

# Temperature Control Unit

# TT-168

Powerful temperature control unit for exigent injection moulders

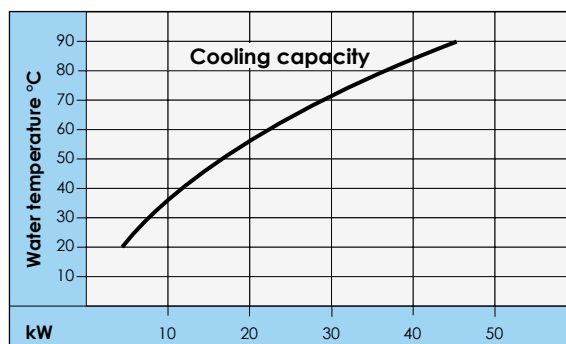
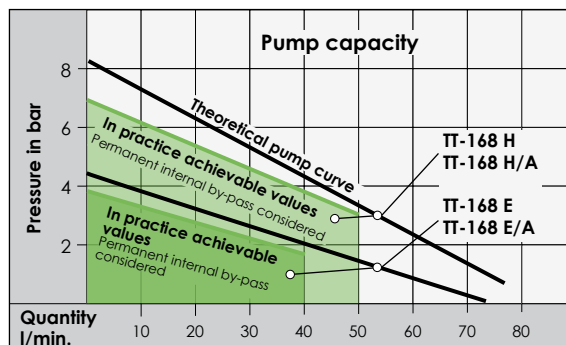
Operational use:

TT-168 E, TT-168 H	with water up to 90°C	mould weight up to 1'200 kg
	with oil up to 150°C	mould weight up to 600 kg
TT-168 E/A, TT-168 H/A	with water up to 90°C	mould weight up to 1'800 kg



## 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.



## Particularities

- Digital flow indication with control of the minimum flow.
- Reversing switch for temperature regulation at the mould.
- Automatic mould drain.
- Time-limited water refill.
- Leakstopper device – unit can be used in pressure or vacuum mode. No medium is lost at leaking tools, therefore ensuring continued production.
- Optional with digital interface controller MP-988.



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## Technical data:

There are 4 different models available

	TT-168 E	TT-168 H	TT-168 E/A	TT-168 H/A
<b>Temperature range</b>				
Water	up to 90°C	up to 90°C	up to 90°C	up to 90°C
Oil	up to 150°C	up to 150°C	-	-
<b>Temperature control</b>	self-optimizing, electronic microprocessor controller MP-888 with digital display of the set and actual value. Automatic temperature monitoring.			
<b>Flow control</b>	electronically, with digital display and automatic control of the minimum flow.			
<b>Heating capacity (water)</b>	<b>12 kW</b>	<b>12 kW</b>	<b>18 kW</b>	<b>18 kW</b>
Switchable in stages	3 / 9	3 / 9	9 / 9	9 / 9
<b>Heating capacity (oil)</b>	<b>6 kW</b>	<b>6 kW</b>	not suitable for oil operation	
Switchable in stages	3 / 3	3 / 3		
<b>Cooling capacity</b>	45 kW at 90°C - see diagram			
<b>Pump capacity</b>	motor 0,75 kW	1,5 kW	0,75 kW	1,5 kW
Pressure mode	max. 4,5 bar	max. 8,0 bar	max. 4,5 bar	max. 8,0 bar
	max. 75 l/min	max. 75 l/min	max. 75 l/min	max. 75 l/min
Vacuum mode	vacuum max. 8 mH <sub>2</sub> O			
<b>Content of unit</b>	min. 16 litres, max. 20 litres			
<b>Connections</b>				
Medium	1/2" BSP female thread			
Cooling water	3/8" BSP male thread, inlet with water filter 3/8" BSP female thread			
<b>Dimensions (L×W×H)</b>	710 × 325 × 785 mm, incl. castors and handles			
<b>Weight</b>	approx. 67 kg empty			
<b>Colour</b>	silvergrey RAL 7001			

All possible voltages are available from 3 x 200 V to 3 x 600 V and 50/60 Hz. The units are available conform to UL/CSA specifications. 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



#### Analog interfaces

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

### Digital interface controller MP-988 (Optional)



#### Analog interfaces

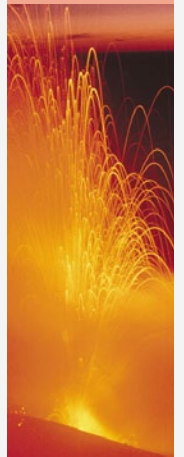
- 0 - 5 V, 0 - 10 V, 4 - 20 mA

#### 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



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