madur

General Information	Activities	Gas analysers manufacturing and distribution
	Establishment	1994
	Employees	20
Managing team	Founder, owner of madur group	Marek Duracz
	Vice-president, Head of Engineers	Jarosław Wielogórski
Headquarters	Address	Sadowa 37 95-100 Zgierz Poland
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	Website	www.madur.com
Identification number	VAT Number	PL7320022113
	National Business Registry Number REGON	0000194072
	National Business Registry Number KRS	470854070
	Registering unit	District Court for Łódź - Śródmieście

madur is the European producer of gas measurement equipment. We produce apparatus for emission control and other industrial processes. Both portable and stationary analysers (including CEMS). Also devices and equipment for sample conditioning.

madur electronics was founded in 1984 in Vienna, Austria and now is worldwide recognised manufacturer of gas analysis equipment. At the beginning, it was gathering all the activities of the company, i.e.: sales, production, service, R&D.

After 10 years, in 1994, madur Polska Sp. z o.o. was founded. At the beginning, it was a small R&D group with prototypes' site. During the years, it was more convenient to move the production and service closer to the R&D department, to provide our customers the most advanced solutions, and the fastest possible and the most professional service and technical support.

Since the beginning of 2013 our headquarters is located in Poland.

Emission — Monitoring of fumes emitted to the atmosphere by factories, power plants, industry in general

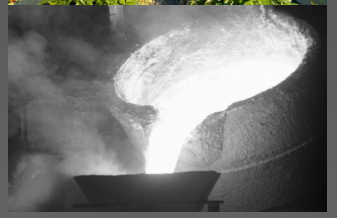
BIOgas plants — Control of the methane production process from the biomass

Landfills — Control of the methane production process from wastes

Incinerators — Control of the combustion process and monitoring of emitted fumes

Greenhouses — Control and steering of greenhouse atmosphere

Glass factories
Steel mills — Control of the glass / steel production process



Nitriding	Control of the protective heat treating atmosphere
Coke / coal / wood gasification plants	Control of the methane production in gasification process
MARPOL 73/78 annex VI regulations	Monitoring of the fumes emission on ships and other vessels according to regulations specified in the MARPOL 73/78 annex VI
Medicine	Control of the incubator atmosphere, others
Automotive	Control and regulation of the cars exhausts
Personnel safety Air quality control	Monitoring (with alarm) of the atmosphere in hazardous work places.






maMoS stationary gas analyser

Example application BIOgas plants - Control of the methane production process from the biomass

Example controlled gases CH_4, CO_2, O_2, H_2S

Main features

- Up to eight sensors
- 4-line backlit display
- Two types of dryer available
- Compact / Split / Twin split option
- SD data-logger
- Analogue outputs
- Digital and analogue inputs
- USB, LAN, RS485, MODBUS interface
- Different flexible work modes
- Powerful PC program
- Rich offer of add-ons
- Heated hose option available

GA-12plus hand-held gas analyser

Example application Automotive - Control and regulation of the cars exhausts

Example controlled gases NO_x, CO, O_2, SO_2

Main features

- Equipped with 3 or 4 electrochemical cells
- Works with an external portable printer
- Built-in rechargeable Li-ion battery
- Probe holder with a standard M30x1 fitting
- Availbility of soot measurements
- Pressure sensor for draft and pump flow control
- Optional second pressure sensor
- RH sensor and temp. probe
- Gas and temperature measurements
- LCD display (128x64) with back-lighting
- Large memory for results savings
- Calculations of many additional parameters
- Firmware for gas calibration
- Manufactured according to the principles of EN50379

GA-21plus portable gas analyser

Example application Incinerators - Control of the combustion process and monitoring of emitted fumes

Example controlled gases CO_2, CO, O_2, NO_x

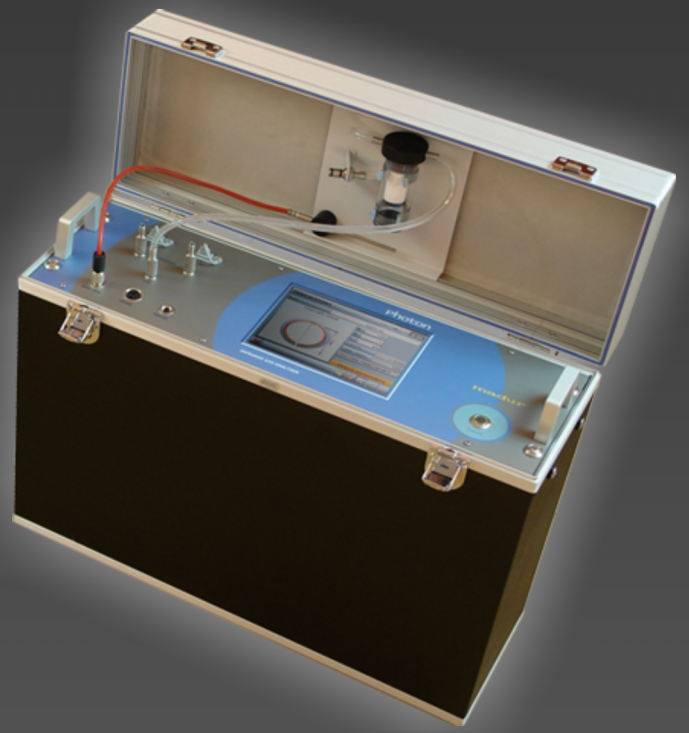
Main features

- Two kinds of casing: soft and hard
- Equipped with up to 7 electrochemical cells
- Equipped with up to 2 NDIR sensors
- Built-in 58mm ribbon graphic printer
- Built-in rechargeable battery
- miniDryer with condensate removal
- Probe holder with a standard M30x1 fitting
- Gas filter with condensate trap
- Differential pressure sensor
- Soot measurement program
- Gas and temperature measurements
- 2 additional inputs for temperature sensors
- Analogue outputs (0/4-20mA) - optional
- Large memory for results
- Two formats of data savings
- Calculations of many parameters
- Firmware for gas calibrations

Photon portable gas analyser

Example application Emission - Monitoring of fumes emitted to the atmosphere by factories, power plants, industry in general

Example controlled gases O_2, CO, CO_2, NO, NO_2, SO_2, hydrocarbons



Main features

- Casing thermal stabilisation
- Each sensor thermal stabilisation
- Short warm-up time (30 ÷ 60min)
- Up to 6 NDIR sensors
- Up to 3 electrochemical cells
- Paired up with PGD-100 gas conditioner
- 6.4” VGA (640x480) colourful touchscreen
- PC-104 computer with Windows CE
- Controlling the device's performance and its efficiency
- Measurement of many additional parameters
- Calculation of all combustion parameters
- RS232C and Ethernet interfaces and 2x USB port
- Analogue outputs (8-channels)
- Analogue inputs (8-channels)
- Optional portable printer
- Results stored in database
- Clients and objects database

Also on offer of portable analysers

CMS-7

CMS-7 is a full size CEMS system equipped with up to 6 electrochemical sensors (more cells on demand), that are backed up with up to 3 NDIR sensors. CMS-7 is divided into 3 modules, analyser, conditioner and power supply modules. All three are mounted in a server-type cabinet with a cart to move it around. Onboard data logger with SD card allows to collect measurement results for weeks time.

Photon S

Photon S is madur's most recent and most sophisticated apparatus. It was created based on portable gas analyser - Photon. As its precursor it also uses NDIR gas sensors as the main measurement method - it can have 9 of them supplemented with 4 EC cells. Along with power supply with control center and the most efficient gas dryer this modular CEMS system is available to mount in 19" open frame rack. It is tailored to a very specific demands of customer, what is possible thanks to lot of available extensions and add-ons.

Also on offer of portable analysers

GA-40Tplus

Professional flue gas analyser that combines high quality of sample conditioning with great measurement accuracy. Analyser is equipped with heated hose with heated filter, built-in high efficient condensation dryer. It can be fitted with up to 9 sensors (electrochemical cells and NDIR sensors). Has built-in pressure sensor, large internal memory for results and built-in ribbon printer for standard (non-thermal) paper.

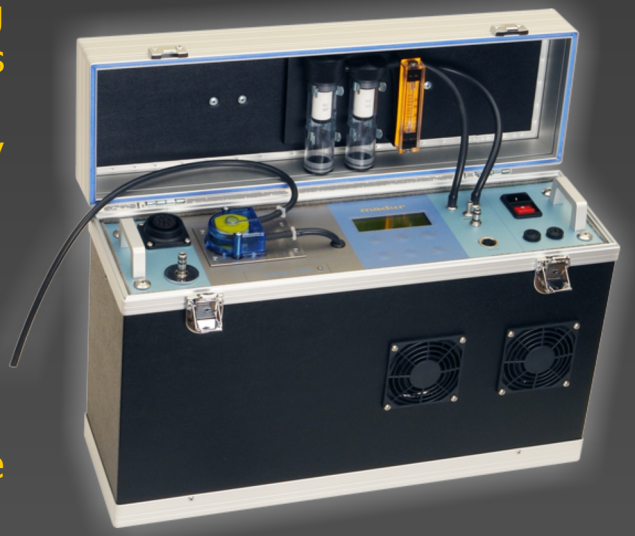
GA-60

The largest of madur's analysers equipped with electrochemical cells. It can fit even up to 7 EC cells and up to 3 NDIR sensors. GA-60 has a large (320x240), graphical LCD with backlighting. Datalogger with SD card for storing results and built-in ribbon printer for standard (non-thermal) paper. Analyser is offered in two versions (paired with PGD-100 gas dryer with heated hose/ equipped with a built-in NAFION® gas dryer and heated hose).

Gas sampling

PGD-100

PGD-100 prepares gas sample for the co-operating analyser by removing dust, salts particles and condensate, so the sample is dry and clean.
Using gas conditioner is essential in case of majority measurements with gas analysers.



Gas conditioner unit includes:

- Gas probe pipe
- Initial heated filter
- Heated hose that supplies gas sample to the analyser's drying module(s)
- One or two drying modules
- Final filters that cleans the dried gas sample
- Gas pump
- Condensation pump (only when PGD-100 is equipped with condensation type dryer with Peltier element)
- Ventilation valve that provides clean air for cooperating analyser

Drying modules are: Nafion exchanger or condensation based unit.

Gas sampling

MD3

MD3 gas dryer was initially designed to be a part of our stationary maMoS analyser.
Our MD3 dryer became interesting alternative and even dedicated solution as a standalone gas conditioner.

- condensation dryer based on the Peltier element with condensation removing system
- large surface gas filter (optionally two of them) that provides thorough cleaning of the gas sample and long maintenance free intervals
- MD3 gas dryer can work with maMoS analyser or as a stand alone unit with independent power supply

Others

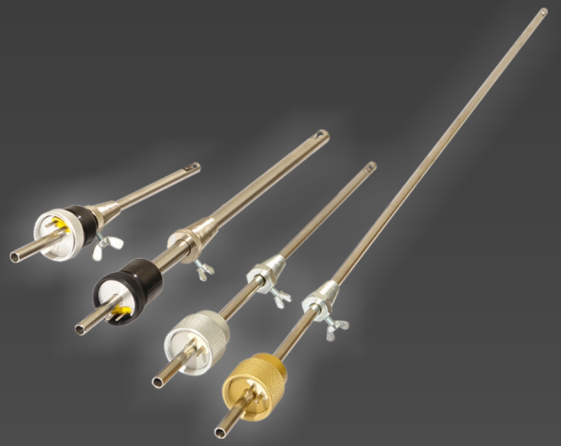
Heated filter

- Prepares the sample
- Provides analysers components protection
- Protects from any harsh environment
- Keeps the gas temperature above its dew point
- Prevents water condensation and acids creation
- Can be used with our stationary gas probe and heated hose
- Can work on its own (universal couplings and independent power supply)
- Comfortable casing allowing easy maintanance access

Others

Gas probes

Gas probe is immersed in the gas duct to extract the gas sample and to measure its temperature. We offer a range of probes in different lengths, diameters, ranges of work temperature, materials and thermocouple types. Probes fit our probe holders and heated hoses.



Gas probe holders

Gas probe holder with an exchangeable probe pipe creates a complete gas probe. Optionally it can be equipped with a condensate trap with gas filter. All probe holders have a standard M30x1 female connector to attach the probe pipes. Probes come in two versions: heated, with a slot for soot measurement and unheated (without possibility to perform soot test).

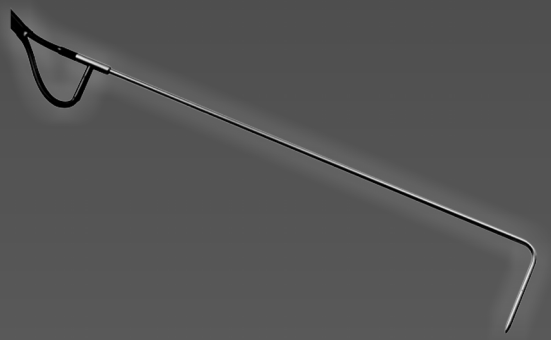
Others

Heated hoses

Heated hose prevents any moisture that is present in the measured gas from condensing in the gas channel. Heated hose warms up the gas keeping the water in vapour state. The hot gas reaches the analyser's gas dryer, where the vapour is condensed and the water is removed. Designed for SO2, NO2, Cl2 measurements.

Pitot tube

Pitot tube can be used for measurements of the flow velocity of the gas stream. Pitot tube is connected to analyser’s differential pressure sensor. Analyser recalculates the differential pressure on the Pitot tube’s outlets to velocity.



Mission

Our main goal is to create a product, which will be attractive throughout the world. We encourage our dealers to apply for local certificates. Our sales volume enables us to keep our prices stable. However, we remain a medium-sized company willing to produce devices compliant to end user's demands. We are willing to invent new, efficient solutions to the problems you encounter. Many years of experience enabled us to provide best-quality product and high-standard service.

Service

We know full-well that in today's world we cannot afford to keep our clients waiting. This is why we encourage our customers not only to contact us via e-mail and on the Phone, but also to feel free to engage our technitians in talk on Skype. We often attempt to solve your problems remotely with the help of remote support control software, such as Teamviewer.

Distributors

Over the years madur has established contacts with a group of professional and reliable partners. Their members continuously improve their knowledge of our devices on numerous trainings held at our headquarters. Our dealers support our clients in more than 37 countries all over the world. Their data can be found at our website.