

MRU – sustainable  
analysing technology  
for more than 30 years!

# MRU FOR PROFESSIONAL MEASUREMENTS



PRODUCT OVERVIEW

## MRU GMBH

MRU is a globally acting, successful German manufacturer of high-quality and long-lasting Emission Monitoring Systems for installers and industry.

Founded in 1984 MRU developed into a nationally as well as internationally respected enterprise.

At its headquarters in Neckarsulm-Obereisesheim, Germany, MRU develops, produces and sells Emission Monitoring Systems for portable and stationary use all around the world, employing approx. 100 people. Continuous innovation is the source for the success of MRU. The range of products includes standard equipment as well as customer specific instruments.



Together with its MRU-owned Service Centers and Sales Representations in Germany, Italy, Slovenia, Croatia, Russia, USA and Turkey as well as its tight Partner Network in 70 countries all around the world MRU focuses on high-quality, innovative measurement technology and a worldwide leading market position.

## MAIN APPLICATIONS



Service and maintenance of all residential and commercial burners and boilers



Maintenance and exhaust gas analysis of industrial burners, combined heat power engines and turbines



Flue gas emission monitoring at industrial sites as well as for combustion optimisation



Continuous combustion monitoring, process gas and special syngas measurements



Biogas analysis of anaerobic digester plants, biomethane production, landfill sites, water treatment plants

## COMBUSTION OPTIMISATION PRODUCTS

### OMS420

compact model

in-situ oxygen O<sub>2</sub> and combustibles CO<sub>e</sub> monitor for all clean flue gas measurements

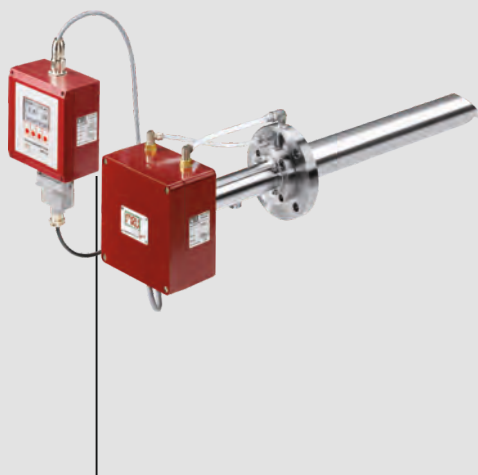


- simultaneous measurement of O<sub>2</sub> and CO<sub>e</sub>
- with flow guidance tube for up to 1000°C gas temperature
- fast and simple on site service
- optional automatic calibration using one gas cylinder
- 24Vdc power supply of probe head transmitter
- 2 channel analog output 4-20mA, Modbus RTU over RS485 interface

### OMS420-RT

remote transmitter model

in-situ oxygen O<sub>2</sub> and combustibles CO<sub>e</sub> monitor for all dusty/dirty flue gas measurements

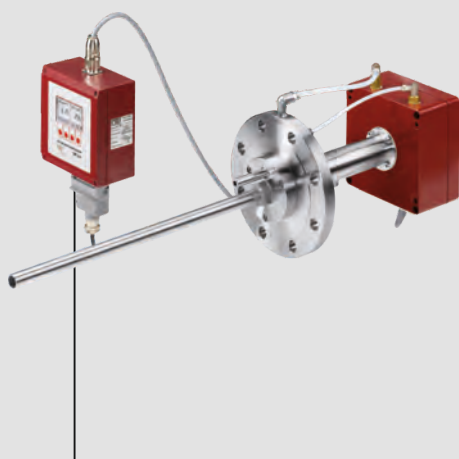


- simultaneous measurement of O<sub>2</sub> and CO<sub>e</sub>
- with flow guidance tube for up to 1000° C gas temperature
- included blowback (back-purge) of probe head
- optional automatic calibration using one gas cylinder
- universal 90 – 240 Vac power supply of probe transmitter
- 2 channel analog output 4-20 mA, RS 485 with Modbus RTU

### OMS420-HT

high temperature model

in-situ oxygen O<sub>2</sub> and combustibles CO<sub>e</sub> monitor for all very high temperature flue gas measurements



- simultaneous measurement of O<sub>2</sub> and CO<sub>e</sub>
- with ceramic tube for up to 1700° C gas temperature
- included blowback (back-purge) of probe head
- optional automatic calibration using one gas cylinder
- universal 90 – 240 Vac power supply of probe transmitter
- 2 channel analog output 4-20 mA, RS 485 with Modbus RTU

# PORTABLE COMBUSTION ANALYSER

## DELTA*smart*

smallest handheld 3-gas flue gas analyser



- for check residential and commercial boilers
- measures O<sub>2</sub>, CO, NO,  $\Delta P$  and  $\Delta T$
- calculates CO<sub>2</sub>, NO<sub>x</sub>,  $\eta$  combustion efficiency, heat loss
- integrated pressure manometer and dual thermometer
- on site replaceable, pre-calibrated electrochemical cells
- data storage on SD-card, USB and Bluetooth data transfer
- powerful lithium battery, touch screen colour TFT display
- certification: TÜV By, RgG 283, VDI 4206-1, EN 50379

## OPTIMA 7

worldwide unique handheld 7-gas flue gas analyser



- for multi-gas analysis of industrial plants, engines, turbines
- 7-gas measurement O<sub>2</sub>, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, CO<sub>2</sub>, CxHy
- true NO<sub>x</sub> measurement, also  $\Delta P$  and  $\Delta T$  and FLOW
- calculates CO<sub>2</sub>,  $\eta$  combustion efficiency, heat loss
- integrated pressure manometer and dual thermometer
- data logger on SD-card, USB and Bluetooth data transfer
- powerful lithium battery, large colour TFT display
- certification: TÜV By, RgG 283, VDI 4206-1, EN 50379

## NOVA*compact*

rugged and portable 5-gas flue gas analyser



- for all gas, oil and solid fuel combustions
- measures O<sub>2</sub>, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>
- true NO<sub>x</sub> measurement, also  $\Delta P$  and  $\Delta T$
- combustion calculations CO<sub>2</sub>,  $\eta$  efficiency, heat loss
- integrated pressure manometer and dual thermometer
- Peltier gas cooler and condensate draining pump
- powerful lithium battery, large colour TFT display
- certification: TÜV By, RgG 283, VDI 4206-1, EN 50379



# SEMI-CONTINUOUS PORTABLE EMISSION ANALYSER

## NOVAplus



multifunctional, portable 8-gas flue gas analyser with wireless Remote Control Unit

- for all gas, oil and solid fuel combustions
- measures O<sub>2</sub>, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S, CO<sub>2</sub>, CxHy
- true NO<sub>x</sub> measurement, also  $\Delta P$  and  $\Delta T$  and FLOW
- combustion calculations CO<sub>2</sub>,  $\eta$  efficiency, heat loss
- Peltier gas cooler and condensate draining pump
- heated sampling line and probe filter, automatic zeroing
- automatic measurement with data logging
- certification: MCERTS, TÜV By, RgG 296, VDI 4206-1, EN 50379

## VARIOplus



semi-continuous, portable 9-gas flue gas analyser with complete sample conditioning system

- for all industries combustions, laboratories and research
- measures O<sub>2</sub>, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S, CO<sub>high</sub>, CO<sub>2</sub>, CxHy
- combined electrochemical and infrared NDIR measurement
- true NO<sub>x</sub> measurement, also  $\Delta P$  and  $\Delta T$  and FLOW
- Peltier gas cooler and condensate draining pump
- heated sampling line and probe filter, automatic zeroing
- automatic measurement with data logging
- complying to methods ctm032, ctm034, ASTM D6522

## MGA5plus



high precision, portable infrared flue gas analyser with complete sample conditioning system

- for all industries combustions, laboratories and research
- measures O<sub>2</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>
- EN14181 certified infrared NDIR multi-gas measurement
- true NO<sub>x</sub> measurement with catalytic converter
- dual Peltier gas cooler and condensate draining pump
- heated sampling line and probe filter, automatic zeroing
- automatic measurement with data logging
- complying to methods ctm032, ctm034, ASTM D6522

# CONTINUOUS EMISSION MONITORING SYSTEMS

## SWG 100CEM



economical solution for continuous flue gas emission monitoring at low scale boilers and engines

- continuous measurement of O<sub>2</sub>, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>
- infrared measurement of CO, CO<sub>2</sub> and HC
- Peltier gas cooler with automatic condensate draining
- use of heated gas sampling probes and gas sampling lines
- data logger on SD-card, large colour TFT display
- multiple I/O modules with 4 channel analog output 4-20 mA
- Modbus RTU over RS485 interface

## SWG 300-1



professional solution for continuous flue gas emission monitoring at any industrial combustion site

- complying extractive cold & dry measuring system
- infrared measurements of CO, CO<sub>2</sub>, NO, SO<sub>2</sub> and CH<sub>4</sub>
- electrochemical or paramagnetic cell for O<sub>2</sub> measurement
- use of heated gas sampling probes and gas sampling lines
- Peltier gas cooler with automatic condensate draining
- 8 channel analog output 4-20 mA, RS 485 with Modbus RTU

## SWG 300-1 Ex



professional solution for continuous flue gas emission monitoring in hazardous area zone 2

- complying extractive cold & dry measuring system
- infrared measurements of CO, CO<sub>2</sub>, NO, SO<sub>2</sub> and CH<sub>4</sub>
- paramagnetic cell for O<sub>2</sub> measurement
- H<sub>2</sub>S measurement by special electrochemical cell
- ATEX certified heated gas sampling probes and gas sampling lines
- Peltier gas cooler with automatic condensate draining
- 8 channel analog output 4-20 mA, RS 485 with Modbus RTU

# BIOGAS, BIOMETHANE, LANDFIL GAS ANALYSER

## OPTIMA7 *biogas*



smallest handheld biogas analyser for anaerobic digester, landfill site, water treatment plants

- for multi-gas analysis of anaerobic digesters, landfill sites
- simultaneous measurement O<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub> and H<sub>2</sub>S
- additional CHP exhaust gas measurement for CO and NO<sub>x</sub>
- including biogas pressure and FLOW measurements
- data logger on SD-card, USB and Bluetooth data transfer
- powerful lithium battery, large colour TFT display

## SWG100 *BIOcompact*



simple and economical solution for all small scale biogas applications

- sequential measurement of O<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub> and H<sub>2</sub>S
- condensate separator with automatic draining
- up to 2 sampling points switching
- for suction or pressurized biogas sampling
- data logger on SD-card, large colour TFT display
- 4 channel analog output 4-20 mA, Modbus RTU via RS 485 interface

## SWG100 *biogas*



professional solution for biogas analysis at all anaerobic digester, landfill site, water treatment plants

- continuous measurement of O<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub> and H<sub>2</sub>S
- Peltier gas cooler with automatic condensate draining
- up to 10 sampling points with automatic interval sampling
- for suction or pressurized biogas sampling
- increased safety measures
- data logger on SD-card, large colour TFT display
- multiple I/O modules with 4 channel analog output 4-20 mA
- Modbus RTU via RS 485 interface

# PRESSURE, TEMPERATURE, VELOCITY, HUMIDITY

## MFplus

multi-functional handheld analyser



- measurements of differential pressure and temperature
- leakage detection and tightness tests
- humidity, barometric pressure and flow velocity
- traverse points flow rate measurement EN16911
- data logger on SD-card, large colour TFT display

## DM 9200

high precision digital manometer



- measurements of different pressure ranges
- from 1 mbar to 7 bar (not within same instrument)
- automatic temperature compensation
- zero point adjustment via software
- internal data storage and infrared printing

## 300 HC

gas detector of combustible gases in ambient air



- measurements of combustibles in ppm, % and % LEL ranges
- programmable alarm thresholds
- audible and visual alarm

**MRU – sustainable analysing technology for more than 30 years!**

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