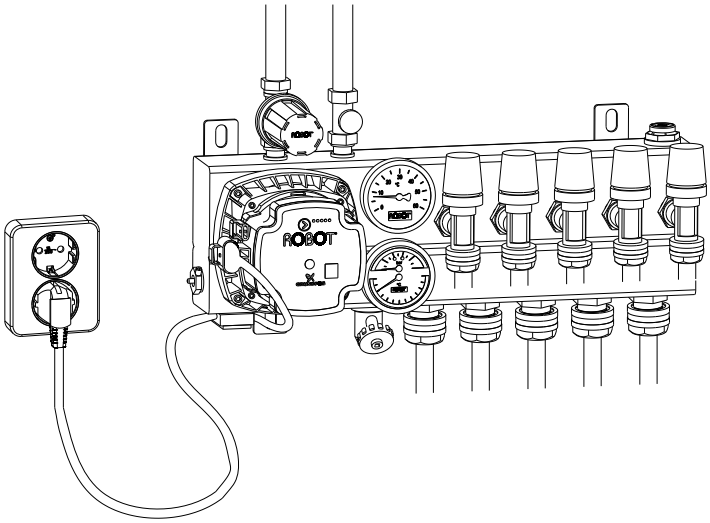
ROBOT®

CLIMATE COMFORT SYSTEMS

MADE BY REAL HUMANS

MANIFOLD MANUAL | 2018



Compact, District Heating, LTV, LT & Optimum Flow
Grundfos UPM3 & Wilo Yonos

Content

Publication: April 2018

1. Introduction

This manual provides the key and essential information on the system and maintenance of the following manifolds: Compact, District Heating, LTV, LT, Optimum Flow, and 2 types of pumps. The 5 group manifold “Compact” is used as an example for installation/mounting in this manual. The installation/mounting of the other manifolds is done in an equivalent way. The main differences will be further explained. Read the manual thoroughly so that you are fully aware of the contents of this manual. Follow the instructions in the manual carefully. Perform the operations in the correct order. Store this manual in a safe and dry place for future consultation! If the manual should go missing, you can ask Robot Vloerverwarming B.V. for a new copy.

1.1 Manufacturer, copyright

Manufacturer:
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1.2 Disclaimer

Robot Vloerverwarming B.V. is not liable for accidents or damage due to ignoring the warnings or regulations set out in this manual, including:

- Inexpert or incorrect transportation, mounting, usage or maintenance.
- Use for other applications or under circumstances other than those indicated in this manual.
- The use of other components than prescribed.
- Repairs and adjustments without the permission of the manufacturer.

Robot Vloerverwarming B.V. is not liable for direct and indirect damage as a result of failures or defects to the manifolds, such as interruptions of operations, delays, etc.
Robot Vloerverwarming B.V. disclaims all responsibilities for damage or injury caused by not following the instructions in this manual carefully and not exercising due care during transportation, mounting, usage and maintenance. As a result of our continuous striving for improvement, the product may differ in detail from what is described in this manual. For this reason, the instructions given serve as a guideline for the installation/mounting of the product referred to in this manual only. This manual has been compiled with great care, however, Robot Vloerverwarming B.V. cannot accept any liability for any errors in this manual or the consequences thereof.

2. Safety measures & warnings

2.1 Safety instructions

Important:
Please read the safety measures and warnings before you start mounting the Manifolds. When mounting, follow the instructions and guidelines as set out in this manual carefully. Never change the order of the operations to be performed. Please contact Robot Vloerverwarming B.V. if anything is unclear about the mounting work.

- Mounting/commissioning must only be done by expert staff (qualified installers), otherwise the guarantee will cease to apply.
- Manifolds of Robot Vloerverwarming B.V. may be used only for their intended purpose.

Mounting:

- You must comply with the valid standards and legal regulations.
- Immediately check the delivery upon receipt. In the event of damages or incom plete delivery, we ask you to immediately contact Robot Vloerverwarming B.V.
- The materials must be stored in a dry, ventilated area and not be exposed to direct sunlight.
- Open the package carefully. Ensure that you do not damage the product.
- Place the components on a soft and clean surface to avoid damaging your manifold.
- The manifolds may be installed and operated only in an undamaged condition.
- Mark off the mounting area with safety tape to keep unauthorised people away.
- Keep the workplace clean and free from obstacles when mounting and performing maintenance.
- Ensure that there is sufficient ambient lighting when mounting and performing maintenance.
- Mount the manifolds on a flat non-combustible/heat-resistant surface with sufficient carrying capacity. Ensure that the surface is clean and dry and that the manifold is level.

- Always mount the manifold with the supplied rubber silencers to limit noise/vibrations as much as possible.

- Ensure that all fasteners are properly tightened. Check if all fasteners are in the right place. **PLEASE NOTE:** Not using fasteners will have adverse effects.

- To guarantee the correct operation of the system, you are only allowed to use the manufacturer's replacement components.

- It is important that the correct piping is used (both primary and secondary) for installations to guarantee the correct performance of the manifold.

- **PLEASE NOTE:** The temperature of the water in the manifold can go up to 55°C. Avoid your skin coming into contact with the water at all times.

- **PLEASE NOTE:** When the system is first put into operation, the heat must gradually be brought into the floor because of the linear expansion of the screed and the risk of cracking.

- **PLEASE NOTE:** Disable the pump when filling and venting the system. Take out the plug from the earthed wall socket.

- **PLEASE NOTE:** THE PUMP MUST BE RUNNING WHEN THE SYSTEM IS FILLED.

Additives

- **PLEASE NOTE:** The addition of chemicals (water descalers or detergents etc.) can adversely affect the lifetime of the system or even damage it. An exception to this is mono-ethylene Glycol (rate of maximum 30% Glycol). This additive is used if the underfloor heating is mount ed outside or in cold-storage areas.

Warning

This product may be used by children of 8 years and upwards and by persons with reduced physical, sensory or mental capacities, or with lack of experience with the product, provided they are supervised or have received clear instructions for the safe use of the product. They must also understand what hazards are involved in using the product. Never let children play with the product. It is not allowed to have the system cleaned or maintained by children or people with reduced physical, sensory or mental capacities without appropriate supervision.

Robot Vloerverwarming B.V. accepts no liability for damage or injury caused by not strictly observing the safety regulations and instructions set out in this manual or due to negligence when performing mounting work, usage and maintenance of the product or any accessories. Robot Vloerverwarming B.V. is not responsible for any form of damage.

2.2 2.2 Required personal protection equipment

Always wear the right personal protection equipment when carrying out the work:

Protective clothing

Safety gloves

Safety shoes

Safety helmet

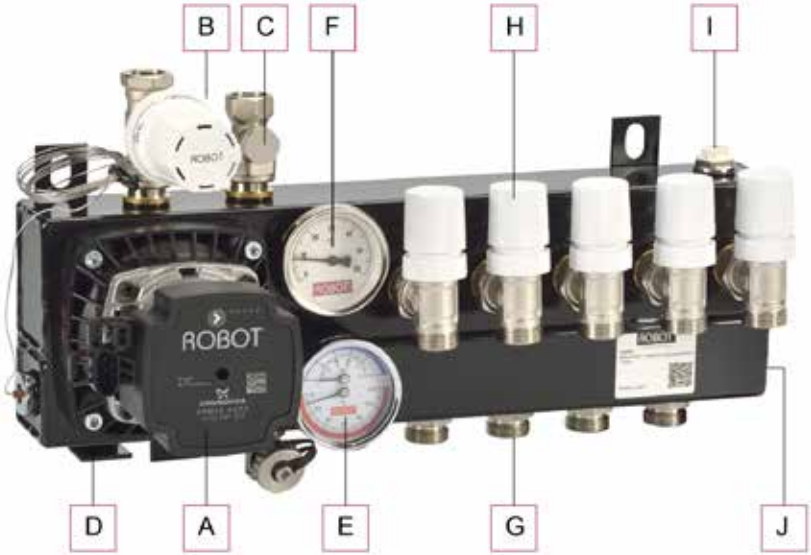
Hearing protection

Eye protection

3. Product description/product overview

3.1 Compact manifold

3.1.1 Parts list/functional overview and specifications



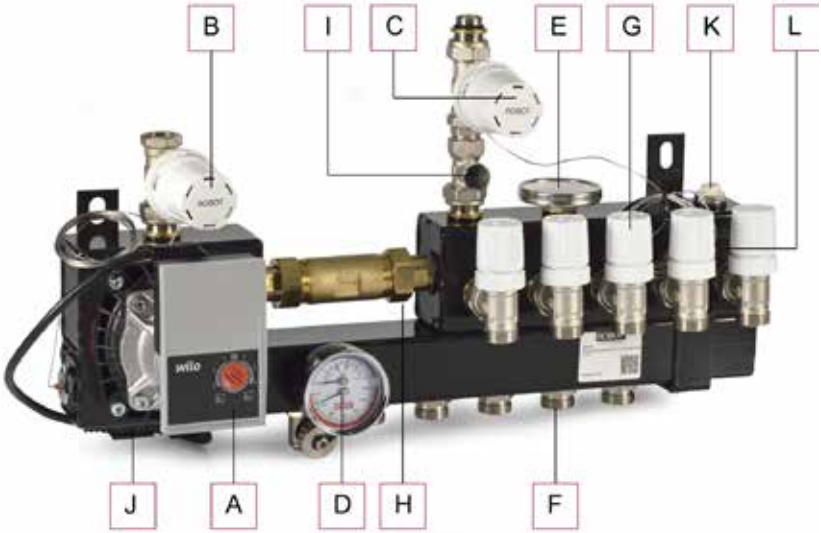
A. A label circulation pump (Grundfos pomp UPM3-O 15-60 AUTOadapt)
B. Thermostatic control of supply water for central heating (adjustable)
C. Adjustable return valve for return water for central heating
D. Temperature safety stat, with set temperature of 60°C +/- 5°K
E. Robot pressure/temperature gauge 63 mm 0-6 bar/0-120°C for underfloor supply water
F. Insert temperature gauge for underfloor return water
G. Connection for underfloor supply water
H. Thermostatic valve (M30 x 1.5), adjustable, eurocone connection, for underfloor return water
I. Air bleed valve, for manual adjustment
J. Blanking cap, connection for creating a hydraulically positive manifold

3.1.2 Application

Underfloor heating, high-temperature system: minimum 70°C supply (primary), suitable for main or secondary heating. If combined with this steel manifold, only use a diffusion tight pipe, in accordance with DIN 4726.

3.2 District Heating manifold

3.2.1 Parts list/functional overview and specifications



A. A label circulation pump (Wilo Yonos Para HU 26/6)
B. Thermostatic control of supply water for central heating (adjustable)
C. Thermostatic control of return water for central heating (adjustable)
D. Robot pressure/temperature gauge 63 mm 0-6 bar/0-120°C for underfloor supply water
E. Insert temperature gauge for underfloor return water
F. Connection for floor supply water
G. Thermostatic valve (M30 x 1.5), adjustable, eurocone connection, for underfloor return water
H. Robot brass check valve 1”
I. Adjustable return valve for central heating return water
J. Temperature safety stat, with set temperature*2 (60°C +/- 5K)
K. Air bleed valve, for manual adjustment
L. Sensor pocket for underfloor return water restriction.

3.2.2 Application

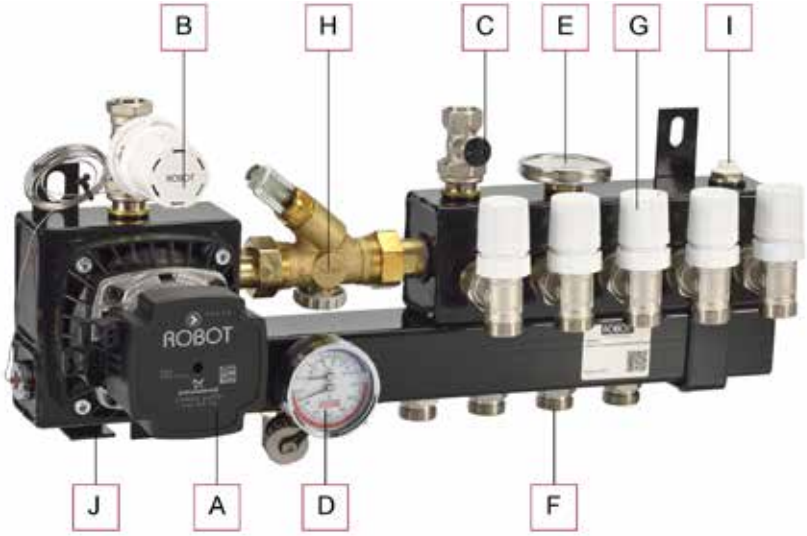
Underfloor heating, high-temperature system: 70°C supply (primary)/40°C return (primary), suitable for main or secondary heating. If combined with this steel manifold, only use a diffusion tight pipe, in accordance with DIN 4726.

3.2.3 General

Because of their vulnerability to damage, the adjustable return valve (I) and the return control (C), are packed as a whole and supplied separately (the flow valve and return water thermostatic valve must remain connected at all times). This control must be screwed to the connection point (I) and the immersion probe must be inserted on the right side of the sensor pocket of the top bar. By tightening the screw of the sensor pocket, the temperature sensor will be fixed in the sensor pocket. The district heating manifolds are equipped with a check valve (H), ensuring that the supply water (primary) is always pumped through the underfloor heating piping to the return pipe in the district heating net. This prevents the water from flowing directly from the supply to the return piping of the district heating net.

3.3 LTV manifold

3.3.1 Parts list / functional overview and specifications



A. A label circulation pump (Grundfos pomp UPM3-O 15-60 AUTOadapt)
B. Thermostatic control of supply water for central heating (adjustable)
C. Adjustable return valve for return water for central heating
D. Robot pressure/temperature gauge 63 mm 0-6 bar/0-120°C for underfloor supply water
E. Insert temperature gauge for underfloor return water
F. Connection for underfloor supply water
G. Thermostatic valve (M30 x 1.5), adjustable, eurocone connection, for underfloor return water
H. Watts Adjustable valve, Type Wattflow 1” (with built-in flowmeter)
I. Air bleed valve, for manual adjustment
J. Temperature safety stat, with set temperature (60°C +/- 5°K)

3.3.2 Application

Underfloor heating, as a low-temperature system: 40-60°C flow (primary), suitable for main or secondary heating. If combined with the steel LTV manifold, only use a diffusion tight pipe, in accordance with DIN 4726.

3.3.3 General

LTV manifold, suitable for connection to a low-temperature heat source, such as boilers with low flow temperatures (60 ° C / 40 ° C), HR boilers with modulating burners and heat pumps. The primary mass flow has to be increased to still be able to deliver sufficient heat capacity to the underfloor. For that reason, the LTV manifolds are equipped with a control valve (H), which makes it possible to control the underfloor return water flow. This also makes it possible to create a pressure difference, enabling the circulation pump to suck more supply water.

3.4 LT manifold

3.4.1 Parts list/functional overview and specifications

A. Insert temperature gauge for underfloor return water
B. Robot pressure/temperature gauge 63 mm 0-6 bar/0-120°C for underfloor supply water
C. Group valve
D. Robot single adjustable flow valve (½" x ¾" eurocone)
E. Air bleed valve, for manual adjustment
F. Air bleed valve, for manual adjustment
G. Blanking cap

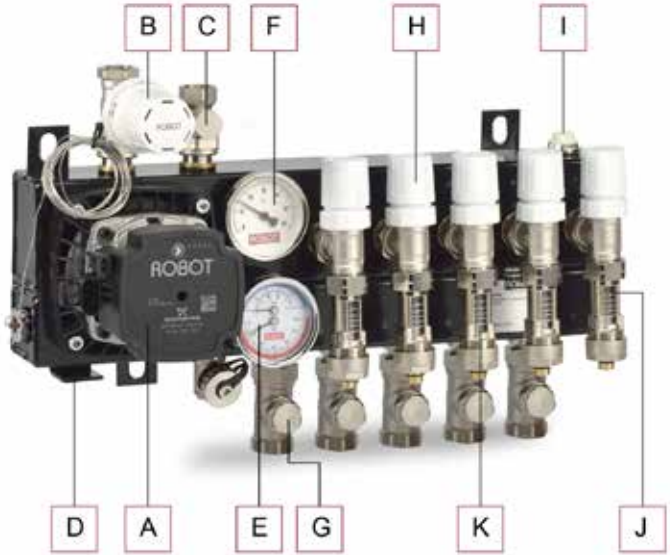
3.4.2 Application

The Robot LT manifold, without a pump, is a steel manifold that is suitable for systems with a low temperature supply where a central pump is present.

- Suitable for heat pumps and boilers with limited temperature setting, with an external pump if required
- Low-temperature system: up to 50°C supply (primary)
- Available 2-20 groups
- Available with connection on both left and right (can be changed into cross-connection)

3.5 Optimum Flow

3.5.1 Parts list/functional overview and specifications



A. A label circulation pump (Grundfos pomp UPM3-O 15-60 AUTOadapt)
B. Thermostatic control of supply water for central heating (adjustable)
C. Adjustable return valve for return water for central heating
D. Temperature safety stat, with temperature set at 60 °C +/- 5°K
E. Robot pressure/temperature gauge 63 mm 0-6 bar/0-120°C for underfloor supply water
F. Insert temperature gauge for underfloor return water
G. Robot single adjustable flow valve (½" x ¾" eurocone)
H. Thermostatic valve (M30 x 1.5), adjustable, eurocone connection, for underfloor return water
I. Air bleed valve, for manual adjustment
J. Blanking cap, connection for creating a hydraulically positive manifold
K. Robot flowmeter (½" x ¾" eurocone)

3.5.2 Application

Underfloor heating, high-temperature system: minimum 70°C supply (primary), suitable for main or secondary heating. If combined with this steel manifold, only use a diffusion tight pipe, in accordance with DIN 4726.

3.6 Pumps

3.6.1 Grundfos UPM3

The manifolds of Robot Vloerverwarming B.V. can be equipped with a composite Grundfos pump house. The pump housing is mounted stress-free on the manifold to avoid annoying pump noise. The economic-efficient Grundfos UMP3 is mounted by default.

* See the appendix for the Grundfos UPM3 manual.

3.6.2 Wilo Yonos Para HU 26/6

The manifolds of Robot Vloerverwarming B.V. can be equipped with a composite Wilo pump house. The pump housing is mounted stress-free on the manifold to avoid annoying pump noise.

* See the appendix for the Wilo Yonos Para HU 26/6 manual.

4. Storage and transport

4.1 Storage

Keep the manifolds in their original packaging until mounting is started.
The manifolds must be stored safely in a dry, ventilated area and not be exposed to direct sunlight. The packaging is not weather-resistant.
The manifolds must be stored frost-free.

4.2 Transport

Ensure that the manifold in its packaging is exposed to vibrations as little as possible during transport. Transport/move the packaging carefully.
Please note the ergonomic conditions such as lifting, bending, reaching, etc. when working with the manifolds.

5. Mounting preparation

5.1 Mounting conditions

5.1.1 Requirements for the mounting area of the manifold

The mounting area must meet the following conditions:

1. Proper access to the system components
2. Room around the manifold to carry out work
3. The mounting area is frost-free
4. The mounting area is provided with a water filling point
5. The mounting area is provided with a lighting point
6. The mounting area is provided with an earthed wall socket.
7. The mounting area is provided with a water outlet

Location of the manifold

- Place the manifold in a dry, well-vented, centrally located area in the house.
- **PLEASE NOTE:** The manifold should not be placed in the meter cupboard.
- If the manifold is equipped with a pump, it should not be placed in or against the wall of a bedroom or living room. When the pump is operational, it might cause a small vibration noise. A good location for the control unit could be the hall, pantry or garage.
- Do not place the manifold onto a partition of a light construction.
- Place the manifold in an easily accessible place because of possible maintenance work.

The location of the manifold must be:

- Dry and Dust- and frost-free
- Free from vibrations
- Adequately lit
- Free from combustible materials
- Free from explosive gases.

Hanging the manifold

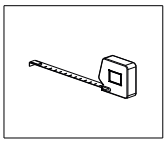
- Place the manifold 50 to 60 cm above the floor so that the piping can be easily connected. PLEASE NOTE: The distance from the bottom of the manifold to the top of the finished floor must be at least 30 cm.
- Mount the manifold at a sufficient height to be able to 'gradually' bent towards or mount to/on the manifold to prevent the pipe from buckling. It is recommended to use floor bends.
- Mount the manifolds on a flat non-combustible/heat-resistant wall with sufficient carrying capacity. Ensure that the surface is clean and dry.

- When performing mounting work below the surface to be heated, the manifold must always be placed above the level of to be heated surface for venting purposes.
- The manifold must be mounted to the wall in a level position so that the venting point can be used optimally.
- Always mount the manifold with the supplied rubber silencers to limit noise/vibrations as much as possible.
- The manifold is exclusively intended for mounting on a wall with the help of the supplied bolts and plugs. The manifold can also be mounted on a stand console.
- Ensure that all fasteners are properly tightened. Check if all fasteners are in the right place.

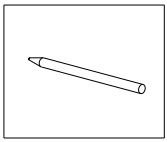
5.2 Tools overview

Tools required for mounting the manifold and the piping:

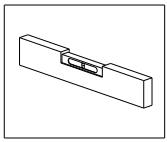
Tape measure



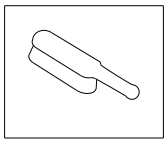
Pencil / marker



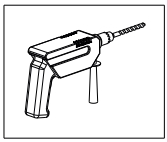
Spirit level



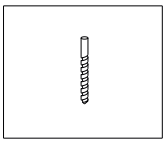
Brush



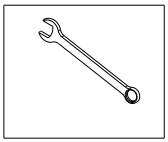
Drilling machine



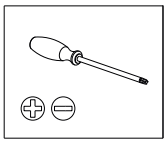
Drill



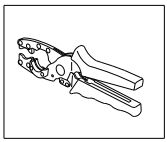
Open-end wrench



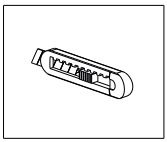
Screwdrivers



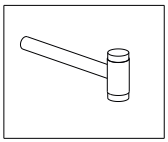
Pipe cutter



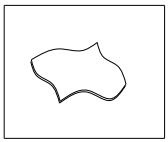
Stanley knife



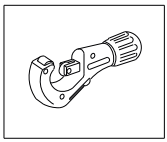
Hammer



Cloth



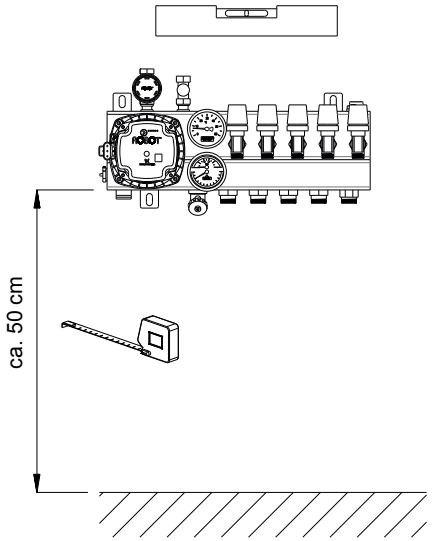
Pipe cutter copper/steel



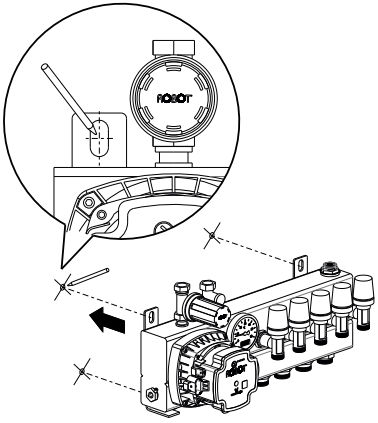
6. Installing/mounting

6.1 Mounting of manifold

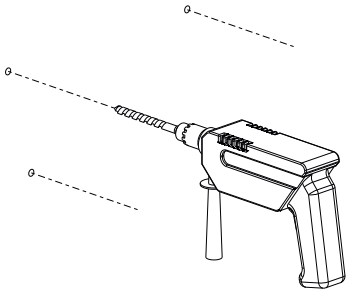
1. Position the manifold level against the wall at a height of approx. 50 cm from the floor.



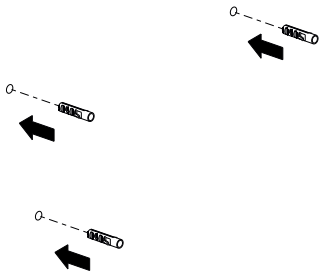
2. Mark the positions of the mounting holes of the manifold with a pencil/marker on the floor. Use the supplied drilling template for this.



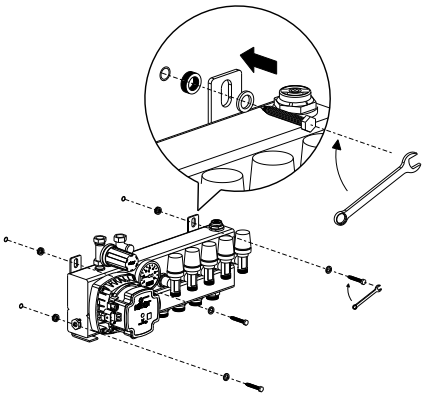
3. Drill the mounting holes in the wall.



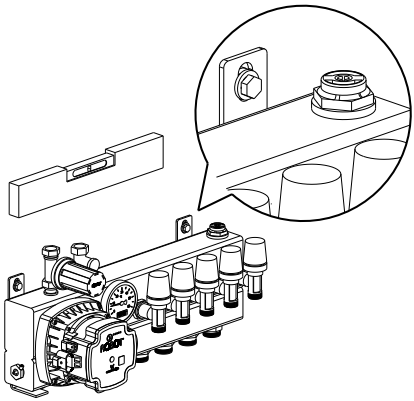
4. Place the plugs in the mounting holes.



5. Place a rubber silencer behind the suspension points of the manifold. Insert the mounting bolts (including washer) through the suspension points (and silencers) in the wall.

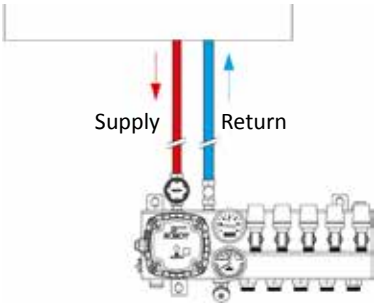


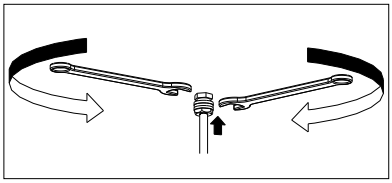
6. Fix the manifold with the bolts to the wall. Self-level the manifold. Tighten the bolts until the rubbers are completely embedded without deforming them. Check if the rubber silencers can still be pressed lightly.



6.2 Connecting the manifold to the central heating system

- The supply pipe of the central heating must be connected to the supply valve of the manifold.
- The return pipe of the central heating must be connected to the return valve of the manifold.





The primary piping must be connected with suitable tools.

The supply and return piping must have sufficient capacity; it applies in general that:

1. manifolds 1 to 4 groups: minimum diameter of 15 mm with maximum 6 metres of supply and return piping from the heat source (if you use a multi-layer pipe: 20 mm)
2. manifolds 5 to 10 groups: minimum diameter of 22 mm with maximum 14 metres of supply and return piping from the heat source (if you use a multi-layer pipe: 25/26 mm)
3. manifolds 11 to 15 groups: minimum diameter of 28 mm with maximum 16 metres of supply and return piping from the heat source (if you use a multi-layer pipe: 32 mm)

PLEASE NOTE: If radiators are connected to the same supply and return pipe, account should be taken of whether the diameter of the pipe is sufficient.

6.3 Connecting the underfloor heating pipe to the manifold with integrated pump

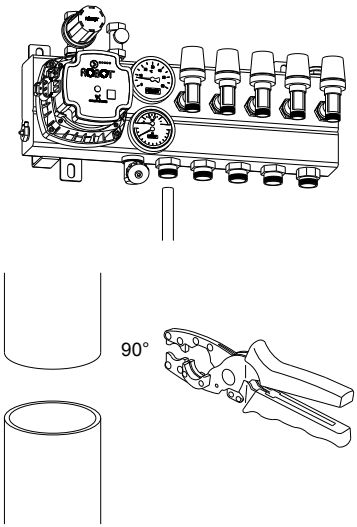
We recommend to limit the maximum length of the underfloor heating pipe to:

1. Approx. 100 metres per group on application of a 16 x 2 mm, 18 x 2 mm or 20 x 2 mm pipe.
2. Approx. 90 metres per group on application of a 14 x 2 mm pipe.
3. Approx. 65 metres per group on application of a 10 x 2 mm or 12 x 2 mm pipe.

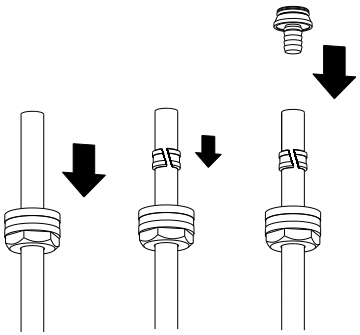
* the length of the piping can deviate for industrial floors. The above recommendations only serve as a guideline.

If several groups are used, we also recommend to put the pipes with the same length together as much as possible. If the pipes vary widely in length per group, we recommend to mount flowmeters under the group valves; see ‘putting into operation/setting the manifold’.

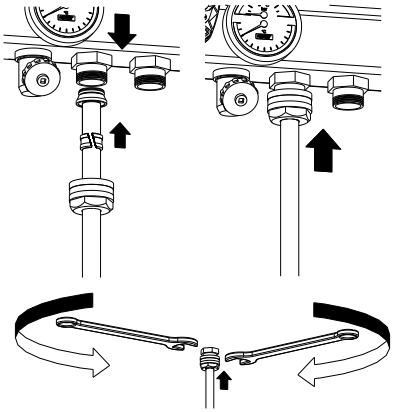
1. The underfloor heating pipe must be cut straight and the burrs must be removed.



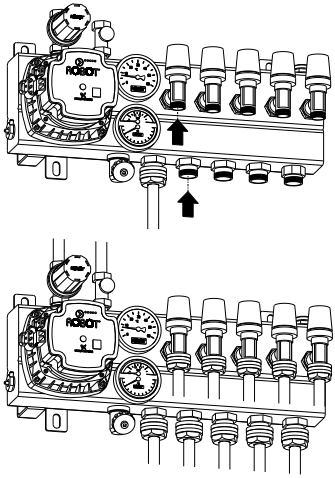
2. Slide the union nut approx. 10 cm over the underfloor heating pipe.
3. Place the clamping ring on the pipe and slide it a few centimetres.
4. Mount the tube grommet in the pipe up to the edge.



5. Move back the clamping ring to the grommet.
6. Then screw the pipe onto the supply fitting and put the relevant group together in the floor or in the wall.

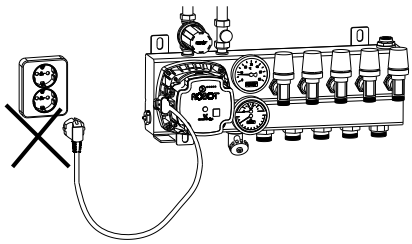


7. Connect the end of the group to the mentioned group valve with the help of a pipe fitting (as previously described).
8. Repeat the above procedure if there are several groups.

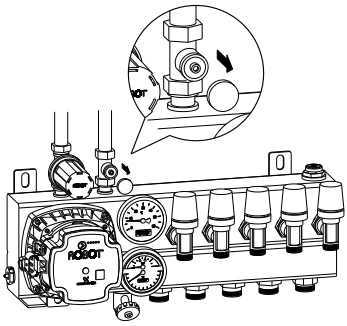


6.4 Filling and venting the underfloor heating system

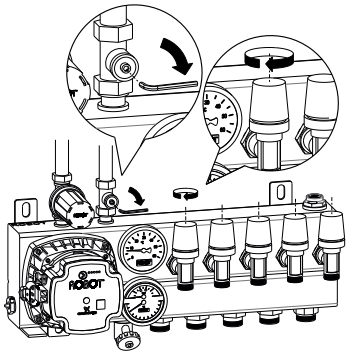
1. Ensure that there is no current on the pump until the system is completely filled.



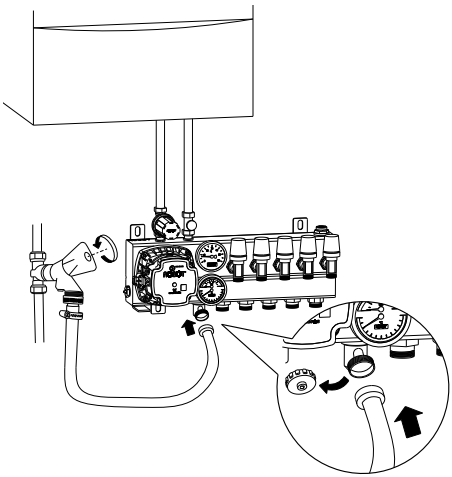
2. Remove the cover cap from the return valve.



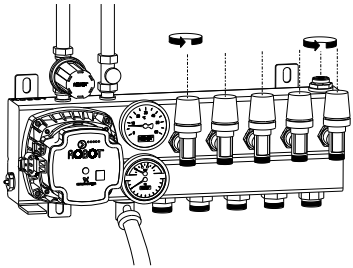
3. Close the supply and return valve; also close all group valves.



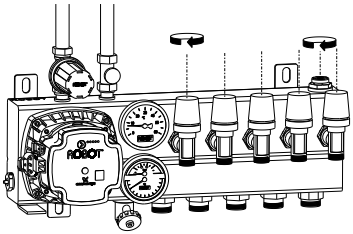
4. Connect a filling hose and start the filling by opening the water and filling tap.



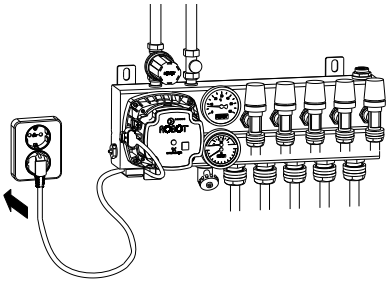
5. If there is sufficient pressure in the underfloor heating system, you can vent each group separately by opening the group valve and venting through the venting point at the same time.



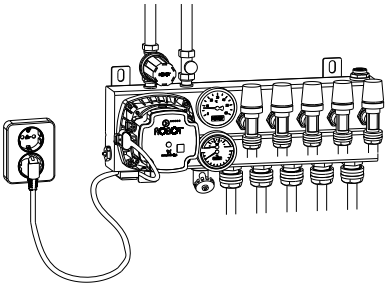
6. Close the group valve concerned after venting is completed and repeat this procedure for any following groups. Ensure that there is sufficient pressure in the system during venting.



7. Put the plug into the earthed wall socket after filling and venting the system.



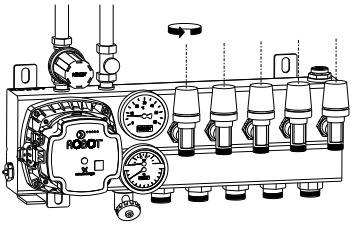
Schematic total overview



7. Commissioning/decommissioning

7.1 Putting into operation/setting the manifold

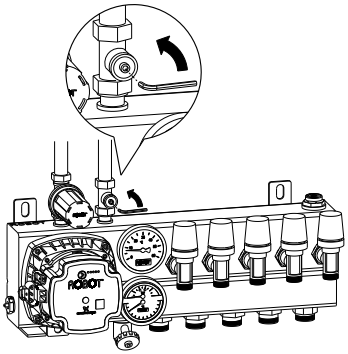
1. Open the group valve. If the group lengths vary widely, the groups must be set separately (mounting flowmeters under the group valves will make it easier to set each group separately).



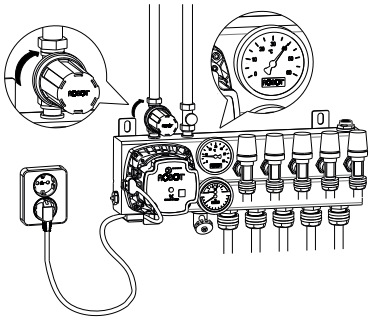
2. The return valves are provided with a pre-set function. You can remove the white manual handle to set the volume flow by using the pre-set function. You can use a standard bleed key that you have to place over the spindle.

3. When leaving the factory, the pump is by default set in its recommended position, namely '6 metres Autoadapt'. This setting is suitable for most systems.
If required, you can customise the setting of the pump in accordance with the instructions set out in the appendix.

4. Open the return valve.



5. Put the plug of the pump into an earthed wall socket.
6. Gradually open the thermostatic control of the supply water by approx. 5°C per week until it reaches the required underfloor water temperature (usually 40°C).
7. The floor supply temperature can be read from the thermo-mano gauge. The floor return temperature can be read from the temperature gauge.



(*1) ATTENTION:
When first put into operation, the heat must gradually be brought into the underfloor because of the linear expansion of the screed and the risk of cracking.
Advice: Use edge insulation all around to counterbalance the linear expansion of the floor during warming up.

Robot manifolds are standard delivered in a hydraulically neutral design (in other words no pressure difference between the supply and return pipe). If required, you can create a connection for the hydraulically positive manifold by blanking off the return valve and to connect it to the blanked off connection on the right side.

When exchanging the pump, if required, account should be taken that only the 'black' socket head screws will be unscrewed. Any form of guarantee will lapse if changes are made to the plated socket head screws in the pumping house (back-panel).

PLEASE NOTE: THE PUMP MUST ALWAYS BE RUNNING WHEN THE SYSTEM IS FILLED.

Additives:
The addition of chemicals (water descalers or detergents etc.) to the central heating water can adversely affect the lifetime of the system or even damage it. An exception to this is mono-ethylene Glycol (rate of maximum 30% Glycol). This additive is used if the underfloor heating is mounted outside or in cold-storage areas.

Mounting thermal engines, optional:
Thermal engines can be used in combination with a zone control. It will then be possible to control each area separately. Remove the handwheel of the thermostatic valve (white cover) and mount the Robot thermal engine 24 or 230 Volt.

8. Maintenance & Service

We recommend to frequently clean the manifold.

- For your own safety, remove the power from the manifold before you start cleaning it.
- Clean the manifold with a damp soft cloth and/or a tried and tested neutral detergent. Do not use any aggressive detergents and/or abrasives.
- The manifold must be checked on connections and damage at least once a year. Remedy the defects immediately, such as loose connections.
- Repairs and maintenance of manifold components may only be performed by personnel qualified for this purpose.

9. Failures

9.1 Troubleshooting

Failure	Possible cause	Solution
Underfloor heating is not heating up	There is no heat demand	Create heat demand by raising the temperature of the room thermostat.
	Thermostatic valves are closed	Open the thermostatic valves
	Pump is not running	See “putting into operation”
Central heating supply is hot but the floor is not heating up.	Insufficient flow to the manifold (primary)	1.Use the pipe with the right diameter and length (see connecting the manifold to the central heating system) 2. Check the temperature of the supply pipe on the side of the central heating. This should indicate the temperature mentioned in Chapter 3 for the relevant type. 3. Setting the other heat output systems. 4. In case of a Compact manifold: Blank off the return valve and then connect it to the blanked off connection. This creates a hydraulically positive manifold.
	Trapped air in the underfloor heating system	Check if there is no air left in the system
	Pump is not running	See putting into operation and the explanation on pumps
Underfloor heating is heating up	Thermostatic control is too high	Set the thermostatic control lower
	Thermostatic valves are not set	Set thermostatic valves (see putting into operation/setting the manifold).
Pump makes a noise	Trapped air in the circuit	Vent the system

10. Environment/waste disposal

Dispose of the product according to local legislation and regulations.

11. Guarantee

The guarantee is in accordance with the guarantee conditions and the general terms and conditions of Robot Vloerverwarming B.V. These can be found on the website:
www.robotclimate.com.

12. Contact

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NL 3351 LJ Papendrecht

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F +31 78 - 641 3636
info@robotclimate.com
www.robotclimate.com

UMP3 Manual

GRUNDFOS **INSTRUCTIONS**

UPM3

GB: Warning
The use of this product requires experience with and knowledge of the product. Persons with reduced physical, sensory or mental capabilities must not use this product, unless they are under supervision or have been instructed in the use of the product by a person responsible for their safety. Children must not use or play with this product.

DE: Warnung
Dieses Produkt darf nur von Personen, die über ausreichende Kenntnisse und Erfahrungen verfügen, eingebaut und bedient werden. Personen, die in ihren körperlichen oder geistigen Fähigkeiten oder in ihrer Sinneswahrnehmung eingeschränkt sind, dürfen das Produkt nicht bedienen, es sei denn, sie wurden von einer Person, die für ihre Sicherheit verantwortlich ist, ausreichend unterwiesen. Kinder sind von dem Produkt fernzuhalten. Eine Verwendung des Produkts durch Kinder, z.B. als Spielzeug, ist nicht zulässig.

FR: Avertissement
L'utilisation de ce produit réclame une certaine expérience et connaissance du produit. Toute personne ayant des capacités physiques, sensorielles ou mentales réduites n'est pas autorisée à utiliser ce produit, à moins qu'elle ne soit surveillée ou qu'elle ait été formée à l'utilisation du produit par une personne responsable de sa sécurité. Les enfants ne sont pas autorisés à utiliser ce produit ni à jouer avec.

IT: Avvertimento
L'utilizzo di questo prodotto richiede una certa esperienza. Le persone con abilità fisiche, sensoriali o mentali ridotte non devono utilizzare questo prodotto a meno che non siano state istruite o siano sotto la supervisione di un responsabile. I bambini non devono utilizzare o giocare con questo prodotto.

GB: EC declaration of conformity
We, Grundfos, declare under our sole responsibility that the product UPM3, to which this declaration relates, are in conformity with these Council directives on the approximation of the laws of the EC member states:

DE: EG-Konformitätserklärung
Wir, Grundfos, erklären in alleiniger Verantwortung, dass die Produkt UPM3, auf die sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EU-Mitgliedsstaaten übereinstimmen:

FR: Déclaration de conformité CE
Nous, Grundfos, déclarons sous notre seule responsabilité, que les produits UPM3, auxquels se réfère cette déclaration, sont conformes aux Directives du Conseil concernant le rapprochement des législations des Etats membres CE relatives aux normes énoncées :

IT: Dichiarazione di conformità CE
Grundfos dichiara, sotto la sua esclusiva responsabilità, che i prodotti UPM3, ai quali questa dichiarazione si riferisce, sono conformi alle seguenti direttive del Consiglio riguardanti il riavvicinamento delle legislazioni degli Stati membri della CE.

Low Voltage Directive (2006/95/EC).
Standards used: EN 60335-1:2012 and
EN 60335-2-51:2003 + A1.
EMC Directive (2004/108/EC).
Standards used: EN 61000-6-2:2005,
EN 61000-6-3:2007, EN 55014-1:2006 and
EN 55014-2:1997.
Ecodesign Directive (2009/125/EC).
Standards used: EN 16297-1:2012, EN 16297-2:2012 and
EN 16297-3:2012.
This EC declaration of conformity is only valid when published as part of the Grundfos installation and operating instructions.

Bjerringbro, 1 July 2013

Preben Jakobsen
Technical Manager
Grundfos HVAC OEM Division
Poul Due Jensens Vej 7
8850 Bjerringbro, Denmark

Person authorised to compile technical file and empowered to sign the EC declaration of conformity.

XXXXXX xx13/ ECM: xxxxxxx

GRUNDFOS Management A/S
Poul Due Jensens Vej 7
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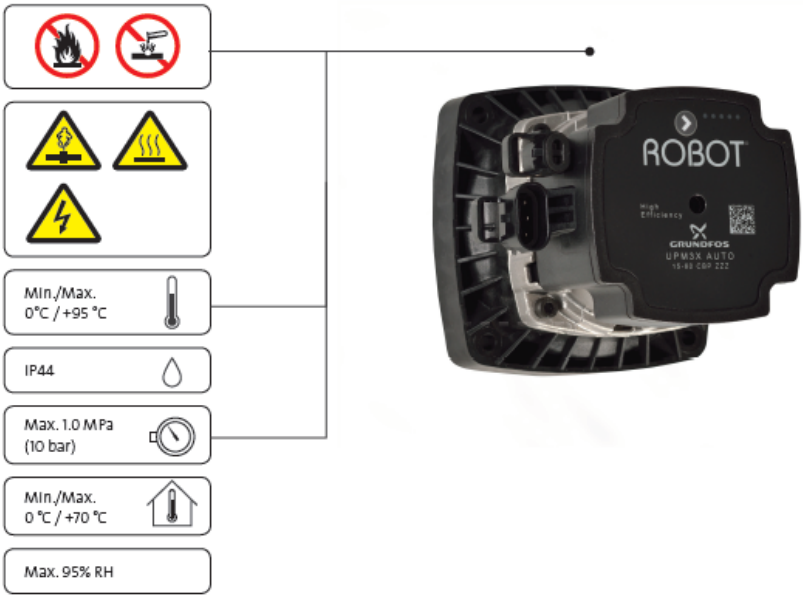
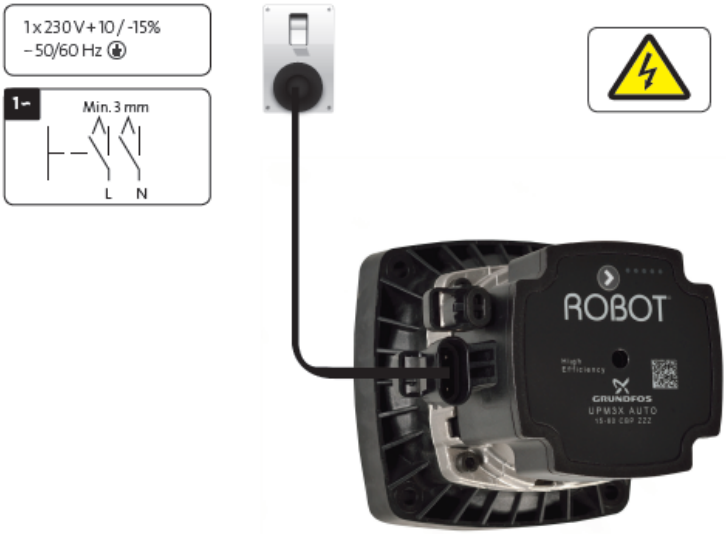
Tlf.: +45 87 50 14 00

GRUNDFOS


Min./Max.
0°C / +95 °C
IP44
Max. 1.0 MPa
(10 bar)
Min./Max.
0 °C / +70 °C
Max. 95% RH
ROBOT
GRUNDFOS
UPM3X AUTO


1 x 230 V + 10 / -15%
– 50/60 Hz
1–
Min. 3 mm
L
N
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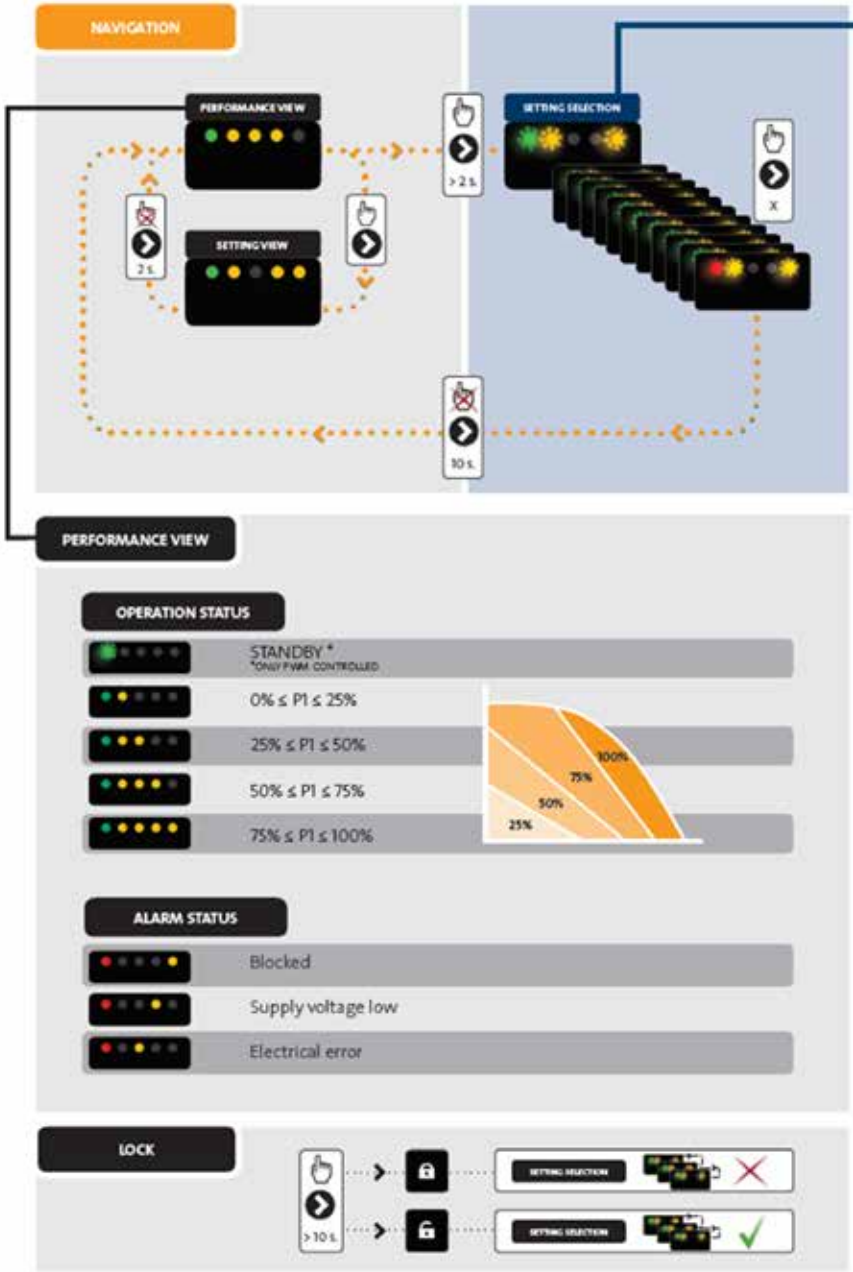
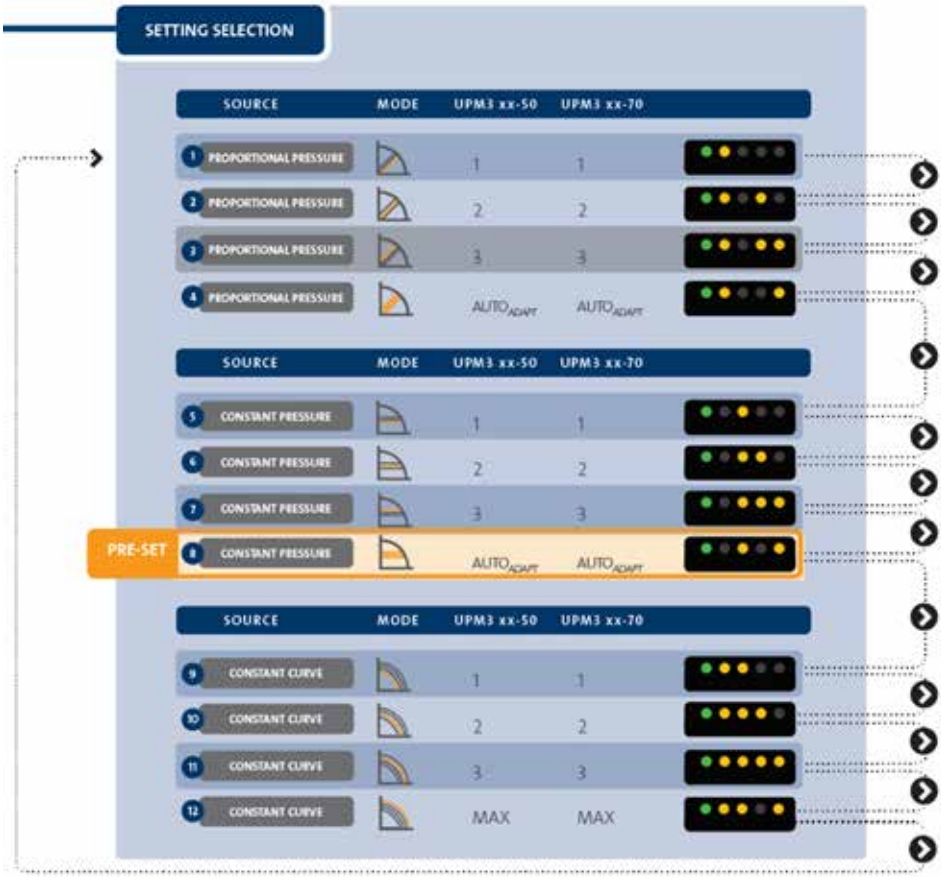
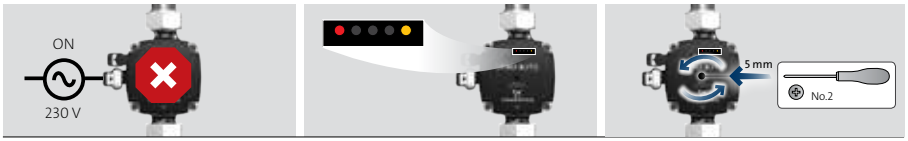
UPM3X AUTO


NAVIGATION
PERFORMANCE VIEW
SETTING VIEW
SETTING SELECTION
> 2 s
2 s
X
10 s
PERFORMANCE VIEW
OPERATION STATUS
STANDBY *
*ONLY FVAM CONTROLLED
0% ≤ P1 ≤ 25%
25% ≤ P1 ≤ 50%
50% ≤ P1 ≤ 75%
75% ≤ P1 ≤ 100%
100%
75%
50%
25%
ALARM STATUS
Blocked
Supply voltage low
Electrical error
LOCK
> 10 s
SETTING SELECTION
SETTING SELECTION



FOUT	DISPLAY	OPLOSSING



Mounting video Grundfos UPM3

Wilo Yonos Para HU 26/6 Manual

Names of symbols


Differential pressure control

Air bleed routine


Differential pressure control

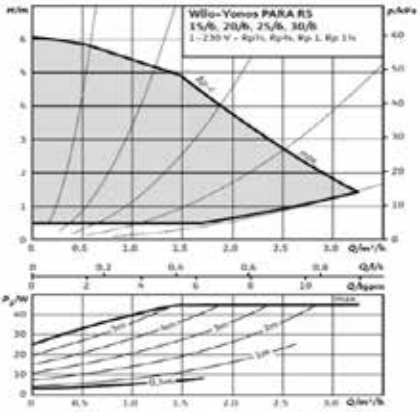
1. Explanation of symbols

Differential pressure constant (Δp-c)
The differential pressure required is kept constant at the set differential pressure within the set flow range until the maximum characteristic pressure. Wilo recommends this type of control for underfloor heating spirals or older heating systems with large-scale piping.

That is, the pump keeps its head constant across the entire rev range. Suppose that the set head is 3mwk at operating point, this will still be the case at Q=m3/h.

Air bleed routine
Before starting to use the system, it is recommended to vent it well. The venting function on the pump can be used for this. When this function is selected, the routine will be started, moving the medium and bringing it back to standstill every time. It ensures that most of the remaining air in the system is led to the automatic air vents.

Differential pressure variable (Δp-v):
The value required for the differential pressure is linearly increased between ½H and H within the permitted flow range. The differential pressure generated by the pump is controlled at the required value set for the differential pressure. This type of controller is specifically used for heating systems with radiators, as it reduces the flow generated noise in the thermostatic valves. **Wilo does not recommend this type of controller for underfloor heating spirals.**



That is, the pump changes its head which is set at Q=0m3/h back to half of the set value. I.e. the set head is 3mwk. At Q=0m/3, the pump will have changed it back to 1,5mwk. As the resistance in an underfloor heating system does not, or hardly changes when the groups start to clog (as the groups are parallel), the pump will no longer generate enough head at a certain point (when the groups are starting to clog) to let the water flow through the pipes.

LED colour	Meaning	Action	Cause	Solution
Continuously green	Pump is running normal.			
Blinking green	Venting routine is active.	Pump is running for 10 min when in venting routine mode. Afterwards, the pump must be set at the required operating point.		
Blinking red/green	Abnormal situation. The pump is operational but is in safety mode.	Pump will restart automatically when the circumstances are back to normal.	1. Incorrect voltage (U<160V or U>280V). 2. Overheating: engine temperature is too high.	1. Check the power supply 2. Check the water and ambient temperature.
Blinking red	Pump has stopped.	Reset the pump. Check the LED signal.	Pump cannot restart itself.	Replace the pump.
No LED	No power.		1) Pump is not connected to the mains. 2) LED is damaged. 3) Electronics are damaged.	1) Check the supply cable. 2) Check if the pump is running. 3) Replace the pump.

EU/EG KONFORMITÄTSERKLÄRUNG
DECLARATION DE CONFORMITE UE/CE
EU/EC DECLARATION OF CONFORMITY

Als Hersteller erklären wir hiermit, dass die Nassläufer-Umwälzpumpen der Baureihen
Nous, fabricant, déclarons que les types de circulateurs des séries
We, the manufacturer, declare that these glandless circulating pump types of the series

Yonos PARA **xx/4-***
Yonos PARA **xx/6-***
Yonos PARA **xx/7-***
Yonos PARA **xx/7.5-***
Yonos PARA **xx/13-***
Yonos PARA **xx/6B-WM
Yonos PARA **xx/7B-***
Yonos PARA **xx/7.5B-***
Yonos PARA RSTG xx/7.5-***

(Die Seriennummer ist auf dem Typenschild des Produktes angegeben / Le numéro de série est inscrit sur la plaque signalétique du produit / The serial number is marked on the product site plate)

in der gelieferten Ausführung folgenden einschlägigen Bestimmungen entsprechend :
dans leur état de livraison sont conformes aux dispositions des directives suivantes :
In their delivered state comply with the following relevant directives :

_ Niederspannungsrichtlinie 2014/35/EU ab 20 April 2016
_ *Basse tension 2014/35/UE à partir du 20 avril 2016*
_ *Low voltage 2014/35/EU from April 20th 2016*

_ Elektromagnetische Verträglichkeit-Richtlinie 2014/30/EU ab 20 April 2016
_ *Compabilité électromagnétique 2014/30/EU à partir du 20 avril 2016*
_ *Electromagnetic compatibility 2014/30/EU from April 20th 2016*

_ Richtlinie energieverbrauchsrelevanter Produkte 2009/125/EG
_ *Produits liés à l'énergie 2009/125/CE*
_ *Energy-related products 2009/125/EC*
Nach den Ökodesign-Anforderungen der Verordnung 641/2009 für Nassläufer-Umwälzpumpen , die durch die Verordnung 622/2012 geändert wird
suivant les exigences d'éco-conception du règlement 641/2009 pour les circulateurs, amendé par le règlement 622/2012
This applies according to eco-design requirements of the regulation 641/2009 for glandless circulators amended by the regulation 622/2012

und entsprechender nationaler Gesetzgebung,
et aux législations nationales les transposant,
and with the relevant national legislation,

sowie auch den Bestimmungen zu folgenden harmonisierten europäischen Normen :
sont également conformes aux dispositions des normes européennes harmonisées suivantes :
comply also with the following relevant harmonized European standards :

EN 60335-2-51	**EN 16297-1**	**EN 16297-3**	**EN 61000-6-1:2007** **EN 61000-6-2:2005** **EN 61000-6-3+A1:2011** **EN 61000-6-4+A1:2011**

Aubigny-sur-Nère, 19 April 2016

S. BORDIER
Quality Manager

N°4212908.01 *(CE-A-S n°4529427)*

wilo

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18700 AUBIGNY SUR NERE
France

Original-erklärung / Déclaration originale / Original declaration

F_GQ_013-16

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