

### Ageing Bath for Total Sediment in Residual Fuels

ASTM D4870 - ISO 10307 - IP 375 - IP 390 (proc. A)



- ⊕ Position for 6 air wells with TC16
- ⊕ Position for 15 air wells with TC40
- ⊕ Stainless steel
- ⊕ Bath drain
- ⊕ Easy to operate
- ⊕ Robust, well insulated

#### General

Tamson is manufacturing an ageing bath for thermal ageing of the sample, conform to the procedure in the appendix of the test method. Tamson also supplies a two-position sediment tester with accessories for the total sediment test in residual fuels conform ASTM D4870, IP 375, and ISO 10307. Please see the separate D4870 specification sheet.

A selection can be made between two ageing baths. The cover (P/N 03T2310) for the TC16 offers six openings for air wells. The TC40 cover (P/N 03T2312) offers fifteen openings for air wells. Cover, air wells, conical flasks, condensers and stoppers needs to be bought separately as an accessory. Please see table 2 for all the necessary accessories. The temperature range of the ageing baths are from ambient +5°C to 250°C.

Item	Unit		
P/N TC16 230V/50-60Hz		00T0671	
P/N TC16 115V/60Hz		00T0861	
P/N TC40 230V/50-60Hz		00T0681	
P/N TC40 115V/60Hz		00T0851	
Range	°C °F	Ambient .. 250 Ambient .. 482	
Reading		°C or °F	
		TC16	TC40
Heating	[W]	1400	2800
Volume	[L]	16	40
Opening	[mm]	180 * 210	420 * 275
Depth	[mm]	220	200
Length	[mm]	480	705
Width	[mm]	280	375
Height	[mm]	440	440
Weight	[kg]	21	31
Ambient condition	[°C]	18 .. 23	
Materials	All metal parts are from stainless steel, except outer case (zincor powder coated) and brass bearings		
CE	All models conform to CE regulation		

#### Accuracy

The insulation of the bath and electronic design result in a very stable working temperature of  $\pm 0.02^\circ\text{C}$ . The set point can be set in steps of  $0.1^\circ$  in the range of  $0^\circ\text{C}$  up to  $250^\circ\text{C}$  ( $-148..482^\circ\text{F}$ ). The accuracy on the display is displayed in  $0.1^\circ\text{C}$ . However the controller has an internal accuracy of  $0.01^\circ\text{C}$ .

#### Temperature readout

Standard available in  $^\circ\text{C}$ , on request in  $^\circ\text{F}$ .

#### Pump



When not used for ageing tests, the pump can be used to circulate the bath content to an external application.

#### Safety

The bath is conforming to CE regulation. It is further equipped with a mechanical resettable safety thermostat.

### Ageing Bath for Total Sediment in Residual Fuels

Standard included

Table 1: Standard included for TC16 or TC40*		
P/N	Picture	Description
00T0671		TC16 230V/50-60Hz Circulator. Cover as shown in the picture is standard included.
00T0861		TC16 115V/60Hz Circulator. Cover as shown in the picture is standard included.
00T0681		TC40 230V/50-60Hz Circulator. Cover as shown in the picture is standard included.
00T0851		TC40 115V/60Hz Circulator. Cover as shown in the picture is standard included.












\* Please see table 2 on the next page for all necessary accessories.

D4870-A



### Ageing Bath for Total Sediment in Residual Fuels

#### Accessories

Table 2: Necessary accessories				
P/N	Picture	Suggested Quantity for TC16	Suggested Quantity for TC40	Description
03T2310		1	0	Top lid for TC16. Six openings Ø62 mm with lids and one thermometer opening.
03T2312		0	1	Top lid for TC40. Fifteen openings Ø62 mm with lids and one thermometer opening.
14T0230		6	15	Air well, cylinder 55 mm in inside and 120 mm in length.
14T0232		6	15	Top lid air well with 10 mm hole.
08T0001		1	2	Bath fluid silicon oil 20..150°C 20 ltr.
25T0921BW		1	1	ASTM thermometer S22C with blue filling (non-hazardous) with works certificate @ +100°C.
31T0423		1	1	Cork for thermometer. Pack of 10 pieces.
31T0014		1	2	Conical flask, 50 mL capacity Erlenmeyer flask with narrow mouth, with Tamson logo, Pack of 10 pieces.
31T0015		1	2	Condenser, air, of borosilicate glass tubing, 8 mm in outside diameter, wall thickness 1.0 mm, and 400 mm in length. Pack of 10 pieces.
31T0016		1	2	Stopper, un-bored for conical flask. Pack of 10 pieces.
31T0017		1	2	Cork, bored centrally for the air condenser. Pack of 10 pieces.



### Total Sediment in Residual Fuels

ASTM D4870 - ISO 10307 - IP 375



Item	Unit	Sediment tester
P/N Sediment tester		<b>31T0050</b>
Test stations		2
Operative pressure	[bar]	max 2.5
Steam required generation	[kg/h]	1.1
Length	[mm]	500
Width	[mm]	300
Height	[mm]	300
Weight	[kg]	3.5
CE	Pump and steam generator conform to CE regulation	

- ⊕ **Two test stations**
- ⊕ **Waste is collected outside unit**
- ⊕ **Stainless steel filter holders**
- ⊕ **Easy to use**
- ⊕ **Benchtop model**
- ⊕ **Big capacity Waste container**

#### General

Tamson supplies a two-position sediment tester with accessories for the total sediment test in residual fuels conform to ASTM D4870, IP 375, and ISO 10307. The test determines the insoluble material content of distillate and residual fuel oils. A weighed quantity (10 g) of the oil sample is filtered through the sediment tester at 100°C. After solvent washing and drying the total sediment on the filter medium is weighed. The test is to be carried out in duplicate.

The Sediment tester is a benchtop model which consists of two filtration cells, a vacuum circuit with gauge and an integrated cooling/heating circuit.

An advantage about our system is that the waste is collected in a waste container outside the unit and not inside the system. Alternatively, the waste can be collected in a lab's own waste system, in case they have a lot of samples.

Each cup has to be equipped with a sintered brass disc (P/N 31T0063) to support the microfiber filter media.

Other necessary accessories like a vacuum pump, steam generator, filter media and waste container are available. Please see table 1 for more information.

The total sediment tester also needs the use of tap water, alternatively a more environmental friendly TLC10-3 chiller can be used. Please see table 2 on the next page for more details.

#### Safety

The sediment tester is a closed system where the waste is collected outside the unit. The pump and steam generator are conform to CE regulations.

#### Ageing bath

Tamson is also manufacturing an ageing bath for thermal ageing of the samples, conform to the procedure in the appendix of the test method. Either a 6 position or 15 position ageing bath is available. Please see the separate specification sheet "D4870-A".






#### Four or six position tester

A four or six position sediment tester is available on request.

### Total Sediment in Residual Fuels

#### Accessories

Table 1: Necessary Accessories



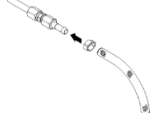
P/N	Picture	Suggested Quantity	Description
31T0055		1	Vacuum pump with PTFE coated diaphragm, 230V/50Hz. Ultimate vacuum: 210 mbar; Max. flow rate: 34 L/min. Chemical resistant.
31T0056			Vacuum pump with PTFE coated diaphragm, 110V/60Hz. Ultimate vacuum: 210 mbar; Max. flow rate: 34 L/min. Chemical resistant.
31T0060		1	Steam generator for total sediment tester, 230V/50-60Hz
31T0061			Steam generator for total sediment tester, 115V/60 Hz
31T0062		1	Whatman filter media, GF/A, 47 mm pack of 100
31T0063		2	Sintered bronze filter support with OR gasket
31T0064		1	Waste container complete, 2 L (Not needed if sediment tester is connected to waste collection of the lab)

D4870

### Total Sediment in Residual Fuels

Accessories

**Table 2: Optional Accessories**

P/N	Picture	Suggested Quantity	Description
Please see spec sheet "D4870-A"		1	Ageing bath for thermal ageing of the sample, conform to procedure A in the appendix of the test method. Either a 6 position or 15 position ageing bath is available. Please see the separate specification sheet "D4870-A"
00T0050		1	Cooling circulator TLC10-3 (230V/50Hz)
00T0051			Cooling circulator TLC10-3 (230V/60Hz)
00T0052			Cooling circulator TLC10-3 (115V/60Hz)
12T1075		1	Tubing with connectors and clamps to be used between the TLC10-3 and the sediment tester

# D4870