

# APIS PLUS



- Isokinetic Sampler
- Compliant with  
EN ISO 16911-1  
EN 13284-1  
EN 15259  
ISO 9096 AND  
EPA METHOD 1, 2, 4, 5
- Multiple additional features
- New design for greater practicality and functionality
- Light weight



# APIS PLUS

APIS PLUS represents the most advanced version of automatic isokinetic samplers available on the market: it measures speed, flow rate and isokinetic sampling in compliance with technical regulations. The reinforced metal frame is made of shockproof material and it has two sturdy handles that provide a solid grip for handling and transport.

It is available with a 4 m<sup>3</sup>/h dual head diaphragm pump or, alternatively, with a 6 m<sup>3</sup>/h rotary vane. The suction line inlet comes with a dust filter, which is easily replaceable from the upper panel, and a condensation collection system.

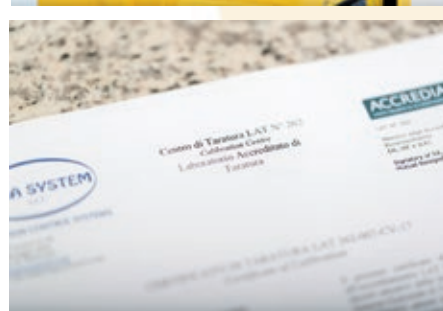
The elevated hydraulic pump head and the electronic management and control system automatically compensate for pump load-loss variations due to filter clogging, and maintain constant flow rate or isokinetic flow throughout the sampling period.

The large touch-screen graphics display (10 inches) allows for easily viewing and managing large quantities of information and data.

It is equipped with an input plug for detecting duct temperature using "K" thermocouples and independent sensors for detecting differential, static and barometric pressure. The instrument is compatible with all types of pitot and K thermocouples available on the market.

Measurement and sampling data are automatically stored and can be both viewed and transferred to a USB Pen Drive via the port on the main panel.

The internal 32-GB Compact Flash guarantees ample storage space.



## OPTIONS

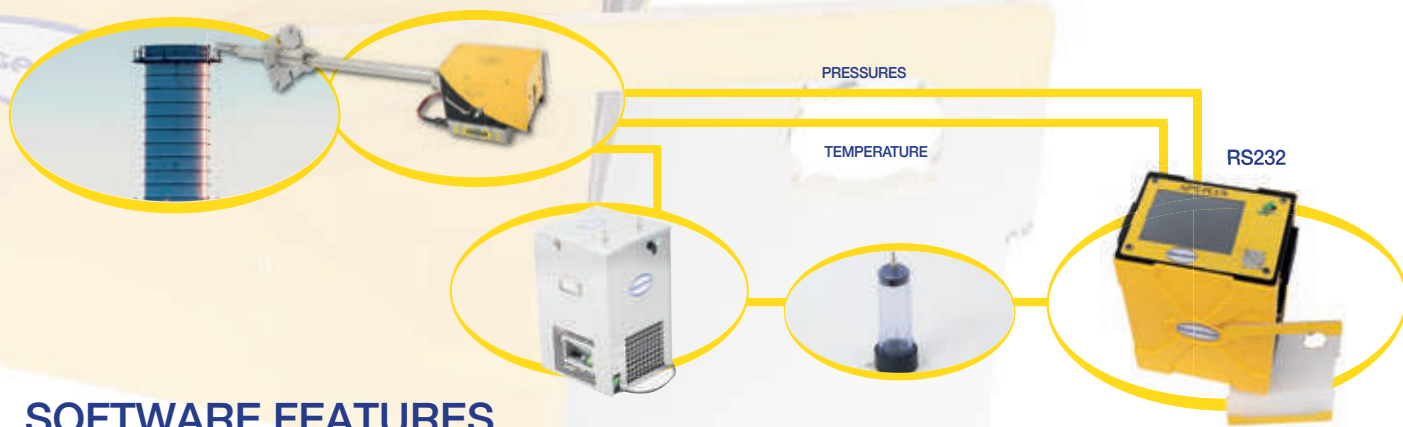
- One feature that makes it unique, is its ability to acquire Mega System analyzer parameters (E1 series), which are equipped with an oxygen sensor (PARAMAGNETIC) and a carbon dioxide sensor (NDIR). In compliance with current laws, this allows calculation of effluent gas density, recording values during sampling with real-time adjustment of the isokinetic flow.
- The 4-20mA / 1-10V signal board can acquire and record data from other manufacturers' analyzers in the sampling report, and use some acquired parameters for calculating the isokinetic flow in real-time.
- The X1-PROBE series provides thermoregulation, with data recorded in the sampling report.
- The parameters can be certified, on request, by EN 17025 accredited laboratories.



MEGA SYSTEM

## TECHNICAL FEATURES

- Independent pressure sensors allow for compliance with the requirements of Table 3 (Performance requirements), Table 4 (Performance requirements during field measurements) and Table A.1 (Performance requirements for differential pressure-based flow measurement) of EN ISO 16911-1.
- Given that the static pressure sensor is independent of the barometric pressure sensor, it is possible to calculate the absolute pressure as indicated in formula A.12 of the regulation (A.3.3 Absolute gas pressure) and it is possible to make several instantaneous acquisitions at the measuring point to improve the quality of the results.
- A high precision electronic system regulates sampling flow and allows for accurate and regularly modulated isokineticism, in compliance with industry standard provisions, even in cases of sudden speed variations. Sampling flow variations that could cause anomalous stresses on the filter, or in the solutions present in the line, are thereby avoided.
- The pneumatic circuit uses a vacuum-tight pump and a volumetric meter: with the circuit working slightly overpressure with respect to ambient pressure, there are no pneumatic elements for flow control (e.g. valves, flow meters, mass flow, etc.) and by positioning the dry-gas meter at the end of the circuit, keeping maintenance to a minimum
- A meter with uncertainty of less than 2% is used to measure dry-gas volume flow, and it is provided with a temperature measurement sensor with an uncertainty of less than 1%.
- The system is equipped with a buffer battery, allowing instrument shut-down without data loss in case of power failure.

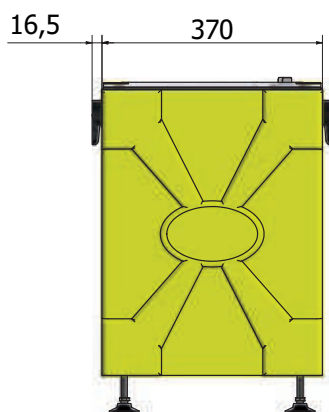


## SOFTWARE FEATURES

- Customer registry file.
- Registered data archive ducts / chimneys.
- Database of measurement tubes.
- Measurement and sampling configuration file (sinking).
- Menu for INSPECTION, ISOCHETIC SAMPLING, and UTILITIES for the calculation of density and condensation.
- Constant flow sampling with acquisition of thermodynamic parameters.
- Management of isokinetic sampling and sampling with derivative line.
- Measurement Integration and parameter recording at programmable intervals from 10 to 300 seconds.
- Data logger function.
- MEMORY MANAGEMENT data export in TXT and CSV format
- Sample ID registration.
- Sensor calibration using integrated software.

# APIS PLUS

## APIS PLUS



## TECHNICAL SPECIFICATIONS

MODEL	pump 4 m <sup>3</sup>	pump 6 m <sup>3</sup>
■ Performance		
Type of pump	Double membrane dual head 4 m <sup>3</sup> /h	Rotary vane 6 m <sup>3</sup> /h
Maximum vacuum	> 600 mmHg	
■ Flow Rate		
Range	2 ÷ 50 L/min	5 ÷ 70 L/min
Resolution	0,01L/min	
Resolution encoder	0,014 L	0,072 L
Accuracy	1,5%	
■ Sample Volume		
Volumetric Meter	G2,5	G4
Resolution	0,1 L	
Resolution encoder	0,014 L	0,072 L
Accuracy	2%	
■ Interface, Data Archiving		
Display	Touch screen (10")	
Interface	RS232 RS485 (device communication) USB (on Pen Drive)	
Memory	32 Gb	
■ Environmental Conditions		
Working Temperature Range	0 °C ÷ 45 °C - 95% UR	
■ Energy		
Power	110-230 Vac – 50 Hz	230 Vac – 50 Hz
Consumption	200 W	300 W
■ Features		
Weight	18 Kg	21 Kg
■ Options		
Dry gas meter EN 17025 calibration certificate		
4-20mA / 1-10V signals board		
■ Supplied With		
Remote thermoregulation control function of X1-Probe		
Possibility of connection with an external PC		
Automatic gas density readout in real time through E1-Analyzer		
Integrated printer		
Technical manual		
Test report		

<b>Temperature Sensors</b>				
	Range	Resolution	Accuracy	Linearity
Meter	0 ÷ 50 °C	0,1 °C	± 1%	± 1 °C
Type K Thermocouple	0 ÷ 1100 °C	0,1 °C	± 1%	± 1 °C
<b>Pressure Sensors</b>				
	Range	Resolution	Accuracy	
Differential	0 ÷ 100 mmH <sub>2</sub> O (0 ÷ 1000 Pa)	0,01 mmH <sub>2</sub> O (0,1 Pa)	± 1% O.R.	
Static	-1000 ÷ 1000 mmH <sub>2</sub> O (-10.000 ÷ 10.000 Pa)	0,1 Pa	± 1% O.R.	
Barometric	600 ÷ 1100 mbar	0,1 mBar	± 2 mBar	