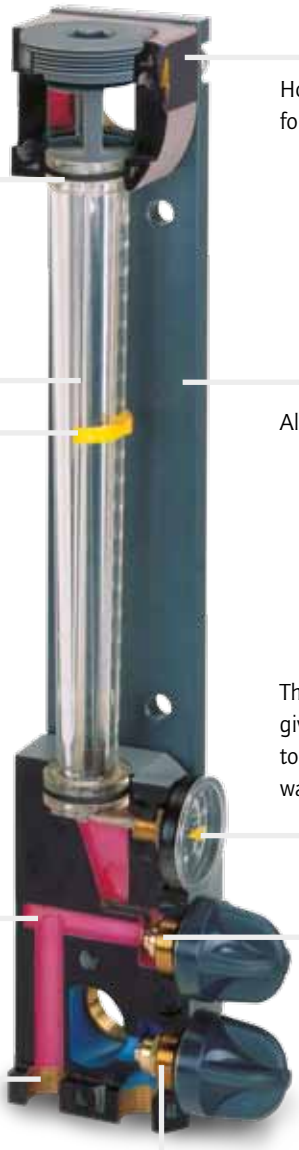
Water Flow Regulators

The Leading Water Flow Regulator Worldwide

Technology working for you.

Wittmann
world of innovation

The Advantages of our Water Flow Regulators



EPDM O-ring seals are heat and water resistant.

Housings molded of reinforced polyphenylene oxide for tough industrial use.

Our sight tube is polyamide 12 which is superior, compared to competitor's polycarbonate, when higher temperature water is used. Competitors charge extra for the better material. On our unit it is standard.

All units are 100% leak tested before shipping.

Reference marks are molded in, not painted on.

Thermometer is located directly in the water flow giving a more precise reading and a quicker reaction to changes. Competitor's thermometers are not in the water flow path.

Enlarged water passages minimize flow restrictions, deliver increased flow volume through the molds and enhance heat transfer performance. In fact, pressure drop from our regulators is about half that of competitive units. That's an important difference if plant water pressure is low.

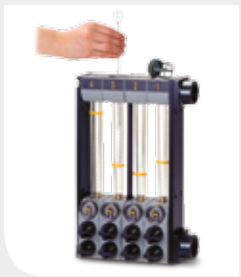
Competitor's regulators include a large diameter valve for the main seat which means regulation is not precise. With a very small movement of the handwheel, the valve is opened almost completely. Our units have a smaller diameter seat which allows better adjustment of flow.

Using brass valves and brass connections is resulting in highest corrosion resistance.

WITTMANN Flow Regulators include precision, threaded brass inserts (Series 301) or brass sockets (Series 101) for your water hose connections, unlike poorly designed regulators which use leak-prone molded threads which can strip easily.

Option: Dry-Out Valve

Allows complete clean out of regulator sight glasses.



Easier to Clean

The water flow regulators are exceptionally easy to clean. A top access cap is simply removed and a brush (provided) quickly cleans the tubes without removing them.

Easier to Remove

Individual sight tubes can be easily removed and reseated, if necessary. Precision O-rings positively seal the sight glass, absolutely leakproof even under maximum loads.

Series 101 *Flow Rate 0 – 10 l/min per circuit*

The essential device for your plastics processing machines for open and closed cooling circuits. Flow volume is indicated in accordance with the float measuring principle: a cone is lifted by the water flowing in the return of the mold circuit.

- *Technical Data:*
  - Flow range per circuit: Standard 0 – 10 l/min. On request: AI, PVC-cones.
  - Standard: Mold connections with 12 mm brass socket for 3/8" hoses. On request: Threaded connection with G 3/8" brass threaded sleeve with screwed 14 mm brass socket for 1/2" hose, or screwed 20 mm brass socket for 3/4" hose

Order data for standard model with thermometer:

Circuits	Order No.
1-zone	DF01TA0000
2-zone	DF02TA0000
4-zone	DF04TA0000
6-zone	DF06TA0000
8-zone	DF08TA0000
10-zone	DF10TA0000
12-zone	DF12TA0000

Series 301 *Flow Rate 0 – 30 l/min per circuit*

The optimum flow regulator for large injection molding and blow molding machines. Its low pressure drop makes it suitable for highest flow volumes. However, by means of a special design of the regulating valves, excellent regulation and accurate reproduction of cooling water volume and temperature in the different mold circuits can also be achieved for low flow volumes.

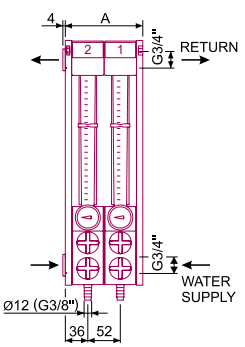
- *Technical data:*
  - Flow range per circuit: Standard 0 – 30 l/min. On request: AI, PVC-cones.
  - Standard: Mold connections with G 3/8" brass threaded sleeve On request: with screwed 14 mm brass socket for 1/2" hose, or screwed 20 mm brass socket for 3/4" hose

Order data for standard model with thermometer:

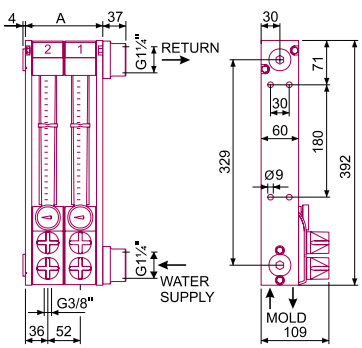
Circuits	Order No.
1-zone	DR01TB0000
2-zone	DR02TB0000
4-zone	DR04TB0000
6-zone	DR06TB0000
8-zone	DR08TB0000
10-zone	DR10TB0000
12-zone	DR12TB0000

Circuits	A
	mm
1-zone	72
2-zone	124
4-zone	229
6-zone	334
8-zone	439
10-zone	543
12-zone	647

Press.	Temp.
max.	max.
10 bar	40 °C
8 bar	60 °C
6 bar	80 °C
4 bar	100 °C



Series 101



Series 301

Series 200/230 Brass Water Flow Regulator

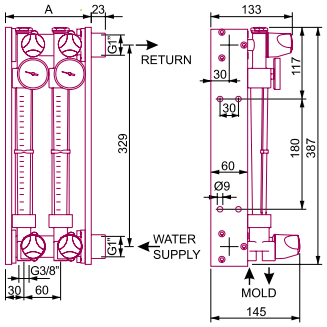
The upper and lower blocks as well as the manifolds are made of brass for high temperatures and pressures.

- *Technical data:*
  - Temperature max. 100 °C
  - Pressure max. 16 bar.
  - Flow range per circuit:
    Series 200 0 – 10 l/min
    Series 230 0 – 30 l/min
    On request: Al, PVC-cones.
  - Standard: Mold connections with G 3/8" brass threaded sleeve.
    On request: with screwed 14 mm brass socket for 1/2" hose, or screwed 20 mm brass socket for 3/4" hose

Order data for standard model with thermometer:

Circuits	Order No.	
	Series 200	*Series 230*
2-zone	DH02TB0000	DQ02TB0000
4-zone	DH04TB0000	DQ04TB0000
6-zone	DH06TB0000	DQ06TB0000
8-zone	DH08TB0000	DQ08TB0000
10-zone	DH10TB0000	DQ10TB0000
12-zone	DH12TB0000	DQ12TB0000

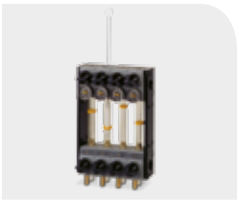
Series 200/230		Series 200/230	
Press. max.	Temp. max.	Circuits	A mm
16 bar	20 °C	2-zone	140
10 bar	40 °C	4-zone	262
8 bar	60 °C	6-zone	384
6 bar	80 °C	8-zone	506
4 bar	100 °C	10-zone	628
		12-zone	750



Series 401 Flow Rate 0 – 8 l/min per circuit

The ideal unit specially designed for the smaller range of injection molding machines up to approx. 80 tons clamping force.

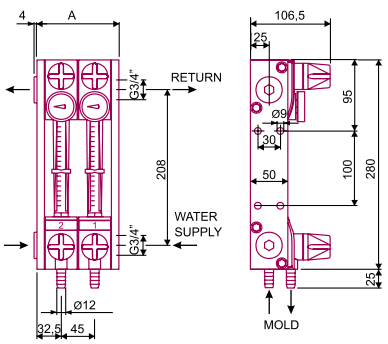
- *Technical data:*
  - Flow range per circuit: Standard 0 – 8 l/min. On request: Al, PVC-cones.
  - Standard: Mold connections with 12 mm brass socket for 3/8" hose



Order data for standard model with thermometer:

Circuits	Order No.
2-zone	DD02TA0000
4-zone	DD04TA0000
6-zone	DD06TA0000
8-zone	DD08TA0000

Series 401		Series 401	
Press. max.	Temp. max.	Circuits	A mm
10 bar	40 °C	2-zone	110
8 bar	60 °C	4-zone	200
6 bar	80 °C	6-zone	290
4 bar	100 °C	8-zone	380



Optional: Solenoid Valves

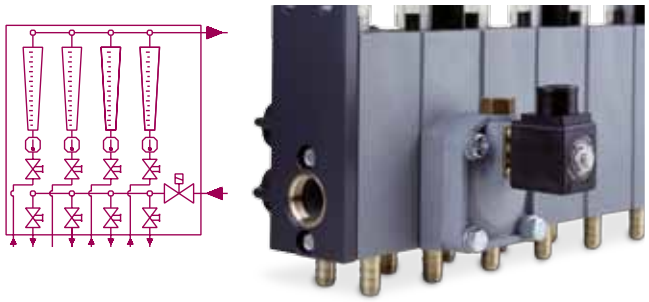
The Series 101 and 301 Water Flow Regulators can be supplied with shutdown solenoid valves.

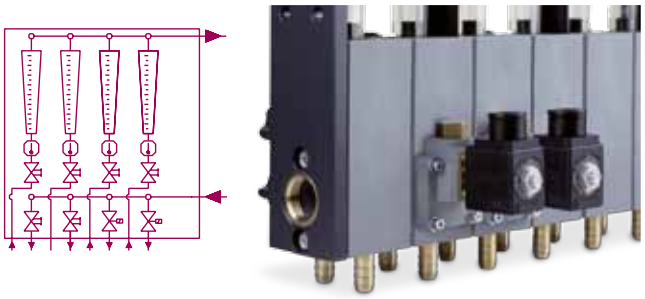
- ***Valve Z:***
  Central shutdown of several mold circuits.

  Application: e.g. controlled by the cycle of the injection molding machine. When the injection cycle is stopped the cold water flow is shutdown to avoid condensation on the mold cavities.

- ***Valve E:***
  Shutdown 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.





WFC: Water Flow Control

Flow controlling device for several circuits with maintenance-free flow measuring system, for medium water or water-glycol mixture.

Standard equipment:
- 7-segment display with actual value displayand high ease of use
- Flow and temperature monitoring for each circuit (WFC 160: only flow monitoring)
- Control valves in mold forward line and return line (not with WFC 160)
- Serial interface (20mA, RS232, RS485)
- Isolated alarm contact
- 2 circuits incl. operating panel

	WFC 100	WFC 160
Operating temperature	max. 100 °C	max. 160 °C
Pressure	max. 10 bar	max. 15 bar
Measurement	2–40 l/min	2–40 l/min
Mold connections	3/8"	3/8"
Water supply and return	1 1/4"	1"
Electric connection	24 V – 50/60 Hz	24 V – 50/60 Hz
Execution	4, 6 or 8 circuits	2 + 4 circuits
Option	230 V – 50/60 Hz	230 V – 50/60 Hz

WFC 100

WFC 160

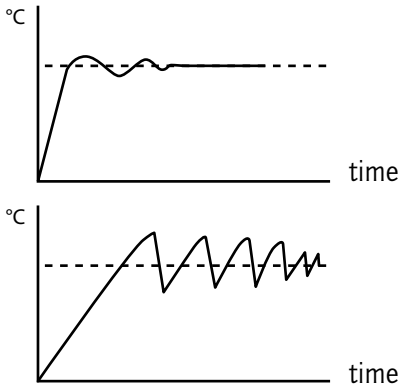
FLOWCON: Automatic Flow Regulator

Accurate Control and Perfect Process Monitoring

- Precise, stable mold temperature through automatic control.
- The development of this unit is based on many years of applied experience.
- Microprocessor controlled accuracy ± 1 C°.
- Up to 8 zones can be controlled individually.
- Storage of setup data for 7 different molds.
- A tolerance window can be set on the display. If the temperature exceeds the tolerance. a buzzer or alarm contact is activated.
- Serial interface for data transfer to IMM standard.
- Secures the quality of the molding process by perfect temperature control and monitoring.
- Plunger type solenoid valves with large seat diameter ensure operation even with poor water quality.

Optimal Product Quality using FLOWCON

- ***Mold Temperature Control by FLOWCON***
  Closed circuits reduce the period for warming up the mold. Continuous control ensures a water flow when cooling is needed and prevents cooling down the mold when production is interrupted.

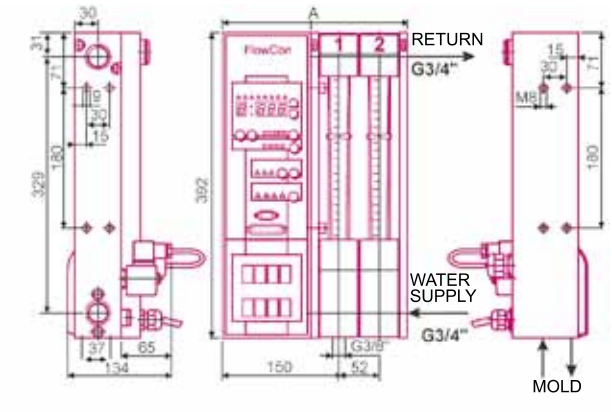


- ***Mold Temperature Controlled by Standard Water Flow Regulator***
  Water flow is adjusted manually until the set value of mold temperature is reached. When production is interrupted or when water pressure is changing the mold temperature will change.

Simple to Operate

User Friendly Display

- Green LED shows that valve for the circuit is open RED LED shows that temperature is out of tolerance.
- Actual/Set temperature.
- Selection of set point, tolerance, slave control of circuits.
- Automatic or manual (fixed cycle) mode.
- Settings for slave controlled circuits.
- Selecting circuits.



Circuits	A mm
2-zone	238
4-zone	343
6-zone	448
8-zone	553

Press. max.	Temp. max.
10 bar	40 °C
8 bar	60 °C
6 bar	80 °C
4 bar	100 °C

FLOWCON: Installation of Sensor

Recommended Position – Directly in the Mold Close to the Cavity

Requirements for zone 1 – 8:
Mold sensor FeCo type J, Ø = 6 mm
incl. M10 x 1
Cable = 2000 mm

Order No. D900000542

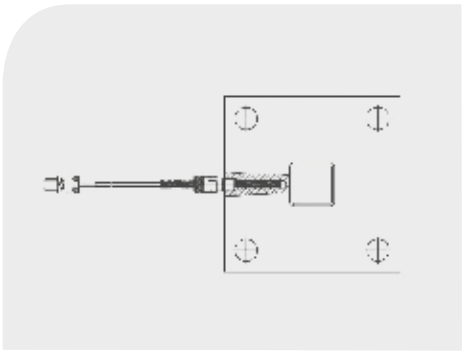
Sensor can be Placed in the Return Line of the Individual Circuit

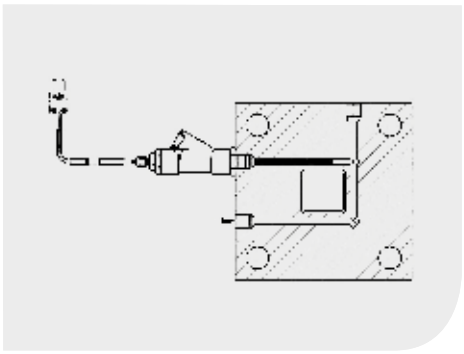
Requirements for zone 1 – 8:
Water sensor FeCo type J, Ø = 1,5 mm, length = 200 mm
Cable = 2000 mm

Order No. T700000855

Y-connector
(incl. screwfitting for the sensor, connection piece fittings G 3/8" and reduction G 3/8" to 1/4")

Order No. D900000550





Sensor in Return Line to Water Flow Regulator

This solution requires a constant flow of water, so the sensor can realize the changes in temperature. The required flow can be selected on the display with a sequence of opening and closing.

Mold circuit sensor:
FeCo type J, Ø = 1,5 mm, length = 60 mm
Cable = 800 mm
incl. sensor screw M8 x 1
incl. seal disc Teflon Ø = 1,5 mm
incl. reduction G 1/4" – M8 x 1

Order No. D900000741

FLOWCON Technical Specifications

Water flow	10l/min per circuit
Circuits	up to 8 circuits
Water connector	G 3/8"
Temperature measurement	type J thermocouple (option)
Power supply	230 V/50 Hz, 1 Ph, 1,5 A
Power supply cable	with IEC safety plug
Serial interface	20mA, RS232, RS485

Storage of setup data for 7 different molds

Interface Cables

Type	IMM	Order No.
20mA	ENGEL	T500000310
RS232	ENGEL	T500000313
20mA	KRAUSS MAFFEI	T500000604
20mA	FERROMATIK	T500000422
20mA	DEMAG	T500000311
20mA	ARBURG with plug 3-pole	T500000312
20mA	ARBURG with Sub-D-plug 9-pole	T500000930
20mA	BATTENFELD with Sub-D-plug 9-pole	T5-1249

Cables for other types of IMM on request.

Technology working for you.

TECHSPANGROUP
Australia: 1-800 148 791
New Zealand: 0800 603 603
email: info@techspanonline.com
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