

# Micro Carbon Residue Tester

Alcor's MCRT-160 provides **safe, simple measurement** of a petroleum product's tendency to thermally degrade and form coke under high temperature pyrolyzing conditions. Its **powerful digital control over all ASTM D 4530 test steps** delivers results equivalent to Conradson Carbon (ASTM D 189) with significantly less inconvenience or fuss. A typical D 189 carbon residue analysis can easily take 90 minutes or more of a skilled operator's time. The MCRT-160, on the other hand, **frees skilled lab personnel for more important tasks**. The operator only has to weigh the initial and final samples and start the test. The MCRT-160 automatically executes the factory programmed ASTM D 4530 test program. Plus, for **added convenience and versatility**, it can even be programmed to automate your own specialized time-temperature test profiles.

## ADVANTAGES:

- *One button test*
- *Automates ASTM D 4530 carbon residue testing with Conradson Carbon (ASTM D 189) equivalence*
- *Compact footprint*
- *Processes up to 12 samples simultaneously*
- *Fully automatic heating & pyrolysis*
- *User-programmable oven time-temperature sequences for custom test procedures*
- *Automatic, constant flow control with front panel flow meters & controls for easy adjustment and monitoring of gases during test*
- *Sealed oven & directed exhaust provide clean, fume-free analysis*
- *Routine analysis for carbon residue from less than 0.1% to over 30%*

## METHODS:

ASTM D 4530  
 ASTM D 189  
 IP 398  
 ISO 10370  
 ISO 6615  
 DIN 51551  
 GB/T 17144  
 JIS K 2270



# MCRT 160: Micro Carbon Residue Analysis

## D 4530 TESTING, MICROPROCESSOR PRECISION

- Proven, patented Alcor technology as specified in ASTM D 4530
- Precisely, automatically controls each test step — from initial sample warm-up through final cooldown
- One button test initiation
- Overnight test mode
- Displays test status on LED readout for easy viewing
- Continually monitors temperature and nitrogen pressure, alerting technician when parameters exceed operation and/or safety limits

## ULTIMATE TESTING VERSATILITY

- Processes up to 12 samples simultaneously, enhancing laboratory's test productivity
- Allows standard sample to be run with every test for verification of test accuracy
- Accommodates sample sizes from 0.1 to 2 grams (depending on carbon residue content)
- Permits routine analysis for carbon residue from 0.1% to over 30%

## ENVIRONMENTALLY FRIENDLY OPERATION

- Sealed oven and directed exhausts results in much cleaner analysis compared to Conradson Carbon
- Nitrogen purge gas continuously blankets oven and removes harmful vapor, which are either condensed into an external trap or vented to exhaust

## SPECIFICATIONS

<b>Ordering Information</b>	<b>MCRT-160 Micro Carbon Residue Tester</b> for safe, precise indication of petroleum materials' relative coking tendency. Microprocessor-controlled instrument supplied with 2 ml and 15 ml vials (for 180 tests), glass condensate trap with gasket, sample baskets for 2 ml and 15 ml vials, oven seal lid, exhaust chimney, and user manual. – P/N 85435-111: 120 VAC, 50/60 Hz – P/N 85435-221: 230 VAC, 50/60 Hz (European power cord) – P/N 85435-231: 230 VAC, 50/60 Hz (UK power cord)
<b>Standard Test Method</b>	ASTM D 4530, equivalent to Conradson Carbon (ASTM D 189), D 189; IP 398; ISO 10370, 6615; DIN 51551; GB/T 17144; JIS K 2270
<b>Patents</b>	4,568,426 and 4,680,167
<b>Operation</b>	Oven Capacity: 600 ml (approximate) Temperature Range: Ambient to 775°C Time Control: Multiple programmable steps (seconds, minutes, hours for each step) Overnight Test Mode: Continues nitrogen flow for up to 16 hours after cool-down
<b>Safety</b>	Temperature: High temperature limit-switch with auto shut down and audible alarm; test won't start in over-temperature state Nitrogen Flow: Automatic flow control with internal pressure regulator to maintain constant pressure; pressure gauge in kPa and PSIG scales; pre-test low/high flow check and adjustments; low pressure switch with auto shut down and audible alarm
<b>Requirements</b>	Nitrogen: 135 to 1000 kPa (20–145 psig); cylinder preferred, approx. 37L (1.3 ft <sup>3</sup> ) per 95 minute test Electrical: Voltage selector switch, easily convert: 120VAC & 230VAC IEC-320 connector for detachable power cord Other: Close proximity to hood for vapor exhaust; access to analytical balance (0.1 mg accuracy)
<b>Physical</b>	Dimensions (WxDxH): 26 x 38 x 56 cm (10¼ x 15 x 22 inches) Weight: 13 kg (28½ pounds)
<b>Optional Accessories</b>	Carbon Residue Reference Samples: P/N 73122: Low Carbon #1, 0.3% Carbon* P/N 73130: Low Carbon #2, 2.4% Carbon* P/N 73123: Medium Carbon, 10.6% Carbon* P/N 73124: High Carbon, 24.1% Carbon* * Exact %Carbon content may change without notice Vials: P/N 17622: Small (2 ml), box of 144 P/N 17623: Large (15 ml), box of 144 P/N 17659: Tall (4 ml), box of 144

Due to continuing product development, specifications subject to change at any time without notice.



## FOR ADDITIONAL INFORMATION:

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