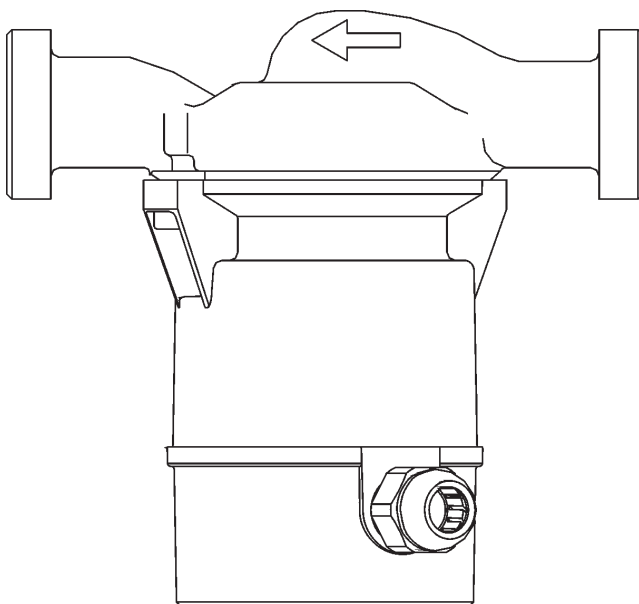


Installation manual Laing heating pumps

Series S4
Series S5
Series S6



LAING

einfach · gut · aus prinzip

Application of Laing heating circulators

Circulation of water in heating systems with

- Oil boilers
- Gas boilers
- Solid fuel boilers

Performance range in radiator systems

- Starting with one- and two-room appartments
- up to single and multi family houses with up to 50 kW or 500 m² (=540 sq ft) heated surface

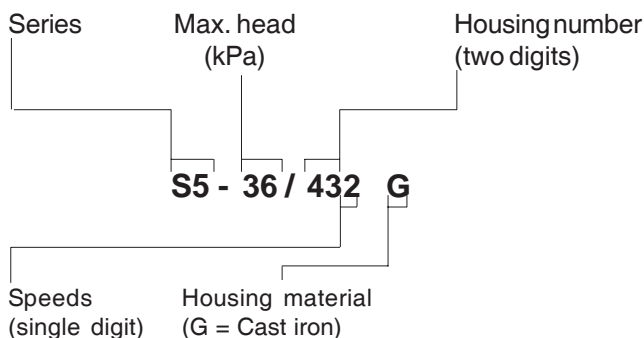
Performance range in floor heating systems

- up to approx. 200 m² (=2150 sq ft) surface

Available models

- The models are distinguished by letters and numbers in the model designation
- There are three basic models:
 - S4 25 W motor power
 - S5 35 W motor power
 - S6 45 W motor power
- The pumps are available with two-speed switch or with single speed
- All pumps have a cast iron housing with male threads for union connections

Model designation



Installation manual Laing heating pumps

Range

Model	Part number	1 1/2" male for union fitting RG 1"	2" male for union fitting RG 1 1/4"	Pump housing length 180 mm	Pump housing length 130 mm	Product category
S4-36/360 G	20 00 221	●		●		C
S4-36/370 G	20 00 222		●	●		C
S4-36/350 G	20 00 220	●			●	C
S5-36/362 G	20 00 301	●		●		C
S5-36/372 G	20 00 302		●	●		C
S5-36/352 G	20 00 300	●			●	C
S5-58/362 G	20 00 401	●		●		C
S5-58/372 G	20 00 402		●	●		C
S5-58/352 G	20 00 400	●			●	C
S6-36/362 G	20 00 501	●		●		C
S6-36/372 G	20 00 502		●	●		C
S6-36/352 G	20 00 500	●			●	C
S6-61/362 G	20 00 601	●		●		C
S6-61/372 G	20 00 602		●	●		C
S6-61/352 G	20 00 600	●			●	C

Model	Part number	Accessories, components and spare parts for heating circulators	Product category
RG 1"	9500015	2 pieces 1" half union grey cast iron (1 1/2" female x 1" female)	C
RG 1 1/4"	9500016	2 pieces 1 1/4" half union grey cast iron (2" female x 1 1/4" female)	C
F17	9500797	Rotor for series S4 - 36 / 350 + 360 + 370 G, incl.gasket	C
F15	9500795	Rotor for series S5 - 36 / 352 + 362 + 372 G, incl.gasket	C
F05	9500785	Rotor for series S5 - 58 / 352 + 362 + 372 G, incl.gasket	C
F08	9500788	Rotor for series S6 - 36 / 352 + 362 + 372 G, incl.gasket	C
F09	9500789	Rotor for series S6 - 61 / 352 + 362 + 372 G, incl.gasket	C

Please order unions separately

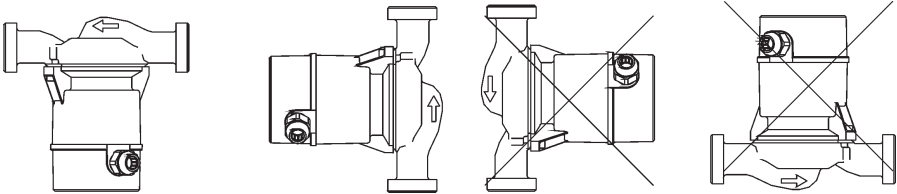
Installation manual Laing heating pumps

Design

- Spherical motor without shaft - no locked motors
- Spherical bearing - long term quiet operation
- Stainless steel enclosed rotor - no corrosion in the rotor area
- Stainless steel insert in pump housing - no corrosion in impeller area
- Several models available - can be adapted to the actual system requirements

Pump installation

Installation positions



Preparation

- Flush the system before installation to remove dirt

Installation

- Observe the permitted installation positions
- Install the unions on the pipe ends (must be ordered separately - if necessary)
- If replacing a failed pump, verify that the unions are of the proper dimensions
- **Important:** always use new gaskets (included), even in replacement installations
- Place the pump between the unions and tighten them

Installation manual Laing heating pumps

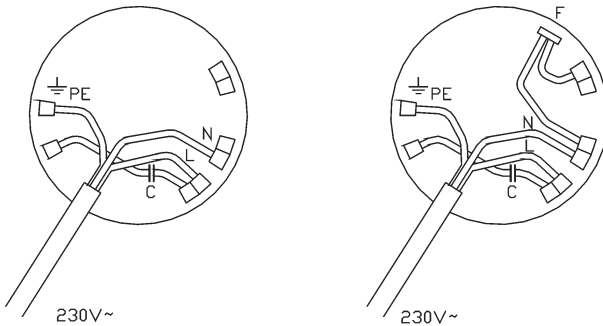
Electrical connection



Important remark: Electrical installations may only be performed by a properly licensed electrician observing all applicable general and local codes

- Laing heating circulators have a single phase motor
- No motor protector is required
- Remove the end cap carefully from single speed pumps because it contains the capacitor
- Wire the pump accordance with the wiring diagram
- Route the power cord through the strain relief clamp and connect the individual leads
- With models containing the strain relief in the end cap, gently pull on the cord after end cap installation before tightening the strain relief
- If the system is not filled with water yet, reduce the time of a function test to an absolute minimum. Extended dry operation of the pump will damage the bearing!

Wiring diagram



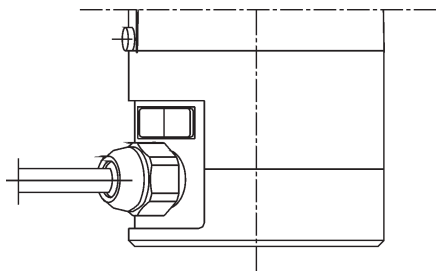
Installation manual Laing heating pumps

Startup

- Make sure the system is filled and the air has been urged
- Open the isolation valves and all other valves which were closed for the pump installation
- Set two speed pumps in high speed
- Switch the pump on
- If you hear air noises initially, these should abate after a short while
- Power cycling the pump several times accelerates the air removal
- If the air noise does not disappear or at least decrease substantially, reurge the system
- In new systems keep the pump on high speed for a few days to facilitate removing residual air
- Once the system is running normally, select the proper pump speed

Speed switch

- Pump models with a „2“ in the model designation have a speed switch for adjustment of the pump speed
- In the position „II“ the pump will run at high speed
- In the position „I“ the pump reverses its rotation and decreases its performance. Choose this speed if the high speed causes flow noises in the heating system. Naturally, this is only possible if the reduced performance is sufficient for the system.

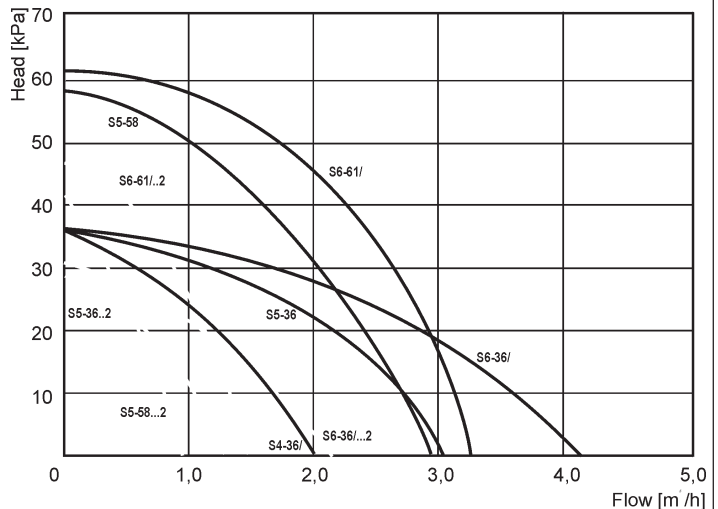


Technical data

Maximum system pressure	10 bar	
Maximum system temperature	110 °C	
Voltage	230V, 1N	
Power consumption	Step II (High speed)	Step I (Low speed)
S4 series		0,30 A/ 65 W
S5-36 series	0,47 A/ 95 W	0,35 A/ 65 W
S5-58 series	0,53 A/ 109 W	0,40 A/ 80 W
S6 series	0,60 A/ 130 W	0,55 A/ 115 W


Installation manual Laing heating pumps

Performance curves




Pump replacement

Pump deinstallation:

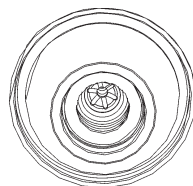
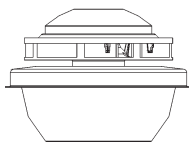
- Stop the heating system and remove power from the pump
- Have the power disconnected from the pump
(Note: Must be done by properly licensed Electrician) 
- Shut the isolation valves. If there are no isolation valves, drain the system to a level below the pump
- Open the unions. Make sure to properly hold the pipes while doing so to avoid damage or leakage.

Pump installation

- **Important:** Use the new gaskets included with the pump 
- Check the seal surface of the unions. The seal surfaces need to be clean for proper sealing
- Put the pump between the unions and tighten these. Again make sure to hold the pipes to avoid damage.
- Have the new pump connected electrically by Electrician.
- Open the isolation valves. If the system was partially drained, refill and purge the system. The purging can be accelerated by repeated power cycling of the pump

Rotor exchange

With Laing spherical motor pumps, the rotor of a pump can easily be exchanged which often renders a complete pump replacement unnecessary.




Rotor removal

- Stop the heating system and remove power from the pump
- Shut the isolation valves. If there are no isolation valves, drain the system to a level below the pump
- Remove the two Allen head screws with a 5mm Allen wrench
- **Carefully** remove the motor from the pump housing, lowering the motor end to avoid dropping the rotor
- **Caution!** A small amount of water will drip out

Rotor inspection

- Place the motor on the end cap side and carefully lift out the rotor
- If the rotor shows scratches at the bottom part, the bearing is worn. Replace the rotor against a new one which is available as a spare part.
- Clean the rotor area, if necessary, in the following areas:
 - In the impeller area and on the surface of the rotor: Take care not to bend the loose separating sheet between rotor and impeller.
 - In the bearing area: This is the center of the rotor on the side opposite to the impeller.
 - In the stator and bearing ball area: Use only a cleaning cloth, no sand paper or similar tools. Take care to clean the gasket area.

Rotor installation

- Clean the gasket carefully 
- Place the rotor in the stator. **Attention:** First place the rotor and then the gasket
- Clean the gasket seat in the pump housing carefully
- Place the motor on the pump housing, making sure to avoid dropping the rotor
- Tighten the stator with the two Allen head screws
- Open the isolation valves. If the system was partially drained, refill and purge the system. The purging can be accelerated by repeated power cycling of the pump

Installation manual Laing heating pumps

Problems

- | | |
|------------------|--|
| Pump doesn't run | <ul style="list-style-type: none">• Is the pump wired correctly?• Does the pump have power applied? |
| Loud flow noises | <ul style="list-style-type: none">• The system has not been purged correctly.
Re-purge the system |
| Rotor is locked | <ul style="list-style-type: none">• Gently tap the pump with your hand to free the rotor if it is blocked by small dirt particles. If this is unsuccessful, open the pump as described under „rotor exchange“ or replace pump. |

Declaration of conformity

The Laing heating circulators conform to the following standards:

Manufacturer:	Laing Szivattyú Kft.	
Adress:	H 2700 Cegléd, Külső-Kátai út	
Series:	Laing eating circulators S4-36/360 G; S4-36/350 G; S4-36/370 G; S5-36/352 G; S5-36/362 G; S5-36/372 G; S5-36/360 G; S5-58/352 G, S5-58/384 G; S5-58/362 G; S5-58/365 GF; S5-58/372 G, S5-58/360 G; S6-36/352 G; S6-36/372 G; S6-36/360 G; S6-61/352 G; ;S6-61/384 G; S6-61/362 G; S6-61/360 G; S6-61/372 G.	
	EN 60335-2-51:1991	MSZEN 60335-1:1996
	EN 61000-3-2:1995	MSZEN 55014:1997
	MEEI: M 0884H038/1998	

About us

Since the 1950s we at Laing have worked in the areas of research, development and production of pumps and heating products. More than 1000 patents worldwide resulted from this work. The original R&D institute located in Southern Germany has over the years evolved into an international company with additional locations in the US, Japan and Hungary and with more than 400 employees. Today, our program consists of:

- Pumps (Shaftless spherical motor pumps)
- Heating controls
- Floor heating system connection
- Electrical heaters
- Special products

We are a flexible and competent partner in the area of pumping and heating.

Contact

If you have any further questions, feel free to contact us:

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Notes

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