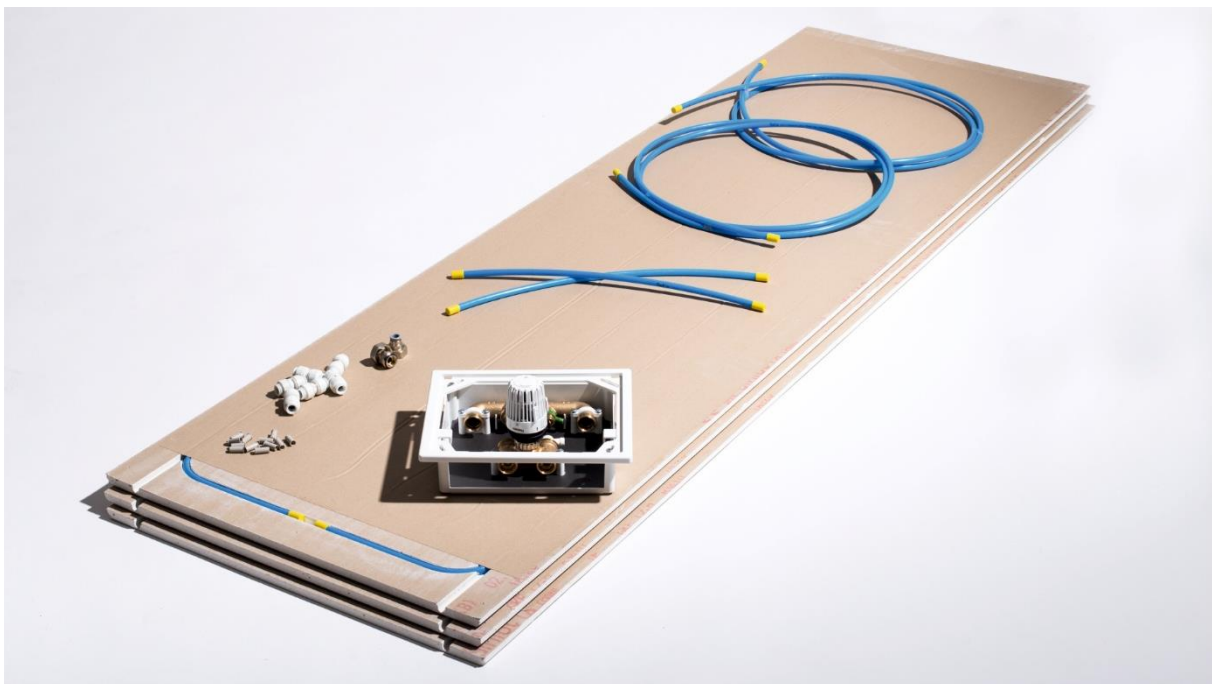


HOW IT'S DONE: INSTALLING WALL HEATING ELEMENTS BY YOURSELF



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1 INSTALLATION OF FLEXIRO WALL HEATING IN DRYWALL CONSTRUCTION

FLEXIRO wall heating is an installation kit designed for simple retrofitting of existing wall surfaces as panel heating and integration into existing heating systems. All required components are included in one set. The wall heating elements are ready to plug in and can be quickly and cleanly installed in drywall construction. Thanks to the use of FLEXIRO connecting hoses, plug-in connectors and temperature control boxes for individual room temperature control, FLEXIRO wall heating is so easy to install and connect that it is equally suitable for do-it-yourselfers and professional builders. The following images (beginning on page 4) illustrate the installation steps taken during a test setup of approx. 3 m².

Despite the simplified construction, as the manufacturer we would like to point out that we can only guarantee top quality delivered from the factory, but bear no responsibility for installations and connections made by third parties. Furthermore, please observe current valid standards and regulations for heating systems and drywall construction.

2 SCOPE OF DELIVERY FLEXIRO WALL HEATING KIT FOR DRYWALL INSTALLATION

Kit size	Pipe	Flow manifold (outlets)	Return manifold (outlets)	reinforcing sleeves	Pipe (Ø 10 mm) 500 mm	Pipe (Ø 10 mm) piece/length
3.6 m ² - 3 Elements	35.1 m	1 (1)	1 (1)	14	2	2 x 3,000 mm
7.2 m ² - 6 Elements	70.2 m	1 (2)	1 (2)	28	4	4 x 4,800 mm
9.6 m ² - 8 Elements	93.6 m	1 (4)	1 (4)	40	4	8 x 6,000 mm
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 wall heating can be obtained at the FLEXIRO shop: flexiro.de/en/wall-heating-drywall.

3 IMPORTANT NOTE BEFORE BEGINNING THE INSTALLATION

- You should determine the placement of the individual wall heating units at the beginning of the work. Since FLEXIRO wall elements cannot be cut to size, custom-cut panels may need to be made for the edge areas of the planned heating surface. You can purchase suitable plasterboard at a DIY store or from a dealer in building supplies. All installations in the surface of the wall, including light switches, electrical outlets and the like, cannot be installed in FLEXIRO wall elements. In these areas you should install strips of conventional plasterboard. Later, an elastic joint compound will be applied to the edges of the wall surface.
- It is possible to shorten the length of the FLEXIRO connecting hoses. When installing sets 6 and 8, however, you should ensure that the difference in the lengths of the connecting hoses that lead to the temperature control box is not too large (max. 15%). If a heating pipe needs to be shortened, every effort should be made to distribute this equally among the heating areas. Otherwise, one runs the risk of an unequal distribution of heat. There is no problem in having connecting hoses that are too long. The extra amount of hose is distributed in the hollow space within the wall.
- The placement of the temperature control box on the wall surface should be chosen so that the room air can freely circulate around the thermostatic head and, at the same time, the control box is within reach for easy operation.
- Always ensure that the pipes are cut straight across and are free from burrs. The pipes may not be crimped or bent.
- The installation of the distributors, manifolds and pipes requires no special tools.
- When screwing the FLEXIRO wall heating elements to the supporting structure, please use only the outer area on the longitudinal side of the elements with a maximum distance of 2 cm from the outer edge. Under no circumstances should you drill or screw into the surface of the element, as this could damage the heating pipes. The manufacturer is not responsible for damages incurred by disregarding this notice.

4 PREPARING THE INSTALLATION

As with all of our products, the following rule of thumb applies to FLEXIRO wall heating: Working on heating systems requires sufficient craftsmanship knowledge and ability. If necessary, have the installation done by an expert.

- The existing wall must be level, clean, dry and sound.
- Any unevenness must be smoothed out before attaching the wall heating elements to the supporting structure.
- Before installing the wall elements, determine the position of the temperature control box, so you know exactly where to place the pipes.

- The arrangement of the heating system and the placement of the temperature control box are to be designed according to individual requirements. There is no uniformly valid solution here. Please ensure that the regulating valve can always be reached later. It must still be possible to insert the pipe ends of the FLEXIRO connection hoses into the individual connections after the temperature control box has been installed. (Observe the correct height from the floor.)

5 INSTALLATION

5|1 Installation of the supporting structure on the existing wall

- A supporting structure made of 60 x 60 mm squared timber is vertically mounted to the existing wall.
- The center-to-center distance of the pieces of timber, which will later support the FLEXIRO wall elements, should be precisely 600 mm and plumb to the wall.
- The mounted pieces of squared timber end roughly 150 mm above the floor.
- Directly above the floor joint and below the ceiling joint, two additional square timbers are to be mounted perpendicular to the existing square timbers.
- To improve the reaction time of the wall heating and to reduce heat dissipation into the existing wall, you can add insulation to the gaps between the timbers of the supporting structure. You can purchase suitable insulation at a DIY store or from a dealer in building supplies.



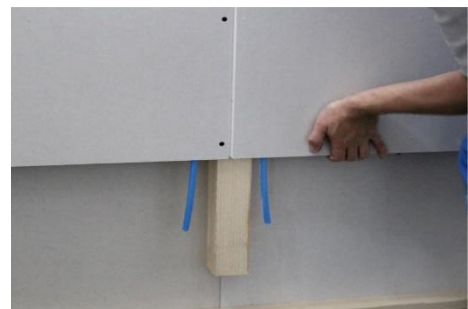
5|2 Installing the temperature control box single room controller

- For efficient temperature regulation, the control box should be placed in such a way that the thermostatic head can sense the room temperature and air can freely circulate around it.
- The distance from the temperature control box to the finished floor should be at least 20 cm, measured from the lower edge of the flush-mounted box.
- Please observe the instructions in the separate installation and operating manual, which is included with the temperature control box.



5|3 Preparing and installing the FLEXIRO wall elements

- Remove the FLEXIRO wall elements from the packaging. To avoid damaging the elements, two people should perform this operation.
- The configuration of the heating pipes can be seen on the reverse side of the FLEXIRO wall elements. On the connecting side (the short side of the element), remove the connecting pipe ends from their transport position.
- Use drywall screws to mount the FLEXIRO wall elements to the middle of the square timbers of the supporting structure, while maintaining a distance of approx. 40 cm between the lower edge of the element and the floor.



5|4 Installing the connection hoses

- After inserting the reinforcing sleeves to the ends of the pipes, use the plug-in connectors and the 500 mm short connecting hoses to connect three FLEXIRO wall elements with each other at a time.
- Now connect the flow and the return of the first and the third wall elements with the 3,000 mm (different length for the larger sets) long connecting hoses to the temperature control box.
- The connecting hoses should be laid without any twisting and with a bending radius of no less than 200 mm.
- Crimped or damaged areas on the connecting hoses should be removed. The pipes are linked with a permanently sealed connector (see plug-in connectors in accessories). If pipes have to be extended, the same procedure should be followed.



5|5 Connecting to the temperature control box

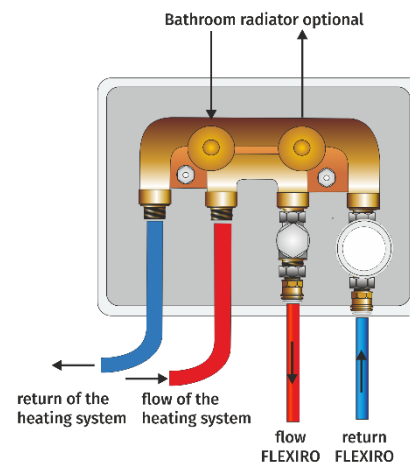
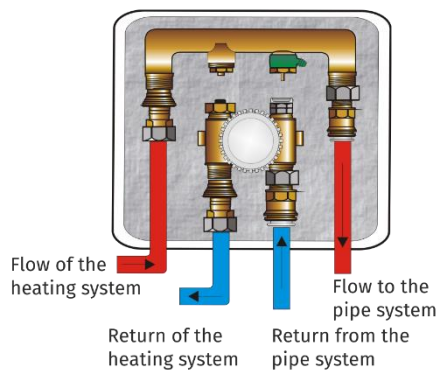
- The distributor arms are connected to the temperature control box using the Eurocone connector. The Eurocone has a self-sealing effect while the metal screw connection has a purely safety-related function. It is essential to avoid over-tightening as this would compromise the safety of the heating system.
- 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|6 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 into the existing heating system in 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|7 Pressure testing the heating system

Before putting the wall heating system into operation, you must make sure that the system and all corresponding components have been properly installed. Even when installing a new product, the following procedure should be followed:

- Close the flow and return valves in the heating system.
- Flush the heating circuit until the water in the return pipe no longer contains air bubbles.
- Afterwards, the system should be pressurized with 10 bars for at least 10 minutes.



- Check the pipe system and all connectors to see that they are watertight.
- Release the pressure from the heating system.
- Afterwards, the system should be tested with an operational pressure of 2 bars for an additional period of 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|8 Testing the wall heating

It is absolutely necessary to conduct a trial run before closing the wall. 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.
- You may now fill the heating system and return it to its normal operating pressure.
- Check once again for any leaks.
- Completely open the thermostat valve on the temperature control box and check whether all areas of the heating circuit of the FLEXIRO wall heating become warm.



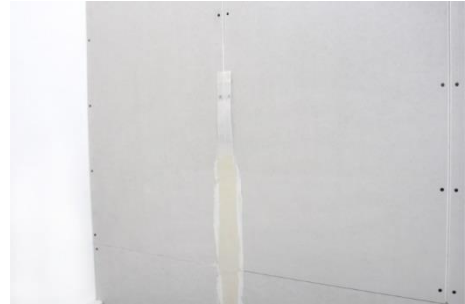
5|9 Closing up the wall surfaces

The plasterboards that is used to close up the areas on the edges of the connecting walls, the ceiling and the floor, must have a thickness of 12.5 mm. The joints to the bordering structural elements must be of a "flexible" nature to keep the heating surface from cracking under the stresses of expansion caused by heat. Please follow the manufacturer's instructions.

- The manufacturer's instructions should be followed when cutting to size the inactive sheets of plasterboard.
- When the entire wall surface has been closed up, the joints between the sheets are filled with jointing compound. Use suitable tape and joint compound as recommended by the plasterboard manufacturer.



- The joints to the bordering structural elements are filled with an elastic joint compound.



Additional notes on drywall construction and heating installations:

We would like to mention once again the importance of adhering to all laws, regulations, guidelines and standards for the planning and installment of heating systems and drywall construction.

The following **manufacturers** of drywall sell relevant products via retailers and provide further instructions:

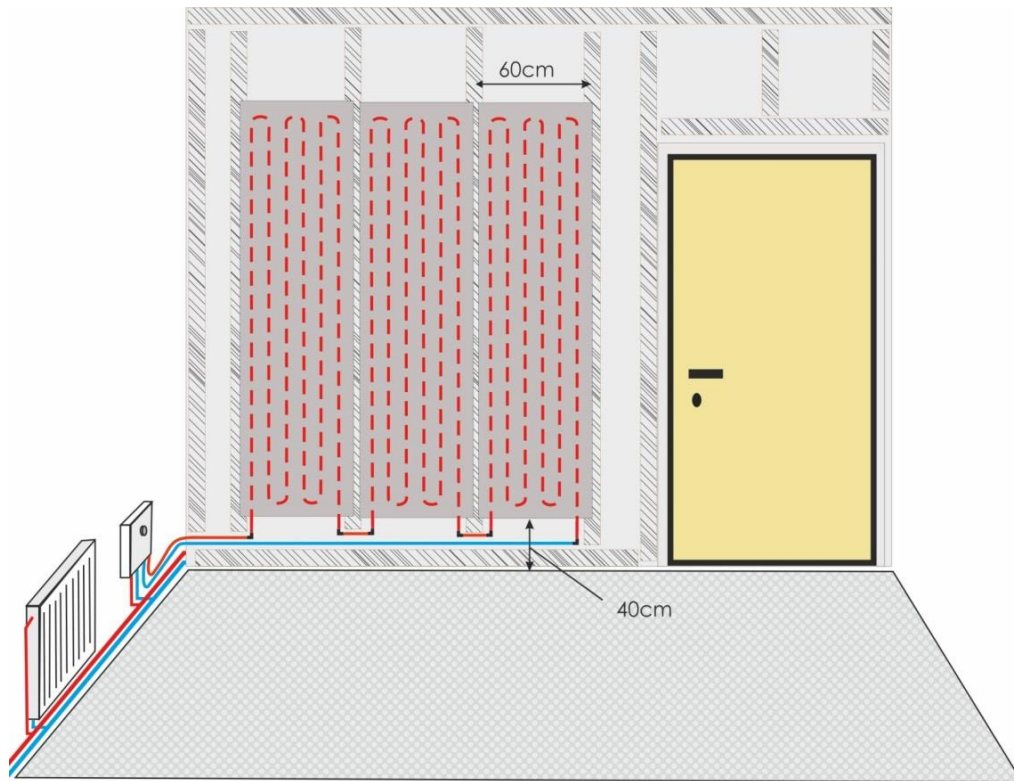
- Knauf
- RIGIPS
- SINIAT

You can acquire company information from your DIY store or from a dealer in building supplies.

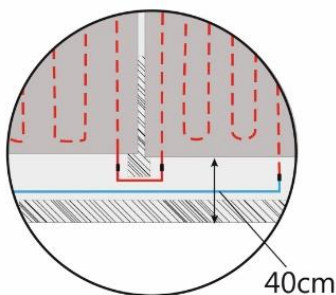
5|10 Commissioning (heating up process)

- After completion and natural drying of joint compounds, paints and surface coverings, the heating system can be put into operation.
- During the first few hours of operation, the temperature control box is used to set the desired temperature by turning the head of the thermostatic valve. The FLEXIRO wall heating is a radiant heating. The sensation of heat is very direct. Set the temperature according to your level of physical comfort and not according to what is indicated by a thermometer. This allows you to reduce heating costs while still feeling comfortable.

5|11 Installation drawing



FLEXIRO wall heating; three wall elements.



FLEXIRO wall heating; detailed view of connecting the elements.



It can't be easier
FLEXIRO wall heating drywall

Kit selection, prices and technical specifications at:
flexiro.de/en/wall-heating-drywall



Questions? Service hotline +49 30 474 114 33
(weekdays 8 am – 4 pm)