## **Heating immersion circulators**



<del> </del>	Completely stainless steel
$\dot{\Phi}$	Precise temperature control
$\oplus$	Standard RS232 interface
$\Phi$	User-friendly operation
$\dot{\Phi}$	Very quiet
$\dot{\Phi}$	Fluid level detection (float)

#### General

Tamson offers immersion circulators as replacement units or "plug and play" units to heat a bath or application. The TTU-A can be used in a wide variety of applications where a precise temperature control is required.

#### Configuration

A choice for different applications is offered:

- Stirring with short or long shaft
- Heating with or without an additional boost heater
- Circulating and pumping
- Sub-ambient temperature regulation using a cooling coil

#### **Accuracy**

The setpoint is adjustable in steps of 0.01°C. The overall system accuracy is better than  $\pm$  0.01°C but depends on the application. Temperature readout can be switched between °C or °F.

### Pump

Models **P/N 19T3110** and **P/N 19T3111** are equipped with pump and offer 300 mBar and 7 ltrs per minute flow (no counter pressure).

Item	Unit	TTU-A			
Range			+200°C +392°F		
Reading	[°C/°F]	menu selectable			
Interface		RS	232		
Setting	[°C/F]	0.01			
Stability ± *	[°C]	0.01			
Uniformity ± *	[°C]	0.01			
P/N		<b>19T1010</b> 230V/50-60Hz	<b>19T1011</b> 115V/60Hz		
		Long Sti	ntrol heater g shaft rring ng coil		
P/N		<b>19T3110</b> 230V/50-60Hz	<b>19T3111</b> 115V/60Hz		
		Shor	ntrol heater t shaft and pump		
P/N		<b>19T3120</b> 230V/50-60Hz	<b>19T3121</b> 115V/60Hz		
The same of the sa		1.4kW control heater Short shaft Stirring			
	CE All models conform to CE regulation  * Best performance to be achieved under following circumstances:				

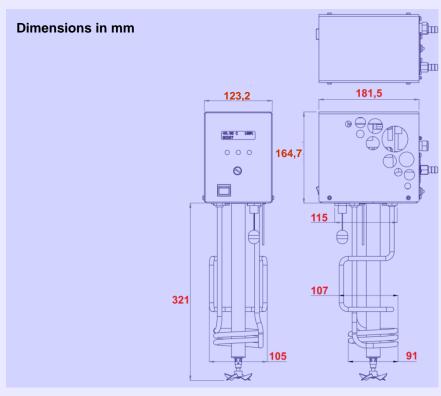
- \* Best performance to be achieved under following circumstances:
  - measured with long shaft
  - bath fluid water @ 40 .. 50°C
  - double insulated bath
  - use of baffle plates

#### Safety

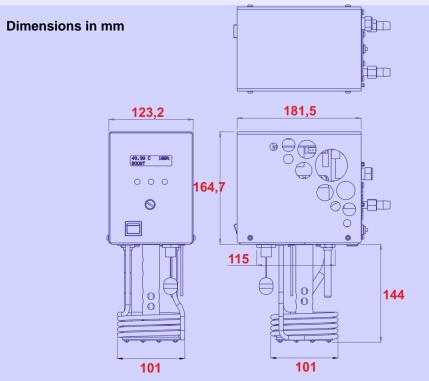
The TTU-A conforms to CE regulation. The bath has a standard built in mechanical over temperature protection as an independent safety feature. In case of electronic failure, the bath will be mechanically switched-off when the temperature rises above the set temperature of this protection device. The TTU-A is equipped with a float to warn the user when the level of the bath fluid is too low.

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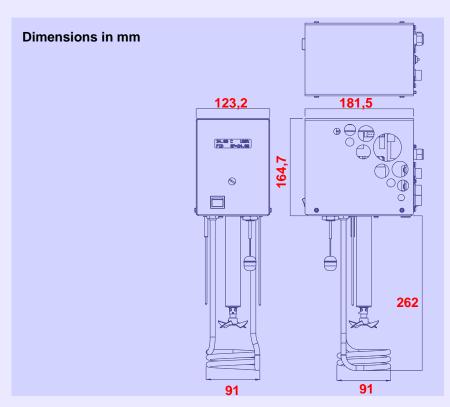






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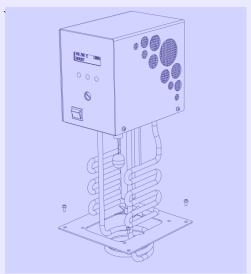


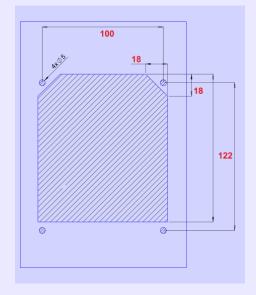


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### Adapter panel

The TTU model can be used stand-alone. The opening area and mounting dimensions are indicated below.





### **Customized adaptor panel**

The TTU-A can be used for replacement of existing thermostatic heads. In order to mount the TTU as a replacement, a customized and using existing openings for mounting, an adaptor panel can be ordered. Make sure the unit fits through the standard mounting hole and use the table to define the dimensions of this custom made adaptor panel. The panel will be laser cut and is made of 304 stainless steel with a protective foil at one side. This foil prevents scratches and must be removed when installing the panel.

be removed when installing the panel.					
Item		Specify in mm			
Outside dimensions adapter plate					
Width (W)	mm				
Length (L)	mm				
Dimension moundting holes (4)					
Diameter hole 1	mm				
Distance (X <sub>H1</sub> )	mm				
Distance (Y <sub>H1</sub> )	mm				
Diameter hole 2	mm				
Distance (X <sub>H21</sub> )	mm				
Distance(Y <sub>H2</sub> )	mm				
Diameter hole 3	mm				
Distance (X <sub>H3</sub> )	mm				
Distance(Y <sub>H3</sub> )	mm				
Diameter hole 4	mm				
Distance (X <sub>H4</sub> )	mm				
Distance(Y <sub>H4</sub> )	mm				
Position thermostat hole					
Distance horizontal (X)	mm				
Distance vertical (Y)	mm				

