

## MEASURING INSTRUMENTS & SYSTEMS

### Gas Chromatography / Mass Spectrometry System

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- screening petroleum products – diesel fuel, petrol, E85 fuel and other mixed fuels containing FAME and vegetable oil
- Identifying denaturants in alcohol and alcoholic beverages, together with semi-quantitative assessment.

### Fourier-Transformation Infra-Red (FT-IR) Spectrometry System

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- control and evaluation unit and software for assessment of the FAME content and application of a statistical model to identify deviations in the quality of motor-vehicle fuels by statistical comparison of IR spectra and the measured values for:
  - assessment of physical and chemical parameters of the fuels
  - assessment of contaminants, and
  - Identification of probable origin of the respective fuel.
- octane number ratings (RON and MON)
- benzene, toluene, xylene, and Total Aromatic Compounds
- oxygenates (MTBE, ethanol, tert-butyl alcohol, ETBE, metyesl and ethyesl) according to ASTM 5845

### Micro-Distillation System

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- assessment of the distillation characteristics for petroleum products using the micro-distillation method in compliance with the specifications of ASTM D7345 or a similar method ensuring compatibility of results with ASTM D 86 (categories 0, 1, 2, 3, 4), ČSN EN ISO 3405, and ASTM D1160

## Energy-Dispersive X-ray Fluorescence (ED-XRF) Spectrometry System

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- assessing content of elements in fuels, focused on assessment of lead and sulphur (in correlation with the ASTM D7220, EN ISO 20847 or EN ISO 8754 Standards)

## Flash Point System

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- Assessment of the flash-point with the aid of the Pensky–Martens closed-cup flash-point test in compliance with the ČSN EN ISO 2719 Standard.

## Density and Viscosity (Simultaneous) System

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- measuring of dynamic and kinematic viscosity and density of petroleum products in compliance with the specifications of ASTM D7042.

## Density Measurement System using U-tube Oscillation Tube for:

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- measuring density of liquids and alcohol content in liquids with subsequent data processing and calculations of the alcohol content and residual extract in mass percentage values

## Raman Spectrometry System

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- identification of unknown organic and hazardous substances - at least 10.000 substances, including methanol in drinks and beverages.

## Handheld X-ray Fluorescence (XRF) Spectrometer for:

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- identification of unknown substances, especially metals, precious metals, and hazardous substances (heavy metals, polybromated substances) - at least from Mg to U from periodic table of elements.

## Alcoholometric Set

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- measuring the alcohol content in drinks and beverages.

## Manual Fuels Sampling Set

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- sampling flammable substances from a depth of approx. 20 m, 1,000 ml, from non-sparking metals – with an attestation for the use in an explosive environment according to the EN 13463-1 Standard (petrol sampling), equipped with a suitable reel and rope

## Set for Tax Stamps Testing

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- testing the authenticity of tax stamps on alcoholic beverages and tobacco products.

## Automatic Fuel Sampling Systems from Bottom-Filled Cisterns

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- sampling, homogenization, returning and cleaning - for diesel fuels
- sampling, homogenization, returning and cleaning - for gasolines