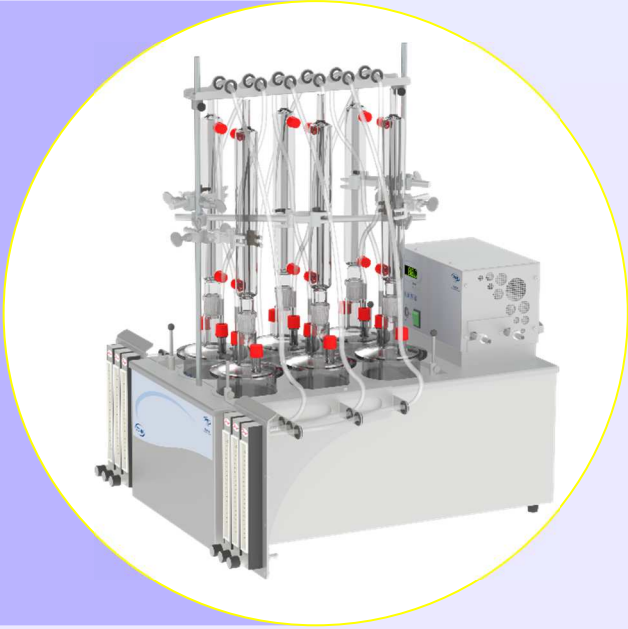


Corrosion Test for Engine Coolants in Glassware

ASTM D1384



Stainless steel bath
Bath drain
Easy to operate
Six positions
Complete apparatus for six tests

| Item | Unit | TC40 |
|---|----------|--|
| P/N apparatus ASTM D1384 230V/50-60Hz | | 00T2040 |
| P/N apparatus ASTM D1384 115V/60Hz | | 00T2041 |
| Power | [kW] | 3.0 |
| Range | °C °F | Ambient .. 250 Ambient ..482 |
| Reading | | °C or °F |
| Setting | [°] | 0.1 |
| Stability | [°C] | 0.02 |
| Heating | [kW] | 2.8 |
| Bath volume | [L] | 40 |
| Bath openings | [mm] | 6 |
| Bath depth | [mm] | 200 |
| TC40 dimensions (L x W x H) | [mm] | 705 x 375 x 440 |
| Complete apparatus dim. (L x W x H) | [mm] | 760 x 650 x 880 |
| Materials | | Used inside bath: stainless steel 304, brass |
| CE | | Conforms to CE regulation |

General

The ASTM D1384 test method covers a simple beaker-type procedure for evaluating the effects of engine coolants on metal specimens under controlled laboratory conditions. In the test method, specimens of metals typical of those present in engine coolant solutions are totally immersed in aerated engine coolant solutions for 336 hours at 88°C (190°F). The corrosion-inhibitive properties of the test solution are evaluated on the basis of the weight changes incurred by the specimens. This test method will generally distinguish between coolants that are definitely deleterious from the corrosion standpoint and those that are suitable for further evaluation.

Construction

The apparatus consists of a six position TC40 circulator bath and it is standard delivered with six sets of glassware. The bath is supplying all-glass 1000 mL containers with NS29/32 connection for the condenser. Hence, a rubber stopper is not used. The cover of the bath has six openings with lids. Stand-rods with clamps to hold the glassware in the same position, flowmeters and tubing are standard included. Please see table 1 for more information. The temperature range of the bath is from ambient +5°C to 250°C. Other accessories for this test method are also supplied by G-labo, please see table 2.

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°C in the range of 0°C up to 250°C (148.482°F). The readout is displayed in 0.1°C . The controller has an internal accuracy of 0.01°C .

Temperature readout

Standard available in °C, on request in °F.

Pump

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

Safety


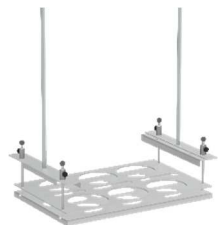

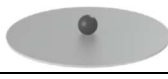



The bath conforms to CE regulation. It is further equipped with a mechanical resettable safety thermostat. A low liquid float (P/N 07T0080) is included and will switch-off the apparatus when the bath fluid is too low.

The apparatus should be placed in a fume hood to avoid oil vapours spreading into the laboratory.

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Table 1: Apparatus ASTM D1384 P/N 00T2040 or P/N 00T2041 consists of the following parts:

| P/N | Picture | Quantity | Description |
|---------|---|----------|--|
| 00T0681 |  | 1 | TC40 circulator bath, 230V/50-60Hz. |
| 00T0851 | | | TC40 circulator bath, 115V/60Hz |
| 07T8072 |  | 1 | Levelling platform for ASTM D1384 tests |
| 03T2018 |  | 1 | Top cover ASTM D1384 with six openings |
| 03T2025 |  | 6 | Small lid for top cover (P/N 03T2018) |
| 31T2050 |  | 6 | Glass-tube water condenser of the reflux, having a 400 mm condenser jacket, with NS29/32 connection. The condenser is delivered with two plastic screw caps with GL14 connection (P/N 08T0120) and two plastic hose connection angles with GL14 connection (P/N 08T0122) |
| 31T2051 |  | 6 | 1000 mL glass container for ASTM D1384, with three necks and standard grounded joints, centre neck with NS29 connection for the condenser and additional two side necks with GL18 connection for inserting a thermometer and aerator tube 12-C. The glass container is delivered with two plastic screw caps with GL18 connection (P/N 31T2035) and one O-ring for the thermometer (P/N 31T2053) and one O-ring for the aerator tube (P/N 31T2036). The container is also delivered with an O-ring (P/N 31T2055) and a flange with quick fit (P/N 31T2054) to hold the lid stable on the container |
| 31T2052 |  | 6 | Aerator tube porosity size 12-C, 310 mm length |

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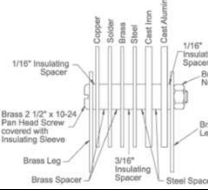

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| Continued Table 1: Apparatus ASTM D1384 P/N 00T2040 or P/N 00T2041 consists of the following parts: | | | |
|---|---|----------|---|
| P/N | Picture | Quantity | Description |
| 24T0072 |  | 6 | Double boss head cross with brass clamping screws |
| 24T0078 |  | 6 | Cooler clamp for stand-rod |
| 24T0068 |  | 2 | Stand-rod |
| 24T0046 |  | 6 | Tubing silicon rubber 7 mm, 1 meter |
| 31T2070 |  | 6 | Airflow meters suitable for a flow rate of 10 L/h |
| 34T0000 |  | 1 | Blue PU tubing 6 mm, 50 meter |
| 34T0030 |  | 6 | Hose barb fitting G1/8" to I.D. 8 mm |
| 34T0010 |  | 6 | O-ring G1/8" |
| 34T0051 |  | 1 | Hose adapter 6mm O.D. to G1/8" quick fit |
| 34T0052 |  | 5 | Hose adapter T-shaped 6mm O.D. to G1/8" quick fit |

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Table 2: Accessories for ASTM D1384

| Item | Picture | Suggested quantity | Description |
|----------|---|---------------------------------|--|
| 08T0001 |  | 2 | Bath fluid silicon oil 20..150°C 20 L |
| 25T0901B |  | 6 | Thermometer similar to ASTM 1C, white backed, -20+150:1°C, capillary tube specially coated inside, with non-wetting blue special liquid, immersion 76mm, max.327x6-7mm, durable pigment, with works certificate at 0°C |
| 31T2060 |  | 1 | Air compressor - 230V/50-60Hz |
| 31T2061 | | | Air compressor - 115V/60Hz |
| 31T2056 |  | 6, depending on number of tests | Complete set of test specimen. Complete assembled with spacers and insulators, ready for use. The coupons are pre-weighed and will be supplied with weight list and material test reports. |
| 00T0565 |  | 1 | Cooling circulator TLC15-5 - 230V/50Hz. To replace tap water that circulates through the condenser |
| 00T0567 | | | Cooling circulator TLC15-5 - 230V/60Hz |
| 00T0570 | | | Cooling circulator TLC15-5 - 115V/60Hz |

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Table 3: Spare parts for air compressor after one year or 2000 hours of use

| Item | Picture | Suggested quantity | Description |
|---------|---|--------------------|------------------------|
| 31T2065 |  | 1 | Intake filter |
| 31T2066 |  | 1 | Non return valve |
| 31T2067 |  | 1 | 5 micron filter |
| 31T2068 |  | 1 | SJ27 oil bottle 0,5ltr |

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