

# NOVA *plus*

## FLUE GAS MEASUREMENT

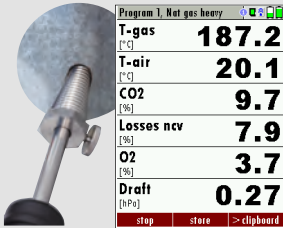


- multifunktional
- flexibel
- komfortabel

# NOVA *plus*

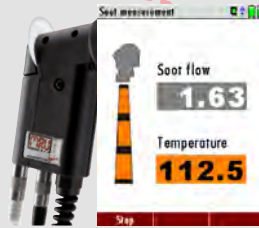
WHENEVER YOUR MEASURING UNIT NEEDS TO ACCOMPLISH MORE:

## FLUE GAS measurement



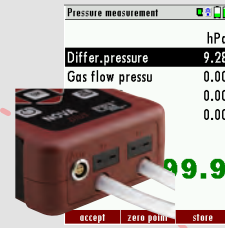
oil, gas, solid fuel, etc. well-arranged display of the measuring results

## SOOT measurement



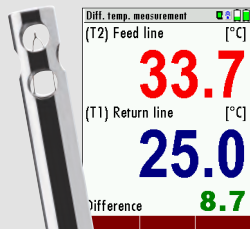
built-in electronic controlled heated probe shaft with soot filter

## PRESSURE measurement



high precision, by using either internal or external sensors

## TEMPERATURE measurement



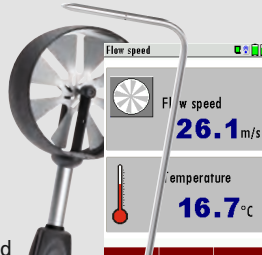
using thermocouples with 2 standard K-type sockets

## GAS LEAKAGE detection



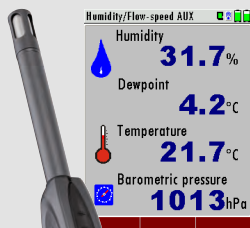
using HC-sniffer with cable and flexible detector head

## 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	3 ... 98 %	± 3% RH
	Barometric pressure	300 ... 1.200 hPa	± 3 hPa
	Ambient temperature	- 20 ... + 80 °C	± 1°C
Flow speed measurement	- with Pitot tube	3 ... 100 m/s	± 1 m/s
	- with vane probe	0,25 - 35 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



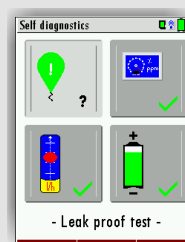
SD card and  
data logging software

O <sub>2</sub>	CO	NO
NO <sub>2</sub>	SO <sub>2</sub>	H <sub>2</sub> S
CO NDIR	CO <sub>2</sub> NDIR	HC NDIR

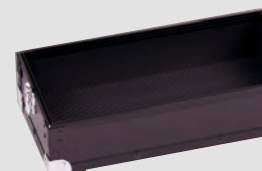
up to 6 electrochemical  
sensors and 3-gas NDIR bench



efficient, low  
power gas cooler



Self diagnostics



attachable compartment  
for accessories

## Technical specifications

<b>NOVAplus Multi purpose analyzer</b>	Instrument with up to 6 electrochemical cells, NDIR multi-gas bench and wireless remote control RCU	
<b>Fuel types</b>	natural gas, liquid gas, oil heavy, oil light, pellets, wood, coal; bio diesel, expandable fuel type list	
<b>Measurement components:</b>	<i>range</i>	<i>accuracy</i>
<b>Oxygen O<sub>2</sub></b>	0 ... 25,0 Vol-%	± 0,2 Vol-% abs.
<b>Carbon monoxide CO (Hz-comp)</b>	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**
<b>Carbon monoxide CO<sub>low</sub></b> (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or 5 % reading**
<b>Carbon monoxide CO<sub>high</sub></b>	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**
<b>Carbon monoxide CO<sub>very high</sub></b>	0 ... 4,00 % * overload up to 10 %	± 0,02 % or 5 % reading up to 4 %** or 10 % reading up to 10 %**
<b>Nitric monoxide NO</b>	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**
<b>Nitric monoxide NO<sub>low</sub></b> (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or 5 % reading**
<b>Nitric dioxide NO<sub>2</sub></b>	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**
<b>Sulfur dioxide SO<sub>2</sub></b>	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**
<b>Hydrogen sulfide H<sub>2</sub>S</b>	0 ... 500 ppm * overload up to 2.000 ppm	± 5 ppm or 5 % reading up to 500 ppm** or 10 % reading up to 2.000 ppm**
<b>1-gas NDIR bench</b>		
<b>Carbon dioxide CO<sub>2</sub></b>	0 ... 40,00 Vol-%	± 0,3 % or 5 % of the measured value**
<b>2-gas NDIR bench CO<sub>2</sub> / CH<sub>4</sub></b>	0 ... 100,00 Vol-% / 0 ... 100,00 Vol-%	± 0,5 % or 5 % of the measured value**
<b>3-gas NDIR bench</b>		
<b>Carbon monoxide CO</b>	0 ... 10.000 ppm up to max. 10 %	±0,03 % or ±3 % reading**
<b>Carbon dioxide CO<sub>2</sub></b>	0 ... 3 % or up to max. 30 %	±0,5 % or ±3 % reading**
<b>Hydrocarbons CH<sub>4</sub> (Methane) or</b>	0 ... 10.000 ppm up to max. 3 %	±0,03 % or ±3 % reading**
<b>Hydrocarbons C<sub>3</sub>H<sub>8</sub> (Propane)</b>	0 ... 2.000 ppm up to max. 5.000 ppm	±30 ppm or ±3 % reading**
<b>Stack gas temperature T.Gas</b>	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**
<b>Differential temperature</b>	up to 650 °C or up to 1.700 °C (with suitable material of sampling tube)	
<b>Combustion air temperature T.Air</b>	0 ... 100 °C	± 1°C
<b>Draft/Diff. pressure (base station)</b>	- 100 ... + 100 hPa	± 0,02 hPa
<b>Draft/Diff. pressure (remote control)</b>	- 200 ... + 200 hPa	± 0,02 hPa
<b>Calculated values:</b> (fuel type depending)		
<b>Carbon dioxide CO<sub>2</sub></b>	0 ... CO <sub>2</sub> max.	± 0,3 Vol-% abs.
<b>Heat losses q<sub>A</sub></b>	0 ... 99,9 %	
<b>Efficiency η</b>	0 ... 100 % (120 % for condensing boilers)	
<b>Air Ratio λ</b>	1, ... 9,99	
<b>Excess Air</b>	0 ... 99,9 %	
<b>Combustion calculations</b>	fuel type depending: CO <sub>2</sub> , Excess Air, Heat losses, efficiency, dew point, CO/CO <sub>2</sub> ratio	
<b>Emission calculations</b>	mg/Nm <sup>3</sup> , NO <sub>x</sub> as mg/Nm <sup>3</sup> , including O <sub>2</sub> referencing (normalisation) to user settable value	
<b>General specifications:</b>		
<b>Operation temperature</b>	+ 5 ... + 45 °C, max. 95 % RH, none condensing	
<b>Storage temperature</b>	- 20 ... + 50 °C	
<b>Ambient conditions</b>	not in aggressive, corrosive or high dust ambience, not for use in hazardous areas	
<b>Power supply – base station</b>	High energy Lithium-Ion battery 20 h operation, with gas cooler 10 h	
<b>– remote control</b>	High energy Lithium-Ion battery 30 h operation	
<b>Mains</b>	wall-plug grid power supply, 100 - 240 Vac / 50 ... 60 Hz, 12 V DC/5A	
<b>Type of protection</b>	IP 20	
<b>Weight</b>	approx. 7,4 kg (with 2 sensors, probe, power supply, case)	
<b>Dimensions</b>	(B x H x T) 470 x 314 x 235 mm	

\*\* which ever is larger!

\* for short-term measurements only!

DATA SUBJECT TO CHANGE WITHOUT NOTICE

MRU-representative:



EMISSION MONITORING SYSTEMS

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