Double D86 Distillation Productivity and Reduce Product Giveaway

AC8612™

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AC8612

Traditionally, gasoline and gasoline related streams are analyzes using ASTM D86 physical distillation to determine boiling point range. The boiling point is important in monitoring process performance and product quality.

Fast D86 Analysis

Gas chromatography and Thermodynamics are the basis of the AC Analytical Controls AC8612 Analyze, reporting boiling range data for naphtha and gasoline samples within D86 groups 0, 1 and 2.

Within just eight minutes it provides a complete D86 report, including detailed hydrocarbon analysis. A True Boiling Point (TBP) report is also available. All calculations are made based on the 'Film Fugacity Model'*, and correlate perfectly to D86 physical distillation results.

The solution consists of a user friendly compact Agilent Technologies 6850 gas chromatograph configured with:

- A flame ionization detector (FID)
- A split/splitless inlet
- An automatic liquid sampler

Save Time and Cost

AC8612 performs continuous analysis with minimal operator involvement, saving up to 75% on the labor costs of traditional D86 methods. AC Analytical Controls has also developed the AC8634 analyzer to determine boiling range data in D86 groups 3 and 4. Two traditional D86 units perform only two analyses per hour. Combining the AC812 and AC8634 applications enables you to perform eight analyses per hour.

High Safety Level

Concerns about user safety are now a thing of the past. The AC8612 eliminates any potential fire hazards issues often associated with traditional D86 physical distillation.

For more information on the Fugacity-Filmmodel please refer to the Journal of Chromatographic Science vol.36, September 1998, page 467 - 475.

KEY BENEFITS

- **Fast D86 analysis**
- **Accurate analysis within D86 limits**
- **Less product give-away due to superior precision**
- **High automation allows unattended analyses**
- **High Safety Level**
- **Reduces cost of operation and labor cost**

APPLICATION

- **Atmospheric Distillation**
- **Simulated Distillation**
- **Gasoline, Naphtha and group 0,1 and 2 sample types**
- **Fast D86 screening**

METHODS

Correlates to:

- **ASTM D86 standard**

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ac® ANALYTICAL CONTROLS by PAC

AC8612™ Superior Analysis Performance

Extensive side by side testing using different sample types including alkylate, naphtha, reformate, FCC and gasoline from different sites in Asia, Europe and the USA proves C8612 data to correlate extremely well with classical D86 data method. (figure 1)

Apart from excellent D86 correlation, AC8612 has superior precision results compared to physical distillation. This allows results well within D86 specifications, and opens the door for further product give-away optimisation. (figure 2)

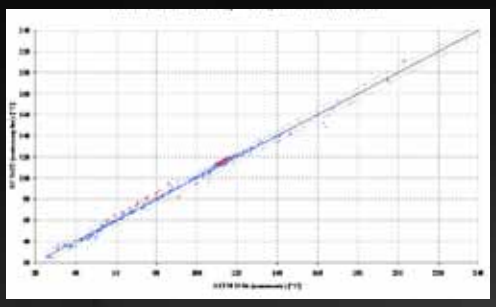

Figure 1: AC8612 precision (Blue) compared to D86 physical destillation (Red) - n=38 samples. D86 specifiies precision +/- 5° and +/- 8° for repeatability and reproducibility. It is clear that AC8612 outperforms physical destillation and leads to less product giveaway!

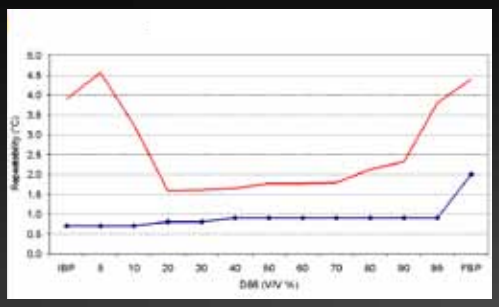

Figure 2: Exemplary AC8612 correlation with D86 physical destillation - n=29 samples, n=425 analyses.

SPECIFICATIONS

Analysis Scope		
Sample matrix	Naphta	
	Gasoline	
	Reformate	
	Alkylate	
	FCC	
Analysis range	<C15	D86 BP Range groups 0,1 and 2
Precision	D86	
Ordering in formation		
CCG2120AA	AC 8612 SYSTEM ON 120V 7890 GC	
CCG2120AC	AC 8612 SYSTEM ON 230V 7890 GC	
ACG2120AA	AC 8612 SYSTEM ON 120V 6850 GC	
ACG2120AC	AC 8612 SYSTEM ON 230V 6850 GC	
65986.420	Kit, Consumables AC 8612 /6850	
20001.206	n-Paraffin Calibration sample nC5-nC44	
20001.207	Quantitative Reference (PIONA) standard	
20001.300	Reformer Feed	
20001.302	FCC Naphtha	
20001.303	Isomerate	
20001.304	Alkylate	
20001.305	Gasoline K	

During the factory performance test and onsite installation an AC engineer will validate your system using QC samples from sample mix boxes included with the system

Due to continuing product development, specifications are subject to change at any time without notice. All products are CE compliant.

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