EMISSION MONITORING SYSTEMS

We *care* about the environment

FLUE GAS MEASUREMENT
multifunctional · flexible · comfortable

MRU AIR fair since 1984 ®
EMISSION MONITORING SYSTEMS

NOVA*plus*

More measurements
with only
one instrument

O2 | CO H2 comp. | CO high | NO | NO2 | SO2 | H2S | CO NDIR | CO2 NDIR | HC NDIR

NOVA plus

WHENEVER YOUR MEASURING UNIT NEEDS TO ACCOMPLISH MORE:

FLUE GAS *measurement*

oil, gas, solid fuel, etc. well-arranged display of the measuring results

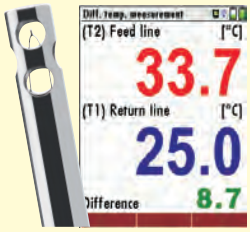
SOOT *measurement*

built-in electronic controlled heated probe shaft with soot filter

PRESSURE *measurement*

high precision, by using either internal or external sensors

TEMPERATURE *measurement*

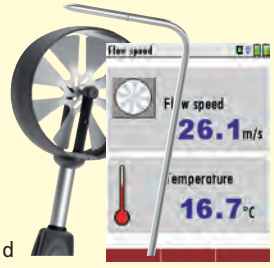


using thermocouples with 2 standard K-type sockets

GAS LEAKAGE *detection*

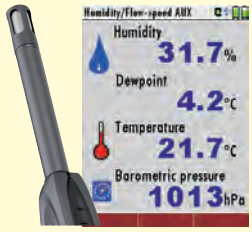
using HC-sniffer with cable and flexible detector head

FLOW-SPEED *measurement*



using vane probe or Pitot tube with flow rate calculation

HUMIDITY *measurement*



measurement of relative humidity, temperature and barometric pressure

Technical specifications options

Option	Measurement components	*range*	*accuracy*
Humidity measurements	**Humidity** **Barometric pressure** **Ambient temperature**	3 ... 98 % 300 ... 1.200 hPa - 20 ... + 80 °C	± 3% RH ± 3 hPa ± 1°C
Flow speed measurement	**– with Pitot tube** **– with vane probe**	3 ... 100 m/s 0,25 - 35 m/s	± 1 m/s ± 0,1 m/s or ± 3 % reading (depending on vane type)
HC detection	**Gas leakage detection**	5 ... 20.000 ppm	
Gas cooler with automatic condensate draining pump			
CO sensor purge using 2nd pump, for sensor protection			
Bluetooth communication with PC for data transmission			
Probe tubes from 300 mm up to 2.000 mm for T gas up to 1.700 °C			
External pressure sensors to be connected to wireless remote control"RCU Comfort Model" AUX			
Pre-filter for high concentrations of dirt			
Automatic measurement incl. data logging function, user-specific adjustable			

NOVA plus

MULTIFUNCTIONAL
FLEXIBLE
COMFORTABLE

THAT IS SPECIAL ABOUT

NOVA *plus*

Remote control unit RCU
small-sized, light-weight
with super bright,
colour 3,5" TFT display

Remote control unit in comfort edition also usable as a separate measuring instrument, e.g. for pressure, temperature, leakage detection, and more

built-in high speed printer
for graphical print-outs

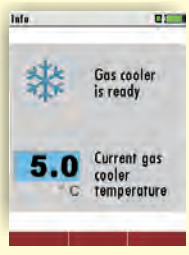
contactless RCU
charging (inductive)

easy-use interfaces:
SD card and USB

SD card and
data logging software

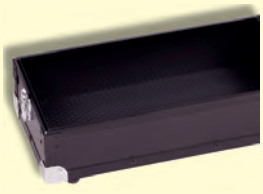
O2 | CO | NO
NO2 | SO2 | H2S
CO NDIR | CO2 NDIR | HC NDIR

up to 6 electrochemical
sensors and 3-gas NDIR bench



efficient, low
power gas cooler

Self diagnostics



attachable compartment
for accessories

Technical specifications

NOVA*plus* Multi purpose analyzer **Fuel types**	Instrument with up to 6 electrochemical cells, NDIR multi-gas bench and wireless remote control RCU natural gas, liquid gas, oil heavy, oil light, pellets, wood, coal; bio diesel, expandable fuel type list	
Measurement components:	*range*	*accuracy*
Oxygen O_2	0 ... 21,0 Vol-%	± 0,2 Vol-% abs.
Carbon monoxide CO (H2-comp)	0 ... 4.000 ppm * overload up to 10.000 ppm	± 10 ppm or 5 % reading up to 4.000 ppm** or 10 % reading up to 10.000 ppm**
Carbon monoxide CO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or 5 % reading**
Carbon monoxide CO high	0 ... 4.000 ppm * overload up to 20.000 ppm	± 100 ppm or 5 % reading up to 4.000 ppm** or 5 % reading up to 20.000 ppm**
Carbon monoxide CO very high	0 ... 4,00 % * overload up to 10 %	± 0,02 % or 5 % reading up to 4 %** or 10 % reading up to 10 %**
Nitric monoxide NO	0 ... 1.000 ppm * overload up to 5.000 ppm	± 5 ppm or 5 % reading up to 1.000 ppm** or 10 % reading up to 5.000 ppm**
Nitric monoxide NO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or 5 % reading**
Nitric dioxide NO_2	0 ... 200 ppm * overload up to 1.000 ppm	± 5 ppm or 5 % reading up to 200 ppm** or 10 % reading up to 1.000 ppm**
Sulfur dioxide SO_2	0 ... 2.000 ppm * overload up to 5.000 ppm	± 10 ppm or 5 % reading up to 2.000 ppm** or 10 % reading up to 5.000 ppm**
Hydrogen sulfide H_2S	0 ... 200 ppm * overload up to 2.000 ppm	± 5 ppm or 5 % reading up to 200 ppm** or 10 % reading up to 500 ppm**
1-gas NDIR bench **Carbon dioxide CO_2**	0 ... 40,00 Vol-%	± 0,3 % or 5 % of the measured value**
3-gas NDIR bench **Carbon monoxide CO** **Carbon dioxide CO_2** **Hydrocarbons CH_4 (Methane) or** **Hydrocarbons C_3H_8 (Propane)**	 0 ... 10.000 ppm up to max. 10 % 0 ... 3 % or up to max. 30 % 0 ... 10.000 ppm up to max. 3 % 0 ... 2.000 ppm up to max. 5.000 ppm	 ±0,03 % or ±3 % reading** ±0,5 % or ±3 % reading** ±0,03 % or ±3 % reading** ±30 ppm or ±3 % reading**
Stack gas temperature T.Gas	0 ... 650 °C (stainless steel tube) 0 ... 1.100 °C (Inconel steel tube)	± 2 °C ... < 200 °C or 1 % reading** ± 2 °C ... < 200 °C or 1 % reading**
Differential temperature	up to 650 °C or up to 1.700 °C (with suitable material of sampling tube)	
Combustion air temperature T.Air	0 ... 100 °C	± 1°C
Draft/Diff. pressure (base station)	- 100 ... + 100 hPa	± 0,02 hPa
Draft/Diff. pressure (remote control)	- 200 ... + 200 hPa	± 0,02 hPa
Calculated values: (fuel type depending)		
Carbon dioxide CO_2	0 ... CO_2 max.	± 0,3 Vol-% abs.
Heat losses qA	0 ... 99,9 %	
Efficiency η	0 ... 100 % (120 % for condensing boilers)	
Air Ratio λ	1, ... 9,99	
Excess Air	0 ... 99,9 %	
Combustion calculations	fuel type depending: CO_2, Excess Air, Heat losses, efficiency, dew point, CO/CO_2 ratio	
Emission calculations	mg/Nm³, NOx as mg/Nm³, including O_2 referencing (normalisation) to user settable value	
General specifications:		
Operation temperature	+ 5 ... + 45 °C, max. 95 % RH, none condensing	
Storage temperature	- 20 ... + 50 °C	
Ambient conditions	not in aggressive, corrosive or high dust ambience, not for use in hazardous areas	
Power supply – base station **– remote control**	High energy Lithium-Ion battery 20 h operation, with gas cooler 10 h High energy Lithium-Ion battery 30 h operation	
Mains	wall-plug grid power supply, 100 - 240 Vac / 50 ... 60 Hz, 12 V DC/5A	
Type of protection	IP 20	
Weight	approx. 7,4 kg (with 2 sensors, probe, power supply, case)	
Dimensions	(B x H x T) 470 x 314 x 235 mm	

* for short-term measurements only!

** which ever is larger!

DATA SUBJECT TO CHANGE WITHOUT NOTICE

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