

### Specifications TLC40-14

#### Tamson Low-temperature Circulator



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

#### General

This type of cooling circulator can be used for multiple heat removal purposes such as replacement of tap water, fast cool down or ASTM CFPP testing. The bath volume is 14 litres. 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 and doesn't contain any CFK/HCFK gas.

#### Control mechanism

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

#### Span

The TLC40-14 operates from -40°C to +20°C (-40°F..68°F) and optional extended minimum temperature: -45°C .. +20°C / -49°F .. + 68°F

#### Accuracy

The set point is adjustable in steps of 0.1°C. The overall system accuracy is  $\pm 0.05^\circ\text{C}$ .

Item	Unit	TLC40-14			
P/N 230V/50Hz		00T0520			
P/N 230V/60Hz		00T0522			
P/N 115V/60Hz		00T0525			
Power	[W]	2400			
Used materials inside bath		Stainless steel Chrome plated coil			
Range		-40.. +20[°C]			
		-40.. +68[°F]			
Reading		Standard °C, °F on request			
Setting $\pm$	[°]	0.1			
Stability $\pm$	[°C]	Better than 0.05			
Heating	[W]	1550 (1heater)			
Bath volume	[L]	14..15			
Pump pressure*	[Bar]	0.3 / 1* max			
Pump cap.*	[L/min]	7 / 16* max			
Compressor	[W]	400			
Heat removal	[W]	@-10°	1220	@-30°	520
	[W]	@-20°	880	@-40°	250
Opening bath	[mm]	240 x 170 (240x160 effective)			
Depth bath	[mm]	150			
Length	[mm]	810			
Width	[mm]	460			
Height	[mm]	770			
Weight	[kg]	65			
CE		Conforms to CE regulation			
* P/N 24T0399: Optional pump (85-260V) pressure max 1 Bar, flow max 16 ltrs/min					

#### 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 pump pressure is 300 mBar and 7 ltrs per minute (no counter pressure).

#### Safety

The bath conforms to CE regulations. It also is equipped with a mechanical adjustable and resettable safety thermostat to guarantee safe around the clock operation.

#### Optional

- Extended range -45°C .. +20°C / -49°F .. + 68°F
- Remote control via RS232 P/N **02T3025**
- Pump higher capacity P/N **24T0399**

### Specifications TLC40-14

#### Tamson low-temperature circulator

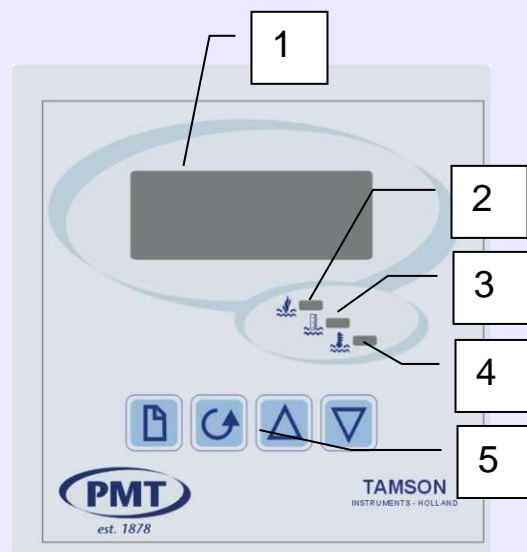
##### Operating the TLC40-14

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

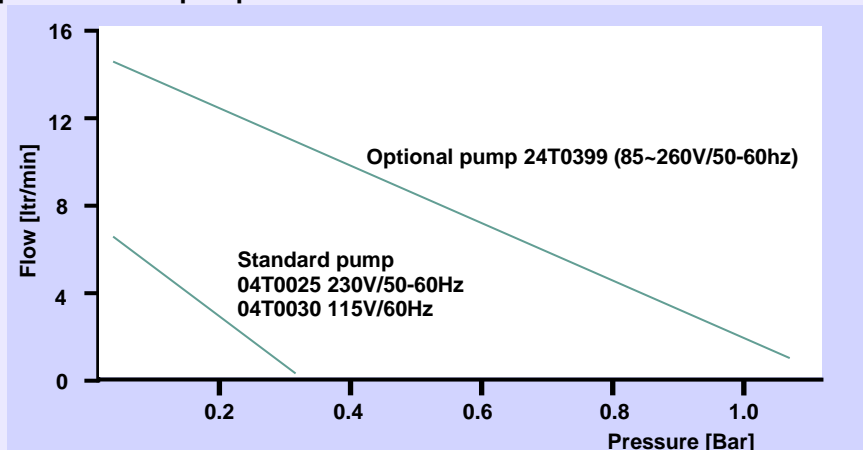
The TLC40-14 apparatus is easy to operate. Simply pressing the up/down keys will set the desired working temperature (SP). Auto tune can be started manually and PID parameters can be read out afterwards or set manually. The SP can be set in steps of 0.1°C. When operating the process value (PV) is displayed 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 90W stirrer/pump combination (10 ltr max .. 0.3 Bar max).

Optional available is a stronger pump with adjustable flow. Part number is 24T0399. Flows up to 16 litre per minute can be realised. This pump is for circulating purposes where a constant external flow with higher pressure up to 1 Bar is required. Please check our specification sheet for all pump performance details.



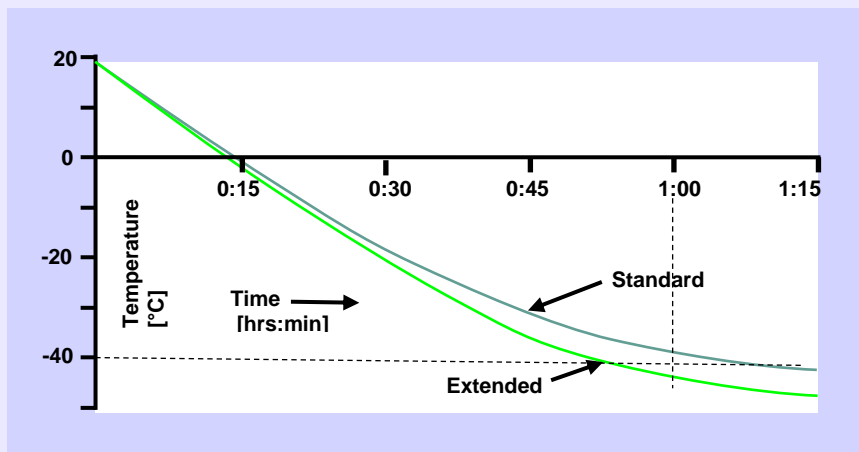
#### Standard pump versus optional "performance" pump



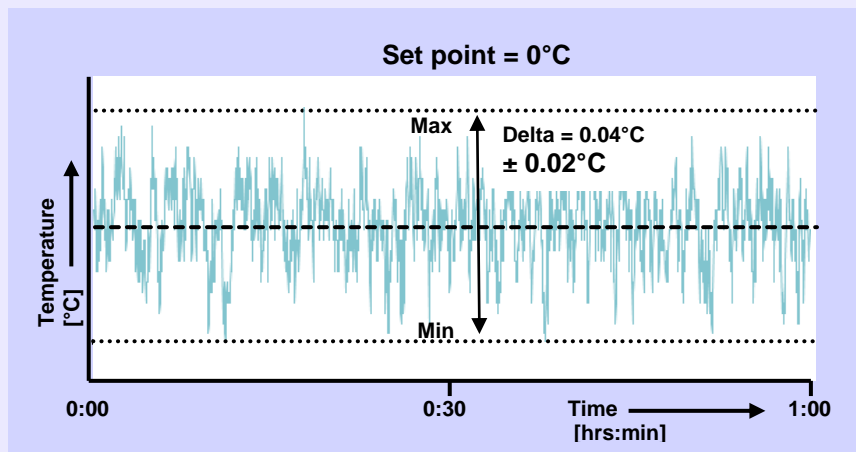
### Specifications TLC40-14

#### Tamson Low-temperature Circulator

Cooling down (methanol used as bath liquid)  
Standard and extended edition



Stability (methanol used as bath liquid)  
Standard and extended edition



TLC40-14