

## TEMPERATURE CONTROLLERS TG 1 E

The tool heater automatically controls the temperature of diathermic fluids in industrial applications where accuracy is important to guarantee quality of the final product.

TG1 series includes units suitable to operate either **with water up to 95 °C, pressurised water up to 140 °C and diathermic oil up to 190 or 250 °C.**

All units operate in closed loop and are equipped with microprocessor control.

### MAIN FEATURES

**The hydraulic circuit** includes all the technical solutions to guarantee a reliable and long life operation, without fluid leaks even in the extreme operating conditions.

**Electric heaters** are selected to keep very low specific heat ( $W/cm^2$ ), especially for oil versions, where it can seriously compromise oil operating life and cause oil cracking.

**The circulation pump** is always a high performance pump, centrifugal type for water and pressurised water models. For oil models it is a centrifugal type with mechanical sealings up to 190 °C, peripheral or centrifugal with magnetic driving for oil up to 250 °C

**The cooling circuit** can be equipped with high temperature finned coil exchanger(s) or medium temperature high efficiency plate type heat exchanger.

**Manual top up** for oil versions is completed with magnetic level switch and level alarm.

**Automatic top up** is available as a standard for water and pressurised water versions.

**Electronic control** has been improved to provide user friendly interface with double temperature display (set point and actual temperature), alarm leds, general alarm contact plus interfaces 4÷120 mA and RS 485.

**Accurate temperature control** via a double PID control logic and **auto-tuning** software that can be used or disabled on client's decision.

**Easy operation and readings** the electronic interface allows easy settings and immediate understanding of the operating parameters.

**Easy maintenance** : the internal lay-out of the unit and pipings are made to guarantee easy access and maintenance of the components.

### Standard equipment :

- Electronic control and interface card
- Electromechanical safety thermostat
- Circulation pump
- Expansion tank / vessel
- Automatic (water) or manual (oil) top up
- 24V DC auxiliary circuit
- Two steps heating control with contactors
- Safety pressure switch
- Solenoid valve for cooling
- Water / oil pressure gauge
- ON-OFF remote connection
- Protections for all electrical components

### Optionals :

- Non standard pump
- Double finned coil heat exchanger
- Plate type heat exchanger (maximum 180 °C)
- Ventilated electrical cabinet
- Solid state relay (SSR)
- Manual by-pass valve
- Oversized expansion vessel

TG 1 E



## TECHNICAL DATA

Series/type	TG1 E - W	TG1 E - P	TG1 E - OH	TG1 E - OHT
Diathermic fluid	water	pressurised water	diathermic oil	diathermic oil
Max. op. temperature (°C)	95	140	190	250
Heating capacity (kW)	24-36-48-60-72		18-24-30-36	12-15-18
Cooling capacity (kW)	70		51-100 (*)	
<b>Standard pump</b>				
Power (kW)	3		3	2,8
Flow rate (liter/min)	110÷280		110÷280	0÷140
Pressure (m)	40÷32		40÷32	110÷0
<b>Oversized pump</b>				
Power (kW)	4		4	4
Flow rate (liter/min)	110÷280		110÷280	0÷200
Pressure (m)	58÷49		53÷45	88÷18
Expansion tank (l)	38	-	40	
<b>Standard connections</b>				
Process/cooling	1" - 3/4"			
Dimensions (mm)	1.100 x 450 x 1.500 (h)			
Net weight (kg)	250			

Cooling capacity: with DT 10 °C between outlet process water and inlet cooling water  
 Referred to 150 °C DT between diathermic oil and cooling water

(\*) Cooling capacity with double coil heat exchanger (upon request).

Plate type heat exchanger with cooling capacity on request.

Power supply 400V/3/50 Hz

