RUMMEL
KUNSTSTOFFTECHNIK

TEMPERATURE CONTROL UNITS

www.rummel-gmbh.com

TEMPERATURE CONTROL UNITS

Our product range includes high-performance temperature control units for water or thermal oil applications with standard and special equipment, custom-built equipment, and a wide range of accessories.

Compact, robust, and high-performance temperature control units with a direct or indirect cooling system for applications and requirements in all capacity ranges. A selection of heating and cooling capacities as well as pump capacities are available.

You can choose one of two different control options:

• Controller with LED display and membrane keypad
Electronic, self-optimizing control system with membrane keypad and digital display
of the temperature setting and actual temperature, with automatic temperature monitor with a limit value monitor, and maximum temperature monitor. Clear and easy to read display as well as simple operation.

• Controller with 7” touch screen display
Electronic, self-optimizing PLC controller with 7” touch screen and display
of the temperature setting and actual temperature, with automatic temperature monitor with a limit value monitor, and maximum temperature monitor. Clear display of the individual process parameters as well as simple operation.

Selection of different types of units

• Temperature control units with indirect cooling and an open tank system for water temperatures up to max. 90°C

• Temperature control units with direct or indirect cooling and closed cylinder tank system for water temperatures up to max. 90°C or 120°C

• Temperature control units with indirect cooling and closed cylinder tank system for hot water temperatures up to max. 140°C, 150°C, or 160°C

• Temperature control units with indirect cooling and an open tank system for thermal oil applications up to max. 200°C

• Temperature control units with indirect cooling and a closed, cold, superimposed tank system for thermal oil applications up to max. 300°C

These temperature control units are used especially often in plastic injection molding processes, but also in other types of processes. We offer a large selection with standard and special equipment and a wide range of accessories.

Optional equipment:

• Frequency controlled pump
• Electronic flow measurement
• Electronic pressure measurement
• Display of the process return temperature
• Blowout when changing molds using compressed air
• External temperature measurement and control

Interfaces:

• Analog IN/OUT interface 4...20 mA
• Data interface TTY20 mA, RS-485, RS-232
• OPC-UA, Profinet, Modbus

Images may differ from the actual product!

Subject to errors, omissions, and technical changes!

TEMPERATURE CONTROL UNITS
ECOTEMP

High-performance temperature control units with a low energy consumption.
Intelligent temperature control through demand-based automatic regulation.

SAVE ENERGY

Pumps:
- High quality, high efficiency pumps
- Highly efficient pump motors in the IE3 efficiency class
- Efficient, frequency controlled pumps
- Long service life

Pump controller:
- Demand-based automatic regulation of the flow and pressure
- Through intelligent, self-optimizing regulation of the pump, the speed is adapted to the demand
- Efficient control electronics with a controller and a unique visualization concept

Shorter cycle times:
- Intelligent valve technology using proportionally controlled cooling valves
- Shorter cooling phase
- Optimization of the cycle times

Insulation:
- To save energy and reduce costs, our devices are equipped with efficient insulation

- **Environmentally friendly**
- **Energy saving**
- **Energy optimized**
- **Higher efficiency**
- **Lower costs**

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TEMPERATURE CONTROL UNITS
TEMP 90 W

High-performance temperature control units with indirect cooling and an open tank system for all applications and requirements in various capacity ranges, up to a max. water temperature of 90°C.

General information:

- Units available in various sizes
- Robust and compact power-coated steel housing
- Easy access to all components
- Splash-proof electrical enclosure
- Submersible pump from the Speck company
- Plate heat exchanger made of stainless steel
- Unit on rollers
- Electrical system with main switch, pump switch, circuit breaker, solid-state relay and motor protection switch

Hydraulic system:

- Submersible pump with pressure/vacuum function
- Tank and heating elements made of stainless steel
- Parts in contact with media made of brass and stainless steel
- Automatic refilling of water
- Solenoid valves made of brass for refilling and cooling
- Indirect cooling system
- Integrated bypass

Electrical and control system:

- Electronic, self-optimizing PID control
- Automatic temperature monitor with limit value monitoring
- Maximum temperature monitor
- Acoustic and visual fault indication
- Electric fill level monitor with dry run protection
- Hose breakage and leakage monitor
- Sensor breakage monitor
- Safety thermostat
- Connecting cable with connector

Performance data:								
Heating capacities KW	3	6	9	12	18	24	30	36
Pump capacities l/min.	60	70	100	150	200			
Pump pressure bar	Up to max. 6							
Cooling capacities kW	20	40	60	80	235	450		

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TEMPERATURE CONTROL UNITS
TEMP 90 WDC & TEMP 120 WDC

High-performance temperature control units with direct or indirect cooling and a closed tank system for all applications and requirements in various capacity ranges, up to a max. water temperature of 90°C or 120°C.

General information:

- Units available in various sizes
- Robust and compact power-coated steel housing
- Easy access to all components
- Splash-proof electrical enclosure
- Radial impeller pump from the Speck company
- Unit on rollers
- Electrical system with main switch, pump switch, circuit breaker, solid-state relay and motor protection switch

Hydraulic system:

- Radial impeller pump with pressure function
- Cylinder tank and heating elements made of stainless steel
- Parts in contact with media made of brass and stainless steel
- Automatic refilling of water
- Solenoid valves made of brass for refilling and cooling
- Direct or indirect cooling system
- Integrated bypass
- Automatic pressure relief
- Depressurized state after shutting down

Electrical and control system:

- Electronic, self-optimizing PID control
- Automatic temperature monitor with limit value monitoring
- Maximum temperature monitor
- Acoustic and visual fault indication
- Electric fill level monitor with dry run protection
- Hose breakage and leakage monitor
- Sensor breakage monitor
- Safety thermostat
- Connecting cable with connector

Performance data:									
Heating capacities KW	9	16	18	27	32	36	48	54	64
Pump capacities l/min.	100	200	250	300	350	450			
Pump pressure bar	Up to max. 10								
Cooling capacities kW	100	125	150	175	200	250	450		

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TEMPERATURE CONTROL UNITS
TEMP 140 WIC

High-performance pressurized temperature control units with indirect cooling and a closed tank system for all applications and requirements in various capacity ranges, up to a max. hot water temperature of 140°C.

General information:

- Units available in various sizes
- Robust and compact power-coated steel housing
- Easy access to all components
- Splash-proof electrical enclosure
- Radial pump or pump with magnetic coupling from the Speck company
- Plate heat exchanger made of stainless steel
- Unit on rollers
- Electrical system with main switch, pump switch, circuit breaker, solid-state relay and motor protection switch

Hydraulic system:

- Radial pump or magnetically coupled pump with pressure function
- Tank and heating elements made of stainless steel
- Parts in contact with media made of brass and stainless steel
- Automatic refilling of water
- Solenoid valves made of brass for refilling and cooling
- Feed pump for constant water input pressure
- Automatic temperature-dependent closure of system at 85°C or higher
- Automatic pressure relief
- Indirect cooling system
- Wear-free and low maintenance cooling system using bypass cooling, separate heating and cooling circuit using a solenoid valve bypass
- Integrated bypass

Electrical and control system:

- Electronic, self-optimizing PID control
- Automatic temperature monitor with limit value monitoring
- Maximum temperature monitor
- Acoustic and visual fault indication
- Electric fill level monitor with dry run protection
- Hose breakage and leakage monitor
- Sensor breakage monitor
- Safety thermostat
- Connecting cable with connector

Performance data:						
Heating capacities KW	9	16	27	36	45	54
Pump capacities l/min.	40	60	90	200	250	
Pump pressure bar	Up to max. 8					
Cooling capacities kW	50	70	90	235	450	

TEMPERATURE CONTROL UNITS
TEMP 150 WIC & TEMP 160 WIC

High-performance pressurized temperature control units with indirect cooling and a closed tank system for all applications and requirements in various capacity ranges, up to a max. hot water temperature of 150°C or 160°C.

General information:

- Units available in various sizes
- Robust and compact power-coated steel housing
- Easy access to all components
- Splash-proof electrical enclosure
- Pump with magnetic coupling from the Speck company
- Plate heat exchanger made of stainless steel
- Unit on rollers
- Electrical system with main switch, pump switch, circuit breaker, solid-state relay and motor protection switch

Hydraulic system:

- Magnetically coupled pump with pressure function
- Tank and heating elements made of stainless steel
- Parts in contact with media made of brass and stainless steel
- Automatic refilling of water
- Solenoid valves made of brass for refilling and cooling
- Feed pump for constant water input pressure
- Automatic temperature-dependent closure of system at 85°C or higher
- Automatic pressure relief
- Indirect cooling system
- Wear-free and low maintenance cooling system using bypass cooling, separate heating and cooling circuit using a solenoid valve bypass
- Integrated bypass

Electrical and control system:

- Electronic, self-optimizing PID control
- Automatic temperature monitor with limit value monitoring
- Maximum temperature monitor
- Acoustic and visual fault indication
- Electric fill level monitor with dry run protection
- Hose breakage and leakage monitor
- Sensor breakage monitor
- Safety thermostat
- Connecting cable with connector

Performance data:				
Heating capacities KW	9	16		
Pump capacities l/min.	40	60	90	
Pump pressure bar	Up to max. 8			
Cooling capacities kW	50	70	90	

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TEMPERATURE CONTROL UNITS
TEMP 200 OIL

High-performance temperature control units with indirect cooling and an open tank system for all applications and requirements in various capacity ranges, for thermal oil applications up to a max. temperature of 200°C.

General information:

- Units available in various sizes
- Robust and compact power-coated steel housing
- Easy access to all components
- Splash-proof electrical enclosure
- Submersible pump from the Speck company
- Shell and tube heat exchanger
- Unit on rollers
- Electrical system with main switch, pump switch, circuit breaker, solid-state relay and motor protection switch

Hydraulic system:

- Submersible pump with pressure pump function
- Tank and heating elements made of stainless steel
- Parts in contact with media made of brass and stainless steel
- Manual tank filling
- Solenoid valves made of brass for refilling and cooling
- Indirect cooling system
- Integrated bypass

Electrical and control system:

- Electronic, self-optimizing PID control
- Automatic temperature monitor with limit value monitoring
- Maximum temperature monitor
- Acoustic and visual fault indication
- Electric fill level monitor with dry run protection
- Hose breakage and leakage monitor
- Sensor breakage monitor
- Safety thermostat
- Connecting cable with connector

Performance data:									
Heating capacities KW	9	16	18	27	32	36	48	54	64
Pump capacities l/min.	100	200	250	300	350	450			
Pump pressure bar	Up to max. 10								
Cooling capacities kW	100	125	150	175	100	200	250	450	

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TEMPERATURE CONTROL UNITS
TEMP 300 OIL

High-performance temperature control units with indirect cooling and a closed, cold, superimposed tank system for all applications and requirements in various capacity ranges, for thermal oil applications up to a max. temperature of 300°C.

General information:

- Units available in various sizes
- Robust and compact power-coated steel housing
- Easy access to all components
- Splash-proof electrical enclosure
- Pump with magnetic coupling from the Speck company
- Shell and tube heat exchanger
- Unit on rollers
- Electrical system with main switch, pump switch, circuit breaker, solid-state relay and motor protection switch

Hydraulic system:

- Magnetically coupled pump with pressure function
- Tank and heating elements made of stainless steel
- Parts in contact with media made of brass and stainless steel
- Manual tank filling
- Solenoid valves made of brass for refilling and cooling
- Indirect barrel cooling for the process circuit
- Additional indirect cooling system with shell and tube heat exchanger for expansion tank for a constant thermal oil temperature

Electrical and control system:

- Electronic, self-optimizing PID control
- Automatic temperature monitor with limit value monitoring
- Maximum temperature monitor
- Acoustic and visual fault indication
- Electric fill level monitor with dry run protection
- Hose breakage and leakage monitor
- Sensor breakage monitor
- Safety thermostat
- Connecting cable with connector

Performance data:								
Heating capacities KW	9	18	27	36	45	54	63	74
Pump capacities l/min.	60	90	200					
Pump pressure bar	Up to max. 9							
Cooling capacities kW	115	230						

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CONTROLLER WITH TOUCHDISPLAY

Electronic, self-optimizing controller with 7” touch screen and display of the temperature setting and actual temperature, with automatic temperature monitor with a limit value monitor, and maximum temperature monitor. Clear display of the individual process parameters as well as simple operation.

7” operator panel

- Mounted panel for visualization, control, operation, and monitoring
- 7” TFT color display, single-touch (analog resistive)
- Wide 800 x 480 pixel screen
- High performance EDGE2 technology processor
- Operating elements: Touch screen (analog resistive)

Features:

- Heating and cooling with PID control or 4-point control (2 heating points and 2 cooling points)
- Self-optimization of the PID controller with ramp up optimization
- Activation / deactivation of the PID control function
- Temperature ramp for heating and cooling
- Auto-tuning
- Temperature offset correction
- Temperature limiter
- Alarm history
- Visual and acoustic alarm
- Leak monitor
- Temperature, pressure, and flow diagram (oscilloscope)
- Display of the pump pressure
- Display of the process return temperature
- Display of the system pressure
- Electronic flow measurement
- Display of the pump return pressure
- Language setting
- Download function
- Ability to save and load settings
- Temperature control through external thermocouple (type J or PT1000) with continuous comparison of the internal and external temperature
- Temperature control through PID control
- Analog input signal 4 ... 20 mA setpoint
- Analog output temperature signal 4 ... 20 mA
- Digital input signal for pump, external ON / OFF
- Digital input for secondary setpoint
- Digital input for forced cooling
- Alarm relay, output for combined alarm signal
- Configurable relays

Interfaces:

- TTY 20 mA / RS 485 / RS 232
- Modbus
- OPC UA
- Profinet

Special applications:

- Remote Access - remote maintenance of the temperature control units
- Cloud Logging - Data recorded in the cloud
- Control of the unit via a VNC connection
- Connection and visualization of the temperature distribution systems

CONTROLLER WITH
LED DISPLAY & MEMBRANE KEYPAD

Electronic, self-optimizing controller with membrane keypad and display of the temperature setting and actual temperature, with automatic temperature monitor with a limit value monitor, and maximum temperature monitor.

Clear and easy to read display as well as simple operation.

Images may differ from the actual product!

Display:

- 7-segment LED display
- Display of the setpoint and actual value of the process temperature
- Display of process information and alarms
- Function keys
- Switch for operating the pump and heater

Features:

- Heating and cooling with PID control
- Self-optimization of the PID controller
- Temperature ramp for heating and cooling
- Auto-tuning
- Temperature offset correction
- Visual and acoustic alarm
- Leak monitor
- Electric fill level monitor with dry run protection
- Temperature limiter
- Temperature control through external thermocouple (type J or PT1000)
- Analog input signal 4 ... 20 mA setpoint
- Analog output temperature signal 4 ... 20 mA
- Digital input signal for pump, external ON / OFF
- Alarm relay, output for combined alarm signal
- Configurable relays
- Display of the pump pressure
- Display of the process return temperature
- Display of the system pressure
- Electronic flow measurement
- External temperature measurement

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OPERATING AND MONITORING
CENTRALLY MANAGING, ANALYZING, AND CONTROLLING

Simple and trouble-free management, analysis, and control of temperature control units on a single platform.
With the Remote Access Platform (RAP) you have an advanced, web-based cloud platform available for secure remote access.

Advantages:

The machine or system visualization can be operated over VNC as if you were directly on-site. Updates, debugging, and maintenance as well as alarm configuration, monitoring, and reporting can be performed over a secure VPN connection in the central cloud platform.

The connection to the RAP can be established using the Remote Access Router (RAR) or using the Remote Access Embedded (RAE) operating system extension.

Big data in the cloud: “Cloud Logging” allows you to automatically retrieve machine data from the PLC, securely send it to the cloud, and access it via dashboards. Email notifications of important events in your application can be set up via “Cloud Notify”

Cloud Notify:

Receive email or push notifications about important events of your machine

- Central alarm system managed on the platform
- Define an unlimited number of triggers
- Manage the alarm messages from all temperature control systems

Cloud Logging:

Get deep insights into your machines, automatically retrieve data, and save it in the cloud

- Easy configuration and management of data tags
- Track machine data in real time on easy-to-read dashboards
- Create and evaluate data reports conveniently with ready-to-use templates and widgets

Direct access – VNC

- Operate the temperature control units via VNC
- Updates
- Maintenance and alarm configuration
- Monitoring and reporting

Recording data - Cloud Logging

- Configuration and management
- All important parameters of the temperature control units at a glance
- Monitoring and reporting

Notifications

- Email or push notifications about important events on your temperature control units
- Central alarm system

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EFFICIENT REMOTE MAINTENANCE
Monitor and maintain machines – at any time and from any location

DIRECT ACCESS OVER VPN
Secure connection to machines via a central platform

BROWSER-BASED CLOUD PLATFORM
Manage user interfaces directly via the browser and access control elements

MOUNTABLE DISTRIBUTION SYSTEMS FOR FLOW-TEMP TEMPERATURE CONTROL UNITS

Multi-circuit distribution system for attachment to temperature control units for the individual measurement and monitoring of the flow rate and the process return temperature. Visualization, operation, and communication are performed via the 7” touch screen of the temperature control unit.

Maximum process control of the temperature control circuits

General information:

- Simple integration and installation on the temperature control unit
- Visualization, operation, and communication via the 7” touch screen of the temperature control unit.
- Display and monitoring of the flow rate and temperature for each distribution circuit
- Ability to set limits for the flow rate and temperature of each distribution circuit
- Parts in contact with media made of brass and stainless steel
- Robust power-coated steel housing
- Easy access to all components

Advantages:

- Improves the transfer of heat on the mold because hose bridges are not necessary
- Provides a clear indication of contaminants in the circuit and triggers an alarm before rejects are produced
- Reduces the pressure loss and increases the water flow rate due to its lack of hose bridges
- Exact localization of the source of the problem since the circuits are separated
- Ability to influence specific segments of the mold
- Regulates and monitors each temperature control circuit in the mold
- Increases the stability and traceability of the process
- Can be retrofitted

Technical data:

• Circuit control:	Manual shut-off ball valve or electric proportional valves with control electronics for automatic flow and temperature control
• Connections:	Main distribution flow, 1” inner thread - mold circuit ½” inner thread
• Medium:	Water / hot water / heat transfer fluid
• Max. temperature:	120°C / 160°C
• Max. operating pressure:	10 bar / 15 bar
• Expansion levels:	2, 4, 6, 8, 10, 12 levels

You can choose one of two mounting methods:

• Variant 1:	Simple installation directly on the temperature control unit
• Variant 2:	Integration or installation directly on the clamping plates or in the machine. Communication between the distribution system and temperature control unit using data cables with Harting connectors, visualization and operation via the 7” touch screen of the temperature control unit.

APPLICATIONS & SYSTEM SOLUTIONS

For special requirements, we will develop completely custom application-specific solutions for you.
This means the operational functionality, interfaces, and functions are tailored to your needs

They are complete solutions for:

- Controlling systems, units, and processes
- Regulating temperatures, pressures, flow rates, and much more
- Controlling and visualizing temperature control units
- Controlling and visualizing multi-circuit temperature distribution systems
- Controlling and visualizing blowout systems
- Controlling and visualizing the status to monitor injection molding machines

Features:

- Innovative control and regulation units that are optimally tailored to the range of functions of the temperature control technology.
- Einfache Bedienkonzepte bis zur ausgewachsenen Industrie 4.0 Steuerung.
- Simple and trouble-free management, analysis, and control of temperature control systems on a single platform. With the Remote Access Platform (RAP) you have an advanced, web-based cloud platform available for secure remote access.

INNOVATION BY RUMMEL

- Custom solutions
- Optimized for Industry 4.0
- Cloud solutions
- Displayable in a browser
- Remote maintenance

SERVICE

SERVICES

Customer satisfaction is our top priority, which is why service and consulting are traditionally very important to us.

We offer competence and professionalism for innovative process optimization with custom solutions designed according to the state of the art in technology.

Training, installation, and initial operation as well as all kinds of services relating to temperature control technology are additional components of our service program.

ERSATZTEILE

You can receive high quality and durable replacement parts that are designed precisely for our units and systems. They ensure our units and systems can be used sustainably.

In addition to shipping parts, our specialists also offer support by telephone to help you install the components.

INITIAL OPERATION, MAINTENANCE

Our experts from the Service and Sales departments will provide you with practical help for process optimization, initial operation, and maintenance. From the idea, the design of your application, manufacturing, and final installation of the temperature control technology to its initial operation -we offer comprehensive service and the entire process chain from a single company.

REPAIRS

Our products fulfill the highest quality and reliability requirements. If a technical defect should nevertheless occur, please contact us. We strive to ensure your unit or system is put back into operation as soon as possible. We can make repairs on-site at your company, or if necessary, make the repairs at our company.

If your systems need to be converted, our specialists would be happy to do this for you. Before the systems are delivered back to you, they are all specially checked to ensure they meet your requirements.

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