

# Heating and Cooling Unit

# TT-510 X

For temperatures from +80° C up to +300° C

Heating performance 96 kW

## With electronic flow control

Operational use: Rollers, plates, double walled containers and other heavy duty use.

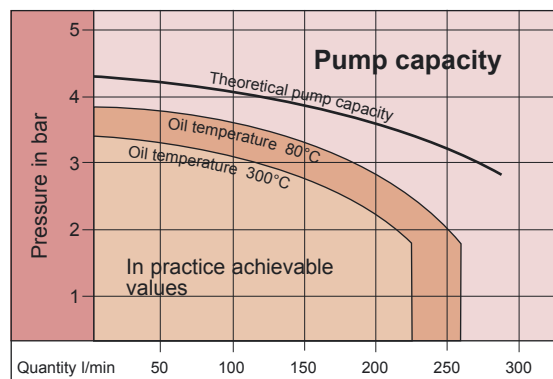
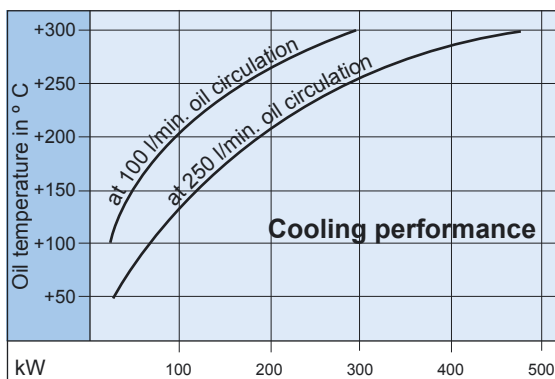


## Features include

- Digital flow indication with control of the minimum flow - switchable l/min, Imperial gal/min, US gal/min.
- Self-optimizing temperature controller unit with digital display of the set and actual temperature. With high precision regulation in  $1/10^{\circ}$  range. Can be adjusted to indicate °C or °F.
- Automatic temperature control - difference between set and actual temperature activates an alarm.
- Large expansion tank, with 100 l expansion volume.
- Lime scale free heat exchanger made of stainless steel.
- Low loaded heating elements – no oil cracking.
- Safety devices:
  - Automatic level control for dry run protection.
  - Separate mechanical safety thermostat and electronic temperature limiter installed in the controller.
  - Main switch, automatic cutouts, transformer and motor protection switch.
- Alarm in case of unit failure.

Closed hot oil circuit with integral cold oil receiver in a large expansion tank. Oil cracking is impossible. Long life expectancy of the oil, due to low watt density heating elements and a high flow rate. A drip pan under the expansion tank prevents the unit from getting dirty if it is filled incorrectly. This model is designed for highest temperatures and optimum safety.

Cooling water use 110 l/min



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## Technical data

<b>Temperature range</b>	from 80°C to 300°C with Marlotherm SH up to 300°C, with thermal oil up to 250°C.
<b>Heating capacity</b>	<b>96 kW, switchable in stages 16/16/16/16/16/16 kW.</b> Automatic shut down of the heating capacity which is not required.
<b>Temperature control</b>	Self-optimizing, electronic microprocessor controller with digital display of the set and actual values and the oil flow.
<b>Flow control</b>	Electronic with digital display
<b>Cooling capacity</b>	Max. 480 kW – see diagram
<b>Cooling water use</b>	110 l/min (minimum 40 l/min, there will be a reduction in cooling capacity)
<b>Pump capacity</b>	Max. 4 bar / Max. 260 l/min – see diagram Motor 4 kW
<b>Filling amount</b>	120 litres
<b>Expansion tank</b>	Installed in the unit, content 130 litres. Expansion and return volume approx. 100 litres.
<b>Connections</b>	
<i>Oil circuit</i>	Flange connection DN 32 flange-outside $\varnothing$ 140 mm, with 4 holes $\varnothing$ 18 mm on a screw hole circle of 100 mm, recommended sealing: 80 x 42 x 2 mm
<i>Cooling water circuit</i>	1½" female thread
<b>Dimensions</b>	Length: 2'200 mm Width: 1'300 mm Height: 1'950 mm
<b>Colour</b>	Silver grey RAL 7001

## Electronic temperature controller MP-888

The electronic controller can be adjusted to indicate °C or °F. The analogue interfaces 0 – 5 V, 0 – 10 V and 4 – 20 mA are standard included in the controller – there is **no additional price** for them.

The self-optimizing feature on this controller allows a very high regulating accuracy even at high temperatures and adheres to the set temperatures independently of the consumer.



Set temperature (required temperature)  
Adjustable in  $1/10^\circ$  range

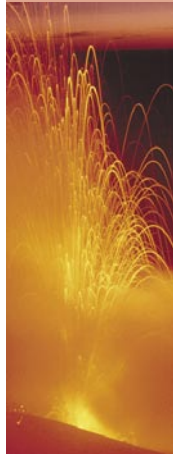
Actual temperature (effective temperature) displayed in  $1/10^\circ$  range

Indication of flow rate in different units, possible are litres per minute with  $1/10$  litres display. Switchable from English to American gallons. As soon as the flow falls below a minimum, the alarm is activated.

### Flow control with automatic or manual pre-adjusted mode:

Automatic: The electronic flow control measures the actual flow, generates automatically a minimum flow and as soon as the flow falls below this value, the alarm will be activated.

Manual: The minimum flow can be adjusted manually. As soon as the flow falls below this value, the alarm will be activated.



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