

LK 810 ThermoMat G



TECHNICAL DATA

Voltage	115 VAC 60 Hz
Power consumption	65-95 W depending on pump speed
Max. boiler capacity	307260 BTU at 86°F ΔT
Return temperatures	131°F, 140°F, 149°F or 158°F
Working temperature	Min. +41°F/Max. +230°F
Ambient temperature	Min. +41°F/Max. +140°F
Max. working pressure	145 psi
Max. flow	12.3 US GPM
Media	Water - Glycol mixture max. 50%
Circulating pump	Grundfos UPSO 65 Low Energy
Material, valve body	Brass EN 1982 CB752S
Material, insulation	Expanded Polypropylene EPP

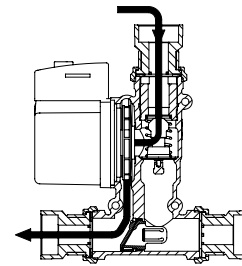
LK 810 ThermoMat G is a loading unit for heating applications with solid fuel boilers and storage tanks. The loading unit is intended to ensure a high return temperature as well as an optimal temperature stratification in the storage tank, thus increasing the efficiency of the system. Tarring and condensation are prevented which prolongs boiler life.

The LK 810 ThermoMat G is a compact design that has an integrated circulating pump and a thermic loading valve that regulates on two ports. The loading unit also has three ball valves to simplify installation and maintenance, three thermometers that allow for simple control of the loading process and an insulation to minimize heat loss. The loading unit is available in two versions - with or without check valve. With a check valve the functions described under phase 4 will be obtained.

LK 810 ThermoMat G is installed in the return circuit between the solid fuel boiler and the storage tank. The unit should be mounted upright with the drive-shaft of the circulating pump in a horizontal position. The loading unit is reversible and can easily be adapted for mounting to the right or left of the boiler.

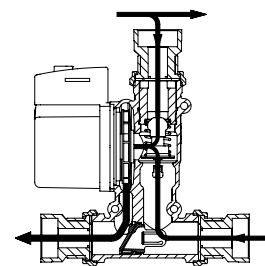
The loading unit normally requires no maintenance. The installation should be checked regularly. Thanks to the three ball valves any part can be changed without draining the system, should the need for servicing arise.

The function of the loading unit during the different phases of heating:



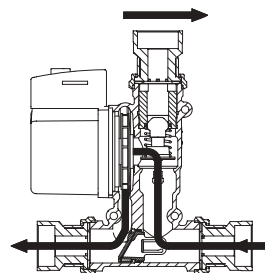
1. HEATING PHASE

The water circulates between boiler and loading unit while the temperature of the boiler is rising.



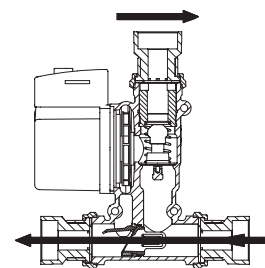
2. LOADING PHASE

The thermostatic element starts to open and allows return water from the storage tank to be mixed with supply water before it returns to the boiler. The return temperature to the boiler is kept constant.



3. END PHASE

The thermostatic element is fully open and the bypass is closed. This results in an optimal transfer of heat from the boiler and the storage tank is filled with supply water.



4. SELF-CIRCULATION WITH CHECK VALVE

Self-circulation will be obtained as soon as the fire has gone out and the circulating pump has stopped. The remaining hot water is loaded to the storage tank. In case of power failure or pump breakdown the check valve automatically opens to allow self-circulation. The check valve also stops recirculation from storage tank to boiler.