

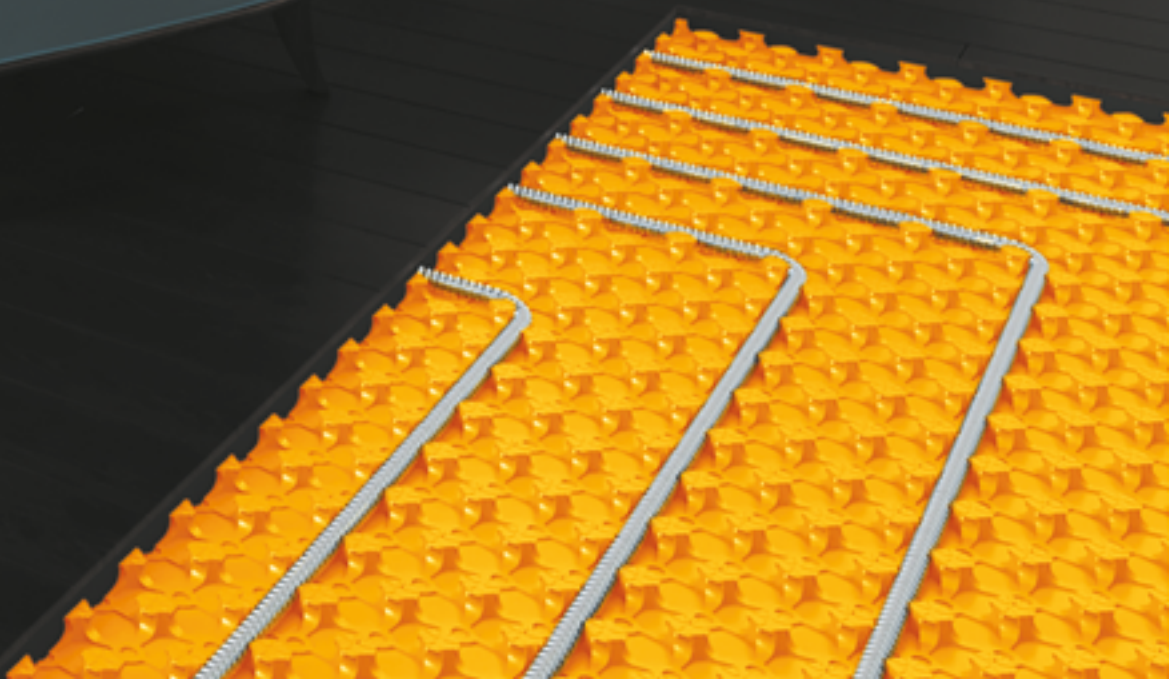
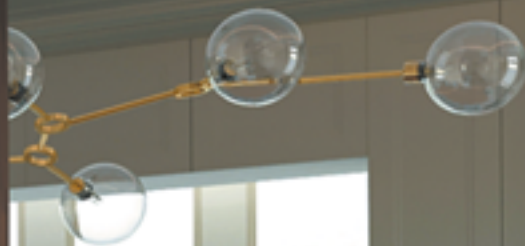
# WATER UNDERFLOOR HEATING

Small area heating kit

**STAHL  
MANN**

**WHS**





Robust Design:

# COMPLETE KITS FOR WATER UNDERFLOOR HEATING FROM THE MARKET LEADER

Stahlmann WHS complete kits based on stainless steel flexible corrugated tube are the ideal solution for heating small areas. All elements are tailored to match each other and are ready for installation to ensure maximum reliability and comfort in the room.

The core of the kit is the Stahlmann flexible corrugated tube made of high-alloyed 304 stainless steel, which has gained popularity among installers and consumers for its high consumer properties and a lifetime warranty. The product has a leading position on the market and surpasses plastic tubes in a number of characteristics.

Stahlmann WHS kit includes a temperature control valve, eurocone fittings and Stahlmann DN15 corrugated tube – everything you need to create a reliable and durable water underfloor heating system.

# APPLICATIONS

## Stahlmann WHS Complete water underfloor heating kits

Stahlmann WHS complete kits for water underfloor heating are specially designed for installation in rooms up to 10 square meters in cottages, townhouses, hotels.



✓ Bathroom



✓ Kitchen



✓ WC



✓ Entrance hall

## Advantages



### Complete kits

All components are matched to work together perfectly



### No pumps and mixing units required

The ideal solution for water underfloor heating in areas up to 10 square meters



### Lifetime warranty

From the manufacturer of corrugated stainless steel tubes



### Maximum electricity savings

Does not consume electricity during operation



### Easy heating control

Easy to maintain



### High efficiency

20% higher heat transfer compared to PEX



### Easy installation

The tube is easy to cut and bend without special tools, no welding required for joints



### Remarkable flexibility

Permissible bending radius of 30 mm enables installation of complex pipelines, inaccessible for other tube types



### Maximum strength and reliability

When the tube is bent, its flow area remains intact; there are no microcracks and no mechanical stress on the metal



### Zero oxygen permeability

Stahlmann tubes are 100% airtight, leading to a long productive lifetime of the underfloor heating system



### Frost-resistant

The ideal solution for homes in colder areas



### The inner surface of the tube has no tendency to accumulate

Due to the use of polished stainless steel strip



### Low coefficient of linear expansion

Stahlmann tubes last longer as they are 20% more resistant to deformation than PEX during heating/cooling processes



### Eco-friendly

Stahlmann tube does not give off harmful substances into the environment

# STAHLMANN WHS KIT



## The kit includes:

- Temperature control valve Stahlmann MTR021 1 pc
- Eurocone fitting Stahlmann (F) 15x3/4 EF 2 pcs
- Fitting Stahlmann (M) 15x1/2 EF 2 pcs
- Corrugated tube Stahlmann DN15, annealed:
  - for Stahlmann WHS4 20 m
  - for Stahlmann WHS6 30 m
  - for Stahlmann WHS10 50 m

## Specifications

KIT	STAHLMANN WHS4	STAHLMANN WHS6	STAHLMANN WHS10
Heating area	<b>up to 4 m<sup>2</sup></b>	<b>from 4 to 6 m<sup>2</sup></b>	<b>from 6 to 10 m<sup>2</sup></b>
Length of corrugated tube, m	20	30	50
Maximum temperature of the thermal liquid, °C		+90	
Ambient temperature during system operation, °C		from +5 to +60	
Thermal liquid temperature control range, °C		from +15 to +45	
Maximum working pressure, MPa		1	
Diameter of threaded connections of the temperature control valve		¾", Eurocone	
Corrugated tube material		304 Stainless steel	
Fitting material		Brass CW617N	
Service life of corrugated tube, minimum		30 years	
Service life of fittings, minimum		30 years	
Service life of temperature control valve, minimum		15 years	

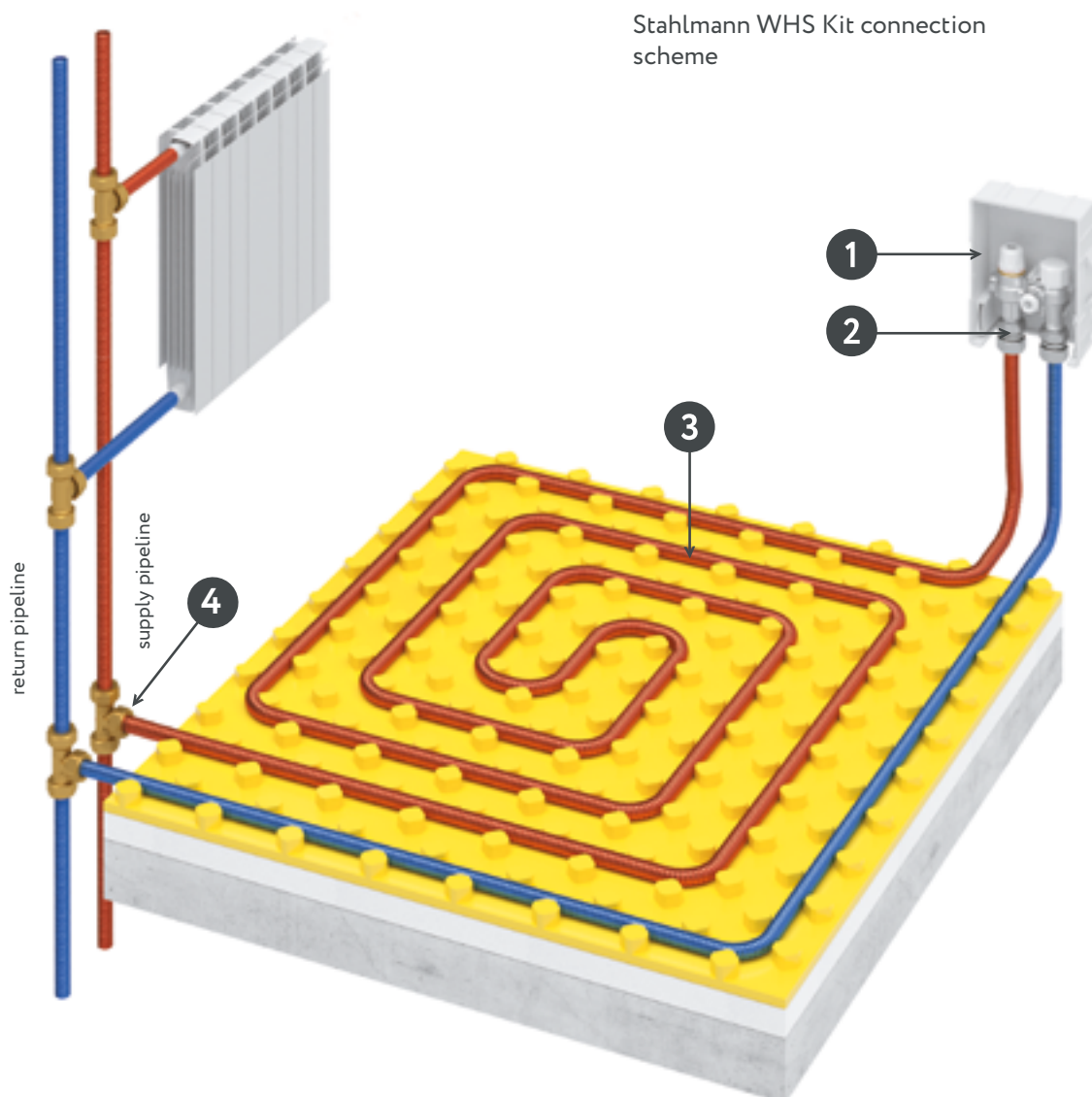
# OPERATING PRINCIPLE

Stahlmann WHS kits are connected to the main heating circuit of the house without the need for a distribution header and a pumping and mixing unit.

Hot water, distilled water or glycol mixtures are used as heat carriers.

The temperature of the water underfloor heating loop is adjusted using the Stahlmann MTR021 temperature control valve (1), which has a built-in heat carrier temperature controller. The valve is installed in such a way that the heat carrier first passes through the water underfloor heating loop, and then gets to the built-in temperature controller of the valve.

The desired return flow temperature is set using the built-in regulator's adjustment wheel. When the desired temperature of the heat carrier is reached, the thermostatic element of the regulator shuts off the heat carrier flow in the loop. After the temperature of the heat carrier decreases, giving up heat to the floor screed, the controller opens again.



1 Stahlmann MTR021 temperature control valve

2 Stahlmann (F) fitting 15x3/4 EF Eurocone

3 Stahlmann corrugated tube, DN15, annealed

4 Fitting Stahlmann (M) 15x1/2 EF

# STAHLMANN MTR021 TEMPERATURE CONTROL VALVE

Stahlmann MTR021 valve controls the temperature of one loop of water underfloor heating by limiting the temperature of the return heat carrier flow. It is installed at the outlet of the heat carrier loop laid in the screed.



## WE USE THE BEST MATERIALS AND COMPONENTS

For the production of Stahlmann MTR021 temperature control valve, high-quality CW617N brass is used, which is characterized by increased strength and ductility, which ensures long-term operation without any problems.

One of the main components of the valve is a temperature control element, the quality of which determines the flawless operation of the valve and your entire system.

Stahlmann MTR021 incorporates a high-quality thermal element by Vernet (France), which is the world's leading manufacturer of thermostatic elements.



## Technical Specifications

Parameter	Value
Maximum temperature of heat carrier, °C	+90
Ambient temperature during system operation, °C	from +5 to +60
Temperature control range of the heat carrier, °C	from +15 to +45
Maximum working pressure, MPa	1
Diameter of threaded connections of the temperature control valve	3/4", Eurocone
Temperature control valve body material	brass
Service life	15 years
Warranty period	10 years

## MTR021 valve benefits:



### No electricity costs

Valve operation requires no circulating pump



### Easy installation and operation

No distribution manifold required



### Ultra-durable design

High-quality materials and components are used in the production of the valve



### Maintaining the set temperature

Possibility of thermostat connection for maintaining the required temperature



# STAHLMANN CORRUGATED 304 STAINLESS STEEL TUBE

Serves as a heating element of a water underfloor heating. It is designed to distribute the heat carrier and effectively transfer its heat over the entire floor surface of the heated room. Easy to install, no welding required – connections are made using quick-assembly brass fittings.



## Technical Specifications

Parameter	Value
Inner diameter, mm	14.1
Outer diameter, mm	18.1
Tube wall thickness, mm	0.3
Corrugation crests, min per 100 mm	20
Operating temperature at a pressure of 1.5 MPa, °C	150
Minimum temperature without pressure, °C	-60
Maximum allowable short-term temperature, °C	400
Maximum working pressure, MPa	1.5
Minimum bending radius of the annealed tube, mm	30
Maximum (collapse) pressure at a temperature of 20°C, MPa	21
Linear expansion coefficient $10^{-6}, 1/°C$	17
Thermal conductivity coefficient, W/m·K	17
Service life	30 years
Warranty period	Throughout the entire service life of the corrugated tube



# STAHLMANN FITTINGS (F) 15X3/4 EF, (M) 15X1/2 EF



Fittings Stahlmann (F) 15x3/4 EF (Eurocone) provide connection of the heating element (corrugated tube) to the temperature control valve. The special design based on extra strong locking ring allows you to mount the fitting in a matter of seconds. No need to disassemble the fitting.



Fittings Stahlmann (M) 15x1/2 EF are used to connect the heating element (corrugated tube) to the main heating system.

## Technical Specifications

Parameter	Value	
	Fitting Stahlmann (F) 15x3/4 EF Eurocone	Fitting Stahlmann (M) 15x1/2 EF
Body and nut material	CW617N brass	CW617N brass
Body and nut coating material	Nickel	-
Threaded connection diameter, inch	3/4" (F) Eurocone	1/2 (M)
Working temperature, °C	from -50 to +110	from -50 to +110
Maximum working pressure, MPa	1.5	1.5
Maximum short-term temperature, °C	150	150
Service life	30 years	30 years
Warranty	2 years	2 years



