

Series



More than
Temperature Control Units

Just
6etter.

Swiss made.

HB-Therm AG, a pioneer in temperature control technology 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 more than 60 distributors.

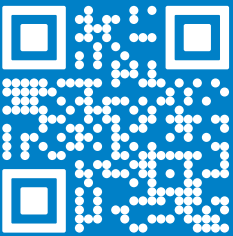


Company tour

Highlights Series 6

Key information at a glance.

More



Series 6
product catalog

Thermo-6 Performance



Key Data

- Temperatures for water up to: 212 / 284 / 320 / 356 °F
- Heating capacity: 8 / 16 / 32 kW
- Pump capacity: 65 / 140 L/min
- Cooling Capacity: 11.4 / 18.5 / 34.1 tons (at ΔT 60 K)

Precision & Dynamics

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

Optimized 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-optimized 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

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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

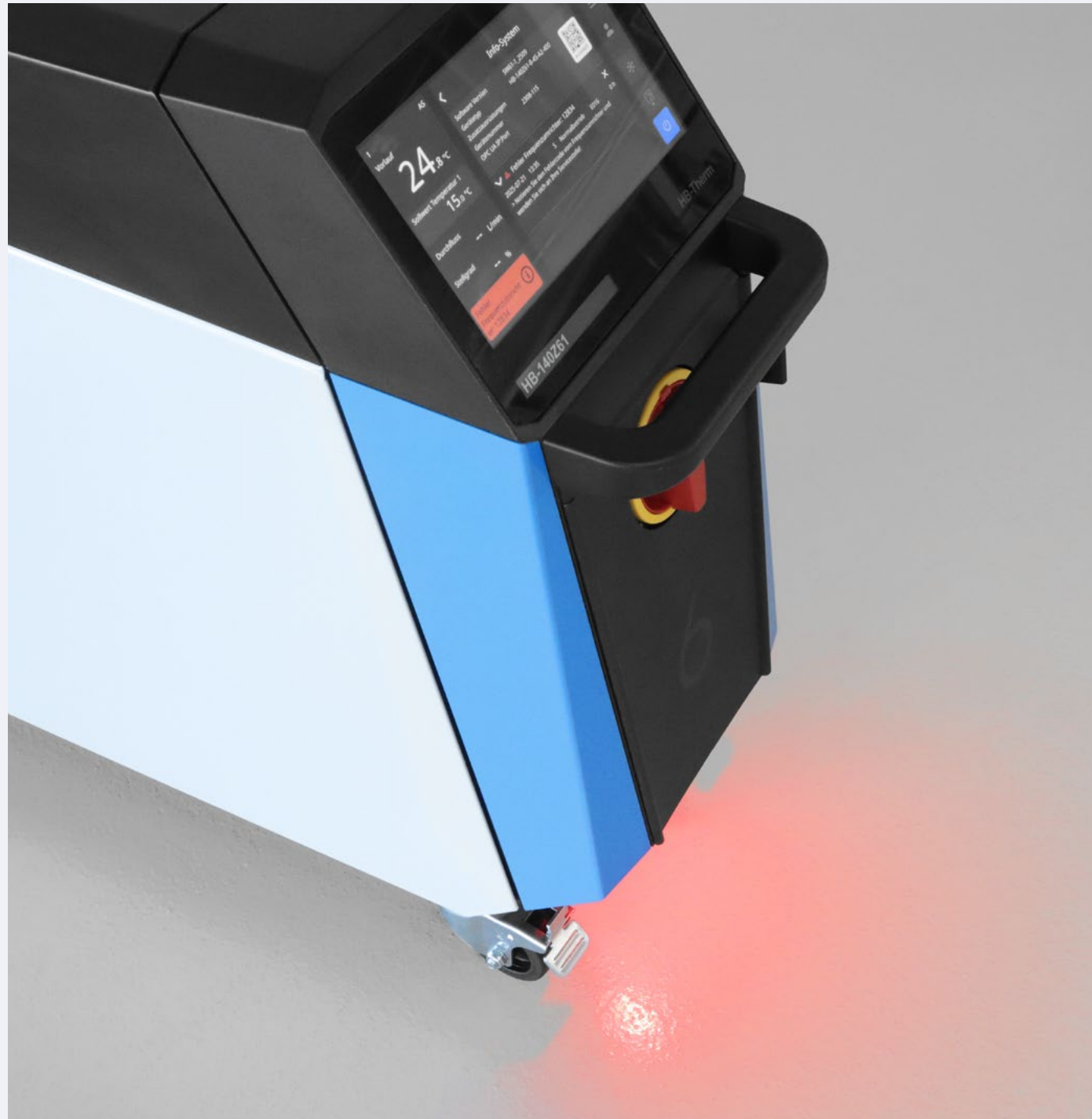
- Effectively prevents scaling of heater and cooler
- Prevents evaporation of the medium
 - No cavitation at the pump impeller
 - No pressure shocks
- Corrosion-resistant hydraulic circuit

Benefits

- Longer service life
- Minimal maintenance

Thermo-6

Process Reliability



Monitoring of Media & Lines

- Process monitoring with automatic limit setting
- Ultrasonic flow measurement from 0.1 gpm
- 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



Basic display



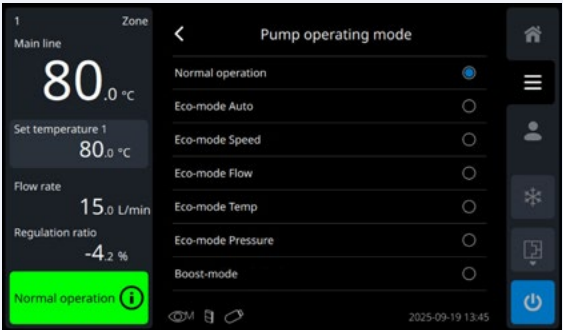
Trend chart



Maintenance interval display



Energy-Control display



Pump modes

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Flow-6 Performance

Advantages of parallel Mold 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 212 / 320 / 356 °F
- Number of circuits: 4 / 6 / 8
- Measuring range per circuit: 0.11–10.6 gpm
- High total flow (connection G1 ¼ – circuits G½)

Flow-6 controlled

- Optimal flow rate per circuit adjustable
- Uniform temperature distribution in the mold
- 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 (available starting September 2026)

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

Control variant (available starting March 2027)

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

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Flow-6 Durability



Quality & Cost Efficiency

The technology used ensures reliability over many years. Flow-6 requires virtually no maintenance and sustainably reduces operating costs.

- Ultrasonic flow measurement without any moving parts
- Resistant to contamination and pressure surges – e.g. during mold 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-optimized 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 ~44 lb
- High-quality shut-off valves
- Vertical and horizontal installation with circuit outlets facing downward
- Easy fastening with mounting brackets

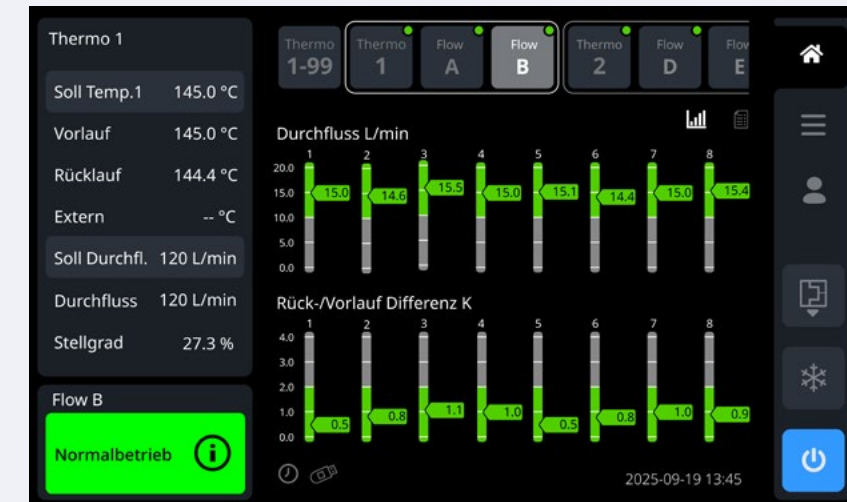
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Flow-6 Monitoring



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 value setting
- High-precision flow measurement from 0.1 gpm
- 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 visualization 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 authorization

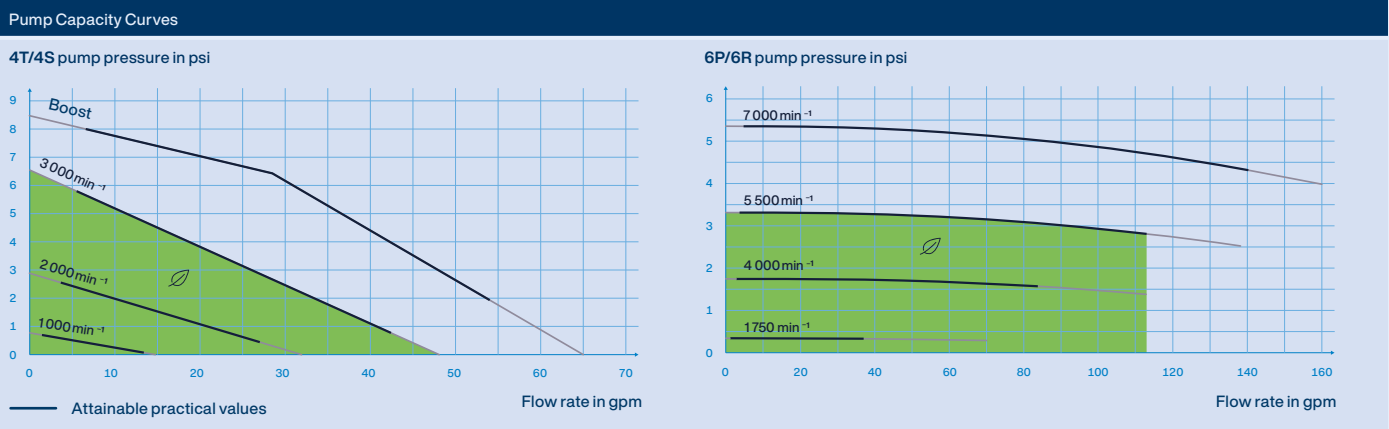
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Thermo-6

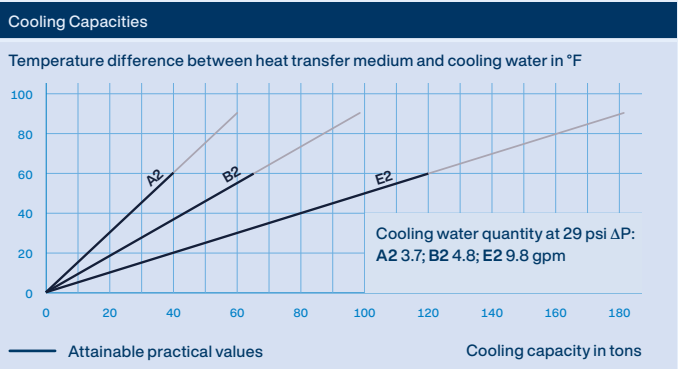
Temperature Control Units			212 °F			284 °F			320 °F			356 °F		
Temperature control unit			HB-100Z			HB-140Z			HB-160Z			HB-180Z		
Housing size			61	62		61	62		61	62		62		
Image														
Heating	8 kW	8	●	○	○	●	○	○	●	○	○	○	○	
	16 kW	16		●	●		●	●		●	●	●	●	
	32 kW	32			○			○			○	○	○	
Pump														
Direct-Drive; 1.5 hp; 17.2 gpm, 121 psi	4T	4T	●	●										
	4S	4S				●	●		●	●		●		
	6P	6P			●									
Direct-Drive; 2 hp; 37 gpm, 77 psi	6R	6R					●			●		●		
	6R	6R											●	
Cooling	11.4 tons @ ΔT 60 K	A2	●	●		●	●		●	●		●		
	18.5 tons @ ΔT 60 K	B2		○	●		○	●		○	●	●	●	
	34.1 tons @ ΔT 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	○	○	○	○	○	○	○	○	○	○	○	
Mold evacuation with compressed air		ZG	○	○	○	○	○	○	○	○	○	○	○	
Mold evacuation and pressure relief		ZN	1)	1)	○ 2)	1)	1)	○ 2)	1)	1)	○ 2)	1)	○ 2)	

Technical Data												
Flow rate measurement	gpm	0.11–15.9	0.11–15.9	0.26–39.6	0.11–15.9	0.11–15.9	0.26–39.6	0.11–15.9	0.11–15.9	0.26–39.6	0.11–15.9	0.26–39.6
Circulating volume in unit	gal	0.37	0.53	0.79	0.37	0.53	0.79	0.37	0.53	0.79	0.53	0.79
Connection, main line and return line		G¾	G¾	G1¼	G¾	G¾	G1¼	G¾	G¾	G1¼	G¾	G1¼
Resistance	psi, °F	290, 248	290, 248	290, 248	290, 320	290, 320	290, 320	290, 356	290, 356	290, 356	363, 392	363, 392
Dimensions	Height	in	20.1	25.6	20.1	25.6		20.1	25.6		25.6	
	Width	in	7.5	11.8	7.5	11.8		7.5	11.8		11.8	
	Depth	in	31.2	39.0	31.2	39.0		31.2	39.0		39.0	

Special version: UL							Interfaces	
C011	HB - 100	Z61	- 8	- 4T	UL version with MET marking available (Complies with UL 61010-1, CSA C22.2 No. 61010-1; E115902)		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 1) Functions in units with pump 4T/4S included in standard equipment. 2) Typical specification. Combination ZG/ZN not possible	
	140	Z62	- 16	4S				
	160							
	HB - 180	Z62	- 8	- 4S	UL version without MET marking available (certification process ongoing)			
			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*					
	180							



Pump modes	
Normal operation	Pump operates at constant speed 3000 rpm.
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	in	10.83/7.48/2.64	○ Optional * With additional equipment ZV (available starting October 2026)

Flow-6

Flow Meters **

Flow meter	Version	4-way		6-way		8-way	
		Left	Right	Left	Right	Left	Right
	Type up to 212 °F	HB-FM100L61-4	HB-FM100R61-4	HB-FM100L61-6	HB-FM100R61-6	HB-FM100L61-8	HB-FM100R61-8
	Type up to 320 °F	HB-FM160L61-4	HB-FM160R61-4	HB-FM160L61-6	HB-FM160R61-6	HB-FM160L61-8	HB-FM160R61-8
	Type up to 356 °F	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 212 °F	HB-FR100L61-4	HB-FR100R61-4	HB-FR100L61-6	HB-FR100R61-6	HB-FR100L61-8	HB-FR100R61-8
	Type up to 320 °F	HB-FR160L61-4	HB-FR160R61-4	HB-FR160L61-6	HB-FR160R61-6	HB-FR160L61-8	HB-FR160R61-8
	Type up to 356 °F	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	gpm	0.11-10.6	0.11-10.6	0.11-10.6
Connection main manifold			G1¼	G1¼	G1¼
Connection circuits			G½	G½	G½
Weight max.	Flow meters	lb	24.3	33.1	39.7
	Flow controller	lb	26.5	37.5	44.1
Dimensions	Height	in	12.05 (306 mm)	15.98 (406 mm)	19.92 (506 mm)
	Width	in	9.41 (239 mm)	9.41 (239 mm)	9.41 (239 mm)
	Depth	in	6.89 (175 mm)	6.89 (175 mm)	6.89 (175 mm)

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
- **

Available starting September 2026
- ***

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

Ethernet (OPC UA)

Example 2

ZD (RS-485, 20 mA)
ZC (CAN)
ZP (Profibus-DP)
Ethernet (OPC UA)

Ethernet

Example 3

ZD (RS-485, 20 mA)
ZC (CAN)
ZP (Profibus-DP)
Ethernet (OPC UA)

Ethernet

ZO (OPC UA)

Example 4

ZD (RS-485, 20 mA, ...)
ZC (CAN)
ZP (Profibus-DP)

ZD (RS-422)
ZC (CAN)
ZP (Profibus-DP)

ZD (RS-422)
ZC (CAN)
ZP (Profibus-DP)

Ethernet

Ethernet

More Examples



Note: For the Flow-6 power supply, see page 46.

[¶] Optional with OPC UA

Distributors Worldwide



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Algeria
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Ireland
Israel
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Lithuania
Luxembourg
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To the latest issue