## SAMPLING MEGA SYSTEM CALIBRATION & METROLOGY

## **ARTIK AIR**



- Cooling Peltier's system and compressor
- Optimized heat
  exchanger: reduces
  contact between gas and
  condensate
- Compressor with high cooling capacity
- Display dew point indication
- Automatic pump management
- Output temperature verifiable by an external thermocouple
- Gas-wetted parts entirely in stainless steel/PTFE/borosilicate
- Portable and ergonomic design

Artik Air is a gas conditioning system designed for emission sampling, optimized for use with combustion gas analyzers.

The system has two key strengths:

- 1.An innovative **two-stage design**: pre-condensation with compressor cooling and cooling with Peltier cells
- 2. A **borosilicate heat exchanger structure** that reduces the contact time between the sample gas and the condensate, minimizing the solubilization of volatile components (e.g., SO<sub>2</sub>) that would otherwise be lost in the liquid phase.

Artik Air includes a **membrane pump** resistant to corrosive gas attack, with high pressure and flow rates exceeding what is normally required by gas analyzers. The pump is **internally regulated** by a temperature sensor that activates the suction once the user-set point is reached and turns it off in case of exceeding a safety temperature.

The gas outlet temperature from the system can be easily checked with an **external thermocouple** and fully complies with the **UNI EN 15058 standard** (< 4 °C), without requiring the use of thermocouples installed inside the system, which cannot be properly verified by a calibration thermometer chain.

The **peristaltic pump** installed in the system allows for the automatic and continuous removal of condensate, which can be collected, if necessary, for subsequent laboratory analysis via a pneumatic connection.

An **external display** shows the gas outlet temperature, which is monitored by the electronics and kept constant.

The **ergonomic design**, optimized for **reduced dimensions and weight**, facilitates easy handling of the system, despite the **high cooling capacity** that allows its use even under conditions of high temperature and humidity in the incoming gas.

ENVIRONMENTAL CONDITIONS					
Temperature	0-45 °C 95%RH				
• ELECTRICAL					
Power supply	230Vac - 50Hz				
Power consumption	Max. 200W (250W with Peltier)				
INTERNAL SENSORS					
	Pt	Range	Resolution	Precision	
Compressor and Dew Point temperature	100	-70 +250 °C	0,1°C	1%	
SUCTION PUMP					
Suction pump type	Membrane pump				
Maximum suction flow	> 3 L/min				
Power-on mode	Automatic when set point reached				
Safety shutdown	Automatic when the safety threshold is exceeded				
PERISTALTIC PUMP					
Safety shutdown	Automatic when the safety threshold is exceeded				

## TECHNICAL FEATURES

SYSTEM FEATURES		
Cooling capacity	> 500 W @ Tc 40°C, Te 10°C (+50W with Peltier)	
Cooling liquid	R290	
Weight	about 15 Kg (17 Kg with Peltier)	
OPTIONS		
Particle filter		
Customisable air inlets for he	ated probes	

