

Oxidation Characteristics of Distillate Fuels & Biodiesel - TOST

ASTM D 7462, ISO 12205, IP 398

Product group(s): Fuel, Oil

User group(s): Biodiesel, Diesel, Fuel, Light Oil, Lubricating Oil, Mineral Oil, Turbine Oil

Scope: **ISO 12 205 & IP 388** - Oxidation Stability of Middle-Distillate Fuels

ASTM D 7462 - Oxidation Stability of Biodiesel (B100) and Biodiesel Blends with Middle Distillate Petroleum Fuel (Accelerated Method)

Use: To measure the oxidation stability of middle-distillate fuels, biodiesel and biodiesel blends under accelerated oxidizing conditions, to estimate the storage stability.



TOST Test Equipment

to be composed of:

- Bath (Dry-Heat or Liquid Bath with 4 or 8 testplaces)
- **Glassware & Accessories**

Note! Some items are not required acc. to the standard but recommended.

Technical Data

Dry-Heat Bath

Temperature range: ambient to +220°C
Heating capacity: 2000 W
Opening size: Ø 50 x 400 mm (for glassware with Ø 44 to 48 mm)
Dimensions (WxDxH): 382 x 436 x 580 mm

Liquid Bath

Temperature range: ambient to +175°C
Heating capacity: 2100 W
Opening size: Ø 51 mm
Dimensions (WxDxH): 280 x 430 x 650 mm, 35 kg

Main Unit

16-0586



Oxidation Cell Set

ASTM D 943 / JIS K2514 (BS 4388) - ASTM D 2274 - ASTM D 4310 / IP 157 / JIS C2101 - ASTM D 7462 - ISO 4263 pt.1-3 - ISO 12 205 / IP 388 - DIN 51 587

Consisting of:

- 4x oil test tube (46 x 600 mm)
- 4x oxygen inlet tube (7 x 750 mm)
- 4x fungus condenser

16-1416



Dry Heat Bath & Flow Meter Set (4-place & <6 l/h)

ISO 4263 - ISO 12 205 / IP 388 - ASTM D 7462
 optional: ASTM D 943 / JIS K2514 - ASTM D 4310 / IP 157 / JIS C2101 - DIN 51 587

Consisting of:

- stainless steel constant-temperature bath for tests up to 230°C,
- aluminum block with 4 wells (Ø50x400 mm) for the glassware,
- 4 lids, bath-thermometer ASTM 40C / IP 80C, spirit level,
- 4 flow meters (0.4 ... 6 l/h), silicon hose (4 m).

Note! ASTM D 4310 and DIN 51 587 do not specify, but glassware fits well and many users appreciate the advantages of this technology.

Power supply: 230 V, 50/60 Hz

16-1417 Dry Heat Bath & Flow Meter Set (4-place & <6 l/h)

Like 16-1416 but:
Power supply: 115 V, 50/60 Hz

16-0583 Liquid Bath & Flow Meter Set (4-place & <6 l/h)

ASTM D 943 / JIS K2514 (BS 4388) - ASTM D 2274 - ASTM D 4310 / IP 157 / JIS C2101 - ASTM D 7462 - ISO4263 - ISO 12 205 / IP 388 - DIN 51 587 - FTM 791-5308 (DIN 51 394)



Consisting of:
stainless steel constant temperature bath (33 l) for tests up to 175°C with 4 openings (Ø51 mm) for the glassware, 4 lids, bath-thermometer ASTM 40C / IP 80C, thermometer support, spirit level, 4 flow meters (0.4 ... 6 l/h), silicon hose (4 m).

Power supply: 230 V, 50/60 Hz

16-0584 Liquid Bath & Flow Meter Set (4-place & <6 l/h)

Like 16-0583 but:
Power supply: 115 V, 50/60 Hz

16-0581 Liquid Bath & Flow Meter Set (8-place & <6 l/h)

ASTM D 943 / JIS K2514 (BS 4388) - ASTM D 2274 - ASTM D 4310 / IP 157 / JIS C2101 - ASTM D 7462 - ISO4263 - ISO 12 205 / IP 388 - DIN 51 587 - FTM 791-5308 (DIN 51 394)

Consisting of:
stainless steel constant temperature bath for tests up to 175°C with 8 openings (Ø51 mm) for the glassware, 8 lids, bath-thermometer ASTM 40C / IP 80C, thermometer support, spirit level, 8 flow meters (0.4 ... 6 l/h), silicon hose (4 m).

Power supply: 230 V, 50/60 Hz

16-0458 Liquid Bath & Flow Meter Set (8-place & <6 l/h)

Like 16-0581 but:
Power supply: 115 V, 50/60 Hz

16-0970 Vacuum Filtration Assembly

EN 12 662 - IP 440
Suitable for: ASTM D 2274 / IP 388 - ASTM D 7462 - ISO 12 205



Consisting of:

Membran Filtration Apparatus:

- 1 vacuum filter funnel (stainless steel, 500 ml)
- 1 filter membrane support sieve
- 1 rubber stopper (bored)
- 1 Witt'sche glass suction flask
- 200 pre-filter, 70 G/M², glass fiber
- 100 pre-filter, 0.1 µm, cellulose nitrate (IP 440)
- 100 pre-filter, 0.45 µm, cellulose nitrate (EN 12662)
- 100 test-filter, 0.7 µm, glass fiber (EN 12662, ASTM D 7462)
- 100 test-filter, 0.8 µm, mixed ester (IP 440, ASTM D 2274, IP 388, ISO 12 205)

Vacuum System:

- 1 water jet vacuum pump
- 1 Woulff flask (1 liter)
- 3 rubber stoppers
- 2 angle tubes 90°
- 1 inlet tube
- 1 U-tube manometer
- 1 tube connector
- 1 T-connector
- 3 connection tubes (1 m each)
- 1 Hoffmann clip

Options & Accessories

16-0450	Holder for 8 oil test tubes ASTM D 943 / JIS K2514 (BS 4388) - ASTM D 2274 - ASTM D 4310 / IP 157 / JIS C2101 - ASTM D 7462 - ISO4263 - ISO 12 205 / IP 388 - DIN 51 587 - FTM 791-5308 (DIN 51 394)
16-0720	Drain Cock for thermostatic baths (G¼")
25-0515	Cooling Coil
11-0091	Thermometer ASTM 40C / IP 80C Range: +72 to +126 : 0.2 °C Length: 395 mm, Immersion: 100 mm, Ø 7 mm
11-0092	Thermometer ASTM 40C / IP 80C Range: +72 to +126 : 0.2 °C (officially certified)
11-0093	Thermometer ASTM 41C / IP 81C Range: +98 to +152 : 0.2 °C Length: 395 mm, Immersion: 100 mm, Ø 7 mm
11-0094	Thermometer ASTM 41C / IP 81C Range: +98 to +152 : 0.2 °C (officially certified)
11-0247	Thermometer ASTM 102C / IP 83C Range: +123 to +177 : 0.2 °C Length: 395 mm, Immersion: 100 mm, Ø 7 mm
11-0248	Thermometer ASTM 102C / IP 83C Range: +123 to +177 : 0.2 °C (officially certified)
11-0249	Thermometer ASTM 103C / IP 84C Range: +148 to +202 : 0.2 °C Length: 395 mm, Immersion: 100 mm, Ø 7 mm
11-0250	Thermometer ASTM 103C / IP 84C Range: +148 to +202 : 0.2 °C (officially certified)

Spare Parts

16-0589	Oxygen Inlet Tube (Ø 7 x 750 mm) ASTM D 943 / JIS K2514 (BS 4388) - ASTM D 2274 - ASTM D 4310 / IP 157 / JIS C2101 - ASTM D 7462 - ISO 4263 pt.1-3 - ISO 12 205 / IP 388 - DIN 51 587
16-0588	Condenser, Fungus-Type ASTM D 943 / JIS K2514 (BS 4388) - ASTM D 2274 - ASTM D 4310 / IP 157 / JIS C2101 - ASTM D 7462 - ISO 4263 pt.1-3 - ISO 12 205 / IP 388 - DIN 51 587
16-0590	Test Tube (Ø 46 x 600 mm), round bottom ASTM D 943 / JIS K2514 (BS 4388) - ASTM D 2274 - ASTM D 4310 / IP 157 / JIS C2101 - ASTM D 7462 - ISO 4263 pt.1-3 - ISO 12 205 / IP 388 - DIN 51 587
16-0980	Filter Membrane, 0.8 µm, Ø 50 mm, mixed ester (pack of 100) ASTM D 2274 - IP 388 - IP 440 - ISO 12 205
16-0984	Filter Membrane, 0.7 µm, Ø 47 mm, glass fiber (pack of 100) ASTM D 7462 - EN 12662
25-0602	Heating Element DP, 2000 W, 230 V
25-0603	Heating Element DP, 1000 W, 115 V
13-0039	Heating Element, Power supply: 230 V (for dry heat bath)
13-0032	Heating Element, Power supply: 115 V (for dry heat bath)

16-0568

Flow Meter-Unit, 0.4 ... 6 l/h



Consisting of:

4-place bench, calibrated with needle valve, air and cooling water supply system with inlet and outlet nozzles, heavy stand, works certificate with setting values calibrated

Order Guideline

Minimum equipment:

For 4-place: 1x Bath (Liquid or Dry Heat),
1x Accessories (see main unit)
For 8-place: 1x Bath (Liquid),
2x Accessories (see main unit)

Spares (approx. 1 year):

see Spare Parts
4x (8x) Glassware, 1x Heating Element,
Specimens (as necessary)

Additional requirements:

Gas Supply