



INDUSTRIAL HYGIENE



ENVIRONMENT



EMISSIONS

SAMPLING  
SOLUTIONS

**MEGA SYSTEM**

CALIBRATION  
& METROLOGY



WASTE



SERVICE



LABORATORY EN 17025

SAMPLING  
SOLUTIONS

**MEGA SYSTEM**

CALIBRATION  
& METROLOGY

### **OUR HISTORY**

Founded in 1994, Mega System S.r.l. designs and manufactures systems for environmental control and pollution monitoring. Thanks to its many years of experience and its team of qualified professionals, Mega System is able to offer Made in Italy tools of high quality and precision. All stages of the production process take place within the company, from hardware design to after-sales assistance, managing to respond to every particular customer need, offering an optimal all-round assistance.

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### **OUR MISSION**

#### **"Care for the environment"**

Mega System, leader company in the field of air pollution control and monitoring has always been committed to the research and production of products and services in line with our philosophy: respect and improvement of the environment. Mega System's objective is to get a better quality of life by improving environmental controls with instruments which are increasingly safer, more efficient, and above all, more precise. Mega System defends an ecosystem that is, unfortunately, always at risk. We combine our passion and expertise to raise awareness and to encourage a common commitment to protecting the environment.

# Calibration LAB LAT 01317

## CALIBRATION LABORATORY FOR VOLUME, MASSFLOW, PRESSURE AND TEMPERATURE

Mega System's laboratory is since July 2017 an ACCREDIA calibration laboratory for volume, mass flow, pressure in gas and temperature. The ACCREDIA accreditation demonstrates the compliance with the standard UNI CEI EN ISO/IEC 17025, certifying that the laboratory has a company management system in quality assurance and technical competence to execute accredited calibration and to release certifications. LAT 01317 laboratory is able to certifying the calibration about the control and analysis of LAB laboratory gases that carry out activities both related to internal needs of the company and on products dedicated to their customers at national and international level.

Our laboratory release **Calibration Certificates** for:

- **Gas meters**
- **Mass flow controller**
- **Mass flow meter**
- **Volumetric flow meters**
- **Digital absolute pressure meters**
- **Digital relative pressure meters**
- **Indicators with base metal thermocouples (K type)**
- **Indicators with resistance thermometers (PT 100/1000)**



UNIT OF MEASURE	INSTRUMENT IN CALIBRATION	MEASURING RANGE	UNCERTAINTY (*)	
VOLUME OF GAS	Gas meters for flow rates from 0,25 L/min to 1 L/min	From 19 to 75 L	0,90%	
	Gas meters for flow rates from 1,1 L/min to 50 L/min	150 L	0,60%	
	Gas meters for flow rates from 50 L/min to 100 L/min	150 L	0,70%	
VOLUME CAPACITY OF GAS	Mass flow controller	From 0,040 to 100 L/min	0,33%	
	Mass flow meter	From 0,040 to 100 L/min	0,40%	
	Volumetric flow meters	From 0,040 to 100 L/min	0,40%	
PRESSURE	Absolute pressure meter with digital output (in gas medium)	From 40000 to 60000 Pa	4,1 Pa	
		From 60001 to 80000 Pa	4,7 Pa	
		From 80001 to 100000 Pa	5,3 Pa	
		From 100001 to 120000 Pa	5,7 Pa	
		From 120001 to 140000 Pa	6,3 Pa	
	Relative pressure meter with digital output (in gas medium)	Negative relative pression 0 to (-)2000 Pa	1,1 Pa	
		Negative relative pression (-)2001 to (-)6000 Pa	1,2 Pa	
		Positive relative pression 0 to (+)2000 Pa	1,1 Pa	
		Positive relative pression (+)2001 Pa to (+)6000 Pa	1,2 Pa	
		TEMPERATURE	Digital indicators with base metal thermocouples	0 °C
From 5 °C to 70 °C	0,05 °C			Uris
From 70 °C to 160 °C	0,07 °C			Uris
From 160 °C to 230 °C	0,08 °C			Uris
From 260 °C to 400 °C	0,12 °C			Uris
From 400 °C to 500 °C	0,33 °C			Uris
From 500 °C to 600 °C	0,34 °C			Uris
From 600 °C to 700 °C	0,63 °C			Uris
From 700 °C to 800 °C	0,85 °C			Uris
From 800 °C to 1068 °C	0,88 °C			Uris
Digital indicators with resistance thermometers	0 °C		0,02 °C	Uris
	From 5 °C to 70 °C		0,05 °C	Uris
	From 70 °C to 160 °C		0,06 °C	Uris
	From 160 °C to 230 °C		0,07 °C	Uris
	From 260 °C to 500 °C		0,32 °C	Uris

(\*) The measurements uncertainty is expressed at the trust level of 95%

(\*\*) The expanded measurement uncertainty value is obtained by summing the values of the two components in quadrature with the formula  $(2\sqrt{u1^2 + u2^2})$  and is expressed with 2 significant digits, where Uris indicates the standard uncertainty due to the resolution of the instrument in calibration expressed in °C

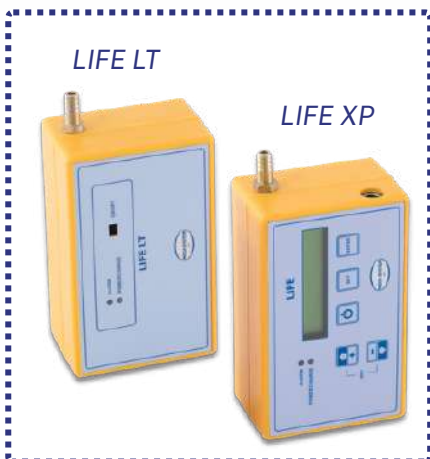
# Industrial Hygiene



## FLOS

- In compliance with UNI EN ISO 13137
- Mass Flow Meter for flow measurement
- Permanent memory and USB port for data download

<b>Range</b>	0,02 L/min – 5 L/min
<b>Power Supply</b>	230 Vac - 50 Hz Lithium 7,4 Vcc
<b>Dimensions</b>	129 x 82 x 49 mm
<b>Weight</b>	460 g



## SERIE LIFE

- In compliance with UNI EN ISO 13137
- Flow regulation by means of a flow meter external to the instrument
- Integrated By-Pass to regulate the pump

<b>Range</b>	0,02 L/min – 6 L/min
<b>Power Supply</b>	230 Vac - 50 Hz NiMh 6 Vcc
<b>Dimensions</b>	155 x 80 x 57 mm
<b>Weight</b>	650 g



## LIFE ONE

- Constant flow rate with automatic compensation of load losses
- Digital sampling programming
- Last sampling data memory

<b>Range</b>	1 L/min – 25 L/min
<b>Power Supply</b>	230 Vac - 50 Hz Lithium 24 Vcc external (opt.)
<b>Dimensions</b>	335 x 265 x 240 mm
<b>Weight</b>	7 Kg



# Environment



## AITHER PMS

- Compliant with EN 12341:2023
- TÜV certificate in progress
- Full remote management of the instrument and alarms via router
- Lightweight and easily transportable by an operator

<b>Range</b>	12÷70 L/min
<b>Power Supply</b>	230 Vac -50 Hz
<b>Dimensions</b>	454 x 1620 x 540 mm
<b>Weight</b>	41 Kg



## SERIE HORNET

- In compliance with ISO 12884, ISO 16362, US-EPA Tog and US-EPA T013A
- Venturi type flow meter (ISO 5167)
- Permanent memory and USB port for data download

MODEL	Light	Super
<b>Range</b>	100 - 600 L/min	100 - 1000 L/min
<b>Power Supply</b>	230 Vac - 50 Hz	
<b>Dimensions</b>	674 x 502 x 502 mm	1050 x 400 x 400 mm
<b>Weight</b>	15 Kg	23 Kg



## A1 AIRCAL

- Parameters measured: Pressure, Flow and Temperature
- Available with different flow cells
- Measurement of measuring cell Indication of flow under actual conditions and normalized conditions

<b>MIDDLE Flow Cell</b>	10 L/min - 50 L/min
<b>HIGH Flow Cell</b>	100 L/min - 600 L/min
<b>Power Supply</b>	230 Vac - 50 Hz NiMh 12 Vcc
<b>Dimensions</b>	195 x 100 x 40 mm
<b>Weight</b>	550 g



# Emissions



## LOTUS

- In compliance with UNI EN 15259, UNI EN ISO 16911-1, UNI EN 13284-1 and ISO 9096
- 3 independent pressure sensors
- Customer records, pipelines, sampling and inspections
- Serial interface for connection with Lifetek and Aster series samplers

<b>Power Supply</b>	230 Vac - 50 Hz Litio 12 Vcc
<b>Dimensions</b>	220 x 105 x 45 mm
<b>Weight</b>	500 g



## SERIE ASTER

- Constant flow and isokinetic sampler (when connected to Lotus)
- Permanent memory and USB port for data download
- Customer database

	ASTER 33	ASTER 55
<b>Range</b>	1 - 25 L/min	1 - 50 L/min
<b>Power Supply</b>	230 Vac - 50 Hz Lithium 24 Vcc esterne (opz.)	
<b>Dimensions</b>	338 x 310 x 288 mm	
<b>Weight</b>	7 kg	12,5 kg



## SERIE LIFETEK

- Constant-flow, isokinetic sampler (when connected to Lotus)
- Permanent memory and USB port for data download
- Indication and recording of any alarms

	LIFETEK 33	LIFETEK 55	LIFETEK 100
<b>Range</b>	1 - 25 L/min	1 - 50 L/min	5 - 70 L/min
<b>Power Supply</b>	230 Vac - 50 Hz Lithium 24 Vcc esterne (opz.)		230 Vac - 50 Hz
<b>Dimensions</b>	305 x 265 x 240 mm	295 x 335 x 270 mm	340 x 375 x 360 mm
<b>Weight</b>	7 kg	11 kg	20 kg



# Emissions



## APIS PLUS

- In compliance with UNI EN 15259, UNI EN ISO 16911-1, UNI EN 13284-1, ISO 9096, UNI EN 14385, UNI EN 1948-1, UNI EN 13211, UNI EN 1911
- Bluetooth communication
- Independent management of a branch line

	APIS PLUS 4 m <sup>3</sup> /h	APIS PLUS 6 m <sup>3</sup> /h
Range	2 – 50 L/min	5 – 70 L/min
Power Supply	230 Vac – 50 Hz	
Dimensions	490 x 370 x 285 mm	
Weight	18 Kg	21 Kg



## LIFE GAS

- In compliance with UNI EN 13649
- Mass Flow Meter for flow regulation
- Automatic regulation of the derivation via Apis Plus isokinetic sampler

Range	0,2 L/min – 4 L/min
Power Supply	230 Vac – 50 Hz NiMh intern 12Vcc
Dimensions	240 x 288 x 305 mm
Weight	6 kg



## LIFE DUO DIL

- In compliance with UNI EN 13649
- Manual regulation of sampling and dilution
- Integrated by-pass to regulate the pump at low range
- 5 samples memory with RS-232 download port

Range	0,2 L/min – 5 L/min
Power Supply	230 Vac – 50 Hz 2 intern NiMh 6Vcc
Dimensions	340 x 370 x 305 mm
Weight	11 kg



# Emissions



## ARTIK XP

- High insulation of the walls of the tank guarantee
- Digital thermoregulator for settings and temperature regulation
- Recycling pump for high prevalence water recirculation

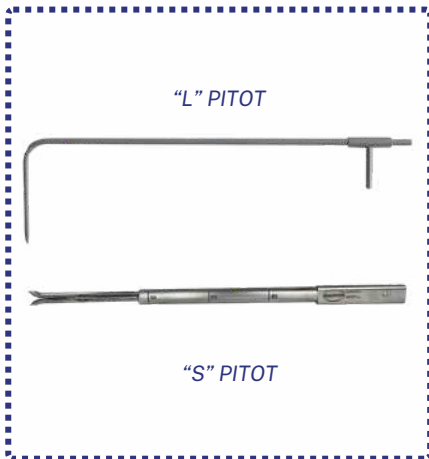
<b>Power Supply</b>	230 Vac – 50 Hz
<b>Dimensions</b>	530 x 340 x 310 mm
<b>Weight</b>	20 Kg



## ARTIK AIR

- Cooling Peltier's system and compressor
- Optimized heat exchanger
- Display dew point indication
- Output temperature verifiable by an external thermocouple

<b>Power Supply</b>	230 Vac – 50 Hz
<b>Dimensions</b>	193 x 415 x 400 mm
<b>Weight</b>	17 Kg



## MEASURING TUBES

- In compliance with UNI EN ISO 16911-1
- Realized in stainless steel or titanium
- L-Pitot gauge compliant with AMCA and ASHRAE specifications
- S-Pitot gauge available with fixed or interchangeable tip and complete with thermocouple

<b>"L" Pitot</b>	Available lengths 300; 600; 900; 1200; 1500 mm
<b>"S" Pitot</b>	Available lengths 500; 1000; 1500; 2000; 2500; 3000 mm



# Emissions



## STANDARD PROBE

- In compliance with UNI EN ISO 16911-1 and UNI EN 13284-1
- Maximum operative temperature 600 °C
- The probe can be completely disassembled to simplify the transport and to allow the independent use of the measuring tube from the sampling tube in small stacks



<b>Available lengths</b>	500 mm, 1000 mm; 1500 mm, 2000 mm, 2500 mm, 3000 mm
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## MONOTUBE PROBE

- In compliance with UNI EN ISO 16911-1 and UNI EN 13284-1
- Designed in stainless steel
- Simple and easy to transport/carry
- Maximum operative temperature 600 °C



<b>Available lengths</b>	500 mm, 1000 mm; 1500 mm, 2000 mm, 2500 mm, 3000 mm
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## FIREFLY

- Determination of condensation in compliance with UNI EN 14790
- VOC samplings with dilution in compliance with UNI EN 13649
- COT determination in compliance with UNI EN 12619
- Digital thermoregulator that can be set up to 180 °C



<b>Power Supply</b>	230 Vac – 50 Hz
<b>Dimensions</b>	206 x 115 x 305 mm
<b>Weight</b>	5 kg
<b>Available tips</b>	350 mm, 750 mm, 1500 mm

# Emissions



## X1-PROBE

- In compliance with UNI EN ISO 16911-1, UNI EN 13284-1, UNI EN 14385, UNI EN 1948-1, UNI EN 13211, UNI EN 1911
- Included: 1 sampling tube, 1 measurement tube and 2 separated tubes for gas samplings
- Independent regulation of temperatures in the box (160°C) and on the tube (180°C)

<b>Power Supply</b>	230 Vac – 50 Hz
<b>Available lengths</b>	500 mm, 1000 mm; 1500 mm, 2000 mm, 2500 mm, 3000 mm



## X1 CONDENSER

- In compliance with UNI EN 1948-1
- Suitable for transporting glassware
- Complete of:
  - 2 L bottle for condensate collection
  - High efficiency heat exchanger
  - Cartridges holder PUF/resin XAD2



## X1 IMPINGERS

- Tank capacity: 7 bubblers from 250 cc or 500 cc
- Possibility to combine two tanks to increase the capacity
- Fittings for water recirculation in the tank
- All bubblers kits can be supplied with a special transport case with molded foam for an efficient and safe transport



# Emissions



## X1 PFAS

- Complete glassware kit compliant with OTM-45
- Glassware with frosted ball joints
- Internal gasket in the containment box to avoid glass-metal contact
- Water delivery and recirculation fittings incorporated in the containment box
- Support tank firmly constrained to avoid vibrations



## THYRIS

- Analyser equipped with sensors for:
  - O<sub>2</sub> (Paramagnetic) in compliance with UNI EN 14789
  - CO e CO<sub>2</sub> (NDIR) in compliance with UNI EN 15058
  - NO<sub>x</sub> (Chemiluminescence) in compliance with UNI EN 14792
- Integrated Peltier system

<b>Power Supply</b>	230 Vac – 50 Hz
<b>Dimensions</b>	535 x 324 x 310 mm
<b>Weight</b>	20 Kg



## TEST CHIMNEY

- Check pressures and K coefficient of Pitot tubes
- $\Delta P$  Detectable < 5 Pa
- Tunnel with 2 access points
- Speed from 5 to 30 m/s

<b>Dimensions</b>	3156 x 380 x 1578 mm
<b>Stand height</b>	1380 mm
<b>Internal diameter</b>	220 mm
<b>Weight</b>	Stainless Steel



# Odorous Emissions



## LIFE SPIRO

- In compliance with UNI EN 13725
- Comfortable both horizontally and vertically
- Complete with pump suction with vacuum sensor for automatic samplings

Range	5 L/min
Max Empty	350 mbar
Power Supply	12 V - 1800 mAh
Dimensions (L x Ø)	905 x 180 mm
Weight	6,8 kg



## STATIC HOOD

- In compliance with UNI EN 13725:2022
- In accordance with the guidelines of the SNPA and the Regional and Provincial Agencies for Environmental Protection
- Separable into two parts for an easy transport
- Double inlet for sampling and anemometric measurements with closing nozzles

Dimensions	CAPPA	TUBO
	1 m <sup>2</sup>	0,0145 m <sup>2</sup>
Weight	32 kg	13 kg
Height	2,4 m	
Material	Passivated stainless steel	



# Odorous Emissions

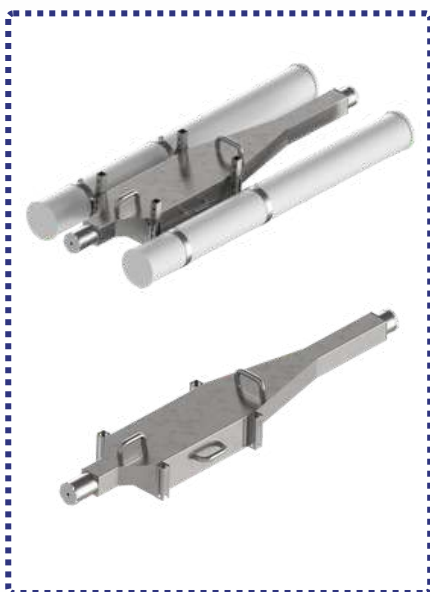


## FLUXBOX

- In compliance with LFTGN 07
- Monitoring of various diffuse gaseous emissions such as biogas, toxic gases
- Variable volume sampling chamber
- Probe positioning ring
- Switch valves for automatic zeroing and calibration of the detector



<b>Dimensions</b>	490 x 370 x 285 mm
<b>Weight</b>	5 Kg
<b>Volume</b>	25 L
<b>Contact surface</b>	784 cm <sup>2</sup>



## LOW SPEED TUNNEL

- In compliance with DGR 3018/2012
- Durable AISI 316 stainless steel according to EN 13725
- Quick couplings on the inlet/outlet covers for easy connection of inlet gas carrier tubes and outlet sampling tubes
- Height-adjustable floats for use on liquid emission sources



	HOOD	TUBE
<b>Dimensions</b>	1 m <sup>2</sup>	0,0145 m <sup>2</sup>
<b>Weight</b>	32 kg	13 kg
<b>Height</b>	2,4 m	
<b>Material</b>	Passivated stainless steel	

# Waste



## SPIRITUS

- Continuous-flow aerobic respirometer
- In compliance with UNI 11184
- Optical sensor for oxygen detection
- Mass Flow Meter for control and regulation of the flow to be blown into the reactor

<b>Power Supply</b>	230 Vac – 50 Hz
<b>Dimensions</b>	206 x 115 x 305 mm
<b>Weight</b>	5 kg
<b>Tip</b>	350 mm, 750 mm, 1500 mm



## DRYAS

- Compost material aerobic activity analyzer
- In compliance with UNI EN 16087-2
- Up to 6 acquisition channels to allow multiple tests simultaneously
- Software designed for compost analysis and data visualization

<b>Power supply</b>	230 Vac – 50 Hz
<b>Dimensions</b>	535 x 324 x 310 mm
<b>Weight</b>	20 Kg



## HYDRA

- Modular respirometer for calculating the biodegradability of plastic materials
- In compliance with UNI EN ISO 14855-1
- Sensors: O<sub>2</sub> (electrochemical) e CO<sub>2</sub> (NDIR)
- Mass Flow Controller for regulating the flow to be blown into the vessel (2 L)

<b>Dimensions</b>	3156 x 380 x 1578 mm
<b>Stand height</b>	1380 mm
<b>Internal diameter</b>	220 mm
<b>Weight</b>	Stainless steel





### RESEARCH AND DEVELOPMENT

Mega System invests a large part of its revenues in Research and Development. Our engineers, supported by various National Research Centres, dedicate themselves to creating increasingly technological, state-of-the-art instruments to satisfy the needs of our clients and supply dedicated solutions.



### TECHNICAL ASSISTANCE

Mega System bases its Technical Assistance on many years of experience in the field of environmental control and monitoring of atmospheric pollution.

All our technicians have been trained as required by **environmental hygiene certifications**. Our Assistance Centre is located in our Headquarter in **Via Don Fracassi 41/43**, in Bareggio (Milan, Italy).



### COMPANY CERTIFICATION

In 2007 Mega System obtained the Quality System certification in compliance with the UNI EN ISO 9001: 2008 Standard, renewed in 2018 in compliance with the UNI EN ISO 9001: 2015 Standard. This certification represents a confirmation of Mega System's desire to make quality one of its characteristic traits, creating a guarantee of its constant commitment to offer high quality products and services



### TRAINING COURSES

Thanks to the partnership with industry experts, Mega System organizes and offers to all its clients different training courses addressed to sampling technicians and to the various figures present in each laboratory or industrial plant who deal with environmental assessment.

# Services



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