

Temperature Control Unit

TT-168

Powerful temperature control unit for exigent injection moulders

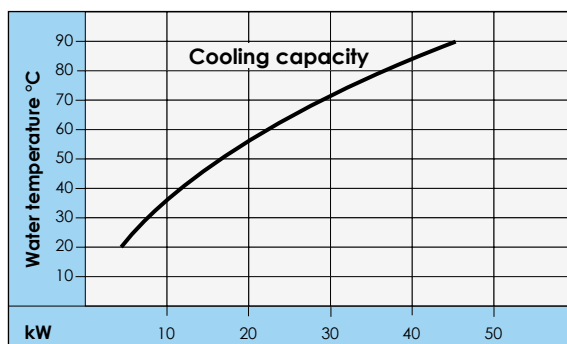
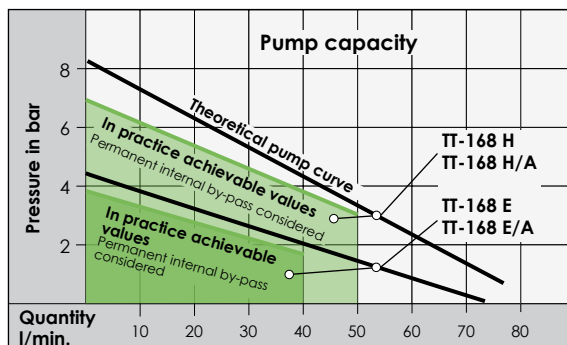
Operational use:

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
Temperature range				
<i>Water</i>	up to 90°C	up to 90°C	up to 90°C	up to 90°C
<i>Oil</i>	up to 150°C	up to 150°C	-	-
Temperature control	self-optimizing, electronic microprocessor controller MP-888 with digital display of the set and actual value. Automatic temperature monitoring.			
Flow control	electronically, with digital display and automatic control of the minimum flow.			
Heating capacity (water)	12 kW	12 kW	18 kW	18 kW
<i>Switchable in stages</i>	3 / 9	3 / 9	9 / 9	9 / 9
Heating capacity (oil)	6 kW	6 kW	not suitable for oil operation	
<i>Switchable in stages</i>	3 / 3	3 / 3		
Cooling capacity	45 kW at 90°C - see diagram			
Pump capacity	motor 0,75 kW	1,5 kW	0,75 kW	1,5 kW
<i>Pressure mode</i>	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
<i>Vacuum mode</i>	vacuum max. 8 mH ₂ O			
Filling amount	min. 16 litres, max. 20 litres			
Connections				
<i>Medium</i>	½" BSP female thread			
<i>Cooling water</i>	¾" BSP male thread, inlet with water filter ¾" BSP female thread			
Dimensions (L×W×H)	710 × 325 × 785 mm, incl. castors and handles			
Weight	approx. 67 kg empty			
Colour	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

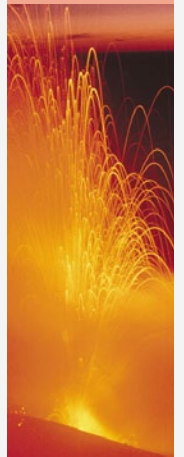
- 0 - 5 V, 0 - 10 V, 4 - 20 mA

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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