Temperature Control Unit

TT-188
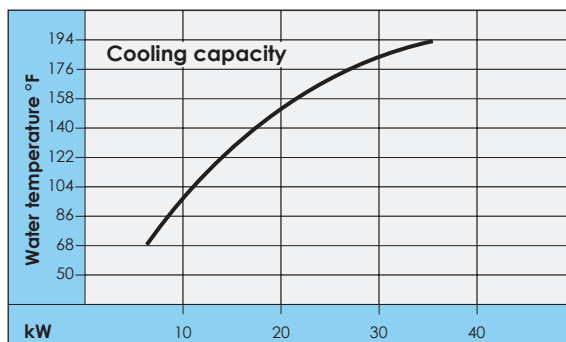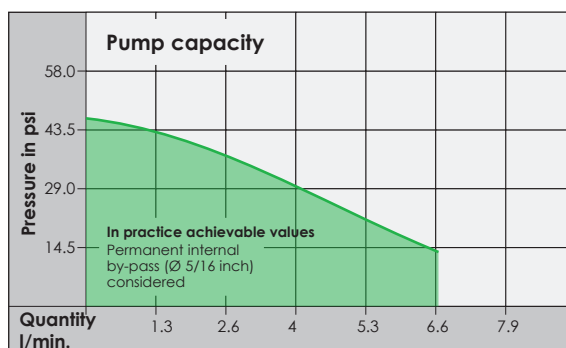
Universal small temperature control unit with remarkable cost/performance ratio

Operational use: with water up to **194°F**   mould weight up to **1322 lb**
with oil   up to **302°F**   mould weight up to   **661 lb**

Features included

- Self-optimizing temperature controller with digital display of the set and actual temperature. With high precision regulation in $^1/_{10}°$ range; can be adjusted to read °C or °F.

- Automatic temperature control - difference between set and actual temperature activates an alarm.

- Submersible seal less pump manufactured from bronze.

- Pressure is indicated by manometer.

- Automatic or manual refill.

- Lime scale free heat exchanger.

- Corrosion resistant unit (longevity).

- All components in contact with water are made of corrosion resistant stainless steel or bronze.

- Heating switchable in stages.

- Safety devices:
  - Level control for dry run protection.
  - Electronic temperature limiter in the controller and separate mechanical safety thermostat.
  - Main switch, transformer and motor protection switch.
  - Horn in case of failure.

- All failures are visually indicated.

- Unit on castors.

Pump capacity

Pressure in psi: 58.0, 43.5, 29.0, 14.5

In practice achievable values
Permanent internal by-pass (Ø 5/16 inch) considered

Quantity l/min.: 1.3   2.6   4   5.3   6.6   7.9

Cooling capacity

Water temperature °F: 194, 176, 158, 140, 122, 104, 86, 68, 50

kW: 10   20   30   40

TOOL-TEMP®

Technical Data

Temperature range	with water up to 194°F	with oil up to 302°F
Temperature control	self-optimizing, electronic microprocessor controller MP-888 with digital display of the set and actual value. Automatic temperature monitoring.	
Heating capacity *Switchable in stages*	**9 kW water operation** 3 / 6	**3 kW oil operation** none
Cooling capacity	35 kW at 194°F - see diagram	
Pump capacity *Pressure mode* Vacuum mode	motor 1 hp max. 58 psi / max. 15.85 gal/min. vacuum max. 8 mH$_2$O	
Filling amount	min. 1,3 gallons, max. 1,9 gallons	
Connections *Medium* *Cooling water*	 ½" NPT female thread ⅜" NPT male thread, inlet with water filter ⅜" NPT female thread	
Dimensions (L×W×H)	26,4 × 10,2 × 25,6 inches, incl. castors	
Weight	approx. 121,3 lb empty	
Colour	silvergrey RAL 7001	

All possible voltages are available from 3 x 200 V to 3 x 600 V and 50/60 Hz. For the USA market the units are equipped with NPT-thread connections and the controller is adjusted to indicate °F.

Electronic temperature controllers

The electronic controllers MP-888 and MP-988 can be operated to read °C or °F. The analog interfaces 0-5 V, 0-10 V and 4-20 mA are standard included in the controllers - **without additional costs**.

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

Flow control:
The indication of the flow rate is possible in litres or gallons per minute. As soon as the flow falls below a minimum, the alarm is activated.
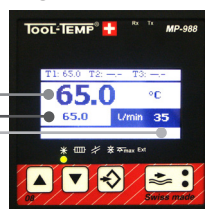
Standard controller MP-888

Set temperature (required temperature)

Actual temperature (effective temperature)

Indication of the flow

Analog interfaces
- 0 - 5 V, 0 - 10 V, 4 - 20 mA

Digital interface controller MP-988 (Optional)

Digital interface
- RS-485, RS-232, Current Loop 20 mA, CAN-bus, Profibus
- Incl. all existing machine protocols

Temperature difference monitoring

Indication of up to three temperatures

Analog interfaces
- 0 - 5 V, 0 - 10 V, 4 - 20 mA