

SMARTFLOW[®] Mold Temperature Regulators

U.S. Patent No. 5,813,601

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General Description

The **Smartflow Mold Temperature Regulator** effectively controls mold cooling water temperature between 80°F and 120°F (27° and 49°C) to maintain a steady mold temperature. Installed to control water flow exiting an injection mold, the Mold Temperature Regulator quietly recovers waste heat from the resin shot, working without electricity to reduce shop floor clutter, and cut production costs. In many cases, it is a simple, inexpensive substitute for a conventional electric mold heater.

Cooling water temperature always corresponds to higher mold (steel) temperatures (for example: 120°F water temperature may result in 180°F mold temperature).

Turbulent Flow, Supply Cooling Water Pressure & Temperature

Traditionally, high turbulent flow rates are used in cooling water loops to achieve acceptable heat transfer rates from the mold. High turbulent flow rates are irrelevant when using the Smartflow Mold Temperature Regulator. It regulates cooling water flow leaving the mold to achieve Set Point temperature. The unit is unaffected by supply cooling water pressure and temperature. For example, it automatically compensates for temperature changes of cooling tower water between night and day.

Features and Benefits

- ◆ **Multiple zone control** - using several regulators or an optional inlet manifold facilitates effective zone control
- ◆ **Unaffected by pressure changes** - the Mold Temperature Regulator uses the thermal expansion principle for operation
- ◆ **Handles tower water temperature changes** - modulates flow to control cooling water temperature
- ◆ **In-Line mounting** - installs easily without additional hardware
- ◆ **Cost of ownership** - typically 1/6 the cost of a conventional electric mold heater
- ◆ **Maintenance free** - few internal parts for trouble-free operation
- ◆ **Energy saving** - it uses no electricity, conserving precious energy dollars
- ◆ **Small size** - cleans up shop floor clutter: no hoses or power cords to trip over
- ◆ **Integral dial thermometer** - verifies Set Point temperature
- ◆ **Optional inlet manifold** - provides temperature control for multiple zones with one regulator

SMARTFLOW[®] Mold Temperature Regulators

Model Numbers

Model	Inlet	Outlet
WDT2-N2-N4	1/4"NPT(F)	1/2"NPT(F)
WDT2-S2-P2	1/4" Quick Connect Socket	1/4" Quick Connect Plug
WDT2-S3-P3	3/8" Quick Connect Socket	3/8" Quick Connect Plug
WDT2-N2-N4-M	1/4"NPT(F) 7 port Manifold	1/2"NPT(F)
Manifold only WDMF-100	1/4"NPT(F) 7 port	

Specifications

Physical

Material.....All wetted parts are Electroless Nickel-Plated Brass & Stainless Steel
 O-Rings.....Buna-N
 Inlet Size1/4" NPT(F)
 Outlet Size.....1/2" NPT(F)
 Maximum Pressure125 psi (8.6 bar)
 Weight3 lbs (1.5 kg)

Operating

Regulator

Cooling water set point range80° to 120°F (27° to 49°C)
 Accuracy±1°F Full Scale
 Flow capacity5 to 25 gallons (19 to 95 liters) per hour
 Regulator operation is more accurate than dial thermometer.

Dial Thermometer

Range.....0 to 250°F (-18 to 121°C)
 Accuracy.....±1°F Mid Scale
 ±2°F Full Scale

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Design and specifications are subject to change without notice.

