

EMISSION MONITORING SYSTEMS



We *care* about the environment

PRECISION IS OUR TECHNOLOGY

O₂

CO

CO₂

NO_(x)

°C

CHIMNEY
DRAFT

EFFICIENCY/
LOSSES

LAMBDA

RS 232

PRINTER



DELTA 2000 CD



AIR *fair*

EMISSION MONITORING SYSTEMS

Precise measuring results with professional analysis instruments: DELTA 2000 CD

For controlling and adjusting measurements at oil- and gas furnaces.
 For examination of gas fired burners and modern condensing boilers.
 Suitable for solid matter measurements.



The „Basic Set“

Continuous analysis of O₂, CO (ppm), CO₂, excess air, efficiency, losses, combustion air temperature, flue gas temperature (separate temperature measurement), continuous chimney draft measurement, CO sensor purge by means of 2nd pump with programmable threshold values.

Fuel types: Natural gas, heating oil EL, liquid gas.

Equipment: RS 232 computer interface, large illuminated LCD display with 8 measuring data at one sight, battery and mains operation, with 300 mm Ø 8 mm gas sampling probe, 3.5 m gas sampling line and transport case.



The „Professional Set“

Continuous analysis of O₂, CO ppm, CO undiluted, CO₂, excess air, efficiency, losses, combustion air temperature, exhaust gas temperature (separate temperature measurement), continuous chimney draft measurement, CO sensor flush by means 2nd pump, with programmable limited value exceeding.

Fuel types: Natural gas, heating oil EL, liquid gas.

Equipment: According to BASIC SET, but with the following additional equipment: Integrated thermo printer (with print-out customer's address), combustion air temperature probe (probe tube style, with cone and 2.5 m cable, probe tube length 150 mm), data memory for 300 measuring data and leather case.

1

Battery capacity for 1 day measuring time

2

Print-out of the measuring values

3

Large display with 8 measuring data

4

Continuous chimney draft measurement

5

CO sensor flush (standard) or CO cutoff via programmable threshold values

6

Logic, menu guided operation / individual programmable menu flow

7

RS 232 computer interface

Applications:

- **Boilers**
Utility / Power Boilers,
Large and small industrial Boilers,
Home heating, CO Boilers
- **Heaters**
Glass Treating Furnances,
Fluid and Process heaters,
Paint and Textile Dryers,
Blast Furnances
- **Stationary Engines**
Gas Compression Engines,
Power Plant Engines
- **Kilns**
Cement and Lime Kilns,
Rock and Gypsum Kilns



DELTA 2000 CD

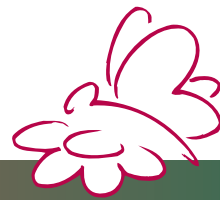


Features

- lightweight, corrosive resistant and rugged enclosure
- accessible filters and condensate trap
- easy to use and maintain analysis system
- self diagnostic checks
- auto purge of sensors on analyzer shutdown
- standard RS 232 interface
- measures up to 4 gases
- comprehensive combustion and environmental calculation



DELTA 2000 CD



We *care* about the environment

O₂

CO

SO₂

NO_(x)

TEMP.

PRESSURE
up to 0,45 bar

BATTERY
POWER

DELTA 2000 CD-IV for industrial control measurements



Precise measurement results with the professional, portable gas-analyzer for continuous analysis of O₂ - CO - SO₂ - NO_(x) with

- electrochemical sensors
- strong gaspump
- battery and mains operation
- built-in printer
- carrying strap
- a large selection of gas sampling probes up to 2000 mm length and flue gas temperatures up to 1600°C is available.

TECHNICAL DATA DELTA 2000 CD and DELTA 2000 CD-IV

Programmed fuel types

Oil light no₂, oil light no₆, natural gas, coke oven gas, blast furn gas, propane, butane. Extensions possible for solid matter measurements.

Sensor	Range	Resolution	Accuracy (whichever is greater)
Oxygen, O ₂	0 to 21 %	0,1 % Vol	± 0,2% abs.
Carbon Monoxide, CO	0 to 10 000 ppm	1 ppm	± 10 ppm or ± 5% reading
Carbon Monoxide, CO (*)	up to 10 %	100 ppm	± 200 ppm or ± 5% reading
Carbon Monoxide, CO (*)	up to 20 000 ppm	1 ppm	± 20 ppm or ± 5% reading
Carbon Dioxide, CO ₂ calc.	0 to 20 %	0,1 %	± 0,3% abs.
Nitrogen Oxides, NO _x	0 to 2 000 ppm	1 ppm	± 10 ppm or ± 5% reading
Sulphur Dioxide, SO _x (*)	0 to 2 000 ppm	1 ppm	± 10 ppm or ± 5% reading

Calculated values

Carbon Monoxide, CO	mg/m ₃ , mg/kWh, mg/MJ, ppm undil., ppm/x%O ₂ , mg/m ₃ , x%O ₂
Carbon Dioxide, CO ₂	in %
Nitrogen Oxides, NO _x	ppm, mg/m ₃ , mg/kWh, mg/MJ, ppm undiluted, ppm/x%O ₂
Nitrogen Dioxides, NO ₂	mg/m ₃ , mg/x%O ₂
Nitrogen Dioxides, NO ₂ ref.	mg/x%O ₂
Efficiency	0 to 100 %
Losses	0 to 100 %
Excess air	1, ...

Measuring ranges

Combustion air temperature	0 to 100 °C
Flue gas temperature	0 to 650 °C
Chimney draft	± 50 hPa
Operation temperature	+ 5 to + 40 °C
Storage temperature	- 20 to + 50 °C
Probes (standard)	650 °C
	up to 1 600 °C

Dimensions (without case)

B x H x D	195 x 90 x 190
Weight	appr. 1 900 g

Battery capacity	appr. 8 h
ext. power	12 V/1 A

(*) only Delta 2000 CD-IV

Continuous Product Development may make it necessary to change these details without notice



EMISSION MONITORING SYSTEMS

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