

**Easy to use**

Various screens provide easy-to-read information and instructions

**Individually design**

Customized certificate formats including company information, certificate numbering, etc.

**Clear view of calibration**

Graphic presentation allows you to follow the calibration while in progress

**User-friendly database registration**

Calibration procedures and results are stored in a user-friendly database structured like Explorer including searching and sorting facilities

**Flexible calibration**

Choose between different temperature sources, such as dry-block calibrators, liquid baths, and ovens

**Reduce calibration time**

Control two dry-blocks simultaneously and reduce your overall calibration time significantly

**Scheduler feature**

Plan upcoming calibrations with the scheduler function; list the tag, location, and calibration due date for the instrument

**Automatic calibration**

Automatic calibration of all JOFRA dry-blocks equipped with an RS232 interface, JOFRA ASC300 signal calibrator and the reference thermometer JOFRA DTI-1000

ISO 9001 Manufacturer

# JOFRACAL Software

## Temperature

## Calibration

## Software

### Automatic calibration with built-in scheduler and documentation features

JOFRACAL temperature calibration software ensures easy calibration of RTD's, thermocouples, transmitters and thermo-switches. JOFRACAL software has been developed not only for use with the well-known JOFRA temperature dry-block calibrators; it also functions as a stand-alone product and may be used in combination with the JOFRA DTI reference thermometer and the JOFRA ASC300 signal calibrator.



### PRODUCT DESCRIPTION

JOFRACAL software presents the means for an entirely automatic calibration of sensors and a semi-automatic calibration of the complete process loop through the use of a PC. The software provides the comparison between the process readout value and the reference value; a measurement that is typically required within ISO9000, GMP, or HACCP systems. Additionally, this evaluation may be performed on-site without electrical interruption of the loop.

A variety of screens present the user with information in an easy-to-read format. This provides the technician with an optimal overview to allow for setting up the calibration procedure as well as in performing the calibration. Furthermore, JOFRACAL also includes facilities for generation and printing of detailed certificates.

This feature even provides tools which allow you to customize the certificate content and format to comply with accepted norms and standards including: company-specific information, numbering, and terminology. We have also designed functions to permit the incorporation of specific requirements from your ISO program so that the documentation may be a direct part of your existing quality system.

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CALIBRATION INSTRUMENTS

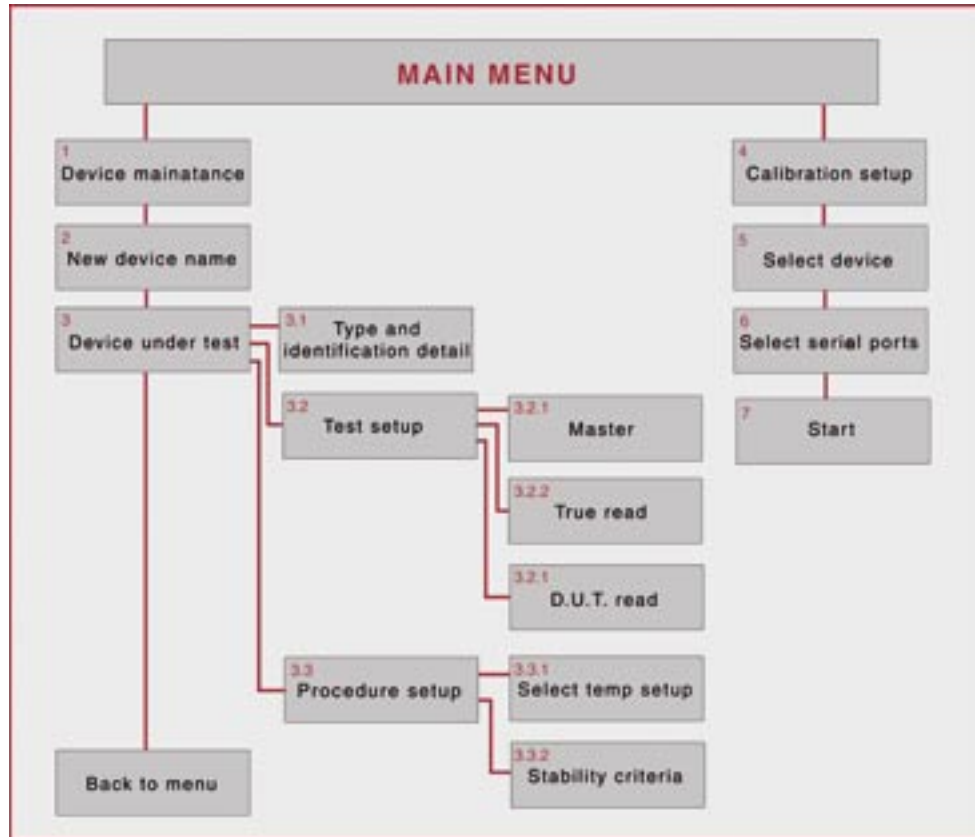
**Easy setup**

The key to an easy setup of a calibration task is the unique "Icon bar". The "Icon bar" tells you the current status of the calibration process, starting with selection of the sensor to be calibrated and ending with the performance of the calibration.

The diagram (right) shows the basic steps needed to set up a calibration.

First, the user would enter the specifics for the temperature sensor to be calibrated (1-3), and next he or she would set up and start the calibration (4-7).

The next time the user needs to calibrate the same sensor, he or she can go directly to select device and run the calibration (4-7).



**Calibration setups**

JOFACAL software supports all JOFRA dry-block calibrators equipped with an RS232 interface, the JOFRA ASC300 multi-function calibrator, the JOFRA DTI-1000, the DTI-100 reference thermometers, and liquid baths, ice points or any other dry-block heat sources.



In the "Calibration setup" function, instruments can be combined in almost any required configuration. You simply select the desired method of performing your calibrations and the software will show your scenario and take care of the rest. Calibration procedures and results are stored in a built-in identification / Tag No. database.

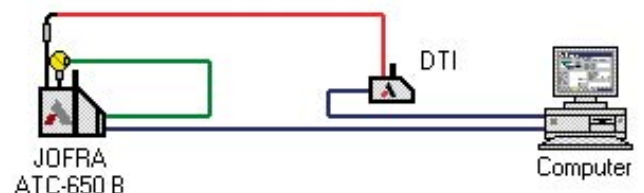
**Manual temperature calibration**

You are not limited only to equipment with an RS232 communication port. The JOFRACAL software can be set up to accept manual entry of calibration data. You can also perform on-site calibrations with your calibrators and key in the data when you are back in the workshop. Just select "manual reading" when in the scenario. This feature gives you the same look and data storage for all of your temperature calibrations. You may also choose to run the dry-block calibrator online, and key in your sensor-under-test data manually as shown below.

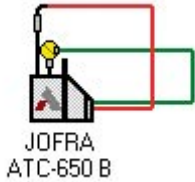


**Fully automatic temperature calibration**

To illustrate the flexibility of JOFRACAL, this scenario uses the DTI-1000 as an external reference and the ATC input for the sensor-under-test. This calibration is performed online.



**Fully automatic stand-alone temperature calibration**



When using a JOFRA ATC as the heating/cooling source, a complete calibration procedure can be downloaded to the dry-block. The measurement data can be uploaded to a PC after the test is performed for review, storage, and/or printing of certificates.

Calibrations are collected and stored as "Work orders" in a file and downloaded to the calibrator from a personal computer using a standard RS232 interface cable. The ATC calibrator stores the calibration procedure and may be taken out to the process site without the need to bring the PC.

This allows your ATC calibrator to:

- Operate as a stand-alone instrument, using advanced calibration routines without the assistance of a personal computer on-site;
- Prevent unauthorized changes to a calibration routine. Personnel who are not authorized to alter a calibration routine can be systematically prevented from doing so.

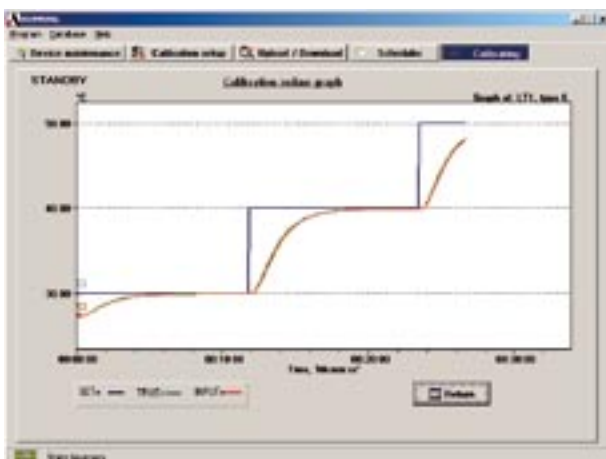
Once all of the calibrations are completed, the data may be up-loaded to the JOFRACAL software and saved as certificates. The calibration data collected on the personal computer may be viewed or analyzed later.



**During calibration**

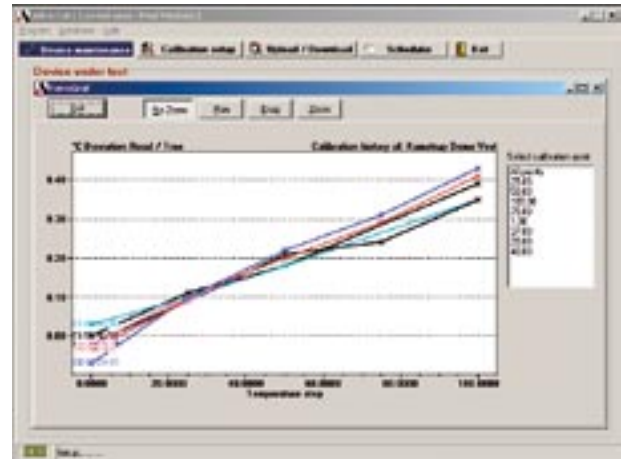
JOFRACAL features a useful and valuable graphic presentation mode. During calibration you can press the [Graf] button to see the calibration being performed.

With one quick look at the screen the user can check if the calibration is running as expected. If anything should be wrong, the calibration may be stopped. Corrections and adjustments can be made and the calibration may be started again. The feature prevents wasted time and money on flawed tests.



**Device history**

In the device history function it is possible to see the calibration history of the device-under-test. Calibration points are selected and the graph then clearly shows the deviation read at each temperature step.



**Scheduler**

An important feature of the JOFRACAL is the scheduler function. This feature does not only list the last calibration time, it also gives the user the capability to plan and schedule upcoming calibrations. The device list, which is printable, simply shows when the device is due for calibration and where in the process the device is located, making it easy to plan efficiently.

Device ID	Type	Last calibrated	Calibration due	Location
DEMB	PT100	2004-02-08	2004-03-08	17
DEMB 4 mm Cable 4. PT100	PT100	2004-02-08	2004-03-08	17
FF 6 mm Substrate	PT100	2004-03-07	2004-03-07	17
Industriale Type 6	PT100	2004-03-07	2004-03-07	17
Featuring Process Test 6 PT100	PT100	2004-03-08	2004-03-08	17

**Easy documentation**

After calibration you will be prompted for a certificate name. Besides just saving the certificate, it is also possible to print it out directly and/or save it as a PDF document. It is therefore very easy to provide verification and documentation of completed calibrations. All measurements and procedures are stored in a built-in data base under a user-defined name.

Common procedures are easily found and results are presented in a true certificate format complying with quality standards such as ISO 9000, BMP, HACCP, etc.

When a certificate is required, you may print a certificate in whatever language you prefer. Just click on the calibration name and start the print-out.

## STANDARD DELIVERY

### JOFRACAL - Temperature Calibration Software

The JOFRACAL temperature calibration software is supplied as standard with the following JOFRA calibrators:

- JOFRA ATC series, specification sheet no. SS-CP-2285
- JOFRA ITC series, specification sheet no. SS-CP-2286
- JOFRA ETC series, specification sheet no. SS-CP-2280
- JOFRA CTC series, specification sheet no. SS-CP-2281
- JOFRA DTI-1000, specification sheet no. SS-CP-2290

See the above-mentioned specification sheets and further information about the JOFRA instruments at [www.jofra.com](http://www.jofra.com).

The JOFRACAL temperature calibration software is optional for the following JOFRA calibrators:

- JOFRA ASC300, specification sheet no. SS-CP-2350
- Stand-alone

The JOFRACAL temperature calibration software, as well as updates, may be downloaded at [www.jofra.com](http://www.jofra.com) upon registration.

## ORDERING INFORMATION

Part no.	Description
124915	CD-rom with JOFRACAL temperature calibration software
125002	Edgeport converter with 4 RS232 ports. Connected and powered by the USB connection to the PC. Tested with JOFRA calibrators

Edgeport / 4



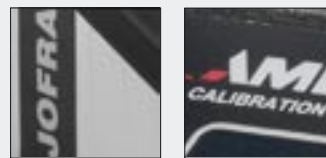
## SPECIFICATIONS

Minimum hardware requirements for JOFRACAL software:

- INTEL™ 486 processor (PENTIUM™ 200 MHz recommended)
- 16 MB RAM (32 MB recommended)
- 40 MB free disk space on hard disk prior to installation
- Standard VGA (800 x 600, 16 colors) compatible screen (1024 x 786, 256 colors recommended)
- CD-ROM drive for installation of the program
- 1 free RS232 serial port
- Windows 2000, ME, NT or XP



temperature  
software  
pressure  
signal



### AMETEK

#### Calibration Instruments

offers a complete range of calibration equipment for pressure, temperature, and signal - including software.

#### JOFRA Temperature standards

Portable precision thermometer. Dry-block calibrators: 4 series, more than 20 models - featuring speed, portability, accuracy, and advanced documenting functions.

#### M&G Primary pressure standards

Pneumatic floating-ball or hydraulic piston deadweight testers - easy-to-use with accuracies up to 0.015% of reading.

#### JOFRA Pressure standards

Convenient electronic systems ranging from -1 to 700 bar (25 inHg to 10,000 psi) - multiple choices of pressure ranges, pumps, and accuracies, fully temperature-compensated for problem-free and accurate field use.

#### JOFRA Signal calibration

Process signal measurement and simulation for easy control loop calibration and measurement tasks - from handheld field instruments for multi or single signals to laboratory reference level bench top instruments.

...because calibration is  
a matter of confidence

**AMETEK**<sup>®</sup>  
CALIBRATION INSTRUMENTS

[www.ametekcalibration.com](http://www.ametekcalibration.com)  
[www.jofra.com](http://www.jofra.com)

AMETEK is a leading global manufacturer of electrical and electromechanical products for niche markets. AMETEK's annual sales exceed \$1 billion. NYSE (AME) since 1930. Operations are in US, Europe and Asia, with about 1/3 of sales to markets outside the US.

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