

**Technical data**Analyser

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|-------------------------------|---|
| Housing: | steel sheet housing, 19" format 5 RU, IP 52; 665 mm x 360 mm x 440 mm (w x h x d), weight approx. 40 kg |
| Measuring methods: | - bi-frequency measuring method (NO ₂ , SO ₂ , HF*, H ₂ O, CO ₂) - gas filter correlation (CO, NO, HCl, NH ₃ , N ₂ O, CH ₄) - zirconium dioxide cell (O ₂) |
| Number of meas. components: | max. 8 infrared components (dependent on application) and oxygen, optional: TOC, C _n H _m |
| Measuring range switch-over: | automatical, 2 measuring ranges selectable for each infrared component |
| Accuracy: | < 2% of the respective measuring range |
| Temperature influence: | < 2% of the respective measuring range, respectively 10 K |
| Zero point correction: | automatical, once per day (zero point drift < 1% per month) |
| Sensitivity correction: | with test gas, once in 3 months (sensitivity drift < +/-2% per month) |
| Cross-sensitivity correction: | internal |
| Response time: | T ₉₀ < 180 s (depending on plant and chosen component) |
| Instrument air quality: | DIN ISO 8573-1 class 2 |
| Display/operating: | 7.4" graphic display (LCD, black/white), 640 x 480 Pixel, background-lighted; menu-driven operating; languages: German, English; membrane keyboard (numeral and cursor keys) |
| Power supply: | 115/230 V (+10% / -15%), 50/60 Hz, 800 W |
| Photometer: | - spectral range: 1...16 µm - gas path: continuously heated, standard 185 °C (higher temperatures on request, max. 200 °C) - path length of measuring cell: 5.6 m, optionally up to max. 12 m (with raw gas: 0.2 m) - dead volume of measuring cell: < 1 l (with raw gas: < 0.2 l) - flow: 200 ... 600 l/h - particle filter: 2 µm stainless steel frit, sintered |

System

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|----------------------------|--|
| Analysers cabinet: | steel sheet cabinet, 800 mm x 2100 mm x 600 mm (w x h x d) incl. base, IP 54; weight approx. 200...300 kg (dependent on application) |
| Ambience: | placement of analyser cabinet in air-conditioned analyser container possible |
| Ambient temperature: | 5...35 °C |
| Relative humidity: | max. 80% (non-condensing) |
| Measuring gas connections: | Measuring gas inlet: 6 mm Swagelok screwing (standard) Measuring gas outlet: 6 mm fitting (standard) |
| Interfaces: | I/O module box, RS232 |
| Digital outputs: | failure, maintenance, maintenance requirement, measuring range switch-over, limit values (optional) |
| Analogue outputs: | 8x 4 ... 20 mA, oxygen via PLC, further on request |
| Remote control: | internal modem for remote diagnosis |
| Power supply: | 230/400 V, 50/60 Hz, 5000 W (analyser cabinet, air-conditioner, probe) + 100 W/m measuring gas pipe |
| Suitability test: | DIN EN 15267, QAL1, ID: 0000025929; DIN EN 15267-3, certification: MCERTS, Cert.-No.: Sira MC070115/01; DIN EN 15267-3, TA Luft, 13 th , 17 th , 30 th BImSchV (as system part) |
| Optional: | - TOC measurement - limit value signalling - link-up of external signals (e.g. dust and flow measuring devices) |

* not part of the suitability test

Special models are possible on request.

**MCA 04**
Product Information

The multi component analyser MCA 04 serves the continuous emission measurement of pollutants in flue gas (e.g. CO, NO, N₂O, NO₂, NH₃, HCl, SO₂, HF*, CH₄*) and the measurement of CO₂, H₂O and O₂ as well as the continuous process control.

The device is suitability tested according to DIN EN 15267-3 and certified in compliance with QAL1 as well as MCERTS Performance Standards. As a part of the analyser system MCA 04 it is suitability tested and certified for systems after "TA Luft", 13th, 17th and 30th BImSchV according to DIN EN 15267-3.

Application

The MCA 04 is applicable all-purpose for measurement of emissions, raw gases or processes. As system in regulatory and operational emission measurement systems, amongst others, it serves the exhaust concentration control in combustion plants with different types of fuel, the thermal waste treatment, the combustion optimisation and the process management control.

Application examples:

- Power plants
- Waste incineration plants
- Refineries
- Cement industry
- Industrial exhaust air
- Paper mills
- Glass industry
- Chemical industry

**Function**

By the functional principle of the MCA 04 up to eight infrared gas components can be detected simultaneously. As measuring methods bi-frequency measuring method and gas filter correlation are applied. Optionally, an oxygen measurement via zirconium dioxide cell is possible.

The analyser evaluates internally all specification-depending required concentrations with all necessary compensations and standardisations. Via the integrated graphic display all information for measurement and settings are visualised. The operating is carried out via a membrane keyboard.

Optionally, the additional connections at the device can be used for connection of external devices (e.g. for measurement of total organic carbon). Furthermore, via the analyser cabinet the measurement of mercury is possible.

* not part of the suitability test

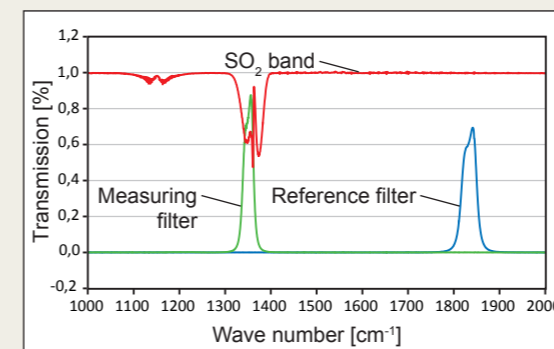
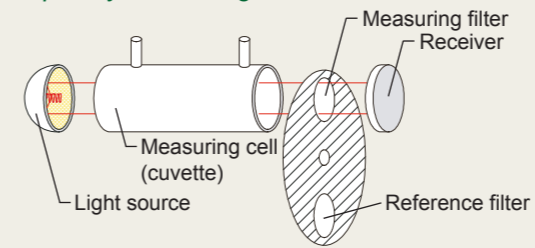
Measuring ranges

| Component | Certification range | Measuring range 2 |
|---|---------------------------|----------------------------|
| CO | 0...75 mg/m ³ | 0...300 mg/m ³ |
| CO ₂ | 0...20 vol. % | - |
| NO | 0...200 mg/m ³ | 0...395 mg/m ³ |
| NO ₂ | 0...50 mg/m ³ | 0...1000 mg/m ³ |
| N ₂ O | 0...50 mg/m ³ | 0...1000 mg/m ³ |
| NH ₃ | 0...30 mg/m ³ | 0...75 mg/m ³ |
| SO ₂ | 0...75 mg/m ³ | 0...300 mg/m ³ |
| HCl | 0...15 mg/m ³ | 0...90 mg/m ³ |
| HF* | - | 0...20 mg/m ³ |
| CH ₄ * | - | 0...50 mg/m ³ |
| H ₂ O | 0...40 vol. % | - |
| TOC, C _n H _m (optional) | 0...15 mg/m ³ | 0...30 mg/m ³ |
| O ₂ | 0...25 vol. % | - |

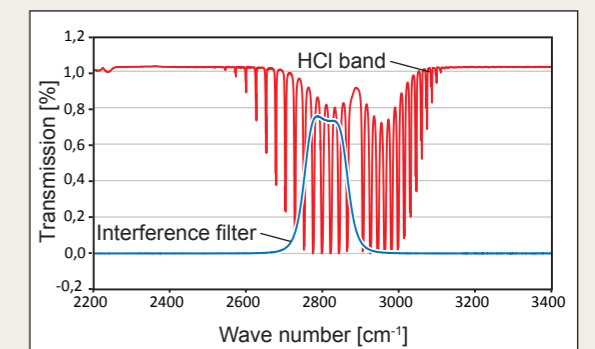
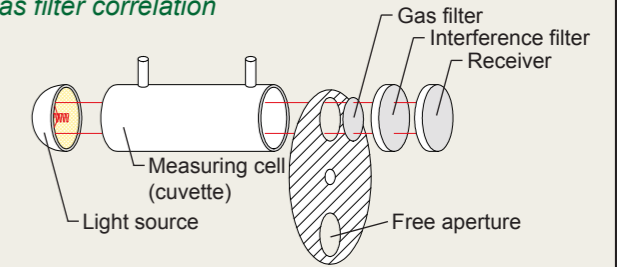
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Measuring methods

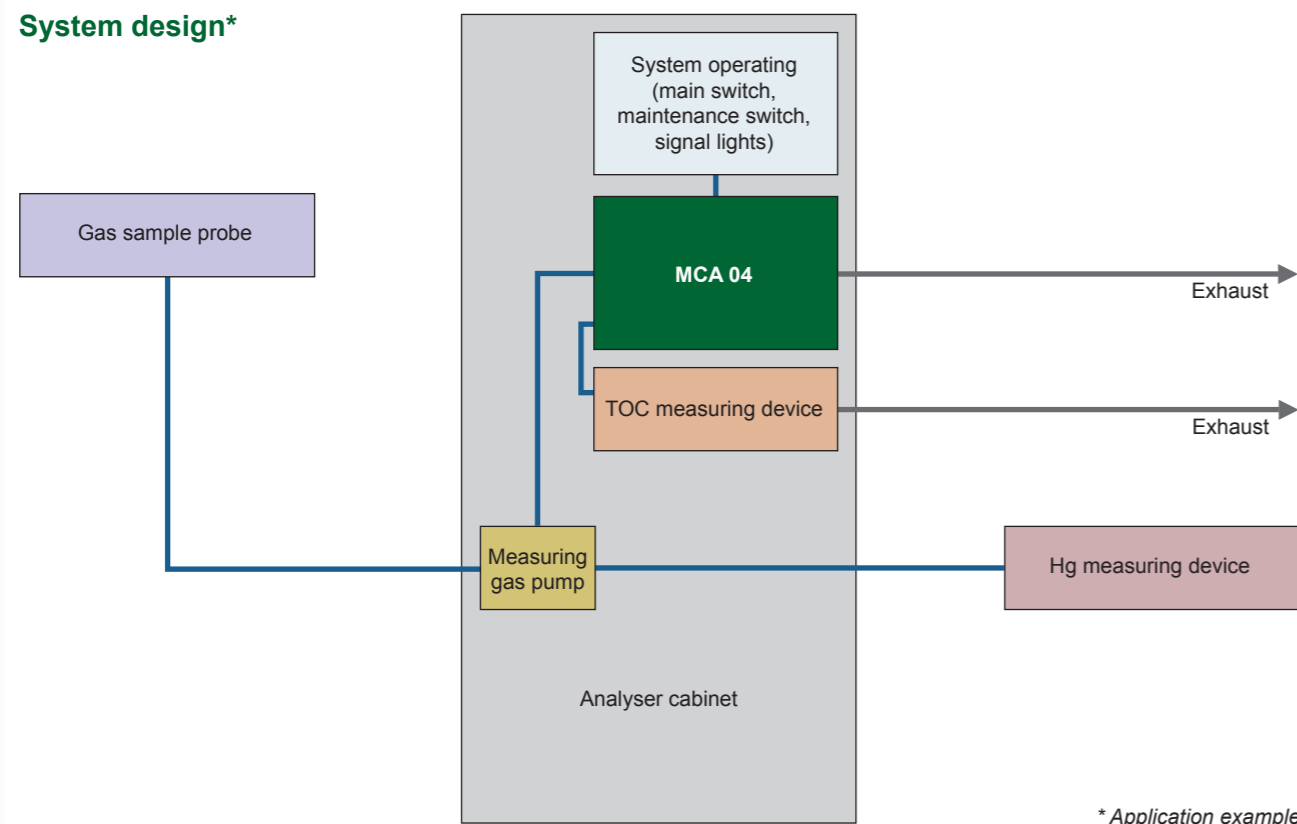
Bi-frequency measuring method



Gas filter correlation

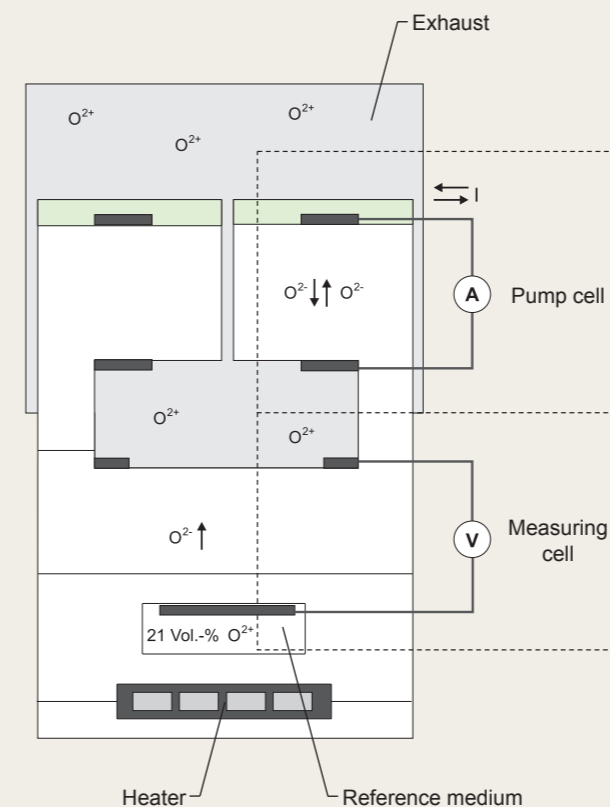


System design*



* Application example

Zirconium dioxide cell



Highlights of the device

- modularly structured hot gas analyser system
- continuous, extractive measurement of up to eight infrared components
- long operation times, high availability (> 98%)
- compact 19" insertion of the analyser → easy mounting
- easy system design
- pre-calibrated → immediately deployable
- remote diagnosis and system setting via integrated modem
- deliverable as emission measuring device in analyser container (completely equipped, accessible, air-conditioned) for several application ranges (e.g. for systems requiring approval and systems according to 27th BImSchV)
- first-class price-performance ratio