

# MGA<sup>5</sup>

## NDIR MULTI-GAS ANALYZER



Professional and portable analyzer  
for process gas monitoring



since 1984®

**AIR** fair

EMISSION MONITORING SYSTEMS

O<sub>2</sub>

CO<sub>2</sub>

CO

NO

NO<sub>2</sub>

NO<sub>x</sub>

SO<sub>2</sub>

H<sub>2</sub>

CH<sub>4</sub>  
C<sub>3</sub>H<sub>8</sub>

## NDIR MULTIGAS ANALYZER PROFESSIONAL AND PORTABLE PROCESS GAS MONITORING

High quality combustion analysis and monitoring of:

process gases / combustion emissions / heat efficiency at large boilers

The MGA 5 is a complete measuring system using NDIR technology and is designed for mobile, flexible use.

The analyzer is most suitable to measure high gas concentrations.

Efficient and economical, the MGA 5 analyzer is a perfect choice for a wide range of applications.

Continuous process gas, emission and combustion monitoring is now available in a mobile, high performance analyzer.

Compact design, light weight and customized configuration for measuring flue gas components are just a few of the many customer benefits.

### Important features and performance characteristics

- >> Double stage gas cooler with automatic condensate draining pump
- >> Heated gas sampling line (120" or 200") with 12" ... 80" sample tube
- >> Large, high contrast and backlit graphical display with zoom function
- >> Large fuel type list including user definable fuels and parameters
- >> RS 232 interface and internal data memory for approx. 8,500 measurements
- >> RS 485 interface for external MRU smart sensor (transmitter) connection
- >> Automatic interval measurement
- >> Data visualization and evaluation software for PC (32bit Data Logger)
- >> Solenoid valve for automatic zeroing plus calibration
- >> 8 channel analog output 4 ... 20 mA with user configurable output
- >> Universal analog input (4 ... 20 mA or 0 ... 10 V) or additional NiCrNi thermocouple input
- >> Internal battery, as protection against short power failure

### Interfaces:



RS 232 / 485:  
Data Transfer



4 ... 20 mA  
Connect to  
PLC

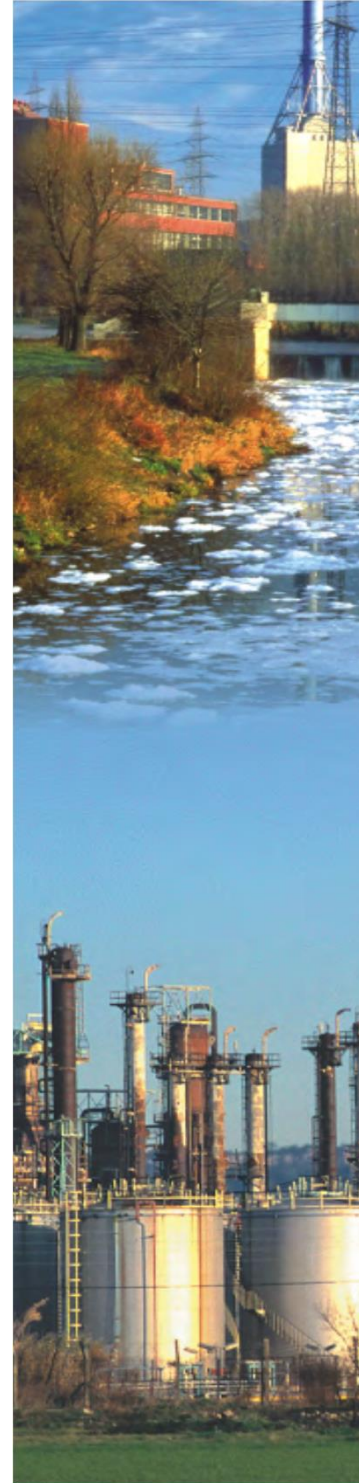
### OPTIONAL \*



SD card\*:  
4 GB  
Data Memory



AUX\*:  
For additional  
external sensors



# MGA 5

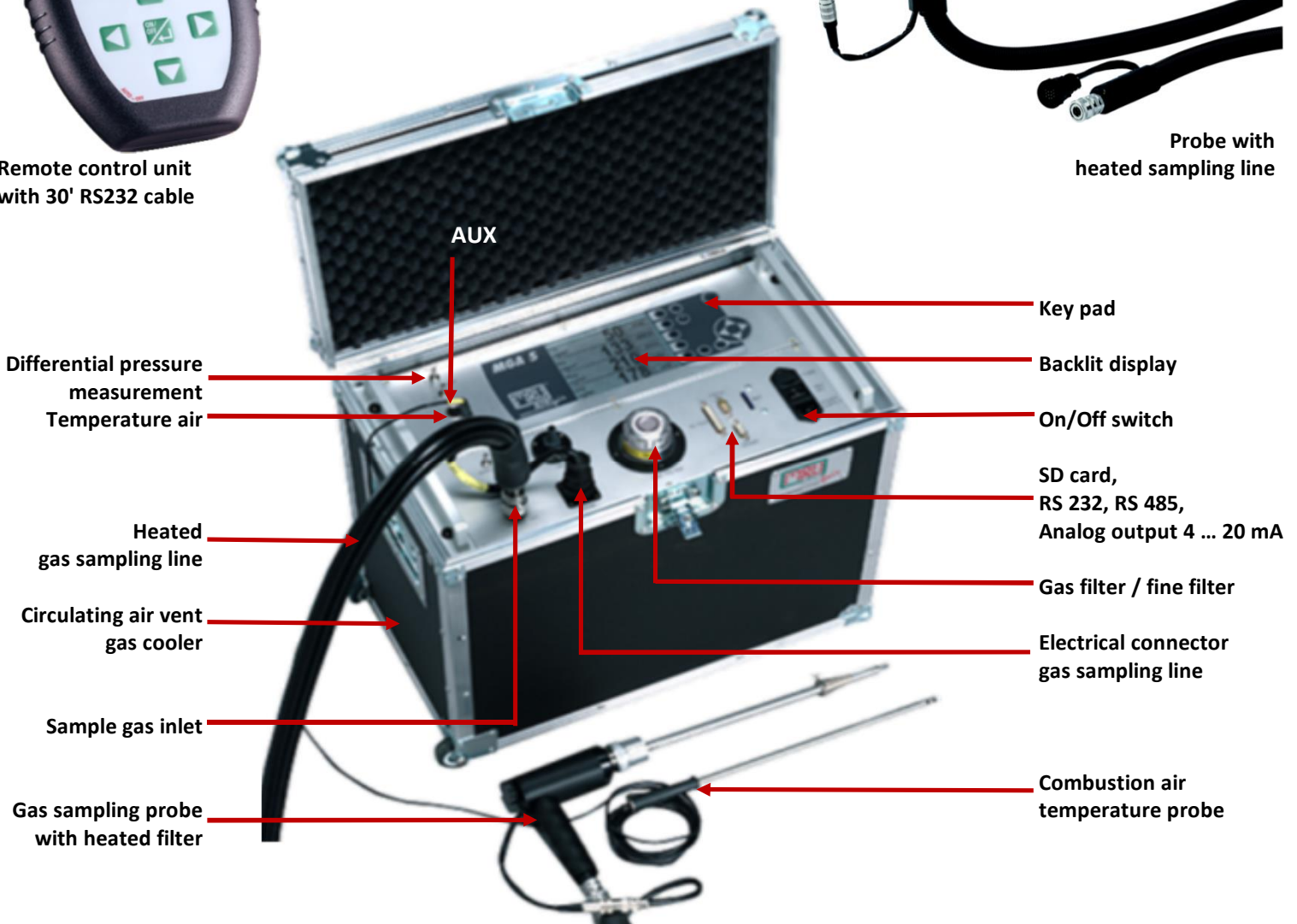
High quality combustion analysis and monitoring of:  
process gases / combustion emissions / heat efficiency at large boilers



Remote control unit  
with 30' RS232 cable



Probe with  
heated sampling line



### MGA 5 Portable multigas analyzer for combustion and emission testing

#### Measurement components

Electrochemical sensors	Measuring range	Accuracy	Measuring cell
O2 Oxygen	0 ... 21.0 Vol-%	± 0.2 Vol-% abs.	electrochemical

3-gas infrared bench	Min-Measuring range	Max-Measuring range	Linearity error
CO Carbon monoxide	0... 1,000 ppm	0... 100 %	3 % of full scale
CO2 Carbon dioxide	0... 3 %	0... 100 %	3 % of full scale
CxHy Hydrocarbons (as Methane CH4 or Propane C3H8)	0... 1,000 ppm	0... 100 %	3 % of full scale

2-gas infrared bench	Min-Measuring range	Max-Measuring range	Linearity error
NO Nitric oxide	0... 2,000 ppm	0... 5,000 ppm	3 % of full scale
NO2 Nitrogen dioxide	0... 500 ppm	0... 1,000 ppm	3 % of full scale

(Thermal conductivity detector)	Min-Measuring range	Max-Measuring range	Linearity error
H2 Hydrogen	0 ... 1 %	0... 100 %	2 % of full scale

Flue gas temperature TF	Measuring range	Accuracy
	32°F ... 1,200°F (0... 650 °C) with stainless steel probe tube	±2 °F <392 °F, 1 % of full scale >392 °F
	32°F ... 2,000°F (0... 1,100 °C) with Inconel steel probe tube	±2 °F <392 °F, 1 % of full scale >392 °F
	32°F ... 3,000°F (0... 1,700 °C) with ceramic probe tube	±2 °F <392 °F, 1 % of full scale >392 °F

Combustion air temperature TL	Measuring range	Accuracy
	32... 212°F	±1 °F
	0... 100 °C	±1 °C

Differential pressure measurement	Measuring range	Accuracy
	±40 inH2O (±100 hPa)	±0,01 inH2O or 1 % of full scale ±0,02 hPa or 1 % of full scale

Flue gas flow velocity measurement	Measuring range	Accuracy
	1 m/s ... 100 m/s	±1 m/s or 1 % of full scale

Calculated values	
	mg/m3, ppm and mg/m3 referenced to xx % O2, mg/s with Pitot tube

#### General specifications

Operation temperature	41°F .... 113°F, max. 90 % RH, non condensing
Storage temperature	-4°F ..... 122°F
Power supply	100 ... 240 Vac / 50 ... 60 Hz / 250W
Warm-up time	1h minimum
Response time T90	approx. 20 seconds of the analyzer sample gas inlet port
Display	full graphic LCD display with backlit
Data transfer	RS 232 digital, 8 channel analog output 4 ... 20 mA (not potential free)
Sample gas conditioning	integrated gas cooler with automatic condensate pump, dew point = 41°F (+5 °C)
Sample gas filtering	filtering particle size <2µ
Sample gas monitoring	flow measurement and supervision
Calibration	By software, calibration gases for every gas required, instrument air or clean ambient air for auto-zero
Ambient conditions	no use in hazardous, aggressive, corrosive or very high dust environments
Protection class	IP21
Dimensions	(W x H x D) 19.68" x 9.84" x 11.61", rugged, aluminum framed transport case (W x H x D) 500 x 250 x 295 mm, rugged, aluminum framed transport case
Weight	approx. 42 lbs. (19 kg)
Measured value stability	The aforementioned data are valid on condition that ambient conditions (e.g. sample flow, air temperature and pressure) are constant.
Further features	<ul style="list-style-type: none"> <li>- Measurement of the flue gas temperature with thermocouple in the probe</li> <li>- Heated gas sampling line (up to 5 m) with temperature regulation</li> <li>- Flow measurement with Pitot tube and emission calculation [mg/s]</li> <li>- Data recording of an external signal generator 4... 20 mA at AUX connector</li> </ul>