

Online analytical
instrumentation &
systems



Model WIM 9900 Wobbe Index, CARI and Heating Value Analyser

Measures Wobbe Index, Combustion Air Requirement (CARI) and Calorific Value of natural gas, fuel gas, coke oven gas, biogas, etc.

- Rugged design
- Residual oxygen content principle
- Suitable for outdoor installation (no need for expensive HVAC unit)
- Insensitive to ambient temperature fluctuations
- Fast response ($T_{90} < 5$ sec)
- High accuracy and low noise
- Automatic calibration
- Effective measuring range 0-100% FS
- Output in MJ/Nm³, MJ/Sm³ and BTU/SCF
- MODBUS RTU (RS485)
- Optional specific gravity output
- Suitable for installation in Ex environment
- Minimal maintenance
- Flameless analyser
- Suitable for corrosive and dirty applications



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Specifications

| | |
|---------------------|---|
| Service | Natural gas, fuel gas, biogas, flare gas etc. |
| Measuring principle | Residual oxygen method |
| Sample wetted parts | SS316, Hastelloy C and Platinum |
| Installation | ATEX Cat 2G EExp dem (ib) IIC T3 (Zone 1) ATEX Cat 3G Ex purge (Zone 2) NEC/NFPA Zone 2 purge |

Measuring ranges

| | |
|---------------------------|--|
| Wobbe Index | 50 MJ/Nm ³ span in 0-100 MJ/Nm ³ range |
| Calorific Value (option) | 50 MJ/Nm ³ span in 0-120 MJ/Nm ³ range |
| Specific Gravity (option) | 0-3 |
| Accuracy | ± 0.4 % of full scale for natural gas |
| Repeatability | ± 30 KJ/Nm ³ |
| Drift | < 0.05% of full scale/day (typical) |
| Response time | T ₉₀ < 5 seconds |

Outputs

| | |
|------------------|--|
| Display | Full colour TFT screen for trend display |
| Analogue outputs | 2 off isolated 0/4-20 mA (optionally up to 4) |
| Digital outputs | Malfunction, calibration status, calibration alarm |
| Digital input | Start calibration / Start validation |
| Communication | MODBUS RTU (RS485) |

Utilities

| | |
|-------------------|--|
| Power supply | 220 Vac 50 Hz / 110 Vac 50/60 Hz |
| Power consumption | Indoor installation 350 VA max; outdoor installation 850 VA max |
| Instrument air | 10 nl/min at 3 barg minimum 30 nl/min for Ex purge option 50 nl/min for vortex cooler option |
| Sample flow | 1 nl/min |
| Sample pressure | 1.5 – 5 barg (20-70 psig) (consult factory for lower or higher supply pressure) |

Installation

| | |
|----------------------|--|
| Mounting | Wall mounting / mounted on a free standing frame |
| Dimensions (HxWxD) | 1 x 1 x 0.4 m / 1.8 x 1.2 x 0.5 m depending on version |
| Weight | 60 - 150 kg, depending of version |
| Enclosure protection | IP65 |
| Ambient temperature | 10° to 40°C (standard version) (temperatures as low as -20°C with optional heater installed) (temperatures as high as 55°C with optional cooler installed) |

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