



– CUSTOMER SUCCESS STORY –

HOLBORN Europa Raffinerie GmbH, Hamburg, Germany

Holborn

For over 30 years, HOLBORN Europa Raffinerie GmbH, a refinery in Hamburg-Harburg, Germany, has been supplying northern Germany with various fuels and heating oils. And for over 30 years, Anton Paar instruments have been supporting its quality control lab in the process.



Fuel analysis in the central laboratory.



Holborn and Anton Paar

Turning up to five million tons of crude oil into gasoline, diesel, heating oil, and feedstock for the chemical industry every year is no easy task. A refinery of Holborn's size has a lot of moving parts – over 300 employees work on a space of almost 100 hectares – which makes quality control a crucial part of its success.

At Holborn, quality control happens in a central laboratory, which has been led by Stephan Bischoff since 2016. Three Anton Paar instruments support him and his team on a daily basis: a DMA 48 benchtop density meter, an SVM 3001 viscometer, and a DMA 4100 M benchtop density meter. With these instruments, Bischoff's lab can accurately measure some of the most important parameters for Holborn's final products: viscosity and density.

“

*We've always had
good experiences with
Anton Paar.*

”



Holborn refinery crude oil distillation plant.

Challenges and Opportunities

Like most refineries, a major challenge for Bischoff's quality control lab is space. And by space, Bischoff means a lack of it. Since his lab doesn't have space to spare, his team can't conduct all viscosity measurements with an automated glass capillary viscometer. But that's no problem with Anton Paar's SVM 3001.

The Anton Paar instruments don't just save space in the lab. They also save his team valuable time. As Bischoff says, "It's really all about time. We save so much time when we use Anton Paar's measuring method."

Holborn has been using one of Anton Paar's instruments – the DMA 48 – since the late 1980s. "That says a lot about the instrument," explains Bischoff. "It's just unbreakable." The refinery has also had good experiences with Anton Paar's service over the decades because the same technician has been reliably servicing its Anton Paar instruments for years.

Even when more challenging issues presented themselves, Holborn could rely on Anton Paar. When Holborn first bought its DMA 48, for instance, it had to be sent back to Anton Paar for repair due to its use with challenging samples. But, as Bischoff highlights, the entire process was smooth. "Since we got a replacement instrument so quickly," he remembers, "we could take it right out of the box and keep production going without a hitch. The whole process was easy."

“

*We save so much time
when using Anton Paar's
measuring method.*

”



Chimneys of the Holborn refinery in Hamburg-Harburg.

INSTRUMENTS: DMA 48, DMA 4100 M, SVM 3001

SAMPLES: Diesel, gasoline, heating oil, marine fuel oil, LPG, cyclohexane

MEASUREMENT PRINCIPLE:

Density: The heart of a modern digital density meter is the measuring sensor (oscillator), usually a U-shaped tube that is electronically excited to oscillate at its characteristic frequency. The characteristic frequency changes depending on the density of the filled sample. Via a precise measurement of the characteristic frequency, the true density of the sample is determined.

Viscosity: The highly precise SVM smart viscometers are based on a modified Couette measuring principle and consist of a viscosity cell and a density cell. The compact viscosity measuring cell contains a tube that rotates at constant speed and is filled with sample fluid while a measuring rotor with a built-in magnet floats freely in the sample. The sample's shear forces drive the rotor while magnetic forces delay its rotation. Shortly after the measurement begins, the rotor reaches equilibrium speed, which translates into the fluid's viscosity. The kinematic viscosity is automatically calculated from the dynamic viscosity and density of the sample.

MEASURED PARAMETERS: Density, viscosity

