# TECHNICAL DATA

## Wöhler A 550 INDUSTRIAL


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| **Intended uses** | Use the Wohler A 550 INDUSTRIAL to perform emissions analysis in industrial applications including boiler and burner testing, heat processes, engine and turbine testing. The logger function allows user configurable longterm operation |
| **Applications and functionality** | The robust Wöhler A 550 Flue Gas Analyser offers a variety of measurements:<br>· Efficiency testing<br>· Emission testing<br>· Supply Air testing<br>· CO Ambient testing<br>· Wood Moisture testing |
| **Scope of delivery in the basic version** | · $O_2$, NO, COHigh, $NO_2$, $SO_2$ sensor<br>· Probe and hose assembly with 3,000 mm hose<br>· Modular Flue Gas Probe 1,000 mm with sinter filter<br>· Ambient Temperature Probe (plug) USB-Charger with micro-USB-cable<br>· 1 Water stop filter<br>· 1 Coarse Filter<br>· 25 Wadding filters |

## Technical Data

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| Oxygen ($O_2$) concentration in flue gas | Display | volume % referenced to dry flue gas |
| | Measurement principle | electrochemical sensor |
| | Range | 0.0 to 21.0 % |
| | Accuracy | ± 0.3 Vol. -% |
| Carbon monoxide in flue gas (CO 100,000 ppm) | Display | volume ppm referenced to dry flue gas |
| | Measurement principle | electrochemical sensor |
| | Range | 0 to 100,000 vol. ppm, resolution 1 vol.-ppm |
| | Accuracy | ± 100 Vol. ppm (< 1,000 ppm), otherwise 10% of reading (when $H_2$ < 5 % of reading) |
| Carbon monoxide in flue gas (CO 10,000 ppm) $H_2$ compensated | Display | volume ppm referenced to dry flue gas |
| | Measurement principle | electrochemical sensor, $H_2$-compensated |
| | Range | 0 to 10,000 Vol. ppm, resolution 1 Vol.-ppm |
| | Accuracy | ± 20 Vol. ppm (< 4,000 ppm), otherwise 5% of reading |
| Carbon dioxide concentration ($CO_2$) in flue gas, NDIR | Display | Carbon dioxide concentration |
| | Measurement principle | NDIR |
| | Range | 0 ...40 Vol. % |
| | Accuracy | 0...6 Vol. %: ±0,3 Vol. %<br>6...40 Vol. %: ±5 % of reading |
| Hydrogen sulfide concentration $H_2S$ in flue gas | Display | volume ppm referenced to dry flue gas |
| | Measurement principle | electrochemical sensor |
| | Range | 0 ...350 ppm |
| | Accuracy | 0...40 ppm: ±2 ppm<br>40...350 ppm: ±5 % of reading |
| Nitric oxide concentration (NO) in flue gas | Display | volume ppm referenced to dry flue gas |
| | Measurement principle | electrochemical sensor |
| | Range | 0 to 3,000 vol. ppm (continuously up to 1,000); resolution 0.1 vol. ppm (<1,000 vol. ppm), otherwise 1 vol. ppm |
| | Accuracy | Resolution 0.1 ppm, ±5 vol. ppm (<100 vol. ppm), otherwise 5 % of reading |
| Nitrogen dioxide concentration ($NO_2$) in flue gas | Display | volume ppm referenced to dry flue gas |
| | Measurement principle | electrochemical sensor |
| | Range | 0 to 1,000 Vol. ppm (continuously up to 200 vol. ppm); resolution 0.1 vol. ppm |
| | Accuracy | ±5 vol. ppm (<100ppm), otherwise 5 % of reading |
| Sulfur dioxide ($SO_2$) in flue gas (option) | Display | volume ppm referenced to dry flue gas |
| | Measurement principle | electrochemical sensor |
| | Range | 0 to 5,000 vol. ppm<br>resolution 0.1 vol. ppm (< 1,000 vol. ppm), otherwise 1 vol. ppm |
| | Accuracy | ± 10 vol. ppm (< 200 ppm), otherwise 5 % of reading |
| Differential pressure ($P_D$) | Display | Pascal |
| | Measurement principle | Semi conductor diaphragm |
| | Range | 0.00 to ± 110.00 hPa, resolution 0.1 Pa (<1000,0 Pa), otherwise 1 Pa |
| | Accuracy | 0.3 Pa (<10 Pa), otherwise 3% of reading<br>Drift < 0.2 Pa in 5 minutes |

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| Flue gas temperature ($T_S$) | Display | °C |
| | Measurement principle | Thermocouple (NiCr-Ni) |
| | Range | -20.0 °C to 800.0 °C, resolution 0.1 °C |
| | Accuracy | 0 - 133 °C ± 2°C; 133 to 800 °C: 1.5% of reading |
| Flue gas temperature ($T_S$) High Temperature Probe | Display | °C / °F |
| | Measurement principle | Thermocouple Type K (NiCr-Ni |
| | Range | -20.0 °C to +C50 1.200 °C, resolution 0.1 C |
| | Accuracy | ± 1°C |
| Combustion air temperature ($T_A$) | Display | °C |
| | Measurement principle | Thermocouple (NiCr-Ni) |
| | Range | -20.0 °C to 100 °C, resolution 0.1 °C |
| | Accuracy | ± 1°C |
| Wood moisture | Reading | water mass related to the absolute dry fuel mass |
| | Measurement principle | resistance measurement |
| | Range | 10.0 to 40.0 %, resolution 0.1 % |
| | Accuracy | 40 % of reading |
| | wood temperature | 5 to 25° C |
| | lifetime of the electrodes | Depending on the frequency of utilization The electrodes will work correctly, if there is no surface damage or bending. |
| Power supply | Lithium-Ion, rechargeable battery 3.7 V, 6700 mAh, charges via USB | |
| Battery Operation time | Approx. 7 h (depends on operation status and display illumination) | |
| Charging cycles of the batteries | After 500 charging cycles, at least 70% of the capacity are still available | |
| Storage Temperature | -20 °C to 50 °C | |
| Operation temperature | +5 °C to 40 °C to maintain stated accuracy | |
| Relative humidity | 30% to 70 % | |
| Weight | 1,250 g | |
| Dimensions | 220 x 160 x 55 mm (without probe) | |
| Length of cable hose | 3 m | |
| Degree of protection | IP 40 | |

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