Thermo*gel*

TRP

PROFILE

The **TRP** series of **Thermo***gel* units are pressurized water temperature controller with indirect cooling. **TRP** have been made to condition molds and cylinders in the plastic and rubber sector, as an alternative to the traditional diathermic oil units.
The TRP guarantee high precision and production quality, a maximum process repetitiveness and efficiency, minimum operating costs, practicality and safety of use.

- The **TRP** are equipped with sophisticated electronics and a particular hydraulic circuit which allow a **high precision** to be obtained in controlling the operating temperature (±1 °F).
- Heat exchanger with "cold" operation to eliminate the problem of scale inside the exchanger itself.
- The control panel is characterised by a simple and easy-to-use interface with a display for reading the temperature with large characters and a large alphanumerical management screen.
- Various parameters and **the machine status** can be controlled by means of a **powerful microprocessor** and **the operating parameters and alarm messages can be visualised continually.** All the messages are displayed **in the language selected by the operator,** amongst the five available.

mod. **TRP140/12**

- The **TRP** can be interfaced with the production machines with which they can communicate. Various serial communication software protocols are available of the most famous brands.
- All the models have **high performance pumps** capable of providing the process with sufficient flows and pressure to guarantee an excellent temperature distribution. The **pressure is constantly monitored and may be regulated** by the operator by means of the regulation by-pass in order to obtain the best results for the utility. The pumps have special seals and can operate in environments with temperatures of up to 140 °F.
- The **Thermo***gel* units are fitted with **automatic loading.**
- All the piping, the tank and the connection parts used are made **100% of rust-resistant materials** to guarantee the maximum lifetime. The parts used are all of prime quality and designed to operate in a continuous cycle in the most stressful environmental and process conditions.
- The **Thermo***gel* **TRP** unit is available with heating powers of 6, 12 and 18 kW by means of low surface load incoloy heating elements.
- The **Thermo***gel* **TRP** have been designed paying maximum attention to the **safety of the operator and the process** against all possible hazards.

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Thermogel

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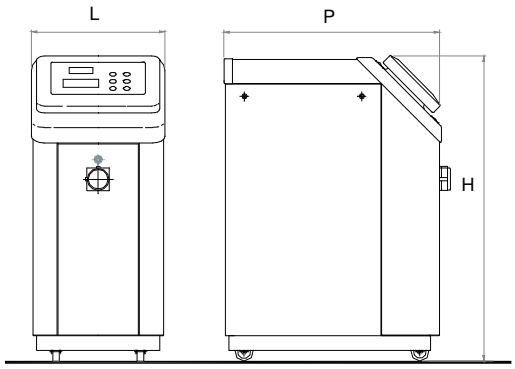
TECHNICAL DATA

Thermo*gel*			TRP		
Model			**140/6**	**140/12**	**140/18**
Circulating medium	-		water		
Maximum temperature	°F		284		
Temperature accuracy	°F		±1		
Heating capacity	kW		6	12	18
Step	N°		2	2	2
Cooling system	D/I		Indirect		
Cooling capacity (*)	btu/h / °F		949		
Control valve	-		Proportional		
Process pump	hp		2		
	gpm	min	8	8	13
		nom	13	18	26
		max	26	26	42
	psi	max	44	44	45
		nom	42	41	42
		min	35	35	33
Nominal value	kw (50Hz)		7,5	13,5	19,5
	A 400V 50Hz		14	23	32
	A 220V 60Hz		25	41	56
	A 380V 60Hz		15	24	33
Sound level	dB(A) 33ft.		20		
Connections to process	DN in/out		2 x 1/2"		
Connections to cooling	DN in/out		1/2"		
Net weight	lb		165	187	209
Lenght	L	in	14		
Depth	P	in	23		
Height	H	in	33		

(*) Cooling capacity for 1 °F ΔT between LWT and cooling water temperature @ 30 PSI

Power supply = 460V±15% 60Hz UL Listed (available 220V±15%60Hz; 380V±10%60Hz; 400 Volt ± 15% 50Hz)



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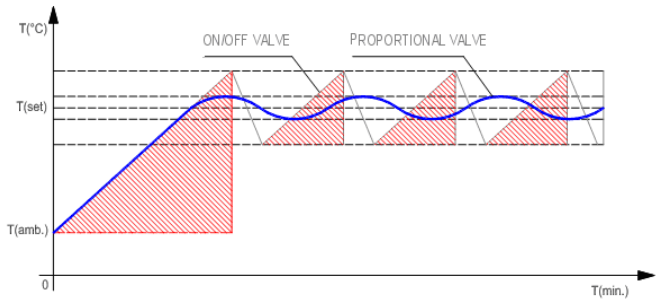
TECHNICAL FEATURES

- **HEATING CIRCUIT**
  - low surface charge **incoloy electric resistances**
- **WATER CIRCUIT**
  - hydraulic circuit designed to provide constant pressure and flow to the process
  - high performance electric pump in terms of flow/head, with a special mechanical seal and tropicalized motor (maximum ambient temperature +140°F)
  - stainless steel water/water plate heat exchanger
  - temperature control system by means of motor driven regulation valve
  - safety valve
  - pressure regulation by-pass
  - automatic loading
  - rustproof and insulated pipes and connecting parts
  - stainless steel insulated tank
- **DIRECT COOLING WITH MODULATING VALVE:**

Cooling control is carried out by means of a **motor driven proportional valve** which not only allows the **set temperature to be maintained perfectly constant** but also **the consumption of electrical energy to be optimised.**

The proportional valve, controlled by a microprocessor, allows the amount of cooling water that flows in the process circuit to be controlled with extreme precision, ensuring that excessive flow (typical of the use of on-off type solenoid valves), does not require the intervention of the heating elements to bring the temperature back to the set value (see graph).



"cold" exchanger:

The **particular** hydraulic circuit guarantees heat exchanger operation with temperatures which do not promote the formation of lime scale, thus guaranteeing a longer lasting and more efficient cooling system.

- **ELECTRIC AND CONTROL**
  - switchboard in line with the European Standard EN 60204/1 in IP 55 with door locking main switch
  - Microprocessor controller
  - Proportional-integral regulation logic for controlling the temperature with a precision of ±1°F
  - permanent digital reading of the pressure and temperature of the water to the process
  - complete visualization on the back-lit display of the messages, in the selected language, with precise instructions of the procedures, of the troubles and the possible solutions
  - Main alarms: no flow, high and low pressure on the circuit, incorrect phase, short circuit or disconnection of each probe, temperature warning for protracted deviation from the set point
  - audible alarm
  - prepared for installation of optical alarms, even remote controlled ones
  - possibility of installation of the most common interface systems for communication with the machines and with centralised production and supervision system
- **FRAME**
  - made of steel, painted with epoxy powder
  - removable panels
  - fitted on rotating wheels

Thermogel

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Thermogel options and accessories				
Description	**code**	**TRP**	**TRH**	**options**
Remote temperature probe kit (6 meters Cable)	KTP	✓	✓	option
Interface kit with connector (5 meters Cable)	KSL	✓	✓	option
Timer kit	KTM		✓	option
Drain kit	KSM	✓		option
Depressurization function kit	KAF	✓		option
External by-pass kit 1/2"	KBP	✓	✓	option
Visual alarm	KAV	✓	✓	option
Remote start/stop function			✓	standard
Auto-cooling function		✓	✓	standard
Automatic venting		✓	✓	standard
Delivery and return tempature visualization		✓	✓	standard
Delivery and return pressure visualization		✓	✓	standard
5 languages selection (ITA-ING-FRA-TED-SPA)		✓	✓	standard
Automatic filling		✓	✓	standard
Centrifugal pump with special seal		✓	TRH140	standard
Magnetic drive pump			TRH160	standard
Pressure By-pass regulation		✓	✓	standard
Cooling control with proportional modulating valve		✓	✓	standard
Safety valve		✓	✓	standard
Flow alarm		✓	✓	standard
High and low pressure alarm		✓	✓	standard
Probe alarm		✓	✓	standard
Audible alarm		✓	✓	standard
Set point alarm		✓	✓	standard

Ordering code Example: TRP140/12						
TRP		**140**	/	**12**	
---	Serie	---	Max temperature	---	Heating capacity

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