CTM-W Series



Comet's CTM-W series standard water temperature controllers combine efficiency & high quality in a compact, portable design. High temperature water from the mold is returned to the cooling tank and cooled by direct cooling. It is then pressurized by the pump and sent to the heating tank, and then to the mold keeping a consistent temperature. This series is available in either 460 or 230 volt with a temperature range of 40° to 250°F and delivers temperature control with a +/-1°F accuracy. Primary features include direct injection cooling, non-ferrous piping, full diagnostics and a non-proprietary controller.

Units are available in 6, 9, 12, 24 and 36kW models and include standard features such as: high flow, high pressure centrifugal pump, brass inlet strainer, automatic air vent sequence with adjustable timer and low watt density electric immersion heater. Each unit is factory tested prior to shipping.

Standard Features

- Self-tuning microprocessor controller with a 3.2-inch LCD user-friendly interface.
- Direct injection cooling. Auto refilling device cools down the temperature to the set value.
- High efficiency heat exchange of both molds and mold loops with small diameters.
- Full diagnostics with display and alarm buzzer protection against: loss of power, phase reversal, motor overload, high temperature, and loss of water pressure.
- Heavy duty powder-coated cabinet is both compact and portable.
- 7-day automatic start/stop timer, temperature converts between °F and °C. Time delay on pressure switch prevents nuisance trips.
- Safety features include: insulated, low watt density heaters, over temperature switch, fully enclosed air exhaust and primary fuse block, lockable cabinet, illuminated pump and heater on/off switches, Siemens finger-safe electricals, circuit protectors for both motor and heater, and audible alarm.
- RS485 communication function.



COMET

CTM-607-W-D (dual heating zones)



PLASTIC EQUIPMENT,

CTM-607-W



Control Panel



Internal Structure

Accessory Options

- Mold temperature and mold return water temperature display.
- Magnetic pump (excludes CTM-3650-W and CTM-D models).
- Magnetic filter to prolong the service life of the magnetic pump (only suitable for models with a magnetic pump).
- Water removal using compressed air.
- Water manifolds and Teflon hose.
- Water flowmeter (248°F max. operating temperature).

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Working Principle

High temperature water is pressured by the pump to the heater. After heating, water is forced to mold in a closed loop. If the water temperature is too high, the system activates the solenoid valve to let cool water reduce the temperature until it is down to the system requirement. If the temperature keeps increasing and reaches the set point of EGO, the system sounds a high pressure alarm and stops operation. If the system pressure is too high (reaches the set value of the high pressure switch), an alarm sounds and the machine stops. When the cool water pressure fails to reach the set value, the pressure switch sends a signal of water storage to launch a low pressure alarm and stops the machine.



Pump Performance



Reference formula of Mold Controllers model selection

Heater Power (kW) = mold weight (kg) × mold specific heat (kcal/kg °C) × temperature difference between mold and environment (°C) × safety coefficient / heating duration / 860. Note: Safety coefficient range 1.3~1.5.

Flow Rate (L/min) = heater power (kW) × 860 / [heating medium specific (kcal/kg °C) × heating medium density (kg/L) × inlet/outlet temperature difference (°C) × time (60)]

Notes: 1. Water specific heat = 1kcal/kg°C Heating medium oil specific heat = 0.49kcal kg°C Water density =1ka/L

CTM-W Specifications

Model	CTM-607-W	CTM-910-W	CTM-1220-W	CTM-2440-W	CTM-3650-W
Max. Temperature	248°F (120°C) 284°F (140°C)**				
Heater Capacity (kW)	6	9	12	24	36
Pump Power (kW) (50/60Hz)	0.5 / 0.63	0.75 / 0.92	1.5 / 1.9	2.8 / 3.4	4
Max Pump Flow L/min	27 / 30	42 / 50	74 / 84	90 / 90	100 / 100
Gal/min	7 / 8	11 / 13	19.5 / 22	24 / 24	26 / 26
Max. Pump Pressure (bar) (50/60Hz)	4 / 5	5 / 6	6 / 7	8 / 10	8 / 8
Heating Tank Number	1	1	1	2	3
Heating Tank L	3	3	3	7	18
Capacity Gal	0.8	0.8	0.8	2	5
Cooling Method	Direct				
Inlet / Outlet (inch)	3/4 / 3/4	3/4 / 3/4	1/1	1/1	1/1
H x W x D mm	605 x 320 x 745	605 x 320 x 745	615 x 320 x 775	820 x 360 x 963	980 x 467 x 1011
inch	24 x 12.5 x 29	24 x 12.5 x 29	24 x 12.5 x 30	32 x 14 x 38	38 x 18 x 39
Weight kg	55	60	69	140	150
lbs	121	132	152	308	330

Notes: 1. Pump testing standard: 50/60Hz purified water power at 68°F (20°C). (±10% tolerance for either max. flow rate or max. pressure).

2. Power supply: 3Ø. 230/460VAC, 60Hz.

3. ** Stands for heating the machine to 284°F (140°C). Cooling water pressure should not be lower than cm@ (4kgf)

We reserve the right to change specifications without prior notice.



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Heating medium oil density = 0.842kg/L

^{2.} Heating Time = the time needed to heat from room temperature to set temperature.