

## Analytical equipment

ReiCat is able to measure the following parameters with modern analysing techniques:

- ◆ Organic carbon in exhaust gas via FID measurement (mgC/m<sup>3</sup>)
- ◆ Helium leak test using a pressure probe
- ◆ Concentration measurement of oxygen, nitrogen oxides, CO and CO<sub>2</sub>
- ◆ Gas sampling for further analysis

### Organic carbon via FID

#### Measuring principle

The sample gas is burned in a hydrogen flame. This way the containing carbon compounds are converted into the ions of the combustion products, which can be detected by the flame ionisation detector.

The measuring value is displayed as mgC/m<sup>3</sup>.

#### Application scope

The measurement is primarily applied to exhaust gas processes, where the environmental impact is a major indicator for the process quality.

#### Measuring range

0-160000 mgC/m<sup>3</sup>

### Helium leak test

#### Measuring principle

One part of the existing unit is pressurized with helium. The leaking gas is gathered by a pressure probe and lead to the analyzer by means of the vacuum inside the device.

The detector is a mass spectrometer which is tuned to helium. The leak rate is displayed in mbar L/s, which is an indicator for the tightness of the unit.

#### Application scope

The measurement is mainly applied to plant construction jobs, when special valuable or dangerous gases are being handled.

#### Detection limit:

1x10<sup>-7</sup> mbar\*L/s

### Exhaust gas analysis

#### Measuring principle

The gas sample is drawn by using an integrated membrane pump. The actual measurement is executed with several electrochemical measuring cells for: CO, NO, NO<sub>2</sub> und O<sub>2</sub>.

#### Application scope

With this measurement the impurities of industrial exhaust gas can be detected and determined. A measurement according to 1. BimSchV is possible as well.

#### Measuring range

O<sub>2</sub>: 0-25 %vol., resolution: 0.001 %vol.  
 CO: 0-8000 ppm, resolution: 1 ppm  
 NO: 0-2000 ppm, resolution: 1 ppm  
 NO<sub>2</sub>: 0-200 ppm, resolution: 1 ppm  
 Gas temperature: -10 bis +1200 °C

### Gas sampling

#### Principle

The gas sample is drawn into special previously evacuated containers.

The containing gas can be used for further analysis.

#### Application scope

With this procedure almost every established analytical method, e.g. GC, GCMS, IR, etc. may be applied.

#### Measuring range:

Depending on the relevant method.



FID



Exhaust air analysis



Helium leak test



Gas sampling

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