# Heating and Cooling Unit

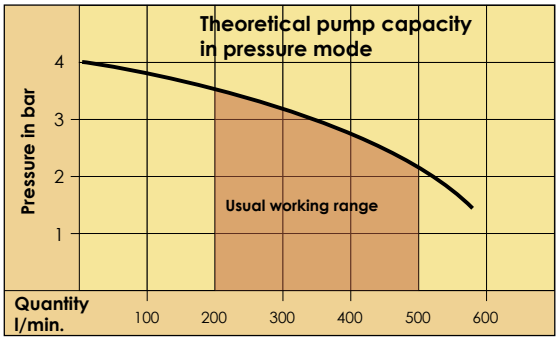
# TT-708 Y

**For Rollers, plates, and other heavy duty use**

**Temperature range 80°C up to 300°C  Heating capacity 72 kW or 144 kW**

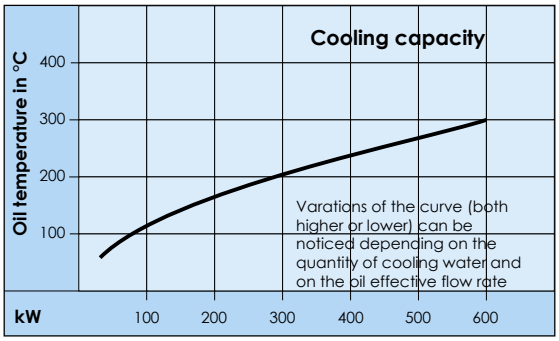
## Features include

- Digital flow indication with control of the minimum flow
- Automatic temperature control - difference between set and actual temperature activates an alarm.
- Self-optimizing temperature controller unit with digital display of the set and actual temperature. With high precision regulation in 1/10° range. Can be adjusted to indicate °C or °F.
- Heating with automatic cascade connection
- Lime scale free heat exchanger made of stainless steel
- Safety devices: level control for too much and not enough oil content, several safety thermostats, automatic outputs, transformer, main switch, motor protection switch.
- Horn in case of failure.
- All failures are in addition shown visually
- Option: a collection tank to place under the unit can be delivered in addition.




## Operating principle

Closed hot oil circuit with 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.




## Heat exchanger

The lime scale free heat exchanger is a special construction made of stainless steel and is also produced by TOOL-TEMP. The possibility to dismantle the heat exchanger grants fast and easy cleaning, although this will not be necessary during the first operating years.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## Technical data

Two different models are manufactured

| | | |
|---|---|---|
| **Heating capacity** | **72 kW** | **144 kW** |
| *Stufenschaltung* | 16/16/16/8/8/8 | 32/32/32/16/16/16 |
| **Temperature range** | from 250°C until 300°C with synthetic heat transfer liquid<br>from 80°C until 250°C with mineral heat transfer oil | |
| **Temperature control** | Self-optimizing, electronic microprocessor controller with digital display of the set and actual values and the oil flow.<br>Automatic shut down of the heating capacity which is not required<br>Automatic temperature control | |
| **Flow control** | Electronic with digital display and automatic control of the minimum flow | |
| **Pump capacity** | approx. 200 - 500 l/min. - see diagramm of pump capacity | |
| **Motor** | 7,5 kW with star-delta start | |
| **Cooling capacity** | approx. 600 kW - see diagramm of cooling capacity | |
| **Filling amount** | 100 l | 200 l |
| **Expansion tank** | 130 l | 130 l |
| **Expansion volume** | approx. 100 l | approx. 100 l |
| **Colour** | Silver grey RAL 7001 | |
| **Dimensions** | Length: 2'130 mm x Width: 1300 mm x Height: 1'960 mm | |
| **Connections** | | |
| *Oil circuit* | Flange connection DN 50<br>Flange outside ø 165 mm, with 4 holes ø 18 mm on a screw hole circle of 125 mm<br>Recommended sealing: 100 x 60 x 2 mm | |
| *Cooling water circuit* | 1½" female thread<br>Required water pressure 1,5 - 4 bar | 1½" female thread |
| **Weight (empty)** | approx. 1'100 kg | approx. 1'270 kg |

## 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**

The self-optimizing microprocessor temperature controller MP-888 is part of the standard equipment of all TOOL-TEMP Temperature Control Units. The self-optimizing feature allows a very high regulating accuracy even at high temperatures and adheres to the set temperatures independently of the weight of the consumer.


Set temperature (required temperature)
Adjustable in $^{1}/_{10}$° range

Actual temperature (effective temperature) displayed in $^{1}/_{10}$° 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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