

HOW IT'S DONE: DIY INSTALLATION OF WALL HEATING FOR PLASTER SYSTEMS



CONTENTS

INSTALLATION GUIDE

- 1 INSTALLING FLEXIRO WALL HEATING FOR PLASTER SYSTEMS – INTRODUCTION
 - 2 SCOPE OF DELIVERY FLEXIRO WALL HEATING KIT FOR PLASTER SYSTEMS
 - 3 IMPORTANT NOTE BEFORE BEGINNING THE INSTALLATION
 - 4 PREPARING THE INSTALLATION
 - 5 INSTALLATION
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1 INSTALLING FLEXIRO WALL HEATING FOR PLASTER SYSTEMS – INTRODUCTION

The FLEXIRO wall heating system for plaster systems is a system kit that has been optimized for easily retrofitting existing wall surfaces as radiant heating systems and for integrating the heating surfaces into the existing heating system. All required components are included in a single kit. The FLEXIRO heating pipes are laid on the wall quickly and cleanly in the previously installed honeycomb pipe support elements. The use of plug-in connections and temperature control boxes for controlling the individual room temperature simplify the installation and connection of the wall heating to the existing heating system, so that FLEXIRO is equally suitable for professional installers and do-it-yourself enthusiasts. The following panels (starting on page 4) illustrate the installation steps for a test setup approx. 3 m² in size.

The FLEXIRO wall heating system in the plaster version is suitable for all common plaster materials. Suitable plasters are: gypsum, lime and clay plaster.

Despite the simplified installation, we must point out here that we as the manufacturer can only guarantee flawless factory delivery, but not the installation and connection by third parties. Please also observe the currently valid standards and regulations for heating systems and for the execution of plastering work.

2 SCOPE OF DELIVERY FLEXIRO WALL HEATING KIT FOR PLASTER SYSTEMS

Kit size	Pipe [Ø 10mm × 1,3 mm]	Honeycomb elements	Flow manifolds (outputs)	Return manifolds (outputs)	Blind plugs
2.7 m ²	40 m	120 pcs	1 (1)	1 (1)	0
5.4 m ²	80 m	240 pcs	1 (2)	1 (2)	2
8.1 m ²	120 m	360 pcs	1 (4)	1 (4)	4
10.8 m ²	160 m	480 pcs	1 (4)	1 (4)	4
Regulating boxes (depending on the selection)					
<ul style="list-style-type: none"> ○ Kompabox RTL – single room temperature control with flow cut-off ○ Multibox 4K-RTL – single room temperature control and maximum limitation of return temperature, smarthome integration possible 					

Kits and further accessories for underfloor heating can be obtained at the FLEXIRO shop: <https://flexiro.de/en/wall-heating/plaster-kit/> .

3 IMPORTANT NOTE BEFORE BEGINNING THE INSTALLATION

- The wall on which you intend installing the FLEXIRO wall heating system must have a sufficient load-bearing capacity and be suitable for plastering.
- You will need to determine the arrangement of the individual wall heating surfaces when beginning the installation work. The FLEXIRO honeycomb elements (150 mm x 150 mm) can be slotted together as required. Usually the height of the wall heating is limited to about 2 meters. All fixtures in the wall surface, such as light switches, electrical sockets, etc., should be fitted before installing the FLEXIRO wall heating system. The honeycomb elements are omitted at these points. The edge junctions around the wall surface must then be filled later with a permanently elastic sealant.
- Determine the arrangement of the heating circuits. The installation position of the temperature control box should be chosen so that the heating pipes from all heating circuits can be routed directly to the temperature control box without extending the heating pipes. NOTE: Kit 2.7 m² corresponds to one heating circuit, Kit 5.4 m² corresponds to 2 heating circuits, Kit 8.1 m² corresponds to 3 heating circuits, Kit 10.8 m² corresponds to 4 heating circuits.
- The wall heating pipes can generally be shortened. However, it must be ensured that the differences in length between the individual connections are not too great (max. 15%). If shortening is necessary, this should be distributed as evenly as possible across the pipes. Otherwise there is a risk of uneven heat distribution.
- The temperature control box should be positioned on the wall surface so that the indoor air can easily reach the thermostatic head and at the same time it is ensured that the temperature control box can be easily operated.
- Always make sure that the pipe is cut straight and burr-free. The pipe must not be squashed or kinked.
- The installation of distributors and pipes does not require any special tools.
- Before mounting the honeycomb elements to the wall, make sure that you do not damage any electrical wiring or water, gas or heating pipes that may be installed in the wall when pre-drilling to insert the plastic nails.
- The manufacturer is not liable for damage caused by disregarding this advice.

4 PREPARING THE INSTALLATION

As with other heating systems, the installation of FLEXIRO wall heating requires sufficient technical knowledge and skills. If necessary, have the installation carried out by a professional installer.

- The existing substrate must be level, clean, dry and load-bearing.
- Any coarse unevenness must be levelled out when fixing the substructure.

- Before installing the wall elements, determine the position of the temperature control box so that you know exactly where you need to lead the pipes.
- The arrangement of the heating system and the placement of the temperature control box should be designed according to individual requirements. There is no uniformly valid solution here. Please ensure that the regulating valve can always be reached later. After installation, the ends of the pipes will still have to be inserted into the individual connectors. (Observe the correct height from the floor.)

5 INSTALLATION

5|1 Installing the temperature control box single room controller

- In order to provide efficient temperature control, the control box should be positioned in such a way that the thermostatic head can measure the room temperature and air can freely circulate around it.
- The distance between the temperature control box and the finished floor surface should be at least 20 cm from the lower edge of the flush-mounted box.



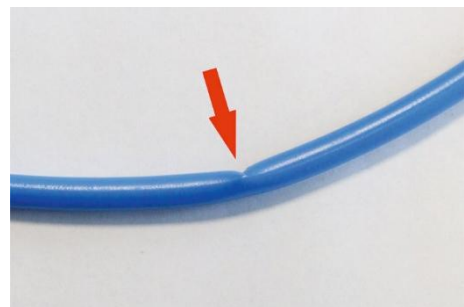
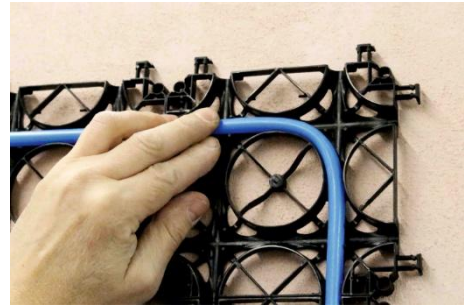
5|2 Installing the FLEXIRO honeycomb elements on the existing wall

- The wall must already be prepared ready for plastering. If necessary, the plaster primer should already have been pre-painted or a concealed/adhesive plaster primer applied.
- The individual honeycomb elements are slotted together in the desired arrangement.
- Position the honeycomb elements against the wall and pre-drill 6 mm holes for inserting the plastic nails.
- Fix the honeycomb elements by tapping in the plastic nail anchors. In general it is sufficient to fix every second honeycomb element.



5|3 Installing the FLEXIRO heating pipes

- The optimum starting point for laying the heating pipes is near the distributor arms in order to keep the pipe length for the connection as short as possible.
- Various installation patterns for laying out the pipes are possible, for example meander- or snail-shaped installation.
- The minimum spacing between the heating pipes is 7.5 cm. The distance between the wall heating and the room walls should be at least 5 cm. It is important to avoid kinking the pipes when bending them. If the bend is raised from the ground, the loops can be fixed with dowel hooks.
- Cut out any kinks or damaged areas on the heating pipe. The pipe must be reconnected with a permanently tight coupling (see Plug-in connector under Accessories). The coupling must be protected from direct contact with the plaster or surface covering by wrapping it in PE film. The position of the coupling must be marked. The same procedure should be followed if the pipes have to be extended.
- The pipes should be laid without any twisting.



5|4 Connecting to the temperature control box

- The distributor arms are connected to the temperature control box by means of the Eurocone screw connection. The Eurocone has a self-sealing effect while the metal screw connection has a purely safety-related function. It is essential to void over-tightening as this would compromise the safety of the heating system.
- The following illustrations show the arrangement of the heating pipes in the temperature control box. The sequence of connections differs depending on the control box. The heating pipes are connected to the distributor arms using the simple plug-in assembly. The heating pipes, which have been cut straight and possibly shortened, are inserted directly into the plug-in connections of the distributor arms up to the stop.

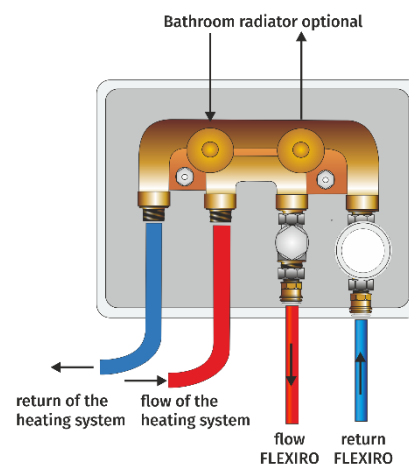
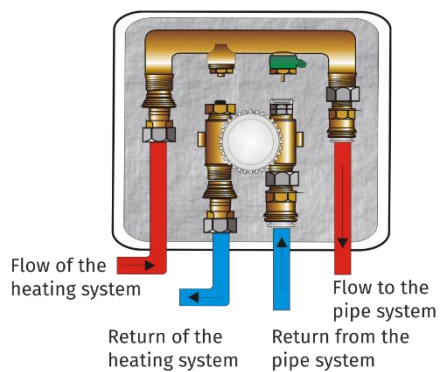




Multibox 4K-RTL



Kompabox RTL



Making a plug-in connection:

- Cut the heating pipe straight and burr-free.
- Insert the pipe up to the stop (approx. 20 mm).
- Note: The retaining element grips before it seals.
- Make sure that the pipe is inserted to the stop. The pipe is now in a fixed position.
- Pull the heating pipe to check that the connection is secure.

Note: The pipes must go vertically into the distributor and must not exert any tension or pressure on the connection box!

Releasing a plug-in connection:

- Make sure the system is pressure-free.
- Press the retaining element against the front of the housing. Now the pipe can be easily removed by pulling.

The distributor arms supplied can be installed without tools.

5|5 Connecting to the heating system

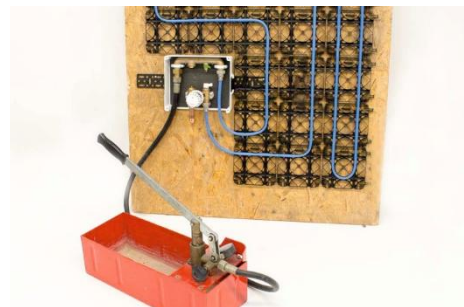
- Make sure that the flow and return lines are correctly connected in the temperature control box. Mixing up the flow and return lines in the temperature control box will disable the thermostatic valve and even prevent the flow through the FLEXIRO wall heating system.
- As a rule you should be able to integrate your FLEXIRO wall heating system into the existing heating system parallel to the other radiators or instead of a radiator.
- To do this you will need to insert T-pieces (not supplied with the FLEXIRO kit) into the flow and return lines for the heating system.
- Pipes (not included in the FLEXIRO kit) should be routed from the respective T-pieces for the flow and return lines to the inlet of the temperature control box and connected there by means of a suitable transition screw connection. Suitable transition fittings for different pipe qualities and dimensions can be found as accessories in the FLEXIRO webshop or in specialist hardware stores.



5|6 Pressure testing the heating system

Make sure that the system and all associated components are correctly installed before putting the wall heating system into operation. Although it is a new product, it must still be initially tested according to the following procedure:

- Close the flow and return valves in the heating system.
- Rinse the heating circuit until the water in the return line no longer contains any air bubbles.
- Then pressurize the system with 10 bar for at least 10 minutes.
- Check the pipe system and all connections for leaks.
- Release the pressure from the heating system.
- The system should then be tested at a working pressure of 2 bar for a further 10 minutes.



A suitable pressure test pump is available at the FLEXIRO Shop:

flexiro.de/en/product/d/86/pressuretestpump.

Please note that if no pressure test is conducted the manufacturer cannot guarantee the long-lasting operation of the heating system.

5|7 Trial run of the wall heating

Make sure to carry out a trial run before casting the pipe system. This is the last opportunity to correct installation errors or repair damages.

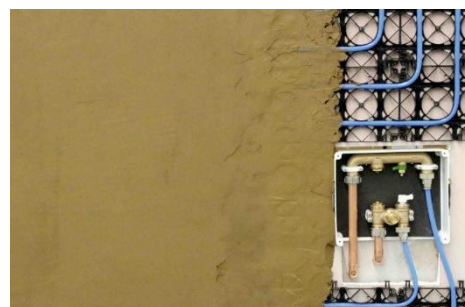
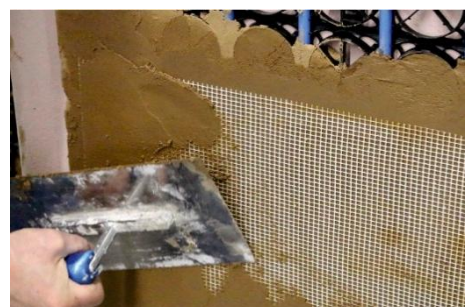
- Unless you have prefilled the wall elements, the pipe system fills itself via the heating system. When using the Multibox 4K-RTL, venting the pipe system directly via the vent valve is possible and advisable.
- Now fill the heating system and restore the operating pressure of your system.
- Check the tightness again.
- Check the pipe system and all connections for leaks.
- Turn the thermostatic valve on the temperature control box completely open and check whether all areas and heating circuits in the FLEXIRO wall heating system become warm.



5|8 Applying the plaster layer

All common plaster materials approved for wall heating, such as gypsum, lime or clay plaster, are suitable for plastering over the wall heating system. When selecting the plaster material, however, it is essential that you observe the manufacturer's instructions for using them.

- Before you start applying the plaster, make sure that the wall heating system is completely turned off. If operating, the wall heating can severely disrupt the curing process of the plaster material and even damage it.
- After it has completely cured, the plastered wall can also be decorated with suitable paints or coatings.
- The junctions with the adjacent building components should be sealed with elastic joint sealants.



Further information on levelling compounds:

We once again point out the need to comply with laws, ordinances, guidelines and standards when planning and installing heating systems and carrying out plastering work.

The following **manufacturers** offer corresponding products on the market and will provide you with further information:

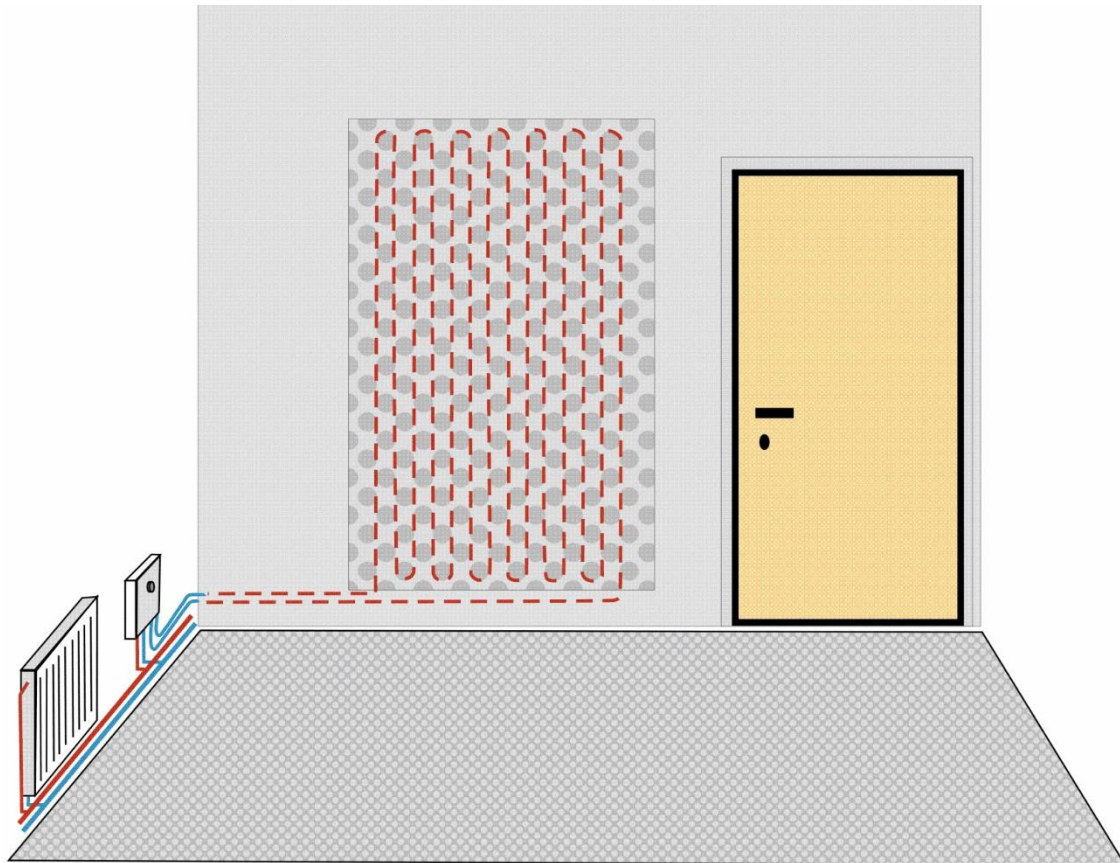
- Knauf
- Conluto
- Maxit

You can also obtain detailed information from specialist hardware or DIY stores.

5|9 Commissioning (heating up process)

- After completing the installation and once the plaster materials, paints and surface coverings have naturally dried out, the heating can be put into operation. It is essential that you observe the plaster manufacturer's special instructions for heating up the heating system.
- The desired surface temperature is set on the temperature control box during the first hours of operation by turning the thermostatic valve head. The FLEXIRO wall heating system is a radiant heating system. The sense of warmth is very direct. Adjust the temperature according to your sense of comfort and not according to the value you read on a thermometer. This enables you to save heating costs and still feel comfortable.

5|10 Installation drawing



FLEXIRO wall heating system for plaster systems; one heating circuit is approx. 2.7 m² in size.