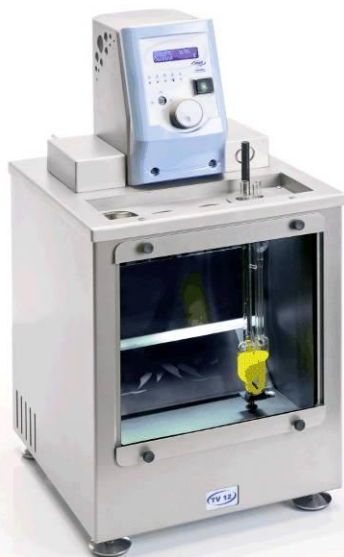


Specifications TV12

Tamson Visibility bath 12 litres



- ⊕ Small footprint
- ⊕ Detachable front window
- ⊕ Internal LED light
- ⊕ Ultra high stability
- ⊕ Only vertical temperature gradient
- ⊕ Bath drain
- ⊕ Standard cooling coil
- ⊕ Low power consumption
- ⊕ 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 windows are panes of tempered safety glass separated by 20 mm air space.

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. The bath is fitted with adjustable feet for leveling. The cover of the bath has 4 round 51 mm holes with lids, for suspending glass capillary viscometers in holders. To work at temperatures lower than ambient 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 can be used for this purpose. The windows are formed with two panes of tempered safety glass separated by 20 mm air space. A permanent 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 oil when the bath filling is too high.

Item	Unit	TV12
Ordering code 230V		00T0400
Ordering code 115V		00T0405
Range		ambient**..120°C/..302°F
Reading		°C or °F menu selectable
Interface		RS232
Setting ±	[°C]	0.01
Stability *	[°C]	stdev±0.002 min/max 0.01
Uniformity *	[°C]	stdev±0.008 min/max 0.01
Heating	[W]	300 + 700
Heaters		2
Bath volume	[L]	12 .. 15
Number of lids		4 x round diameter 51mm
Window	[mm]	140 * 285
Opening bath	[mm]	248*73
Depth	[mm]	300
Length	[mm]	318
Width	[mm]	365
Height	[mm]	640
Weight	[kg]	20
Power	[Watt]	200 average, 1000 max
Frequency	[Hz]	Suited for both 50 & 60
CE		All models conform CE regulation

* Measured @60°C in water

Agitation

A vane type stirrer with maintenance free bearings moves the bath fluid past a special heater then from under the main baffle plate, thus specifically directing the fluid creating an optimal temperature and excellent uniformity

Span**

All baths can be operated from ambient +5 up to +120°C (..302°F). With the use of the built-in cooling coil, span lies 5°K above the temperature of the cooling liquid.

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 preset maximum temperature. This feature guarantees safe around the clock operation.

Accuracy

The system overall accuracy is within ± 0.005°K*

Fine adjustment and offset

After the bath has stabilised the set point may be more accurately adjusted in the range of -5.00° to + 5.00°, if necessary.

Options

- Optical Level indicator 07T0080

Accuracy

Recovery from temperature dip

TV12 bath



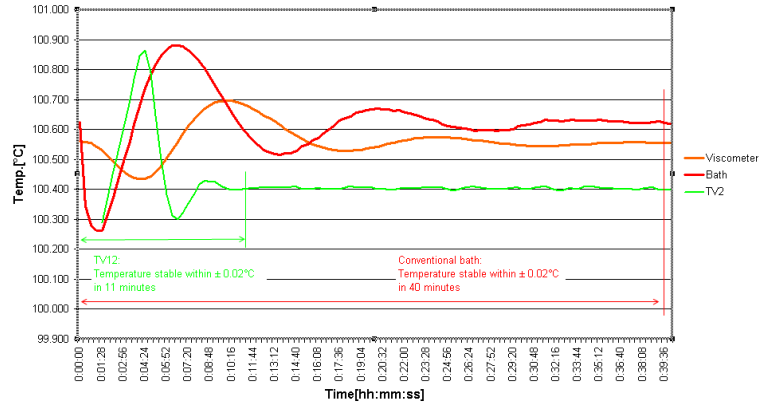
Conventional bath



Inside glas viscometer tube



Recovery temperature dip



Accuracy

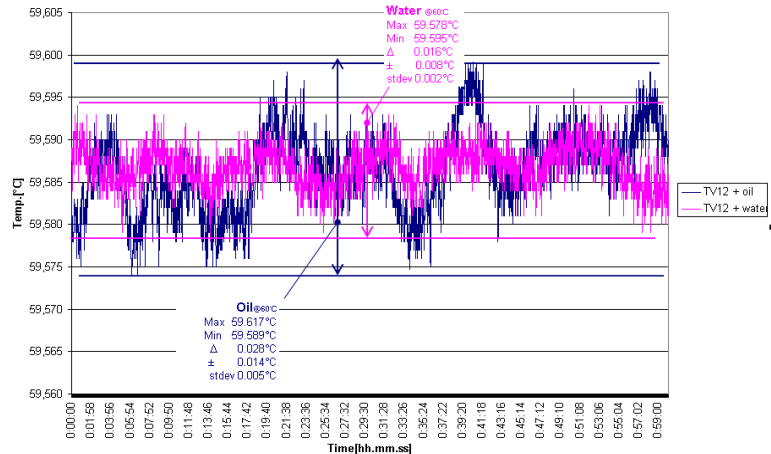
In water

standard deviation $\pm 0.002^{\circ}\text{C}$
min / max $\pm 0.008^{\circ}\text{C}$



In oil

standard deviation $\pm 0.005^{\circ}\text{C}$
min / max $\pm 0.014^{\circ}\text{C}$



Temperature Homogeneity

In water

standard deviation $\pm 0.002^{\circ}\text{C}$
min / max $\pm 0.008^{\circ}\text{C}$

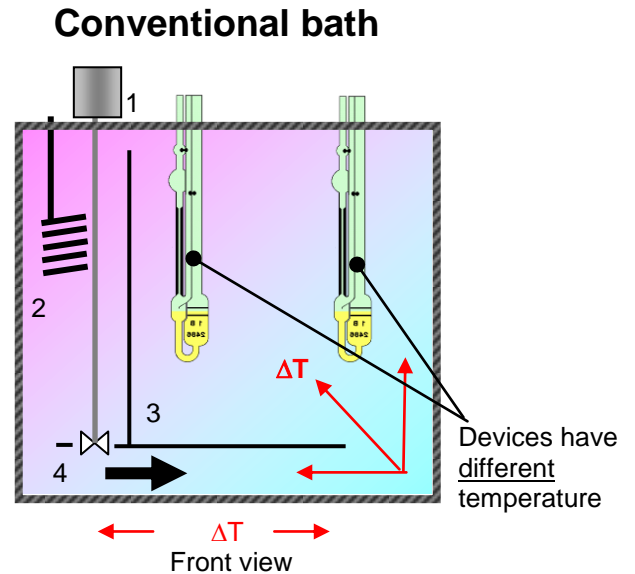
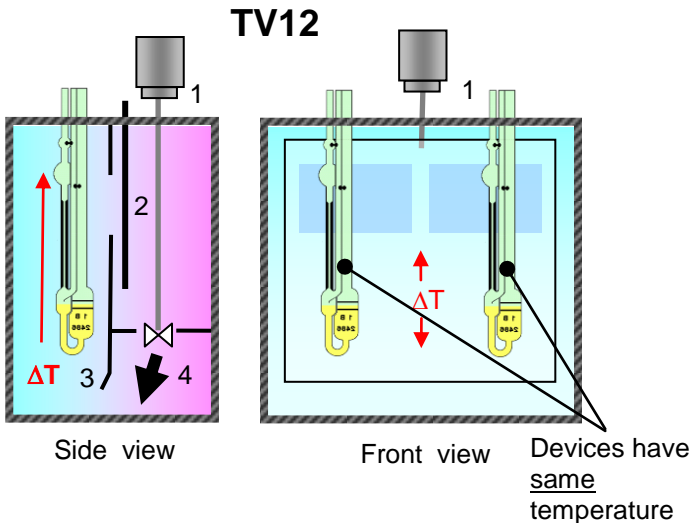
In oil

standard deviation $\pm 0.005^{\circ}\text{C}$
min / max $\pm 0.014^{\circ}\text{C}$








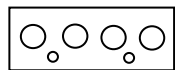
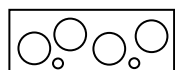
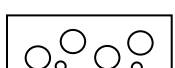

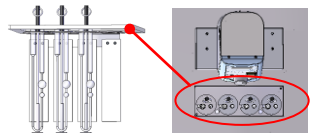



Temperature gradient

Vertical only

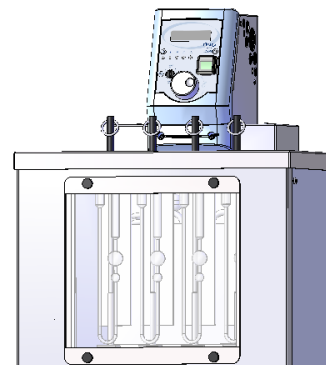
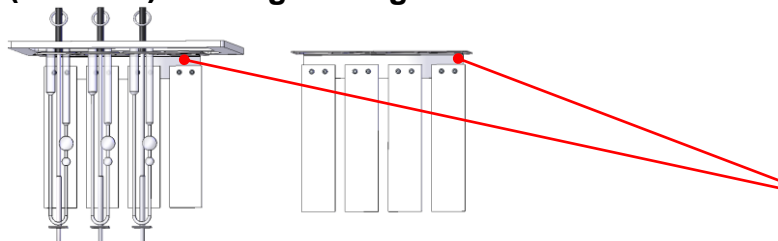
- 1: Strirrer
- 2: Heater
- 3: Baffle plate
- 4: Circulation
- 5: cooling



Temperature gradient TV12
versus conventional system

Item				
Cooling circulator TLC10-3		TLC10-3 - 230V/50Hz 00T0050 TLC10-3 - 230V/60Hz 00T0051 TLC10-3 - 115V/60Hz 00T0052		
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
		121C	25T0991	+98.6 ... +101.4
		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		This item is standard included	13T3006.08	
Cover lid		Cover with 4 holes of 60 mm for Pinkevitch viscometers	03T2117	
Cover lid		Optional to be ordered for 4 full position Cannon Fenske Transparent	13T3006.09	
Cover lid, improved contrast viscometer reading with 13T3006.08			13T6220	
Leveling platform			13T6200	
Calibration/metall block			13T6210	

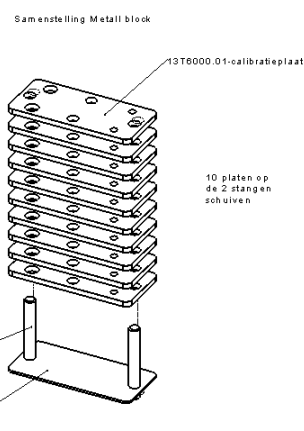
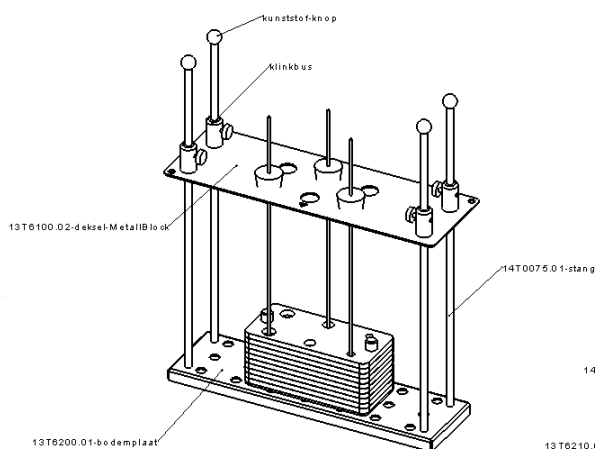
Levelling platform(13T6220) with high background contrast



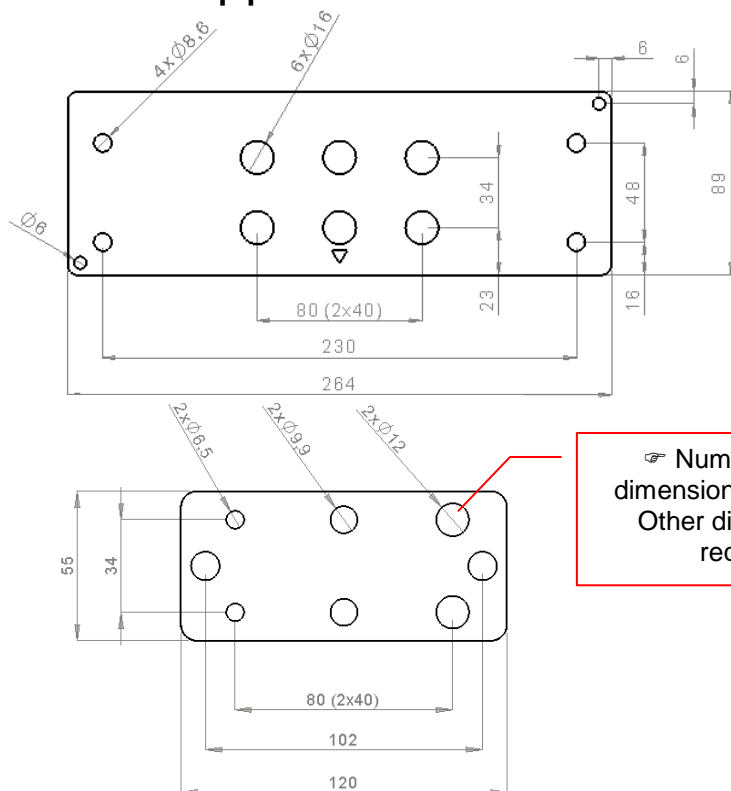
4 opaline glass plates are mounted under the top lid.

The semi transparent white glass realises uniform background and optimizes contrast and readout of the viscometer.

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



Dimensions top plate



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