

Installation and operation instructions

Thermostatic Pump Group Thermovar LK 810 5/4"



Thermovar LK 810 5/4“ Thermostatic Pump Group

Why to use LK 810

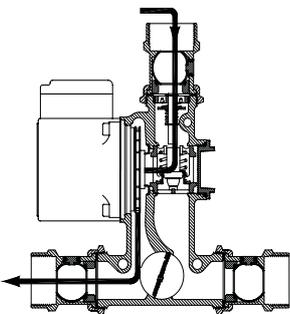
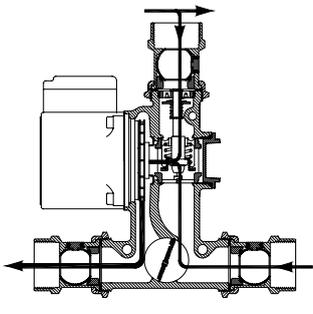
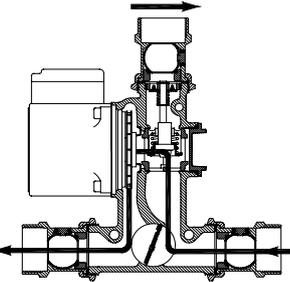
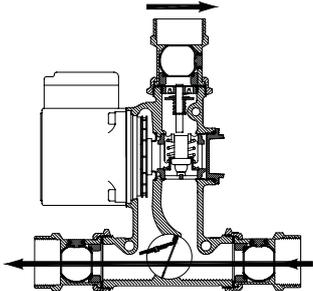
LK 810 is an automatic thermostatic pump group for heating systems with a solid fuel boiler. This unit keeps the minimum temperature of the return line at its nominal value which helps improve combustion efficiency and limits clogging and corrosion of heat-transfer surfaces. This means a longer service life of the boiler.

In case of a power supply or circulation pump failure, LK 810 makes gravity circulation possible.

LK 810 is maintenance-free. Should a defect occur, any part can be substituted without the need of draining the system.

Description and functions of LK 810

The LK 810 unit consists of a thermostatic mixing valve fitted with a thermostatic element with bypass shut-off, a check valve preventing undesired cooling the accumulation tank, a circulation pump, 3 shut-off ball valves and 3 thermometers. The unit is fitted with EPP thermal insulation.

Firing			
<p>During cold firing, when the return water temperature is below the LK 810 nominal temperature, the return line is closed by the thermostatic valve. Heating water circulates to the thermostatic valve via bypass and back to the boiler.</p>		<p>As soon as the nominal temperature is reached, the thermostatic valve starts opening the return line so that a constant nominal temperature is reached for return water by mixing it with water circulating via bypass.</p>	
Operation		Gravity circulation	
<p>As soon as the return water reaches its nominal value, the thermostatic valve opens the return line completely and closes bypass.</p>		<p>In case of a power supply or circulation pump failure the check valve opens and makes possible gravity circulation of heating water.</p>	

Technical data:

Voltage: 230 VAC 50/60 Hz

Nominal temperature 65°C, 55°C and 70°C. 60°C substitution element is available on request.

Max. boiler output: 90 kW with a 55°C element
 (for 85°C flow temperature) 60 kW with a 65°C element
 60 kW with a 65°C element
 45 kW with a 70°C element

Max. working temperature: 110°C

Max. working pressure: 10 bar

Circulation pump: Grundfos UPSO 65 Low Energy

Max. flow rate: 2800 l/h
 Connecting thread: G 5/4" F
 Body: brass EN 12165 CW617N
 Dimensions: 210 x 210 x 110 mm
 Weight: 4.8 kg

Installation

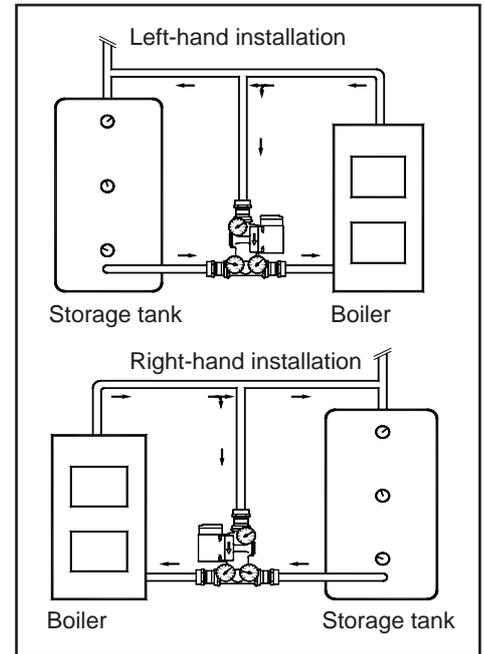
LK 810 shall be installed vertically either on the left or the right side of a boiler. The thermometers shall be pressed into the front-side holes.

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If your boiler is equipped with an integrated flue gas thermostat for circulation pump control, wire the pump so that it is controlled by this thermostat. In case your boiler is not equipped with such a thermostat, it shall be installed separately.

Adjust the thermostat in such a manner that the circulation pump is started together with the boiler firing and turned off shortly after the boiler extinguishes, before the return water temperature falls below the LK 810 nominal value. The remaining hot water will then move through the heating system by gravity circulation.

3 pump speeds are available to match the output of your boiler. Do not forget that a boiler max. output can be higher than the nominal value!



Boiler output	Speed	Consumption	Flow rate	Return line temperature	Boiler temperature
45 kW	Pos. I	65 W	1400 l/h	55°C	85°C
70 kW	Pos. II	78 W	2200 l/h	55°C	85°C
90 kW	Pos. III	95W	2800 l/h	55°C	85°C
35 kW	Pos. I	65 W	1400 l/h	60°C	85°C
60 kW	Pos. II	78 W	2200 l/h	60°C	85°C
75 kW	Pos. III	95W	2800 l/h	60°C	85°C
30 kW	Pos. I	65 W	1400 l/h	65°C	85°C
50 kW	Pos. II	78 W	2200 l/h	65°C	85°C
60 kW	Pos. III	95W	2800 l/h	65°C	85°C

Always respect valid rules and boiler manufacturer instructions during installation.

Maintenance and repairs

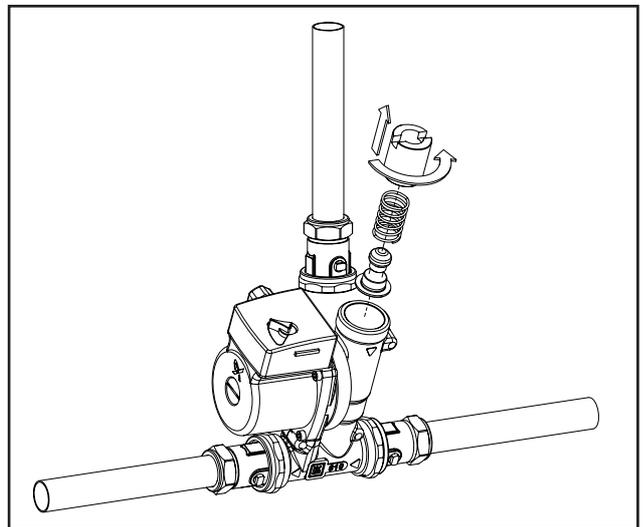
LK 810 is maintenance-free. Should a defect occur, any part can be removed or substituted without the need of draining the system.

Thermostatic element replacement

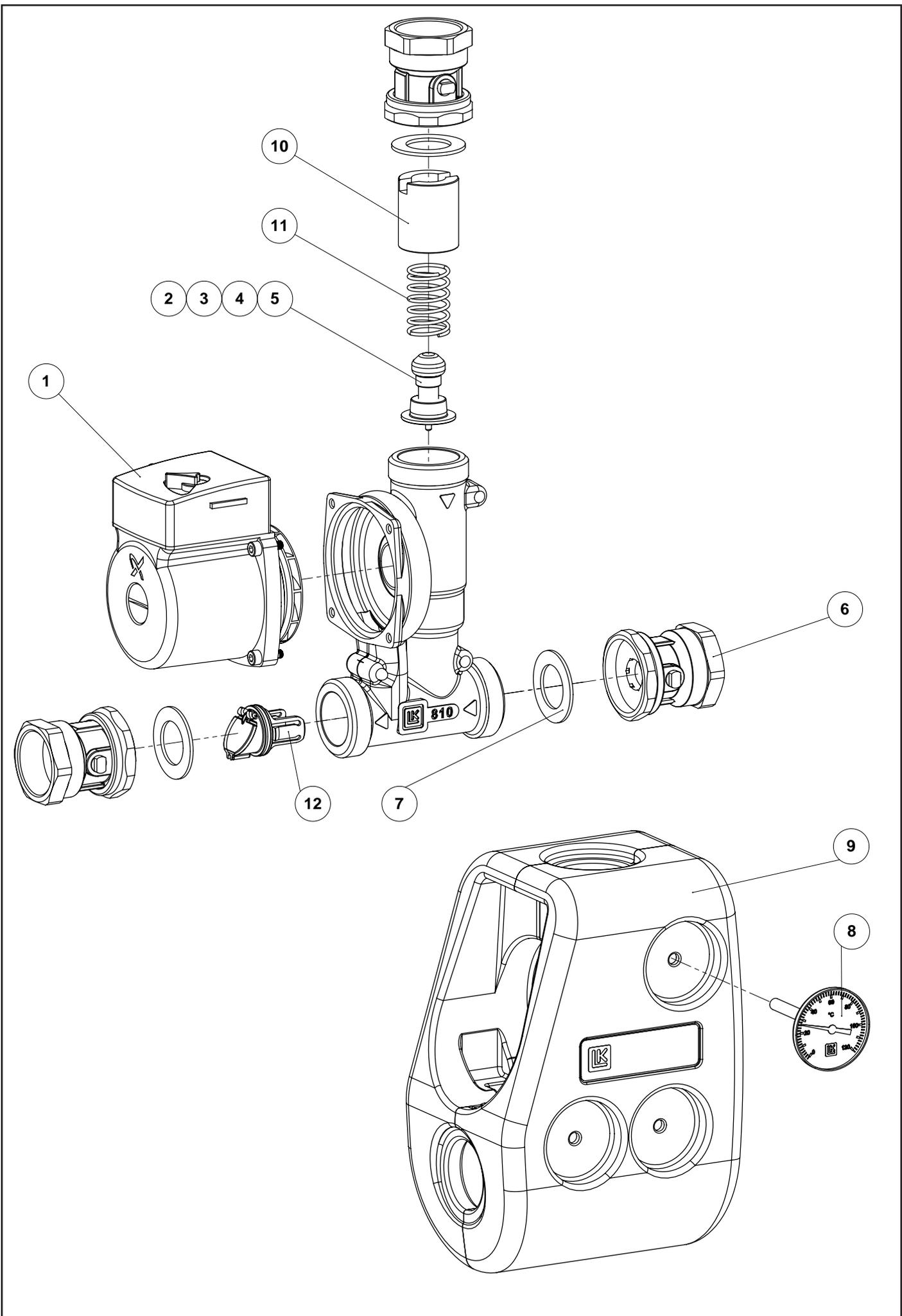
- switch off the pump
- close all 3 ball valves
- unscrew the upper ball valve from the unit
- release the remaining 2 ball valves
- tilt the unit forwards
- unscrew the cover of the thermostatic element
- replace the thermostatic element

Having replaced a thermostatic element, open all 3 ball valves and start the pump. Deareate the heating system.

List of spare parts



Pos.	Order code	Description
1	10559	pump Grundfos UPSO 65
2	10545	55°C thermostatic element
3	10546	60°C thermostatic element
4	10548	65°C thermostatic element
5	10549	70°C thermostatic element
6	10552	Ball valve with 5/4" F connection thread
7	10553	EPDM gasket 37,77x2,62 mm
8	10554	Thermometer 120°C
9	10555	EPP thermal insulation EPP
10	10556	Thermostatic element cover
11	10557	Spring
12	10558	Check valve



WARRANTY CERTIFICATE

THERMOSTATIC PUMP GROUP

Thermovar LK 810 5/4"

Sold by: Date of purchase:

WARRANTY CONDITIONS

1. The warranty period is 24 months from the date of purchase.
2. The product shall be installed and commissioned by an authorized person/company.
3. When claiming warranty, this Warranty Certificate must be submitted together with the purchase receipt.
4. The warranty is valid only when the technical conditions set by the Manufacturer, installation manual and instructions in the documentation and on the product itself are maintained.
5. The warranty does not cover defects caused by external conditions or improper working conditions, defects caused by usual wear and tear, further when the product is not used in compliance with its purpose and when the defect was caused by mechanical damage to the product, improper handling, tampering by a third person, improper installation, improper stocking, natural disaster etc.

COMMISSIONING

Company:

Date:

Rubber stamp print and signature of the installer:

12/2010



REGULUS spol. s r.o., Czech Republic

Do Koutů 1897/3
143 00 Praha 4

<http://www.regulus.eu>
E-mail: sales@regulus.cz