The World's Leading
Water Flow Regulators

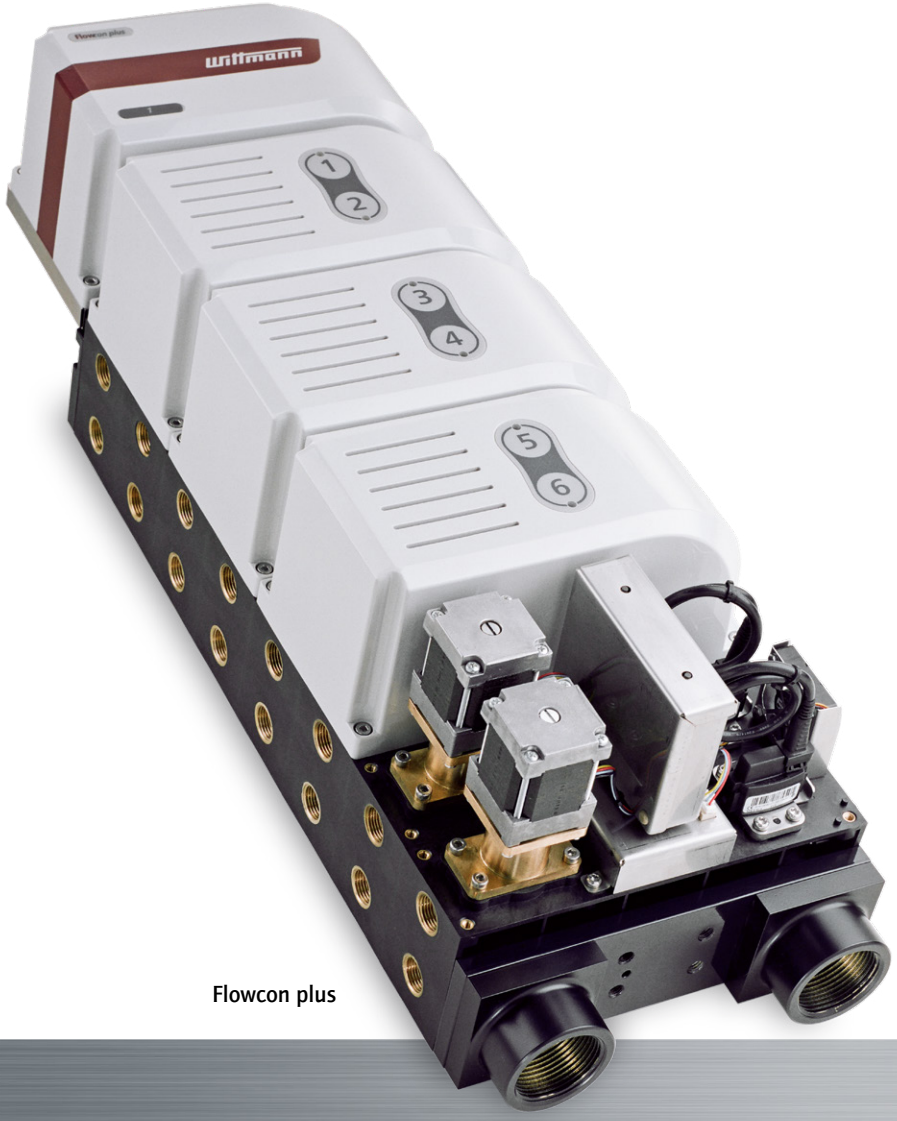
world of innovation

The intelligent flow control
Flowcon plus

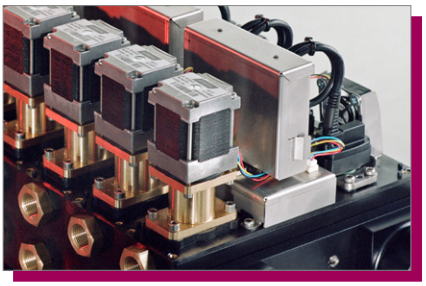
For over 50 years, WITTMANN has been setting standards in the development and production of water distribution and control systems for the plastics processing industry. Flowcon plus is our digital flow controller, which ensures constant temperature and flow rates throughout the entire production process thanks to precise fine control and wear-free flow measurement.

The plus in process reliability

- Operation temperature: up to 120 °C
- Flow rate per circuit: 1–15 l/min
- Maximum circuits per unit: 12 (in steps of 2)
- Tool connections: G 3/8"
- Water inlet/outlet: G 1 1/4"
- Electrical connection: 24 V DC (built-in solution) or 230 V AC – 50 Hz – 4A (standalone)
- Depending on the selected control variable, the Flowcon plus automatically adjusts.
- Integration possible via Wittmann 4.0 and for every injection molding machine via OPC UA.



Flowcon plus



The Highlights

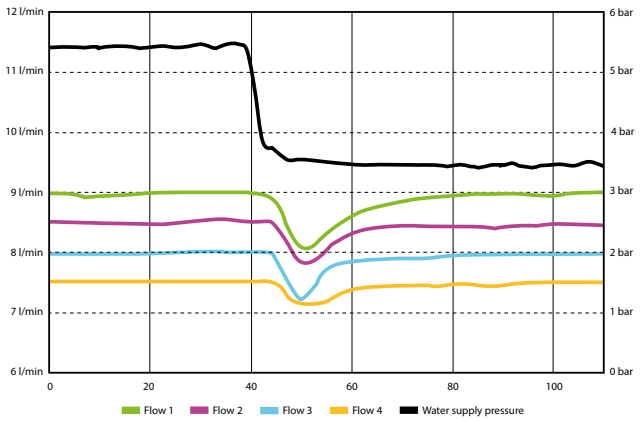
Precision & efficiency
The Flowcon plus features a high-precision fine adjustment valve that enables temperature accuracy of ±1 °C. Optimized flow channels ensure minimal pressure loss and maximum flow rates.

Flexible expansion
Thanks to its modular design, the Flowcon plus can be flexibly adapted to different requirements – from 2 to 12 circuits per unit, expandable in steps of 2. For larger applications, up to four units can be combined, enabling the control of up to 48 circuits.

Optimal heat distribution for best production results
In combination with a high-performance temperature control unit, the Flowcon plus ensures uniform heat distribution in the mold. This significantly reduces warping in plastic parts and improves the quality of the end products. Installation close to the mold is particularly advantageous: it minimizes heat and pressure losses and stabilizes the entire cooling process.

HIGHEST PROCESS RELIABILITY

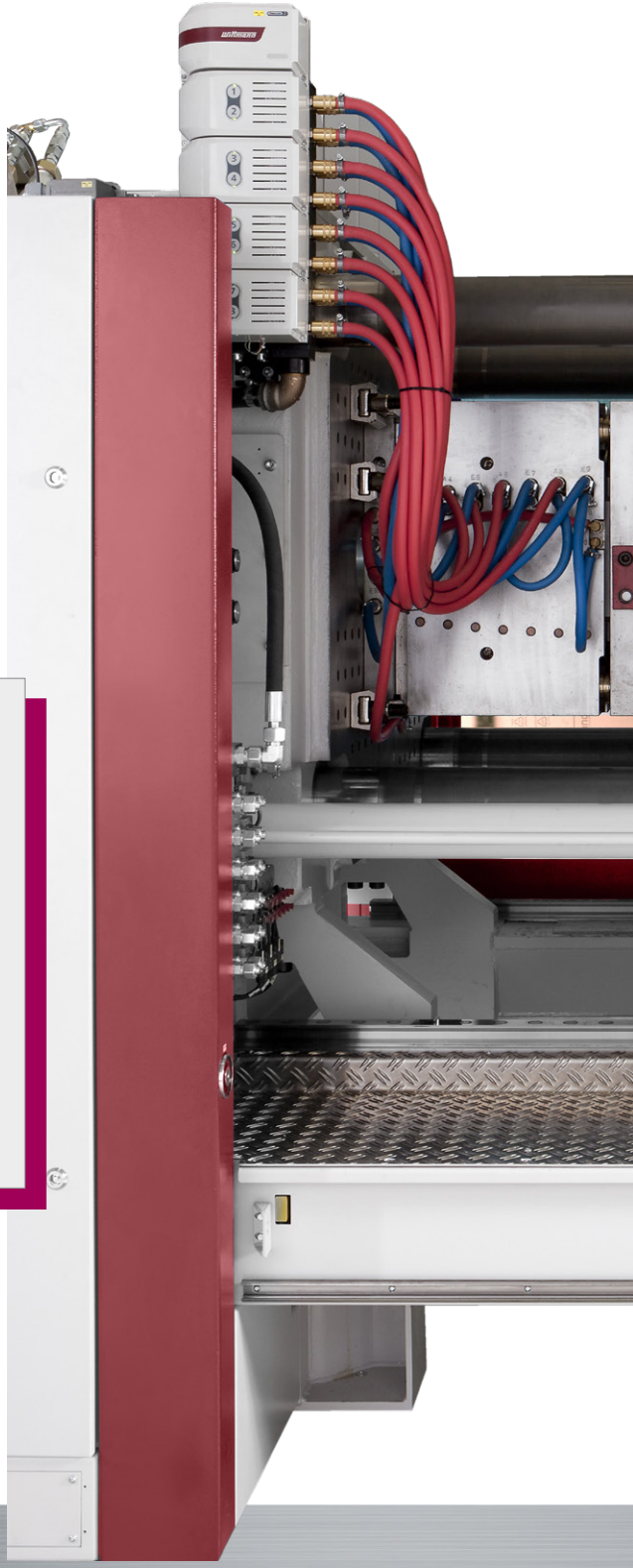
- Disruptive factors such as clogged cooling channels or pressure fluctuations in the cooling system are detected and adjusted to within a tenth of a degree.
- Tolerance monitoring detects when the selectable control parameters such as flow rate or return temperature are exceeded or not reached, and reports this via an alarm contact.

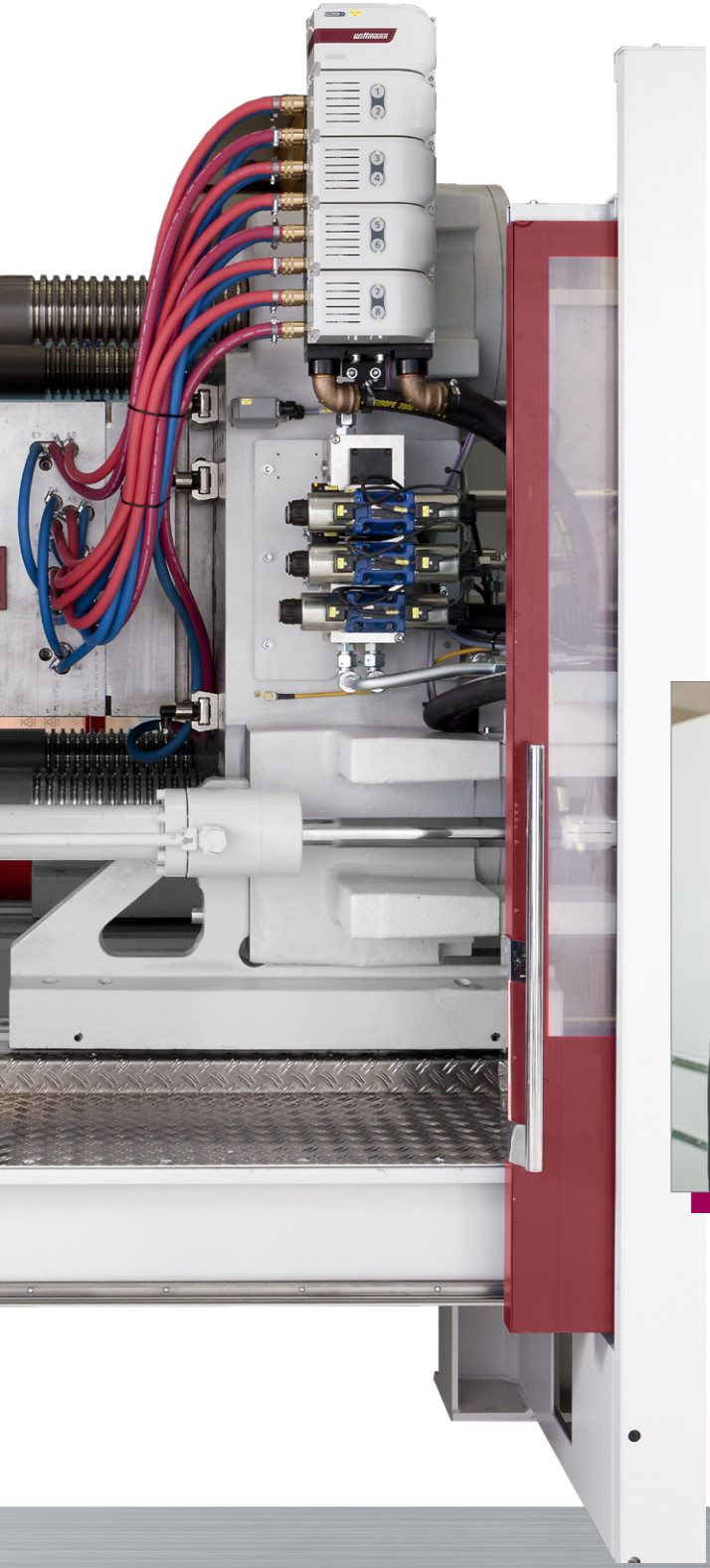


Flexible Operation
Flowcon plus

Operation via the WITTMANN remote control

- Up to 4 Flowcon plus units can be accessed, each with up to 12 circuits each (for a total of 48 circuits).
- Maximum ease of operation thanks to a touch display with a 5.7" TFT screen.
- The remote control allows the Flowcon plus to be operated as a standalone device, even without an interface to the injection molding machine.





Operation via the WITTMANN injection molding machine screen

- The visualization on the control panel of a WITTMANN injection molding machine offers maximum flexbility and ease of operation.
- Wittmann 4.0 offers complete integration of all WITTMANN auxiliary equipment into the machine control system.
- All Flowcon plus settings can be saved in the mold data set and called up.

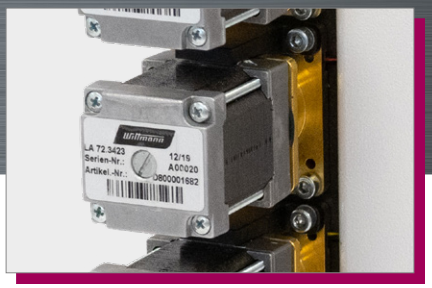
Digital flow and temperature monitoring
WFC

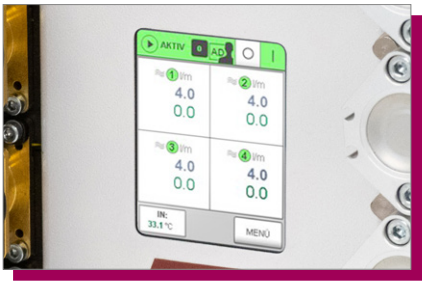
Monitoring, thanks to digital display of flow measurement and alarm output, in a compact design for installation close to the mold. WITTMANN stands for innovation and quality in the plastics processing industry – including flow control. A WFC is more than just a flow controller – a WFC ensures maximum process monitoring.
The most important control parameters are visualised on a display. A tolerance violation, caused for example by clogged cooling channels, is indicated to the operator via an optional alarm contact.

Your benefits at a glance

- Permanent monitoring of flow and temperature
- Consistent quality with less scrap
- High process reliability, less downtime, and reliable production
- Space-saving thanks to close-to-mold mounting possibility
- Fine adjustment and rapid correction of flow rates thanks to manual control valves or proportional valves with stepper motors
- Parallel distribution of cooling media easily achieved
- Alarm contact and a digital or serial interface

WFC 120





The Highlights

Continuous measurement & fine tuning
The WFC uses a maintenance-free flow measurement system with continuous monitoring.

Constant temperatures & flow rates
Precise control throughout the entire production process results in consistent temperature control, which contributes to improved stability and quality in parts production and reduces scrap and rework.

Data logging & traceability
All relevant measuring data can be stored and retrieved for subsequent production – ideal for quality control and process optimization.

Scalability & flexible configuration
Up to 12 circuits can be operated and monitored by a central control system.

Always having an eye on the process
WFC 120

Maximum control for maximum process reliability.
The WFC 120 is a modern monitoring system for flow and temperature. Manual fine adjustment valves or automatic stepper motors allow precise flow adjustment, while an integrated touch display enables intuitive operation.

- **High-precision control – measurement accuracy up to ± 0.15 l/min**
- **Flexible expansion – monitoring of up to 12 circuits**
- **Compact, lightweight design – for easy handling and installation**
- **Intuitive operation – 3.5" touch display for easy monitoring**
- **Optimal process reliability – tolerance monitoring with alarm function**
- **Maximum operating temperature: 120 °C**
- **Maximum pressure: 10 bar**
- **Measuring ranges: 0.5–10 | 1–20 | 2–40 l/min**
- **Electrical connection: 24 V – 50/60 Hz**

WFC 120
with manual fine adjustment valves

WFC 120
with automatic stepper motors (AFC)

High-temperature monitoring
WFC 180

The WFC 180 is designed for operation at temperatures up to 180 °C.
It provides precise flow measurement using ultrasonic technology.

- **7-segment display for visualization of flow rate and temperature**
- **Optional ball valves for manual readjustment**
- **Maintenance-free ultrasonic flow measurement unit**
- **Robust brass housing for high durability**
- **Maximum operating temperature: 180 °C**
- **Maximum pressure: 15 bar**
- **Measuring range: 0.5–40 l/min**
- **Electrical connection: 24 V AC/DC, optional 230 V – 50/60 Hz**

WFC 180

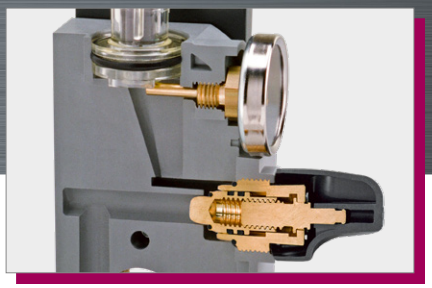
Analog flow controllers – state of the art
Series 110 and 310

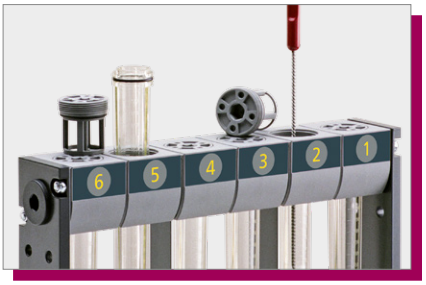
With over 500,000 units sold, our flow regulators are the world leader. WITTMANN has been setting standards in the temperature control of injection molding tools for decades.

Proven technology – newly designed

- Series 110: Flow rate 0–10 l/min per circuit
- Series 310: Flow rate 0–30 l/min per circuit
- Standard connections: Brass nipples (Series 110) or threaded bushings (Series 310)

Serie 110





The Highlights

Double sealing for maximum safety
The valve discs are double sealed, which reduces wear and tear and significantly extends the service life of the sealing rings. This means less maintenance and greater reliability in continuous operation.

Greater precision and longer service life
The innovative axial movement of the valve disc ensures uniform pressure distribution on the seals. The result: precise control and a significantly longer service life.

Minimal pressure drop for maximum efficiency
Thanks to generous cross-sections, pressure loss in the system remains extremely low. This saves energy and ensures stable cooling circuits – even at low system pressures.

Quick maintenance without disassembly
Replacing the sealing ring is very easy: lift the pipe, pull it through, done. No complete disassembly, no loss of time – ideal for tough everyday production.

Material expertise for extreme conditions
Polyamide 12 and glass fiber-reinforced PPO guarantee stability and temperature resistance up to 100 °C. EPDM sealing rings resist chemicals and heat – for maximum safety.

Precise control in 0.1-liter steps
The carefully developed control valve allows fine adjustment of the flow rate in very small steps. Perfect for processes that require absolute accuracy.

Brass flow regulator
Series 200/230 and 401

Series 200/230
Brass flow regulator

All components that come into contact with the medium are made of brass, ensuring maximum temperature and pressure resistance.

Advantages:

- Maximum operating temperature: 100 °C
- Maximum pressure: 16 bar
- Flow range per circuit:
  Series 200: 0 – 10 l/min
  Series 230: 0 – 30 l/min
  On request: AI, PVC cone
- Mold connections with brass threaded bushing G 3/8"
- Option:
  with screw-in nozzle 14 mm for 1/2" hose
  or with screw-in nozzle 20 mm for 3/4" hose

Series 401
0–8 l/min flow rate per circuit

The ideal flow regulator for smaller injection molding machines with a clamping force of up to 80 t.

Advantages:

- Flow range per circuit: Standard 0–8 l/min
- On request: AI, PVC cone
- Mold connections with 12 mm brass nozzle for 3/8" hose

Options
Shut-off solenoid valves / Dry-out valves

The Series 110 and 310 water flow regulators can be supplied with shut-off solenoid valves and dry-out valves.

Valve Z

- Central shut off of several mold circuits.
- Application: e.g. controlled by the cycle of the injection molding machine. When the injection cycle is stopped the cold water flow is shut down to avoid condensation on the mold cavities.

Valve E

- Shut off of cooling water in individual mold circuits.
- Application: e.g. chilled cores
  The valve can also be controlled by a temperature controller from the injection molding machine for mold temperature control.

Dry-out valve

- Connection thread R 1/4" for compressed air.
- Allows complete clean out of regulator sight glasses.

Upgrade for precision and reliability
WFC retrofitting

With the WFC retrofit option, existing and newly acquired flow controllers from the 110, 310, and 200/230 water flow controller series can be equipped with an automatic monitoring system with little effort. The maximum operating temperature is 100 °C (at 4 bar). The flow rate of the individual circuits can be adjusted using the manual control valves. Up to 8 circuits can be connected to one control unit. Upgrading is very easy to do. Maintenance-free flow measurement unit including temperature measurement in the return flow.

- **7-segment display with set-point and actual value display**
- **Flow and temperature monitoring**
- **Control valves in the supply and return lines**
- **Potential-free alarm contact**

Series 110 with WFC retrofit option

Technical Specifications

Analog Water Flow Regulators

Model Serie	Flow rate l/min	Circuits	Pressure (max.) 4 bar °C	6 bar °C	8 bar °C	10 bar °C	16 bar °C
110	0–10	1–12	100	80	60	40	–
310	0–30	1–12	100	80	60	40	–
401	0–8	2–8	100	80	60	40	–
200	0–10	2–12	100	80	60	40	20
230	0–30	2–12	100	80	60	40	20

Digital Water Flow Controllers

Model Serie	Flow rate l/min	Circuits	Pressure (max.) 10 bar °C	15 bar °C
Flowcon plus	1–15	2–12	120	–
WFC 120	2–40	4–12	120	–
WFC 180	0.5–40	2–8	180	180

» 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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Water Flow Regulators | Article number: BP000000142 (English) | 2026/09 | Subject to change. | Printed in Austria.