JOFRA® calibration

CTC-1205

Compact Temperature Calibrator

Save Time, Save Money

Best in class industrial calibrator

Joftra CTC-1205 temperature calibrator is the most accurate high temperature industrial class temperature calibrator on the market.

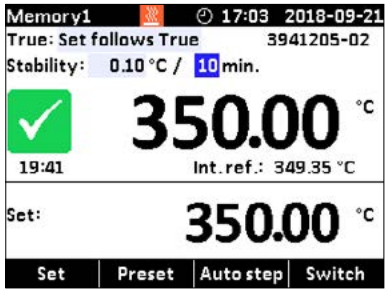
External reference sensor ensures full documentation

All our C Models are designed with a signal input for an **external reference sensor**.
When you order the CTC-1205C including the STS-TC reference sensor, the package will **include a full system calibration certificate as well as certificate for the block**.

Wide temperature range

The CTC-1205 covers a wide temperature range from 100 to 1205°C (212 to 2201°F).
This makes it sufficent to cover all standard industrial temperature calibration applications.
CTC-1205: 100 to 1205°C (212 to 2201°F)

External sensor control



The CTC can be run in two modes when using the external reference sensor.
External Ref mode: The external reference sensor represents the True value.
Set Follows True mode: The reference sensor serves two purposes; measuring the reference temperatue and at the same time controlling the block temperature to the set temperature.

Fast calibration

Jofra CTC-1205 provides a very fast heating time and even offers a **cooling time reduced with 62%** compared to the previous version, CTC-1200. The CTC-1205 offers an outstanding stabilization time. Performing a **three-point temperature calibration** procedure is fast and saves time.

Easy to carry

The CTC series is designed for **calibration on-site** as well as in the maintenance shop. We have focused on great portability in regard of size and weight. **CTC-1205 weighs 40% less** than CTC-1200. The calibrator is lightweight and easy to carry and with a **rugged handle** placed away from the heat-zone.

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Multi-Information Display

Status Bar

Shows information about recalibration due status and hot/cold safety warnings and keeps track of date and time.

Calibration Settings

Shows the actual calibration settings for reference sensor and stability criteria. Can be accessed and changed directly in the display by use of the arrow keys.

Calibration Status

Shows current status of the calibrator, like heating/cooling, stabillity achieved and expected time to stability.

Function Bar

Shows the current possibilities of the function keys.

Function Keys

The function keys serve as shortcuts to the main functions like Set, Preset, Auto step and Switch test. When entering one of the functions the function key shows the options within the selected function.

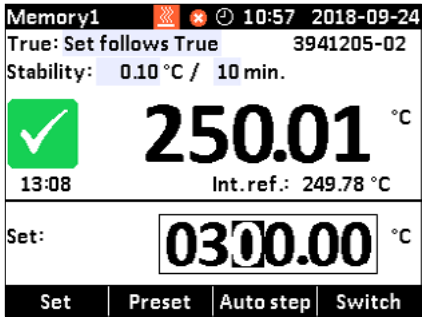
Informative color display and intuitive operation

The CTC series is designed with an easy to read and very informative color display that gives you a full overview of the calibration task you currently are performing.

Useful Features

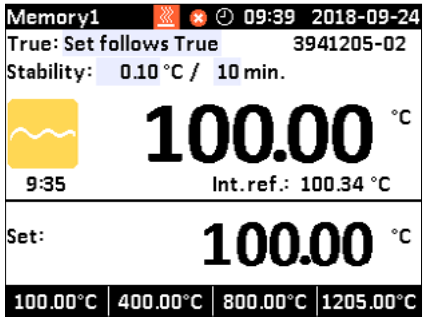
The CTC-1205 is a very versatile calibrator with many integrated functions - you can run the calibration in four different ways.

Set function



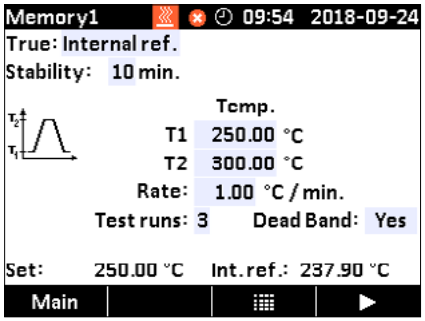
The fastest and simplest way of starting the calibrator. Simply press SET and type in the wanted temperature and off you go.

Preset mode



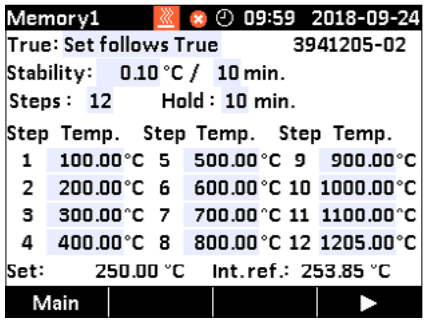
In PRESET mode you just activate one of the preset temperatures. Naturally the presets are programmable for your specific needs.

Auto Switch Test



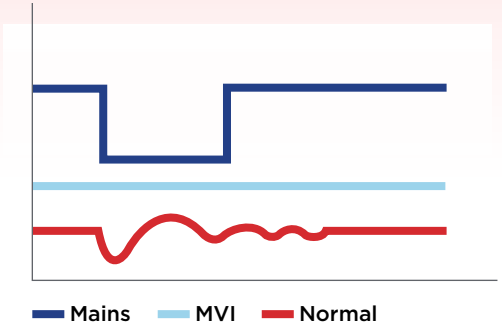
Switch test calibration is a perfect time saver. Start the switch calibration and come back to note the results after the test. You decide if you want the deadband or not - and the test can be repeated automatically in up to three subsequent runs.

Auto Stepping



In AUTOSTEP mode you can program as much as 12 temperature steps and at the same time set the dwell time. Even the stability criteria can be programmed. Just start the sequence and the calibrator will run through the steps.

MVI – Mains Power Variance Immunity improves temperature stability Unstable mains power supplies are a major contributor to calibration inaccuracies. Traditional temperature calibrators often become unstable in industrial environments where large electrical motors, heating elements, and other devices are periodically cycled on and off. The cycling of supply power can cause lower quality temperature regulators to perform inconsistently, leading to both inaccurate readings and unstable temperatures. The CTC series employ the MVI, thus avoiding such stability problems. The MVI circuitry continuously monitors the supply voltage and ensures a constant energy flow to the heating elements.



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Special Features

Multi sensor calibration

Insert heat loss due to mass loading from multiple or large sensors can be a challenge for most dry-block calibrators.
The CTCs advanced feedback algorithms combined with the external reference sensor effectively addresses these challenges and makes the accuracy even better.

IRI - Intelligent Recalibration Information

When switching on the calibrator or connecting the reference sensor, the calibrator immediately warns you if any of the calibration certificates are overdue. A buzzer and warning appears. The recalibration interval can be set from 1 to 99 months.

Plug and Play reference sensors

STS-TC reference sensors are plug and play as they contain information in the connectors memory chip: Sensor coefficients • Unique serial number • Temperature range • Calibration date • Calibration interval

Broad range of inserts

The CTC series offers a broad range of inserts to match almost any unit under test diameter. The CTC-1205 has the same insert dimensions as the CTC-1200, so existing insters can be re-used.
For flexibility AMETEK can design special multihole inserts (3-holes) with the most common sensor diameters.

Reference sensor protection

The CTC will be blocked if it is set to a temperature outside the reference sensors specifications. This protects the reference sensor from being damaged.

User Specified Settings

Fast or silent mode calibration

The CTC-1205 calibrator can be programmed to run in silent operation. This function is an advantage if calibrating in a laboratory or an office. If used in silent operation the calibrator is not using its full cooling potential.

Online firmware upgrade

You can download firmware and software upgrades at **www.ametekcalibration.com**
Here you can register your product so we can notify you when there is a firmware upgrade or other useful information regarding your instrument.

Support rod set

The support rod can be mounted on all CTC calibrators. It is used to hold the sensor under test in its position while calibrating. Indcludes rod, sensor grip and fixture.
It is highly recommendable to use the original support rod set when using the STS-TC reference sensor.

Protective carrying case

Our special designed protective carrying case gives excellent protection for the CTC calibrators. It has compartments for inserts, cables, manuals, plugs etc.

Calibration software included

The CTC is supplied with our highly versatile calibration software JofraCal.
All calibrations can be documented with a certificate, provided that the CTC is controlled from a PC. When the calibrator has reached the desired temperature and stabillity it will prompt you to type in the UUT temperature. JofraCal documents all your calibration needs within temperature, pressure and process calibration.

Specifications CTC-1205

Temperature

Temperature Range

Range ..... **100 to 1205°C / 212 to 2201°F**

Accuracy

CTC-1205 with internal ref. sensor ..... **±2°C /±3.6°F**
CTC-1205 with external ref. sensor ..... **±2°C /±3.6°F**

Stability

CTC-1205 ..... **±0.1°C / ±0.18°F**

Measured after the stability indicator has been on for 10 minutes.
Measuring time is 30 minutes.

Settings

Resolution ..... **1 or 0.1 or 0.01**
Units ..... **°C or °F or K**

Heating Time

CTC-1205 ..... **23 to 1205°C / 73 to 2201°F** ... **50 minutes**

All specifications are given with an ambient temperature 23° C/73.4° F
± 3° C/5.9° F. Specified at 115 V/230 V.

Cooling Time

CTC-1205 ..... **1205 to 300°C / 2201 to 672°F** ... **45 minutes**
CTC-1205 ..... **300 to 50°C / 672 to 122°F** ... **45 minutes**

Time to Stability (typical)

CTC-1205 ..... **15 minutes**

Mains Power

Voltage ..... **115 V (90-127) / 230 V (180-254)**
Max Power Consumption ..... **650 VA**
Frequency, US deliveries ..... **60 Hz ±3**
Frequency, non US deliveries ..... **50 Hz ±3, 60 Hz ±3**

Physical Specifications

Dimension L x W x H .. **248x148x390 mm / 9.76x5.83x15.35 in**

Weight

CTC-1205 ..... **7.1 kg / 15.7 lb**

Immersion Depth

CTC-1205 ..... **110 mm / 3.00 in**
CTC-1205 with insulation plug ..... **137 mm / 5.39 in**

Well diameter

CTC-1205 ..... **27 mm / 1.06 in**

Insert Dimensions (diameter x length)

CTC-1205 ..... **25 mm x 155 mm / 0.98 x 6.1 in**

Electrical

Switch Input (dry contact)

Test Voltage ..... **Maximum 14 VDC**
Test Current ..... **Maximum 1 mA**

Digital Interface

USB 2.0 Device

Environmental

Operating Temperature

0 to 50°C / 32 to 122°F

Storage Temperature

-20 to 50°C / -4 to 122°F

Humidity

5 to 90% Rh, non-condensing

Protection Class

IP-10

External Reference Sensor

STS-TC-N ..... **100 to 1205°C / 212 to 2201°F**

Accuracy

Hysteresis (@ 0°C / 32°F) ..... **0.2°C / 0.36°F**

Sensing element

Type ..... **TC-N**

Response time

STS-1205: $t_{0.5}$ (50%) ..... **4 sec.**
STS-1205: $t_{0.9}$ (90%) ..... **15 sec.**

Dimensions

Type ..... **Angled**
Diameter ..... **4,5 mm / 0.177 in**
Length ..... **350 mm / 13.78 in**

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Inserts

Inserts for CTC-1205 are made of high temperature steel alloy. All specifications on hole sizes refer to the outer diameter of the sensor-under-test. The correct clearance size is applied in all predrilled inserts. All CTC-1205 inserts include an insulation plug.

Predrilled Inserts–metric (mm)

	Part Numbers	
Probe Dia.	Insert Code	CTC-1205
3 mm	003	130015
4 mm	004	130016
5 mm	005	130017
6 mm	006	130018
7 mm	007	130019
8 mm	008	130020
9 mm	009	130021
10 mm	010	130022
11 mm	011	130023
12 mm	012	130024
Package of the above inserts	SMM	130026

Predrilled Inserts–imperial (in)

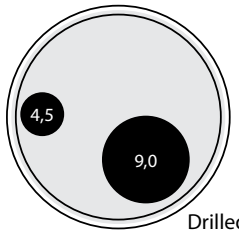
	Part Numbers	
Probe Dia.	Insert Code	CTC-1205
1/8 in	125	130008
3/16 in	187	130009
1/4 in	250	130010
5/16 in	312	130011
3/8 in	375	130012
7/16 in	437	130013
1/2 in	500	130014
Package of the above inserts	SIM	130025

All inserts are supplied with hole for 4,5 mm reference sensor.
All CTC-1205 inserts are supplied with an insulation plug.

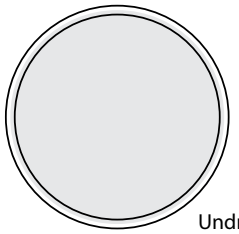
Undrilled Inserts

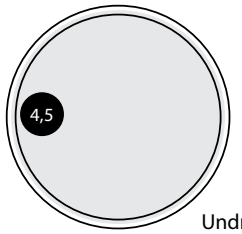
Inserts	Insert Code	CTC-1205
Without ref. hole	UN1	130006
With ref. hole	UN2	130007

CTC-1205 Inserts
Typical Weight
CTC-1205: 17.8 oz/510 g



Drilled single hole w. ref. hole


Undrilled



Undrilled w/ref. hole

Use of other inserts may reduce performance of the calibrator. To get the best results out of the calibrator, the insert dimensions, tolerance and material is critical. We highly advise using Jofra inserts, as they guarantee trouble free operation.

Need a customized insert?
Please contact us for more information.

Ordering Information

Base Model Number	
CTC1205	CTC-1205, 100 to 1205°C (-212 to 2201°F)

Model Version	
A	Basic model, without input
C	Full model, incl. Reference sensor input

Power Supply (US deliveries 60 Hz only)	
115	115 VAC, 50/60Hz
230	230 VAC 50/60Hz

Mains Power Cable Type	
A	European 230 V
B	USA/Canada 115 V
C	UK 240 V
D	South Africa 220 V
E	Italy 220 V
F	Australia 240 V
G	Denmark 230 V
H	Switzerland 220 V
I	Israel 230 V

Insert Type and Size	
NON	Without insert (standard delivery)
UNX	1 x Undrilled insert (Please see insert section for correct code)
XXX	1 x Single hole Insert (Please see insert section for correct code)
SIM	Complete set of Imperial inserts - inch
SMM	Complete set of Metric inserts - mm

STS Reference Sensor*	
R30	STS-TC, Thermocouple Reference Probe, 90° Angled probe, STSTCNA1205

Calibration Certificate	
F	Traceable Certificate to International standards (standard)
H	Accredited Certificate - ISO17025, CTC-1205 Block ONLY
HS-TCN	Accredited System Certificate - ISO17025, STS Sensor and CTC-1205

Accessories	
CR	Protective Carrying Case with Support Rod Set
CX	Protective Carrying Case
SR	Support Rod Set

CTC1205 C 230 A SMM R30 F CR CTC-1205 with standard accessories, Full model, incl. Reference sensor input, 230 VAC, European power cord, Complete set of metric inserts - mm, STS-1205 Ref. sensor, Traceable certificate, and Carrying case with support rod

*Certified Accuracy

A traceable system calibration certificate will automatically be delivered. The STS sensor is calibrated in the supplied calibrator.

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Accessories

STS-TC-N-A-1205-E-H. . Reference sensor STS-TC

130029 . . . . . Carrying Case

129539. . . . . Support Rod set:
incl. Rod, sensor Grip, Fixture for sensor grip and Fixing screw

125067. . . . . Sensor grip

125066. . . . . Fixture for sensor grip

129264. . . . . Thermal Protection Shield CTC-660/1205

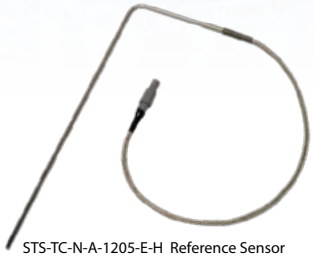
122832 . . . . . Cleaning Brushes - 4 mm - Package of 3 pcs

60F174 . . . . . Cleaning Brushes - 6 mm - Package of 3 pcs

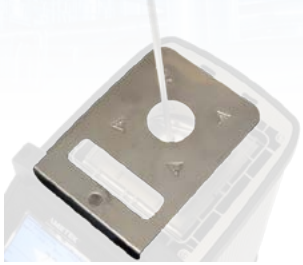
122822 . . . . . Cleaning Brushes - 8 mm - Package of 3 pcs

130029 Carrying Case

129539 Support Rod Set:
1 Rod
1 Fixing screw
1 Sensor Grip
1 Fixture for sensor grip



STS-TC-N-A-1205-E-H Reference Sensor



129264 Heat Shield

125067 Sensor Grip

125066 Fixture for Grip

EN ISO/IEC 17025 Laboratory Accreditation

AMETEK Sensors, Test & Calibration has two EN ISO/IEC 17025 accredited laboratories that issues accredited certificates in accordance with international standards.

Laboratory accreditation is a reliable indicator of technical competence assuring customers the most accurate documentation. We believe in being clear about our capabilities, our accuracy, and about what you can expect from us.

Because calibration is a matter of confidence!

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