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Test report on the ADOS gas sensoric GW 399/GTR 196 for the measurement of oxygen, hydrogen as well as CnHm (methane, propane, butane, xylene, ethanol, nonane), ammonia and hydrogen sulphide.



SUMMARY

At the request of the ADOS GmbH the KEMA Netherlands B.V. company carried out a function check of the gas sensoric GW 399/GTR 196 in accordance with the following performance requirements and test procedures:

- EN 50104 Electric equipment for the detection and measurement of oxygen
- EN 61779-1 and EN 61779-4: Electric equipment for the detection and measurement of combustible gases
- EN 45544-1 and EN 45544-2: Electric equipment for direct detection and direct measurement of the concentration of toxic gases and vapours.

The measurement principle of the sensors is based on electro-chemical reaction (TOX measurement head) for measuring oxygen content; for toxic gases and vapours and combustible gases, the principles of heat reaction are used (VQ measurement head).

For oxygen measurements, the sensor is suitable for the measurement of oxygen-deficiency, oxygen enrichment as well as oxygen-inertion.

For toxic gases and vapours, the sensor is suitable for the measurement of ammonia and hydrogen sulphide. For combustible gases, the sensor is suitable for the measurement of hydrogen, methane, propane, butane, xylene, ethanol and nonane.

Accordingly, the sensor (GTR 196) was tested for the components listed below, in the corresponding measurement ranges:

Table 1: Test Gases and Measurement Ranges for ADOS Gas Sensoric GW 399 / GTR196

Application		Measurement range	Standard test gas	Analyser measuring range
O ₂	Enrichment	0 to 21 % V/V	10 % V/V	0 to 25 % V/V
O ₂	Inertion	21 to 25 % V/V	23 % V/V	0 to 25 % V/V
O ₂	Deficiency	0 to 21 % V/V	10 % V/V	0 to 25 % V/V
CH ₄			2.5 % V/V	0 to 4.4 % V/V
H ₂ S			100.3 ppm(v)	0 to 200 ppm(v)
NH ₃			2.8 % V/V	0 to 3.0 % V/V

It can be deduced from all the test results, that the performance of the ADOS gas sensoric GW 399/GTR 196 conforms to the recommendations specified in the performance requirements of EN 50104, EN 61779-4 and EN 45544-2.