SC METROMAT SRL

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Data logger, VACQ Composite.

Temperature data logger

VACQ Autoclave



Measurement of temperature inside your thermal cycles under pressurized atmosphere with a real time thermocouple logger and/or transmitter. Up to 15 Bar and 250°C.

The **VACQ Autoclave** logger has been specially designed for use in autoclaves. Watertight up to 15 bar, it allows temperature measurement inside autoclaves for applications such as mapping of thermal cycles or validation of sterilization, curing, polymerization processes.

Fully placed inside the autoclave, it follows the products during the thermal cycle and transmits measured data in real time with **FullRadio** mode and TMI-ORION QLEVER software.
Preparation of products to be validated and placement of the thermocouples are done outside the autoclave. The thermocouples are connected to the VACQ Autoclave external extension box. This way, handling operations are reduced, it is no longer necessary to disconnect the thermocouples during loading and unloading phases. Process duration is then optimized.

Examples of applications:

Food sterilization
Curing of composite materials,
Glass and windshield manufacturing,
Rubber vulcanization…







Operating range

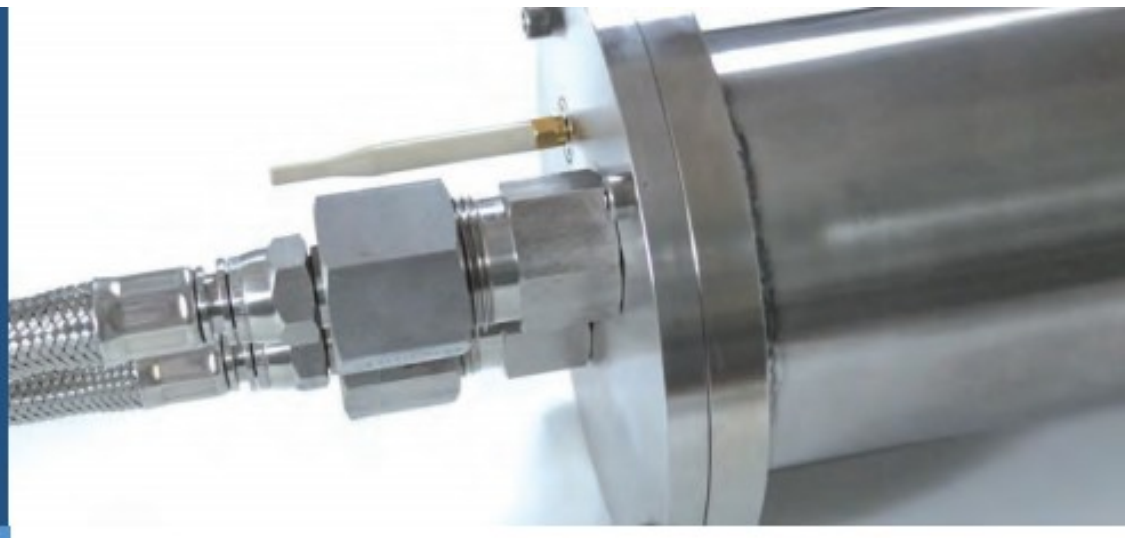
Models	Operating range up to 15 Bar	Number of thermocouple channels	Dimensions	Dry atmosphere	Humid atmosphere
VACQ A140.8H	**From 0°C to 140°C**	8	D. 96mm x L 230mm	x	x
VACQ A140.8D				x	
VACQ A140.16H		16		x	x
VACQ A140.16D				x	
VACQ A140.30H		30	D. 130mm x L 205mm	x	x
VACQ A140.30D				x	
VACQ A185.16H	**From 0°C to 185°C**	16	D. 150mm x L 750mm	x	x
VACQ A185.16D				x	
VACQ A185.30H		30		x	x
VACQ A185.30D				x	
VACQ A250.12H	**From 0°C to 250°C**	12		x	x
VACQ A250.12D				x	

In addition to the standard models, we can study any other version (number of channels, operating temperature and exposure time).

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Metrologie

- **Internal reference channel calibration uncertainties:** +/- 0,1°C from 0°C to +140°C

The specified uncertainties correspond to two standard deviations. The uncertainties are calculated taking into account the various significant error sources, including the calibration probes, the equipment, the environmental conditions, the influence of the logger, repeatability, etc…

- Each logger can be calibrated and checked at the temperature points needed by the user.
- **Temperature and noise resolution:** 16 bit converter, resolution: <±0,1 °C
- Thermocouple measurement type K (full scale 1300°C), type T (full scale 400°C), other types upon request (J, N, …)

Technical specifications

	Number of channels	Non volatile memory capacity	Material
A140	Up to 30 connected thermocouple elements and up to 3 platinum sensors as reference channel for cold junction, and internal temperature of the box.	8 channels: 26 100 acquisitions per thermocouple channel	Logger body: 316L Stainless steel Antennas: PEEK
		16 channels: 13 700 acquisitions per thermocouple channel	
		30 channels: 14 500 acquisitions per thermocouple channel	
A185	Up to 30 connected thermocouple elements and up to 6 platinum sensors as reference channel for cold junction, and internal temperature of the box	16 channels: 13 700 acquisitions per thermocouple channel	
		30 channels: 14 500 acquisitions per thermocouple channel	
A140	Up to 30 connected thermocouple elements and up to 3 platinum sensors as reference channel for cold junction, and internal temperature of the box.	8 channels: 26 100 acquisitions per thermocouple channel	Logger body: 316L Stainless steel Antennas: PEEK
		16 channels: 13 700 acquisitions per thermocouple channel	
		30 channels: 14 500 acquisitions per thermocouple channel	
A185	Up to 30 connected thermocouple elements and up to 6 platinum sensors as reference channel for cold junction, and internal temperature of the box	16 channels: 13 700 acquisitions per thermocouple channel	
		30 channels: 14 500 acquisitions per thermocouple channel	
A250	Up to 12 connected thermocouple elements and up to 3 platinum sensors as reference channel for cold junction, and internal temperature of the box	12 channels: 18 600 acquisitions per thermocouple channel	

	Number of channels	Connectors	Material
External extenson box	Adapted to the number of channels of the logger	Miniature, standard or universal (upon request)	304 Stainless steel for the flexible hose / 316L Stainless steel for the box

We can study any customization of the box : connectors, format, flexible hose length.

- **Programmable acquisition rate:** minimum 1 second, maximum 59 minutes and 59 seconds.
- Programmable acquisition duration
- Programmable recording start by date, hour, minute
- Non volatile memory (EEPROM)
- User replaceable high temperature battery.

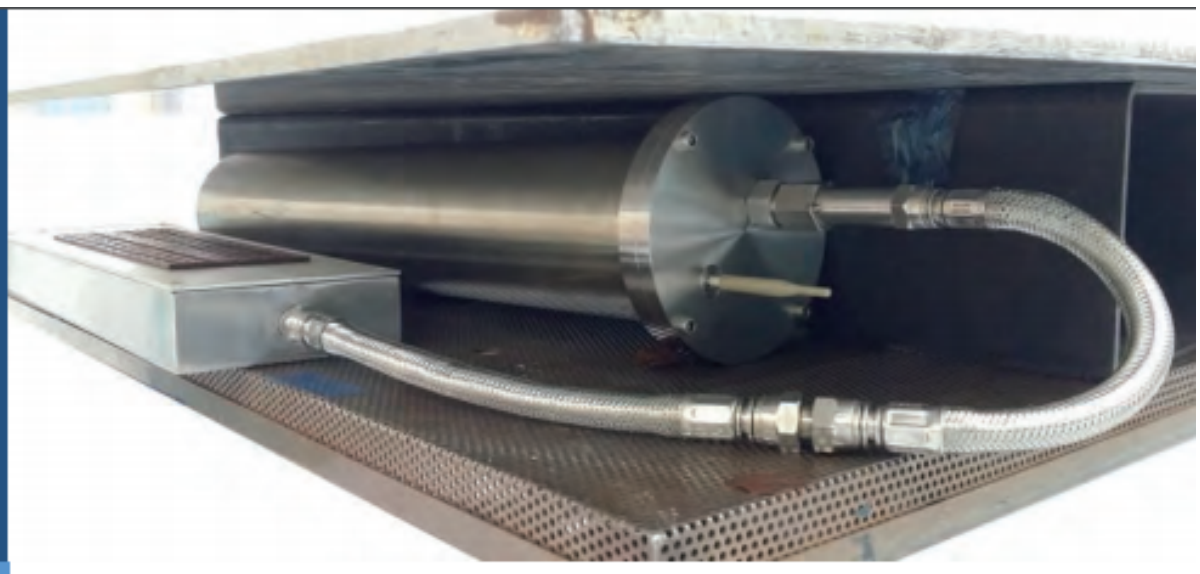
Software operating conditions

- Operates under **Windows® XP (SP3)/VISTA/7/8.**
- Data management software TMI-ORION (logger set-up, reading of records...)

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FullRadio : radio transmission

VACQ Autoclave loggers use the technology based on the IEEE 802.15.4 standard.

- FullRadio mode used by the VACQ Autoclave offers the following functionalities:
  - wireless and contactless remote setup, starting and reading of data,
  - radio recording and transmitting of data during measurement,
  - starting and/or stopping the recording (or radio transmission) on a date.

- Connectable antenna models:
  - Standard antenna: length 49 mm, medium range (25 meters in clear field).
  - Short antenna: length 25 mm, short range (15 meters in clear field).
  - Long antenna: length 79 mm, long range (30 meters in clear field).
  - Possibility to use remote antenna for the VACQ Autoclave.

A preliminary test is recommended to validate the hertzian transmission in the user's application.

- ZigBeeBase transmitter with connectable antenna. Optional remote antenna for sterilizators.
  - Connection of the ZigBeeBase radio transmitter with one of the following:
  - USB,
  - RS485 long distance,
  - Ethernet connection

- Frequency: ISM 2.4 GHz (2.405 GHz to 2.475 GHz) bandwidth. This bandwidth can be used without license.

- Output power: maximum 5 dBm (3.2 mW)

- VACQ Composite is compliant with the following regulations: EN 61326-1 :2006, ETSI EN 301 489-17:2009 V2.1.1, EN 300 328 V1.7.1, EN 60950-1: 2006, FCC Part 15, ICES 001

NOTA: Aceasta fisa a fost realizata sub rezerva modificarilor ulterioare de ordin tehnic sau a erorilor de editare.

Fotografia are caracter informativ.

NOTE: Products and specifications are subject to change without prior notice .Pictures may differ from original.