

JOFRA TEMPERATURE CALIBRATORS

INSTRUMENTS • CONTROLS • VALVES

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Product Selection Guide

J O F R A
t e m p e r a t u r e
c a l i b r a t i o n
i n s t r u m e n t s

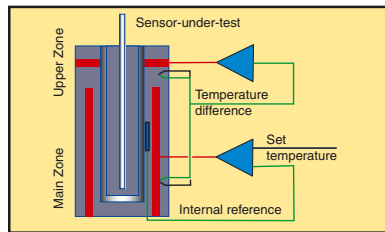


*...because calibration is
a matter of confidence*

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JOFRA ATC Advanced Temperature Calibrator

- 14 different models
- Temperature range -90 to 650°C / -130 to 1202°F
- 12-month accuracy to $\pm 0.04^\circ\text{C}$ / 0.07°F
- Stability to $\pm 0.01^\circ\text{C}$ / 0.018°F
- MVI stability circuitry
- 100% automatic calibration
- Use ATC-140 / 250 as liquid baths or large diameter dry-block calibrators
- RS232 interface and JOFRACAL calibration software
- Input for external reference sensor
- Input for sensor-under-test
- Timesaving auto-stepping and thermo-switch test functions
- Interchangeable inserts including multi-hole designs
- Active dual-zone



A complete on-site test laboratory that takes temperature calibration routines to a new level of opportunity, credibility and accuracy

The unique active dual-zone heating block is designed to ensure optimum temperature homogeneity in the calibration zone of the block. This design eliminates the major uncertainties due to heat loss through the sensor-under-test and from the top of the block. The dry-block design combined with the external reference sensor input make the ATC series as accurate as a laboratory calibrator but maintain the speed and portability of a dry-block.

The ATC measures the output from the sensor-under-test directly: Thermocouples, RTD, mV, mA, and V. There is no need for multiple instruments. The JOFRA ATC series saves time by performing automatic stand-alone calibrations. Just run the downloaded work orders from the JOFRACAL calibration software. After completion of the work orders, the results may be downloaded into the computer for analysis, filing, and printing of certificates.

Publication No. SS-CP-2285, which is to be found at www.jofra.com

The coolest dry-block calibrator offering a temperature range from 125°C down to -90°C!

The JOFRA ATC-125 ultra cooler features a unique technology for optimum performance and superior temperature homogeneity throughout the block at very low temperatures. The ATC-125 has a performance equivalent to a liquid temperature bath and features the widest temperature range for any cooling dry-block on the market today.

Publication No. SS-CP-2282, which is to be found at www.jofra.com



Calibration of even more sensors - large and odd sized sensors - in either a large diameter dry-block or in a liquid bath

Two models of the ATC series (ATC-140 and ATC-250) fitted with a 160 mm (6.3 in) deep well with a diameter of 63.5 mm (2.5 in) can be used both as dry-block calibrators and as liquid calibration baths with a magnetic stirrer. With these options, it is possible to calibrate even more temperature sensors at the same time and to calibrate large as well as odd sizes and shapes of sensors.

ATC-140 and ATC-250 can be used without an external reference sensor, but if a JOFRA STS-100 reference sensor is connected directly to an ATC B version or the JOFRA reference thermometer DTI-1000, better accuracies are obtained, and then using the full potential of the calibrators.

Publication No. SS-CP-2284, which is to be found at www.jofra.com

Trouble-free calibration of sanitary and short temperature sensors

JOFRA offers a complete, highly accurate, and portable calibration solution for calibration of sanitary and short temperature sensors, thus avoiding cumbersome and lengthy calibrations in liquid baths and older dry-block calibrators. The basic solution is a small reference sensor, which is placed in parallel with the sanitary or short sensor in the dry-block, featuring the dual-zone technology. Additionally, a sanitary kit has been designed around the ATC-156 B dry-block calibrator, and customized inserts and the short reference sensor have furthermore been developed specifically for this application.

Publication No. AS-CP-2201, which is to be found at www.jofra.com





JOFRA DTI050 Digital Temperature Indicator and JOFRA STS-050 Intelligent Reference Sensors

- Temperature range -200 to 2500°C / -328 to 4532°F
- DTI050 Pt100 accuracy to $\pm 0.01^\circ\text{C}$ / $\pm 0.018^\circ\text{F}$
- DTI050 + STS sensor accuracy to $\pm 0.04^\circ\text{C}$ / $\pm 0.072^\circ\text{F}$
- RS232 interface and JOFRACAL calibration software
- Intelligent sensors gives easy access to relevant data and avoids mistakes
- Handles signals from 4-wire RTD's, TC's and thermistors



Small sized and easy-to-use reference indicator is the perfect reference thermometer when combined with an accurate JOFRA STS Superior Temperature Reference Sensor

The JOFRA DTI050 with an JOFRA STS temperature reference sensor is a fully traceable thermometer recommended as the handheld reference instrument to verify true temperature in any type of temperature calibrator, liquid bath, or dry-block calibrator. Use the JOFRA DTI050 and the STS sensor as the working temperature reference in any calibration application or use the set-up directly for critical measurements in the process.

The JOFRA DTI050 uses intelligent detection technology for sensors. This means that it is able to automatically read calibration data and sensor type from a memory chip placed in the sensor. Especially for the JOFRA DTI050 indicator, AMETEK has developed a specific series of reference sensors - the JOFRA STS-050 series in which the intelligent chip is standard.

The intelligent sensor reading makes it possible to change the sensors used without re-programming the JOFRA DTI050. When an intelligent sensor is connected, all information about the sensor, such as serial number, calibration data and coefficients are read by DTI050. All information can be shown on the display in the config menu for verification. Recalling existing data eliminates errors as a result of programming sensor data.

Publication No. SS-CP-2295, which is to be found at www.jofra.com

JOFRA DTI-1000 Reference Digital Temperature Indicator and JOFRA STS-100 Superior Temperature Reference Sensors

- Temperature range -200 to 750°C / -328 to 1382°F
- DTI-1000 Pt100 accuracy to $\pm 0.004^\circ\text{C}$ / 0.009°F
- DTI-1000 + STS sensor accuracy to $\pm 0.03^\circ\text{C}$ / 0.054°F
- RS232 interface and JOFRACAL calibration software
- Dual channel inputs
- Handles signals from 4-wire Pt100 and Pt25 RTD's



Wherever there is a demand for reliable and accurate temperature measurement, use the DTI-1000 reference thermometer and the STS series of reference sensors

The JOFRA DTI-1000 is a fully traceable thermometer recommended as the high accuracy reference instrument to verify the true temperature in any type of process or temperature calibrator, liquid bath, or dry-block calibrator. Use the DTI-1000 and the STS sensors as the working temperature reference in any calibration application or use the set-up directly in custody transfer applications where high accuracy (low uncertainty) means money. The superior specifications combined with a long history of reliability and low drift have made the DTI-1000 and the STS sensors the transfer standard in many National Laboratories worldwide.

The JOFRA STS Superior Temperature Reference Sensors are built to last. All of the sensors are economical and offer fast response times, low immersion depths, compact physical sizes, and specified low drift rates, even at high temperatures. The DTI-1000 features an easy-to-read display and dedicated function keys. All operations are performed from the instrument's front panel. The RS232 serial data communication interface allows the DTI-1000 to be serially connected to a personal computer for data storage and reporting as well as control of a JOFRA dry-block.

Publication No. SS-CP-2290, which is to be found at www.jofra.com

JOFRACAL calibration software

JOFRACAL calibration software ensures easy calibration of RTD's, thermocouples, transmitters, thermoswitches, pressure gauges and pressure switches. JOFRACAL can be used with JOFRA DPC-500, APC, CPC and IPI pressure calibrators, all JOFRA temperature calibrators, as well as JOFRA ASC300 multi signal calibrator and ASM-800 signal multi scanner. JOFRACAL calibration software can be used for post-processing and printing of certificates. The calibration data collected may be stored in the personal computer for later recall or analysis.

Publication No. SS-CP-2510, which is to be found at www.jofra.com

Selection Guide

	ATC-125 A	ATC-125 B	ETC-125 A	CTC-140 A	ITC-155 A	ATC-140 A	ATC-140 B	ATC-156 A	ATC-156 B	ATC-157 A	ATC-157 B	ETC-400 R	ETC-400 A	CTC-320 A	CTC-320 B	ITC-320 A	ATC-250 A	ATC-250 B	ATC-320 A	ATC-320 B	CTC-650 A	CTC-650 B	ITC-650 A	ATC-650 A	ATC-650 B	CTC-1200 A	
Temperature range @ ambient 23°C / 73°F																											
-90 to 125°C / -130 to 257°F	X	X																									
-10 to 125°C / -14 to 257°F			X																								
-17 to 140°C / 1 to 284°F				X																							
-20 to 140°C / -4 to 284°F						X	X																				
-23 to 155°C / -9 to 311°F					X																						
-24 to 155°C / -11 to 311°F								X	X																		
-45 to 155°C / -49 to 311°F										X	X																
28 to 250°C / 82 to 482°F																	X	X									
28 to 400°C / 82 to 752°F												X	X														
33 to 320°C / 91 to 608°F														X	X	X				X	X						
33 to 650°C / 91 to 1202°F																					X	X	X	X	X		
300 to 1205°C / 572 to 2200°F																										X	
Accuracy																											
±0.04°C / ±0.07°F							X ¹	X ¹	X ¹																		
±0.07°C / ±0.13°F																		X ¹	X ¹								
±0.10°C / ±0.18°F							X	X																			
±0.11°C / ±0.2°F										X	X														X ¹		
±0.13°C / ±0.23°F										X	X																
±0.18°C / ±0.32°F					S	X	X																				
±0.20°C / ±0.36°F																				X	X						
±0.25°C / ±0.45°F																S											
±0.28°C / ±0.50°F																	X	X									
±0.30°C / ±0.54°F	X	X																									
±0.35°C / ±0.63°F																							X	X			
±0.4°C / ±0.70°F				X																							
±0.45°C / ±0.81°F																						S					
±0.5°C / ±0.9°F				X								X	X	X													
±0.6°C / ±1.08°F																						X					
±0.9°C / ±1.62°F																					X						
±2.0°C / ±3.6°F																										X	
0.4% of reading ±1.0°C / ±1.8°F												X															X
Temperature stability																											
±0.01°C / ±0.018°F				S		X	X	X	X										X	X							
±0.02°C / ±0.036°F				X	X									S	X	X							X	X			
±0.03°C / ±0.054°F	X	X																									
±0.04°C / ±0.07°F																							S				
±0.05°C / ±0.09°F			X	X																		X					
±0.1°C / ±0.18°F													X	X							X						X
±0.15°C / ±0.27°F												X															
±0.3°C / ±0.54°F											X																
Immersion depth																											
190 mm / 7.9 in														X								X					
185 mm / 7.3 in	X	X																									
180 mm / 7.1 in					X ²	X ²																					
160 mm / 6.3 in				X		X	X	X	X																		
150 mm / 5.9 in					X ³	X ³								X ⁴	X ⁴	X	X	X				X	X	X			
115 mm / 4.5 in			X																								
110 mm / 4.3 in			X											X								X					X
105 mm / 4.1 in												X															
Insertion tube diameter																											
63.5 mm / 2.5 in					X	X											X	X									
30 mm / 1.2 in	X	X					X	X								X		X	X			X	X	X			
27 mm / 1.6 in																											X
26 mm / 1 in													X	X							X	X					
20 mm / 0.8 in				X				X	X																		
19 mm / 0.75 in				X																							
12 mm / 0.5 in			X																								
36 mm / 1.4 in Infrared target											X																

Selection Guide

	ATC-125 A	ATC-125 B	ETC-125 A	CTC-140 A	ITC-155 A	ATC-140 A	ATC-140 B	ATC-156 A	ATC-156 B	ATC-157 A	ATC-157 B	ETC-400 R	ETC-400 A	CTC-320 A	CTC-320 B	ITC-320 A	ATC-250 A	ATC-250 B	ATC-320 A	ATC-320 B	CTC-650 A	CTC-650 B	ITC-650 A	ATC-650 A	ATC-650 B	CTC-1200 A	
Technology																											
Free piston stirling cooler	X	X																									
Active dual-zone	X	X				X	X	X	X	X	X						X	X	X	X					X	X	
Central dual-zone heating block																X							X				
Liquid bath configuration possible						X	X										X	X									
Special configuration for large inserts						X	X										X	X									
Special fast cooling/heating block			X	X								X	X	X								X					
Stable emissivity factor for infrared												X															
12-month specifications	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MVI Mains power Variance Immunity	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X
True Ohm Measurement on internal reference	X	X				X	X	X	X	X	X						X	X	X	X				X	X		
True Ohm Measurement on external reference		X				X		X		X							X		X						X		
CE label	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sensor-under-test input																											
Switch input		X		X	X		X		X		X			X	X	X		X		X		X	X	X		X	X
Transmitter input		X					X		X		X						X		X						X		
Thermocouple input E,J,K,T,R,S,N,U		X					X		X		X						X		X						X		
RTD input 2, 3 and 4-wire		X					X		X		X						X		X						X		
External reference sensor input		X					X		X		X						X		X						X		
Documenting software JOFRACAL																											
RS232 and JOFRACAL calibration software	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Certificate printout via JOFRACAL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Complete database via JOFRACAL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Download of calibration work orders via JOFRACAL		X					X		X		X						X		X						X		
Upload of calibration results via JOFRACAL		X					X		X		X						X		X						X		
Design																											
Multi-information display	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Graphical display	X	X				X	X	X	X	X	X						X	X	X	X					X	X	
Insertion tube storage compartment	X	X						X	X	X	X									X	X				X	X	
Interchangeable insertion tube	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X
Multi-hole and single-hole insertion tubes	O	O	O	O	O	O	O	O	O	O	O			O		O	O	O	O	O	O	O	O	O	O	O	O
Aluminium carrying case	O	O	O	O	O	O	O	O	O	O	O	X	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Rugged alu-profile casing	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X
One-key-one-function operation			X	X	X							X	X	X	X	X					X	X	X				X
Soft key functions	X	X				X	X	X	X	X	X						X	X	X	X				X	X		
Fully numeric keypad	X	X				X	X	X	X	X	X						X	X	X	X				X	X		
Timesaving features																											
Auto-stepping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Automatic thermo-switch test		X		X	X		X		X		X			X	X	X		X		X		X	X	X		X	X
Stability indicator	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Countdown timer before unit is stable	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Programmable maximum temperature	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fast simulation/training mode	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Stand-alone automatic calibration		X					X		X		X						X		X					X			
Recalibration/adjustment from keyboard			X	X	X							X	X	X	X	X					X	X	X			X	
Recalibration/adjustment software	X	X				X	X	X	X	X	X						X	X	X	X				X	X		

1 Using an external STS reference sensor connected to the reference sensor input
 2 Immersion depth for ATC-140 as dry-block
 3 Immersion depth for ATC-140 as liquid bath
 4 Immersion depth for ATC-250 as dry-block and as liquid bath

X = Delivered as standard
O = Optional accessories
S = Improved specifications (from January 01, 2008)

...because calibration is a matter of confidence

JOFRA ITC Industrial Temperature Calibrator

- 3 different models
- Temperature range -23 to 650°C / -9 to 1202°F
- 12-month accuracy to $\pm 0.18^\circ\text{C}$ / 0.32°F
- Stability to $\pm 0.01^\circ\text{C}$ / 0.02°F
- MVI stability circuitry
- RS232 interface and JOFRACAL calibration software
- Timesaving auto-stepping and thermo-switch test functions
- Interchangeable inserts including multi-hole designs
- Central dual-zone



A portable dry-block calibrator that combines the demands for small physical dimensions with high accuracy and stability

The ITC series heating block employs a modified dual-zone principle derived from the ATC series. This ensures good temperature homogeneity in the calibration zone of the block. This design offers a deep immersion depth and a wide enough diameter to allow for simultaneous insertion of a reference sensor and the sensor-under-test or for multiple sensor tests.

The user-friendly interface is adopted from the smaller CTC series. A large, clear, backlit display shows a vast amount of information including "SET" temperature, current temperature, time to stability, stability status, and status during auto step and switch test operations. The ITC series also provides timesaving routines such as an auto-stepping function and a fully automatic thermo-switch test that determines the opening and closing temperatures and calculates the hysteresis (deadband).

Publication No. SS-CP-2286, which is to be found at www.jofra.com

JOFRA CTC Compact Temperature Calibrator

- 6 different models
- Temperature range -17 to 1205°C / -1 to 2200°F
- 12-month accuracy to $\pm 0.4^\circ\text{C}$ / 0.7°F
- Stability indicator
- MVI stability circuitry
- RS232 interface and JOFRACAL calibration software
- Deep immersion depth versions
- Timesaving auto-stepping and switch test functions
- Interchangeable inserts including multiholes



This is the economical, timesaving, and reliable solution for on-site true temperature calibration. All models have interchangeable inserts and the same user interface as on the ITC series

The CTC series is designed for both on-site and maintenance shop use. The applications are generally critical process control but can vary based on calibration and testing requirements. The user interface is easy and intuitive. One-key-one-function gives quick access to timesaving features such as the switch test or the auto-stepping function. The JOFRA CTC series consists of six different models that differ in temperature ranges and immersion depths. All models feature a large, backlit LCD display panel, which is easy-to-read even in well-lit areas. Units feature an informative display that provides icons and information regarding the status of the CTC and the calibration in progress.



CTC-320 and CTC-650 are exceptionally fast and have deep immersion depths

The CTC-320 A heats up to maximum temperature in just 4 minutes and the CTC-650 A in just 10 minutes. The fast performance of the heating block is due to a special profile that minimizes the mass, but still contains a 25.7 mm (1 in) insertion tube. The design is a balanced compromise between temperature stability / homogeneity and fast heating / cooling.

The CTC-320 B and CTC-650 B models offer a deep immersion depth of 200 mm (7.9 in). While the units do not heat and cool as quickly as their shorter counterparts, they offer the capability to accommodate longer sensors.

CTC-1200 A covers the high range temperature scale

The CTC-1200 A calibrator covers the temperature scale in the high range from 300 to 1205°C (572 to 2200°F) having an excellent stability of 0.1°C (0.18°F). The calibrator heats up very quickly and combining this ability with the standard auto stepping function makes it a very timesaving calibrator. Sensors tested by the CTC-1200 A are immersed 110 mm (4.3 in) into the insert to ensure that the whole thermo-sensitive part of the sensor is exposed to the required temperature.

Publication No. SS-CP-2281, which is to be found at www.jofra.com



JOFRA ETC Easy Temperature Calibrator

- 3 different models, including an infrared version
- Temperature range -10 to 400°C / 14 to 752°F
- 12-month accuracy to $\pm 0.5^\circ\text{C}$ / 0.9°F
- Stability to $\pm 0.05^\circ\text{C}$ / $+0.09^\circ\text{F}$
- Heats up as quickly as 100°C / 210°F per minute
- Stability indicator
- RS232 interface and JOFRACAL calibration software
- Timesaving auto-stepping function



This may be the fastest dry-block temperature calibrator on the market. The small handheld physical size makes it easy to fit into a toolbox and bring almost anywhere

The ETC series is designed for people who perform tests and verifications of temperature sensing devices in the field. This instrument is ideal when time is a critical factor and the highest accuracy is not a requirement. Reduced size and weight are important considerations as the unit may fit into a toolbox or instrument carrying case, and can be used for sensors that are difficult to access. The ETC calibrator heats up by up to 100°C (212°F) per minute and completes a full dual-point test in less than 10 minutes, including stability time.

One-key-one-function user interface provides immediate access to setting the temperature and the auto-step timesaving function. The stability indicator provides audible and visual prompts when the temperature is stable. This function also includes a 3-minute countdown before the stable condition. Stainless steel and rubber side panels make the instrument suitable for many years of faithful duty in an industrial environment.

Calibration of infrared thermometers with JOFRA ETC-400 R

The ETC-400 R is designed for optimum speed in connection with calibration of infrared thermometers. The 36 mm (1.4 in) target provides the optimum size for reliable calibration of infrared thermometers in the process industry as it is designed for high accuracy and long-term stability while maintaining speed. The target employs a coating that has been designed especially for space technology applications; this coating ensures long time performance under a high temperature stimulus. The combination of the coating and the shape of the target ensures an emissivity of 0.96.



The ETC-400 R is supplied with an additional software JOFRA IR-LAB which eliminates the usual problems with emission factors and temperature. The program makes it easy to calculate the calibration temperature, if the IR thermometer is either locked to a fixed emission factor or if the thermometer has to be calibrated at a certain emission factor.

Publication No. SS-CP-2280, which is to be found at www.jofra.com

JOFRA ASM Advanced Signal Multi-scanner

- 6 different models
- Accuracy to $\pm 0.026^\circ\text{C}$ / 0.047°F
- Input: TCs (12 types), RTDs (13 types), 0-12 VDC, 0-24 mA, 0-4000 Ω
- 100% automatic calibration of up to 24 sensors
- RS232 interface and JOFRACAL calibration software
- STS temperature reference sensor capability
- 24 V supply for transmitters



The ASM signal multi-scanner adds further flexibility and time-saving features to temperature calibration routines, as the ASM multi-scanner makes it possible to calibrate several kinds of sensors and to perform automatic calibrations of up to 24 sensors at the same time using JOFRACAL calibration software.

ASM-801 has 8 universal plugs. This is a fixed screw terminal solution for measuring RTD's, TC's, power, voltage, ohm, and transmitters. ASM-802 has 8 small TC plugs for measurement of TC sensors. ASM-803 has 8 LEMO plugs, which are primarily for measurement of RTD sensors. This solution of plugs also enables measurement of current, voltage and ohm.

The ASM is delivered in two different models: The ASM A model uses the measuring circuit of a connected measuring instrument such as an ASC300 or an ATC temperature dry-block B model. The ASM B model does not have to use the measuring instrument in the set-up, as the multi-scanner is able to perform the measurements itself. The most important advantage of the B model is its ability to perform several measurements each second.

Publication No. SS-CP-2360, which is to be found at www.jofra.com

JOFRA Dry-blocks in conjunction with JOFRA Signal Calibrators

In conjunction with a JOFRA dry-block, it is possible to use one of the JOFRA Signal Calibrators. One of the below signal calibrators allows full use of the non-input ATC model A, ITC, CTC or ETC dry-block calibrator offering the ability to locally read the sensor-under-test.

JOFRA ASC300 Advanced Signal Calibrator



- Simultaneous input and output
- Fuseless protection on all inputs
- Graphical user interface with function keys for easy operation
- Input and output: TCs (13 types), RTDs (14 types), 0-20 VDC, 0-24 mA, 5-4000Ω, 0-10 kHz, and pulse trains
- APM pressure module input for pressure applications
- Isolated read-back circuit with 24 VDC loop power
- Fully integrated in the JOFRACAL software

Substantial enough to cover all needs for a process signal calibrator with superior accuracy and compact enough to fit into the toolbox. Operate the instrument with one hand for easy field service, test, and calibration.

Publication No. SS-CP-2350, which is to be found at www.jofra.com

JOFRA CSC Compact Signal Calibrator



CSC100:

- mA and voltage input / output
- Source and read loop voltage and current
- Accuracy to $\pm 0.015\%$ of reading
- Fuseless protection on all inputs

CSC200:

- TC and RTD input / output
- Reads and simulates temperature
- Accuracy to $\pm 0.2^\circ\text{C}$ / 0.36°F
- Fuseless protection on all inputs

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Publication No. SS-CP-2330, which is to be found at www.jofra.com

Publication No. SS-CP-2332, which is to be found at www.jofra.com

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is one of the world's leading manufacturers and developers of calibration instruments for temperature, pressure and process signals as well as for temperature sensors both from a commercial and a technological point of view.

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