

Constituent Separation by Centrifuge - PetroCEN (semi-automatic) ASTM D 2709

ASTM D 2709

Product group(s):

Fuel

User group(s):

Biofuel, Crude Oil

Scope:

This test method covers the determination of the volume of free water and sediment in middle distillate fuels having viscosities at 40°C (104°F) in the range of 1.0 to 4.1 mm²/s (1.0 to 4.1 cSt) and densities in the range of 770 to 900 kg/m³.



Constituent Separation Test Equipment

ASTM D 2709

to be composed of:

- **Centrifuge "Heatable"**

Requirements:

Test Temperature: 21 - 32 °C

Relative centrifugal force: 500 to 800 rcf

Test time: 10 min.

- **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 self-explanatory single-knob control
<u>Operation:</u>	
<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>
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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>
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Options & Accessories

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>
13-1076	<p>Trace Tube, 8", 100 ml, approx. Ø 37 x 200 mm ASTM D 2273, ASTM D 2709</p> <p>(range:subdivision 0-0.01:0.005 (tip) / 0.01-0.05:0.01 / 0.05-0.5:0.05 / 50 / 100 ml)</p>
13-2146	<p>Rubber Pad for 8" conical / trace tube Already included in Rotor-Set (13-2142)!</p>
13-2144	<p>Bucket with rubber pad and thread for 8" conical / tracetube. <u>Note!</u> Already included in Rotor-Set (13-2142)!</p>
13-1077	<p>Rack, 4-place, for 8" conical / trace tube</p>
13-1078	<p>Stoppers, cork (19-16/27), pack of 50</p>
13-2151	<p>Rack on castors with 2 doors Dimensions (W x D x H): 571 x 635 x 470 mm</p>

Spare Parts

13-2157 Seal for centrifuge lid

13-2158 Wedge Belt for centrifuge

Order Guideline

Minimum equipment: 1x 13-2160, 1x 13-2143
Spares (approx. 1 year): Tubes (see above)
Additional requirements: