

Specifications TLC90-14

Tamson Low temperature Circulator



Item	Unit	TLC90
Ordering code		00T0580
230V /50Hz		on request
230V /60Hz		00T0590
115V /60Hz		
Power*	[Watt]	2800 max.
Used materials		Stainless steel
Inside bath		Chrome plated coil
Range		-90..ambient°C -130..ambient°F
Reading		Standard °C, °F on request
Setting ±	[°]	0,1
Stability** ±	[°K]	Better than 0.05
Heating	[W]	1400 (1 heater)
Bath volume	[L]	14..15
Pump pressure*	[mBar]	300 max
Pump cap***	[L/min]	10 max
Compressor	[W]	2 * 400
Heat removal	[W]	@ -70° 200
	[W]	@ -74° 100
	[W]	@ -80° 75
Opening	[mm]	240 x 170 (240 x 160 effective)
Depth bath	[mm]	150
Length	[mm]	810
Width	[mm]	460
Height	[mm]	770
Weight	[Kg]	80
CE		Conforms to CE regulation

- ⊕ **Completely stainless steel**
- ⊕ **Drain to empty bath**
- ⊕ **Wheels fitted for easy transport**
- ⊕ **Compact, fits under workbench**
- ⊕ **Low noise**
- ⊕ **Autotune, high precision**
- ⊕ **Fluid level detection**

General

The TLC90 is a low temperature circulator with a bath contents of 14..15 litres. The minimum temperature which can be reached is minus 90°C. At this low temperature the heat removal capacity lies around 75 watts. The bath can be used for general low temperature use but shows excellent heat removal performance i.e. combination with Cloud and Pourpoint tests. The drain located at the back provides easy removal of the bath fluid. Low fluid level is detected electronically.

Cooling medium

The used cooling system is ozone friendly, so it doesn't contain any CFK/HCFK gas.

Control mechanism

With the compressor running continuously, the fluid temperature is regulated through an electronic controlled heater.

Safety

The bath conforms to CE regulation. It also is equipped with a mechanical resettable safety

Span

The working temperature range is :
-90 to ambient (-130°F .. ambient)

Accuracy

The setpoint can be set in steps of 0.1°. The overall system accuracy is ±0.05°K

Temperature readout

Standard available in °C, on request in °F.

Pump

A pressure pump provides circulation in the bath or via an external circuit. The pressure of the pump is 300 mBar at 10 ltrs per minute.

Optional

- Remote control via RS232 **02T3025**
- Pump higher capacity **24T0392**

* Depends on bath temperature and cooling or heating cycle

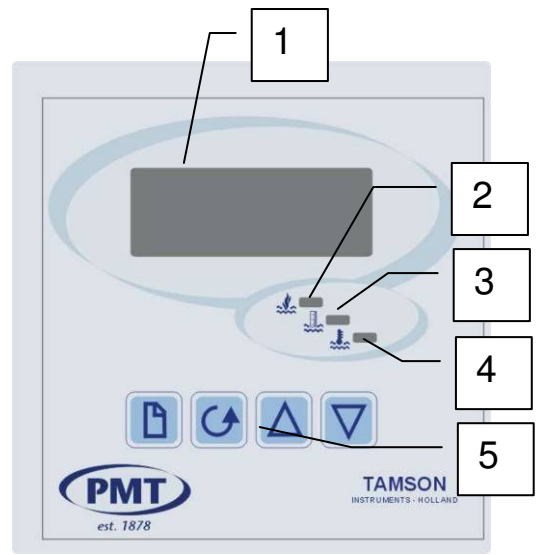
** Absolute min/max value measured over 1hrs in methanol

*** Optional pump with pressure max 0.8 bar, flow max 16ltrs/min, reference: 24T0392



Operating the TLC90-14

- 1 - LED Temperature display
- 2 - Indicator heating
- 3 - Indicator level control
- 4 - Indicator overtemperature safety
- 5 - Keypad

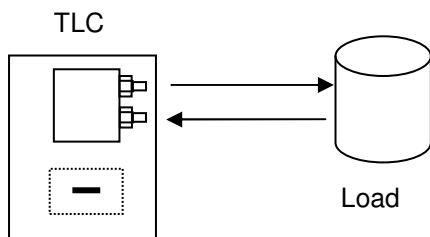
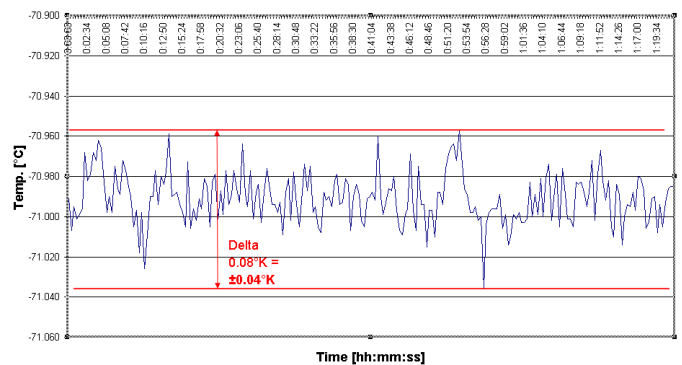


The TLC90 apparatus is easy to operate. Simply pressing the up/down keys will set the desired working temperature (SP). Autotune can be started manually and PID parameters can be read out afterwards or set manually. The SP can be set in steps of 0.1 °C. When operating the process value (PV) is displayed with a resolution of 0.1 °C. The performance of the temperature control is better than $\pm 0.05^\circ\text{C}$, as can be seen in the graph.

The bath is standardly equipped with a 30W stirrer/pump combination (10ltr max .. 0,3bar max).

Optional available is a stronger pump with adjustable flow. Part number is 24T0392. Flows of up to 15 litre per minute can be realised. This pump is for circulating purposes where a constant external flow with higher pressure up to 0.8 bar is required. Please check our specification sheet for all pump performance details.

Temperature stability $\pm 0,04^\circ\text{C}$



Optional Pump capacity 24T0392

