

Specifications TV12LT

Tamson visibility bath 15 litres, ASTM D445, IP71, ISO 3104



- ⊕ Small footprint
- ⊕ Detachable front window
- ⊕ Internal LED light
- ⊕ Ultra high stability
- ⊕ RS232 communication
- ⊕ Bath drain
- ⊕ Built-in cooling -50°C / -40°F
- ⊕ 4 places, small bath volume

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 (conforms to ASTM D445, IP71-1), thermometer and sensor calibration, density and reaction rate measurement, etc. The bath is fitted with a double window of which the front pane is detachable for cleaning purposes. The window is heated preventing built up of condensate. TV12LT is specially designed for kinematic viscosity testing of aviation fuels. See the "Recommended set-up for measuring the kinematic viscosity of aviation fuels".

Construction

The stainless steel construction 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.

Item	Unit	TV12LT		
Range* ordering		-40..+20°C -40..+68°F	-40..+80°C -40..+176°F	-50..+20°C -58..+68°F
230V/50Hz		00T0410	00T0425	00T0470
115V/60Hz		00T0415	00T0430	00T0475
230V/60Hz		00T0420	00T0435	00T0480
Reading	°C or °F	Menu selectable		
Interface		RS232		
Setting ±	[°C/F]	0.01		
Stability **	[°K]	stdev 0.004 min/max ±0.014		
Uniformity **	[°K]	stdev 0.004 min/max ±0.013		
Heating	[W]	500 +700		
Heaters		2		
Bath volume	[L]	15		
Number of lids		1 Lid with 4 x round diameter 51mm		
Window	[mm]	255x230		
Opening bath	[mm]	250x98		
Depth	[mm]	300		
Length	[mm]	670		
Width	[mm]	425		
Height	[mm]	720		
Power	[Watt]	Nominal 800 Maximum 2100		
Ambient condition	[°C]	18 .. 23		
CE		All models conform to CE regulations		

cover of the bath has 4 round 51 mm holes with lids, for suspending glass capillary viscometers in holders. The bath is fitted with adjustable feet for leveling. Different top lids can be used. Standard 4 round 51 mm holes with lids are supplied for suspending glass capillary viscometers in holders. The use of thermo insulated windows and window heating ensures clear sight. A permanent LED light is located in the top plate to supply clear light and guarantee optimal visibility inside the bath. A bath overflow outlet protects against expanding bath fluid or when the bath filling is too high.

Agitation

A vane type stirrer with maintenance free bearings moves the bath fluid past a special heater ensuring optimal control temperature and excellent uniformity.

Fine adjustment and offset

After the bath has stabilized the set point may be more accurately adjusted in the range of -5.00° to + 5.00°, if necessary. The absolute temperature can be adjusted with 0.005°C accuracy

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Agitation

A vane type stirrer with maintenance free bearings moves the bath fluid past a special heater. A baffle plate directs the fluid resulting in excellent temperature control and homogeneity.

Span

Dependable from ordering code. Span lies from -50°C/-58°F up to + 80°C/176°F

Options

- Optical Level indicator **07T0080**

Safety

The bath conforms to CE-regulation. Further the bath is equipped with a mechanical over temperature device which trips when in case of malfunction the bath exceeds the pre-set maximum temperature. This feature guarantees safe around the clock operation.

Recommended set-up for measuring the kinematic viscosity of aviation fuels

1x TV12LT

1x Timer

1X N2B reference fluids

4x Ubbelohde viscometerholder

Ubbelohde viscometers, size 0C, 0B, 1 and 1C

1x TT3 with probe 25T2350 + certificate 10T 6097 + 21T0200

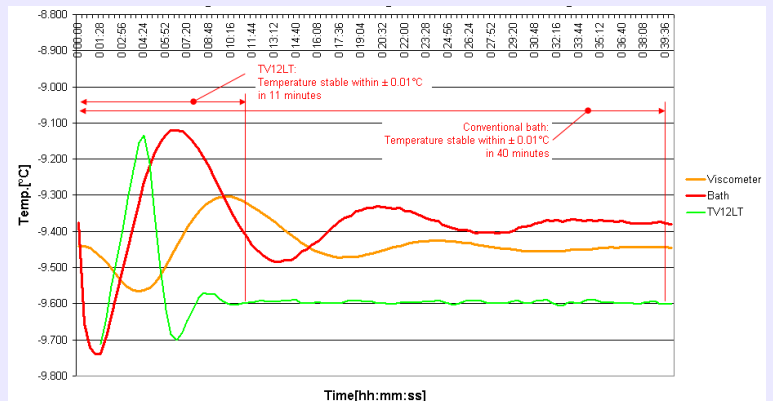
Accuracy

Recovery from temperature dip

TV12 bath

Conventional bath

Inside glass viscometer tube

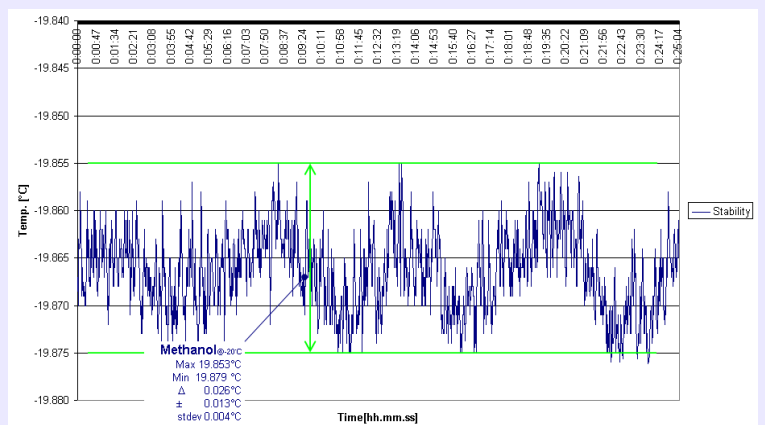


Accuracy

Methanol standard deviation on $\pm 0.004^\circ\text{C}$
min / max $\pm 0.013^\circ\text{C}$

Homogeneity

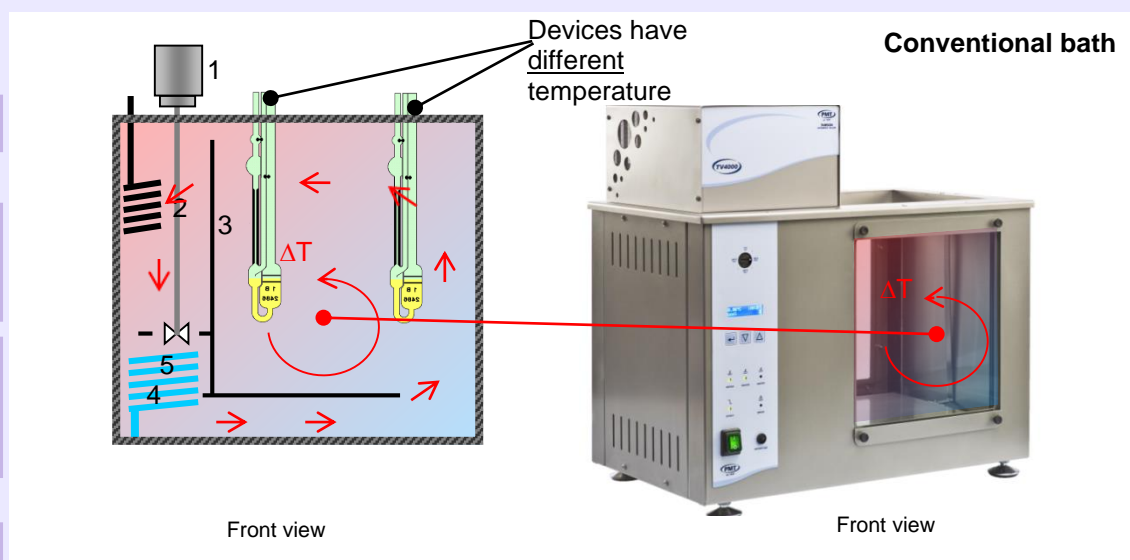
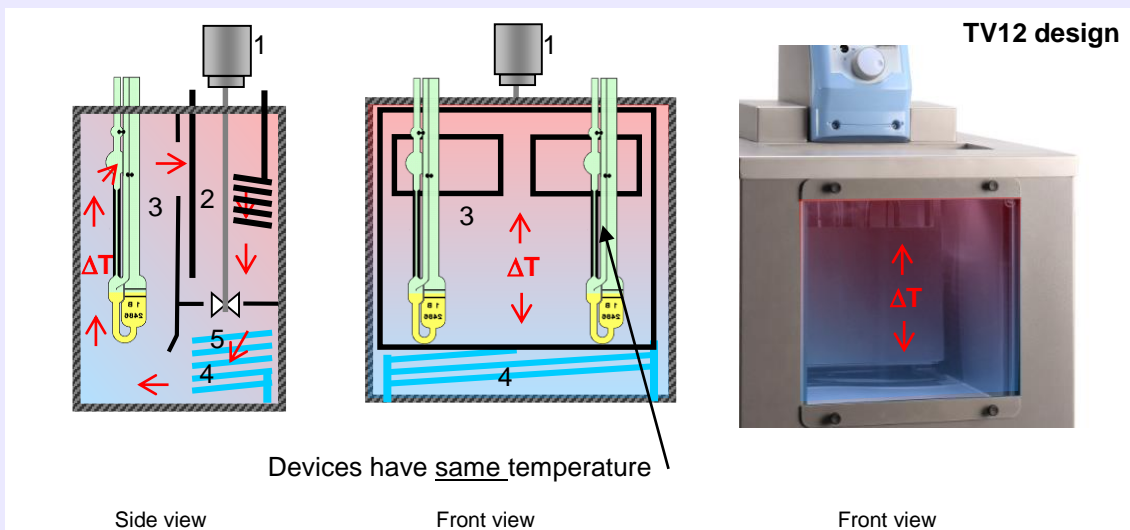
Methanol standard deviation on $\pm 0.004^\circ\text{C}$
min / max $\pm 0.013^\circ\text{C}$



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Principle of operation

Superior homogeneity








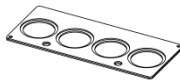
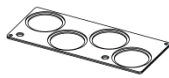


- 1 : Motor
- 2 : Heater
- 3 : Baffle plate
- 4 : Cooling
- 5 : Stirrer vane

TV12LT

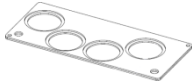



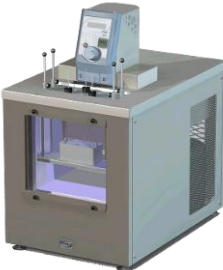

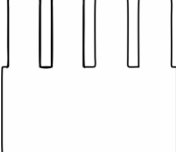


Tamson Instruments

Specification sheet

Item	Picture	Description		
Timer		10T6090		
Bath fluid		See datasheet "Bath fluids"		
Thermometers		ASTM nr.	Ordering no.	Range°C
		44C	25T0937	+18.5 ... +21.5
		46C	25T0938	+48.6 .. +51.4
		120C	25T0990	+38.6 ... +41.4
		46C	25T0939	+48.6 ... +51.4
		47C	25T0940	+ 58.6 ... +61.5
		127C	25T0995	-21.4 ... -18.6
		128C	25T0994	-1.4 .. 1.4
Other ranges available on request				
Thermometer holder		00T0239		
Calibration,reference oils		See datasheet "Viscosity calibration standards"		
Glass viscometers		See datasheet "Viscometer to ASTM D446, IP71 and BS188"		
Viscometer holders		See datasheet "Viscometer holders"		
Cover lid		Cover lid 4 x 51mm holes: - 4 x ø 51mm standard ASTM viscometer hole - 4 x lid 03T3070 - 2 x ø 12.5mm hole for thermometer	to be ordered as option* (set of 1 x 03T2158 top & 1 x 03T3016 bottom)	
Cover lid		Cover lid 4 x 60.5mm holes: - 4 x ø 60.5mm Pinkevitch viscometer - 4 x lid 03T3075 - 2 x ø 12.5mm hole for thermometer	Optional (order separately) (set of 1 x 03T2144 top & 1 x 03T2117 bottom)	

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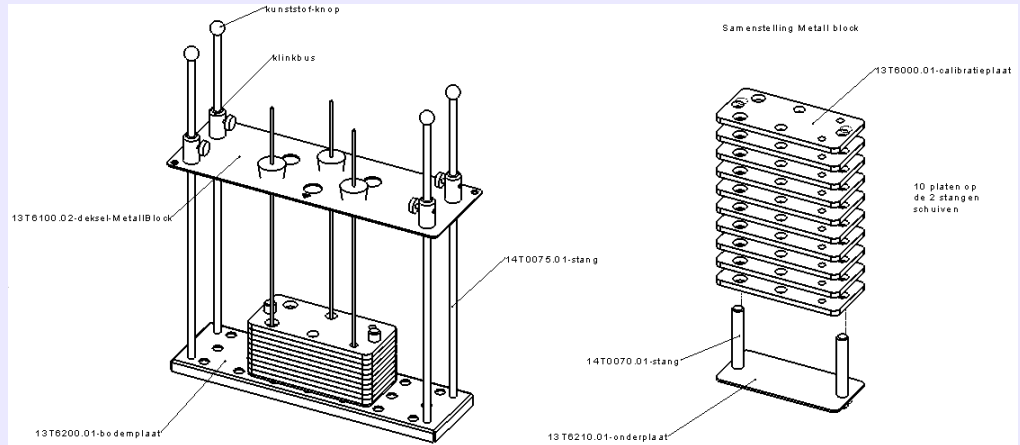
Accessories

Cover lid CFR		Cover lid CFR (cannon fenske routine) 4 x 51mm holes: - 4 x \varnothing 51mm standard ASTM viscometer hole - 4 x lid 03T3070 - 2 x \varnothing 12.5mm hole for thermometer	Optional (to be ordered separately) (set of 1x 13T3006 top & 1x 03T2159 bottom)
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
Leveling platform			13T6200
Calibration/metall block			13T6210
White contrast plate		White background to get better visibility when measuring transparent liquids like jet fuel.	13T3021
Spillage tray			13T3215

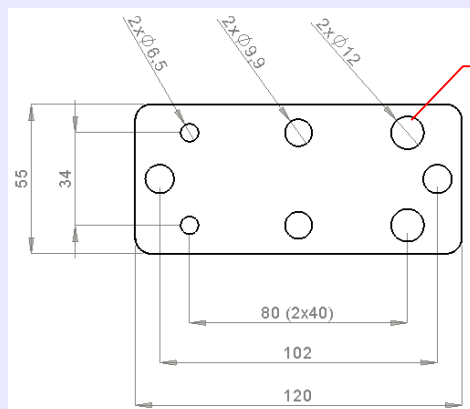
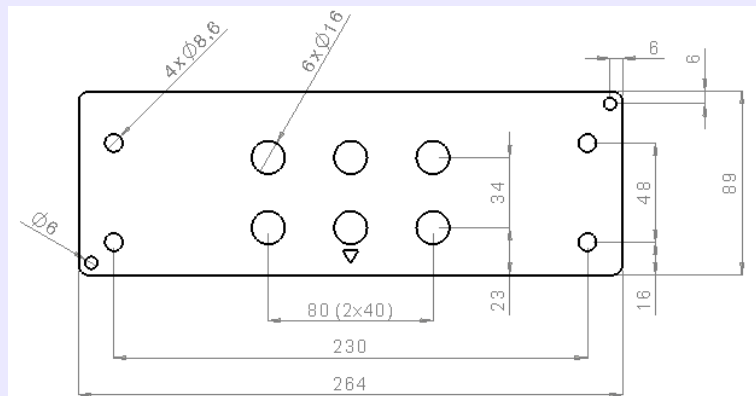
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Accessories

levelling platform(13T6200) and metal block(13T6210)



Dimensions top plate



☞ Number of holes, dimensions and position Other dimensions on request ☞

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