

Constituent Separation by Centrifuge - PetroCEN (semi-automatic) ASTM D 1796

ASTM D 1796

Product group(s): Fuel

User group(s): Crude Oil

Scope: This test method covers the laboratory test for determination of water and sediment in fuel oils by using the centrifuge method in the range from 0 to 30 % volume.



Constituent Separation Test Equipment ASTM D 1796 - API 2548 (DIN 51 793, IP 75)

to be composed of:

- **Centrifuge "Heatable"**
Requirements:
Test Temperature: 60 ±1 °C
Relative centrifugal force: 500 to 800 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 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>
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 / trace tube. <u>Note!</u> Already included in Rotor-Set (13-2142)!
13-2153	Hazard-Reduction-Cap for 8" conical / trace tube
13-1077	Rack, 4-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:	