

Series

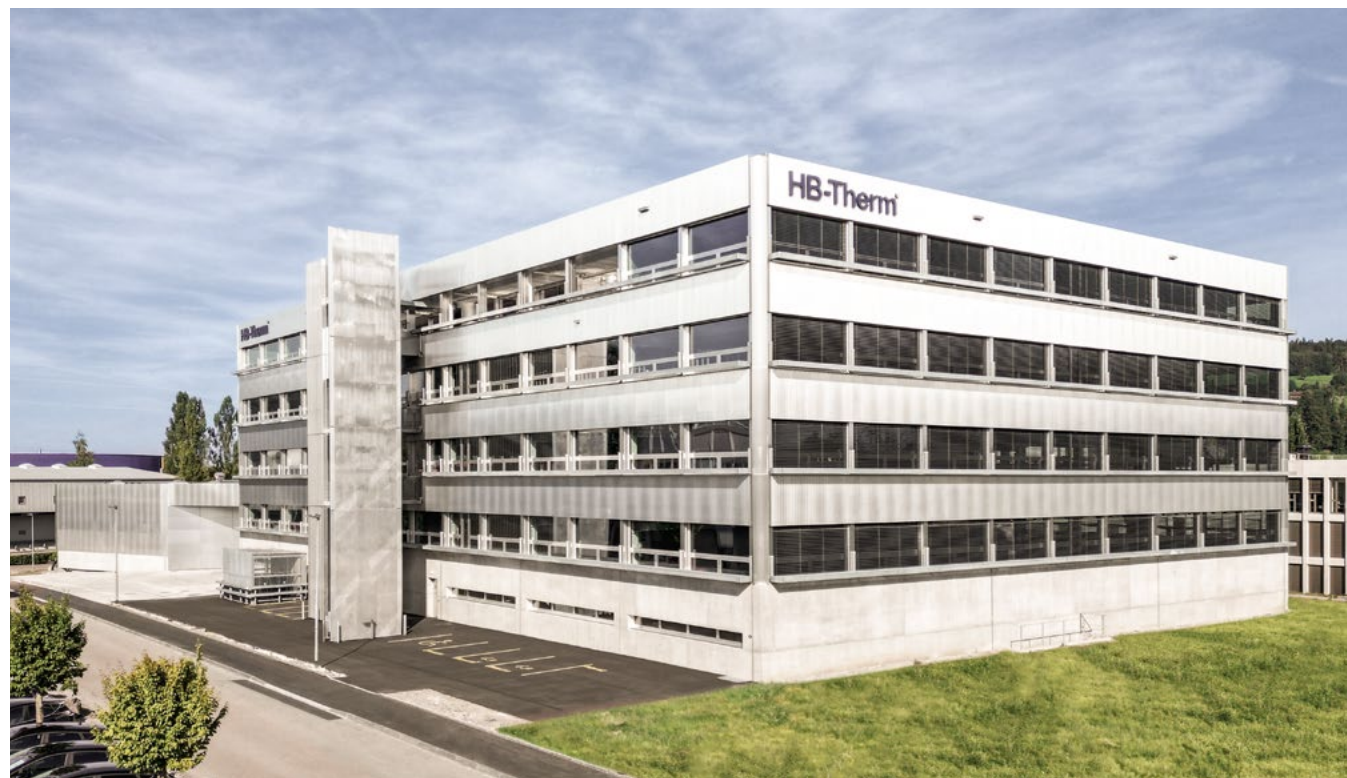


More than
Temperature Control Units

Just
6etter.

Swiss made.

HB-Therm AG, a pioneer in temperature control units for the plastics industry, has stood for innovation, quality and sustainability since 1967. At its St.Gallen site, 140 employees manufacture around 11 000 units annually. The company is represented worldwide through over 60 distributors.

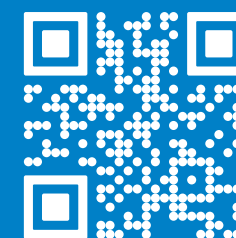


Company tour

Highlights Series 6

Key information at a glance.

More



Series 6
product catalogue

Thermo-6 Performance

Key Data

- Temperatures for water up to: 100 / 140 / 160 / 180 °C
- Heating capacity: 8 / 16 / 32 kW
- Pump capacity: 65 / 140 / 200 L/min
- Cooling Capacity: 40 / 65 / 120 kW (at ΔT 60 K)

Precision & Dynamics

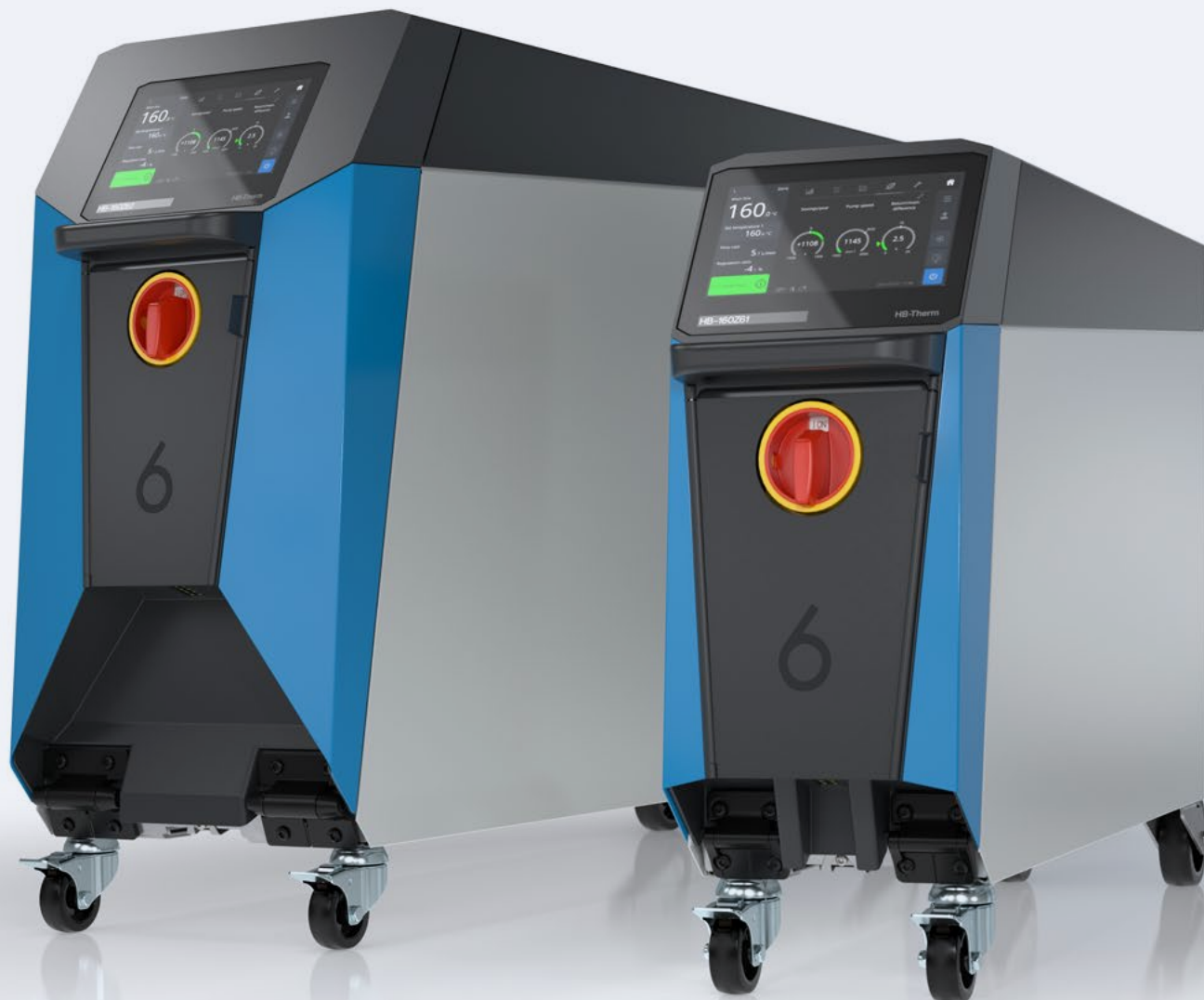
- Tankless system for direct response
- Shortest heating and cooling times
- High control accuracy: ± 0.1 °C

Optimised Thermal Concept

- Minimal circulation volume thanks to the tankless system – lower energy consumption
- Consistently optimal heat transfer
 - Heating without deposits due to forced flow
 - Cooling without deposits thanks to innovative technology
- Flow-optimised hydraulic circuit with low pressure drop

Energy Efficiency

- Energy savings through a speed-controlled pump
- Reduced waste heat thanks to fewer ventilation slots
- Low cooling water requirement
- Lowest energy consumption during operation



Promo-Clip

Just
better.

Thermo-6

Durability



Technological Features

Heating without direct contact with the heat transfer medium

- Consistently efficient heat transfer
- Minimal deposits – reduced maintenance
- Highly efficient overall concept
- Lifetime warranty

Speed-controlled stainless steel pump

- Continuous operation with variable load – longer service life

Bypass cooling with plate heat exchanger

- More efficient heat transfer
- Minimal deposits – reduced maintenance

Ultrasonic flow meter without moving parts

- Maintenance-free
- Lifetime warranty

Superimposed system pressure

- Faster purging
- Prevents cavitation

Reduced Maintenance

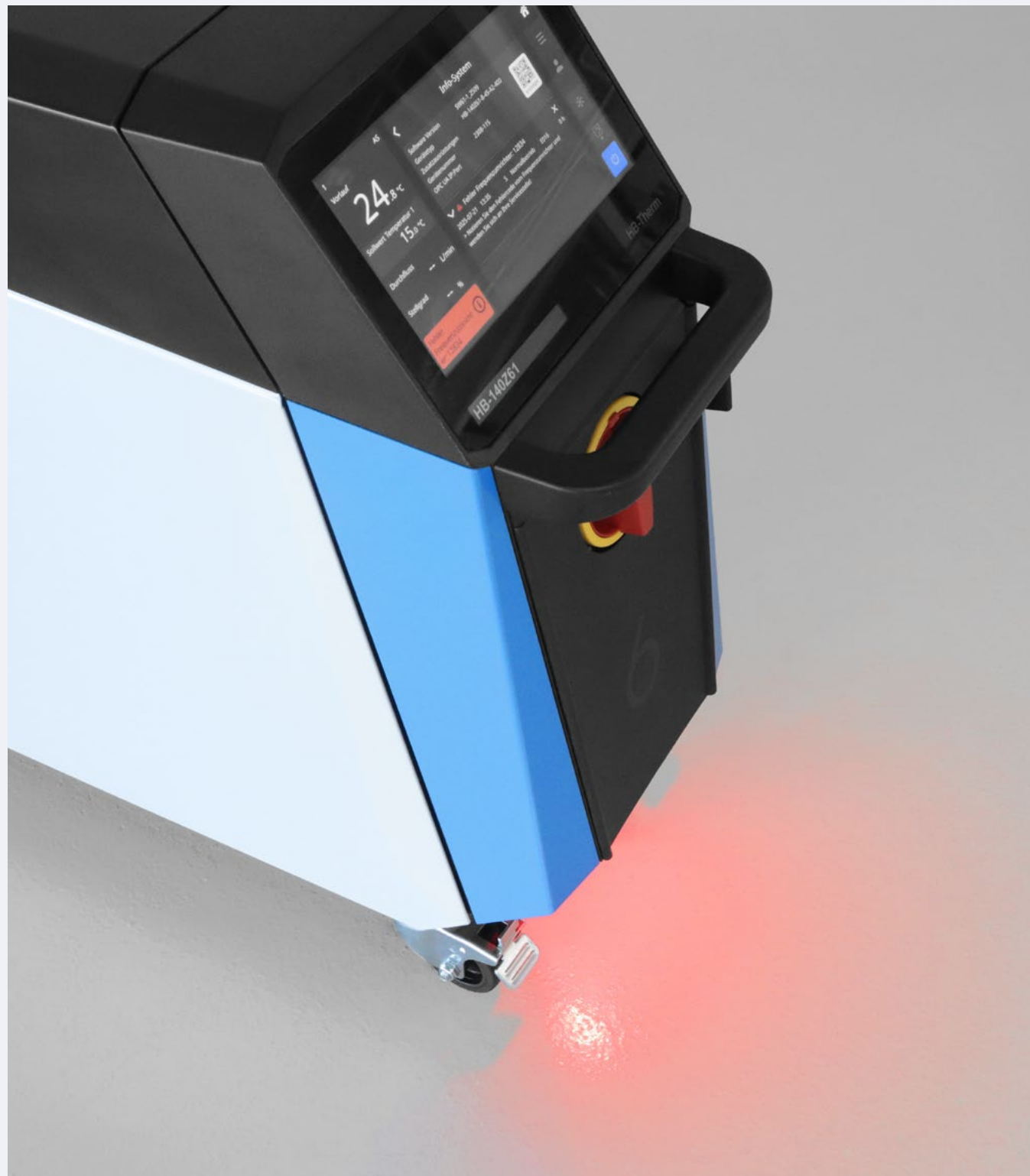
- Effectively prevents scaling of heater and cooler
- Prevents evaporation of the medium
 - No cavitation at the pump impeller
 - No pressure surges
- Corrosion-resistant hydraulic circuit

Benefits

- Longer service life
- Minimal maintenance

Thermo-6

Process Reliability



Monitoring of Media & Lines

- Process monitoring with automatic limit setting
- Ultrasonic flow measurement from 0.4 L/min
- Monitoring of pump status
- Detection of hose rupture and leaks
- Leak-stop operation, depending on unit type

Unit Condition & Maintenance

- Monitoring of the return filter screen – for reliable operation
- Continuous internal function monitoring
- Display of maintenance intervals – dashboard with 8 elements
- Condition-based maintenance – no unnecessary maintenance

Sensors & Probes

- Continuous monitoring of sensors and probes
- Factory calibration
- Recalibration with HB-TP180 test device

Documentation & Traceability

- Automatic data recording
- Display via trend graph
- Data export for analysis

Thermo-6 Control



Intuitive Control

- Simple, clear and user-friendly
- Automatic adjustment to the optimal operating point
- Automatic limit setting for maximum process reliability
- Configurable displays for individual presentation

Networked Operation Options

- Remote control via smartphones and tablets with Gate-6 and the e-cockpit app
- OPC UA as a standard interface
- Additional interfaces easily available via Gate-6



Actual value display



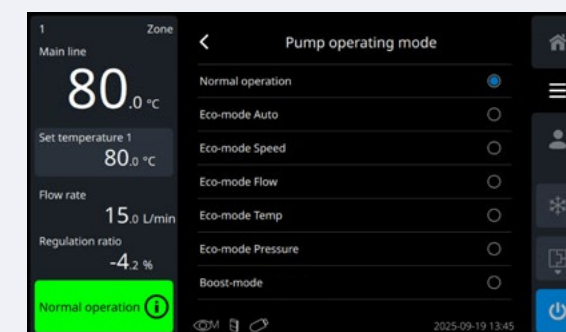
Trend graph



Maintenance interval display



Energy-Control display



Pump modes

Just
better.

Flow-6 Performance

Advantages of parallel Mould Temperature Control

Process performance

- Better homogeneity in temperature distribution
- Higher total flow rate
- Faster heat transfer
- Shorter cycle times

Cost efficiency

- Fewer temperature control units required
- Cost savings
- Energy savings



Performance Features

General

- Flow meter / Flow controller
- Temperatures for water up to 100 / 160 / 180 °C
- Number of circuits: 4 / 6 / 8
- Measuring range per circuit: 0.4–40 litres per minute
- High total flow (connection G1 ¼ – circuits G½)

Flow-6 controlled

- Optimal flow rate per circuit adjustable
- Uniform temperature distribution in the mould
- Stable process conditions through automatic regulation
- Dynamic adaptation to process changes
- Cycle time optimisation thanks to constant flow
- Fewer manual interventions – reduced operator effort
- Highest process reliability through early deviation correction
- Proven HB-Therm proportional valve technology – precise, durable
- Everything from a single source – no interface issues



Variants

Measuring variant

- Ultrasonic flow measurement per circuit
- Calibrated temperature measurement with Pt 1000

Control variant (available from March 2027)

- Additionally with proportional valves per circuit
- Flow rates are measured and controlled

Just
better.

Flow-6 Durability



Quality & Cost Efficiency

The technology used ensures reliability over many years. Flow-6 requires very little maintenance and sustainably reduces operating costs.

- Ultrasonic flow measurement without moving parts
- Resistant to contamination and pressure surges – e.g. during mould evacuation with compressed air
- Lifetime warranty on all measuring sections

Construction & Design

Flow-6 features a robust and well-engineered unit design – ideal for industrial applications.



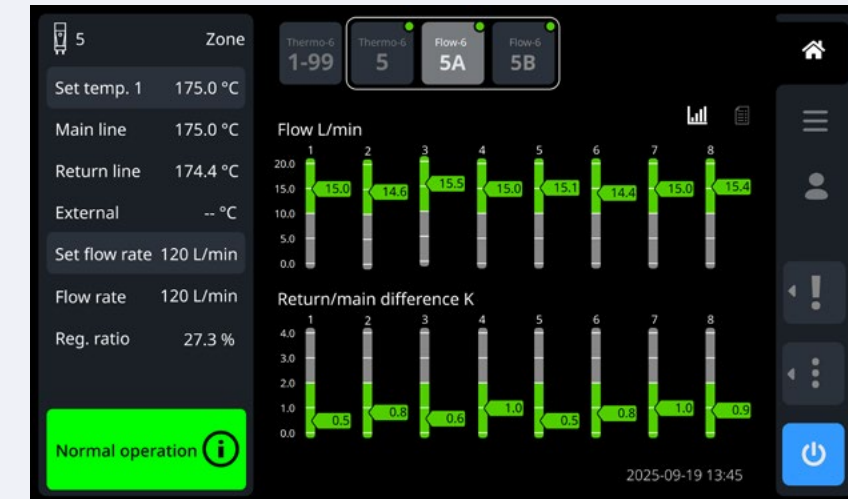
- Flow-optimised precision-cast stainless steel manifold
- Compact housing made of aluminium and stainless steel
- Hydraulic circuit made entirely of corrosion-resistant materials
- Low weight for easy handling – 8 circuits ~20 kg
- High-quality shut-off valves
- Vertical and horizontal installation with circuit outlets facing downwards
- Easy fastening with mounting brackets

Flow-6 Monitoring



Compatibility & Operation

Flow-6 can be integrated into various systems via OPC UA.



- Clear and straightforward operation on Thermo-6 or Gate-6 with display
- Flow measurement and regulation of individual circuits
- Seamless integration and communication

Monitoring & Safety

Flow-6 monitors each circuit individually, detects deviations immediately and actively supports process reliability

- Automatic limit setting
- High-precision flow measurement from 0.4 L/min
- Temperature measurement with Pt 1000 in the main line and return line
- Early detection of changes due to deposits
- Selectable monitoring levels and data logging
- LED status display for a quick overview

Gate-6 Performance

The Versatile Interface Server for Your Applications

Gate-6 connects Thermo-6 to the machine control as well as smartphones and tablets, thereby simplifying operation, management and analysis.

The position of Gate-6 can be freely chosen – for optimal visualisation and convenient remote control.



Integration & Efficiency

- Standard OPC UA interface for easy integration
- Connections via DIGITAL, CAN or Profibus-DP through Gate-6
- Control of up to 16 Thermo-6 units with a single interface card

Remote Functions with the e-cockpit App



- Remote control via smartphones and tablets
- Access Thermo-6 from anywhere
- Live support from HB-Therm
- Conveniently send analysis data at the touch of a button

Tools & Documentation

- Knowledge base with extended online documentation
- Unit-specific documents, e.g., spare parts or test certificates
- Overview and management of your Series 6 units
- Direct creation of support tickets in case of malfunctions

Data Security

- Highest security standards to protect data and maintain confidentiality
- Access only with explicit authorisation

Thermo-6

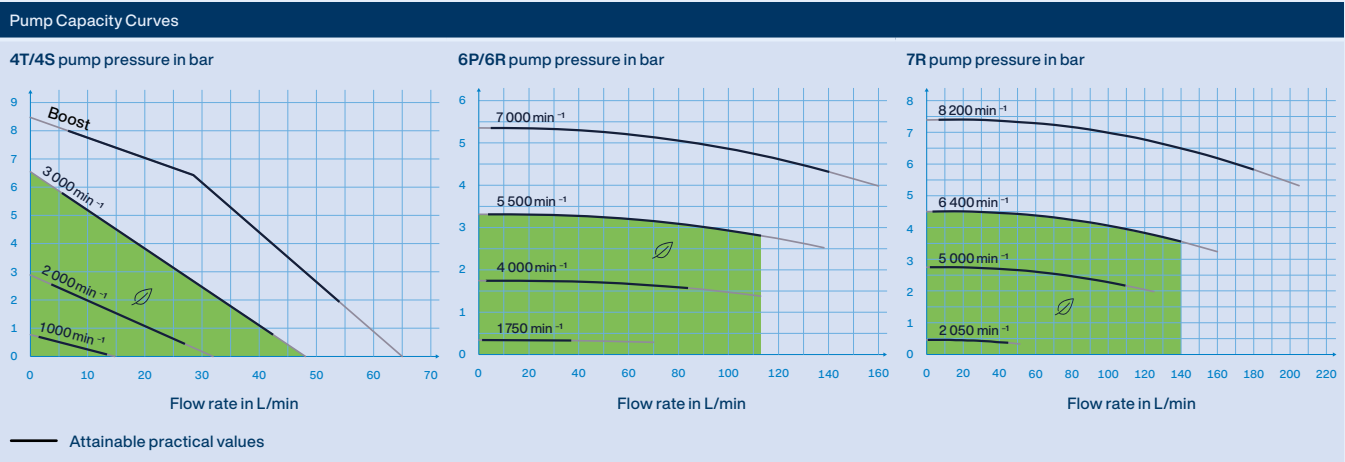
Temperature Control Units		100 °C				140 °C				160 °C				180 °C			
Temperature control unit	Type	HB-100Z		HB-140Z		HB-160Z		HB-180Z									
	Housing size	61	62	61	62	61	62	61	62								
Image																	
Heating	8 kW	8															
	16 kW	16															
	32 kW	32															
Pump																	
	Direct-Drive; 1,1 kW; 65 L/min, 85 m	4T															
	1,1 kW; 65 L/min, 85 m	4S															
	Direct-Drive; 1,5 kW; 140 L/min, 54 m	6P															
	1,5 kW; 140 L/min, 54 m	6R															
	3,4 kW; 200 L/min, 74 m	7R *															
Cooling	40 kW @ 60 K	A2															
	65 kW @ 60 K	B2															
	120 kW @ 60 K	E2															
Additional Equipment																	
Leak stopper		ZL															
Connection for alarm and external control		ZB															
Connection for external sensor		ZE															
Return line filter monitor		ZF															
Mould evacuation with compressed air		ZG															
Mould evacuation and pressure relief		ZN															

Technical Data

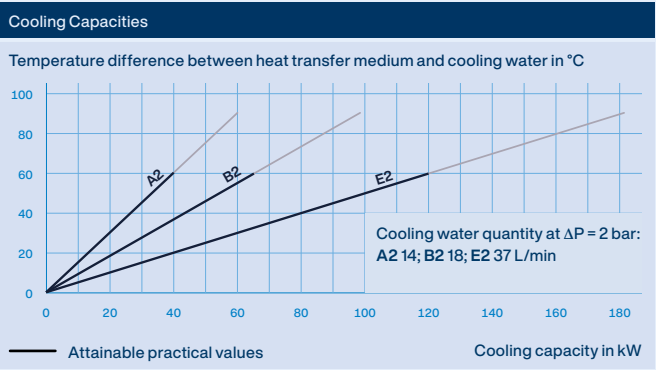
Flow rate measurement	L/min	0,4–60	0,4–60	1–150	1,2–200	0,4–60	0,4–60	1–150	1,2–200	0,4–60	0,4–60	1–150	1,2–200	0,4–60	1–150	1,2–200
Circulating volume in unit	L	1,4	2,0	3,0	3,0	1,4	2,0	3,0	3,0	1,4	2,0	3,0	3,0	2,0	3,0	3,0
Connection, main line and return line		G¾	G¾	G1¼	G1¼	G¾	G¾	G1¼	G1¼	G¾	G¾	G1¼	G1¼	G¾	G1¼	G1¼
Resistance	bar, °C	20, 120				20, 160				20, 180				25, 200		
Dimensions	Height	mm	510	650		510	650			510	650			650		
	Width	mm	190	300		190	300			190	300			300		
	Depth	mm	793	991		793	991			793	991			991		

Special version: UL			
C011	HB - 100	Z61 - 8 - 4T	UL version with MET marking available (Complies with UL 61010-1, CSA C22.2 No. 61010-1; E115902)
	140	Z62 - 16 - 4S	
	160		
	HB - 180	Z62 - 8 - 4S	UL version available without MET marking (certification in progress).
		16	
		32*	
	HB - 100	Z62 - 8 - 6P	* Limitation: UL version not available with 220 V mains voltage and 32 kW heating.
	140	16 6R	
	160	32* 7R	
	180		

Interfaces
Thermo-6 temperature control units are equipped as standard with an OPC UA interface. This enables direct integration into the machine control system as well as connection to other Thermo-6 units, Flow-6 flow meters and flow controllers. Gate-6 provides the central communication function for additional interfaces.
● Standard specification ○ Optional
* Available as a special version C8860; the standard version will be available from April 2027.
1) Functions in units with pump 4T/4S included in standard equipment.
2) Typical specification. Combination ZG/ZN not possible



Pump modes	
Normal operation	Pump operates at constant speed 3000 min ⁻¹ .
Eco-Mode Auto	Automatic control of the temperature difference (ΔT) between main line and return line.
Eco-Mode Speed	Pump operates at the set target speed (%).
Eco-Mode Flow	Control of the pump speed for constant flow rate.
Eco-Mode Temp	Manual setting of a constant temperature difference (ΔT).
Eco-Mode Pressure	Control of the pump speed for constant differential pressure between main and return lines.
Boost-Mode	Pump operates at maximum speed (current limited).



Gate-6

Interface Server

Interface Server Gate-6		Type	HB-GATE61	Notes
Image *				Using Gate-6, up to 16 Thermo-6 temperature control units can be connected to the machine control system with a single interface card. Standard interfaces: Ethernet, Bluetooth, WiFi, USB
Additional Equipment	Display	ZV	○	7 inch IPS touch screen
	Interface DIGITAL	ZD	○	20 mA, RS-232, RS-422/485
	Interface CAN	ZC	○	CAN-Bus, CANopen
	Interface PROFIBUS-DP	ZP	○	max. 4 units

Technical Data

Dimensions	Height/Width/Depth	mm	275/190/67	○ Optional	* With additional equipment ZV
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Flow-6

Flow Meters

Flow meter		Version	4-way		6-way		8-way		
			Left	Right	Left	Right	Left	Right	
			Type up to 100 °C	HB-FM100L61-4	HB-FM100R61-4	HB-FM100L61-6	HB-FM100R61-6	HB-FM100L61-8	HB-FM100R61-8
			Type up to 160 °C	HB-FM160L61-4	HB-FM160R61-4	HB-FM160L61-6	HB-FM160R61-6	HB-FM160L61-8	HB-FM160R61-8
			Type up to 180 °C	HB-FM180L61-4	HB-FM180R61-4	HB-FM180L61-6	HB-FM180R61-6	HB-FM180L61-8	HB-FM180R61-8
Image *									
Additional Equipment									
Shut-off valves	ZH	☐	☐	☐	☐	☐	☐		

Flow Controllers **

Flow controller		Version	4-way		6-way		8-way		
			Left	Right	Left	Right	Left	Right	
			Type up to 100 °C	HB-FR100L61-4	HB-FR100R61-4	HB-FR100L61-6	HB-FR100R61-6	HB-FR100L61-8	HB-FR100R61-8
			Type up to 160 °C	HB-FR160L61-4	HB-FR160R61-4	HB-FR160L61-6	HB-FR160R61-6	HB-FR160L61-8	HB-FR160R61-8
			Type up to 180 °C	HB-FR180L61-4	HB-FR180R61-4	HB-FR180L61-6	HB-FR180R61-6	HB-FR180L61-8	HB-FR180R61-8
Image *									
Additional Equipment									
Shut-off valves	ZH	○	○	○	○	○	○		

Technical Data

Nominal measuring range	per circuit	L/min	0,4–40	0,4–40	0,4–40
Connection main manifold			G1¼	G1¼	G1¼
Connection circuits			G½	G½	G½
Weight max.	Flow Meters	kg	11	15	18
	Flow controller	kg	12	17	20
Dimensions	Height	mm	306	406	506
	Width	mm	239	239	239
	Depth	mm	175	175	175

Interfaces

Flow-6 flow meters and flow controllers are equipped as standard with an OPC UA interface. This enables networking with other Flow-6 devices, connection to Thermo-6 temperature control units as well as connection to the Gate-6 interface server, which can also be used with a display for remote operation of the Flow-6. It also allows direct integration into the machine control system. Gate-6 handles central communication for additional interfaces.

○ Optional

- * With additional equipment ZH
- ** The control function of the flow controllers is expected to be available from March 2027. Until then, the devices will operate exclusively as flow meters; the control function will be activated via a software update.

Communication

Connection to the machine

Example 1

Example 2

Example 3

Example 4

More Examples

¹⁾ Optional with OPC UA

Distributors Worldwide



Contact

Algeria
Argentina
Australia
Austria
Belgium
Bolivia
Bosnia and Herzegovina
Brazil
Bulgaria
Chile
China
Colombia
Costa Rica
Croatia
Czech Republic
Denmark
Dominican Republic

Ecuador
El Salvador
Estonia
Finland
France
Germany
Guatemala
Hong Kong
Hungary
India
Indonesia
Ireland
Israel
Italy
Japan
Korea
Latvia

Liechtenstein
Lithuania
Luxembourg
Malaysia
Mexico
Morocco
Netherlands
New Zealand
North Macedonia
Norway
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Latest edition