

Corrosiveness to Silver of Aviation Turbine Fuels or Engine Fuels

ASTM D7667 - ASTM D7671 - IP 227 - ASTM D4814 - IP 611



Stainless steel bath
Bath drain
Easy to operate, wide temperature range
Position for 6 test cylinders (9 optional)
16L volume
Small footprint
Integrated cooling coil

General

The test methods specify the determination of the corrosive tendencies towards silver of aviation turbine fuel, automotive spark-ignition engine oils or automotive gasoline. The result is classified as an integer in the range 0 to 4. The bath offers place for six test positions. The temperature range is from ambient +5°C to 250°C. This is the widest temperature range on the market, which enables users to test the corrosiveness to silver at very high temperatures. The bath is equipped with a bath drain, which enables safe and easy bath fluid replacement. Also, a cooling coil is integrated to work at temperatures close to the ambient temperature. Optional is a cover with nine openings to test nine samples (P/N 03T2313). The bath can also be used for copper corrosion tests, please see our specification sheet for ASTM D130 and related methods.

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° in the range of 0°C up to 250°C ($-148..482^\circ\text{F}$). The accuracy on the display is displayed in 0.1°C . However the controller has an internal accuracy of 0.01°C .

Item	Unit	TC16
P/N 230V/50-60Hz		31T0671
P/N 115V/60Hz		31T0861
Power	[kW]	1.5
Range	$^\circ\text{C}$ $^\circ\text{F}$	Ambient .. 250 Ambient ..482
Reading		$^\circ\text{C}$ or $^\circ\text{F}$
Setting	[$^\circ$]	0.1
Stability \pm	[$^\circ\text{C}$]	0.02
Heating	[kW]	1.4
Bath volume	[L]	16
Bath opening	[mm]	6 x $\varnothing 51$ mm (nine optional)
Bath depth	[mm]	220
Length	[mm]	480
Width	[mm]	295
Height	[mm]	480
Materials	Used inside bath: stainless steel 304, brass	
CE	Conforms to CE regulation	

Temperature readout

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

Pump

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

Safety

The bath conforms to CE regulation. It is further equipped with a mechanical resettable safety thermostat. Optional is a level protection device to warn the user when the level of the bath fluid is too low (P/N 07T0080).

Alternative set-up

TC40 bath with a cover for 18 positions (P/N 03T2313).

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Accessories

Table 1: Apparatus P/N 31T0671 or P/N 31T0861 standard consists of:


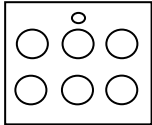

P/N	Picture	Quantity	Description
00T0671		1	TC16 circulator bath, 230V/50-60Hz
00T0861			TC16 circulator bath, 115V/60Hz
13T8000		1	Top lid with six ø51 mm openings and a thermometer opening
14T0101		6	Lid and mounting hook (six pieces standard included)

Table 2: Optional cover for corrosion bath







P/N	Picture	Suggested quantity	Description
03T2311		1	Top lid with nine ø51 mm openings. Please separately order 3 * P/N 14T0101 additionally.
14T0101		3	Lid and mounting hook for P/N 03T2311
07T0080		1	Float/level detector

Table 3: Accessories for corrosion tests

P/N	Picture	Description
31T0300		Test tube for IP 227 (amber glass).
31T0301		Cold-finger condensor for IP 227 (amber + transparent glass).
31T0302		Glass cradle for IP 227.










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Table 3: Accessories for corrosion tests		
P/N	Picture	Description
31T0303		Silver strip (1 piece) 99.9% purity. (12.5 x 3 x 18 mm width x thick x length).
31T0304		Silver strip standard (color code standard ASTM D3241 or IP 323).
31T0009.100		Sanding paper silicon carbide P240 grade (box of 100 pieces).
31T0000		Multistrip vise, holds up to four strips while polishing.
25T0928BW		ASTM thermometer similar to 34C with blue filling (low-hazardous to ship). Temp. range +25°C-105°C:0.2°C. Supplied with works certificate.
31T0005		Silicon carbide powder 105 µm (1 kg).
31T0008		Vented stopper made from silicon rubber for test tube (09T0010). 25 pieces. Width from 24 (top) to 18 (bottom) mm. Length 30 mm. Hole of 4 mm. Temperature resistant from -60 to +180°C.
14T0100		Pressure vessel for silver strip corrosion test with o-ring. Cylinder is supplied with works certificate.
09T0010		Test tube (25 x 150 mm).
14T0102		Test tube holder.

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Table 3: Accessories for corrosion tests		
P/N	Picture	Description
09T0011		Flat viewing test tube.
24T0385		O-ring for test cylinder (P/N 14T0100).
31T0011		Scouring pad 400 grit box with 20 pads.
31T0306.100		Waterproof aluminum oxide cloth sanding sheet (box of 100 pieces).
31T0307		Thin silver strip (one piece) for ASTM D7667.
31T0305		Silver strip centering device (SSCD) for ASTM D7667.
31T0309		Cable tie (2 mm x 208 mm).
31T0308		PTFE cradle holder to suspend silver strip for ASTM D7671 or IP 611.
25T2154		Thermometer holder, 425 x 10 mm.

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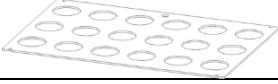

Table 4: Suggested quantity of accessories per method

P/N	Description	IP 227	ASTM D4814-12 Annex A (obsolete) *	ASTM D7667		ASTM D7671		IP 611
				Procedure A	Procedure B	Procedure A*	Procedure B	
31T0300	Amber glass test tube IP227	6						
31T0301	Cold-finger condensor IP 227	6						
31T0302	Glass cradle IP 227	6						
31T0303	Silver strip (1 piece)	10	10			10	10	10
31T0304	Silver strip standard	1	1	1	1	1	1	1
31T0000	Multistrip vise	1	1			1	1	1
31T0005	Silicon carbide powder	1	1			1	1	1
25T0928 BW	Thermometer similar to ASTM 34C	1	1	1	1	1	1	1
25T2154	Thermometer holder	1	1	1	1	1	1	1
31T0009 .100	Sanding paper P240 (box of 100 pcs)	1	1			1	1	1
14T0100	Test cylinder		6	6		6		6
09T0010	Test tube 25 x 150 mm		20	20	20	20	20	20
09T0011	Flat glass viewing testtube		6			6	6	6
14T0102	Test tube holder				6		6	
31T0305	SSCD			6	6			
31T0011	Scouring pad 400 grit			1	1			
31T0307	Thin silver strip			20	20			
31T0306 .100	Waterproof oxide sanding sheets (box of 100 pcs)			1	1			
31T0008	Vented cork for test tube						1	
24T0385	O-ring for test vessel (P/N 14T0100)		6	6		6		6
31T0308	PTFE cradle holder					6		6
31T0309	Cable tie						10	

* ASTM D4814-12, Annex A prescribed the test with accessories as mentioned in this table. From ASTM D4814-13 onwards it is prescribed to follow either ASTM D7667 or ASTM D7671. We recommended ASTM D7671 Procedure A, because it is most user friendly.

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Table 5: Alternative setup offering 18 positions (instead of 6)			
P/N	Picture	Quantity	Description
00T0681		1	TC40 230V/50-60Hz
00T0851			TC40 115V/60Hz
03T2313		1	Cover with 18 * ø 51 mm openings
14T0101		18	Lid + mounting hook; number of pieces to be ordered separately, depending on number of test cylinder used

Silver