
Hollow Floor  
Floor covering and  
Installation  
Services



Floor Systems

# System floor



For economic and ecological reasons, rooms today are more and more heated and cooled by activated spaces. The larger the heated part of the space, the lower the energy required. This reduces the cost of heating and cooling. The MERO Combi T Thermo is a dry hollow floor with a floor heating and cooling system.

## Fields of application

The MERO Combi T Thermo can be used in almost all areas, whether it concerns new buildings or the refurbishment of old buildings. In principle, all floor coverings suitable for floor heating can be installed on MERO Combi T Thermo:

- stone and ceramic tiles
- textile floor coverings
- dimensionally stable elastic floor coverings
- different types of parquet

## Advantages

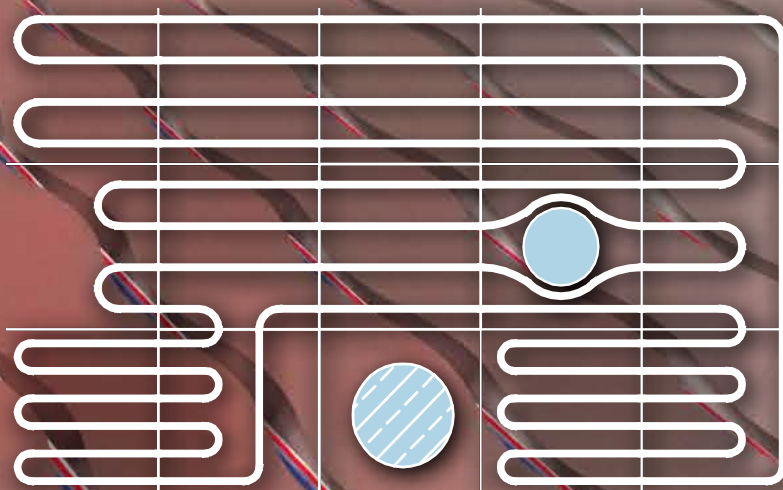
- **Especially suitable for low temperature plants according to EnEV**
- Extremely short construction time
- Maximum system safety due to tightness test according to DIN PE-RT tube
- Combi T Thermo is proved as heating and cooling system acc. to DIN and certified acc. to DIN Certco
- Various grids and variable construction heights are possible
- Very good structural-physical characteristics
- Favourable cooling, especially with groundwater heat pumps
- Healthy indoor climate through radiant heat



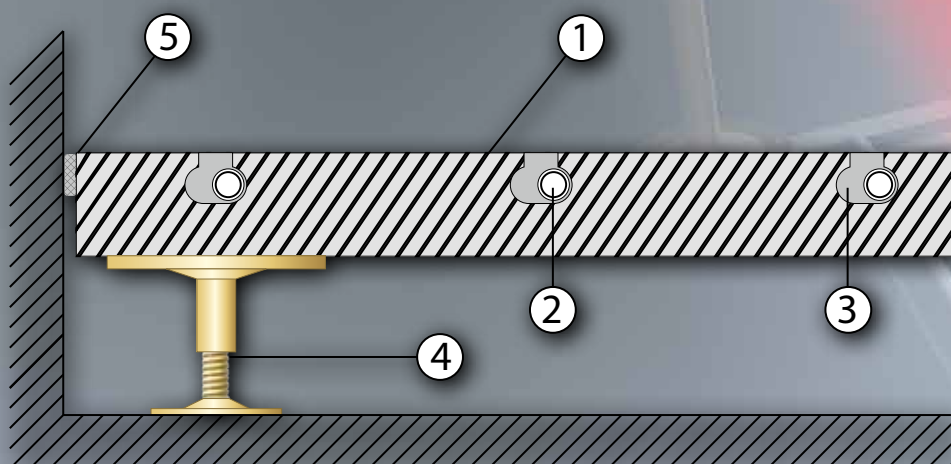


## Construction principle

The supporting panels consist of incombustible fiber-reinforced calcium sulphate, which guarantee an optimal heat transmission. Special milled grooves for the installation and fixing of the pipework integrate the floor heating into the floor panel. After the installation of the heating pipe, the grooves are filled with body filler flush with the surface. Thermally insulated connecting pipes ensure an optimal energy supply. Due to the dew point control the accumulation of condensed water can be avoided.



We use plastic pipes consisting of highly cross-linked polyethylene. The substructure consists of steel pedestals. Their height can be exactly adjusted. All pedestals are protected against corrosion by galvanization and passivation. The pedestal base plates are glued to the raw subfloor. Depending on the requirements, various panel types are available.



1. Supporting panel with grooves for the heating pipes
2. Heating pipe
3. Body filler
4. Pedestal
5. Perimeter strip



## Construction process



The MERO dry hollow floor with pre-fabricated grooves for the heating pipes is installed according to the layout drawing.



The plastic pipe is placed into the grooves.

## Planning instructions

The planning and setting of the heating and cooling circuits is carried out together with the TGA planner. On request, the calculation of the pipe network can be done by MERO. The MERO Combi T Thermo can also be operated along the method of Tichelmann. With a few standard panels we meet all structural requirements.



The cutouts are prefabricated (e.g. for electric underfloor tanks which are installed on site)



Prior to the grouting of the body filler, all pipes are tested for leaks.



The protruding body filler will be removed from the supporting panel.



After the operational heating the MERO Combi T Thermo is ready for the application of the floor covering.

# Technical data\*: Combi T Thermo



### Accessories:

Drilling is done at factory or on site for:  
Power supply and twist-air outlets  
Expansion joints / construction joints / joints  
Revision openings  
Access floor ducts  
Cutouts  
Special wall connections  
Fascia  
Bridging  
Additional insulation (heat, impact sound)  
Stairs, ramps  
Floor coverings as stone, parquet etc.

### \*For further detailed technical data

please ask for our product data sheets.

### Bearing layer:

Dimensions:	600 x 600
System weight:	56 kg/m <sup>2</sup> to 66 kg/m <sup>2</sup>
Panel material:	Calcium sulphate panel (fiber-reinforced calcium sulphate)
Adhesive:	High quality solvent-free adhesive for the adhesion of the toothing

### Substruction

Module:	600 x 600 mm
Pedestal material:	Galvanized steel
Construction height:	From 50 mm
Pedestal bonding:	Normally glued with the subfloor and the panel; continuously adjustable to height

### Floor coverings

Textile und elastic floor coverings, parquet, natural stone, artificial stone, liquid coating

### Load values

Point load:	3.000 – 5.000 N
Valued acc. to DIN EN 13213:	Class 2 – 5
Ultimate load:	> 6.000 – 10.000 N

### Fire protection

Building material class bearing panel	
Acc. to EN 13501 T1:	A1
Fire resistance class acc. to DIN 4102 T2:	F30 possible

### Acoustic values

	(depending on system and floor covering)	New denomination according to DIN EN
Sound reduction index $R_{L,w,P}$	39 – 54 dB	Normalized flank level difference $D_{n,f,w,P}$
Normalized impact sound pressure level $L_{n,w,P}$	42 – 91 dB	Normalized flank impact sound pressure $L_{n,f,w,P}$
Improvement of sound pressure level $\Delta L_{w,P}$	10 – 29 dB	Improvement of sound pressure level $L_{w,P}$

## Heating and cooling

An adequate temperature is important for a comfortable indoor climate and a good place to work. A further advantage in offices is the invisible installation of supply lines.

The MERO hollow floor Combi T Thermo combines these two characteristics. The MERO Combi T Thermo can be used in almost all areas, whether it

concerns new buildings or the refurbishment of old buildings. The system does not require any specific heating circuit connections. All floor coverings suitable for underfloor heating as stone and ceramic tiles, textile floor coverings, dimensionally stable floor coverings and different types of parquet can be applied on MERO Combi T Thermo.





# Hollow Floor Combi T Thermo



## Heating

### Pipe grid 100

### Pipe grid 150

Heat flow density  $q_G$  acc. to DIN EN 1264-2 77 W/m<sup>2</sup>  
(without covering,  $R_{\lambda}=0,00$  m<sup>2</sup>K/W)

60 W/m<sup>2</sup>

at standard heating liquid overtemperature  $\Delta\theta_H$  12 K

12 K

Heat flow density  $q_G$  acc. to DIN EN 1264-2 (with covering,  $R=0,15$  m<sup>2</sup>K/W)

78 W/m<sup>2</sup>

at standard heating liquid overtemperature  $\Delta\theta_H$  26 K

29 K

$R_{\lambda,B}$  carpet 0,07 – 0,23 m<sup>2</sup>K/W

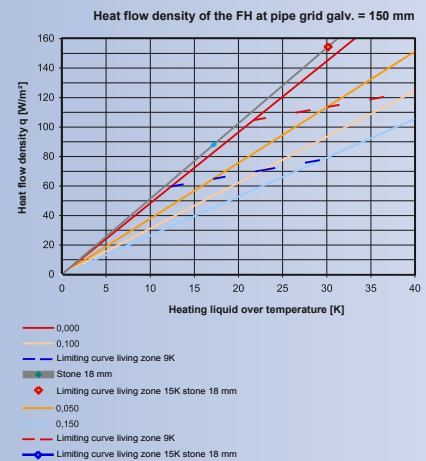
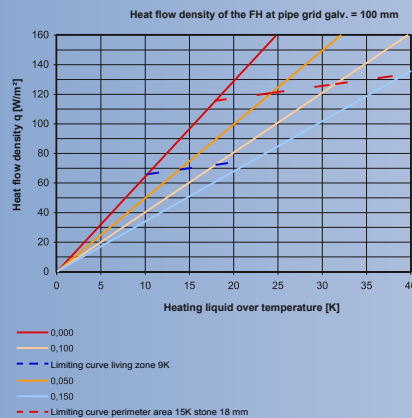
0,07 – 0,23 m<sup>2</sup>K/W

$R_{\lambda,B}$  ceramic tile / stone 0,02 m<sup>2</sup>K/W

0,02 m<sup>2</sup>K/W

$R_{\lambda,B}$  PVC 0,01 m<sup>2</sup>K/W

0,01 m<sup>2</sup>K/W



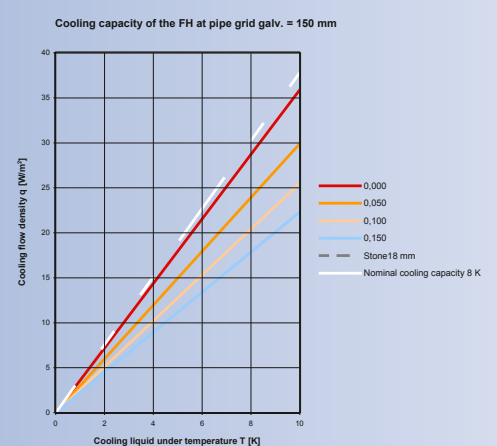
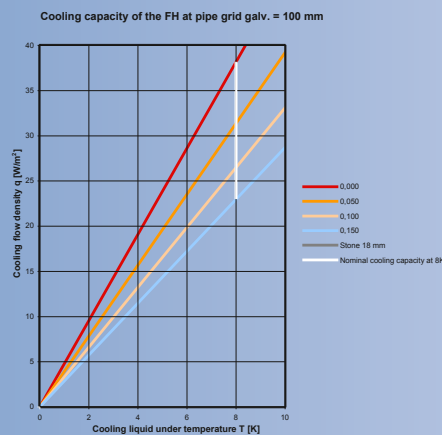
## Cooling

Specific cooling capacity acc. to DIN EN 1264-5 38,2 W/m<sup>2</sup>

28,7 W/m<sup>2</sup>

Cooling liquid temperature  $\Delta\theta_H$  8 K

8 K



The MERO hollow floor Combi T Thermo is tested acc. to DIN EN 1264-2/3/4 no. 7F249-F and 7F250-F and certified by independent institutes.



Head office:  
**MERO-TSK International GmbH & Co. KG**  
 Max-Mengeringhausen-Str. 5  
 97084 Würzburg, Germany

Postal address:  
**MERO-TSK International GmbH & Co. KG**  
 Product Division Floor Systems  
 Lauber Straße 11

97357 Prichsenstadt, Germany  
 Phone.: +49 (0) 93 83 203-603  
 Fax: +49 (0) 93 83 203-629  
 E-mail: bodensysteme@mero.de  
 Internet: www.mero.de

