

TLC10-3

Tamson Low-Temperature Circulator



- ⊕ **Compact, very small footprint**
- ⊕ **Drain to empty bath**
- ⊕ **RS232, free communication software**
- ⊕ **Very quiet**
- ⊕ **Fluid level detection (float)**
- ⊕ **Overflow outlet**

General

The TLC10-3 is a very compact general purpose circulator and this apparatus can be used in various applications where cooling is needed. Experiments, refractometers, rotary evaporators, distillation units, water baths, flash point testers all are applications of where the TLC10-3 can be used for. Because of its very small size, the TLC10-3 can easily be fitted into your laboratory, either on or under the workbench.

The apparatus holds a small bath containing 3.5 litres and the filling opening measures 40 x 120 mm. Due to its special design the system is extremely quiet, compact and saves costly laboratory space. Readout is in degrees °C or on in °F.

Cooling medium

The cooling system inside the TLC10-3 is ozone friendly and doesn't contain any CFK/HCFK gas.

Item	Unit	TLC10-3	
P/N 230V/50Hz		00T0050	
P/N 230V/60Hz		00T0051	
P/N 115V/60Hz		00T0052	
Power	[kW]	1.3	
Used materials wetted parts		Stainless steel, brass bearing	
Range		-10 .. 60 °C +14 .. 140°F -10 .. 120°C on request	
Reading	[°C/°F]	menu selectable	
Setting	[°C/°F]	0.01	
Stability ±	[°C]	Better than 0.05	
Heating	[kW]	1.1 (1 heater)	
Bath volume	[L]	3.5	
Pump pressure	[mBar]	300 max	
Pump cap.	[L/min]	7 max	
Heat removal	[W]	@50°C	320
	[W]	@0°C	100
	[W]	@-10°C	50
Opening	[mm]	40 x 115	
Depth bath	[mm]	150	
Length	[mm]	360	
Width	[mm]	200	
Height	[mm]	560	
Weight	[kg]	18	
CE		Conforms to CE regulation	

Safety

The bath conforms to CE regulation. It further is equipped with a mechanical adjustable safety thermostat. The TLC10-3 is also equipped with a float to warn the user when the bath fluid is too low.

RS232

The bath comes standard with RS232 communication and when using the free software tool Tamcom, it provides temperature logging or a predefined temperature set point curve.

Control mechanism

The TLC10-3 combines a wide temperature range and maintenance free -long life- cooling system. Accurate temperature regulation is provided by a microprocessor controlled PID system of which the PID parameters can be set freely. The cooling system provides rapid cooling down of the 3.5 litres bath contents.

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Span

The working temperature ranges from:
-10..+60°C / +14..+140°F

Optional feature:

-10..+120°C / +14..+284°F

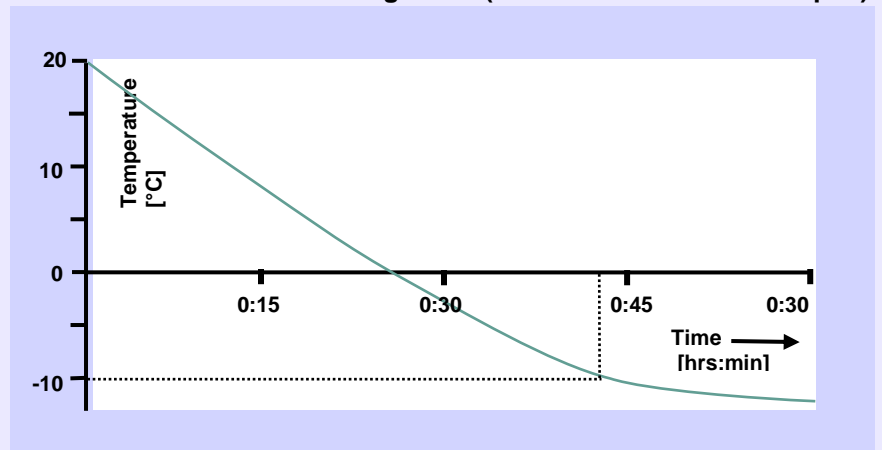
Accuracy

The set point can be set in steps of 0.01°C. The overall system accuracy is better than $\pm 0.02^\circ\text{C}$. Temperature readout in 0.01°C.

Pump

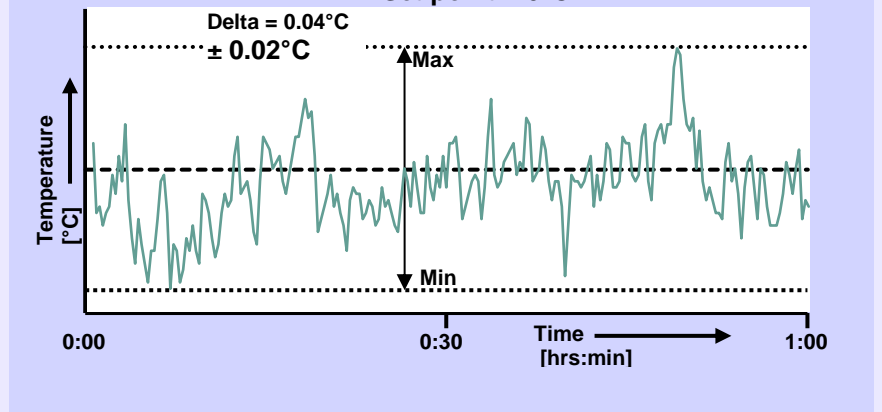
A pump provides circulation in the bath or via an external circuit. The pump offers 7 litres per minute maximum pressure is 300 mBar.

Cooling down (methanol used as bath liquid)



Temperature stability (methanol used as bath liquid)

Set point = 0°C



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