



# ISOCHECK SRB

## Automatic Processor

**MEGA SYSTEM**  
s.r.l.

POLLUTION CONTROL SYSTEMS

The ISOCHECK is a portable automatic processor that, through an "L" or "S" PITOT tube with a "K" thermocouple, allows to easily and immediately measure the pressure and temperature values for further processing.

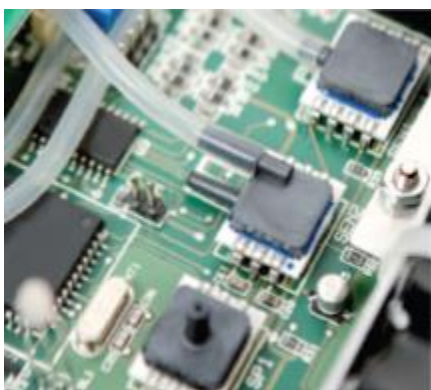
It is equipped with a polycarbonate keyboard to setup the parameters and an alphanumeric LCD display with backlight to display the data. The automatic processor also has a clock to manage DATE and TIME.

For continuous measurements is possible to use the data-logger function which allows to store the parameters of pressure and temperature at adjustable time interval, from 10 seconds to 5 minutes.

The optional micro valves allow to execute the zero of the sensors with the measure tube insert in the stack without disconnecting the connecting tubes.

The instrument feature **INDIPENDENT** sensors to measure Differential Pressure, Static Pressure, Barometric Pressure and an input for the measure of a type K or J thermocouple.

It is available in the certified LAT version (as requested for the ACCREDIA accreditation).



Thanks to its capacity to adjust the integration time of the measures it's possible to execute precise measurement in any flow conditions



The dedicated software allows to elaborate the measured parameters and execute the calculation of speed, flow, isokinetic aspiration flow and of the nozzle to use in PM10 and PM2,5 in EMISSION (US EPA METHOD 201A).

The calculations are done according the UNI 16911-1 and is possible to insert the SWIRL angle and wall factor (WAF).

By the use of its specific menu is also possible to:

- calculate the MEASURE and SAMPLING point for circular and rectangular stack according the regulations UNI 16911-1 and UNI 13284-1
- calculate the Density (O<sub>2</sub> e CO<sub>2</sub>) and moisture
- execute the LEAK TEST of the Darcy tube
- execute the AUTOMATIC ISOKINETIK SAMPLING (optional) with automatic continuous adjustment of the aspiration flow at the change of the fume velocity (it require a sampler of the LIFETEK XP-R series).

The data measured and processed can be stored and reviewed lately, they can also be transferred to an USB flash drive or to a PC using the RS232.

The processor is powered with internal rechargeable batteries (NiMh) with high capacity with no memory effect which allows long lasting measure time (more than 9 hours).



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With the supplied power supply and thanks to its POWER/CHARGE function is possible to use the instrument taking advantage of the mains voltage and correctly charge the internal batteries at the same time.



Connections compatible with all the Pitot Tube and thermocouple (K – J).

RS232 port for data download on a PC or for the connection to a pump of the LIFETEK series to execute automatic isokinetic sampling.



The instrument is supplied with its casing, shoulder bag and testing report.

Note: The testing report contains also the calibration procedure used and the indication of the primary standard used. The primary standard used are certified by LAT Centre or by International Calibration Centre accredited by members of the E.A – European co-operation for Accreditation (association which represent the agencies or European accreditation).

## FEATURES UNI EN ISO 16911-1

Dedicated program to execute a leak test of the measure tube (9.3.2 Pre-test leak check)

Set of the angle in the measure point; if the angle is greater than  $15^\circ$  the velocity value of the point will be multiplied for the cosine of the angle itself (9.3.5 Swirl or cyclonic flow).

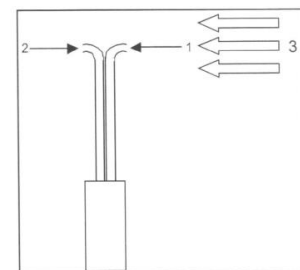
For each measure point is calculated the average value for all the parameters (temperature, differential, static and barometric pressure) obtained on the instantaneous readings (9.5 Measurement of flow at locations within the measurement plane)

It is possible to insert the WAF to execute the correction of the average velocity in the duct (10.4 Correction of average velocity for wall effects).

### A.3.3 Absolute pressure of gas

Thanks to its static pressure sensor independent to the barometric sensor is possible to do the calculation of the absolute pressure as stated in the formula A.12 of the regulations and it's possible to execute multiple instantaneous readings to increase the QUALITY of the results

ISO 16911-1:2013(E)



Key  
1  $p_2$  total or stagnation pressure  
2  $p_3$  static pressure  
3 v flow direction

Thanks to the use of independent sensors for static and barometric pressure is possible to be in compliance with all the requisite of the Table 3 (Performance requirements), Table 4 (Performance requirements during field measurements) and of Table A.1 (Performance requirements for differential pressure-based flow measurement).



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### TECNICAL SPECIFICATION

#### DETECTED PARAMETERS

##### Differential Pressure Sensor

Range: 0 ÷ 100 mmH<sub>2</sub>O (0 ÷ 1000 Pa)  
Resolution: 0,01 mmH<sub>2</sub>O (0,1 Pa)  
Precision: ± 1 % of the measured value

##### Static Pressure Sensor

Range: -1000 ÷ 1000 mmH<sub>2</sub>O (-10.000 ÷ 10.000 Pa)  
Resolution: 1 mmH<sub>2</sub>O (1 Pa)  
Precision: ± 1 % of the measured value

##### Barometric Pressure Sensor

Range: 800 ÷ 1100 mbar  
Resolution: 0,1 mbar  
Precision: ± 2 mbar

##### Thermocouple Type K

Range: 0 ÷ 1000 °C  
Resolution: 0,1 °C  
Precision: ± 1 % of the measured value (in Kelvin)  
Linearity: ± 1 °C (software linearization)

##### Thermocouple Type J

Range: 0 ÷ 600 °C  
Resolution: 0,1 °C  
Precision: ± 1 % of the measured value (in Kelvin)  
Linearity: ± 1 °C (software linearization)



**Interface for management programming**  
Alphanumeric 32-character display (16x2 line)  
Polyester keyboard

**Data download interface**  
RS232  
USB (on flash drive)

**Operative temperature**  
-10 °C ÷ +40 °C - 95% UR

**Power**  
Internal rechargeable batteries (integrated battery charger)  
Main power (standard power supply)  
[input 230Vac – 50Hz / output 12Vcc – 0.7A]

**Size and weight**  
200x100x40mm - 550g

