

Zematra

"Your reliable partner in testing"

Automated Stability Analyser Model ASTM D7060-12

For residual refinery streams and heavy fuel oils



Features:

- Highly improved detection of flocculation point using the latest fibre optic techniques
- Considerable reduction in manpower involvement during operation
- Improved repeatability of results
- The analyser is composed of standard, widely available parts
- Easy access and processing of historical data.

The analyser determines the P-value and the Po/Frmax of Residual and heavy fuel oils according to ASTM D7060-12 and Shell Methods SMS 1600/SMS 2715.

Measuring Principle

By use of modern Fibre Optic techniques.

The sample becomes unstable after injection of a measured quantity of Cetane. The point of instability (asphaltene flocculation point) is determined by measuring the reflection of light by the asphaltenes which have precipitated on the glass surface of the Optrode device.

The stability reserve (P-value) is automatically calculated on basis of the measured quantities of Cetane required to reach the point of instability.

Technical information:

Voltage:	220 – 240 volts AC,50/60 Hz,1000 Watt
Dimensions:	55cm wide X 52cm deep X 45 cm high
Weight:	27 kg
Computer:	7,5 kg, 45cm x 27cm x 50cm
Monitor:	8 kg, 45cm x 46cm x 16cm
Printer:	5,5kg, 50cm x 30cm x 28cm

All weights are net weights
Catalog No. 1001470

Additional Equipment:

- A balance with an accuracy of 0.01 grams is required for preparation of the sample.
- A balance and an additional Dosimat are required to dilute the samples for the determination of the Po and FRmax values.

Required reagents:

Cetane ASTM grade and 1-methylnaphtalene 95% min of purity.

Definitions of P-value and Po/ FR.max:

1) P-value = 1 + Critical Cetane dilution

The critical Cetane dilution is the number of millilitres of Cetane with which one gram of the sample can be diluted until it just does not flocculate the asphaltenes.

2) Po

Po is defined as the peptising power. It is the percentage by volume of 1-Methyl-Naphtalene in a mixture of 1-Methylnaphtalene and Cetane having the same peptisation characteristics for the asphaltenes as the oil medium in the sample. By definition the peptising power of 1-Methylnaphtalene=100 / Cetane = 0

3) Frmax

Frmax is defined as the maximum flocculation ratio of the asphaltenes in the sample. It is the flocculation ratio at infinite dilution of the sample.

4) P ratio = Po/Frmax.