

Constituent Separation by Centrifuge - PetroCEN (semi-automatic) ASTM D 4007

ASTM D 4007, IP 359 (obs.)

Product group(s): Fuel

User group(s): Crude Oil, Fuel Oil

Scope: This test method describes the laboratory determination of water and sediment in crude oils by means of the centrifuge procedure. This centrifuge method for determining water and sediment in crude oils is not entirely satisfactory. The amount of water detected is almost always lower than the actual water content.



Constituent Separation Test Equipment

ASTM D 4007 (IP 359)

to be composed of:

- **Centrifuge "Heatable"**

Requirements:

Test Temperature: 60 ±3 °C

Relative centrifugal force: 600 rcf

Test time: 10 min.

- **Swing-out Rotor Set**

- or **Swing-out Rotor & Accessories**

Technical Data



Heated Bench Top Centrifuge

<u>Type:</u>	electronic without rotor
<u>Temperature range:</u>	ambient to +70°C ±1°C
<u>Max. capacity:</u>	4 x 100 ml buckets
<u>Cooling:</u>	air cooled
<u>Min. speed rpm:</u>	100 min ⁻¹ (in steps of 1 rpm)
<u>Max. speed rpm:</u>	13500 min ⁻¹ (actual achievable speed depends on the rotor-type)
<u>Max. permitted speed rpm:</u>	3000 min ⁻¹ (due to safety reasons)
<u>Timer:</u>	0 to 60 min or permanent mode and automatic cut-off
<u>Pre-selectable:</u>	speed, gravitational field, time and temperature
<u>Digital indication:</u>	speed, working time, rotor & bucket combination with their data and heating temperature
<u>Programming:</u>	all parameters, customer programs, program memory of 50 data sheets
<u>Operation:</u>	self-explanatory single-knob control
<u>Noise level at max. speed:</u>	approx. 73 dB (A)
<u>Max. acceleration:</u>	approx. 29 sec.
<u>Max. deceleration:</u>	approx. 28 sec.
<u>Kinetic energy max.:</u>	106.950 Nm
<u>Safety:</u>	vibration detector, cover (not explosion proof!)
<u>Dimensions (H x W x D):</u>	425 x 574 x 685 mm
<u>Weight:</u>	116 kg without rotor

Main Unit

13-2160	<p>Centrifuge PetroCEN "Heatable" up to +70°C ±1°C <u>Lubricating Oil Tests:</u></p> <p>ASTM D 91 - JIS K2503 Precipitation Number</p> <p>ASTM D 893 Insolubles in Used Lubricating Oil</p> <p>ASTM D 2273 - JIS K2503 Trace Sediment</p> <p>ASTM D 2711 Demulsibility Characteristics</p> <p><u>Amount of Water & Sediment:</u></p> <p>API 2542 - AASHTO T 55 - JIS K2601 (ASTM D 96, BS 4385) Crude Oil (Field Test)</p> <p>ASTM D 4007 (IP 359) Crude Oil (Laboratory Test)</p> <p>ASTM D 1796 - API 2548 (DIN 51 793, IP 75) Fuel & Crude Oil (Laboratory Test)</p> <p>ASTM D 2709 Middle Distillate Fuel</p> <p>ISO 3734 Residual Fuel Oil</p> <p>ISO 9030 Crude Petroleum</p> <p><u>Note!</u> For more details see "Technical Data" section</p> <p>Power supply: 230 V, 50/60 Hz, 7 A only!</p>
13-2161	<p>Centrifuge PetroCEN "Heatable" up to +70°C ±1°C <u>Like 13-2160 but:</u> Power supply: 120 V, 50-60 Hz, 7 A only!</p>

Options & Accessories

13-2142	<p>Rotor Set with conical 8"-tubes ASTM D 91, ASTM D 96, ASTM D 893, ASTM D 1796, ASTM D 2711, ASTM D 4007, ISO 3734, ISO 9030</p> <p><u>Consisting of:</u> 1 swing-out-head with 4-test places (13-2143), 4 buckets with thread (13-2144), 4 conical, 8-inch test tubes (13-2145)</p> <p><u>Note!</u> Max. permitted speed 3000 rpm</p>	
13-2143	<p>Rotor, swing-out type with 4-test places ASTM D 91, ASTM D 96, ASTM D 893, ASTM D 1796, ASTM D 2273, ASTM D 2709, ASTM D 2711, ASTM D 4007, ISO 3734, ISO 9030</p> <p><u>Note!</u> Already included in Rotor-Set (13-2142)! Test tubes, buckets and pads are subject to separate order. Max. permitted speed 3000 rpm</p>	
13-2145	<p>Conical Tube, 8" , 100 ml, approx. Ø 37 x 200mm ASTM D 91, ASTM D 96, ASTM D 893, ASTM D 1796, ASTM D 2711, ASTM D 4007, ISO 3734, ISO 9030</p> <p>(range:subdivision 0-0.5:0.05 / 0.5-2:0.1 / 2-3:0.2 / 3-5:0.5 / 5-10:1 / 10-25:5 / 25-100:25 ml)</p> <p>Already included in Rotor-Set (13-2142)!</p>	
13-2146	<p>Rubber Pad for 8" conical / trace tube Already included in Rotor-Set (13-2142)!</p>	

13-2144	Bucket with rubber pad and thread for 8" conical / tracetube. <u>Note!</u> Already included in Rotor-Set (13-2142)!
13-2153	Hazard-Reduction-Cap for 8" conical / trace tube
13-1077	Rack, 6-place, for 8" conical / trace tube
13-0087	Liquid Bath, 6-place Range: ambient to +150 °C Openings: Ø 51 mm Power supply: 230 V, 50/60 Hz
13-1078	Stoppers, cork (19-16/27), pack of 50
13-2151	Rack on castors with 2 doors Dimensions (W x D x H): 571 x 635 x 470 mm

Spare Parts

13-2157	Seal for centrifuge lid
13-2158	Wedge Belt for centrifuge

Order Guideline

Minimum equipment:	1x 13-2160, 1x 13-2142
Spares (approx. 1 year):	Tubes (see above)
Additional requirements:	