EMPUR®

Manifold technology

Manifold technology

Heat distribution with a system

‘Made in Germany’ seal of quality

EMPUR® surface heating systems

Increased comfort and efficiency

The decision to install surface heating is a sensible decision for increased comfort, economy and sustainability. Nowadays, more than 70% of newly-constructed buildings have such a system. Surface heating systems are ideal for combining with modern heat generators and regenerative sources of energy.

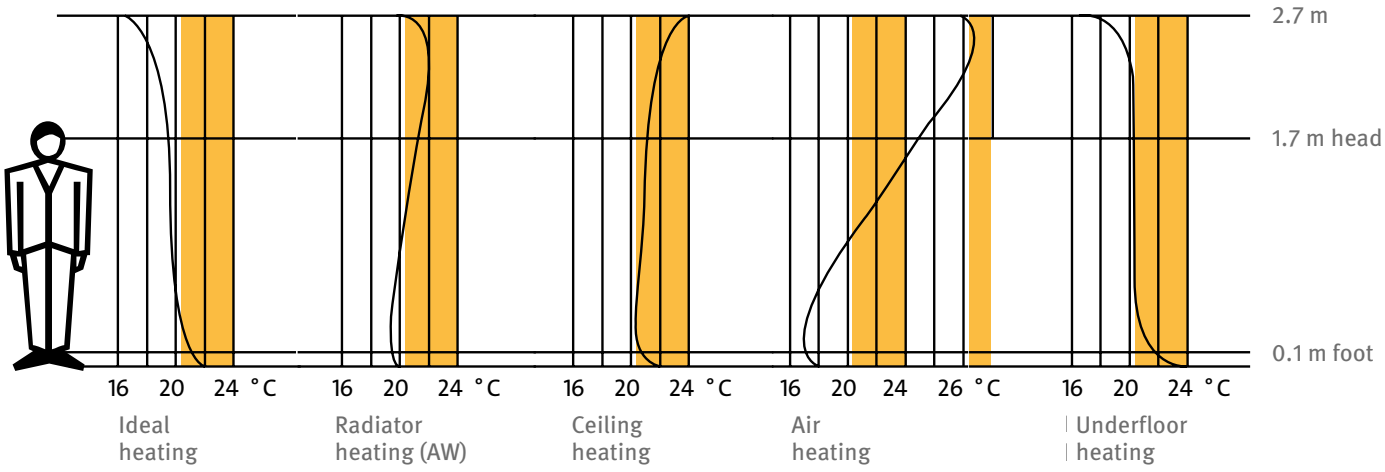
Mild heat radiation from the bottom up creates an increased sense of wellbeing. As a heat source with a large surface area, it can make an exceptional contribution to lowering energy costs at low flow temperatures. In this way, it also makes a significant contribution to sustainability and to protecting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

- **Systems without additional installation height or with minimal installation height for modernisation projects**
- **Versatile systems with composite panels and additional insulation for new buildings in private, communal and industrial areas**
- **System accessories and tools**
- **High-quality manifold and control technology**

The company produces and is solely responsible for over 90% of all system components itself using its state-of-the-art systems. 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.

Manifold technology

Heat distribution with a system

Manifold technology

Heat distribution with a system

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, in combination with the EMPUR® manifold cabinets, offers a significantly reduced assembly time for the tradesman. 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.

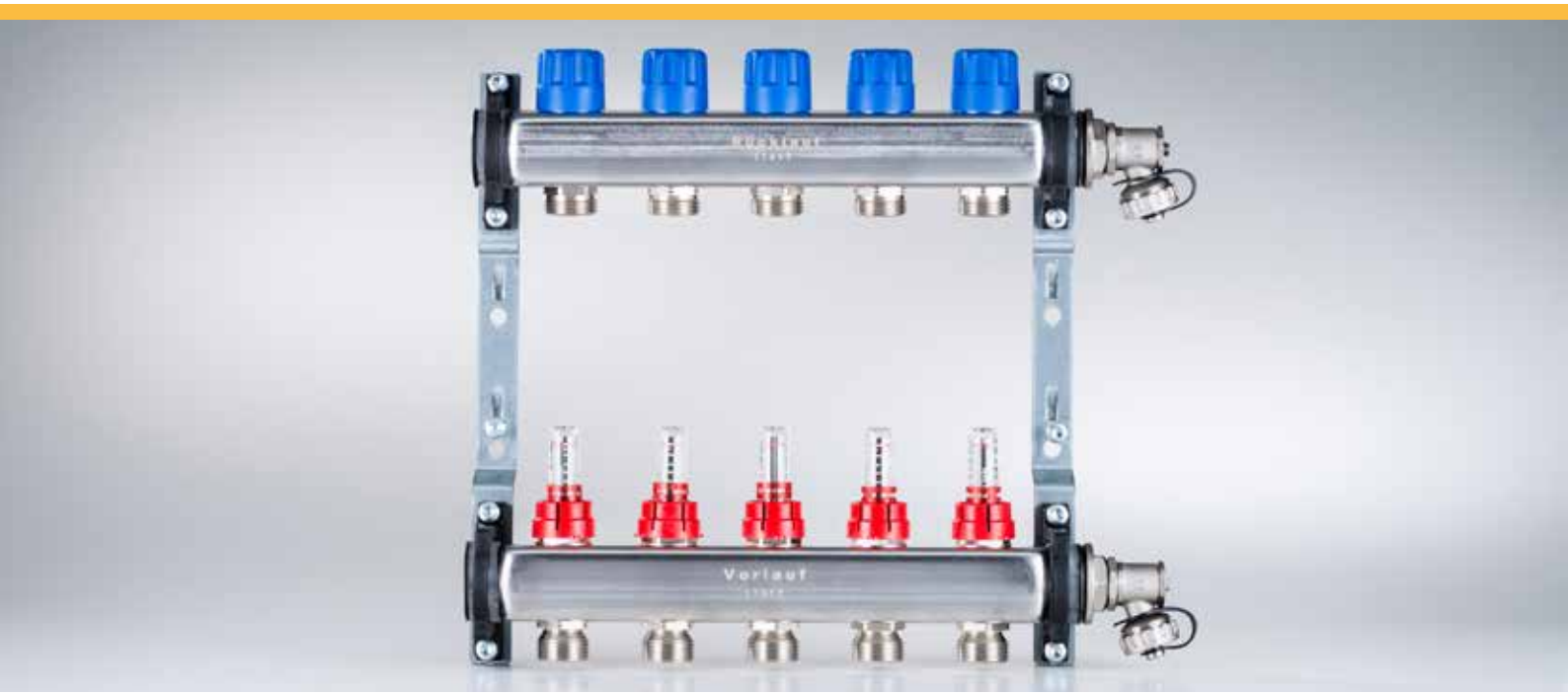
Our manifold technology is optimally attuned to the EMPUR® surface heating system and takes all requirements of our diverse system into account. This offers both the specialised tradesman and the end consumer security and reliability in the optimum laying of a new heating system in new builds and modernisation projects.

EMPUR® manifold technology impresses

- Reduced assembly time thanks to the delivery of pre-assembled manifolds
- Compact valve clearance for a small installation width
- **Quick manifold assembly** in EMPUR® manifold cabinets through adjusted suspension rails
- Simple and exact positioning of the manifold in the manifold cabinet, continuously adjustable in a horizontal direction
- Extensive accessories for expansion
- All system components from a single source and manufactured in-house – Made in Germany quality

Manifold technology

Stainless Steel Manifold Series 03



Our system manifolds made of a high-quality, corrosion-resistant and durable stainless steel section pipe and the manifold holder is pre-fitted with flow rate indicators and additional sound insulation inserts. The installation width is minimal as a result of the compact valve clearance.

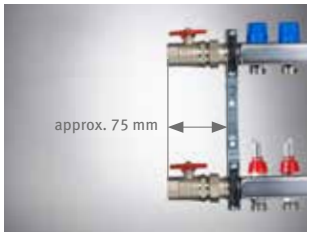
EMPUR® actuators can be installed directly instead of the blue protection cap on the return flow valves. The feed flow valves underneath are equipped with controllable and adjustable flow rate indicators (0-2.5 l/min). The two manifold end-pieces with a reducer for filling, bleeding and draining the heating circuit manifold can be rotated and are enclosed in the bag.

Your benefits

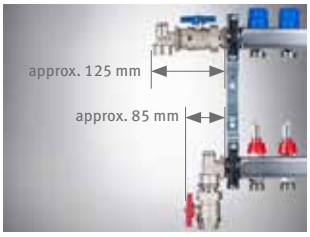
- High-quality stainless steel section pipe
- Corrosion-resistant and durable
- Small installation width
- Available for 2-12 heating circuits (with connection 1" IG)
- For **quick installation** in EMPUR® manifold cabinets

Recommended assignment of stainless steel manifolds to manifold connection sets and WMZ connection sets in combination with "Top Standard" and "Exclusiv" manifold cabinets

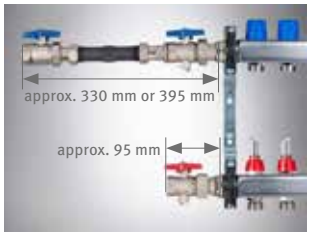
The following combinations are possible (and should be ordered separately as a set):



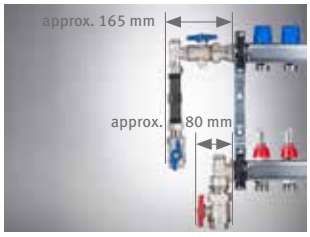
Ball valve set passageway



Manifold connection set 90°



WMZ connection set passageway



WMZ connection set 90°

NOTE The diagrams show potential installation situations. Additional combinations with valves and the assignment of manifold or manifold cabinet are possible, but not available as a set.

Manifold technology

Stainless Steel Manifold Series 03 Balance

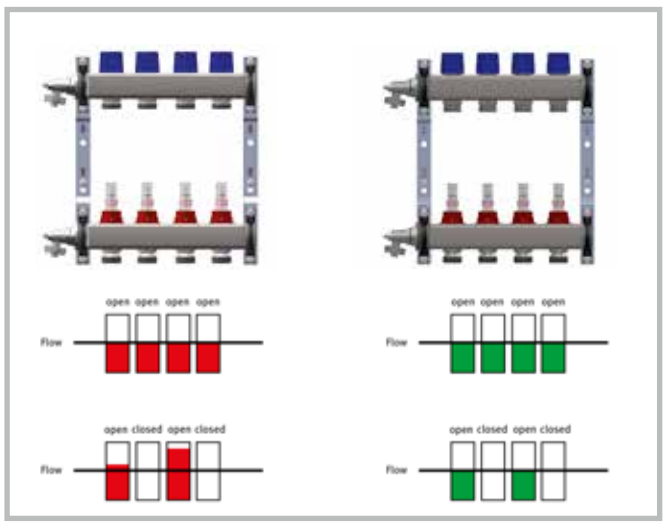
The stainless steel system manifolds are supplemented by the Balance manifold variant with integrated valve for dynamic flow control. The valve is integrated in the return flow of the manifold and adjusts the flow rate to the preset value almost independently of the differential pressure.

With our manifold Balance, over/undersupply to the adjacent circuits is not possible. A continuous function check is possible via the flow rate display in the flow pipe of each heating circuit. The required flow rate is set just once during installation and then later continuously adjusted to the preset value.

Due to its dynamic control function, the stainless steel manifold is particularly suitable for renovating systems with complicated hydraulics or unknown heating circuit lengths.

Additional benefits

- Dynamic-hydraulic adjustment based on a simple calculation possible
- Constant flow through integrated, self-regulating valve bonnets
- One-time flow presetting directly on the valve
- Low investment costs due to the elimination of differential pressure regulators
- Fast and cost-effective initial operation due to time saved during installation
- Low-noise and energy-saving operation



In contrast to conventional heating circuit manifolds (left), the Balance system manifold achieves hydraulic equilisation automatically with a control cartridge, so that the set flow rate is maintained.

Manifold technology

Brass manifold version 2.0

Our system manifolds made of brass profile tubes with flow rate indicators and integrated valves are also pre-mounted on the manifold holder with sound insulation insert at the factory. Here again the installation width is minimal as a result of the compact valve clearance.

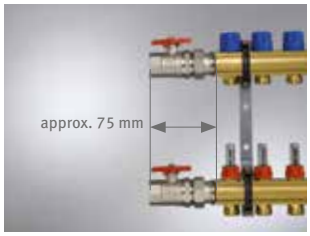
EMPUR® actuators can be installed directly instead of the blue protection cap on the return flow valves. The feed flow valves underneath are equipped with controllable and adjustable flow rate indicators (0-2.5 l/min). The two enclosed manifold end-pieces with a reducer for filling, bleeding and draining the heating circuit manifold can be rotated and are supplied in the bag for optional assembly on the right or left of the manifold.

Your benefits

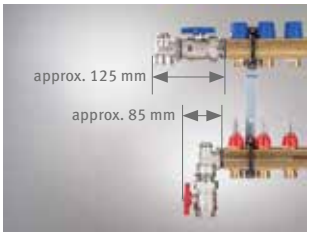
- Sturdy brass profile tube
- Thick-walled and reasonably priced
- Small installation width
- Available for 2-12 heating circuits (with connection 1" IT) or for 13-16 heating circuits (connection 5/4" IT)
- For **quick installation** in EMPUR® manifold cabinets

Recommended assignment of brass manifolds to manifold connection sets and WMZ connection sets in combination with "Top Standard" and "Exclusiv" manifold cabinets

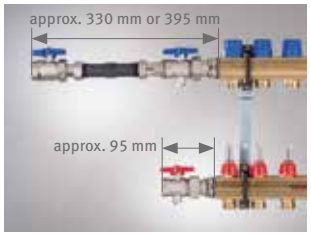
The following combinations are possible (and should be ordered separately as a set):



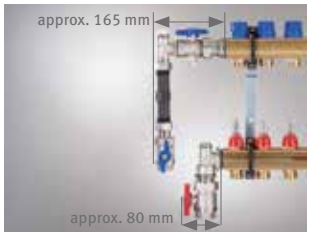
Ball valve set passageway



Manifold connection set 90°



WMZ connection set passageway



WMZ connection set 90°

NOTE The diagrams show potential installation situations. Additional combinations with valves and the assignment of manifold or manifold cabinet are possible, but not available as a set.

Manifold technology

Brass manifold version 3.0 Unit

The brass system manifolds are supplemented by the type of unit with integrated valve and actuator unit. In standby mode when closed manually, the integrated and manually reversible first open function enables the system to be operated safely at all times. With the built-in valve position indicator, the operator can easily check the actual valve position.

Our manifold Unit is optimally applicable to the regulation of the volume flow rate. Quick and easy installation and wiring is possible due to the plug-in connection combined with the control terminal strip.

Additional benefits

- Pre-assembled valve/drive unit
- Extremely compact design
- Actuator with plug and high protection class
- Integrated valve position indicator
- With manually reversible first open function
- High valve power due to direct-acting expansion element
- High security against theft, as can only be released with tools

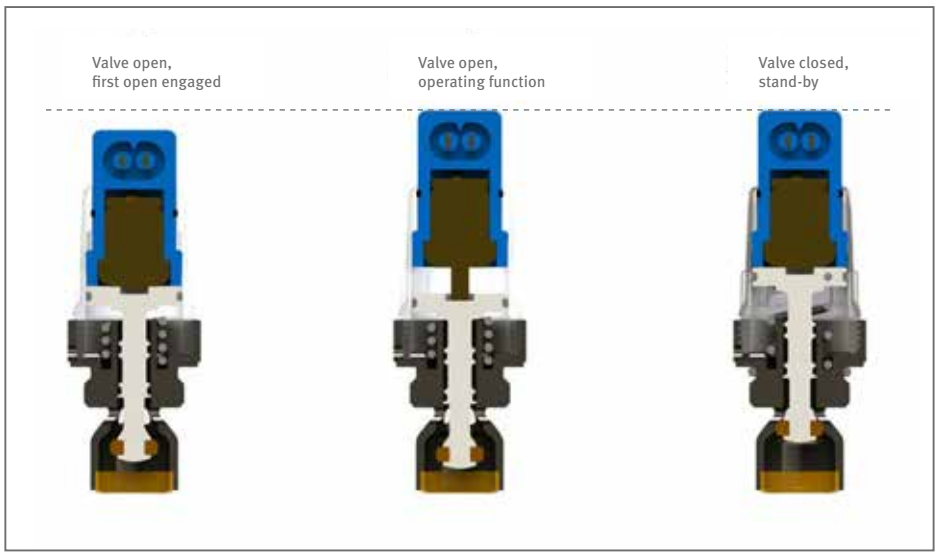
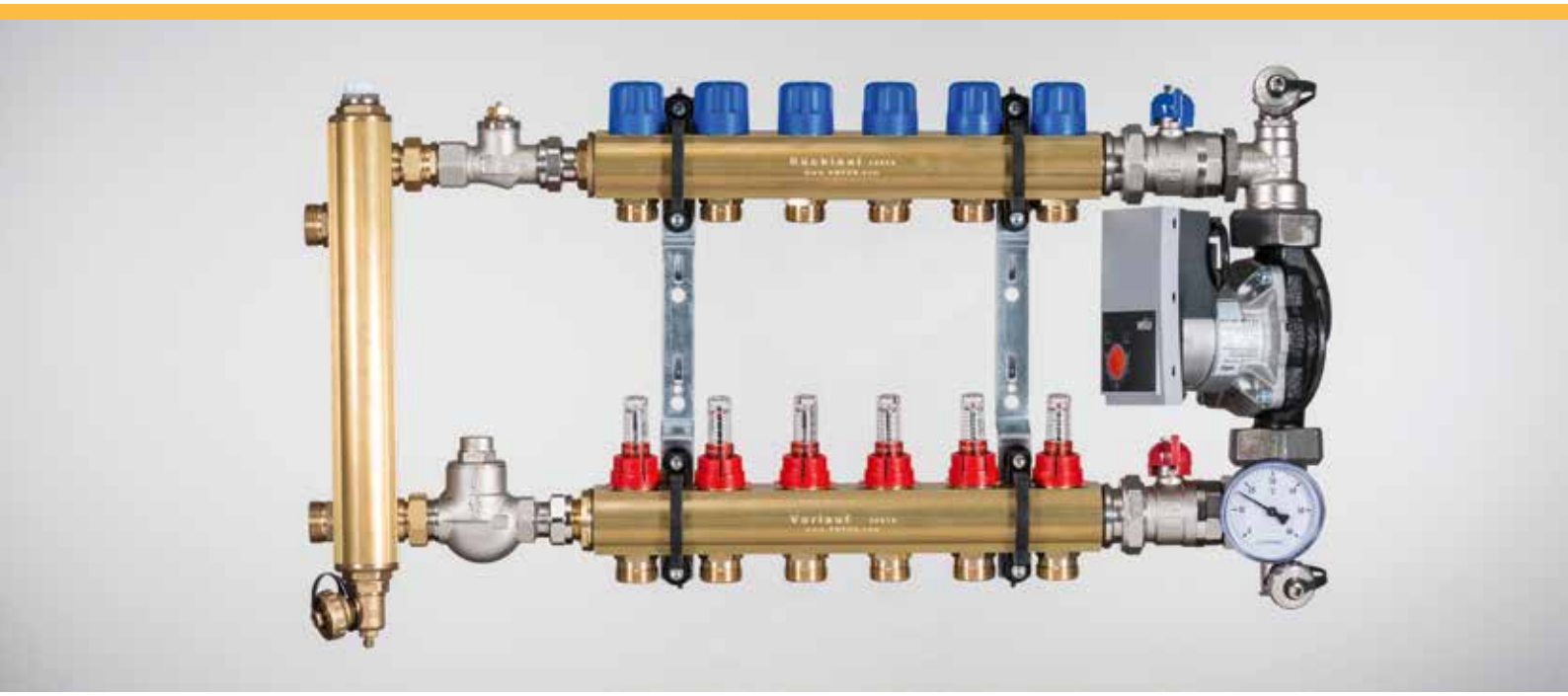


Diagram of operating modes

Manifold technology

Control manifold, version 2.0



EMPUR® control manifolds are suitable for variable or constant flow temperature control in combination with control set V or K for the hydraulic integration of low-temperature floor heating in existing heating systems.

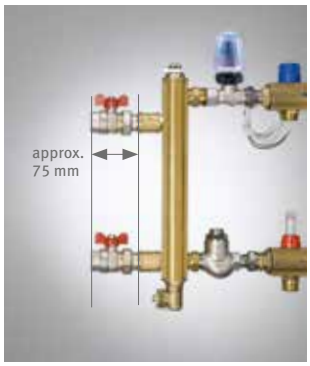
The latest generation of EMPUR® control manifolds is manufactured from 1" brass profile pipe. They are completely pre-assembled on manifold holders with sound insulation inserts and are equipped as standard with a high-efficiency pump, fine control valve, valve body for rule set, thermoseparator, 2 shut-off valves, 2 rinsing, filling and drainage valves as well as a pointer thermometer.

EMPUR® actuators can be installed directly instead of the blue protection cap on the return flow valves. The feed flow valves underneath are equipped with controllable and adjustable flow rate indicators (0-2.5 l/min).

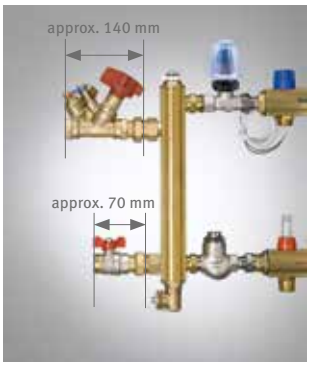
Recommended assignment of **HKV-DR control manifold** including hydraulic separator

combined with "Top Standard plus" and "Exclusiv plus" manifold cabinets

The following combinations are possible (and should be ordered separately as a set):

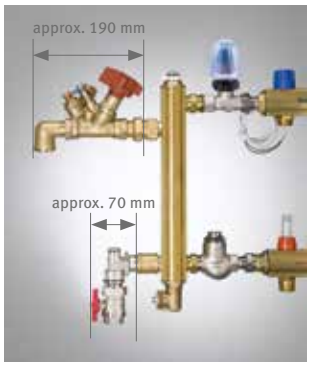


KH-DG



STAD-DG

KH-90°



STAD-90°

NOTE The diagrams show potential installation situations. The displayed accessory components pictured (e.g. bracket and reducers) are not included in the scope of delivery.

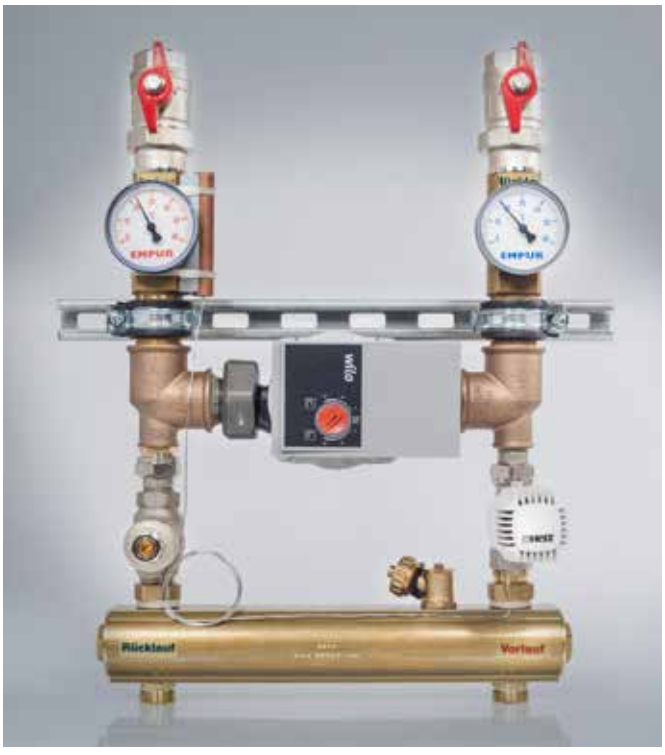
Your benefits

- Ideal for variable or constant flow temperature control in combination with control set V or K
- Possibility of subsequent hydraulic integration of the low-temperature floor heating in existing heating systems when modernising
- Hydraulic decoupling of the heat generator using the supplied thermoseparator
- Prevention of excess temperatures in the system using an overheat thermostat (accessories)
- Simple and safe limitation of the water volumes using an adjustable fine control valve
- Specially adapted accessories for an optimal connection to the heating system
- Available for 2-9 heating circuits (with connection 1" IT) or for 10-16 heating circuits (connection 5/4" IT)
- For **quick installation** in EMPUR® manifold cabinets

CONTEMP alpha control station with high-efficiency pump and thermoseparator

For small and medium-sized heating systems with a minimum circulating water volume, the CONTEMP alpha control station in combination with modern heat pumps or condensing boilers is the perfect solution for “regulating” your heating system over several storeys.

The pre-assembled CONTEMP alpha control station is used for systems with surface heating and radiators to optimally control heat distribution. It ensures that flow temperatures are stabilised and extreme temperatures avoided.



NOTE The installation of a STAD valve for hydraulic balancing is required!

Manifold technology

Accessories

Extension set for system manifold HKV-D, 03

Extension set for system manifold HKV-D, 2.0

1/2" WMZ connection set passageway

Manifold connection set 90°

Manifold connection set passageway

WMZ connection set 90°

3/4" nickel-plated ball valve

Brass flow meter

Immersion sleeve

Balancing valve 2-16 l/min

STAD line regulating valve

Manifold crosspiece

Immersion thermometer indicator

Zone valve

3/4" nickel-plated ball valve for HKV-R

Connection set 90° for thermoseparator for HKV-R

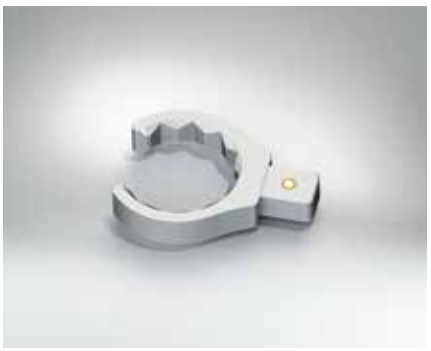
DG connection set for thermoseparator for HKV-R

PUR DRIVE actuator

“Economy” actuator

DDC actuator 24 V AC

Box wrench, open SW 30



Ring inserts, open SW 30 for torque wrench

Torque wrench

Manifold technology

Manifold cabinets

Manifold technology

Manifold cabinets

Manifold cabinets provide the perfect location for manifolds and control stations. The “Top Standard” and “Exclusiv” versions are available as surface-mounted and flush-mounted cabinets for conventional manifold installation.

The “Exclusiv superflach” (super-flat) manifold cabinet enables manifold installation into narrow light-weight and dry walls. The large manifolds, control stations and control manifolds are installed in the “Top Standard plus” manifold cabinet for on-the-wall mounting or the “Exclusiv plus” for wall-integrated mounting.

The newest generation of EMPUR® manifold cabinets has been completely reworked and is manufactured from galvanised and foil-coated sheet steel. They offer adapted suspension rails for the EMPUR® heating circuit manifold. With the specially developed “quick manifold assembly technology”, the manifolds are simply suspended in the guide rails of the manifold cabinet and fixed with two 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.

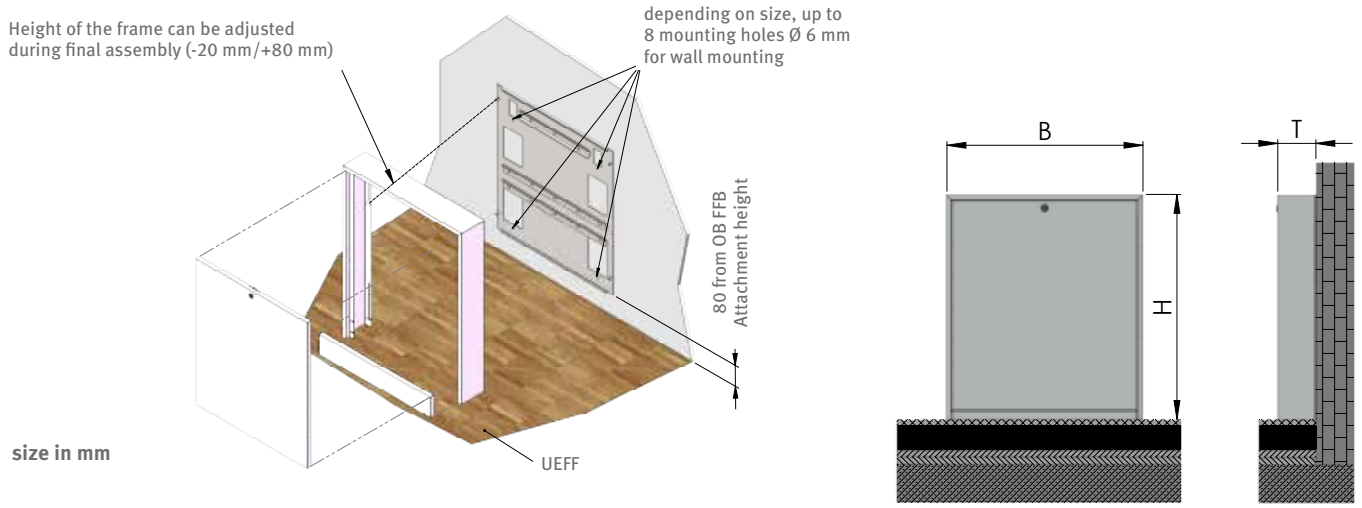
Your benefits

- Optimal suspension rails for the **quick manifold installation** of the EMPUR® system manifold
- High resistance of the surfaces through quality workmanship and an environmentally friendly film coating
- Simple connection of the primary connections through optimised lateral punch-outs
- Time saved when feeding through connection cables as a result of pre-punched openings
- Secure and flexible assembly of the manifold cabinets through various mounting options
- Individual, pre-assembled complete manifold solutions available on request

Manifold technology

Installation examples of manifold cabinets

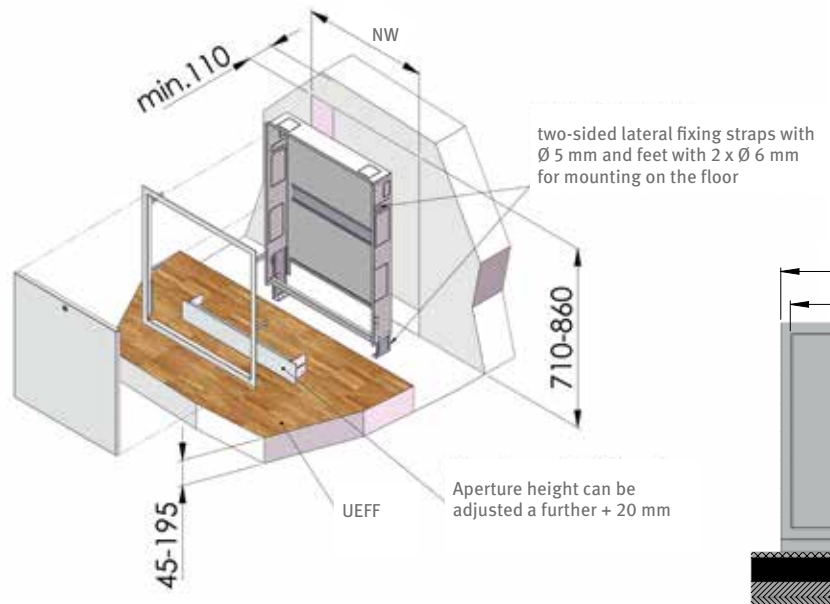
“Top Standard” manifold cabinet with removable rear panel for surface mounting

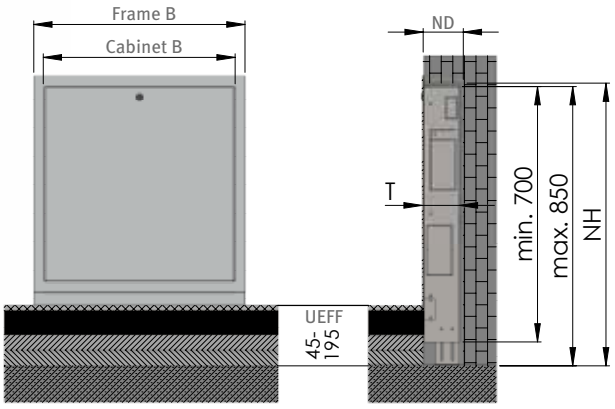


size in mm

NOTE When installing the “Top Standard” manifold cabinet, it is important to pay attention to the mounting height of the rear panel!

“Exclusiv” manifold cabinet for flush-mounting



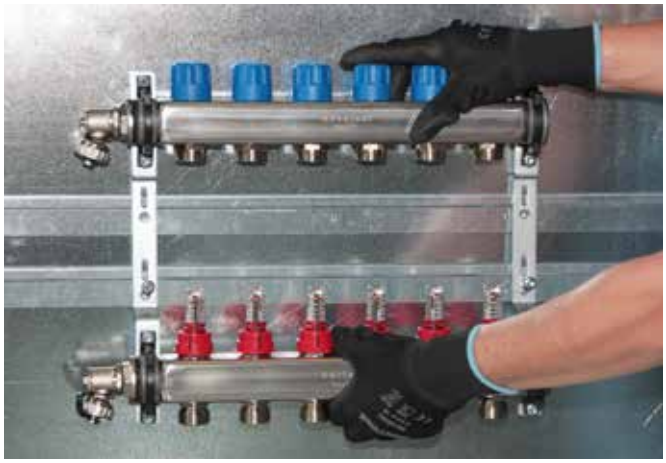


size in mm

Key: B = width, H = height, T = depth, NB = niche width, NH = niche height, NT = alcove depth

Quick manifold assembly in only 2 steps

1. Suspend in the manifold cabinet rail



2. Secure with screws

Manifold technology

Additional system components

EMPUR® surface heating systems

Our manifold technology is optimally attuned to the EMPUR® surface heating systems and takes all requirements of our diverse systems into account. This offers both the specialised tradesman and the end consumer security and reliability in the optimum laying of a new heating system in new builds and modernisation projects.

Our systems at a glance

- **PUR-THERM® stapler system** – exceptional adhesion using staples
- **Exclusiv-Klett system** – perfect hook and loop technology and quick laying
- **top-Nopp® burl system** – laying using the press stud method
- **OPTIMAL II dry construction system** – for quick construction progress
- **CUT-THERM® milling system** – without increased installation height
- **top-Nopp® mini burl system** – for low installation heights
- **PURFLEX®-super** – for critical floors
- **PURFLEX®-economy** – for extremely low installation heights
- **OPTIMAL II wall heating** – the dry construction system for your wall
- **Vertical wall heating** – the wet system for your wall
- **XXL-Industrie/concrete core temperature control** – efficient temperature control for large areas
- **Sports floor heating** – the solution for sports facilities

Control technology

EMPUR® offers innovative and perfectly matched control components as another ideal supplement to 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 radio 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 jewel of our control technology is EMPUR® Smart Home, which makes integrated home automation solutions possible.

The individual product ranges are supplemented using control terminal strips that – depending on the equipment – can also control a circulation pump. Humidity monitors, floor sensors and digital timers complete the range.

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

EMPUR®

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.

EM plan's specialist engineers and planning consultants are available to help you with their expertise in demanding property planning in almost all TGA 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 **EM-solution** and support tradesmen to complete their construction projects on time.

EMPUR®, EM-plan and EM-solution together form the **EM Gruppe®**. Thus, the three core areas of expertise – production, planning and installation – come from a single source.

planning

EM-plan

- 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 for Smart Home solutions
- Planning and designing Geniax projects
- EnEV (energy saving ordinance) certificates according to DIN 18599
- Construction supervision for technical building systems

www.em-plan.net

production

EMPUR®

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

www.empur.com

installation

EM-solution

- 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

18-07-01

EMPUR® Produktions GmbH • Industriepark Nord 60 • 53567 Buchholz-Mendt • Germany
Tel +49 2683 960620 • Fax +49 2683 9606299 • info@empur.com • www.empur.com