MANUAL

SpeeTile
wet construction system

UNDERFLOOR HEATING | WALL HEATING | CEILING HEATING

www.warp-systems.nl

THIN QUICK LIGHT WATER SUSTAINABLE

Mr. WARP will quickly help you during the installation.

Hello!
In this manual, I am going to help you with the installation. If you have questions, check the QR codes.

Mr. WARP

www.warp-systems.nl

Additional explanation in an instructional video.

Use Google Chrome or a QR code app to scan the code(s) in this brochure

Ask your plumber for connecion to the primary heat source and room thermostat.

Allow for drying time of the floor

With tips and checklists! Most of the steps in the manual are suitable for any type of subfloor.

If there is something specific you must do for a particular type of subfloor, the steps to take are indicated by the following colours:

CONCRETE/CEMENT

WOOD/PLASTERBOARD

INSULATION

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WALL HEATING | CEILING HEATING

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Explanation

UNDERFLOOR HEATING

WALL HEATING

CEILING HEATING

CAUTION!

HANDY TIP/ADVICE

PLEASE NOTE!

WATCH VIDEO

All the instructional videos are also available on the WARP Systems YouTube channel.

1. PREPARATION

step 1.1 The subfloor to be worked on must be well insulated.

step 1.2 Inspect the floor.
Remove loose and raised areas.

step 1.3

CONCRETE/ CEMENT	WOOD	INSULATION
☐ Level deep holes and sharp transitions. Recently poured cement or concrete residual moisture <3%.	☐ Make sure the floor is sufficiently stable. Flexing of the floor will cause the levelling compound to crack.	☐ If the floor bends, the levelling compound will crack. Make sure the subfloor is level before installing the insulation. The insulation layer must have a minimum compressive strength of 300 kPa.

step 1.4 Make sure all cracks and holes are sealed so the levelling compound cannot leak out.

step 1.5 Place wooden laths at the room boundaries and barriers where you do not want levelling compound (e.g. crawlspace hatch).

step 1.6 Determine where the manifold will be mounted, preferably in a central location between the areas to be heated.

PLEASE NOTE!

- Diameter of the supply and return lines of the primary heat source (boiler or heat pump).
- When using a manifold with a pumpunit, provide a power connection.
- Use of a measurement and control system requires an additional power socket.

PREPARATION

SUBFLOOR

2.

step 2.1

CONCRETE/ CEMENT

- ▢ Make sure the surface is liquid impermeable, dry and dust- and grease-free.

- ▢ Apply primer in accordance with the instructions on the packaging.

WOOD

- ▢ Apply reflective film with the reflective side facing up.

- ▢ Make sure the seams are watertight. Tape the overlapping seams with duct tape.

INSULATION

- ▢ Glue the insulation boards to the subfloor.

- ▢ Tape seams and gaps to prevent the levelling compound from leaking under the insulation boards.

- ▢ Coat the insulation boards with a suitable primer.

SUBFLOOR

3. INSTALLATION 1 of 4

step 3.1

Mount the manifold so it is level and in the correct location.
- Allow at least 30 cm of space between floor and underside of manifold so that the underfloor heating pipe connects to the manifold with a sweeping bend.
- Connect the ball valves and groups. Fit any components to the manifold according to the manifold's instructions for use.

CAUTION FOR PUMPUNIT:
- Incorrect placement of the thermostatic head can cause excessively hot water to flow through the underfloor heating, which can cause the floor to crack.
- After mounting, set the thermostatic valve to the lowest setting.
- Place the temperature sensor in the sensor pocket provided for this purpose. Make sure the temperature sensor cannot slide out of it's place.
- Place the thermomanometer in the hole provided for this purpose.

The thermomanometer is sealed by an O-ring. That way the gauge does not have to be screwed in tight but, rather can be turned so it can be read conveniently.

step 3.2

Apply edge insulation along all walls and doorways.
- Cut a taper along the corners of the edge isolation. For a watertight edge, tape the plastic flap to the subfloor.
- Make sure there is enough room for the plastic flap to be pressed into the neck.
- Tape transitions between strips of edge isolation with duct tape.

step 3.3

Lay the first SpeeTile mat in a corner, making sure the edge without protrusions is placed towards the wall.

step 3.4

Simply click the next mat to the previously placed mat.
Fill the entire area in this way.

step 3.5

If the mat is too large, you can easily break it off.
The residual piece can be used for the next row.

step 3.6

This also applies at obstacles.

Make sure the edge insulation fits tightly in the corners. Otherwise, this will not fill with levelling compound.

INSTALLATION 1/4

step 3.7 The modular tiles are extendible in the length and width to fill empty space along the walls and at doorways.

step 3.8 **PLEASE NOTE!** Fix/attach to surface.

step 3.9

CONCRETE/ CEMENT

- ☐ Secure each tile along the edges with the plugs provided in the tile and/or SpeeTight spray adhesive. Drill (depending on the subfloor) with a 4, 5 or 6 mm drill bit.
- ☐ In the middle, you secure the tiles with SpeeTight in a chequerboard pattern. Follow the SpeeTight's instructions for use. Observe the drying time shown on the packaging.

WOOD

- ☐ Secure each tile along the edge with plasterboard screws. You can screw through the reflective foil.
- ☐ Screw all the inner tiles in place in a chequerboard pattern (every other tile).

INSULATION

- ☐ Secure each tile along the edge with the SpeeTackers provided. These fit perfectly around the middle hole of the tile.
- ☐ Secure all the inner tiles in place with the SpeeTackers in a chequerboard pattern (every other tile).

step 3.10 Now that the mats are fixed in place, the SpeeTube can be clicked into the mats in a spiral or double-meander pattern.

- When making the bends in the preferred direction of the SpeeTube
- The maximum length of a group
- Make sure the pipe does not kink

Use a pipe spool

step 3.11 Cut the pipe to the correct length with a tube cutter.
Leave enough pipe length below the manifold to allow for expansion and contraction of the pipe.

step 3.12 Use the CalibrationTool to deburr the cut pipe and make it round.
Mark the insertion length of the PushFit coupling.

INSTALLATION 2/4

3. INSTALLATION 3 of 4

step 3.13

Place the PushFit coupling on the manifold and insert the pipe in the PushFit coupling to the applied mark. You will feel some resistance as the SpeeTube passes the O-ring. Make sure the pipe is inserted deeply enough to prevent leakage. Leave one end of the pipe disconnected so the group can be filled and vented!

step 3.14

By flushing each group with water separately, you can fill and vent the system in one go.

- To do this, leave one end of the SpeeTube disconnected and fill the group via the end connected to the manifold.
- Connect the water supply to the manifold and open the fill valve.
- Turn the valve to open the group you want to fill.
- As soon as air-free water comes out of the open end of the pipe, insert it in the opposite PushFit connection on the manifold. This way, all air is eliminated from the group.

step 3.15

There is an air bleeder valve on the manifold that removes any remaining air from the system.

step 3.16

Repeat this procedure for each group.

step 3.17

Once all groups have been filled, open them all.

step 3.18

When the system is completely filled, set it to about 2 bar of water pressure and leave it like that for some time. If the pressure does not drop, the system is leak-tight.

Length indications are printed on the SpeeTube heating pipe. These can be used to check whether the correct number of metres have been installed. Particularly when splitters are used, it is important that two groups are of the same length.

See how to mount the manifold and fill the groups here

INSTALLATION 4 of 4 manifold with pumpunit

step 1

Check that the thermostat knob is set to the lowest temperature.

step 2

Plug the pump into the mains socket. The pump starts running. Select the correct setting for the pumpunit. See ‘manifold and pumpunit manual’.

example of a manifold and pumpunit

The section only applies to a manifold with a pumpunit.

step 3

The flowmeters start indicating flow. For a single group this is between 0.5 and 1 litre per minute. For a double group this is between 1 and 2 litres per minute. By turning the flowmeter, the flow rate can be adjusted. Make sure the flow is balanced.

PLEASE NOTE! The red ring at the bottom of the flowmeter is a locking ring. It must first be raised before the flowmeter can be turned. The flowmeter has a maximum position, after which it becomes difficult to turn.

step 4

If there is noise from the pump, there is still air in the system.
In extreme cases this may even prevent flow through the groups.

step 5

Once the groups have been adjusted, the pump must be switched off again by removing the plug from the mains socket.

INSTALLATION 4/4

4. INSPECTION BEFORE LEVELLING

step 4.1

For even curing of the levelling compound, it is important to avoid direct sunlight or draughts over the floor.
If necessary, cover windows and large draught holes.

step 4.2

Check whether the system is leak-tight.
The pressure reading on the thermomanometer must not drop.

step 4.3

Pull the plug of the pump out of the mains socket.

PLEASE NOTE! All the mats along the outer edges of the room must be securely fixed in place. Every tile must be secured, optionally with an extra plug at the corners. In the middle of the room the tiles can be secured in a chequerboard pattern (every other one) with SpeeTight or plugs. The underfloor heating pipe must be properly recessed in the mat everywhere.

IMPORTANT! Incorrect placement of the thermostat knob can cause excessively hot water to flow through the underfloor heating, which can cause the floor to crack. After mounting, set the thermostatic valve to the lowest temperature setting. Place the temperature sensor in the hole provided for this purpose. Make sure the temperature sensor cannot slide out of it's place. Place the thermomanometer in the hole provided for this purpose.

For large surfaces contact a levelling professional.

LEVELLING

5.

step 5.1

For application of the levelling mortar, follow the instructions on the packaging.

step 5.2

Pay attention to the correct mixing ratio of levelling mortar and water.

step 5.3

When mixed properly, the levelling compound has a homogeneous structure without lumps.

step 5.4

PLEASE NOTE! For the minimum and maximum application temperatures, follow the instructions on the packaging.

step 5.5

Drying too quickly can result in cracking. Make sure there is no draught across the floor and that exposure to direct sunlight is prevented.

step 5.6

During pouring with the levelling mortar, a layer with a minimum thickness of 15 mm must be applied. For best results and to prevent bubbles, a spike roller should be used.

During pouring with the SpeeTop levelling mortar, a layer with a minimum thickness of 15 mm must be applied. The levelling mortar must also be de-aerated with a spike roller.

LEVELING

6. COMMISSIONING PROTOCOL

AFTER CONNECTION TO THE HEAT SOURCE

step 6.1

You can start using the system after the finishing coat has cured.
For more information about this, see the application instructions on the packaging of the material.

step 6.2

Have the system connected to your primary heat source by a specialist, such as a plumber.

Many floor coverings have a maximum prescribed moisture level. Follow the instructions and manual from the supplier of the floor cover.

step 6.3

FOR PUMPUNITS

Check that the thermostat knob is properly fitted and that the temperature sensor is fitted in the sensor pocket provided for this purpose.
Check that the relief valve is fitted in the right place.

step 6.4

When you start using the heating after installation, follow the gradual heating protocol.

step 6.5

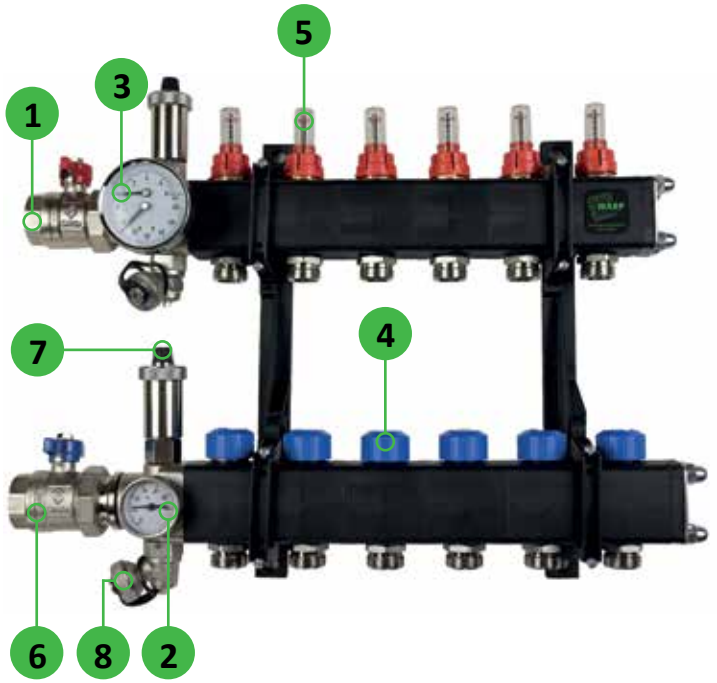
FOR PUMPUNITS

After completion of the gradual heating protocol, the thermostatic valve can be set to the desired water temperature.

COMMISSIONING PROTOCOL

NOTES

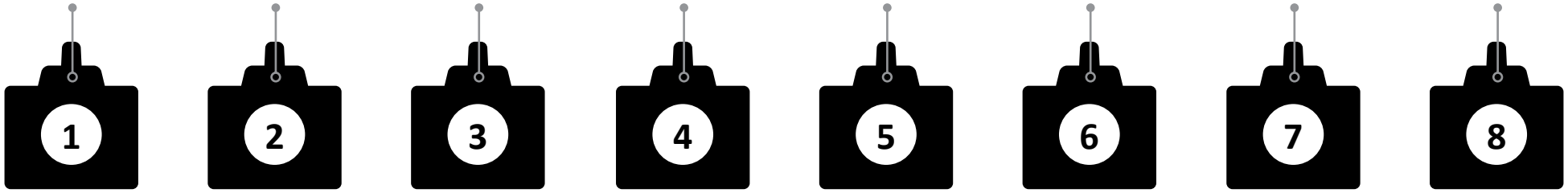
The surface is now ready for application of a finishing layer. Follow the instructions of your supplier and – in consultation with them – remove the edge insulation.



1. Ball valve, supply from primary heat source
2. Thermometer
3. Thermomanometer
4. Blue cap, return valve
5. Flow meter, supply valve
6. Ball valve, return to primary heat source
7. Automatic air bleeder valve
8. Fill valve

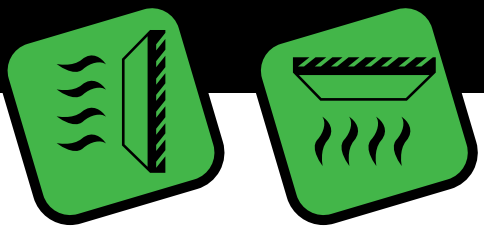
GROUP MANIFOLD
Which room is which pipe in?

☐ LIVING ROOM	☐ LIVING ROOM	☐ LIVING ROOM	☐ LIVING ROOM	☐ _____	☐ _____	☐ _____	☐ _____
☐ KITCHEN	☐ KITCHEN	☐ KITCHEN	☐ KITCHEN	☐ _____	☐ _____	☐ _____	☐ _____
☐ BATHROOM	☐ BATHROOM	☐ BATHROOM	☐ BATHROOM	☐ _____	☐ _____	☐ _____	☐ _____
☐ BEDROOM	☐ BEDROOM	☐ BEDROOM	☐ BEDROOM	☐ _____	☐ _____	☐ _____	☐ _____



1. PREPARATION

WALL HEATING OR CEILING HEATING



step 1.1

The subsurface to be worked on must be well insulated.

step 1.2

Make the wall/ceiling suitable for installation of the SpeeTile System.

step 1.3

CONCRETE/ CEMENT

- ☐ Make sure the ceiling is sufficiently stable. Flexing or movement may cause cracks in the finished layer.

PLASTERBOARD

- ☐ Make sure the ceiling is sufficiently stable. Flexing or movement may cause cracks in the finished layer.

step 1.4

Determine where the manifold will be mounted, preferably in a central location between the areas to be heated.

Apply finishing plaster within one week!

step 1.5

PLEASE NOTE!

- Diameter of the supply and return lines of the primary heat source (boiler or heat pump).
- When using a manifold with a pump, provide a power connection.
- Use of a measurement and control system requires an additional power point.

PREPARATION

step 2.1

CONCRETE/ CEMENT

- ☐ The subsurface must be completely flat. If necessary, use a primer that is suitable for the final finish.
- ☐ CEILING: Use certified installation materials.

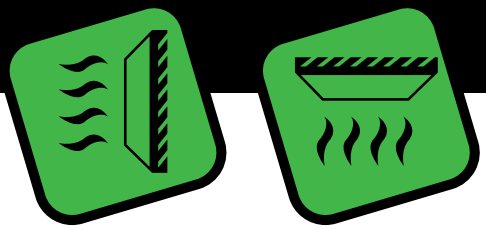
PLEASE NOTE!

PLASTERBOARD

- ☐ The subsurface must be completely flat. If necessary, use a primer that is suitable for the final finish.
- ☐ WALL: Use plugs or plasterboard screws
  CEILING: Use plasterboard screws

SUBSURFACE

3. INSTALLATION 1 of 4



step 3.1

Mount the manifold so it is level and in the correct location.
- Allow at least 30 cm of space between floor and underside of manifold so that the underfloor heating pipe connects to the manifold with a sweeping bend.
- Connect the ball valves and groups. Fit any components to the manifold according to the manifold's instructions for use.

If necessary: order a basement-version manifold.

CAUTION FOR PUMPUNIT:
- Incorrect placement of the thermostatic head can cause excessively hot water to flow through the underfloor heating, which can cause the floor to crack.
- After mounting, set the thermostatic valve to the lowest setting.
- Place the temperature sensor in the sensor pocket provided for this purpose. Make sure the temperature sensor cannot slide out of it's place.
- Place the thermomanometer in the hole provided for this purpose.

step 3.2

Lay the first SpeeTile mat in a corner, making sure the edge without protrusions is placed towards the wall.

step 3.3

Simply click the next mat to the previously placed mat. Fill the entire area in this way.

step 3.4

If the mat is too large, you can easily break it off. The residual piece can be used for the next row.

step 3.5

This also applies at wall sockets and other obstacles.

You can remove the red locking ring on the flow meter on the manifold to close the group.

INSTALLATION 1/4

INSTALLATION 2 of 4

step 3.6 The modular tiles are extendible in the length and width to fill empty space along the walls and at doorways.

step 3.7 **PLEASE NOTE!** Fix/attach to surface.

step 3.8

CONCRETE/CEMENT

- ☐ Secure each tile along the edges with the plugs provided in the tile and/or drill (depending on the subfloor) with a 4, 5 or 6 mm drill bit.
- ☐ In the middle, secure the tiles in a chequerboard pattern (every other tile).

PLASTERBOARD

- ☐ Secure each tile along the edge with plasterboard screws. The screw seals in the borehole of the attachment point.
- ☐ Screw all the inner tiles in place in a chequerboard pattern (every other tile).

step 3.9 Now that the mats are fixed in place, the SpeeTube can be clicked into the mats in a spiral or double-meander pattern.

- When making the bends in the preferred direction of the SpeeTube
- The maximum length of a group
- Make sure the pipe does not kink

Use a pipe spool

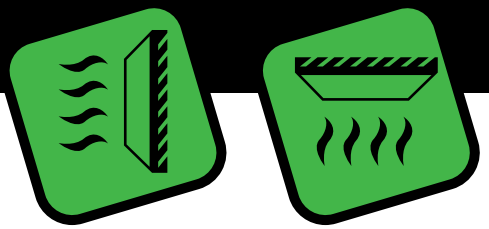
step 3.10 Cut the pipe to the correct length with a tube cutter.
Leave enough pipe length below the manifold to allow for expansion and contraction of the pipe.

step 3.11 Use the CalibrationTool to deburr the cut pipe and make it round.
Mark the insertion length of the PushFit coupling.

step 3.12 Place the PushFit coupling on the manifold and insert the pipe in the PushFit coupling to the applied mark. You will feel some resistance as the SpeeTube passes the O-ring. Make sure the pipe is inserted deeply enough to prevent leaks. Leave one end of the pipe disconnected so the group can be filled and vented!

INSTALLATION 2/4

3. INSTALLATION 3 of 4



step 3.13

By flushing each group with water separately, you can fill and vent the system in one go.

- To do this, leave one end of the SpeeTube disconnected and fill the group via the end connected to the manifold.
- Connect the water supply to the manifold and open the fill valve.
- Turn the valve to open the group you want to fill.
- As soon as air-free water comes out of the open end of the pipe, insert it in the opposite PushFit connection on the manifold. This way, all air is eliminated from the group.

step 3.14

There is an air bleeder valve on the manifold that removes any remaining air from the system.

step 3.15

Repeat this procedure for each group.

step 3.16

Once all groups have been filled, open them all.

step 3.17

When the system is completely filled, set it to about 2 bar of water pressure and leave it like that for some time. If the pressure does not drop, the system is leak-tight.

Length indications are printed on the SpeeTube heating pipe. These can be used to check whether the correct number of metres have been installed. Particularly when splitters are used, it is important that two groups are of the same length.

See how to mount the manifold and fill the groups here

INSTALLATION 4 of 4 manifold with pumpunit

3.

step 1

Check that the thermostat knob is set to the lowest temperature

example of a manifold and pumpunit

step 2

Plug the pump into the mains socket. The pump starts running. Select the correct setting for the pumpunit. See 'manifold and pumpunit manual.

The section only applies to a manifold with a pumpunit.

step 3

The flowmeters start indicating flow. For a single group this is between 0.5 and 1 litre per minute. For a double group this is between 1 and 2 litres per minute. By turning the flowmeter, the flow rate can be adjusted. Make sure the flow is balanced.

PLEASE NOTE! The red ring at the bottom of the flowmeter is a locking ring. It must first be raised before the flowmeter can be turned. The flowmeter has a maximum position, after which it becomes difficult to turn.

step 4

If there is noise from the pump, there is still air in the system.
In extreme cases this may even prevent flow through the groups.

step 5

Once the groups have been adjusted, the pump must be switched off again by removing the plug from the mains socket.

INSTALLATION 4/4

4. INSPECTION BEFORE FINISHING COAT

step 4.1

When used as ceiling heating, ensure that the mats are completely attached to a supporting structure.

DANGER!
Make sure the mats are installed correctly, this prevents them from falling down in the future.

step 4.2

The finishing coat is applied by your own plasterer. Apply a stucco layer with a minimum thickness of 2 cm (8 mm covering the pipe). Always follow the advice of your plasterer.

step 4.3

PLEASE NOTE! When finishing the ceiling, application of stucco mesh is necessary to prevent cracking.

step 4.4

Check whether the system is leak-tight.
The pressure reading on the thermomanometer must not drop.

step 4.5

Pull the plug of the pump out of the mains socket.

FINISHING COAT

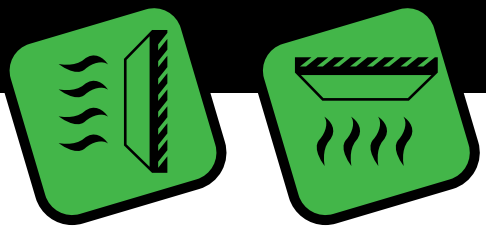
step 5.1

Your plasterer applies the finishing coat.
They are familiar with the materials and working methods.

The plasterer finishes the ceiling or wall.

6. COMMISSIONING PROTOCOL

AFTER CONNECTION TO THE HEAT SOURCE



step 6.1

You can start using the system after the finishing coat has cured. Consult with your plasterer.

step 6.2

Have the system connected to your primary heat source by a specialist, such as a plumber.

The surface is now ready for application of a finishing layer. Follow the instructions of your supplier and – in consultation with them – remove the edge insulation.

step 6.3

FOR PUMPUNIT

Check that the thermostat knob is properly fitted and that the temperature sensor is fitted in the sensor pocket provided for this purpose. Check that the relief valve is fitted in the right place.

step 6.4

When you start using the heating system after installation, follow the gradual heating protocol.

step 6.5

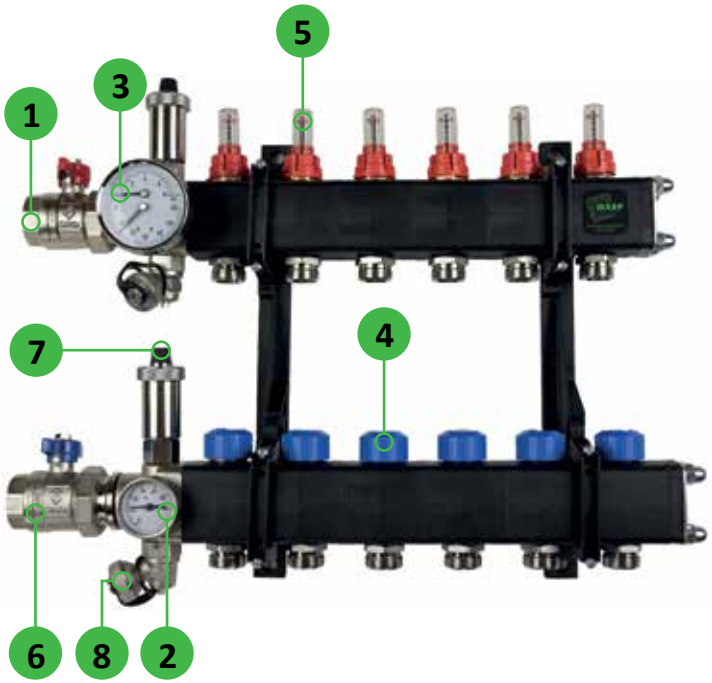
FOR PUMPUNIT

After completion of the gradual heating protocol, the thermostatic valve can be set to the desired water temperature.

COMMISSIONING PROTOCOL

NOTES | MANIFOLD INFORMATION

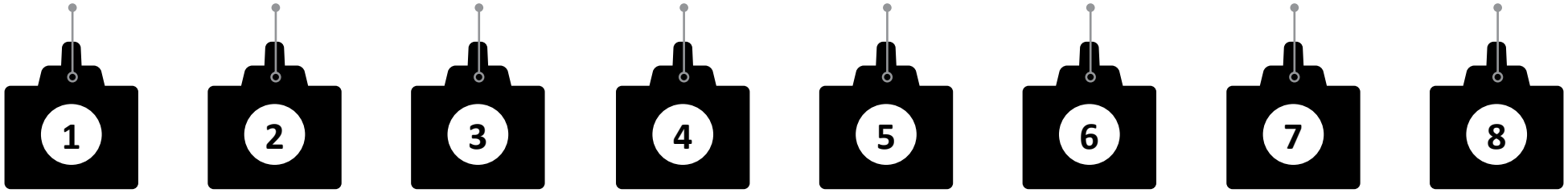
The surface is now ready for application of a finishing layer. Follow the instructions of your supplier.



1. Ball valve, supply from primary heat source
2. Thermometer
3. Thermomanometer
4. Blue cap, return valve
5. Flow meter, supply valve
6. Ball valve, return to primary heat source
7. Automatic air bleeder valve
8. Fill valve

GROUP MANIFOLD
Which room is which pipe in?

☐ LIVING ROOM	☐ LIVING ROOM	☐ LIVING ROOM	☐ LIVING ROOM	☐ _____	☐ _____	☐ _____	☐ _____
☐ KITCHEN	☐ KITCHEN	☐ KITCHEN	☐ KITCHEN	☐ _____	☐ _____	☐ _____	☐ _____
☐ BATHROOM	☐ BATHROOM	☐ BATHROOM	☐ BATHROOM	☐ _____	☐ _____	☐ _____	☐ _____
☐ BEDROOM	☐ BEDROOM	☐ BEDROOM	☐ BEDROOM	☐ _____	☐ _____	☐ _____	☐ _____



WARP SYSTEMS

UNDERFLOOR HEATING | WALL HEATING | CEILING HEATING

THE MOST VERSATILE AND COMPLETE SYSTEM FOR HEATING AND COOLING ANY ROOM

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THIN | QUICK | LIGHT | WATER | SUSTAINABLE