

Constituent Separation by Centrifuge - PetroCEN (semi-automatic) ASTM D 2273

ASTM D 2273, JIS K2503

Product group(s): Fuel

User group(s): Crude Oil, Fuel Oil

Scope: This test method covers the determination of trace amounts (less than 0.05 volume %) of sediment in lubricating oils. Since oil-soluble material precipitated by the specified solvent is not intended as part of the measured sediment, the test method is not applicable in cases where precipitated oil-soluble components will appreciably contribute to the sediment readings.



Constituent Separation Test Equipment

ASTM D 2273 - JIS 2503

to be composed of:

- Centrifuge "Non-Heatable"

Requirements:

Test Temperature: room

Relative centrifugal force: 600 to 700 rcf

Test time: 10 min.

- Swing-out Rotor

Further Applications:

for Centrifuge 13-2140 with Rotor 13-2143

Babcock bottle (ASTM D 1479 (obs.) etc.):

45 ml (16-0171) and Bucket with pad (13-2169)

Sulphonation flask (ISO 3840 etc.):

50 ml (13-0801) and Bucket with pad (13-2168)

Technical Data

Ambient Bench Top Centrifuge

<u>Type:</u>	electronic without rotor
<u>Temperature range:</u>	depending on type ambient
<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 and time
<u>Digital indication:</u>	speed, working time, rotor & bucket combination with their data and heating
<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

13-2140	Bench Centrifuge PetroCEN "Non-Heatable"
	<u>Lubricating Oil Tests:</u>
	ASTM D 91 - JIS K2503 Precipitation Number
	ASTM D 893 Insolubles in Used Lubricating Oil
	ASTM D 2273 - JIS K2503 Trace Sediment
	ASTM D 2711 Demulsibility Characteristics
	 <u>Amount of Water & Sediment:</u>
	API 2542 - AASHTO T 55 - JIS K2601 (ASTM D 96, BS 4385) Crude Oil (Field Test)
	ASTM D 4007 (IP 359) Crude Oil (Laboratory Test)
	ASTM D 1796 - API 2548 (DIN 51 793, IP 75) Fuel & Crude Oil (Laboratory Test)
	ASTM D 2709 Middle Distillate Fuel
	ISO 3734 Residual Fuel Oil
	ISO 9030 Crude Petroleum
	 <u>Note!</u> For more details see "Technical Data" section
	Power supply: 230 V, 50/60 Hz, 1200 W, 5 A

13-2141	Bench Centrifuge PetroCEN "Non-Heatable"
	<u>Like 13-2140 but:</u>
	Power supply: 120 V, 50/60 Hz, 1200 W, 12 A

Options & Accessories

13-2143	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
	<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
13-1076	Trace Tube, 8", 100 ml, approx. Ø 37 x 200 mm
	ASTM D 2273, ASTM D 2709
	(range:subdivision 0-0.01:0.005 (tip) / 0.01-0.05:0.01 / 0.05-0.5:0.05 / 50 / 100 ml)
13-2146	Rubber Pad for 8" conical / trace tube
	Already included in Rotor-Set (13-2142)!
13-2144	Bucket
	with rubber pad and thread for 8" conical / tracetube.
	<u>Note!</u> Already included in Rotor-Set (13-2142)!
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 13-2140, 1x 13-2143, 4x 13-1076, 4x 13-2146, 4x 13-2144
Spares (approx. 1 year): Tubes (see above)
Additional requirements: