SUMMIT PLASTICS AUTOMATION

Frigel

Microgel RSD/RSM

Temperature Control Unit

Temperature control unit, single zone (RSM) or double zone (RSD), consisting of a water-cooled chiller combined with one or two temperature controllers with high-flow booster pumps with or without inverter, heating elements and free-cooling valve.

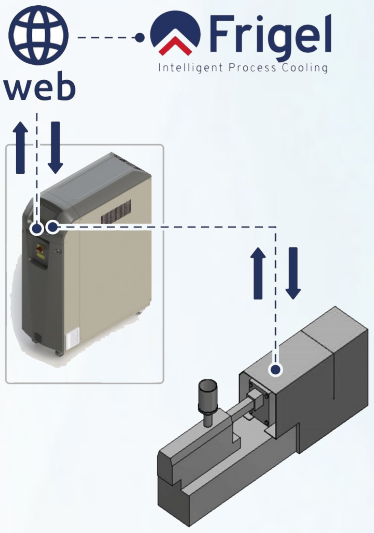
Microgel is a super-compact mould cooling unit specifically designed for “cycle cooling time reduction”. It allows for researching and recording the best setting of temperature for each zone, optimising product quality with the minimum cycle cooling time.

Available in 6 models with cooling capacity from 11 to 57 kW, with heating capacity from 6 to 18 kW (for each zone).

Four types of pumps available:
- SP = standard pressure
- HP = high pressure
- SV = standard pressure with inverter
- HV = high pressure with inverter

Available two versions of hydraulic circuit:
- E = Ecodry (for use with an Ecodry system)
- T = Tower (for use with a cooling tower system)

The choice of components, the assembly procedures and the rigorous final testing of 100% of the production guarantee continuous operation with maximum reliability, even in the most difficult conditions.



Main Advantages:

- Increased productivity - up to 33% thanks to cycle time reduction of up to 25% compared to standard TCU
- Intelligent use of energy consumption
- High energy savings with automatic free cooling (for "Ecodry" version)
- Ready to remote interface via MiNDTM supervision system
- Temperature and pressure readings (IN/OUT)
- Solid state relay for heater control
- Available Inverter driven process pumps
- Flow meters on process pumps (optional)
- Standard digital interface for remote ON/OFF and alarm transmission
- Insulation for low operating temperatures

Benefits for the process:

- High reliability
- Perfect repeatability and high productivity
- Possibility of searching the best cooling conditions
- Complete independence in setting work parameters
- Maximum flexibility to eliminate the known problems of process cooling (condensation, appearance of the piece, respect for the dimensional aspects)
- Pressure - flow (optional) - temperature control of each individual process
- High cooling efficiency and minimal temperature differential on the mould
- Precision in process temperature control
- Permanently stable and controlled cooling conditions
- Maximum integration between Microgel, machine and operator

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Main Features:

Refrigeration Equipment

- Scroll compressor
- Stainless steel brazed plate evaporator and condenser
- Barostatic valve for continuous control of the condensing pressure
- Pressure and temperature sensors for circuit control
- R410A Ecological refrigerant

Water Distribution Equipment

- Designed to provide constant pressure and flow both to the process and to the evaporator
- One or two process pumps with high performance in terms of
flow-rate with special mechanical seal for long durability
- Recirculation pump to guarantee constant flow to the evaporator
- Safety thermostat for resistances
- Low surface load Incoloy heating elements
- Anti-freezing protection
- High/low pressure differential protection
- Temperature control system with proportional modulating valve for each zone, for precise temperature control
- Automatic start-up venting and filling sequence
- Insulated stainless steel buffer tank
- Shut-off valves included on each hydraulic connection
- Y filters on process return water inlet
- Y filter on filling water inlet (for versions in Tower configuration)

Electrical and Control Equipment

- Microprocessor controller developed according to Frigel specifications
- Control panel with 7" touch screen display (HMI)
- Possibility of installing the most well-known interface systems for communication with production machines and centralized supervision
- Complete monitoring of the refrigeration and hydraulic circuit
- Proportional-integral control logic for temperature control with error lower than ±2 °C
- Procedures for loading and emptying the mould circuit
- Standard acoustic alarm
- Prolonged signalling of set point deviation
- Probe protection (interrupted and/or short-circuited)
- Remote start/stop function
- LAN port on the front dashboard for connections with supervision devices
- USB port in front dashboard for updates, assistance and parameter loading
- Alarms transmission

Frame

- Made of folded metal sheet and painted with epoxy powder
- Removable panels
- Compact design and fitted with casters
- Front handle for quick movement

GET IN TOUCH TODAY

We solve the most technically advanced plastics automation problems across all industries.

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