Wittmann

Leading in performance and efficiency

Temperature Control

world of innovation

Latest design, technology and operation
Tempro plus

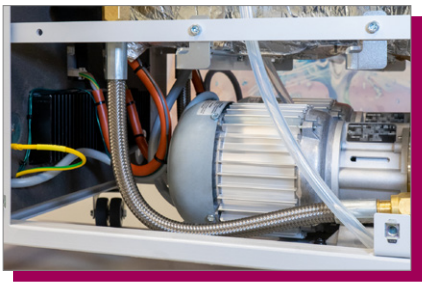
The temperature control of the mold has a decisive influence on both processing efficiency and component quality. That is why WITTMANN product developers have been paying special attention to temperature control for more than 50 years.

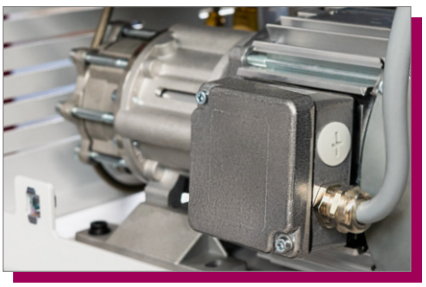
Then as now: robust technology, ease of use, minimal energy consumption.

The Plus in process reliability

- Self-optimizing microprocessor control, accuracy ±0.2 °C
- Automatic pump rotation detection at every start-up
- Continuous monitoring of the differential temperature in the mold circuit
- Thermomechanical safety temperature limiter for heating shutdown
- Heating control via solid state relay (SSR)
- Sensor breakage monitoring for temperature and pressure
- Software-supported monitoring of maximum temperature
- Leakage and level monitoring
- Dirt strainer in water inlet and mold inlet
- Acoustic alarm signal
- Pump dry-running protection
- IP54 control cabinet

Tempro plus
single and dual zone units





The Highlights

Cavitation-free operation
During pressurized operation, the internal pressure is monitored by a pressure sensor and maintained at least 1 bar above the steam pressure curve by means of a filling valve and pressure booster pump.
All components are made of corrosion resistant materials.
Pressurised units are designed with a pump bypass.

Energy-saving – thanks to EcoDrive
At WITTMANN, the term EcoDrive stands for the optimal use of energy. This is because EcoDrive precisely adjusts the output to the demand. The energy savings is at least 45 percent. In addition, the service life of the pump is extended because it does not run constantly under full load. The design keeps the volume of the circulating medium small. The result: significantly faster heating and cooling.

Sealless magnetically coupled pumps
Standard with Tempro plus for temperature ranges from 100–180 °C.

5.7" touch display
The control system with full text display and intuitive menu navigation ensures very simple and reliable setting and control. There are multiple languages to choose from. At the same time the setpoint and actual values can be shown on the display. Temperature control at a glance – thanks to a clear colour system. Advanced display options for freely selectable values. Individually assignable function memory locations for frequent operating modes.

The interfaces
Wittmann 4.0 as standard
Analog interface 4-20 mA / 0-10 V
Digital interface 20 mA / RS232 / RS485 / CAN
Network interface EUROMAP 82.1
OPC UA / Profibus

OPTIONAL FEATURES FOR MAXIMIZED PERFORMANCE

EcoDrive
Variable frequency driven pump.

Flow measuring up to 180 °C
Vortex or ultrasonic

Mold purging
up to 180 °C through pressurized air

Low in price, big in performance
Tempro basic

Ideal for applications demanding precise temperature control, user-friendly operation, and customizable configurations.

- Self-optimizing microprocessor control, accuracy ±1.0 °C
- Software-supported monitoring of maximum temperature
- Sensor breakage monitoring for temperature and pressure
- Automatic filling system with leakage and level monitoring
- Thermomechanical safety temperature limiter for heating shutdown
- Operating hours counter with service interval display
- Acoustic alarm signal

The Highlights

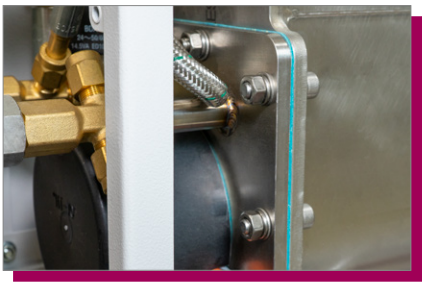
3.5" TFT LCD color display
Intuitive menu navigation puts all process-relevant data at your fingertips, offering clear status indicators and enhanced ease of use.

Increased cooling capacity
Increasing the cooling coil size maximizes the cooling capacity of indirectly cooled units.

Proportional cooling valve
Efficient, powerful and maintenance-free: the proportional cooling valve, driven by a stepper motor, enables constant temperature control at direct cooled units and offers 27% higher cooling performance and does not require a membrane.

Increased control accuracy
Thanks to the Pt1000 temperature sensor: Higher sensitivity due to greater nominal resistance enables precise temperature measurement – ideal for industrial applications where reliability and accuracy are key.

The interfaces
Analog interface 4-20 mA / 0-10 V
Digital interface 20 mA / RS232 / RS485 / CAN



The Tempro basic series perfectly fits under the machine frame or conveyor belts thanks to its compact design.

Comfort meets control – without any extras
Tempro primus

The first choice for all applications that require precise temperature control and ease of use without additional functions. Place it, connect it, and done – plug and play.

- 3.5" TFT LCD color display for user-friendly menu navigation
- Increased cooling capacity thanks to the large diameter of the cooling coil pipe
- Stainless steel heating element (INCOLOY 825)
- Consistent results, thanks to the precision of PT1000 temperature monitoring
- Mold purging via pump
- Automatic filling and venting of the mold circuit
- Leakage and level monitoring

Two sizes – one standard: perfection.
Tempro plus Micro und Tempro plus L

Whether compact or powerful, both devices combine the highest standards of technology and ease of use. The 5.7" touch display with set and actual value display enables the intuitive control and ensures full control at a glance, regardless of the size of the device.

Tempro plus Micro
Compact dual zone temperature controller

The pressurized temperature control unit can be equipped with a variety of powerful pumps to suit the application requirements. It has an energy-efficient, directly installed heater and, as standard, selectable indirect or direct cooling. The Tempro plus Micro is a dual-zone version and is suitable for temperatures up to 160 °C.

Advantages:

- Compact design
- Unlimited mold purging via pump into the water drain
- Consistent, cavitation-free operation through advanced pressure monitoring and booster pump control
- Low filling volume optimizes short heating and cooling times

Tempro plus L
For large-scale consumers

The **Tempro plus L120** with centrifugal pumps provides high volume flows for various pressure ranges. Designed for maximum user comfort with its intuitive touch display, it also supports a wide range of equipment options.

Advantages:

- EcoDrive pump – in combination with optimized parallel distribution and variable frequency control, the energy saving potential is between 40 and 50% – for maximum energy efficiency.

Large molds are easily heated to set temperature in no time with the powerful **Tempro plus L90**. In addition to its heating capacity of up to 36 kW, it has a flow rate of up to 200 l/min and increased cooling capacity. This model impresses with its unlimited mold emptying, which ensures quick and clean mold changes.

Advantages:

- Additional booster pump enables unlimited mold purging

Wittmann

Technical Specifications

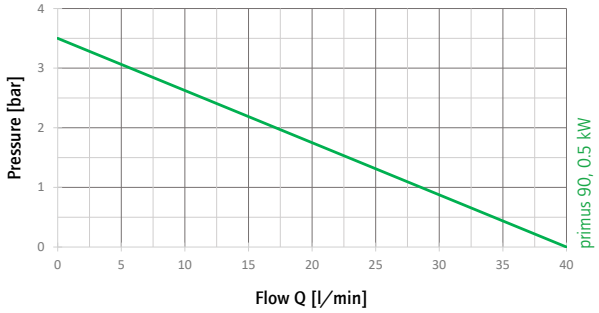
Model	Heating power (standard)	Heating power (increased)	Pump capacity (standard)			Pump capacity (increased)			EcoDrive pump			Connections Cooling circuit	Connections Tool circuit	Dimensions (W × H × D)
Tempro	kW	kW	kW	l/min[1]	bar[1]	kW	l/min[1]	bar[1]	kW	l/min[1]	bar[1]	G "	G "	mm
primus 90	9	–	0.5	40	3.5	–			–			3/8	3/4	240 × 605 × 790
basic 90	9	12	0.5	40	3.5	1.0	60	5.8	–			3/8	3/4	240 × 605 × 790
basic 120	9	18	1,0	200	2,35	1,5	200	3,65	–			3/4	1 1/4	240 × 605 × 850
basic L120	9	18	1.5	200	3.65	2.2	200	4.25	–			3/4	1 1/4	380 × 870 × 925
						3.5	280	5.9						
basic 140	18	36	0.5	30	5.0	0.75	60	6.0	–			3/8	3/4	240 × 605 × 760
						1.0	60	6.0						
plus 90 1-Kreis	9	12	0.5	40	3.8	1.0	60	5.8	–			3/8	3/4	265 × 650 × 840
plus 90 2-Kreis	9	12	0.5	40	3.8	1.0	60	5.8	–			3/8	3/4	465 × 650 × 840
plus 100 1-Kreis	9	12 | 16	0.5	40	4.5	1.0	60	6.0	1.1	50	9.0	3/8	3/4	265 × 650 × 840
						2.2	90	6.0						
plus 100 2-Kreis	9	12 | 16	0.5	40	4.5	1.0	60	6.0	1.1	50	9.0	3/8	3/4	465 × 650 × 840
						2.2	90	6.0						
plus 120 1-Kreis	9	12 | 16	0.5	40	4.5	1.0	60	6.0	1.1	50	9.0	3/8	3/4	265 × 650 × 840
						2.2	90	6.0						
plus 120 2-Kreis	9	12 | 16	0.5	40	4.5	1.0	60	6.0	1.1	50	9.0	3/8	3/4	465 × 650 × 840
						2.2	90	6.0						
plus 140 1-Kreis	9	12 | 16	0.5	40	4.5	1.0	60	6.0	1.1	50	9.0	3/8	3/4	265 × 650 × 840
						2.2	90	6.0						
plus 140 2-Kreis	9	12 | 16	0.5	40	4.5	1.0	60	6.0	1.1	50	9.0	3/8	3/4	465 × 650 × 840
						2.2	90	6.0						
plus 160 1-Kreis	9	12 | 16	0.5	30	5.0	1.0	60	6.0	1.1	50	9.0	3/8	3/4	265 × 650 × 840
						2.2	90	6.0						
plus 160 2-Kreis	9	12 | 16	0.5	30	5.0	1.0	60	6.0	1.1	50	9.0	3/8	3/4	465 × 650 × 840
						2.2	90	6.0						
plus 180 1-Kreis	9	12 | 16	0.5	30	5.0	1.0	60	6.0	1.1	50	9.0	3/8	3/4	265 × 650 × 840
						2.2	90	6.0						
plus 180 2-Kreis	9	12 | 16	0.5	30	5.0	1.0	60	6.0	1.1	50	9.0	3/8	3/4	465 × 650 × 840
						2.2	90	6.0						
plus Micro 100	1	4.5 | 6	0.25	11	4.5	0.5	27	4.6	–			3/8	3/8	265 × 585 × 677
plus Micro 140	6	–	0.5	40	4.5	–			–			3/8	3/8	265 × 585 × 677
plus Micro 160	6	–	0.5	30	5.0	–			–			3/8	3/8	265 × 585 × 677
plus L90	18	36	2.2	100	5.0	2.8	200	5.0	–			3/4	1 1/4	380 × 865 × 906
						3.5	200	7.5						
plus L120	18	36	1.5	200	3.65	2.2	200	4.25	4.0	365	6.3	3/4	1 1/4	380 × 865 × 906
						3.5	280	5.9						

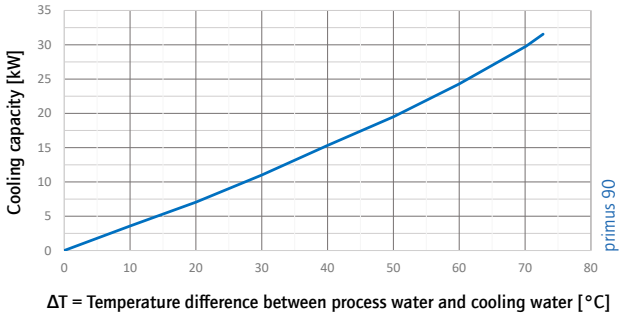
Standard: Electrical connection 3 × 380–415 V / 50 Hz
[1] max.

Notes

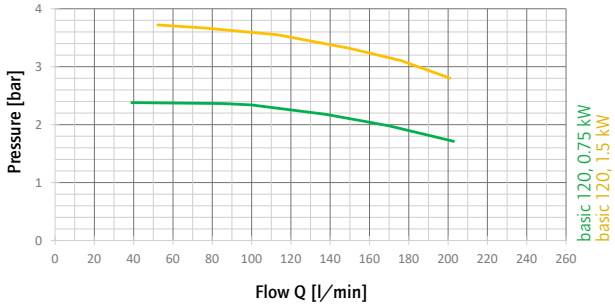
Pump characteristics and cooling capacity diagrams

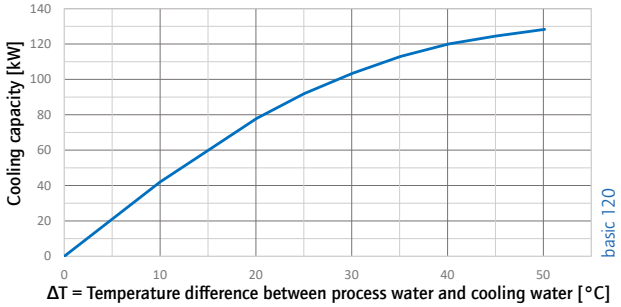
Tempro primus 90



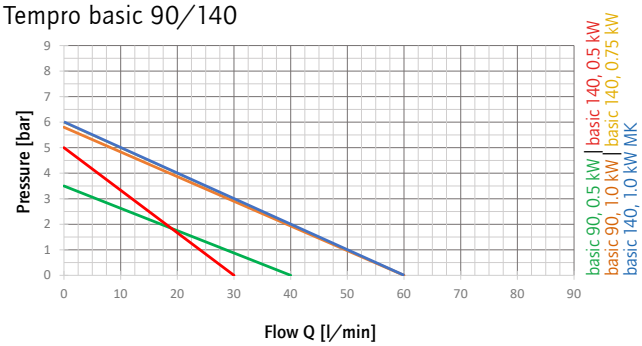


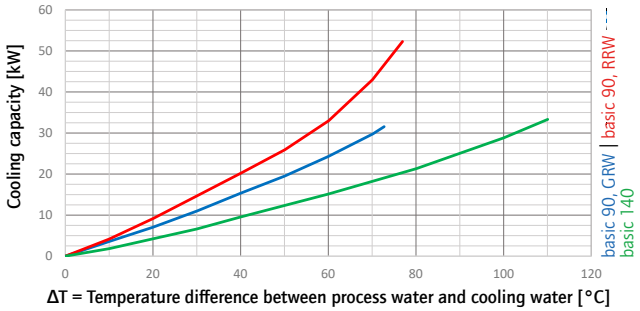
Tempro basic 120



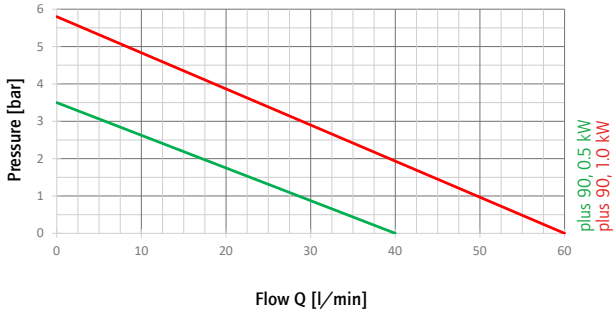


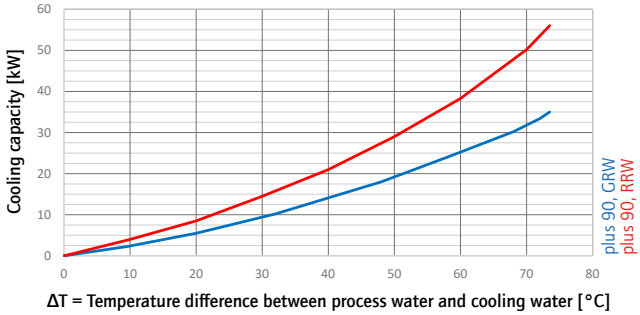
Tempro basic 90/140





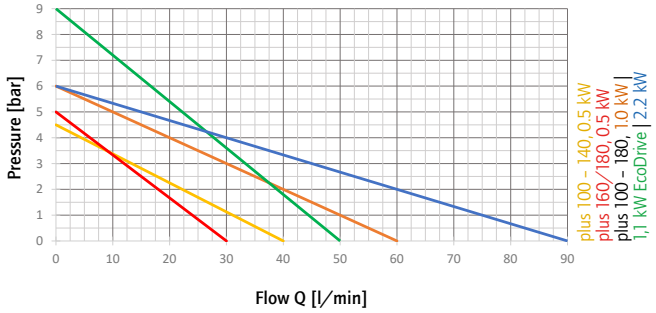
Tempro plus 90

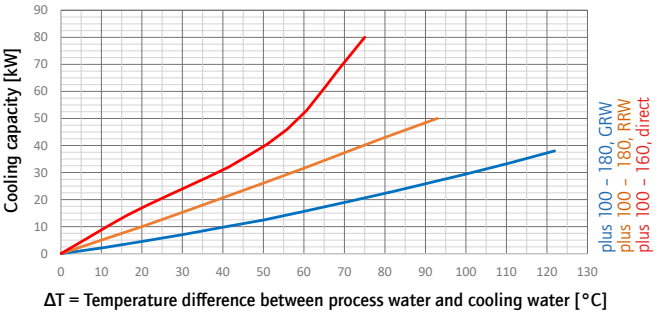




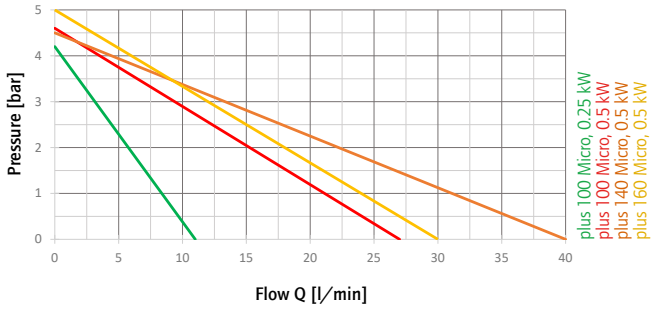
Standard: Electrical connection 3 x 380 – 415 V / 50 Hz
Current pump characteristics and cooling capacity curves can be found in the digital brochure on our website.

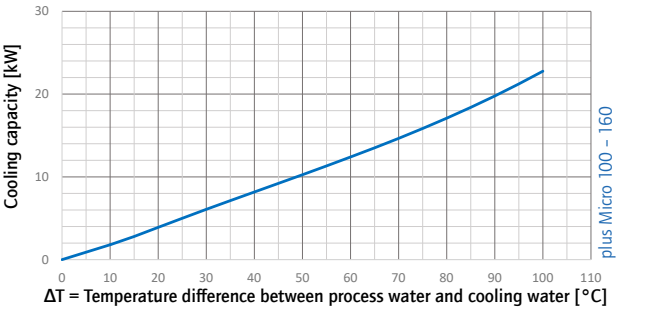
Tempro plus 100 – 180



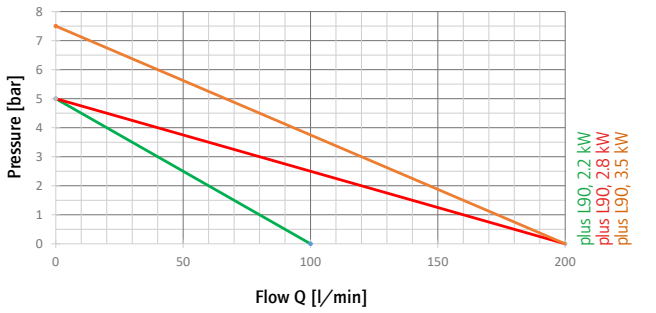


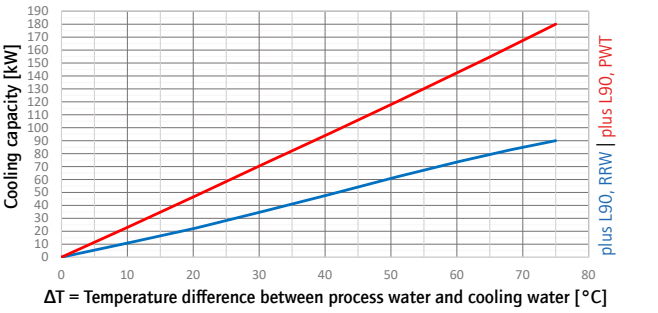
Tempro plus Micro 100 – 160



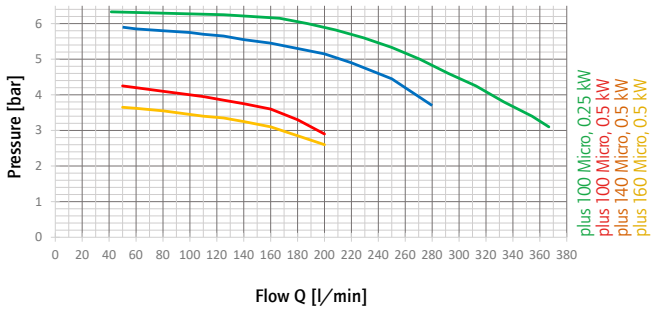


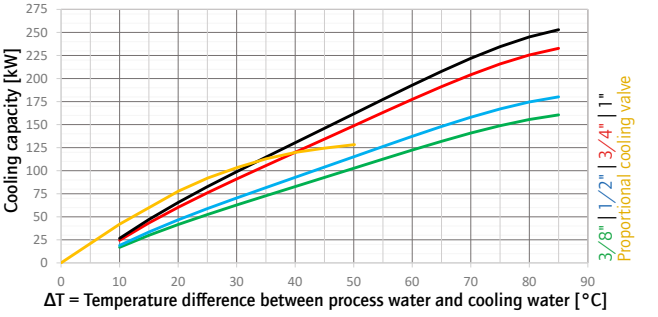
Tempro plus L90





Tempro plus L120





» We develop **technologies that meet the demands of today and tomorrow**, saving materials and energy while protecting the climate. Across the entire injection molding process, from material handling to in-line recycling.
We live molding. «

(Dr. Werner Wittmann)

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