

# Temperature control units for thermal oil up to 660 °F.

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

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%, increase the service life of the die by a factor of two to three, reduce heating-up time by as much as 30%.**

## Standard equipment

- Dual zone (DG) model: → Minimum space requirement.
- Control system RT 45 → Optimal fit for practical every application. For technical data see page 16.
- Small filling quantity and high pump capacity → Quick compensation of disturbances, good control behaviour.
- Pump with magnetic drive → Leak-free operation.
- Safety cut-outs → No fuses to be replaced in case of failure.
- Electric control in accordance with IEC standards. Degree of protection IP 40. Tropic-proof up to 90% humidity. Completely separated from the pumping section and protected against direct contact → Safe operation.
- One-way check valve in cooling water outlet → Less scaling in the cooler by back flow water due to pressure in the water drainage system.
- Separate expansion vessel → Prevents oxidation, because the circulating hot oil is separated from atmospheric oxygen by the oil at rest in the expansion vessel. Emission of combustible oil into the atmosphere is avoided.
- By-pass for internal circulation of the oil in case of insufficient or stagnating flow, e.g. when the consumer is obstructed → Avoids thermal overloading of the oil.
- Flow monitor → Protection against running dry and overheating of the oil.
- Model 350: Cooler with by-pass circuit (Fig.5) → Much better regulating behaviour, reduced tendency to scaling.
- Safety thermostat → Protection against overheating.
- Automatic fluid level control → Protection against running dry.
- Filter in the water mains.
- 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.
- Pressure gauge in the outlet and inlet.
- Castors and eye bolts.

- In accordance with the following standards:
  - EU Machine Guidelines 89/392/EEC.
  - Electrical equipment of industrial machines EN 60204-1, 1997.
  - EU Guidelines Electro-Magnetic Compatibility 89/336/EEC.
  - Low voltage standards 73/23/EWG, 1997.
  - Low voltage switchgear and controlgear assemblies. Part 1. EN 60439-1, 1999.
  - High degree of operational reliability.

**300 S**

**300**

**301**

**350**

## Optional features

- Solid-state relay (SSR) instead of heating contactor.
- Model 350 with inert gas blanket → Longer oil life.
- Model 301: Cooler with by-pass circuit.

Further options  
see control system  
RT 45, page 16.

## Selection of the unit

- Necessary data see page 21.



**Mechanical assembly:**  
Expertise and precision assure the high quality  
of our products.

Technical data		300 S	300 (DG)	301 (DG)	350
<b>Outlet temperature</b>	max. °F	570	570	570	660
<b>Heat transfer fluid</b>		Thermal oil	Thermal oil	Thermal oil	Thermal oil
Filling quantity	Gal	1.5	2.5 4**	4-5 6.5-8**	4-5
Expansion volume	max. Gal	1.8	3.5	5	5
<b>Heating capacity</b> at 400 V	kW	6	12*	24; 36*	20; 30
<b>Cooling capacity</b>	kW	70	160*	160*	70; 115; 160
at outlet temperature	°F	535	535	535	645
Cooler (K)		1	1*	1*	1; 2; 3
Diagram (Fig.)		1	1	1	2
<b>Pump capacity/type</b>		FM 25	FM 30	FM 30 FM 65	FM 65
Flow rate	max. GPM	14	22*	22* 23*	23
Pressure	max. psi	73	99*	99* 145*	145
Motor	HP	1.3	2.0*	2.0* 3.8*	3.8
Diagram (Fig.)		3	3	3 3	3
<b>Control</b>		RT 45	RT 45	RT 45	RT 45
Measuring mode (standard)		Pt 100	Pt 100	Pt 100	Pt 100
<b>Operating voltage</b> (standard)	V/Hz	220-575 V/60 Hz/3 PE			
<b>Connections</b>					
Outlet/inlet		NPT 1/2"	NPT 3/4"	NPT 3/4"	DN 20/PN 40
Cooling water mains		NPT 1/2"	NPT 3/4"	NPT 3/4"	NPT 3/4"
<b>Dimensions</b> W/H/D	in	13/30/35	16/45/45 16/45/45**	17/53/45 27/55/45**	23/64/64
<b>Weight</b>	approx. lb	190	340 515**	460-495 660-725**	990
<b>Color</b>	Grey	RAL	7035/7024		
<b>Ambient temperature</b>	max. °F	105			
<b>Noise level</b>		dB (A) < 70			
<b>Notes</b>	*Per zone **Dual zone unit (DG)				

### Models

Unit	Heating capacity (kW)	Pump	Cooler (K)	Control
<b>300 S</b>	<b>6</b>	<b>FM 25</b>	<b>1</b>	<b>RT 45</b>
<b>300</b>	<b>12</b>	<b>FM 30</b>	<b>1</b>	<b>RT 45</b>
<b>300 DG</b>	<b>12</b>	<b>FM 30</b>	<b>1</b>	<b>RT 45</b>
<b>301</b>	<b>24</b>	<b>FM 30; FM 65</b>	<b>1</b>	<b>RT 45</b>
<b>301</b>	<b>36</b>	<b>FM 65</b>	<b>1</b>	<b>RT 45</b>
<b>301 DG</b>	<b>24</b>	<b>FM 30; FM 65</b>	<b>1</b>	<b>RT 45</b>
<b>301 DG</b>	<b>36</b>	<b>FM 65</b>	<b>1</b>	<b>RT 45</b>
<b>350</b>	<b>20; 30</b>	<b>FM 65</b>	<b>1; 2; 3</b>	<b>RT 45</b>

**Example for ordering** 301/24/FM 30/1K/RT 45

**Cooling capacity  $P$**  as a function of outlet temperature  $\vartheta$ .

Cooling water data:  
 Inlet temperature 68 °F.  
 Flow rate per zone 5 GPM.

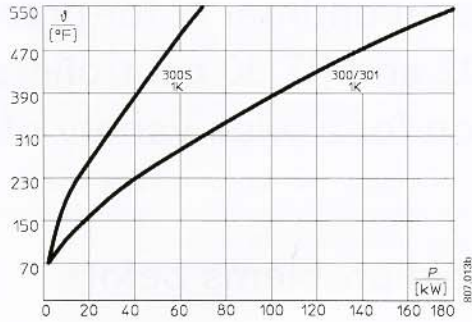


Fig. 1: 300 S, 300 (DG); 301 (DG)

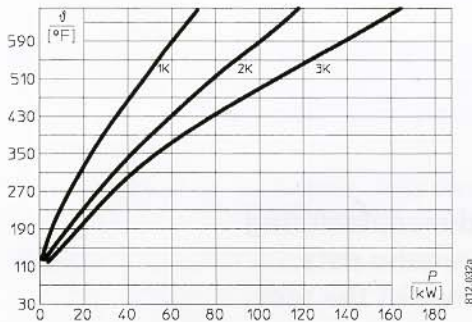


Fig. 2: 350

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

Measuring conditions: Oil type RO 300 (temperature 300 °F; density  $\rho = 57$  lb/cu ft).  
 By-pass not included.

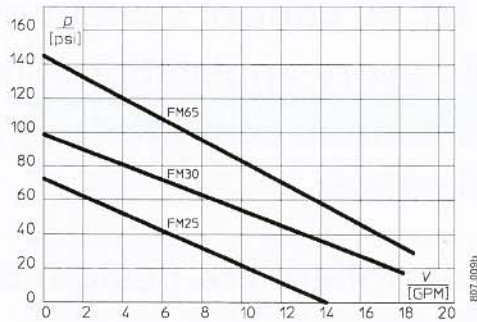


Fig. 3: Pump capacity

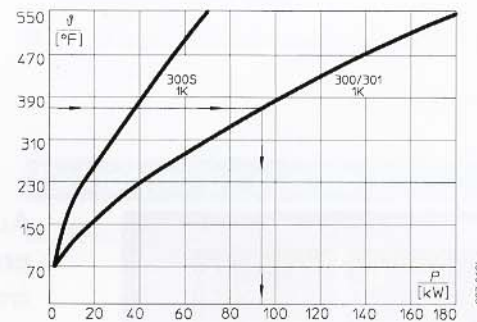


Fig. 4: Chart reference example

300 S
300
301
350

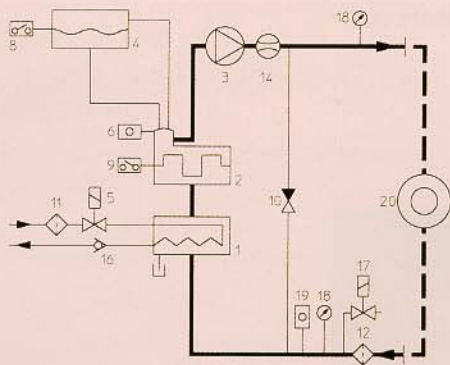


Fig. 5: Principle Type 300 S, 300, 301

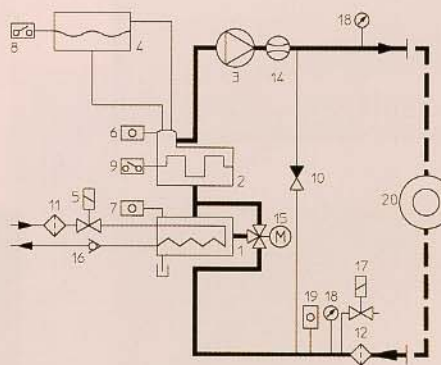


Fig. 6: Principle Type 301, 350 with by-pass circuit for the cooler

- 1 Cooler
- 2 Heater
- 3 Pump
- 4 Expansion vessel
- 5 Solenoid valve, cooling
- 6 Outlet temperature sensor
- 7 Temperature sensor of cooler
- 8 Level control
- 9 Safety thermostat
- 10 By-pass
- 11 Filter water mains
- 12 Filter circuit
- 13 --
- 14 Flow monitoring
- 15 Three-way valve (model 301 option)
- 16 One-way check valve
- 17 Solenoid valve, consumer drainage (optional)
- 18 Pressure gauge
- 19 Inlet temperature sensor (optional)
- 20 Consumer