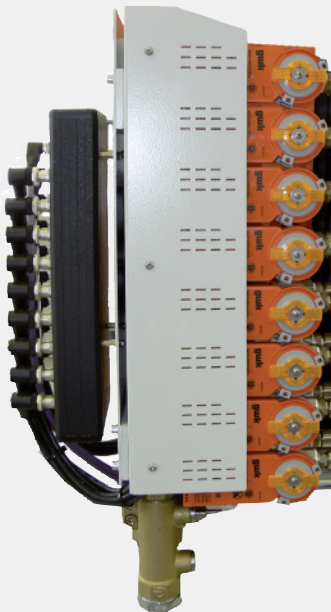


Series integrat

Segmented mould temperature control

Effective and energy-conscious temperature control

Significantly increasing productivity

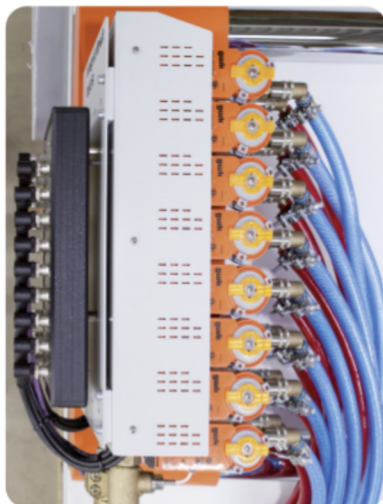




integrat direct

integrat direct is innovative technology of the technotrans solutions GmbH for cooling, multiple temperature control and temperature monitoring for plastic processing. By means of the integrat direct temperature control processes perform in a safe, reproducible, quick and simple way.

We have combined the advantages of traditional water distributors, of impulse cooling systems and continuously operating temperature control devices while eliminating the disadvantages of each of these systems.



*R version with automatic
flow rate control*



*B version with manual
setting of flow rate*



**Improve parts
quality**



**Minimize reject
rates**



**Increase process
reliability**



**Lower energy
costs**

Modular flow control for water up to 95 °C / 120 °C

- Permanent multi-circuit temperature control for segmented mould heating and cooling in modular design
- Individual temperature control of up to 128 temperature control circuits
- Highly efficient direct cooling
- No pump / no heating / no heat exchanger = Minimizing of wear parts = Optimized availability
- Temperature control / regulation optionally via return or external temperature sensor in the mould
- Setting and monitoring of flow rate (B version)
- Setting and regulation of flow rate (R version)
- Continuity of the temperature control process through permanently regulating valves (R version)
- Mould check flow measurement
- Pneumatic mould draining of the circuits by cascade or parallel connection (option)
- Hose rupture safety device (option)
- Display of service intervals
- Graphic display of the process data
- Intelligent process data management
- Network compatible control system
- Interface compatible microprocessor control

Advantages :

- Individual closed-loop control of the flow rate for each circuit (Version R)
- Optimum process control through setting, regulation and continuous monitoring of the return water temperature and the flow rate (Version R)
- Energy saving up to 70 %
- Optimum parts quality during the complete production process
- Touch screen with simple, intuitive operation
- Perfect integration into injection moulding machines possible, close to the mould
- Low complexity in terms of pipes and hoses

Technical data and standard equipment

• = Standard / - = not available

Type (B = Basic version, R = Control version)	itd B	itd R
Medium	water	water
Maximum temperature standard version/ high-temperature version (°C)	120	95 / 120
Max. heating /cooling capacity per circuit ¹ (kW)	44	44
Flow rate (l/min)	1,8 up to 32	1,8 up to 32
Maximum operating pressure (bar)	10 / 16	10 / 16
Flow monitoring	•	•
Flow control	-	•
Return temperature monitoring	•	•
Temperature setting of external water supply	•	•
Return temperature control	-	•
Common supply temperature for all circuits	•	•
On/Off of individual circuits possible	manual	automatic
Limited control temperature and flow rate	•	•
Process control using graphic display of temperature	•	•
Memory saving of mould data records	•	•
Mould check: checking of flow rate prior to production	manual	automatic
Mould circuit supply / return connections per circuit	G 1/2"	G 1/2"
Central cooling water supply connections	G 1 1/4"	G 1 1/4"
Central cooling water return connections	G 1 1/4"	G 1 1/4"

¹) temperature difference mould circuit supply/return 20 K

Technical changes reserved!

Temperature control with minimum space requirement

- Central operating unit with touch screen and coloured display for input and monitoring of the process parameters
- Clearly structured operator guidance and process monitoring by means of tables and charts
- Saving of process data records in the integrated mould management
- Display of operation and error messages as text
- Limit comparator (tolerance monitoring of actual values with alarm report)
- Lowering to safety temperature
- Automatic venting
- Automatic water top up via cooling circuit supply
- **Only one central electrical connection**
- **Only one central cooling water supply with strainer**
- Strainer in each circulation medium return
- **Flow measurement with digital display for each circuit**
- Display of service intervals
- **Magnetically coupled stainless steel pumps**
- **Highly efficient direct cooling with flow regulation**
- Central pressure relief in the cooling water supply

Options:

- Hose rupture safety device for cooling water supply
- Connection of external Pt 100 thermocouple
- Mould draining via compressed air
- Interfaces for cable connections: Serial/Profibus
- Cable-free communication interface: Bluetooth (in connection with serial interface)
- Additional operating unit with touch screen for decentralized data input and process monitoring

Technical data

Per module	Model		integrat 40
	Maximum operating temperature	°C	95 / 140 ¹
	Operating pump		peripheral pump
	Maximum flow rate	l/min	30
	Maximum pressure	bar	5,3
	Motor power	kW	0,55
	Heating capacity	kW	3
	Weight	kg	35
	Process connections	supply/return	G 1/2"
	Nominal cooling capacity at cooling water temperature of 15 °C and process temperature of 60 °C	kW	27
Per unit	Number of temperature control modules		2 to 6
	Basic width for connection	mm	608
	Height incl. plug connection	mm	1.720
	Depth incl. manifold	mm	545
	Cooling water connections	supply/return	G 1"

¹ = high-temperature version integrat 40 ht

Technical changes reserved!



integrat 80

integrat 80 is a modularly constructed multi-circuit temperature control system for the segmented mould temperature control, which can be integrated into the overall process.



Energy efficient differential pressure control



Comprehensive process control



Less installation work



Low space requirement



High degrees of freedom for all temperature control applications

- Self-optimising modulControl-microcontroller with high control accuracy
- 7" touchscreen for the input, regulation and control of process parameters
- Measurement, digital display and control of the flow rate per circuit
- Integrated operating and service information
- Saving of process data records with integrated tool management (tolerance range monitoring of the actual value with alarm message)
- Network support through VNC server
- Automatic ventilation
- Automatic water top-up directly via cooling water supply
- Only one central power supply
- Only one central cold water inlet with strainer
- Service interval display
- Strainers in each circulating medium return line
- Magnetically coupled stainless steel pumps per circuit with IE 3 motor
- Highly efficient direct, volume-controlled cooling
- Low space requirement

Options:

- Central hose breakage protection in the cooling water circuit
- External Pt 100 temperature probe
- Mould draining via compressed air connection
- Interface connections: serial RS 232, RS 422, RS 485 and Profibus
- **Temperature difference control via frequency-controlled pumps**
- Expandable to 24 temperature control modules
- 4-circuit distributor vtc with flow and temperature measurement per circuit
- 96 temperature control circuits max. in combination with 4-circuit distributor per temperature control module

Technical data

Per module	Model		integrat 80
	Maximum operating temperature	°C	140
	Operating pump		Magnetically coupled peripheral pump
	Maximum flow rate	l/min	60
	Maximum pressure	bar	6,0
	Motor power	kW	1,0
	Heating capacity	kW	9
	Cooling capacity	kW	84
	Weight	kg	35
	Process connections	supply/return	G ¾"
Per unit	Nominal cooling capacity at cooling water temperature of 15 °C and process temperature of 60 °C	kW	62
	Number of temperature control modules		4 to 6
	Basic width for connection	mm	848
	Height incl. plug connection	mm	1.998
	Depth incl. manifold	mm	750
	Cooling water connections	supply/return	G 1"

Technical changes reserved!

