

# BOE-THERM

YOUR PARTNER IN TEMPERATURE CONTROL

## TEMP 140 SERIES

**Pressurized Water Temperature Control Unit up to 140 °C**

- Maintains temperature accuracy within  $\pm 0.1\text{ }^{\circ}\text{C}$
- Magnetic coupled pumps
- User-friendly control
- Flexible configurations & safety features
- Industrial reliability
- Solid-state relays



# KEY BENEFITS: EFFICIENCY AND USER-CENTRIC DESIGN



## ENERGY EFFICIENT PUMP

Equipped with an advanced, energy-efficient pump, the TEMP 140 minimizes power consumption while maintaining optimal performance. This feature significantly reduces operational costs and supports sustainable industrial practices, contributing to a lower carbon footprint.



## EASY OPERATION

Designed with the user in mind, the TEMP 140 boasts an intuitive interface and straightforward controls. This ensures quick setup, minimal training requirements, and hassle-free daily operation, allowing technicians to focus on core production tasks.



## TEMPERATURE DEVIATION ALARM

A crucial safety and quality assurance feature, the integrated temperature deviation alarm provides immediate alerts if process temperatures fall outside predefined parameters. This enables prompt intervention, preventing potential damage to materials or equipment and ensuring product consistency.



## LOW NOISE OPERATION

Operating with remarkably low noise levels, the TEMP 140 contributes to a more comfortable and productive work environment. This quiet performance is particularly beneficial in facilities where noise reduction is a priority, enhancing overall workplace safety and communication.

# TECHNICAL SPECIFICATIONS

Below is a detailed overview of how the unit can be configured:

|                                   |             |             |           |     |     |     |
|-----------------------------------|-------------|-------------|-----------|-----|-----|-----|
| <b>Max. Operating Temperature</b> | 140°C       |             |           |     |     |     |
| <b>Heat Transfer Medium</b>       | Water       |             |           |     |     |     |
| <b>* Heat Capacity (kW)</b>       | <b>6</b>    | <b>9</b>    | <b>12</b> |     |     |     |
| Tank volume (L)                   | 6           | 6           | 6         |     |     |     |
| Dimensions (LxWxH)                | 680         | 680         | 680       |     |     |     |
|                                   | 270         | 270         | 270       |     |     |     |
|                                   | 640         | 640         | 640       |     |     |     |
| <b>* Pump Type</b>                | <b>Q4</b>   | <b>Q5</b>   |           |     |     |     |
| Pump Flow Rate (Max)              | 40 L/min    | 60 L/min    |           |     |     |     |
| Pump Pressure (Max)               | 5 bar       | 6 bar       |           |     |     |     |
| Connection to Process             | 1/2"        | 1/2"        |           |     |     |     |
| <b>* Cooling</b>                  | Indirect I2 | Indirect I4 |           |     |     |     |
| Capacity at $\Delta T = 120$ °C   | 44          | 106         |           |     |     |     |
| kW:                               |             |             |           |     |     |     |
| <b>* Electrical Connection</b>    | 3x          | 3x          | 3x        | 3x  | 3x  | 3x  |
| <b>Voltage</b>                    | 400         | 400         | 230       | 230 | 460 | 440 |
| <b>Hz</b>                         | 50          | 60          | 50        | 60  | 60  | 60  |

\* = To choose

The compact footprint of the TEMP 140 allows for flexible installation, even in space-constrained production environments. Its robust construction ensures durability and consistent performance under continuous industrial operation.

# PUMP PERFORMANCE VARIANTS

Choosing the correct pump for your Temperature Control Unit (TCU) isn't just a technical detail — it's the key to **consistent product quality, faster cycle times, and fewer production stops**.

## FLOWRATE (L/MIN)

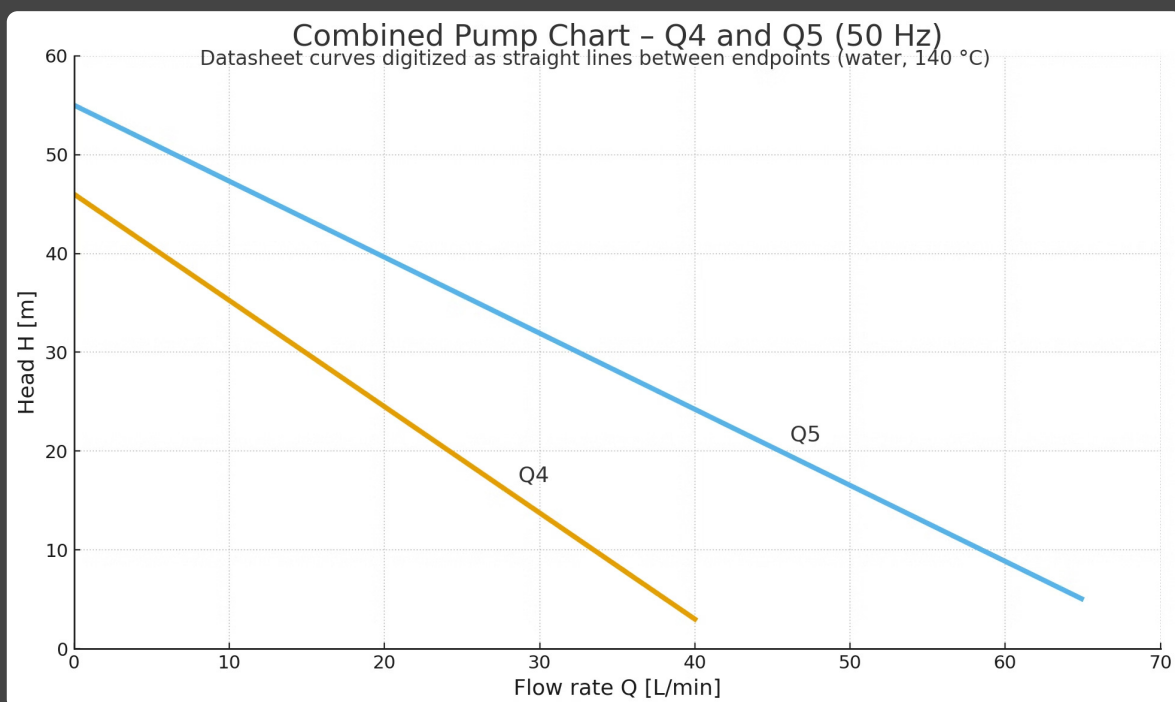
is how much heat-transfer liquid moves through your system. The right flow ensures your molds or tooling heat up and cool down evenly, so every part meets your quality standards. Too little flow slows production; too much wastes energy without improving results.

## PRESSURE (BAR)

is the force that drives the liquid through your entire circuit — through hoses, fittings, and narrow channels. Without enough pressure, temperature will vary and defects can appear. Too much pressure can wear out seals and hoses, leading to unplanned downtime.

At Boe-Therm, every pump option is tested and proven for industrial duty. By finding the point on the **pump diagram** where your required flow meets your system's resistance, you can select the pump that delivers **peak efficiency and long service life**.

**In short:** The right pump configuration means **better parts, less scrap, faster throughput, and more uptime** — every day your TCU is running.



**Nominal duty points: Q4: 20 L/min at 2,5 bar | Q5: 45 L/min at 2,0 bar**

# STANDARD FEATURES

The TEMP 140 comes equipped with a comprehensive suite of standard features designed to optimize performance, ensure safety, and simplify maintenance. These integrated functionalities address common industrial needs, providing a reliable and efficient temperature control solution right out of the box.

## AUTOMATIC RESTART

In the event of a power interruption, the unit automatically restarts and resumes its previous operating parameters once power is restored. This minimizes manual intervention and prevents process disruptions, ensuring continuous production.

## ALARM

An audible and visual alarm system notifies operators immediately if the process temperature deviates from the set point by a configurable margin. This proactive alert system helps prevent material spoilage and equipment damage.

## AUTOMATIC WATER REFILLING

The system monitors water levels and automatically refills the circuit as needed, preventing interruptions due to low fluid volume. This ensures consistent thermal transfer and extends the lifespan of internal components.

## PRESSURE RELIEF AFTER STOP

Upon shutdown, the unit automatically relieves internal pressure, safely discharging any residual pressure in the system. This prevents strain on components and enhances operator safety during maintenance or system checks.

## 3,5" TOUCH DISPLAY

Set and maintain precise temperatures effortlessly with our Touch Controller, ensuring accuracy within  $\pm 0.1^{\circ}\text{C}$ . The controller further offers Service Indicator to track operating hours, facilitating proactive maintenance.

## AUTOMATIC COOL DOWN FUNCTION

Automatically lowers the process temperature to a safe level upon completion of a batch or at the end of a shift, saving energy and preparing the unit for the next cycle.

# OPTIONAL FEATURES FOR CUSTOMIZATION

Beyond its standard capabilities, the TEMP 140 offers a range of optional features, allowing engineers to tailor the unit to specific process requirements, enhance data monitoring, and integrate seamlessly into any production.



## LEAKAGE CONTROL DURING OPERATION

Continuously monitors the system for leaks, providing early detection to prevent water loss and potential damage to surrounding equipment or products.



## FLOW MEASURING VORTEX

Provides precise real-time measurement of the water flow rate, enabling operators to optimize heat transfer efficiency and diagnose potential blockages or restrictions.



## EXTERNAL PT 100 SENSOR

Allows for direct temperature measurement at a specific point in the process or mould, providing highly accurate feedback for critical applications.



## AUTOMATIC WATER EXCHANGE

Periodically refreshes the water in the TCU to prevent mineral buildup and maintain optimal performance.



## MOULD DRAINING

This feature facilitates quick and complete draining of the mould or process circuit, streamlining material changeovers and cleaning procedures. It helps prevent contamination and speeds up production cycles.

# SEAMLESS INTEGRATION WITH INDUSTRIAL NETWORKS

In today's interconnected industrial landscape, seamless communication is paramount. All Boe-Therm units offers a variety of optional industrial network interfaces, ensuring that the units can be fully integrated into existing plant automation systems for centralized control, data acquisition, and remote monitoring.



## ETHERNET/IP

For high-speed, real-time data exchange and robust integration with Rockwell Automation systems.



## PROFINET

A leading industrial Ethernet standard, providing deterministic communication for Siemens and other compatible PLCs.



## PROFIBUS

A widely adopted fieldbus standard for reliable communication in process and factory automation environments.



## DEVICENET

A low-cost, open-level network for industrial devices, offering efficient data transfer for a broad range of applications.



## ANALOG INTERFACE 0-10V

Provides a standard analog signal output for integration with legacy control systems or for precise proportional control.



## ANALOG INTERFACE 4-20 MA

Provides a standard analog signal output for integration with legacy control systems or for precise proportional control.

These integration options empower facilities to achieve greater process transparency, facilitate predictive maintenance, and respond more rapidly to changing production demands, ultimately leading to higher operational efficiency and reduced manual oversight.

# BOE-THERM: A LEGACY OF INDUSTRIAL INNOVATION

Boe-Therm A/S stands as a testament to Danish engineering excellence, with a rich history rooted in the design and manufacturing of high-quality temperature control solutions. For decades, Boe-Therm has been a trusted partner for industries worldwide, consistently delivering reliable, durable and energy-efficient units that meet the rigorous demands of modern manufacturing.

"Since our founding in 1961, Boe-Therm has accumulated over sixty years of invaluable experience, deeply shaping our understanding of diverse industrial needs. This legacy enables our customer-centric approach, allowing us to deliver flexible, tailored solutions that precisely optimize production, enhance product quality, and reduce operational costs for our clients across various sectors."

- Thomas Hass Thomsen, CEO, Boe-Therm A/S

Based in Assens, Denmark, Boe-Therm's expertise is reflected in every product, from meticulous design to robust construction, ensuring that each unit serves as a dependable cornerstone in your industrial operations.

## CONTACT INFORMATION AND SUPPORT

For further inquiries, technical support, or to discuss how our TCUs can optimize your specific industrial processes, please reach out to Boe-Therm directly. Their team of experts is ready to provide comprehensive assistance and tailored solutions.



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### ONLINE RESOURCES

**Website:** [www.boe-therm.com](http://www.boe-therm.com)

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Visit the official Boe-Therm website for detailed product brochures, technical documentation, and the latest updates on their innovative temperature control solutions.