

Food and Beverage

Data Logging Solutions for Food and Beverage Processing



Our history



IDEAS
IN ITALY

“ WE DESIGN AND DEVELOP BRAND NEW SOLUTIONS ”

Tecnosoft, founded in 1989, is an Italian research and development company of technical-scientific software, data acquisition systems and solutions for many different fields. We develop projects on demand and have also our own line of data logging systems for temperature, humidity and pressure monitoring in the pharmaceutical, medical, healthcare and food & beverage fields.

Tecnosoft has a very important question for you: How do you measure the quality of your products? Do you use proper and reliable devices that give you the exact quality value of your product or your performance? Our goal is to provide the suitable loggers and tools needed to help food manufacturers and food technologists perform their jobs more effectively and efficiently.

Food & Beverage sector requires numerous and constant controls to ensure the quality of production, preservation, refrigeration, always optimal and in compliant with the requirements of the regulations and standards. In all these years Tecnosoft has developed important skills in understanding the Customer's requirements and transfer them into the project's specifics and the development of the system, keeping itself up to date on new

available technologies providing always advanced solutions.

Tecnosoft is not a mere hardware manufacturer but a complete solution provider which includes dedicated software for specific applications in different fields, that will answer to regulations' requirements and being user friendly to the final operator.

Thanks to our flexibility and constant update we can understand rapidly customers needs and translate them in new systems or continuous updates of existing solutions, along with the possibility of customizations for the different users.

Our sales and technical team can advise the customer in selecting the right product for each application, as well as provide after sales support.

Since 2002 Tecnosoft has implemented a certified quality system based on the ISO 9001:2000 and then on the 9001:2008 regulation and it is currently updating it to the new ISO 9001:2015.



Application Fields for Food & Beverage Industry

Tecnosoft offers a wide range of different temperature, humidity and pressure data loggers for food processing applications. The loggers are made of food-grade material, are completely submersible and withstand temperatures of up to 140°C and 5 bar. The operating temperature range for applications above 140°C can be extended with heat protections made also of food-grade material.

Monitoring Fields

Pasteurization Processes
Sterilization Processes
Autoclave Monitoring
Retort Monitoring
Fresh Filled Pasta Monitoring
Pasta Drying Processes



Cooking
Bakerying
Cooling
Ovens
Smoke Houses



Compliance & Standards

Tecnosoft systems are compliant with the relevant standards and guidelines:

ISO 285	Sterilization - Steam sterilizers - Large sterilizers
ISO 17665	Sterilization of health care products and routine control of a sterilization process
HACCP	Hazard analysis and critical control points
FDA 21 CFR Part 11	US FDA regulations
BRC	British Retail Consortium regulations
GAMP	Guidelines for good automated manufacturing practice

High temperature, humidity & pressure data loggers for Food & Beverage Industry

Tecnosoft provides accurate high temperature, humidity & pressure data loggers. Most models are available with different types of probe and are provided with a reference traceable certificate. The batteries are user replaceable.

SterilDisk

Dimensions: 17,4 h X 36,5 ϕ (mm) / Accuracy: $\pm 0,2$ °C / Resolution: 0,01°C / Memory: 20.224
Battery: +1.400.000 acquisitions @25°C



Internal Sensor – Rigid Probe Ø 4 mm

Probe Length: 10 mm
Range: -20°C ÷ +140°C



Rigid Probe Ø 3 mm

Probe Length:
20/50/100/150 mm
Range: -20°C ÷ +140°C



Threaded Probe Ø 3 mm

Probe Length: on demand
Range: -20°C ÷ +140°C



Flexible Probe Ø 3 mm

Probe Length:
50 mm or on demand
Range: -20°C ÷ +140°C

P/S-Micro

Accuracy: $\pm 0,1$ °C / Resolution: 0,01°C / Memory: 20.224 / Probe Length: 20/50/100/150 mm or on demand



P/S-Micro with rigid probe Ø 3 mm

Dimensions: 14 h X 17 ϕ (mm)
Range P-Micro: 0°C ÷ +100°C
Range S-Micro: 0°C ÷ +140°C
calibrable up to 220°C
Battery: 560.000 acquisitions @25°C



P/S-Micro L with rigid Probe Ø 3 mm

Dimensions: 39 h X 17 ϕ (mm)
Range P-Micro L: -40°C ÷ +100°C
Range S-Micro L: -40°C ÷ +140°C
calibrable up to 220°C
Battery: 10.000.000 acquisitions @25°C



P/S-Micro XL with rigid Probe Ø 3 mm

Dimensions: 64 h X 17 ϕ (mm)
Range P-Micro XL: -40°C ÷ +100°C
Range S-Micro XL: -40°C ÷ +140°C
calibrable up to 220°C
Battery: 17.000.000 acquisitions @25°C

P/S-Radio for real time monitoring

Dimensions: 76 h X 30 ϕ (mm) / Accuracy: $\pm 0,1$ °C / Resolution: 0,01°C / Memory: 121.171 / Battery: +3.800.000 acquisitions @25°C



Rigid Probe Ø 3 mm

Probe Length: 20/50/100/150 mm
or on demand
Range P-Radio: -40°C ÷ +100°C
Range S-Radio: -40°C ÷ +140°C



Flexible Probe Ø 3 mm

Probe Length: 50 mm
or on demand
Range P-Radio: -40°C ÷ +100°C
Range S-Radio: -40°C ÷ +140°C



Rigid Probe Ø 3 mm

Probe Length: 95/130/148 mm
or on demand
Range PasteurDisk Can: -20°C ÷ +100°C
Range SterilDisk Can: -20°C ÷ +140°C

Pasteur/SterilDisk Can for cans and bottles

Dimensions: 17,4 h X 36,5 ϕ (mm) / Accuracy: $\pm 0,2$ °C / Resolution: 0,01°C / Memory: 20.224 / Battery: +1.400.000 acquisitions @25°C

PressureDisk

Dimensions: 43,22 h X 35 ϕ (mm) / Temperature accuracy: $\pm 0,1$ °C
Temperature resolution: 0,02°C / Pressure resolution: 2 mbar
Pressure accuracy: ± 15 mbar / Memory: 27.264 / Battery:
+6.000.000 acquisitions @25°C



Pressure & Temperature

Probe Length: 20 l X ϕ 3 mm
Temperature range: -40°C ÷ +140°C
Pressure range: 0 bar ÷ 5 bar absolute



Pressure

Temperature operative range:
0°C ÷ +140°C
Pressure range: 0 bar ÷ 5 bar absolute

RHTemp Temperature & Humidity

Temperature resolution: 0,015°C / Humidity resolution: 0,02% RH
Memory: 10.112 / Humidity range: 0% ÷ 100% RH (not condensing)
Dimensions L/XL: 46/71 h X 17 ϕ (mm) / Battery L/XL:
+8/14.000.000 acquisitions @25°C



RHTemp80 L/XL

Temperature range: -40°C ÷ +80°C
Temperature accuracy: $\pm 0,2$ °C (0 °C ÷ +60°C) / $\pm 0,5$ °C (-20 °C ÷ +80 °C)
Humidity accuracy: $\pm 1,8\%$ RH (0% ÷ 80%) @ 23°C



RHTemp125 L/XL

Temperature range: -40°C ÷ +125°C
Temperature accuracy: $\pm 0,2$ °C (0 °C ÷ +60 °C) / $\pm 0,5$ °C (-20 °C ÷ +125 °C)
Humidity accuracy: $\pm 1,8\%$ RH (0% ÷ 85%) / $\pm 3\%$ RH (85% ÷ 100%) @ 23°C

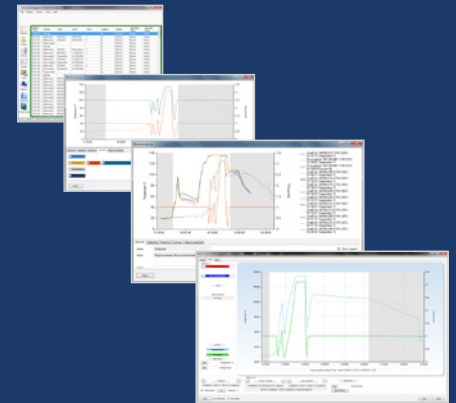
TS Manager

Validation Software for autoclaves, compatible with **FDA 21 CFR Part 11** regulations.

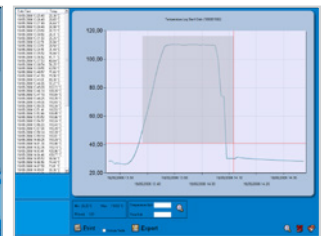
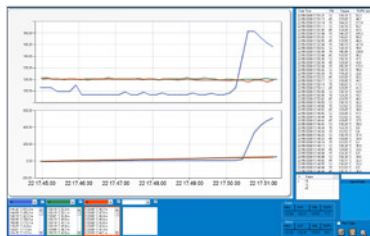
The TS Manager is an advanced validation software developed according to **21 CFR Part 11** and **GAMP guidelines**.

The software enables the user to collect, display and analyse validation data from all Tecnosoft high temperature, pressure and humidity devices and has all features and all reports needed for validators of autoclaves, incubators in the healthcare & medical industry.

The intuitive interface of software puts in your hands a powerful tool but very easy to use. Create your database of Customers and Instruments to validate, create validation profiles to analyse the processes, start your loggers and then download them and check all data collected. The IQ/OQ protocols are also available from Tecnosoft.



Intuitive, simple and user friendly Tecnosoft high temperature data loggers management software. This software can be downloaded for free from the Tecnosoft website.



Software Features

- Data management: Missions sorted by starting date and logger serial number
- Data display: Graph (with zoom) and table (exportable into Excel), markers for process start and end, printed report of all the data, Multigraph
- Customizable parameters: Acquisition step, mission duration, notes, Z and reference temperature value for lethality calculation (F0, PU, A0 etc.)
- Customizable Graphs
- Tabular data View
- Calculated parameters: Lethality (F0, PU, A0 etc.)
- Alarms: Local (acoustic and/or visual) on PC (for P-Radio, S-Radio only)
- Languages: English, Italian, German, French, Spanish, Japanese

Reporting & Data Analysis

The SPD software is easy to use and full of options. It allows to start the devices setting the start delay, mission duration, notes. After download data are displayed on graph, with zoom function, and table, exportable in Excel. A multi-graph function is also present to display many curves on a single graph. It is possible to put two vertical markers (lines) to highlight a particular area of the process, giving a name to the markers too and calculate the lethality value for that portion only.

The software calculates the lethality value (F0, PU, A0 etc.) of the process to evaluate the level of sterilisation or pasteurization. In the configuration window it is possible to set the parameters, such as Z and reference temperature, for the lethality calculation according to the process you want to monitor. The software, moreover, allows to print complete reports with graph, data table,

device serial number, and other notes added by the user. It is also possible to see the battery status of the connected device.

The SPD software supports the wireless data logger for pasteurisation and sterilisation too, P-Radio and S-Radio. Through the USB Radio Receiver you will be able to receive data in real time from your process. You will see the data one after another, you will be able to assign an alarm profile (on lethality values and temperature values to be reached) and you can choose up to 4 sensors (that can be selected any time) to display a graph both for the temperature and the progressive lethality curve. It is possible to ask to calculate lethality only for certain curves and exclude the other sensors from the statistics.

Operating System Requirements: Windows XP, Vista, 7, 8, 10 (32, 64 bit)

Fittings & Accessories

DiskInterface HS



Computer USB reading base for downloading data and programming all models of high temperature & pressure data loggers.



DiskInterface HS Mini



Computer USB reading base for downloading data and programming for high temperature data loggers as SterilDisk series, Pasteur/SterilDisk Can, P-Micro, S-Micro.



Universal multibay



Multiple reading base allows to connect up to 5 data loggers to be programmed and downloaded simultaneously.



USB Radio Receiver



Radio Receiver for wireless dataloggers as P-Radio, S-Radio connected to the PC via USB cable.



4-20 mA Receiver



4-20 mA Radio receiver for P-Radio and S-Radio connected to the machinery's PLC.



Autoclave Special Antenna



A special antenna to be inserted directly into the autoclave for optimal signal receiving. This antenna can be connected to any radio receiver instead of the standard antenna.



Heat Protections

Heat protections for applications above 140°C, available for S-Micro & S-Micro XL models.

The heat protection extends the operating temperature range of the data logger, allowing it to be exposed to higher temperatures up to 220°C for a certain time.



Fittings & Fastening System for food packages

Successful food pasteurization and sterilization process monitoring is granted when the sensor is placed correctly at the core of the product. It is also very important that sensors are placed correctly in the "cold/hot zone". Tecnosoft has several fastening systems available for placing loggers and inserting sensors into any variety of packaging material.

Fastening System for fixing high temperature loggers probes to closed packages

This fastening system can be applied to cans, jars, tins, metal lids, caps of bottles, retort packages and any other container and allows you to insert the probes of our loggers with the possibility of adjusting their depth inside the containers, in order to reach the products core without altering its mass. In this way with a single logger you can monitor different types of products and packages regulating the depth of the probe.

The complete fastening kit includes:



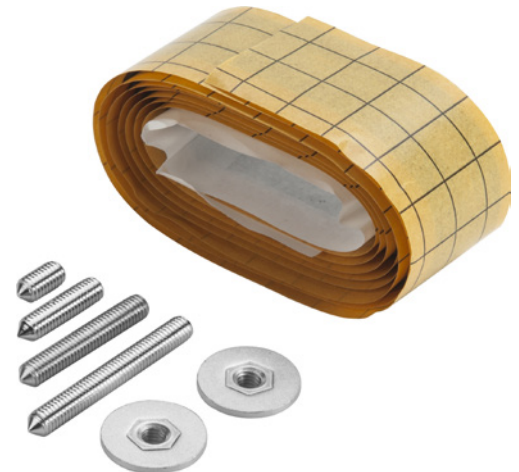
- Riveting tool with 20 M5/ 20 M8 rivets
- Locking bolt
- Threaded insert
- Teflon stopper for locking bolt and probes

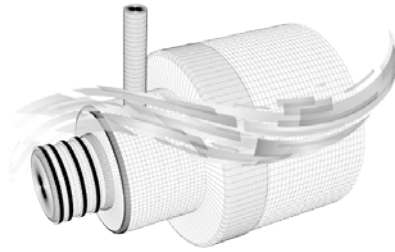


Fixing Base

Internal fitting system to use all our high temperature loggers inside the packages. It can be fixed on the bottom, on the walls or on the cap of the packages.

The Fixing Base Kit is made up by pivots set of 10, 20, 30, 40 mm length and 1 meter of adhesive rubber for high temperatures. The two bases are screwed on a threaded pivot of proper length for the package in use and the adhesive rubber is applied on both of them, to fix the logger to a base and the other base to the package surface (the walls, the bottom or the cap of the package). The adhesive rubber is easy replaceable and resists up to 140°C.





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