

Wastewater Gas Analyser - WGA020

RELIABLE N₂O, CH₄ AND CO₂ EMISSIONS MONITORING AND O₂ CONTROL FOR WASTEWATER TREATMENT PLANTS



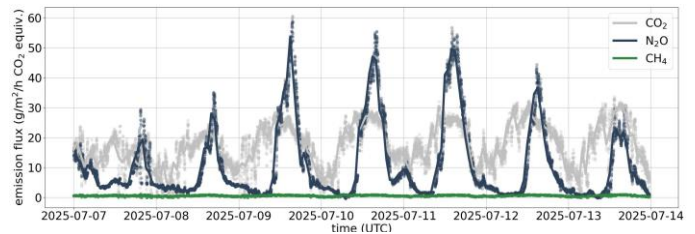
GAS-FREE
OPERATION



LOW
MAINTENANCE



LOW POWER
CONSUMPTION



Example field measurements of N₂O (blue), CO₂ (grey) and CH₄ (green) emissions with respect to their greenhouse gas potential.

**Because accuracy matters.
For the right decisions.**

KEY FEATURES

HIGH-PRECISION MEASUREMENTS

- Real-time monitoring of N₂O, CH₄, CO₂ and O₂ concentrations from aerated basins
- Automatic calculation of net emission rates
- High temporal resolution (1 min averages)
- Integrated cross-sensitivity calibration and zero-drift correction
- Temperature-stabilised instrument and sensor housing for minimal drift

RELIABLE LONG-TERM OPERATION

- Sample-air drying protects sensor from humidity-related degradation
- Rugged, weatherproof enclosure (IP64)
- Robust stainless-steel sampling hood

EFFICIENT & SAFE

- Gas-bottle-free operation
- Low maintenance interval (1 year)

FLEXIBLE FLOATING SAMPLING HOOD

- Adapts to dynamic water levels

OPTIONAL FEATURES

- TWO SAMPLING HOODS
- HEATED SAMPLING LINE
- USE OF VENTILATION AIR AS BACKGROUND

REFERENCE

- REMOTE DATA ACCESS (LAN OR LTE)

TECHNICAL DETAILS

Measured gases	N ₂ O, CO ₂ , CH ₄ , O ₂
Measurement principle	Non-dispersive infrared (NDIR) for N ₂ O, CO ₂ , and CH ₄ ; Electrochemical sensor for O ₂ Automatised cross-interference correction and sample-air drying for maximum accuracy and sensor longevity
Measured parameters	Sample and background concentrations, sample flow, net emissions fluxes, ambient temperature and pressure, system health parameters
Operating temperature	-10°C to + 40°C
Time resolution	1 s internal, averaging to 60 s
Power supply	230 V AC
Power consumption	80 W (analyser) + 0-156 W (opt. heating, temp. and length dependent)
Dimensions	Mounting rack: 1540 mm x 500 mm x 340 mm, Sampling hood: 890 mm x 760 mm x 240 mm
Weight	Mounting rack including instrument unit and power heating unit: ~35 kg, Sampling hood: ~ 8 kg, Equipment: ~ 5 kg
User interface	Touch display, web interface from connected PC or internet
Data interfaces	Ethernet, additional data storage on USB flash drive optional: remote VPN access via internal LTE-modem
Data format	Text format (UTF-8)
Sample flow	0-20 slm (total), approx. 0.2 slm (analysed)
Sampling area	approx. 0.3 m ² , optional: 2 x 0.3 m ²
Sampling line	Length: 3-7 m, typical 5 m

MEASUREMENT RANGES AND LIMIT OF DETECTION

Gas	Measurement range	Limit of detection (3σ)	Emission rate sensitivity (σ)*
N ₂ O	0-1000 ppm	0.5 ppm	0.3 mg/m ² /h
CO ₂	0-10 Vol. %	40 ppm	24 mg/m ² /h
CH ₄	0-1000 ppm	5 ppm	1.1 mg/m ² /h
O ₂	0-100 Vol. %	Absolute: 0.1 Vol. % or Relative: 0.5 % of reading	n/a

*Refers to a flux of 1 m³/h/m²



Airyx main webpage
www.airyx.de



Airyx WGA product webpage
<https://airyx.de/wastewater-gas-analyser>



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Airyx technology patent pending: PCT/EP2024/087231