

### **Pour Point of Crude oils - Procedure B**

ASTM D5853 - IP 441



| Item                | Unit   | TC16                          |  |
|---------------------|--|-------------------------------|--|
| P/N<br>230V/50-60Hz |  | 31T0671                       |  |
| P/N<br>115V/60Hz    |  | 31T0861                       |  |
| Power               | [kW]   | 1.5                           |  |
| Range               | °C<br>∘F                                     | Ambient 250<br>Ambient482     |  |
| Reading             |  | °C or °F                      |  |
| Setting             | [°]  | 0.1                           |  |
| Stability           | [°C]   | 0.02                          |  |
| Heating             | [kW]   | 1.4                           |  |
| Bath volume         | [L]  | 16                            |  |
| Bath opening        | [mm]   | 6 x ø51 mm (9 x ø51 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                    |                               |  |

Stainless steel bath
Cooling coil
Bath drain
Easy to operate
Position for 6 test cylinders (9 optional)

#### General

The test method covers the determination of the pour point temperatures of crude oil down to -36°C. This specification sheet covers the baths needed for this test method to preheat the sample. Tamson also supplies a single adjustable pour point bath. Please see the separate D97 and D2500 specification sheet.

The TC16 oil bath is used to preheat the sample in the pressure vessel at  $105^{\circ}$ C. The cover of the oil bath has six openings, each opening comes with a lid and hook for suspending a pressure vessel (P/N 14T0100). The temperature range is from ambient +5°C to 250°C. Please see table 1 for more information. Accessories for this test are also supplied by Tamson, please see table 2. Optional is a cover with nine openings to test up to nine samples (P/N 03T2311), please see table 3.

For procedure A and B, an additional TC16 water bath as in table 1 can be ordered to preheat the sample in a pour point jar at 48°C. Please see table 4 for the required accessories.

#### Accuracy

The insulation of the bath and electronic design result in a very stable working temperature of  $\pm 0.02^{\circ}$ 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 accuracy on the display is displayed in 0.1°C. However 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 pour point determinations, 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 low liquid float (P/N 07T0080).

#### Alternative

We also offer a TC40 bath with a cover for 18 positions (P/N 03T2313). Please see table 5

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|         | 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 | 5   | 6        | Lid and mounting hook                                      |  |  |

| Table 2: Accessories for Pour Point of Crude Oil Procedure B |         |                       |  |  |  |
|--|---------|-----------------------|--|--|--|
| P/N  | Picture | Suggested<br>quantity | Description  |  |  |
| 14T0100  |         | 6                     | Pressure vessel (test cylinder with o-ring). Cylinder is supplied with works certificate.  |  |  |
| 08T0001  | Carl    | 1                     | Bath fluid silicon oil 20150°C 20ltr   |  |  |
| 25T0908BW  |         | 1                     | ASTM thermometer similar to 9C with blue filling (low-<br>hazardous to ship). Temp. range -5°C - +110°C:0.5°C.<br>Supplied with works certificate. |  |  |
| 31T0423  |         | 1                     | Cork for bath thermometer, pack of ten pieces  |  |  |
| 24T0385  | 0       | 6                     | O-ring for test cylinder (P/N 14T0100)   |  |  |





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| Table 3: Optional for ASTM D5853 Procedure B |         |                       |   |  |
|--|---------|-----------------------|---|--|
| P/N  | Picture | Suggested<br>quantity | Description   |  |
| 03T2311                                      | ESS .   | 1                     | Top lid with nine ø51 mm openings. Please seperately order 3 * P/N 14T0101 additionaly. |  |
| 14T0101                                      | 3       | 3                     | Lid and mounting hook for P/N 03T2311   |  |

|         | Table 4: Required accessories for water bath for procedures A and B |                       |  |  |  |
|---------|---|-----------------------|--|--|--|
| P/N     | Picture   | Suggested<br>quantity | Description  |  |  |
| 14T0109 |   | 6                     | Test tube holder test jar conform ASTM D5853       |  |  |
| 31T0012 | amson   | 6                     | Test jar ASTM D5853                                |  |  |
| 31T0013 |   | 1                     | Vented cork for test jar (P/N 31T0012). 10 pieces. |  |  |

|         | Table 5: Alte | aratus for 18 positions |   |
|---------|---------------|-------------------------|---|
| 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 | 3             | 18                      | Lid + mounting hook; number of pieces to be ordered separately, depending on number of test cylinder used |