



Turbogel Thermogel

Water Temperature Control Units



The Frigel family of process water temperature control units stands alone as the most efficient product line available today.

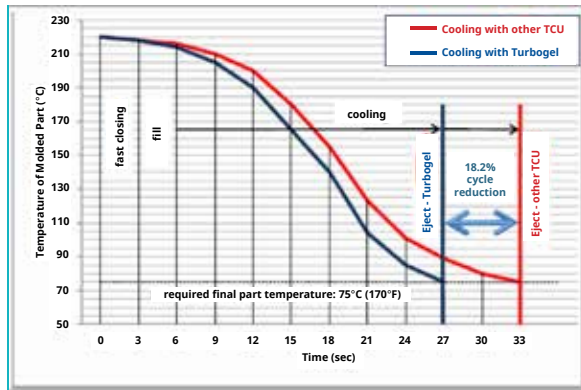
Designed for a wide range of applications and engineered using world class components, Frigel Turbogel and Thermogel units provide optimum temperature control and efficient mold cooling cavity-to-cavity and cycle-to-cycle.

Turbogel

Booster Temperature Control

Imagine the Possibilities...

Increased Productivity Versus Other TCUs



TYPICAL CYCLE TIME REDUCTION - TURBOGEL VERSUS OTHER TCUS

High efficiency Turbogel RB Series Booster TCUs designed for high flow and maximum temperature control.

- Turbulent flow and temperature control accuracy for optimal molding productivity
- Cycle times typically improved by up to 20% or more
- Wide pump selections to minimize mold water ΔT



135 M³/HR (600 GPM) HIGH FLOW BOOSTER MODEL

Standard motorized servo modulating valves for ultimate temperature control.

- Eliminates sharp temperature peaks and valleys for control to typically less than $\pm 0.25^\circ\text{C}$ ($\pm 0.5^\circ\text{F}$)
- No damaging water hammer typical with on/off solenoid valves



Consistent cooling parameters for optimum performance.

- Eliminates product hot spots
- Increases product quality and clarity
- Reduces scrap
- Repeatable production and productivity

And Models To Meet Your Needs

The widest variety of high flow booster TCUs on the market with unique Frigel features.

- Pumps up to 7.5 kW (10 hp) in single zone (**RBM**) or dual zone (**RBD**) configuration for flow rates up to 30 m³/hr (120 gpm) per zone
- 11 to 37 kW (15 to 50 hp) pumps available in single zone models for flow rates up to 135 m³/hr (600 gpm)
- Heaters up to 48 kW (24 kW per zone) - higher heating capacities on request
- High cooling capacities for temperature control to within less than 1°C (2°F) of the cooling water inlet temperature
- Large connections to minimize internal pressure losses
- Standard operation to 90°C (194°F)
- Completely non-ferrous wetted surfaces on models with pumps up to 2.2 kW (3 hp) - cast iron pump housings on larger models



DUAL ZONE SHOWN

Available Options

The Frigel Turbogel product line can be customized to meet your needs.

- Operation up to a maximum of 110°C (230°F)
- Mold drain kits to speed up mold changes and minimize hazardous spills
- Cooling water inlet and return mold water strainers
- Visual alarms in addition to standard audible alarms
- Solid state heater relays for maximum flexibility and control
- Upsized heaters on single and dual zone units

Take Control

The Frigel TCU product line includes proprietary, full function, comprehensive microprocessors with proportional-integral logic for extremely accurate temperature control.

- Large backlit LED readouts per zone in a choice of languages and units
- Display of flows, pressure differentials, set point & supply temperatures and heating/cooling outputs
- Differential pressure alarms for pump protection & flow troubleshooting
- Extensive alarm diagnostics with brief descriptions, codes and historical logs with times and dates
- Multiple machine serial interface protocols available
- Easy start set-up for auto filling



Available variable frequency pump drives to control flow or pressure differential through the onboard Frigel control system or via machine communication protocol

Thermogel TD Series

Small Capacity Direct Cooling TCUs

- High efficiency temperature control to 90°C (194°F)
- Single (TDM) or dual (TDD) zone configurations
- 0.5 and 0.75 kW (0.6 and 1 hp) centrifugal pumps
- Alternately, 0.5 and 1.1 kW (0.6 and 1.5 hp) peripheral pumps
- Designed for 2°C (4°F) maximum ΔT
- Non-ferrous wetted surfaces for long life (cast iron housing for peripheral pumps)
- Modulating valves for accurate temperature control to $\pm 0.25^\circ\text{C}$ ($\pm 0.5^\circ\text{F}$)
- The same control platform and features as the other Frigel temperature controllers
- Available bypass and mold drain kits
- Optional visual alarms
- Multiple languages and machine interfaces available



Let's Discuss Your Application

Contact the Frigel team today to get the world's most efficient cooling – optimized for your needs.



Thermogel TRP Series

High Temperature Indirect Cooling Water Units

- Closed, pressurized, indirect cooling, single zone units for operation up to either 140 or 160°C (284 or 320°F)
- High efficiency pumps with oversized motors designed for high temperature operation
- "Cold" heat exchanger design to prevent scaling of heat exchanger surfaces
- Accurate temperature control to $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$)



- Full function controls, including display of alarms, flow, supply & return temperature and pressures for mold set-up and troubleshooting
- Standard auto filling, venting and depressurization functions and safety valves
- Stainless steel, insulated piping, fittings and tanks for long life and safety
- Available mold drain kits for fast mold changes
- Optional bypass kits for pressure control



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