



Compact temperature controllers



Efficient and economical
temperature control

gwk

Overview about the compact temperature controllers

The compact series **teco c** guarantees an efficient temperature control with water temperatures from 0 °C to 225 °C.

The units are available in various versions and with a new generation of controllers. The units in modern industrial design stand for high-quality but affordable technology, high availability, user- and service friendliness. The requirements for high energy efficiency, comprehensive process monitoring and industry 4.0 compatibility are also covered by the series.

Already in its basic version, the e-device is the preferred solution for many applications, with an excellent price-performance ratio.

Basic equipment includes the **gwk basicControl** micro-processor control with display of set and actual

temperatures, an automatic water refill, automatic mould draining, an energy-saving continuous heat control. For the individualization there are different interfaces, an individual colouration and lettering, mounting on rubber buffers or rails instead of rolls and other important options.

The **t-units** are equipped with the new **gwk compactControl controller** with fast 32-bit processor. It has an independent display and control unit **logotherm** developed by **gwk** itself with a 7-inch touchscreen with intuitive user interface with friendly menu navigation.

The top version **gwk modulControl** where also the inputs and outputs of different circuit boards can be chosen freely, completes the new controller family of **gwk**.

gwk temperature controllers for water, using indirect cooling

Values in () optional

Type	Medium	Temperature range (°C)	Cooling	Heating capacity (kW)	Max. cooling capacity (kW)	Pump capacity max. (l/min / bar)
teco cw 25e	water	0 - 25	indirect	-	4	60 / 3,5
teco cw 60e	water	0 - 25	indirect	-	10	60 / 5,8
teco cs 90e	water	95	indirect	6 / 9	23 (42)	60 / 3,8 (6,0)
teco cs 90t 9	water	95	indirect	9	23 (42)	60 / 3,8 (6,0)
teco cs 90t 18	water	95	indirect	9 / 18	50	75 / 5,5
teco cs 90t 36	water	95	indirect	9 / 18 / 27 / 36	250	150 / 5,0
teco cs 140e	water	140	indirect	6 / 9	40	60 / 5,5
teco cs 140t 9	water	140	indirect	9	40	60 / 5,5
teco cs 140t 18	water	140	indirect	12 / 18	40	60 / 5,5
teco cs 160e	water	160	indirect	6 / 9	40	60 / 5,5
teco cs 160t 9	water	160	indirect	6 / 9	40	60 / 5,5
teco cr 160t 9	water	160	indirect	18 (2 x 9)	2 x 120	60 / 5,5
teco cs 180e	water	180	indirect	9	40	60 / 5,5
teco cs 180t 9	water	180	indirect	9	40	60 / 5,5
teco cs 230t 9	water	225	indirect	9	38	30 / 5,5

gwk temperature controllers for water, with direct cooling

Type	Medium	Temperature range (°C)	Cooling	Heating capacity (kW)	Max. cooling capacity (kW)	Pump capacity max. (l/min / bar)
teco cd 90e	water	95	direct	9	52	60 / 3,8 (6,0)
teco cd 90t 18	water	95	direct	9 / 18	140	70 / 4,7
teco cd 120t 18	water	120	direct	9 / 18	117	70 / 4,7

Subject to technical modification without notice!

teco cs e – The universal temperature controller for demanding injection moulding



- Simple one button operation and digital display
- Self-optimizing basicControl microcontroller with high control accuracy
- Continuous monitoring of process parameters (limit comparator)
- Wear-free energy-saving SSR heating control
- Optional connection for external thermocouple (Fe-CuNi or Pt 100)
- Optional interfaces at front panel (analog 0 - 10 V, 0/4 - 20 mA; serial RS 232, RS 422, RS 485, TTY; Profibus; Profinet)
- Splash proof electrics
- Ready to connect with 3 m long mains cable and CEE socket
- Housing and hood: RAL 7012 basalt grey
- Side panels: RAL 2004 pure orange

Temperature controllers water indirect 95 °C, 140 °C , 160 °C and 180 °C

• = Standard / o = Option / - = not available/ Values in () optional

	Model teco	cs 90e	cs 140e	cs 160e	cs 180e
Technical data	Medium	water	water	water	water
	Temperature max. (°C)	95	140	160	180
	Pump capacity max. (l/min / bar)	60 / 3,8 (6,0)	60 / 5,5	60 / 5,5	60/ 5,5
	Heating capacity (kW)	6/9	6/9	6/9	9
	Cooling	indirect	indirect	indirect	indirect
	Cooling capacity kW ¹⁾	23 (42)	40 / 120	40 / 120	40
	Weight (kg) (without options)	37	52	56	59
	Mould circuit supply and return connections	G 1/2"	G 1/2"	G 1/2"	G 1/2"
	Cooling water supply and return connections	G 1/4"	G 1/4"	G 1/4"	G 1/4"
	Dimensions in mm (L x W x H)	674 x 356 x 607	674 x 356 x 607	674 x 356 x 607	674 x 356 x 607
Standard specification/Options	Digital display	•	•	•	•
	Robust fully galvanized steel housing, painted in two colours ⁵⁾	•	•	•	•
	Automatic filling and top up device	•	•	•	•
	Strainer in cooling water inlet	•	•	•	•
	Durable rubber coated castors	•	•	•	•
	All contact parts made of non-corrosive materials	•	•	•	•
	Continuous heater control	•	•	•	•
	Acoustic alarm	•	•	•	•
	Additional manual filling operation for treated water	•	-	-	-
	Leakage stop operation	• ⁶⁾	• ²⁾	• ²⁾	• ²⁾
	Mould draining ⁶⁾	• ⁶⁾	o ³⁾	o ³⁾	o ³⁾
	Magnetic coupled stainless steel pump	-	o	•	•
	Integrated top up-pump	-	-	•	•

¹⁾ at 15 °C cooling water and 90 °C resp. 130 °C circuit water temperature ²⁾ not in combination with mould draining function ³⁾ not in combination with leakage stop operation ⁴⁾ up to 12 kW heating capacity ⁵⁾ plus front panel made of thermoset plastic ⁶⁾ not in combination with return stop

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teco cs t – Temperature controllers for sup

- Self-optimizing microcontroller with high control accuracy
- Touchscreen (7-inch) for log in, control and monitoring of process parameters
- Intuitive operating interface with user-friendly menu navigation
- Measuring, indication and monitoring of the flow rate
- Integrated operating and service information
- Storage and recall of process parameters with memory card
- Wearless, energy-saving solid state heating control
- Return temperature indication
- Continuous monitoring of process parameters
- Optional connection for external thermocouple (Fe-CuNi or Pt 100)
- Optional interfaces at front panel (analog 0 - 10 V, 0/4 - 20 mA; serial RS 232, RS 422, RS 485, TTY; Profibus; Profinet)
- Splash proof electrics
- Ready to connect with 3 m long mains cable and CEE socket
- Housing and hood: RAL 7012 basalt grey
- Side panels: RAL 2004 pure orange

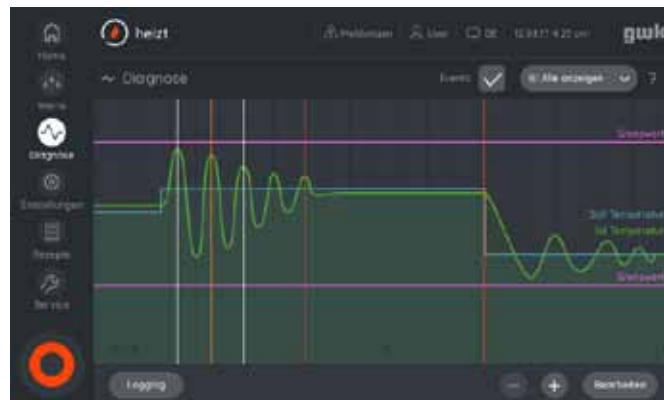


Temperature controllers water indirect

Technical data	Model teco
	Medium
	Temperature max. (°C)
	Pump capacity max. (l/min / bar)
	Heating capacity (kW)
	Cooling
	Cooling capacity (kW) ¹
	Weight (kg)
	Mould circuit supply and return connections
	Cooling water supply and return connections
	Dimensions in mm (L x W x H)
	Touchscreen with colour display
Standard specification/Options	Robust fully galvanized steel housing, painted in two colours ⁵
	Automatic filling and top up device
	Strainer in cooling water inlet
	Durable rubber coated castors
	All contact parts made of non-corrosive materials
	Continuous heater control
	Acoustic alarm
	Additional manual filling operation for treated water
	Leakage stop operation
	Mould draining
Magnetic coupled stainless steel pump	
Integrated top up-pump	
Measuring, indication and monitoring of flow rate	
Return temperature indication	

¹) at 15 °C cooling water and 90 °C resp. 130 °C circuit water temperature ²) not in combination with mould dr
⁴) up to 12 kW heating capacity ⁵) plus front panel made of thermoset plastic ⁶) not in combination with return

Superior applications



Display and control unit **logotherm** with user-friendly 7-inch touchscreen

95 °C, 140 °C, 160 °C and 180 °C

• = Standard / o = Option / - = not available/ Values in () optional

cs 90t 9	cs 90t 18	cs 90t 36	cs 140t 9 ⁴	cs 140t 18	cs 160t 9 ⁴	cs 180t 9 ⁴
water	water	water	water	water	water	water
95	95	95	140	140	160	180
60 / 3,8 (6,0)	75 / 5,5	170 / 4,7	60 / 5,5	60 / 5,5	60 / 5,5	60 / 5,5
9	9 / 18	9 / 18 / 27 / 36	9	12 / 1 8	6 / 9	9
indirect	indirect	indirect	indirect	indirect	indirect	indirect
23 (42)	56 (75)	250	40 (120)	40 (120)	40 (120)	40
39	95	100	54	95	58	60
G 1/2"	G 3/4"	G 1"	G 1/2"	G 3/4"	G 1/2"	G 1/2"
G 1/4"	G 1/2"	G 3/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"
674 x 356 x 607	964 x 506 x 747	964 x 506 x 747	674 x 356 x 607	974 x 506 x 747	674 x 356 x 607	674 x 356 x 607
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
• ⁶	• ⁶	• ⁶	• ²	•	• ²	• ²
• ⁶	• ⁶	• ⁶	o ³	o	o ³	o ³
-	-	-	o	o	•	•
-	-	-	-	-	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

aining function ³) not in combination with leakage stop operation
stop

Subject to technical modification without notice!

teco cs 230 – water temperature controller for high temperatures



gwk temperature controllers, model **teco cs 230t 9** are heating and cooling units with indirect cooling that are ready for connection and designed for the operation with water as heat transfer medium. The closed water circuit with automatic pressurization allows a safe process temperatures up to 225 °C.

- Self-optimizing microcontroller with high control accuracy
- Touchscreen for log in, control and monitoring of process parameters
- Intuitive operating interface with user-friendly menu navigation
- Measuring, indication and monitoring of the flow rate
- Integrated operating and service information incl. control display
- Storage and recall of process parameters with memory card
- Wearless, energy-saving solid state heating control
- Return temperature indication
- Continuous monitoring of process parameters
- Optional connection for external thermocouple (Fe-CuNi or Pt 100)
- Optional interfaces (analog 0 – 10 V, 0/4 – 20 mA; serial RS 232, RS 422, RS 485, TTY; CAN-Bus; Profibus and Varan-Bus)
- Splash proof electrics
- Ready to connect with 3 m long mains cable and CEE socket
- Housing: RAL 7035 light grey
- Side panels: RAL 2004 pure orange

Temperature controllers water indirect up to 225 °C

• = Standard / o = Option

	Model teco	cs 230t 9
Technical data	Medium	water
	Temperature max. (°C)	225
	Pump capacity max. (l/min / bar)	30 / 5,5
	Heating capacity (kW)	9
	Cooling (Tube bundle heat exchanger out of stainless steel)	indirect
	Cooling capacity (kW) ¹	38
	Weight (kg)	90
	Mould circuit supply and return connections (Stainless steel flange)	DN 15 PN 40
	Cooling water supply and return connections	G 1/2"
	Dimensions in mm (L x W x H)	955 x 400 x 740
Standard specification/Options	Touchscreen with colour display	•
	Robust fully galvanized steel housing, painted in two colours	•
	Automatic filling and top up device	•
	Strainer in cooling water inlet	•
	Durable rubber coated castors	•
	All contact parts made of non-corrosive materials	•
	Continuous heater control	•
	Acoustic alarm	•
	Seal-less stainless steel pump with magnetic coupling	•
	Mould draining	o

¹⁾ at 15 °C cooling water 200 °C circuit water temperature

Subject to technical modification without notice!

teco cd – Compact temperature controllers with direct cooling



- Self-optimizing microcontroller with high control accuracy (version t)
- Touchscreen for log in, control and monitoring of process parameters (version t)
- Intuitive operating interface with user-friendly menu navigation (version t)
- Measuring, indication and monitoring of the flow rate (version t)
- Integrated operating and service information (version t)
- Storage and recall of process parameters with memory card (version t)
- Wearless, energy-saving solid state heating control
- Return temperature indication (version t)
- Continuous monitoring of process parameters (version t)
- Optional connection for external thermocouple (Fe-CuNi or Pt 100)
- Optional interfaces at front panel (analog 0 - 10 V, 0/4 - 20 mA; serial RS 232, RS 422, RS 485, TTY; Profibus; Profinet)
- Splash proof electrics
- Ready to connect with 3 m long mains cable and CEE socket ⁴
- Housing and hood: RAL 7012 basalt grey
- Side panels: RAL 2004 pure orange

• = Standard / o = Option / - = not available/ Values in () optional

Temperature controllers water direct 95 °C, 120 °C and 140 °C

Model teco	cd 90e	cd 90t 18	cd 120t 18	cd 140e
Medium	water	water	water	water
Temperature max. (°C)	95	95	120	140
Pump capacity max. (l/min / bar)	60 / 3,8 (6,0)	70 / 4,7	70 / 4,7	30 / 5,4
Heating capacity (kW)	9	9/18	9/18	9/18
Cooling	direct	direct	direct	direct
Cooling capacity (kW) ¹	52	140	117	32
Weight (kg)	44	50	50	35
Mould circuit supply and return connections	G 1/2"	G 3/4"	G 3/4"	G 3/4"
Cooling water supply and return connections	G 1/4"	G 1/2"	G 1/2"	G 1/2"
Dimensions in mm (L x W x H)	674 x 356 x 607	964 x 506 x 747	964 x 506 x 747	674 x 356 x 607
Touchscreen with colour display	-	•	•	-
Digital display	•	-	-	•
Robust fully galvanized steel housing, painted in two colours	•	•	•	•
Automatic filling and top up device	•	•	•	•
Strainer in cooling water inlet	•	•	•	•
Durable rubber coated castors	•	•	•	•
All contact parts made of non-corrosive materials	•	•	•	•
Continuous heater control	•	•	•	•
Acoustic alarm	•	•	•	•
Additional manual filling operation for treated water	•	-	-	•
Constant cooling	-	•	•	•
Mould draining	• ²	o ³	o ³	-

¹) at 15 °C cooling water and 90 °C resp. 130 °C circuit water temperature ²) not in combination with mould draining function
³) not in combination with leakage stop operation ⁴) up to 12 kW heating capacity

Subject to technical modification without notice!

teco cr – clean, precise, quiet and powerful



Besides special equipment demands that prevent contamination of the atmosphere the cleanroom production requires a very high reproducibility as well as a precise temperature control with close tolerances.

gwk temperature controllers, model **teco cr 1602t 9** are 2-circle heating and cooling units with direct cooling that are ready for connection and designed for the operation with water as heat transfer medium. Besides the closed temperature control circuit the temperature controller **teco cr** disposes of stainless steel castors as well as a stainless steel housing with noise absorption. Thus emissions and particle contaminations can be reliably kept below the requested limit values. Particle measurements in the cleanroom laboratory of the Rosenheim University of Applied Sciences confirm the suitability for the application in cleanrooms according to EN ISO 14644 for ISO class 6.

- Self-optimizing microcontroller with high control accuracy
- Touchscreen for log in, control and monitoring of process parameters
- Measuring, indication and monitoring of the flow rate
- Storage and recall of process parameters with memory card
- Wearless, energy-saving solid state heating control
- Return temperature indication
- Continuous monitoring of process parameters
- Optional external sensor connection (Fe-CuNi or Pt 100)
- Optional interfaces at the rear side of the unit (analog 0 – 10 V, 0/4 – 20 mA; serial RS 232, RS 422, RS 485, TTY; CAN-Bus; Profibus and Varan-Bus)
- Splash proof electrics
- Ready to connect with 3 m long mains cable and CEE socket
- Stainless steel housing with fibre-free noise absorption suitable for laboratory use < 60 dbA
- Integrated low-emission internal cooling of the unit

Temperature controller water indirect 160 °C

• = Standard

	Model teco	cr 1602t 9
Technical data	Medium	water
	Temperature max. (°C)	160
	Pump capacity max. (l/min / bar)	60 / 5,5
	Protection class (IP)	65
	Heating capacity (kW)	18 (2 x 9)
	Cooling	indirect
	Cooling capacity (kW) ¹	2 x 120
	Weight (kg)	158
	Mould circuit supply and return connections	G 1/2"
	Cooling water supply and return connections	G 1/2"
Dimensions in mm (L x W x H)	1.020 x 560 x 669	
Standard specification/Options	Stainless steel housing	•
	Automatic filling and top up device	•
	Strainer in cooling water inlet	•
	Cleanroom suitable castors	•
	All contact parts made of non-corrosive materials	•
	Continuous heater control	•
	Acoustic alarm	•
	Mould draining	•
	Seal-less stainless steel pump with magnetic coupling	•
	Integrated top up-pump	•
Measuring, indication and monitoring of flow rate	•	
Return temperature indication	•	

¹⁾ at 15 °C cooling water 130 °C circuit water temperature

Subject to technical modification without notice!

teco cw – the most cost-effective solution for glycol-free water from 0 to 25 °C



- Precise microprocessor control
- Simultaneous display of set and actual values
- Simple one button operation
- Optional connection for external thermocouple (Fe-CuNi or Pt 100)
- Optional interfaces at front panel (analog 0 - 10 V, 0/4 - 20 mA; serial RS 232, RS 422, RS 485, TTY; Profibus; Varan-Bus)
- Optional flow rate indication
- Splash proof electrics
- Ready to connect mains cable and CEE socket
- Housing and hood: RAL 7012 basalt grey
- Side panels: RAL 2004 pure orange

Temperature controllers water indirect 0 - 25 °C

• = Standard / o = Option / - = not available

	Model teco	cw 25e	cw 60e
Technical data	Medium	water	water
	Temperature max. (°C)	0 - 25	0 - 25
	Pump capacity max. (l/min / bar)	60 / 3,8	60 / 5,8
	Cooling capacity (kW)*	4	10
	Heating capacity (kW)	-	-
	Cooling	indirect	indirect
	Weight (kg)	76	125
	Mould circuit supply and return connections	G 1/2"	G 1/2"
	Cooling water supply and return connections	G 1/4"	G 1/4"
	Dimensions in mm (L x W x H)	920 x 250 x 595	950 x 400 x 935
Standard specific./Options	Robust fully galvanized steel housing, painted in two colours	•	•
	Automatic filling and top up device	•	•
	Strainer in cooling water inlet	•	•
	Durable rubber coated castors	•	•
	All contact parts made of non-corrosive materials	•	•
	Acoustic alarm	•	•
	Leakage stop operation	•	•
	Mould draining	•	•

¹⁾ at 30 °C cooling water and 10 °C circuit water temperature

Subject to technical modification without notice!

vtc – Four circuit for temperature controllers

The multiple distribution system has been designed for the attachment to temperature controllers to adjust and monitor individually the flow volume and the return temperature of parallel connected consumer circuits. Thus the system ensures the hydraulic balance in the temperature control circuits with different pressure losses and ensures an economic and reliable distribution of the flow rate delivered. The flow rate and the return temperature of

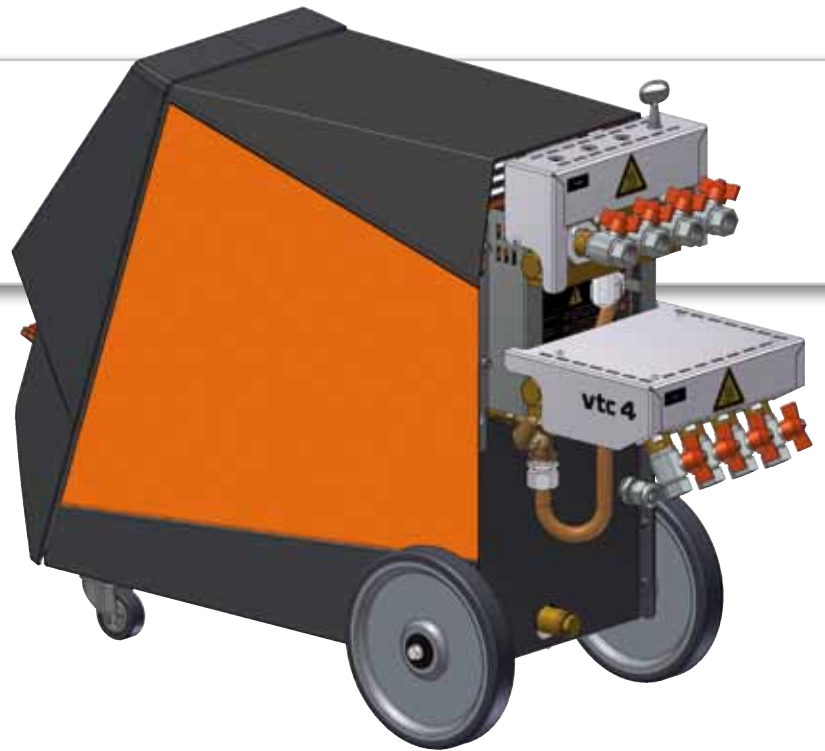
each circuit is indicated on the central display of the temperature controller.

The process monitoring is performed by the adjustment of minimum and maximum limit values for the flow rate, return temperature and differential temperature per circuit. In addition, process performances per distribution circuit are displayed. When the tolerance band is exceeded alarm functions are activated and displayed.



Display and control unit **logotherm** with user-friendly 7-inch touchscreen





- Simple attachment to temperature controllers up to 8 circuits max.
- Display, communication, operation via 7" touchscreen of the temperature controllers
- Continuous, maintenance-free and soiling resistant flow rate measurement per distribution circuit
- Common temperature control and display in the supply line
- Separate temperature control in the return line per circuit
- Display of process performances per distribution circuit
- Display and monitoring of the flow per distribution circuit
- Limit value setting of the flow per distribution circuit
- Limit value setting of the temperature per distribution circuit
- Throttle valve for flow volume adjustment and hydraulic balancing per distribution circuit
- Monitoring of temperature differences
- Corrosion resistant materials
- Shut-off ball valve per distribution supply and return circuit

Technical data at a glance

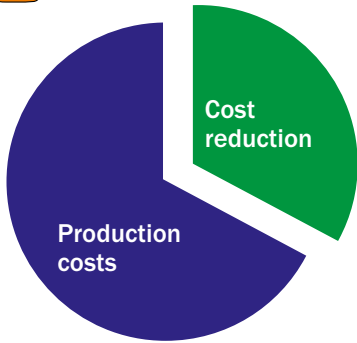
Values in () optional

Multiple distributor	vtc 4	vtc 8
Design	Machine attachment	Machine attachment
Extension for Temperature controller	Size 1* and 2**	Size 2**
Medium	water	water
Maximum temperature	120 °C / 160 °C	20 °C / 160 °C
Flow control range per medium return in l/min	(2,0 up to 40,0)	(2,0 up to 40,0)
Measuring accuracy from end of the measuring range in %	+/- 1,5	+/- 1,5
Temperature range per medium return in °C	120 / 160	120 / 160
Measuring accuracy temperature °C	+/- 1,0	+/- 1,0
Maximum operating pressure	16	16
Connection of circulation medium supply and return	G 1/2"	G 1/2"
Connection per circulation medium supply and return	Ball-valve	Ball-valve
Number of monitoring circuits	4	8
Dimensions supply distributor (L x W x H)	129 x 227 x 152 mm	129 x 400 x 152 mm
Dimensions return collector (L x W x H)	261 x 227 x 126 mm	261 x 400 x 126 mm
Weight	17 kg	34 kg

* teco cs 90t 9, teco cs 140t, teco cs 160t, teco cs 180t 9 but limited to 160 °C
 ** teco cs 90t 18, teco cs 90t 36, teco cd 90t

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gwk Perfect Cooling and Temperature Control

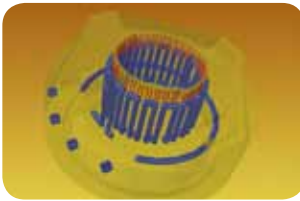


Increased productivity

In many areas of the industry, cooling and temperature control provides a great potential for increasing productivity and thus for lowering costs.

Many factors serve to improve productivity:

- Reduction of cooling time, therefore savings in required machine hours
- Improvement of product quality
- Increasing availability of production plants
- Decreasing running cost
- Reduction of maintenance cost



gwk integrat 4D

Optimal product quality through homogeneous temperature distribution by temperature control with close-to-cavity mould inserts.



gwk hermeticool hybrid

Innovative cooling system to decrease the running and maintenance cost in comparison to conventional cooling systems.



gwk system integrat

Increase of productivity by means of specific and segmented mould temperature control.



gwk container-plants

Highest flexibility and lowest expenses for planning, installation and relocation of a centralised cooling plant.



gwk teco wi / wd

Effective temperature control of applications with high material throughput. Also ideal for pre-heating of large injection moulds.



gwk skl/skw

Reliable and economic supply of cooling water in the low temperature range, even under the toughest ambient conditions.



gwk moldclean

Increased productivity through effective, automatically controlled cleaning of heat exchange surfaces in cooling and temperature controlled circuits.



gwk ku-plants

The simplest and cheapest solution to increase the availability and to decrease the maintenance cost of open cooling systems.



gwk weco

Controllable production in variable climatic conditions and high flexibility with compact, energy-saving water chillers using environmentally friendly refrigerant.



gwk service

Decreasing the maintenance cost and protection of company owned resources through professional execution of installation and maintenance works incl. cooling water treatment.



Member of the technotrans group

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