

top-Nopp®



top-Nopp® nub system

Works like a press stud



EMPUR® surface heating systems

Increased comfort and efficiency



The decision to install surface heating is a sensible decision for increased comfort, economy and sustainability. Surface heating systems are ideal for combining with modern heat generators and regenerative sources of energy.

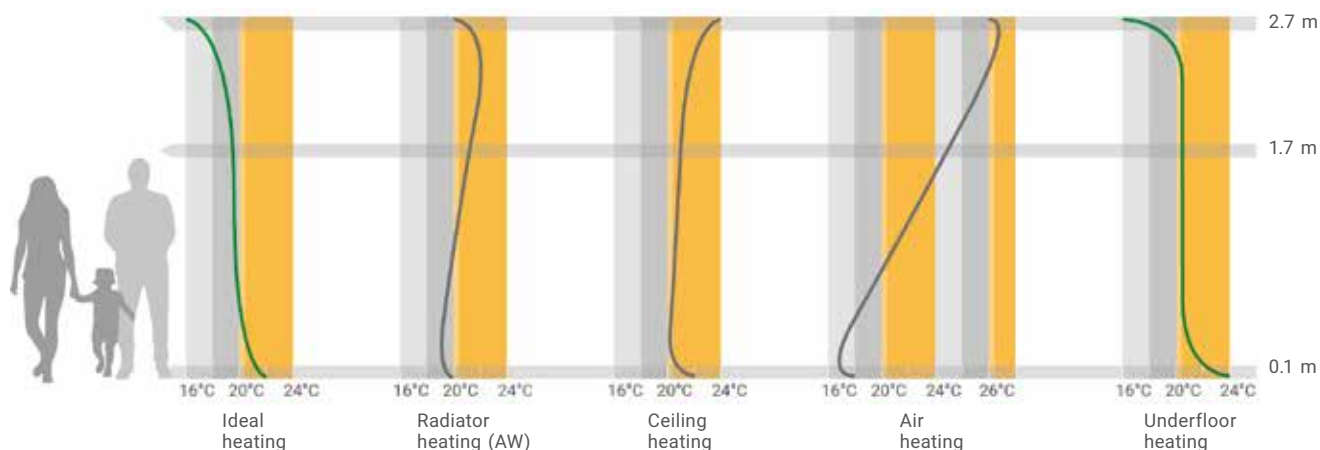
Mild heat radiation from the bottom up creates an increased sense of wellbeing. As a heat source with a large surface area, it can make an exceptional contribution to lowering energy costs at low flow temperatures. In this way, it also makes a significant contribution to sustainability and to protecting the environment.

Underfloor heating is also especially suited to people with allergies, as the heat rises across the entire room and hardly swirls up any dust across the large surface area. It affords the client completely new design possibilities without any visible radiators and increases the building's value in the long term.

Surface heating systems are also being used more and more in modernisation projects. Particular requirements, for example installation height, load capacity, weight, insulating properties and sound absorption can be guaranteed alongside efficient heating.

Surface temperatures

Temperature curve progression: Comparison of "ideal heating" with an underfloor heating system



EMPUR® surface heating systems

Quality "Made in Germany" from one source



EMPUR® Produktions GmbH is a producer and full-range retailer of innovative, high-quality panel heating systems and has the right solution for every requirement:

- Surface heating/cooling systems for floor, walls and ceilings
- Systems without additional installation height or with minimum installation height for modernisation
- Diverse systems with composite panels and additional insulation for new buildings in the private, municipal or industrial sectors
- System accessories and tools
- High-quality heat distribution and drinking water systems
- Innovative control technology



The company manufactures over 90% of the system components in its own production and under its own responsibility on modern equipment at our site in Buchholz-Mendt. We work under a structured quality management system, which is certified by DEKRA in accordance with the DIN EN ISO 9001:2015 international standard.

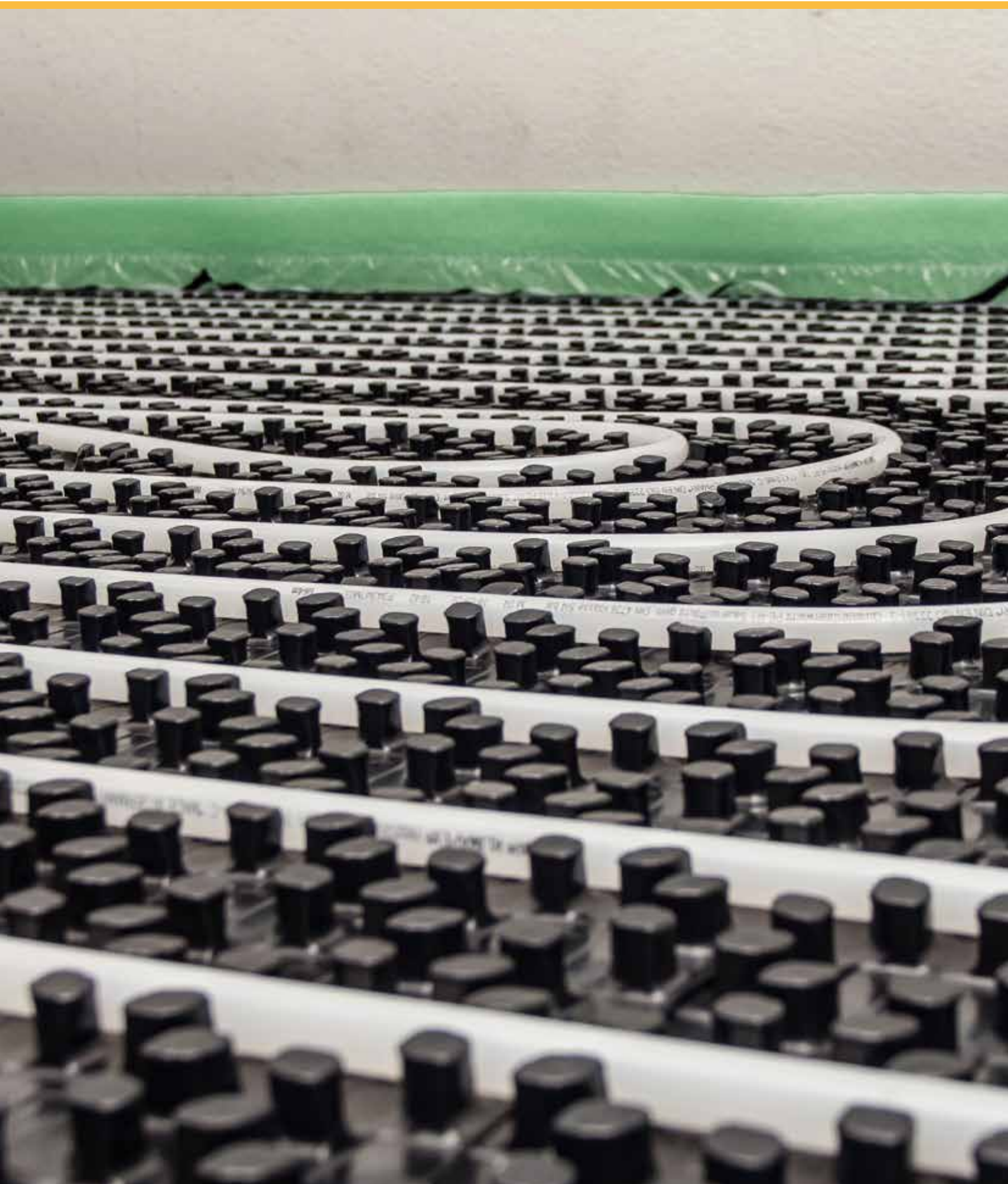
In the interests of the most objective and neutral product evaluation possible, EMPUR® subjects its products to material testing and certification by nationally recognised testing institutes and assessment centres. High quality, continual and pioneering product developments, technical advice and support, a three-level distribution network across Germany, reliable services, as well as specialist training for wholesalers, specialised craftsmen and planners make EMPUR® a competent partner in the heating industry.

The technical information in this brochure represents the state of our knowledge and experience at the time of printing. Unless expressly agreed, however, it does not constitute assurance in the legal sense. The level of experience is constantly evolving. The latest edition of this brochure should always be used. The product applications described may not take into account special conditions in an individual case. Here, suitability for the specific application purpose must be checked. Our products are delivered exclusively on the basis of our general conditions of sale and delivery.



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The EMPUR® top-Nopp® system components consist of a completely foam-backed, hard-wearing castellated film and are perfectly supplemented with the KLIMAPEX® high-quality plastic heating pipes.

The double-sided film overhang enables neat laying of the panels. The two components can be connected easily and with minimum material loss using the press stud method afforded by the male and female nubs, which are arranged in a single row.

The KLIMAPEX® plastic heating pipes are clicked into the nub structure and fastened using perfectly fitting pipe retaining nubs. The laying grid is indicated by the arrangement of the nubs and makes it significantly easier to keep to the layout distances. To ensure good heat transfer, the heating pipe is uniformly covered with screed.

The nub system components are all developed by EMPUR® and produced in-house in Germany.

Our top-Nopp® nub system impresses

- **Proven quality** through in-house production
- Hard-wearing, optimised castellated panels with **long-term stability**
- Components are **optimally attached** to each other thanks to press stud technology
- **Secure fastening** of the KLIMAPEX® plastic heating pipes using pipe retaining nubs
- Minimal waste due to overlay technology



7F 362-F
7F 363-F

THE NUB SYSTEM BY EMPUR® –
A **PERFECT COMBINATION OF HEAT INSULATION** FOR THE ENTIRE AREA
AND **SIMPLE INSTALLATION!**

We are happy to answer any questions you might have regarding our top-Nopp® nub system. Give us or your specialist craftsman a call!



top-Nopp® nub system

Standardised installation



Your route to increased home comfort



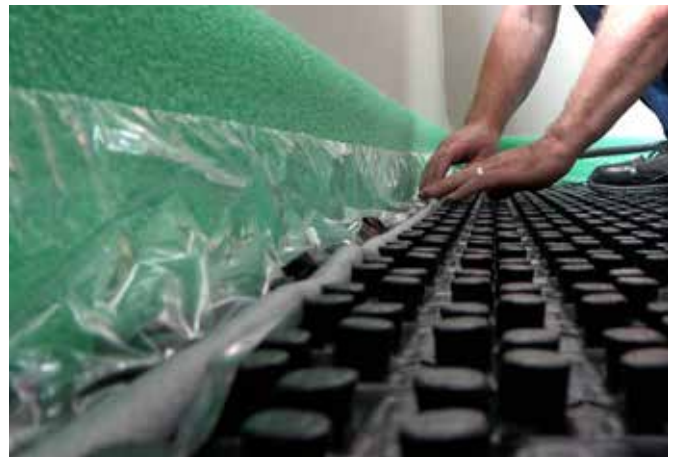
If necessary, first lay out the sub-insulation over the entire surface.



Fixing of the edge insulation strip on all ascending parts. A reliable seal must be ensured.



When laying the nub panel, the elements are connected with minimum material loss using the press stud method afforded by the male and female nubs, which are arranged in a single row.



The laying panels must be sealed at the sides to the edge insulation strip using a round section to prevent the screed from getting into the edge areas.



The heating pipe clicks into the nub structure when you exert slight pressure with your foot. The optimised pipe retaining nubs ensure the heating pipe is secure in the panel.



After connecting the underfloor heating pipes to the manifold and checking for leaks, the system is filled with water.

top-Nopp® nub system

System components



a)



b)



c)

Castellated panel top-Nopp® for 15-17 mm pipes

- a) EPS-DEO 11 without sound absorption, insulation thickness 11 mm, overall height 30 mm
- b) EPS-DES 30-2 with sound absorption, insulation thickness 30 mm, overall height 49 mm
- c) Castellated panel without insulation, overall height 19 mm



Connector strips top-Nopp®

without insulation as connectors in snap-fastening systems



Door and levelling element top-Nopp®

as set



Round section top-Nopp®

for attaching edge insulation strips to the castellated panel



KLIMAPEX® heating pipe PE-RT

15 x 1,8 (green) and 17 x 2,0 as 5-layer pipe or 15 x 1,8 (green) and 17 x 2,0 as 3-layer pipe

made of polyethylene, Type I/II in accordance with DIN EN ISO 22391-2 and DIN 16833, with increased thermal stability and insoluble, diffusion-tight EVOH barrier layer in accordance with DIN 4726



3V 204 PE-RT

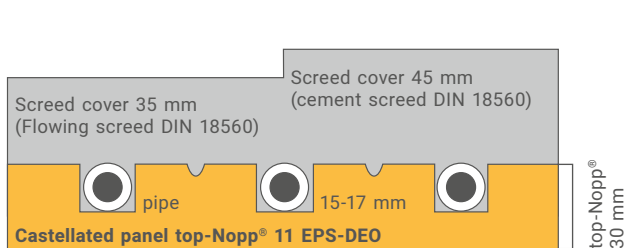


KLIMAPEX® heating pipe PE-Xa

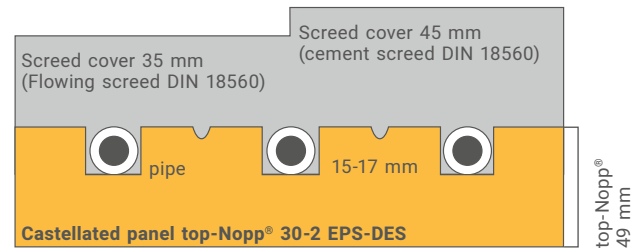
15 x 1,8 and 17 x 2,0 as 5-layer pipe high-pressure cross-linked polyethylene in accordance with DIN EN ISO 15875 and DIN 16892/16893 and insoluble diffusion-tight EVOH barrier layer in accordance with DIN 4726

NOTE

Complete your top-Nopp® nub system with further EMPUR® products such as a heating circuit manifold, manifold accessories, manifold cabinet and control technology in order to enjoy a self-contained EMPUR® system (see page 11 et seq.). We'd be pleased to advise you!



Total height: 65 mm/75 mm



Total height: 84 mm/94 mm

Screed, height and quality are to be tested for each individual case according to the site requirements!

Calculation aids

System: top-Nopp® nub system 15-17 Material requirement/m² floor heating

Insulation and accessories	Installation method:	Installation distance (mm)						Item No.
		50 axially	70 diagonal	100 axially	140/150 diagonal/axially	200 axially	210 diagonal	
top-Nopp® castellated panel 11 useful surface per panel: 1.0 m ²		1.00	1.00	1.00	1.00	1.00	1.00	081120
Alternative top-Nopp® castellated panel 30-2 useful surface per panel: 1.0 m ²		1.00	1.00	1.00	1.00	1.00	1.00	083020
top-Nopp® castellated element useful surface per panel: 1.0 m ²		1.00	1.00	1.00	1.00	1.00	1.00	080020
Edge insulation strips m/m ²		1.10	1.10	1.10	1.10	1.10	1.10	908152
top-Nopp® connector strips m/m ²		0.30	0.30	0.30	0.30	0.30	0.30	080021
top-Nopp® m/m ² round section		0.80	0.80	0.80	0.80	0.80	0.80	089900
Pipe volumes m/m ²		20.00	13.30	10.00	6.70	5.00	4.40	

top-Nopp® nub system

Your benefits

For specialised craftsmen

- One system, one manufacturer – from consultation to design on to component delivery
- **Security for end-clients and processors – system components optimally adapted to each other**
- Proven quality through **in-house production**
- Minimal installation height ≥ 65 mm (without lining)
- Quick and neat processing of the castellated panels
- Hard-wearing optimised castellated panel with **long-term stability**
- **Optimal nub arrangement** enables the KLIMAPEX® plastic heating pipes to be laid axially (50/100/150 mm) or diagonally (70/140/210 mm)
- **Low weight of material**, enabling easy and non-tiring installation
- Easy laying – can be laid quickly without additional tools
- Components are optimally attached to each other thanks to press stud technology
- Minimal waste due to overlay technology
- **Simple and secure installation** of KLIMAPEX® plastic heating pipes by clicking them in
- Secure fastening of the KLIMAPEX® plastic heating pipes using optimised pipe retaining nubs
- Quick and flexible laying of pipe dimensions and qualities of the same system
- **Many insulation materials** available with various strengths
- Various system panels available with or without insulation or impact noise reduction
- Optimal combination with calcium sulphate liquid screeds thanks to the KLIMAPEX® plastic heating pipes being completely covered
- Many expansion possibilities – comprehensive EMPUR® range with PUR additional insulation materials and various system accessories and tools, as well as manifold and control technology products
- 10-year material and consequential damage liability on EMPUR® heating pipe with exclusive use of our system components subject to compliance with further warranty conditions (see EMPUR® warranty certificate)

For the end-consumer

- Various system panels available with or without insulation or impact noise reduction
- **Heat insulation across the entire surface** when using foam-backed panels
- Simple implementation of thermal insulation requirements in new and old buildings
- Ideal for using renewable energies (heat pump) for heating and cooling purposes
- No swirling up of dust, suitable for people with allergies
- **Highest comfort** thanks to heat radiation
- New design possibilities without radiators
- **Increases** building value
- **Energy savings** through low flow temperatures
- Floor heating for all layouts
- **Comfort** thanks to even heat distribution
- **Minimal waste** due to overlay technology = low costs



Manifold technology

At our Buchholz-Mendt location, EMPUR® produces high-quality manifolds and special solutions from brass and stainless steel for client-specific requirements.

The structural design of our new manifold generation requires significantly less effort for specialised craftsmen to assemble in combination with the EMPUR® manifold cabinets. With the specially developed **quick manifold assembly technology**, the manifolds are simply suspended in the guide rails of the manifold cabinet and fixed using two fillister head screws.

Thanks to extensive manifold accessories, we enable the right connection in every situation for a perfectly adapted system – ranging from connection sets and heat volume measurement sets to line regulating or zone valves, pointer thermometers and restrictors.

You can find detailed information in our **Manifold technology brochure**.

Stainless steel manifold

System manifold HCM-D Balance with integrated, dynamically regulating valves

Complete manifold made of 1" stainless steel section pipe in the pressure range 17-60 kPa, can be preset for flow rates of 30-300 l/h, 50 mm valve clearance, fully installed in the factory on the manifold holder with sound insulation inserts. Return valves (top) with a blue protective cap, EMPUR® actuators can be installed directly instead. Feed flow (bottom) with flow indicator **without scaling** for shut-off and function display. Heating circuit connections 3/4" Eurocone, 2 manifold end pieces with reducer (rotatable) for filling, bleeding and draining.



Stainless steel manifold, series 03 Balance, 2-12 heating circuits 1" IT

System manifold HCM-D, series 03 with flow rate indicator

Stainless steel section pipe complete manifold with integrated valves, 50 mm valve clearance. Pre-assembled in the factory on the manifold holder with sound insulation inserts for fast assembly in the manifold cabinet, return flow value (top) with blue protection cap, EMPUR® actuators can be installed directly instead. Feed flow (bottom) with controllable and adjustable flow rate indicators (0-2.5 l/min.), heating circuit connections 3/4" euroconus. 2 manifold end-pieces with reducer (rotatable) for filling, bleeding and draining.



Stainless steel manifold, series 03, 2-12 heating circuits 1" IT

NOTE

The water quality requirements according to VDI 2035 must be adhered to!

top-Nopp® nub system

Additional system components



Brass manifold, version 2.0, 2-16 heating circuits 1" IT or 5-16 heating circuits 5/4" IT

Brass manifold

System manifold HCM-D, version 2.0 with flow rate indicator

Complete manifold made of brass section pipe with integrated valves, 50 mm valve clearance, return flow valve (top) with blue protection cap. Pre-assembled on manifold holders with sound insulation inserts. EMPUR® actuators can be installed directly instead. Feed flow (bottom) with controllable and adjustable flow rate indicators (0-2.5 l/min.). Heating circuit connections 3/4" euroconus. 2 manifold end-pieces with reducer (rotatable) for filling, bleeding and draining.



Control manifold HCM-DR with high-efficiency pump and thermoseparator, version 2.0, 2-9 heating circuits 1" IT or 10-16 heating circuits 5/4"

Control manifold

Control manifold HCM-DR, version 2.0 with high-efficiency pump and thermoseparator

Manifold made of brass section pipe with integrated valves, 50 mm valve clearance. Pre-assembled on manifold holders with sound insulation inserts. Return flow valve (top) with blue protection cap. EMPUR® actuators can be installed directly instead. Feed flow (bottom) with controllable and adjustable flow rate indicators (0-2.5 l/min.). Heating circuit connections 3/4" euroconus. Suitable for variable or constant flow temperature control in combination with control set V or K for the hydraulic integration of low-temperature under-floor heating in an existing heating system.



EMPUR® Geniix complete manifold

EMPUR® Geniix complete manifold

The unique Geniix pump technology in the unit together with the high-quality EMPUR® components such as the manifold, manifold cabinet etc. facilitates the installation and operation of modern surface heating systems (e.g. underfloor or wall heating systems) as well as conventional heating systems.

The **EMPUR® Geniix heat distribution system*** is a flexible surface heating and control system which enables appropriate, customised heating in all rooms in residential and non-residential buildings.

The advantages of individual production and the production expertise set standards in manifold technology.

* For more information, see www.geniix.de

NOTE

The water quality requirements according to VDI 2035 must be adhered to!

Manifold accessories

Whether you are installing a low-temperature heating system or you would like to integrate surface heating into a high-temperature heating system. We have the right accessories for you! Here, you will find a selection from our range. Please see our current price list for further components.



Actuator "Economy"



Zone valve



Manifold connection set 90°



1/2" WMZ connection set passageway



Connection set 90° for thermoseparator



Box wrench, open SW 30

Manifold cabinets

Manifold cabinets provide the perfect location for manifolds and control stations. The variants 'Top Standard' version as a wall-mounted cabinet and the 'Exclusiv' version as a flush-mounted cabinet are available for the conventional assembly.



Manifold cabinet 'Top Standard' version



Manifold cabinet 'Exclusiv' version

The large manifolds, control stations and control manifolds are installed in the 'Top Standard plus' manifold cabinet for wall-mounting or 'Exclusiv plus' for flush-mounting.

Our latest manifold generation offers a significantly reduced assembly effort for specialised trades in combination with the EMPUR® manifold cabinets. With the specially developed **quick manifold assembly technology**, the manifolds are simply suspended in the guide rails of the manifold cabinet and fixed using two fillister head screws.

Additional benefits of the new generation of manifold cabinets include easy connection of the primary connections, time savings when feeding through electrical connection cables and, of course, secure and flexible mounting options.

top-Nopp® nub system

Additional system components

Control technology

EMPUR® offers innovative and perfectly matched control components as an ideal addition to versatile surface heating systems. We offer cable-bound standard solutions for conventional surface heating, as well as solutions for heating/cooling applications with heat pumps depending on the type of application and installation.

In the case of retrofitting or modernisation, mostly wireless variants are used, which can be combined with modern heat generators.

We offer individual automation options with our Exclusiv modular-designed control technology (wireless/BUS). So you can also control your heating system via smartphone and PC.

The individual product ranges are supplemented using control terminal strips that – depending on the equipment – can also control a circulation pump. Timer modules and digital timers round-off the product range.

Opposite you will find a selection of our range. Please see our current price list for further components.

Give us a call. We'd be pleased to advise you!



Room operating unit 230 V/24 V analogue standard heating/cooling



Room operating unit 230 V/24 V Standard plus heating/cooling with display



Wireless/BUS room operating unit with display



Control terminal strip Balance heating/cooling 230 V



Humidity monitoring with external sensor



Wireless/BUS base station



Dew point monitor 230 V for top-hat rail mounting



Dew point sensor type 2 for dew point monitor 230 V



Dew point sensor type 3 for dew point monitor 230 V

You can find detailed information in our [Control technology brochure](#).



Your specialists for surface heating systems

Expertise, reliability and commitment are **EMPUR®**'s strengths. In addition to the production and sale of high-quality surface heating systems and components, the company's range of services also includes comprehensive services relating to the planning and installation of our complete systems.

EMPLAN®'s specialist engineers and planning consultants are available to help you with their expertise in demanding property planning in almost all TBE (Technical Building Equipment) areas such as heating, air conditioning, ventilation, plumbing and electrical.

We have bundled our many years of experience in the installation of surface heating systems into our **EMSOLUTION®** and support tradesmen to complete their construction projects on time.

EMPUR®, **EMPLAN®** and **EMSOLUTION®** together form the **EMGRUPPE®**. Thus, the three core areas of expertise – production, planning and installation – come from a single source.

TBE . PLANNING . CONCEPTS

EMPLAN®

- Planning surface heating and cooling systems for new builds, modernisation projects and customised solutions
- Project planning for heating, ventilation and air conditioning applications, electrical engineering and swimming pool technology
- Creation of performance specifications
- Project planning and designing Geniax projects
- Energy planning and assessment of residential and non-residential buildings (EnEV/GEG certificates)
- Construction supervision for technical building systems

www.em-plan.net

TBE . PRODUCTION . SALES

EMPUR®

- Plastic heating pipes, insulation and composite panels for surface heating and cooling systems for new builds and modernisation projects
- Manifold and control technology
- Geniax heat distribution systems
- Accessories and tools
- Customised solutions for industrial, sports and commercial buildings

www.empur.com

TBE . ASSEMBLY . SERVICE

EMSOLUTION®

- Installation of surface heating and cooling systems in new build and modernisation projects
- Installation of the CUT-THERM® milling system
- Commissioning of Geniax heat distribution systems and heat pump systems
- Service for technical building installations

www.em-solution.de