

REGLOPLAS

Regloplas Temperature Control Units

in short, a decisive increase
in quality and profitability!



Regloplas has specialized
in building **temperature
control units**
for more than 45 years.



This specialization brings significant advantages for the customer: the availability of extensive know-how in consultation, development and application of units. Regloplas Swiss quality products are in successful use in over 50 countries.



Close cooperation between our clients, representatives and specialists result in successful designs truly suited to the applications.



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Temperature control units for water up to 90 °C or thermal oil up to 150 °C.

Temperature control of injection moulds, extruders, rollers and storage tanks.

Further advantages:

Minimal reject rates beginning at production start-up. Better cavity-filling behaviour. Close or tight tolerances. Minimum warping and shrinkage. Better surface finish of the parts. In short: Continuous high-quality production.



In the manufacture of injection moulded parts, correct mould temperatures – ensured by Regloplas temperature control units – can reduce reject rates by 24 % and improve productivity by up to 20 % (Research report by the Aachen Technical University Germany).

Standard equipment

- RT32 controller or RT50 control system.
→ Optimal fit for practically every application. For technical data see page 16.
90smart and 150smart: control system RT60.
- Tank and cover made of stainless steel
→ Long service life.
- All components exposed to water are made of non-rusting materials → Long service life.
- Filter in cooling water inlet.
- Acoustic alarm (buzzer). 150 optional.
- Automatic water refilling (water units).
150 optional.
- Sturdy and powerful leak-free centrifugal pump with generously dimensioned motor for circulation of the thermal oil even at low temperatures → Safe operation.
- Low thermal load of the fluid, short circulating time → Long service life of the heat transfer oil, good control of temperature.
- Specially-treated heater elements for high corrosion resistance → Safe operation, long service life.
- 90XL with direct cooling (DK) → High efficiency, high cooling capacity.
- Adjustable internal bypass (90XL)
→ Better control of temperature.
- Manual shut off valve in the inlet and outlet (model 90XL).
- Safety thermostat → Protection against overheating.
- Automatic fluid level control
→ Protection against running dry.
- Fail-safe circuit in case of heat contactor malfunction. Current to the heater is interrupted by an overriding main contactor
→ Protection against overheating of unit.
- Suction and leak-stop operation standard for units 90smart, 150smart and units with RT32 controller. 90XL not possible.
- Electric control in accordance with IEC standards. Degree of protection IP40.
90XL IP54. Tropic-proof up to 90% humidity. Completely separated from the pumping section and protected against direct contact
→ Safe operation.

- Castors.
- In accordance with the following standards:
 - Machine Guidelines 98/37/EU.
 - Guidelines Electro-Magnetic Compatibility 89/336/EG.
 - Low voltage standards 73/23/EU.
 - Electrical equipment of industrial machines EN 60204-1, 1997
 - Low voltage switchgear and controlgear assemblies. Part 1. EN 60439-1, 1999.

Optional equipment

- Solid-state relay (SSR) instead of heating contactor.
90smart and 150smart standard.
- 90XL Blow out with manual valve.

Further options see control system RT50 and RT60, page 16.

Unit selection

- Necessary data see page 21.

90smart

90S

90XL

150smart

150S

150



Small-unit assembly: From standard units to special designs, Regloplas offers customised solutions.

Technical data			90smart	90S	90XL	150smart	150S	150				
Outlet temperature	max.	°C	90	90	90	150	150**		90	150***		
Heat transfer fluid			Water	Water	Water	Oil	Oil		Water	Oil		
Filling quantity		l	6.5	6.0	36.5	12.0	12.0		17.6	17.6		
Expansion volume		max. l	3.2	3.4	5.5	4	4		6	6		
Heating capacity at 400 V		kW	9	6; 9	20; 40; 60	6	6		12; 18		12	
Cooling capacity		kW	24	38	160	28	28		50	70	58	70
at outlet temperature		°C	90	80	80	140	140		80	40	140	60
Cooler (K)			1	1	DK	1	1		1	2	1	2
Diagram (Fig.)			1	1	3	5	5		1	5		
Pump capacity/type			TP20	TP20 TS22	IMZ-G	TP20	TP20 TS22	TP20 TS22	TP20	TS22		
Flow rate		max. l/min	60	60 70	240	60	60 70	60 70	60	70		
Pressure		max. bar	3.8	3.8 5.4	4.6	3.8	3.8 5.4	3.8 5.4	3.8	5.4		
Power consumption		kW	0.5	0.5 1.1	2.2	0.5	0.5 1.1	0.5 1.1	0.5	1.1		
Diagram (Fig.)			2	2	4	2	2		2	2		
Control			RT60	RT32 RT50	RT32* RT50	RT60	RT32* RT50	RT32 RT50	RT32	RT50		
Measuring mode (standard)			Pt100	Pt100	Pt100	Pt100	Pt100	Pt100	Pt100	Pt100		
Operating voltage (standard)		V/Hz	400/50, 3 PE	400/50, 3 PE	400/50, 3 PE	400/50, 3 PE	400/50, 3 PE		400/50, 3 PE		400/50, 3 PE	
Connections												
Outlet/inlet			G ½"	G ½"	G 1½" IG	G ½"	G ½"		G ½"		M 26 x 1,5	
Cooling water mains			G ¾"	G ½"	G ¾"	G ¾"	G ½"		G ½"		G ½"	
Dimensions W/H/D		mm	220/568/610	220/552/670	436/1357/1349	230/615/705	200/648/700		346/690/728			
Weight		approx. kg	32	44	229	41	50		78			
Colour		Grey	RAL	9006/7016						7035/7024		
Ambient temperature		max. °C	40									
Noise level		dB (A)	<70									
Notes			* 90XL only with 20 kW heating capacity. 150S only with pump TS22.					G: Parallel thread				
			** Optional up to 180 °C. Only with pump TS22H.					IG: Female thread				
			*** Optional up to 200 °C. Only with pump TS22H.					DK: Direct cooling				

Cooling capacity P as a function of outlet temperature ϑ .

Cooling water data:
 Inlet temperature +20 °C/15 °C 90smart.
 Flow rates 10 l/min: 90S; 150smart; 150S.
 20 l/min: 90smart; 150.
 36 l/min: 90XL.

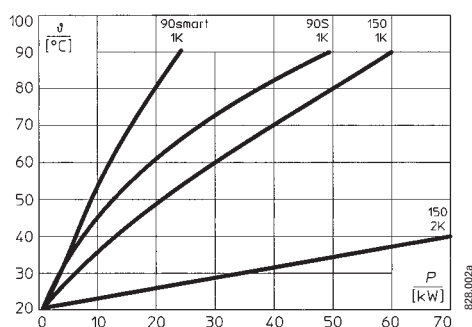


Fig. 1: Fluid water 90smart; 90S; 150

Pump capacity. Flow rate V as a function of pressure p .

Bypass not included.

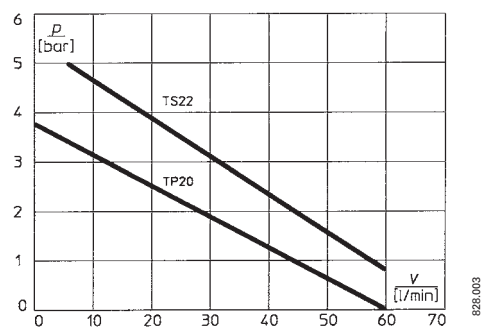


Fig. 2: 90smart; 90S; 150smart; 150S; 150

Cooling capacity (continued)

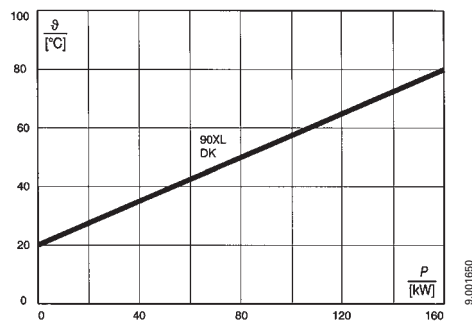


Fig. 3: Fluid water; 90XL

Pump capacity (continued)

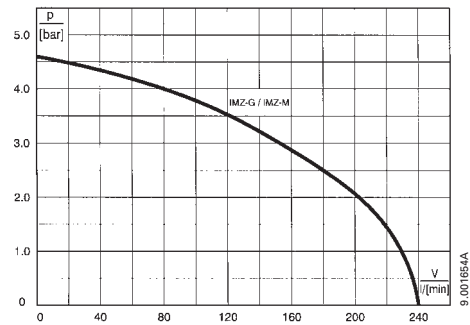


Fig. 4: 90XL

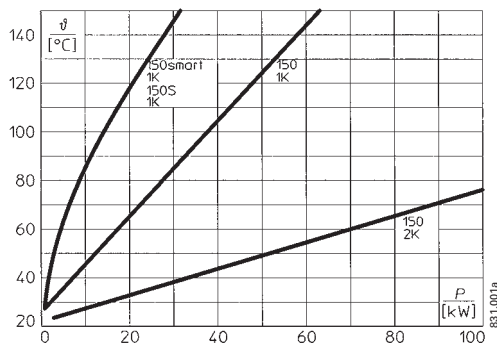


Fig. 5: Fluid thermal oil 150smart; 150S; 150

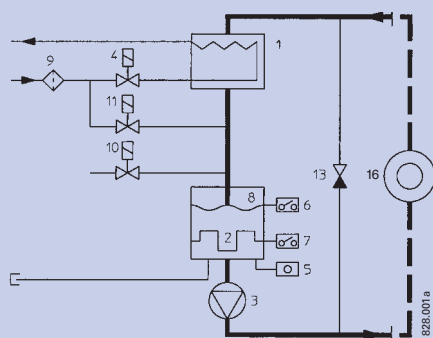


Fig. 6: Principle 90S

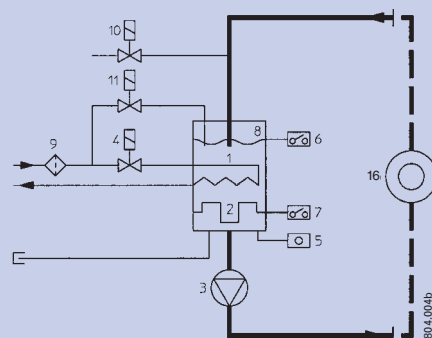


Fig. 7: Principle 90smart; 150 Water

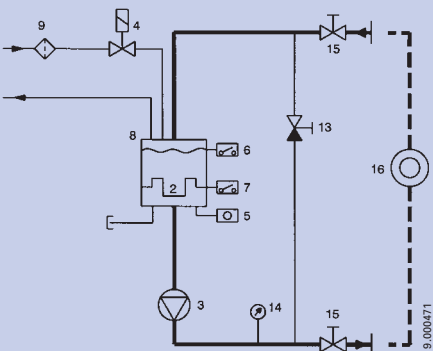


Fig. 8: Principle 90XL

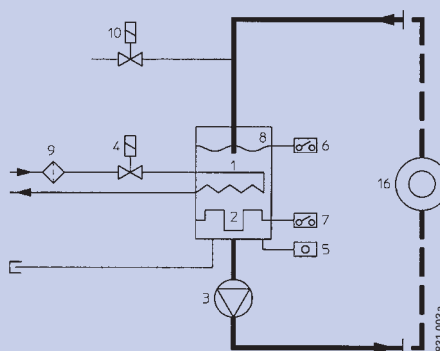


Fig. 9: Principle 150smart; 150S; 150 Oil

- 1 Cooler
- 2 Heater
- 3 Pump
- 4 Solenoid valve, cooling
- 5 Temperature sensor
- 6 Level control
- 7 Safety thermostat
- 8 Tank
- 9 Filter, water mains
- 10 Solenoid valve, consumer drainage (optional with control system RT50)
- 11 Solenoid valve, automatic water refilling (150 optional)
- 12 One-way check valve
- 13 Bypass
- 14 Pressure gauge
- 15 Manual valve
- 16 Consumer

Pressurised-water temperature control units up to 160 °C.

Temperature control of plastic injection moulds,
die-casting dies, rollers, extruders, mixers, vessels...

Good heat transfer has a direct effect upon the
output of your production plant.



**Pressurised water units can
be recommended wherever the
advantages of water as heat
transfer fluid are important, even
above 90 °C.**

**Patented low-scale cooling
system "SK".**

Standard equipment

- RT32 controller or RT50 control system.
→ Perfect for every almost application. For technical data see page 16.
P140smart: control system RT60.
- Operating temperature independent.
- P140XL, P160XL with special patented "SK" cooling system prevents lime scale buildup.
- All components exposed to water are made of non-rusting materials
→ Long service life.
- Automatic fluid level control
→ Protection against running dry.
- Safety valve → Prevents excessive pressure in the unit.
- Safety thermostat → Protection against overheating.
- Fail-safe over all mains contactor
→ Protection against overheating of the unit.
- Sturdy and powerful centrifugal pump with maintenance-free rotating mechanical seal. Pump with special coating for corrosion resistance → Long service life.
- P160M(D), P160XL with pump with magnetic drive (P140S, P140M, P140XL optional)
→ Leak-free operation (no mechanical seal).
- Specially-treated heater elements for greater corrosion resistance
→ Safe operation, long service life.
- One-way check valve in cooling water outlet → Less scaling in the cooler by back-flow water.
- Automatic water refill.
- Filter in cooling water inlet.
- Pressure gauge for system pressure indication.
Pressure gauge for outlet pressure indication (P140XL, P160XL).
- Manual valve in the inlet and outlet (P140XL, P160XL).
- Acoustic alarm (buzzer).
- Small filling quantity and high pump capacity → Quick compensation of disturbances, good regulating behaviour, economical operation.
- Adjustable internal bypass.
(P140XL, P160XL).
- Castors.
- Electric control in accordance with IEC standards. Degree of protection IP40.

P140XL, P160XL, IP54. Tropic-proof up to 90% humidity. Completely separated from the pumping section and protected against direct contact → Safe operation.

- In accordance with the following standards:
 - Machine Guidelines 98/37/EU.
 - Pressurised Units 97/37/EU.
 - Guidelines Electro-Magnetic Compatibility 89/336/EG.
 - Low voltage standards 73/23/EU.
 - Electrical equipment of industrial machines EN 60204-1, 1997.
 - Low voltage switchgear and controlgear assemblies. Part 1. EN 60439-1, 1999.

P140smart
P140S
P140M
P140XL
P160M(D)
P160XL

Optional equipment

- P140M and P160M(D) with patented "SK" cooling system prevents lime scale build up.
- P140S and P140M with direct cooling for low consumer temperatures.
- Solid-state relay (SSR) instead of heating contactor. **P140smart standard.**
- Temperature dependent switchover indirect to direct cooling (only with RT50).

Further options see control systems RT50 and RT60 page 16.

Unit selection

- Necessary data see page 21.



Quality assurance: At Regloplas, all units, whether standard or customised, undergo all phases of rigorous final testing.

Technical data			P140smart	P140S	P140M		P140XL	P160M(D)		P160XL
Outlet temperature	max.	°C	140	140	140		140	160		160
Heat transfer fluid			Water	Water	Water		Water	Water		Water
Filling quantity		l	4	1	6.5		36.5	6.5*		36,5
Expansion volume	max.	l	0.5	—	3.5		5.5	3.5*		5,5
Heating capacity at 400 V		kW	9	6	9; 12		20; 40; 60	9; 12*		20; 40; 60
Cooling capacity type		kW	35	35	35 43		115	43* 43*		135
at outlet temperature		°C	130	130	130 90		130	150 90		150
Cooler (K)			1	1	1 2; SK		SK	1 2; SK		SK
Diagram (Fig.)			1	1	1 1		3	1 1		3
Pump capacity/type			B501	B501 SM20	SG51 SM51		IMZ-G	SM51		IMZ-M
Flow rate	max.	l/min	45	45 27	45 45		240	45*		240
Pressure	max.	bar	6.0	6.0 4.5	6.0 7.0		4.6	7.0*		4.6
Power consumption		kW	0.85	0.85 0.5	0.75 1.0		2.2	1.0*		2.2
Diagram (Fig.)			2	2	2		4	2		4
Control			RT60	RT32 RT50	RT32 RT50		RT50	RT50		RT50
Measuring mode (standard)			Pt100	Pt100	Pt100		Pt100	Pt100		Pt100
Operating voltage (standard)		V/Hz	400/50, 3 PE	400/50, 3 PE	400/50, 3 PE		400/50, 3 PE	400/50, 3 PE		400/50, 3 PE
Connections										
Outlet/inlet			G ½"	G ½"	G ½"		G 1½" IG	G ½"		G 1½" IG
Cooling water mains			G ¾"	G ½"	G ½"		G ¾"	G ½" G ¾"***		G ¾"
Dimensions W/H/D		mm	230/615/705	200/552/670	320/756/830		436/1357/1349	320/756/830 460/1446/910**		436/1357/1349
Weight	approx.	kg	45	45	75		275	80/160**		275
Colour	Grey	RAL	9006/7016							
Ambient temperature		max. °C	40							
Noise level		dB (A)	< 70							
Notes		* Per Zone G: Parallel thread ** Dual Zone unit (D) IG: Female thread								

Cooling capacity P as a function of outlet temperature ϑ .

Cooling water data:
 Inlet temperature +20 °C.
 Flow rates 1K: 10 l/min.
 2K; SK: 20 l/min P140M; P160M(D)
 P140XL; P160XL; SK: 35 l/min.

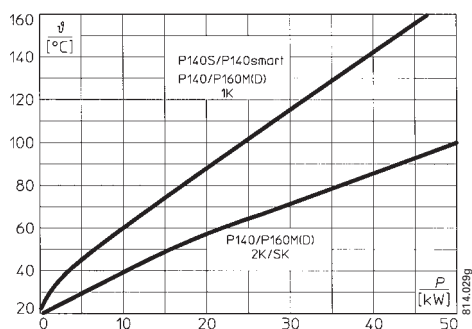


Fig. 1: P140smart; P140S; P140M; P160M(D)

Pump capacity. Flow rate V as a function of pressure p .

Bypass not included.

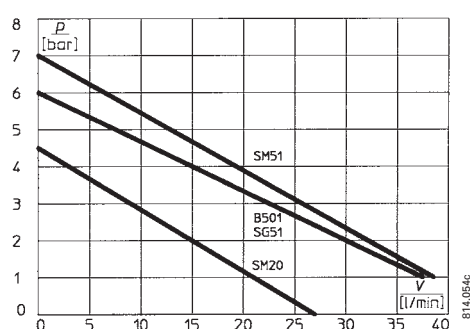


Fig. 2: P140smart; P140S; P140M; P160M(D)

Cooling capacity (continued)

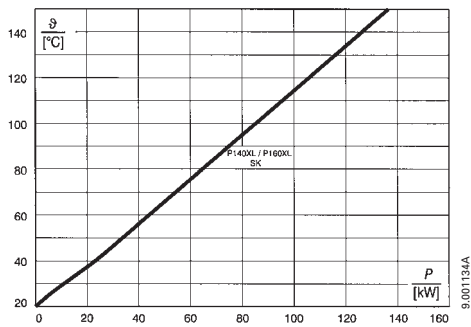


Fig. 3: P140XL; P160XL

Pump capacity (continued)

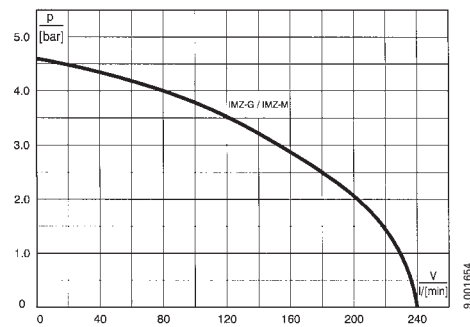


Fig. 4: P140XL; P160XL

P140smart
P140S
P140M
P140XL
P160M(D)
P160XL

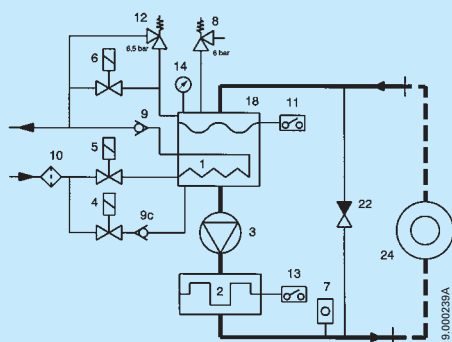


Fig. 5: Principle P140smart

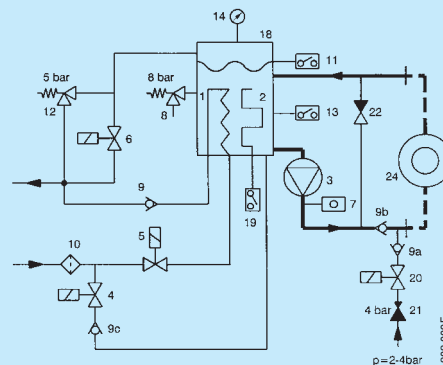


Fig. 6: Principle P140S

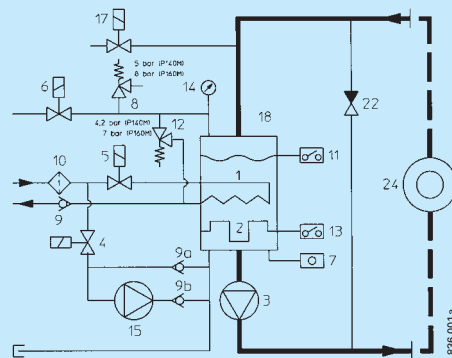


Fig. 7: Principle P140M, P160M(D)

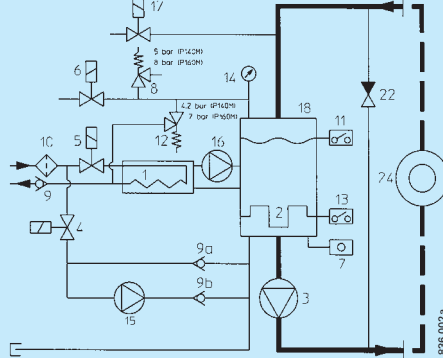


Fig. 8: Principle P140M, P160M(D)
with cooler SK

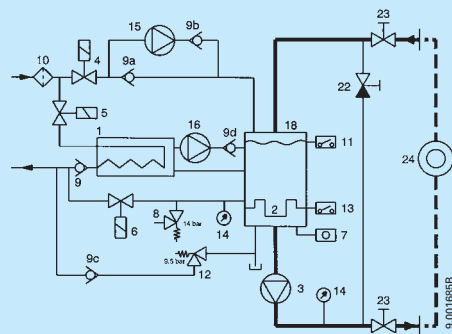


Fig. 9: Principle P140XL; P160XL with cooler SK

- 1 Cooler
- 2 Heater
- 3 Pump
- 4 Solenoid valve, automatic water refilling
- 5 Solenoid valve, cooling
- 6 Solenoid valve, pressure release
- 7 Temperature sensor
- 8 Safety valve
- 9 One way check-valve
- 10 Filter, cooling water
- 11 Level control
- 12 Expansion valve
- 13 Safety thermostat
- 14 Pressure gauge
- 15 Filling pump (P160M(D); P160XL).
- 16 Cooling pump (cooler SK)
- 17 Solenoid valve, consumer drainage (optional)
- 18 System (tank)
- 19 Thermal cut-off
- 20 Blow out solenoid valve (optional)
- 21 Pressure reducing valve
- 22 Bypass
- 23 Shut-off valve
- 24 Consumer

Temperature control units for thermal oil up to 350 °C.

Temperature control of die-casting dies, extruders, rollers, storage tanks, mixers, vessels...

Your benefit in words and figures!



**Example from daily practice:
In the production of die-castings.**

**Regloplas temperature control
units can reduce reject rates
up to 80%, and can make the
die cast up to 3 times longer,
reduce heat-up time by as
much as 30%.**

Standard equipment

- RT50 control system → Perfect fit for almost every application. For technical data see page 16.
- Pump with magnetic drive → Leak-free operation.
- 300L(D) with solid-state relay (SSR).
- Dual zone (D) → Small foot print.
- Pressure gauge in the outlet and inlet.
- One-way check valve in cooling water outlet → Less scaling in the cooler by back flow water.
- Automatic fluid level control → Protection against running dry. 300L(D) with two level switches (empty + pre warning).
- Flow monitor → Protection against running dry and overheating of the oil.
- Separate expansion vessel → Prevents oxidation (blackening or degradation). Emission of combustible oil into the atmosphere is avoided.
- Bypass for internal circulation of the oil in case of insufficient flow, e.g. when the consumer is blocked → Avoids thermal overloading of the oil.
- 350L: Cooler with bypass circuit (Fig. 5) → Much better regulating behaviour, reduced tendency from lime scale.
- Safety thermostat → Protection against overheating.
- Filter in cooling water inlet.
- Small filling quantity and high pump capacity → Quick compensation of disturbances, good control behaviour.
- Fail-safe over all mains contactor → Protection against overheating of unit.
- Acoustic alarm (buzzer).
- Castors and eye bolts.
- Electric control in accordance with IEC standards. Degree of protection IP40. 300L(D) IP54. Tropic-proof up to 90% humidity. Completely separated from the pumping section and protected against direct contact → Safe operation.
- In accordance with the following standards:
 - Machine Guidelines 98/37/EU.
 - Pressurised Units 97/37/EU.
 - Guidelines Electro-Magnetic Compatibility 89/336/EG
 - Low voltage standards 73/23/EU.
 - Electrical equipment of industrial machines EN 60204-1, 1997.
 - Low voltage switchgear and controlgear assemblies. Part 1. EN 60439-1, 1999.

Optional equipment

- 300S; 350L Solid-state relay (SSR) instead of heating contactor. **300L(D) standard**
- 350L with inert gas blanket → Longer oil life.
- Flow measurement F350.
- 300L(D): Cooler with bypass circuit.

Further options see control system RT50, page 16.

Unit selection

- Necessary data see page 21.

300S

300L(D)

350L



Mechanical assembly:

Expertise and precision assure the high quality of our products.

Technical data			300S	300L(D)	350L
Outlet temperature	max.	°C	300	300	350
Heat transfer fluid			Thermal oil	Thermal oil	Thermal oil
Filling quantity		l	6	15 24**	15-20
Expansion volume		l	7	20	20
Heating capacity at 400 V		kW	6	20; 40*	24; 36
Cooling capacity		kW	70	160*	110
at outlet temperature		°C	280	280	340
Cooler (K)			1	1*	1
Diagram (Fig.)			1	1	3
Pump capacity/type			FM25	FM65	FM65
Flow rate	max.	l/min	45	90*	90
Pressure	max.	bar	7.0	10.0*	10.0
Power consumption		kW	1.0	2.8*	2.8
Diagram (Fig.)			2	2	2
Control			RT50	RT50	RT50
Measuring mode (standard)			Pt100	Pt100	Pt100
Operating voltage (standard)		V/Hz	400/50, 3 PE	400/50, 3 PE	400/50, 3 PE
Connections					
Outlet/inlet			G ½"	G ¾" IG	DN 20/PN 40
Cooling water mains			G ½"	G ¾"	G ¾"
Dimensions W/H/D		mm	320/756/900	436/1357/1442 546/1357/1442**	470/1467/1626
Weight	approx.	kg	87	246 365**	310
Colour	Grey	RAL	9006/7016		
Ambient temperature	max.	°C	40		
Noise level		dB (A)	< 70		
Notes			* Per zone ** Dual zone unit (D) G: Parallel thread IG: Female thread		

Cooling capacity P as a function of outlet temperature ϑ .

Cooling water data:

Inlet temperature +20 °C.

Flow rate per zone 20 l/min.

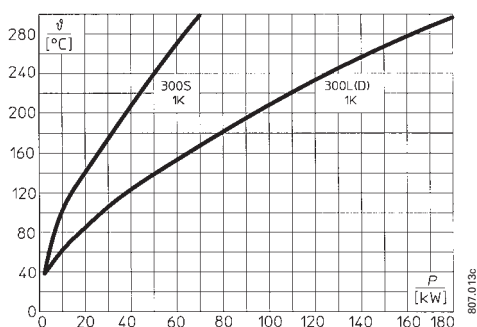


Fig. 1: 300S, 300L(D)

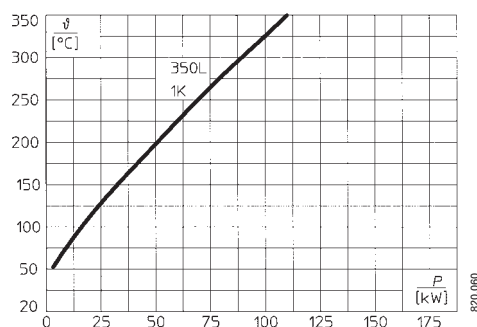


Fig. 3: 350L

Pump capacity. Flow rate V
as a function of manometric pressure p .
Bypass not included.

300S
300L(D)
350L

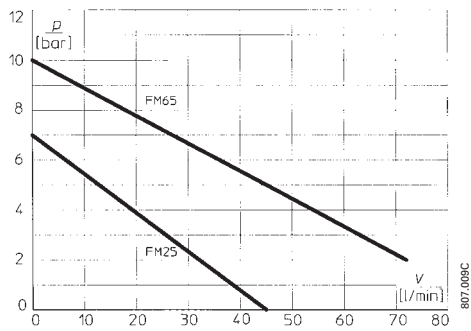


Fig. 2: Pump capacity

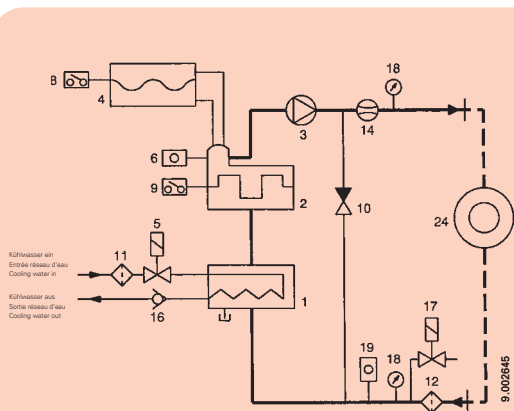


Fig. 4: Principle 300S; 300L(D)

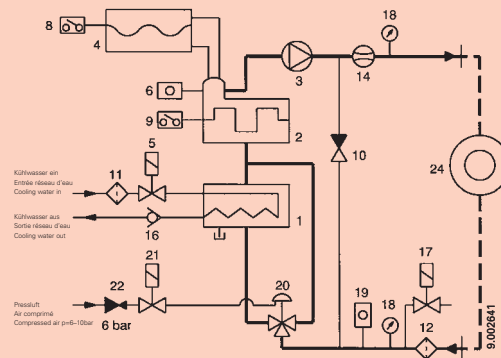


Fig. 5: Principle 300L(D); with
bypass circuit for the cooler

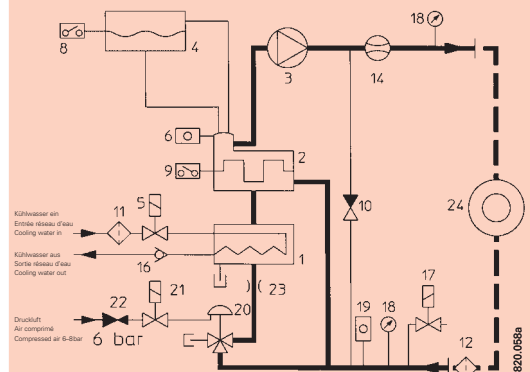


Fig. 6: Principle 350L with
bypass circuit for the cooler

- 1 Cooler
- 2 Heater
- 3 Pump
- 4 Expansion vessel
- 5 Solenoid valve, cooling
- 6 Outlet temperature sensor
- 7 --
- 8 Level control
- 9 Safety thermostat
- 10 Bypass
- 11 Filter water mains
- 12 Filter circuit (350L option)
- 13 --
- 14 Flow monitoring
- 15 --
- 16 One-way check valve
- 17 Solenoid valve, consumer drainage (optional)
- 18 Pressure gauge
- 19 Inlet temperature sensor (optional)
- 20 Three-way valve (300L(D) option)
- 21 Solenoid valve compressed air
- 22 Pressure reducing valve
- 23 Diaphragm
- 24 Consumer

RT50 and RT60 control system, controller RT32.

The RT50 control system ensures an optimal fit for practically every application. The RT60 control system and the RT32 controller are a simple, cost-effective solutions for a wide variety of applications.

All controllers are designed to avoid problems before they arise.



Modern automated manufacturing processes require data transfer between the temperature control unit and the production facility's central computer – just one of many applications for the RT50 control system with data interface.



RT50 technical data

Operation and control

- Seven-line clear-text LCD display. Choice of languages.
- Simultaneous readout of temperature set-point and actual values.
- Choice of temperature display (decimal place)
- Clear arrangement of operating and indicating elements.
- Fully automatic function sequences → Simple to operate.
- Control options:
 - Consumer temperature with cascade control for highest temperature constancy with 2 control circuits (consumer and fluid).
 - Fluid Temperature.
- Set-point switch-over.

Safety

- All disturbances in the unit are indicated on the display.
- Set-point «blockable» → Protection against incorrect adjustment.
- Limitation of max. programmable set-point.
- Monitoring of upper and lower limit values.
- Unauthorized access to the programming levels prevented by a code.
- Sensor-break monitoring.
- Automatic switch-over to the internal sensor (fluid) in the event of external sensor breakage.
- Units with automatic water refilling: In order to limit the consequences of leakage (e.g. hose burst) the filling time per refill and the number of refills per hour is limited → Protection of the production installation against damage caused by water.

Service

- Indication of the service interval.
- Operating hours meter.
- Programmed data remain stored during replacement of electronic components.

Optional equipment

- External sensor connection for Pt 100, J (Fe-CuNi), K (NiCr-Ni) or T (Cu-CuNi).
- Leak-stop operation.
- Drainage of the fluid from the consumer by suction/compressed air.
- Common alarm.
- Time switch.

- Flow rate measurement. Data: temperature max. 350 °C. Range 2 to 50 l/min.
- Inlet sensor (Pt 100).
- External control: set-point input, set-point switch-over, heating/cooling command, on/off of the unit.
- More than 30 interface protocols available.
- Scaleable recorder output.
- Automatic pump rotation correction.

RT60 technical data

Operation and control

- Simultaneous readout of temperature set-point and actual values.
- Clear arrangement of operating and indicating elements.
- Fully automatic function sequences.
- Drainage of the fluid from the consumer by suction.
- Common alarm.
- Automatic pump rotation correction (phase swap).

Safety

- All disturbances in the unit are indicated on the display.
- Limitation of max. programmable set-point.
- Monitoring of upper and lower limit values.
- Unauthorized access to the programming levels prevented by a code.
- Automatic pump rotation correction.
- Sensor-break monitoring.

Service

- Indication of the service interval.
- Operating-time meter.

Optional equipment

- External set-point input.
- 9 interface protocols available.
- Scaleable recorder output.

RT32 technical data

- Clear arrangement of operating and indicating elements.
- Simultaneous readout of temperature set-point and actual values.
- Sensor-break monitoring.
- Permanent self-testing of the controller.
- Monitoring of upper and lower limit values for fluid temperature. Optional.

RT50

RT60

RT32

REG descaling unit, descaling agent REM93, corrosion inhibitor RK93 and system cleaner SR80.

With the REG descaling unit for water systems, descaling agent REM93, corrosion inhibitor RK93 and system cleaner SR80 for oil circuits, Regloplas offers their customers optimal assistance for maintenance.

Systematic Regloplas methods in our service as well:
Descaling of water and steam systems – Preventive maintenance of water and oil circuits.



Descaling unit REG and descaling agent REM93 for cleaning of moulds and dies, cooling circuits and other systems operated with water or steam.

Corrosion inhibitor RK93 prevents corrosion, lime deposits and the formation of rust in water circuits.

System cleaner SR80 is a highly effective additive for cleaning heat transfer systems and other circuits contaminated by oil residue.

Descaling unit REG

- Incorporated heating → Minimal cleaning time.
- Simple connection to the encrusted circuit without dismantling of the installation
→ Operation without problems, time saving.
- Electric control in separate housing, heater protected against running dry, tank and cover of plastic and cover of stainless steel
→ Safe and harmless operation.

REG
REM93
RK93
SR80

Technical data

REG

Operating temperature	°C	60
Tank capacity	l	12
Heating capacity	kW	0.8
Pump capacity		
Flow rate	max. l/min	30
Delivery head	max. bar	1.6
Power consumption	kW	1.2
Operating voltage (standard)	V/Hz	230/50; 60, 1 PNE
Connections		Nipples DN 16
Dimensions W/H/D	mm	305/610/455
Weight	approx. kg	13
Colour		Grey
Accessories		2 hoses, length 2.5 m

REM93 Descaling agent

- Protects the environment and is biodegradable.
- The combination of an organic acid with an inorganic activator results in a descaling agent that has the same effect as a strong acid: quickly and efficiently removes lime, scale, and rust deposits without damaging the equipment.
- Also suitable for tin and enamel.
- 1 kg REM93 removes approx. 0.5 kg lime.



At the Regloplas Test Centre, any operating condition can be simulated and checked – under continuous testing.

Corrosion inhibitor RK93

- Temperature range $-10\text{ }^{\circ}\text{C}$ to $+180\text{ }^{\circ}\text{C}$.
- The additive helps prevent: electrolytic corrosion of all metals and dezincification of brass, lime deposits and adherence of hard rust particles.
- RK93 can be mixed with anti-freeze agents and does not attack seals.
- Suitable for pressurised water systems.
- Economical to use.
- RK93 retains its properties over an extended period because it is active not only in the water but also forms a protective film on the contact surfaces, providing constant efficiency of the heat exchanger.

System cleaner SR80

- The additive removes oil-carbon residues and foreign contamination from metal surfaces, so that they circulate in the oil flow and are carried to the filter.
- The optimal cleaning effect is between 120 and $150\text{ }^{\circ}\text{C}$.
- The max. permissible operating temperature is $300\text{ }^{\circ}\text{C}$.
- The SR80 additive contains no solvents. It can be dissolved in all mineral oils and synthetic fluids.
- Application as a preventive or before changing the oil.

Interpreting Regloplas data.

The following notes provide important information on interpreting the technical data and selecting Regloplas temperature control units.

Expansion of the heat transfer fluid

The value given in the table “Technical Data” must be higher than the volume increase due to temperature during operation.

When the installation is idle, some of the contents of the consumer may flow back to the control unit, depending on the set-up (difference in level between temperature control unit and consumer). In large-capacity consumers (e.g. rollers), the value specified ensures that the heat transfer fluid flowing back to the control unit can be accommodated.

Cooling capacity

Generally speaking knowing the maximum value alone is not enough to determine the capacity. We provide a diagram of the cooling capacity.

Pump capacity

Knowing the maximum values alone is not enough to determine the pump capacity. We provide the characteristic curve of the pump.

Control

Control accuracy. Short-term accuracy of the temperature control circuit (controlled system) is very difficult to pinpoint. The accuracy of the RT50/RT60 control system and the RT32 controller alone is better than $\pm 1^\circ\text{C}$.

The accuracy of the temperature control circuit can vary considerably, depending on the strength and duration of the disturbances affecting the circuit.

For example:

- Production start-up
- Production interruption
- Changes in the injection cycle (injection moulding)
- Changes in the material and ambient temperature.

Cascade control: If the consumer is equipped with a sensor, the control system automatically switches to cascade control: Using two coupled controllers, the temperature of both the fluid and consumer is controlled. Cascade control enables optimal control of the consumer temperature, a critical factor in overall production quality.

Unit selection

Minimum data required:

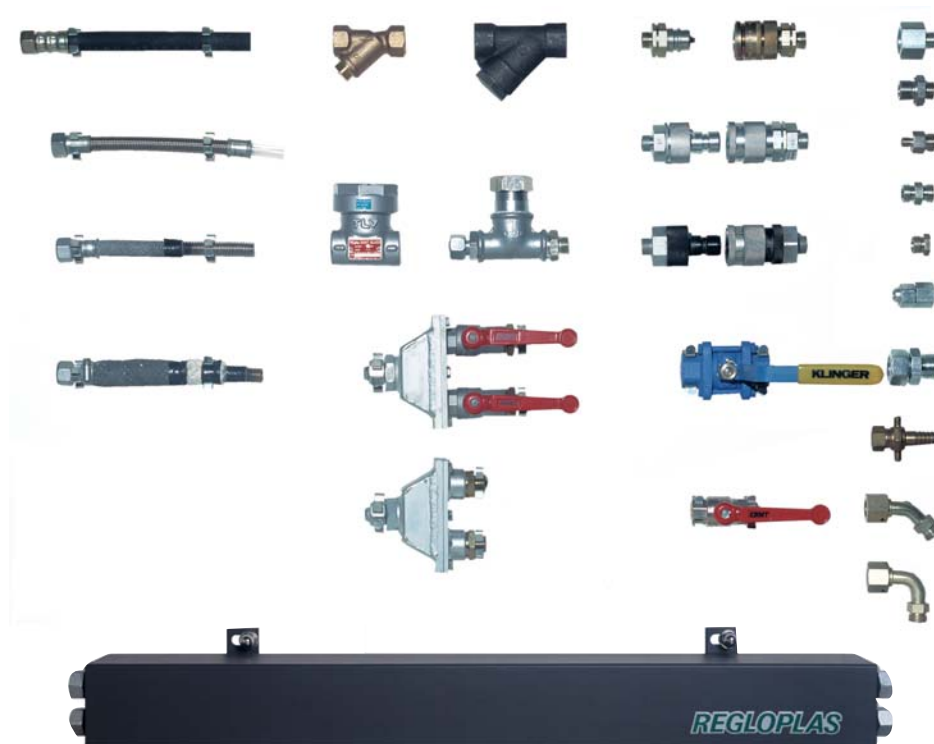
1. Set value temperature/temperature range of the consumer.
2. Weight or dimensions and material of the consumer.
3. Desired heat-up time in hours.
4. Quantity of processed material in kg/h and designation of the material.
5. Temperature of the material to be processed when it reaches the consumer (e.g. injection mould).
6. Max. cooling water temperature (if $> 18^\circ\text{C}$).

Regloplas accessories.

Regloplas accessories cover all components for connecting the unit to the consumer, including heat transfer fluids, corrosion inhibitor and cleaners.

Regloplas accessories: Safety between temperature control unit and consumer.

Regloplas accessories are in exact accordance with our specifications – values that incorporate the experience gained over many years. Choose safety.



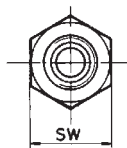
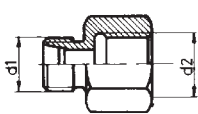
Fittings

Dimensions in mm if not specified otherwise. DN = Nominal width. SW = Spanner size. *DIN 3863: tapered sealing.

1. Adapter

d1*	d2	DN	SW	Order No.
M 14x1.5	R 1/2"	6	27	301-080114
M 14x1.5	R 3/4"	6	32	301-080118
M 16x1.5	R 1/2"	10	27	301-080113
M 16x1.5	R 3/4"	10	32	301-080117
M 18x1.5	M 14x1.5*	10	22	301-080115
M 18x1.5	M 16x1.5*	10	22	301-080112
M 18x1.5	R 1/2"	10	27	301-080110
M 18x1.5	R 1/2"	10	27	302-080108**
M 18x1.5	R 3/4"	12	32	302-080105**
M 26x1.5	R 3/4"	16	32	302-080106**

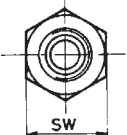
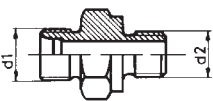
** Material 1.4301 (inox)



2. Adapter

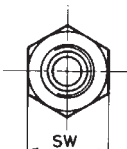
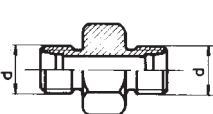
d1*	d2	DN	SW	Order No.
M 14x1.5	M 10x1*	5	14	300-080128
M 14x1.5	R 1/8"	5	17	301-080129
M 14x1.5	R 1/4"	6	17	300-080127
M 14x1.5	R 1/2"	6	27	301-080138
M 18x1.5	M 10x1*	6	19	301-080125
M 18x1.5	M 10x1.5*	6	19	301-080139
M 18x1.5	M 16x1.5*	10	22	301-080126
M 18x1.5	R 1/8"	6	19	301-080120
M 18x1.5	R 1/4"	7	19	301-080121
M 18x1.5	R 3/8"	10	22	301-080122
M 18x1.5	R 1/2"	10	27	302-080119**
M 18x1.5	R 3/4"	12	32	302-080107**
M 26x1.5	R 3/4"	16	32	301-080124

** Material 1.4301 (inox)



3. Adapter

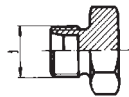
d*	DN	SW	Order No.
M 16x1.5	8	19	301-080134
M 18x1.5	10	19	301-080130
M 26x1.5	16	32	301-080131



Further accessories on request

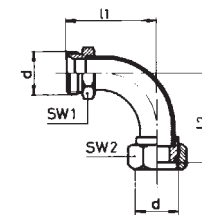
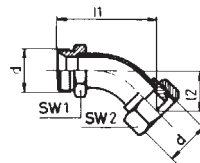
4. Dummy plug for hose fitting

d*	SW	Order No.
M 18x1.5	27	305-080140



5. Elbow with cap nut

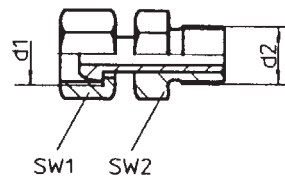
d*	α	DN	SW1	SW2	l1	l2	Order No.
M 18x1.5	45°	10	19	27	40	14	361-080150
M 18x1.5	90°	10	19	27	38	35	361-080151
M 26x1.5	90°	16	27	32	55	53	361-080153



6. Adapter with cap nut for filters, twin connectors, ball cocks, etc.

d1*	d2	DN	SW1	SW2	Order No.
M 18x1.5	R 3/8"	10	22	22	301-080164
M 18x1.5	R 1/2"	10	22	27	302-080166**
M 18x1.5	R 3/4"	10	22	32	302-080169**
M 26x1.5	R 3/4"	16	32	32	301-080167

** Material 1.4301 (inox)



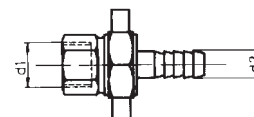
7. Adapter with cap nut for "Hasco" standard parts

d1*	d2	DN	SW	Order No.
M 18x1.5	M 14x1.5	10	22	301-080170
M 18x1.5	M 16x1.5	10	22	301-080171



8. Adapter for cooling water hoses

d1	d2	DN	Order No.
R 3/8"	14.5	13	300-080184
R 1/2"	17.5	16	300-080185



Hoses

1. Fabric-reinforced perbunane/neoprene hose for water up to 70 °C and oil up to 120 °C

d*	DN	l(m)	SW	Order No.
M 14 x 1.5	6	0.6	17	362-080213
M 14 x 1.5	6	2.5	17	362-080214
M 18 x 1.5	10	0.6	24	362-080211
M 18 x 1.5	10	2.5	24	362-080212

2. PTFE hose for water up to 200 °C and oil up to 250 °C. Stainless steel jacket.

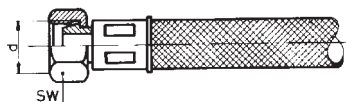
d*	DN	l(m)	SW	Min. permiss. bending radius	Order No.
M 18 x 1.5	10	0.6	22	120	362-080250
M 18 x 1.5	10	2.5	22	120	362-080252
M 26 x 1.5	16	0.8	32	165	362-080251
M 26 x 1.5	16	2.5	32	165	362-080253

3. All-metal hose with steel jacket. For oil up to 350 °C. Without heat insulation.

d*	DN	l(m)	SW	Min. permiss. bending radius	Order No.
M 18 x 1.5	10	0.6	22	140	362-080260
M 18 x 1.5	10	1.5	22	140	362-080264
M 18 x 1.5	10	2.5	22	140	362-080262
M 26 x 1.5	16	1	32	175	362-080261
M 26 x 1.5	16	2.5	32	175	362-080263

4. All-metal hose with braided steel jacket. For oil up to 350 °C. With heat insulation (no protection against contact).

d*	DN	l(m)	SW	Min. permiss. bending radius	Order No.
M 18 x 1.5	10	2.5	22	155	362-080272
M 26 x 1.5	16	2.5	32	175	362-080273



Quick-connect couplings

1. Quick-connect coupling for water up to 100 °C and oil to 200 °C. Viton gasket. Shut-off in both directions.

d1*	d2	DN	l	Description	Order No.
M 18 x 1.5	38	8	69	Socket	465-080320
M 18 x 1.5	34	8	47	Plug	465-080321
M 26 x 1.5	38	16	71	Socket	465-080322
M 26 x 1.5	34	16	49	Plug	465-080323

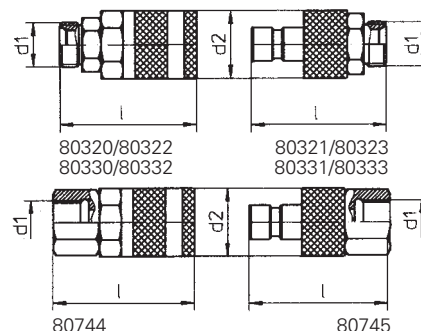
2. Quick-connect coupling for water up to 170 °C. EP gasket. Shut-off in both directions.

d1*	d2	DN	l	Description	Order No.
1/2"	40	12	81	Socket	465-080744
1/2"	40	12	79	Plug	465-080745

Further accessories on request

3. Quick-connect coupling for Oil up to 250 °C. Special gasket. Shut-off in both directions.

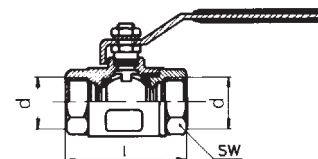
d1*	d2	DN	l	Description	Order No.
M 18 x 1.5	40	12	77	Socket	465-080330
M 18 x 1.5	40	12	78	Plug	465-080331
M 26 x 1.5	54	15	95	Socket	465-080332
M 26 x 1.5	54	15	94	Plug	465-080333



Ball cocks/Manifolds

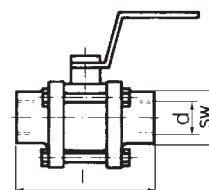
1. Ball cock for water and oil up to 160 °C. PTFE gasket.

d	DN	l	SW	Order No.
R 3/8"	10	50	21	351-080410
R 1/2"	12	62	26	351-080411
R 3/4"	20	71	31	351-080412
R 1 1/2"	40	110	55	351-080413



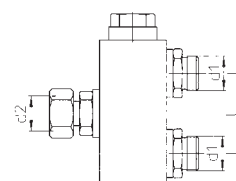
2. Ball cock for oil up to 300 °C.

d	DN	l	SW	Order No.
R 1/2"	15	85	32	351-080430
R 3/4"	20	95	41	351-080431



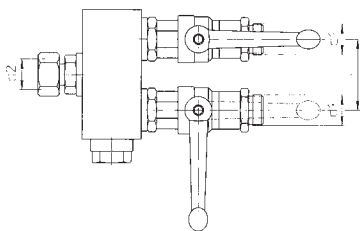
3. Twin connector without valves for water up to 160 °C and oil up to 300 °C.

d1*	d2*	DN	l	Order No.
M 18 x 1.5	M 18 x 1.5	10	60	351-080510
M 18 x 1.5	M 26 x 1.5	10	60	351-080511
M 26 x 1.5	M 26 x 1.5	16	60	351-080512



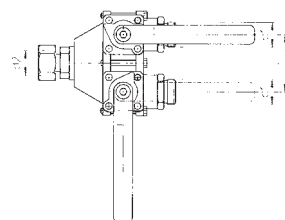
4. Twin connector with ball cocks for water and oil up to 160 °C.

d1*	d2*	DN	l	Order No.
M 18 x 1.5	M 18 x 1.5	10	60	351-080530
M 18 x 1.5	M 26 x 1.5	10	60	351-080531
M 26 x 1.5	M 26 x 1.5	16	60	351-080532



5. Twin connector with ball cock for oil up to 300 °C.

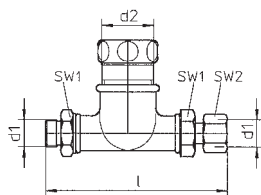
d1*	d2*	DN	l	Order No.
M 18 x 1.5	M 18 x 1.5	10	60	351-080540
M 18 x 1.5	M 26 x 1.5	10	60	351-080541
M 26 x 1.5	M 26 x 1.5	16	60	351-080542



Filling port

For corrosion inhibitor RK93 for models P140S; P140M and P160M(D).

d1	d2	SW1	SW2	L	Order No.
M 18 x 1.5	1"	27	22	119.5	361-080700



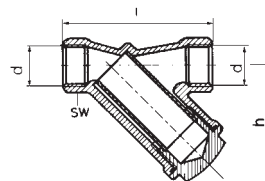
Filters

1. Angled filter for water and oil up to 160 °C. Approx. 0.25 mm mesh.

d	l	h	SW	Order No.
R 3/8"	55	40	21	352-100008
R 1/2"	58	40	21	352-100010
R 3/4"	70	50	27	352-100011
R 1"	87	60	32	352-100012
R 1 1/4"	96	68	36	352-100017
R 1 1/2"	106	75	40	352-100018

2. Angled filter for oil up to 300 °C. Approx. 0.56 mm mesh.

d	l	h	SW	Order No.
R 1/2"	90	60	36	352-064331
R 3/4"	110	75	41	352-064332



Flow meters

Type F150: For water and oil up to 150 °C. Range 2 to 50 l/min. R 3/4".

1. With control system RT50:
Order No. MP800 + MP802.
2. With controller RT32: With separate display RDA50.
Order No. 153-065210 + 153-065215.

Type F350: For oil up to 350 °C. With control system RT50. Range 2 to 50 l/min. R 3/4".
Order No. MP820 + MP821.



Typ F150

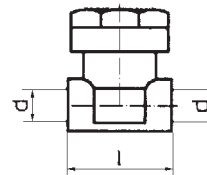


Typ F350

Flow indicator

Flow indicator with ball, for water and oil up to 150 °C.

d	l	Order No.
R 1/2"	68	153-080710
R 3/4"	75	153-080711



Further accessories on request.

Interconnecting system (insulating channels)

Max. operating temperature 300 °C.

Max. pressure 16 bar.

Item	Description	Order No.
1	Channel with 4 tubes, L = 1 m/3.3 ft Channel with 4 tubes, L = 2 m/6.6 ft Channel with 4 tubes, L = 2.5 m/8.3 ft	480-080635 480-080636 480-080637
2	Elbow	480-039162
3	Adapter M 30/24° – M 26/60° for connection of channel to hose M 26 x 1.5	301-080809
3a	Adapter M 30/24° – M 18/60° for connection of channel to hose M 18 x 1.5	301-080816
4	Angled coupling W 22-PL for inter-connection of channels	305-068107
5	Angled coupling, EVW 22-PL for connection of channel to hose	305-068120
6	Straight coupling G 22-PL	305-068035
7	Hose M 26 x 1.5	Page 24, item 2-4

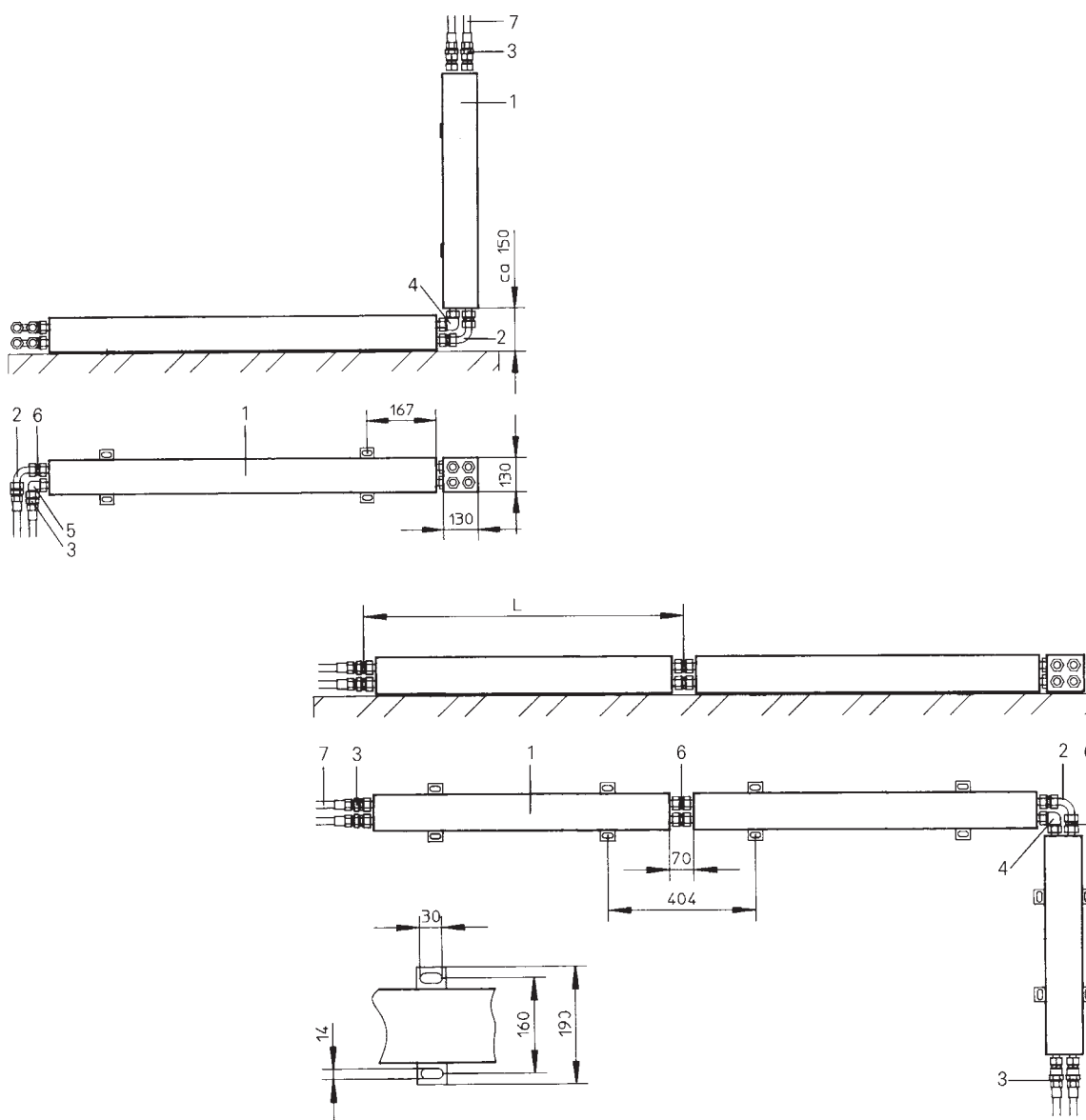
Advantages

- Reduction of heat losses over long distances between consumer and temperature control unit.
- Increased safety: Tubes are sturdier than hose lines.
- Savings in time and costs: Instead of building the installation yourself, a complete connection system including screw couplings, hoses, etc. is at your disposal.

Remarks

For safety reasons and in order to compensate for expansion due to heat, we recommend using heat-insulated all-metal flexible tubes for high temperatures between temperature control unit–insulating channel and insulating channel–consumer.

Depending on the temperature, suitable heat-insulated plastic tubes can also be used.



Further accessories on request

Type	Resistance thermometer		Thermocouple		
	Standard	Variable mounting depth	Standard	Variable mounting depth	Mineral insulated
Measuring element	1 x Pt 100 (DIN)		J (Fe-CuNi) DIN or K (NiCr-Ni) DIN		
Continuous temperature	400 °C		400 °C		
Insulation of wire	Silicon-impregnated glass-fibre		Silicon-impregnated glass-fibre		
Shielding of cable	Steel braid		Steel braid		
Material of the measuring sleeve	St V 2 A	Brass	St V 2 A		
Dimensions	Fig. 1	Fig. 2	Fig. 1	Fig. 3	Fig. 5
Example for ordering	Standard-sensor Pt 100	Sensor with variable mounting depth Pt 100	Standard-sensor	Sensor with variable mounting depth	Mineral insulated thermocouple
	No. 151-046110	No. 151-046120*	J (Fe-CuNi) No. 151-046112 K (Ni-CrNi) No. 151-046062	J (Fe-CuNi) No. 151-046122* K (Ni-CrNi) No. 151-046063*	J (Fe-CuNi) No. 151-046180 K (Ni-CrNi) No. 151-046185
Notes		* Bayonet coupling No. 151-046200 included (Fig. 4)			

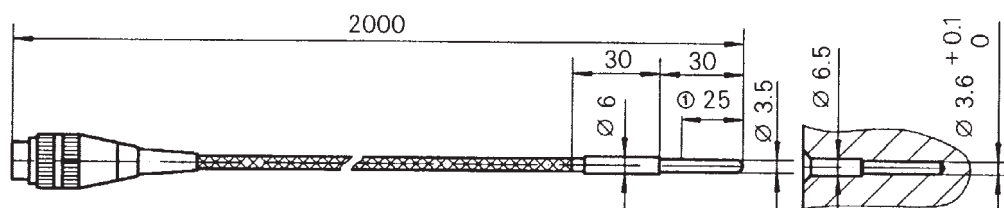


Fig. 1: Standard sensor (plug Pt 100)
Active zone of sensor Pt 100

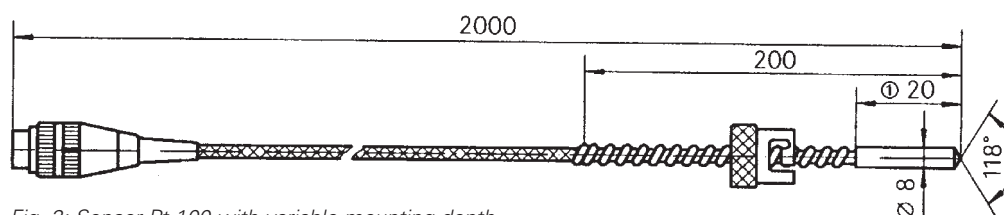


Fig. 2: Sensor Pt 100 with variable mounting depth
Active zone

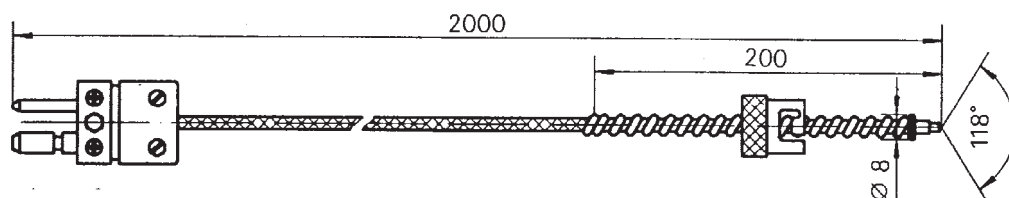


Fig. 3: Sensor with thermocouple

Further accessories on request



Fig. 4: Bayonet coupling and drilling scheme

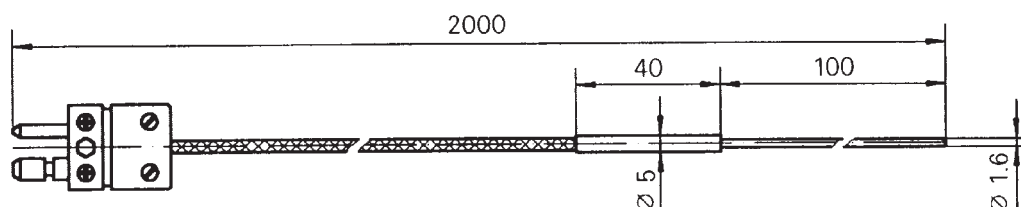


Fig. 5: Mineral-insulated thermocouple

Drilling diameter 1.7 mm

Accessories for interface

Cable and plug upon request.

Operating material

Heat transfer fluids

1. Synthetic thermal oil RO150. For outlet temperatures up to 280 °C.

Unit	Order No.
20 l can	451-081014
200 l barrel	451-081015

2. Synthetic thermal oil RO300. For outlet temperatures up to 340 °C.

Unit	Order No.
20 l can	451-081022
200 l barrel	451-081021

3. Synthetic heat transfer fluid RO200. For outlet temperatures up to 200 °C. Cannot be mixed with thermal oil.

Unit	Order No.
20 l can	451-081030
200 l barrel	451-081031

Descaling agent REM93

For descaling unit REG.

Unit	Order No.
1 kg	451-081211

Corrosion inhibitor RK93

For units with water as heat transfer fluid.

Unit	Order No.
1 l can	451-081125
5 l can	451-081126
30 l can	451-081129
Test set for checking concentration	451-081130

System cleaner SR80

For units with thermal oil as circulating fluid.

Unit	Order No.
1 l can	451-081310
5 l can	451-081311

Further accessories on request

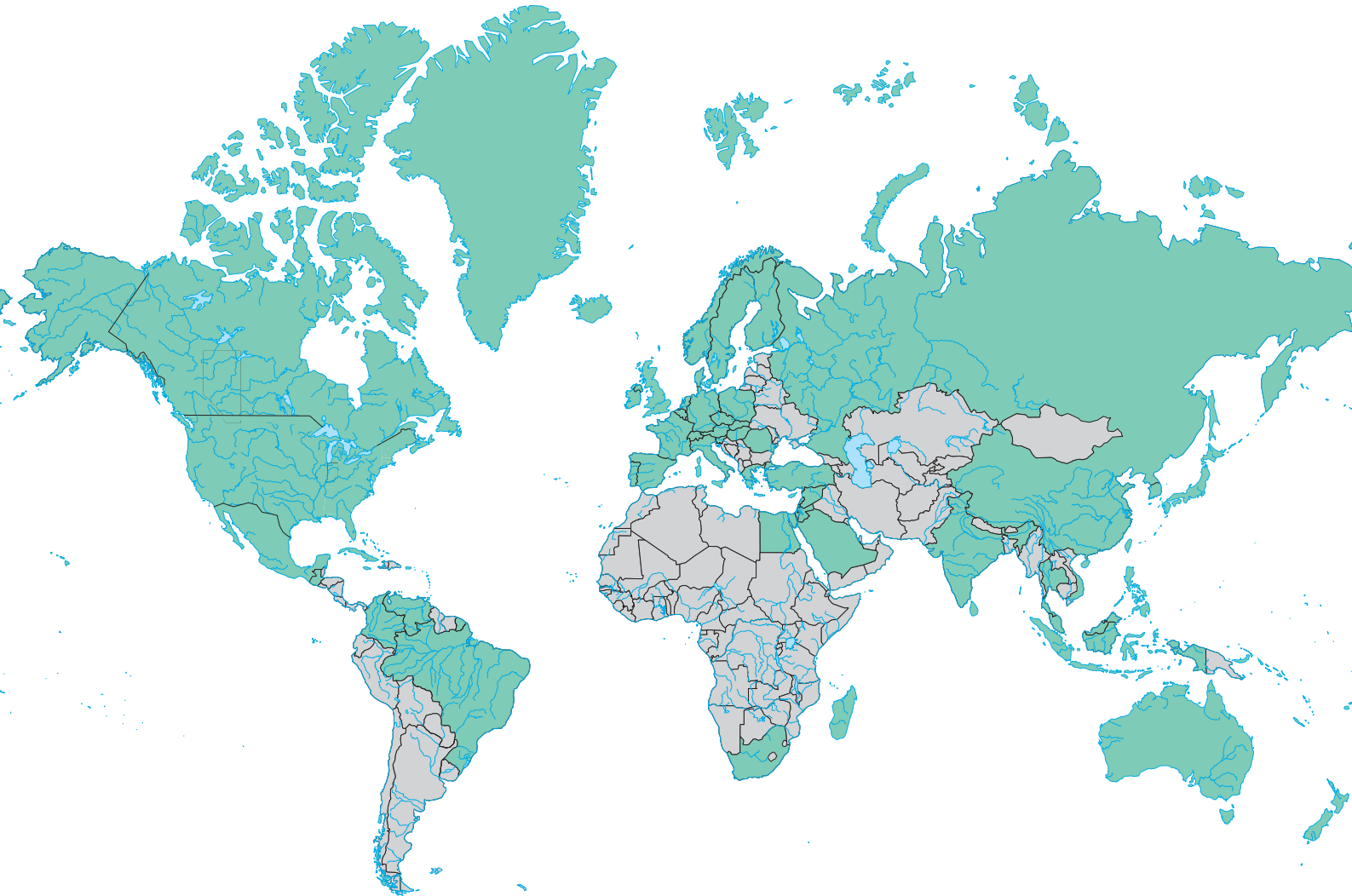
Since there is hardly any systematically compiled, technically relevant documentation on our special field, we have provided it ourselves.



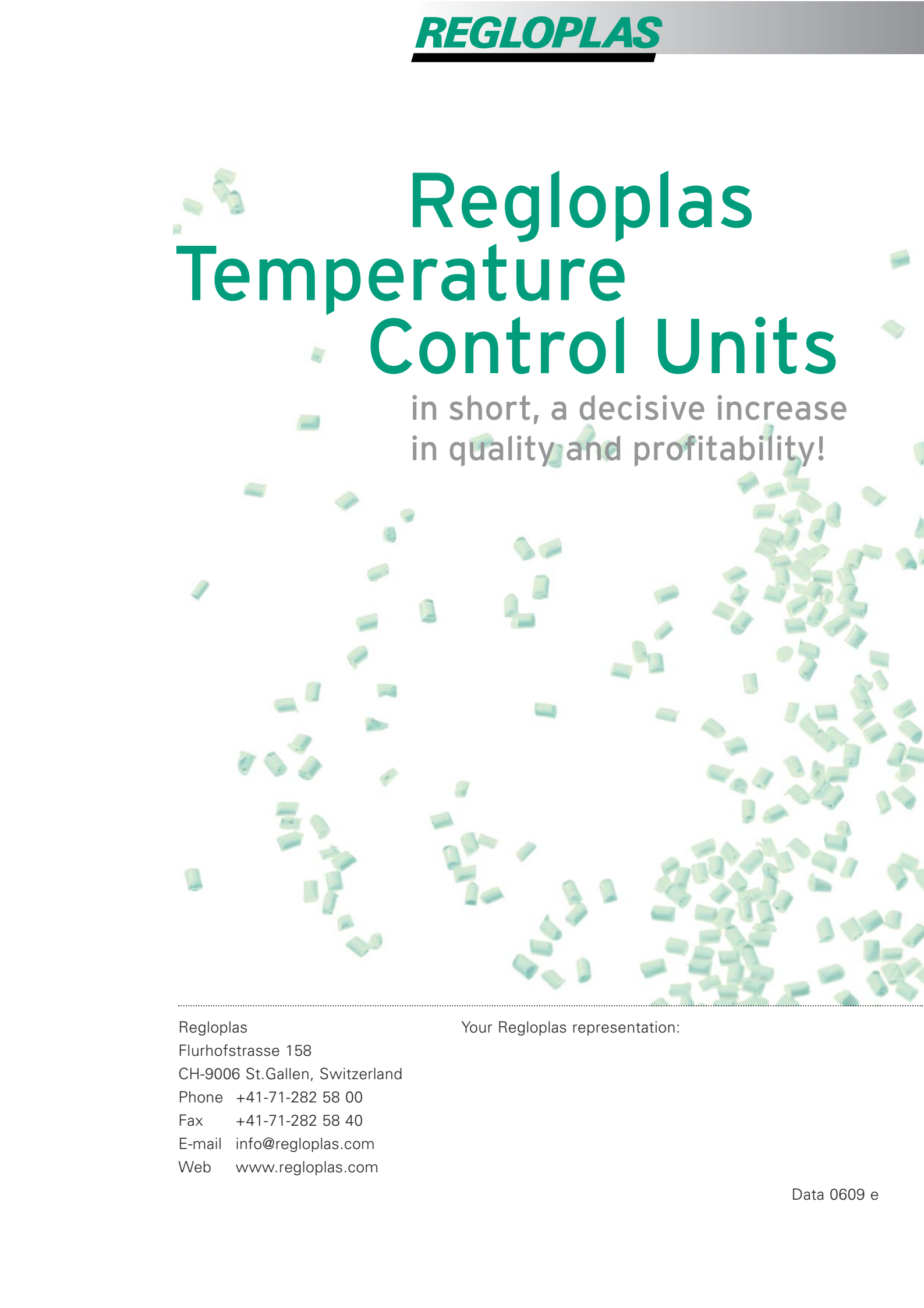
Regloplas' technical literature: Our books, «Temperature Control by Means of Fluid Media», and «Temperature Tables», are valuable tools for day-to-day practice.

It's obvious that optimising quality and productivity also has a positive effect on the environment. We see this as an opportunity to improve our own production continually, as well as to design our temperature control units to maximise both performance and conservation of resources.

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■ We are represented locally in over 50 countries.



Regloplas Temperature Control Units

in short, a decisive increase
in quality and profitability!

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