

Specifications TV2000, TV4000, TV7000

ASTM D445, ASTM D446, IP71, ISO/EN 3104, ASTM D2170, ASTM D2167



- ⊕ **Completely stainless steel**
- ⊕ **Conforms to ASTM D445**
- ⊕ **High precision stability**
- ⊕ **Large windows**
- ⊕ **Easy to operate**
- ⊕ **RS232 communication**
- ⊕ **Drain and overflow outlet**

General

Tamson viscometer and Tamson calibration baths are specially designed for tests that require ultra-precise temperature control, or processes that need to be followed visually, e.g. viscometry, thermometer calibration, crystal growing, density and reaction rate measurement, etc. All models are fitted with double windows in front and rear walls. The windows are formed with two panes of tempered safety glass separated by 20 mm air space. Visibility through the bath is excellent.

Construction

The stainless steel construction with 25mm thick glass wool insulation ensures exceptionally stable temperatures which is further improved by an ingenious stirring mechanism with baffle plates. All wetted parts are made of stainless steel and PTFE, providing resistance against all usual bath fluids. The bath is fitted with adjustable feet for levelling. The cover of the bath has a number of round 51 mm holes with lids, for suspending glass capillary viscometers in holders. To work at temperatures lower than ambient

Item	Unit	TV2000	TV4000	TV7000
Ordering code 230V 50~60Hz		00T0782	00T0772	00T0792
Ordering code 115V		00T0784	00T0774	00T0794
Range		Ambient.. 230°C /..446°F		
Reading		°C or °F menu selectable		
Interface		RS232		
Setting±	[°C]	±0.01		
Stability*	[°C]	±0.01		
Uniformity*	[°C]	±0.01		
Heating 230V	[kW]	2.8	2.8	2.8
Heating 115V	[kW]	2.3	2.3	2.3
Heaters		2	2	2
Bath volume	[L]	20	40	70
Number of lids		3	4+3 or 4+4	4+3 or 4+4
Window	[mm]	140*285	270*285	270*585
Opening lid	[mm]	51(dia.)	51(dia.)	51(dia.)
Opening bath	[mm]	130*165	260*240	260*240
Depth	[mm]	300	300	630
Length	[mm]	350	400	460
Width	[mm]	470	590	410
Height	[mm]	590	590	1010
Weight	[kg]	40	41	61
Power	[Watt]	3100	3100	3100
Frequency	[Hz]	Suited for both 50 & 60		
CE		All models conform CE regulation		

* Value measured in water @ +50°C/+122°F

plus 5°C, use of cooling must be made. Cooling fluid can be pumped through the cooling coil inside the apparatus. Tap water or a combination with the TLC10-3 or TLC15 can be used for this purpose. All models are fitted with double windows in front and rear walls. The windows are formed with two panes of tempered safety glass separated by 20 mm air space. Visibility through the bath is excellent. A power plug on the back is mounted to provide power for an optional illumination unit (Z41 or Z71).

Agitation

A vane type stirrer with PTFE bearings moves the bath fluid past the heaters and then from under the main baffle plate, thus directing the freshly heated fluid to the walls as well as window areas and creating an optimal temperature uniformity.

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Span

All baths can be operated from ambient +5 up to +230°C(41..446°F). With the use of the built-in cooling coil, span lies 5°K above the temperature of the cooling liquid.

Accuracy and set point

The set point can be set in steps of 0.01°. The system overall accuracy is within $\pm 0.01^\circ\text{K}^*$. After the temperature control is stable the set point can even be adjusted with + or - 0.005°K.

Viscometer arrangement

The stainless steel bath cover 7 openings with lids, arranged in two rows of resp. 4 and 3 or 8 openings (2*4 openings), are provided for the TV4000 and TV7000. The TV2000 offers 3 openings (2 + 1 lid). These openings of 51 mm diam. will accommodate glass capillary in holders (see our viscometer datasheet). Additionally, a separate thermometer can be placed through two 13mm holes in the cover.

Safety

The bath conforms to CE regulations. It also is equipped with a mechanical adjustable and resettable safety thermostat. Advanced safety features are microprocessor control of:

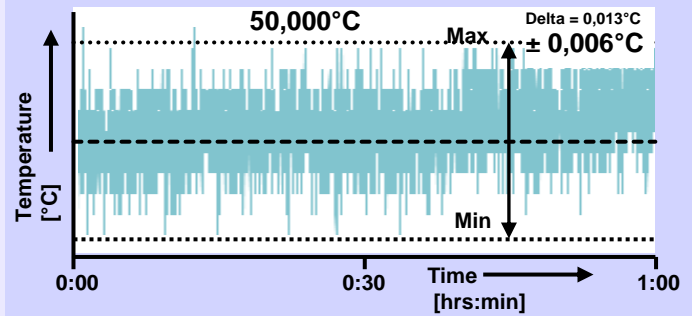
- Electronic- and processor system,
- Control and feedback from each heating,
- System accuracy.

System error results in total cut-off from the power supply.

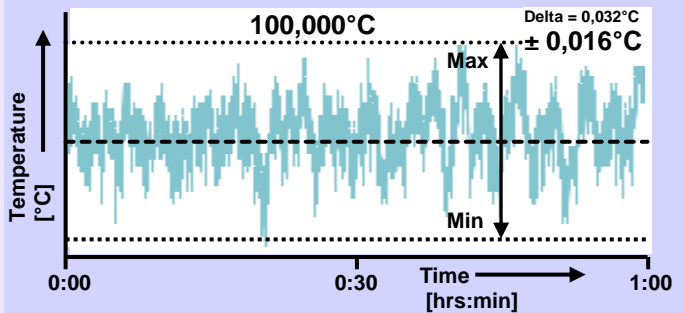
Optional equipment

See next page.

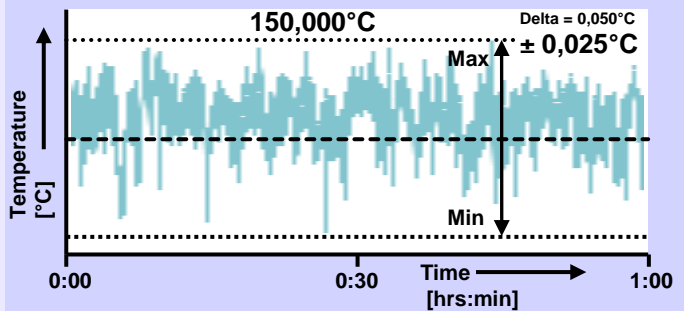
Working @ 50°C



Working @ 100°C











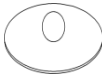
Working @ 150°C



TV Series

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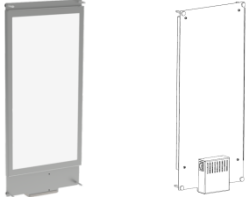



Item		TV2000	TV4000 / TV7000
Cover 3 lids: - 3 x \varnothing 51mm standard ASTM viscometer hole - 3 x lid 03T3070 - 2 x \varnothing 12.5mm hole for thermometer		Standard included (set of 1 x 03T2131 top & 1 x 03T3210 bottom)	
Cover 4 lids: - 4 x \varnothing 51mm standard ASTM viscometer hole - 4 x lid 03T3070 - 2 x \varnothing 12.5mm hole for thermometer		Optional* (set of 1 x 03T3210 top & 1 x 03T3211 bottom)	
Cover 3 lids: - 3 x \varnothing 60,5mm Pinkevitch viscometer - 3 x lid 03T3075 - 2 x \varnothing 12.5mm hole for thermometer		Optional* 1 x 03T2119	
Cover 7 lids: - 7 x (\varnothing 51mm) standard ASTM viscometer hole - 4 x lid 03T3070 - 2 x \varnothing 12.5mm hole for thermometer			Standard included (set of 1 x 03T2136 top & 1 x 03T2110 bottom)
Cover 8 lids: - 8 x \varnothing 51mm standard ASTM viscometer hole - 8 x lid 03T3070 - 2 x \varnothing 12.5mm hole for thermometer			Optional* (set of 1 x 03T2137 top & 1 x 03T2120 bottom)
Cover 8 lids: - 8 x \varnothing 60,4mm Pinkevitch viscometer - 8 x lid 03T3075 - 2 x \varnothing 12.5mm hole for thermometer			Optional* (set of 1 x 03T2132 top & 1 x 03T2112 bottom)
Cover 7 lids: - 4 x \varnothing 51mm standard ASTM viscometer hole - 3 x \varnothing 60.4mm Pinkevitch viscometer - 4 x lid 03T3070 - 3 x lid 03T3075 - 2 x \varnothing 12.5mm hole for thermometer			Optional* (set of 1 x 13T3023.02 top & 1 x 13T3023.01 bottom)
* Standard lid always is included. Optional lid consists out of one or two plates each to be ordered as indicated			
Other lids on request possible!			
Lid for 51mm hole		The standard cover lid already includes these items. Additional lids can be ordered when required.	03T3070
Lid for 60.5 mm hole			03T3075

Tamson Instruments

Specification sheet

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Item		TV2000	TV4000	TV7000
Illuminator "Z41" stand alone		85 ~ 230V/50-60Hz 00T0909		
Illuminator "Z41" backpanel		85 ~ 230V/50-60Hz 00T0908		
Illuminator "Z71"				85 ~ 230V/50-60Hz 00T0907
Cooling circulator TLC10		TLC10 - 230V/50Hz 00T0050 TLC10 - 230V/60Hz 00T0051 TLC10 - 115V/60Hz 00T0052		
Cooling circulator TLC15			TLC15 - 230V/50Hz 00T0565 TLC15 - 230V/60Hz 00T0567 TLC15 - 115V/60Hz 00T0570	
Timer		10T6090		