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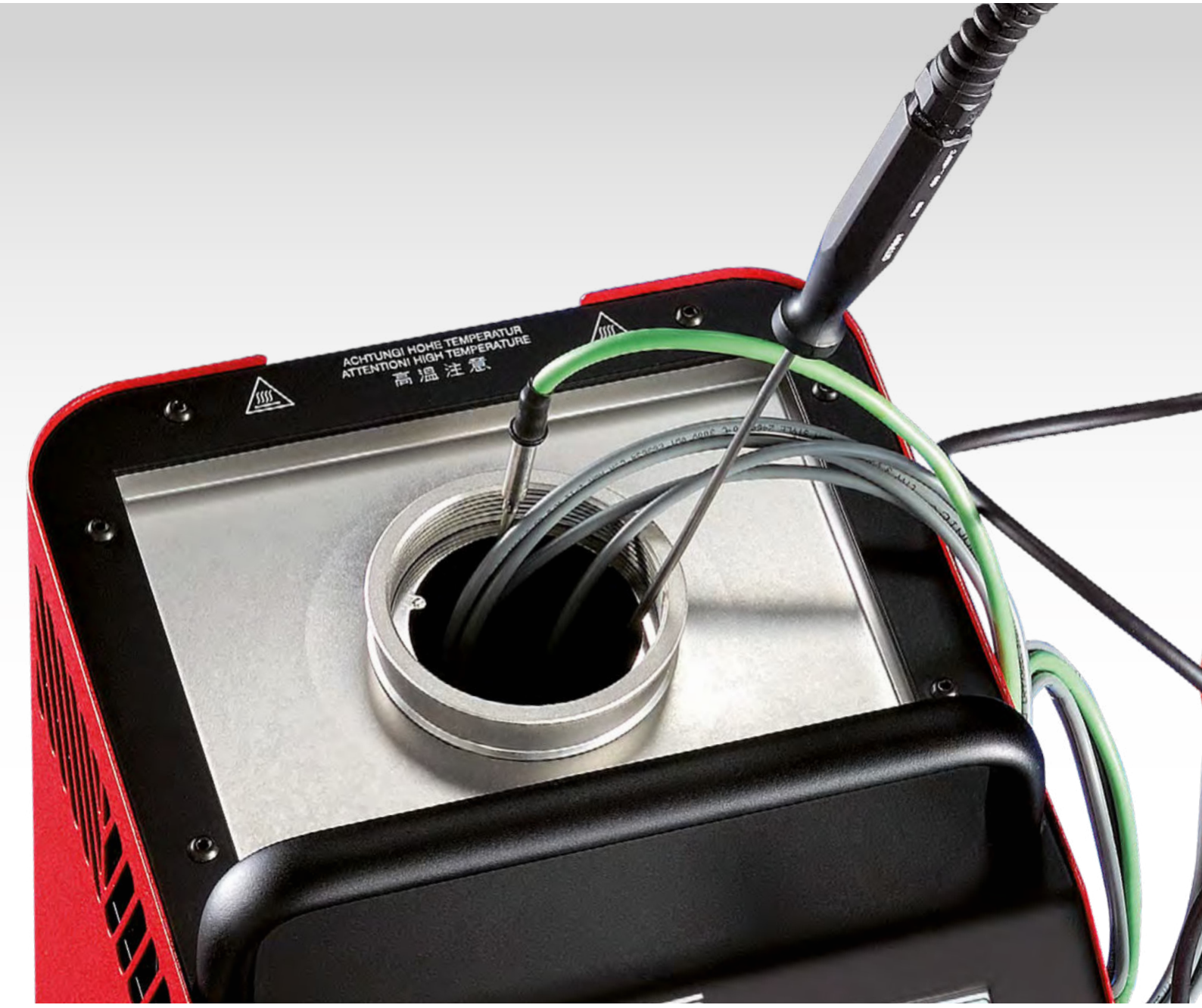
Temperature

CALIBRATION GUIDE



Reasons for a calibration

Temperature sensors are subject to mechanical, thermal and chemical stress. This results in a drift the longer the sensors are in use. Only the regular calibration of the sensors provides information on the difference between the actual temperature and the measured temperature and makes the specific drift visible.

In measuring tasks, readings are often taken without regard to the fact that every display value contains an error. In industrial applications even the smallest inaccuracy can lead to production errors.

Why calibrate?

- Maintain consistently high product quality
- Meet industry standards and legal regulations
- Optimize processes and boost productivity
- Avoid unscheduled downtime

The creation of a calibration service according "DAkkS Deutscher Kalibrierdienst" for temperature, pressure and electrical measured values firmly continues and underlines the long tradition and more than 100 years of experience which SIKA has in this sector. SIKA temperature and pressure sensors, as well as measure, test and calibration instruments are available with either a works test certificate or DAkkS calibration certificate.

This guarantees the traceability of measured values to approved (national) standards as specified by DIN EN ISO 9000 ff in numerous areas. Our DAkkS laboratory is your competent contact for recalibration. Our services also include calibration to DAkkS guidelines or calibration on the basis of works test certificates for external products.

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www.sika.net

Three Series

SIKA divides temperature calibrators into three series. Depending on your requirements, up to 24 models are available.

TP Basic

Efficiency and portability are distinguishing features of the temperature calibrators of the TP Basic series. It consists of dry block calibrators which cover a wide temperature range and are used on-site e.g. in the marine sector. Designed to ensure a comfortable calibration of temperature sensors, they impress with an easy operation and a thoughtful use of different automatic functions.

TP Premium

Optimal performance and outstanding ease of use are distinguishing features of the TP Premium series calibrators. With the help of the intuitive menu structure, all the necessary entries can be made quickly and easily. Whether on the two colour, graphic display or on the large touch screen of the TP Touch series – block and set temperature as well as the difference and the variance of the stability can be set and displayed. The comprehensive range of accessories of the TP Premium series allows time-saving calibration setups.

TP Solid

The TP solid series features higher accuracies in standard dry block calibrators as well as a range of micro calibration baths and special versions. This series offers the user suitable products for calibrating sensors with complex geometry as well as zero point and high temperature. TP Solid – The All-round class for high demands.

Premium-Highlights

- Patented control technology (time saving up to 50 %)
- Worldwide fastest dry block temperature calibrators
- Hybrid technology (Peltier elements and heating cartridges)
- Widest temperature range with cooling and heating function on the market
- Fastest stabilization times on the market
- Patented touchscreen function
- Management of device under test with barcode scanner (Accessories)

	TP Basic		TP Solid		TP Premium	
Dry block	✓		✓		✓	
Micro calibration bath			✓		✓	
Multifunction					✓	
Resolution	0.1...1 °C	0.18...1.8 °F	0.01...1 °C	0.018...1.8 °F	0.001 °C	0.0018 °F
Accuracy	0.4...1 °C	0.72...1.8 °F	0.2...2 °C	0.36...3.6 °F	0.1...0.3 °C	0.18...0.54 °F
Internal reference sensor	✓		✓		✓	
External reference sensor					✓	
PC interface			✓		✓	
Internal measuring instrument					✓	

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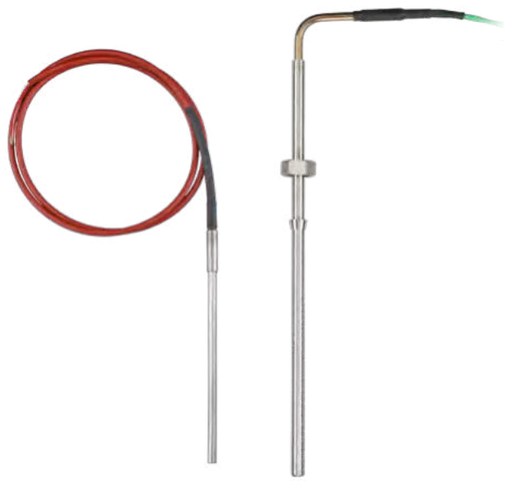
Dryblock function

Sensors with simple geometry

The dry block function has been developed to guarantee an easier calibration of the temperature in the laboratory and during field use. The optimum thermal coupling from the block to the test instrument is achieved with the appropriate adapter sleeve. The dry block covers the entire temperature range without the need to change the calibration medium.



Micro bath function

Sensors with complex geometry

The use of calibration liquids offers certain advantages if temperature sensors with an unusual shape and size are to be tested. The test item is immersed directly into the liquid without an insulating air gap, resulting in direct temperature contact between the calibrator and the test item. The liquid, such as silicone oil, is chosen depending on the calibration temperature required. The continuous adjustment of the magnetic stirrer together with the removable sensor basket agitates the calibration liquid to create a large measuring zone. Furthermore, the sensor basket guarantees unhindered stirring and helps protect the sensor.

Infrared function

Infrared measuring instruments

A patented infrared calibration sleeve is used to calibrate IR pyrometers or thermal imaging cameras. The special surface structure and the asymmetrical shapes create a "cavity radiator" with an emission factor of 0.9994, prevent the reflection of interference radiation and emit the required temperature in an ideal form. The pyrometer under test is simply held at the specified distance above the measurement opening of the calibrator, thereby forming the desired measurement area on the bottom for the calibration to be performed. A support base can be fitted directly on the unit.

Surface function

Surface sensors

Surface temperature sensors are calibrated using special sleeves that are fitted vertically with the required contact force. Switching calibration control to the external reference sensor creates the best possible temperature reference point on the surface of the sleeve. The reference sensor is located directly beneath the abutting face of the sleeve. The sleeve is designed in such a way that the best temperature homogeneity is achieved in the centre of the abutting face. The special design of the abutting face enables good thermal contact. There is no need to use a thermally conductive paste or other thermal conduction aids.

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Application + Information
09/2019

Overview

By selecting the temperature range (left), the required accuracy, the features and the dimensions, you can choose the suitable model (right) with the help of the overview. Further technical information can be found at www.sika.net.

Temperature Range	Function / Accuracy					Features			Block dimensions [mm]								Model
	Dry block	Dry block (Air Shield Insert)	Micro calibration bath	Infrared	Surface	Integreated measuring instrument	External reference sensor	PC In-terface	Ø Diameter				Depth				
									18	28	60	7 x 6.5	100	150	170	200	
-55 °C … 200 °C -67 °F … 392 °F	±0.4 °C ±0.72 °F									✓				✓			TP 17200
	±0.2 °C ±0.36 °F							✓		✓				✓			TP 17200S
	±0.2 °C ±0.36 °F					✓	✓	✓		✓				✓			TP 37200E.2
-35 °C … 165 °C -31 °F … 329 °F	±1 °C ±1.8 °F									✓				✓			TP 17165M
	±0.4 °C ±0.72 °F									✓				✓			TP 17165
	±0.2 °C ±0.36 °F							✓		✓				✓			TP 17165S
	±0.2 °C ±0.36 °F					✓	✓	✓		✓				✓			TP 37165E.2
	±0.4 °C ±0.72 °F										✓			✓			TP 17166
	±0.2 °C ±0.36 °F							✓			✓			✓			TP 17166S
			±0.1 °C ±0.18 °F					✓			✓				✓		TP M165S
	±0.3 °C ±0.54 °F	±0.099 °C ±0.1782 °F	±0.1 °C ±0.18 °F	±0.5 °C ±0.9 °F	±1 °C ±1.8 °F	✓	✓	✓			✓				✓		TP 3M165E.2
-10 °C … 100 °C 14 °F … 212 °F	±0.05 °C ±0.09 °F							✓				✓		✓			TP 17Zero
RT* … 200 °C … 392 °F	±1 °C ±1.8 °F								✓				✓				TP 18200E
RT* … 255 °C … 491 °F			±0.2 °C ±0.36 °F					✓			✓				✓		TP M255S
	±0.3 °C ±0.54 °F		±0.2 °C ±0.36 °F	±0.5 °C ±0.9 °F	±1°C ±1.8 °F	✓	✓	✓			✓				✓		TP 3M255E.2
RT* … 450 °C … 842 °F	±0.6 °C ±1.08 °F										✓			✓			TP 17450
	±0.3 °C ±0.54 °F							✓			✓			✓			TP 17450S
	±0.3 °C ±0.54 °F	±0.2 °C ±0.36 °F		±0.5 °C ±0.9 °F	±1 °C ±1.8 °F	✓	✓	✓			✓			✓			TP 37450.E2
RT* … 650 °C … 1202 °F	±1 °C ±1.8 °F									✓				✓			TP 17650M
	±0.8 °C ±1.4 °F									✓				✓			TP 17650
	±0.4 °C ±0.72 °F							✓		✓				✓			TP 17650S
RT* … 850 °C … 1562 °F	±1 °C ±1.8 °F								✓				✓				TP 18850E
400 °C … 1300 °C 752 °F … 2372 °F	±2 °C ±3.6 °F							✓		✓						✓	TP 281300E

*Room temperature
Subject to technical modifications and errors

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Application + Information
09/2019

Temperature calibrator TP 17165
TP Basic // Dry block // -35...165 °C // -31...329 °F

TP 17165 - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for simple and fast calibrations, even below ambient temperature and in the upper range beyond the often important temperatures such as 121 °C (249.8 °F) and 131 °C (267.8 °F)

TP Basic

The temperature calibrators of the TP Basic series are characterised by their efficiency and portability. The series consists of dry block calibrators covering a wide temperature range and are used on site, e.g. in marine applications.

The easy operation, the integrated internal reference temperature sensor and the dry block calibration function ensure an extremely easy calibration process.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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Features

Easy operation

- The TP 17165 can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

Different dimensions of the calibration insert available

- Our TP 17165 temperature calibrator features a small calibration insert with a diameter of 28 mm
- The small calibration insert is ideally suited for quickly running up temperatures and calibrating 1 to 5 conventional temperature sensors at the same time.
- Another version with a calibration insert of Ø 60 mm and an otherwise equal design is also available → **TP 17166**
- The large calibration insert takes a bit longer until it reaches the temperature, but is able to calibrate 1 to 20 conventional temperature sensors at the same time
- We will be happy to help you select the ideal calibration insert for your application

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 17165		
Temperature range	-35...165 °C at ambient temperature 20 °C	-31...329 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.4 °C	±0.72 °F
Temperature stability	±0.1 °C	±0.18 °F
Resolution of the temperature display	0.1 °C	0.1 °F
Reference temperature sensor	internal, fixed installation	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm	
Weight	Approx. 10 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 375 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
-35...165 °C	-31...329 °F	Dry block	Ø 28 x 150	100...240 V	EP171600281503

2. Calibration insert				
Bore holes [mm]	**Function**	**Calibration insert [mm]**	**Material**	**Article number**
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	**Article number**
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG

Temperature calibrator TP 17165M
TP Basic // Dry block // -35...165 °C // -31...329 °F

TP 17165M - Highlights

- Version of our TP 17165 temperature calibrator specially optimized for the marine market
- Very easy operation with 4-button control and integrated reference temperature sensor
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service

TP Basic

The temperature calibrators of the TP Basic series are characterised by their efficiency and portability. The series consists of dry block calibrators covering a wide temperature range and are used on site, e.g. in marine applications.

The easy operation, the integrated internal reference temperature sensor and the dry block calibration function ensure an extremely easy calibration process.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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Features

Easy operation

- The TP 17165M can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

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Technical data

TP 17165M		
Temperature range	-35...165 °C at ambient temperature 20 °C	-31...329 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±1 °C	±1.8 °F
Temperature stability	±0.1 °C	±0.18 °F
Resolution of the temperature display	1 °C	1 °F
Reference temperature sensor	internal, fixed installation	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm	
Weight	Approx. 10 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 375 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		

Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		Function	Calibration insert [mm]	Power supply	Article number
-35...165 °C	-31...329 °F	Dry block	Ø 28 x 150	100...240 V	EP17160M281503

2. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Transport bag	XE2193

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Temperature calibrator TP 17165S
TP Solid // Dry block // -35...165 °C // -31...329 °C

TP 17165S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- PC interface with connection cable to USB for use with SIKA calibration software
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for simple and fast calibrations, even below the ambient temperature and in the upper range up to above the often important temperatures such as 121 °C (249.8 °F) and 131 °C (267.8 °F)

TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

SIKA temperature calibrators

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Features

Easy operation

- The TP 17165S can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

Different dimensions of the calibration insert available

- Our TP 17165S temperature calibrator features a small calibration insert with a diameter of 28 mm
- The small calibration insert is ideally suited for quickly running up temperatures and calibrating 1 to 5 conventional temperature sensors at the same time.
- Another version with a calibration insert of Ø 60 mm and an otherwise equal design is also available → **TP 17166S**
- The large calibration insert takes a bit longer until it reaches the temperature, but is able to calibrate 1 to 20 conventional temperature sensors at the same time
- We will be happy to help you select the ideal calibration insert for your application

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

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Technical data

TP 17165S		
Temperature range	-35...165 °C at ambient temperature 20 °C	-31...329 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.2 °C	±0.45 °F
Temperature stability	±0.05 °C	±0.09 °F
Resolution of the temperature display	0.01 °C between -9.99...99.99 °C, else 0.1 °C	0.01 °F between -9,99...99.99 °F, else 0.1 °F
Reference temperature sensor	internal, fixed installation	
PC interface	RS485 (calibrator) to USB (PC)	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm	
Weight	Approx. 10 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 375 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		Function	Calibration insert [mm]	Power supply	Article number
-35...165 °C	-31...329 °F	Dry block	Ø 28 x 150	100...240 V	EP17160S281503

2. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
PC software (without TT-Scan)	EZ999999999971
PC software (with TT-Scan)	EZ380000000001
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Temperature calibrator TP 17166
TP Basic // Dry block // -30...165 °C // -22...329 °F

TP 17166 - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for simple and fast calibrations, even below ambient temperature and in the upper range beyond the often important temperatures such as 121 °C (249.8 °F) and 131 °C (267.8 °F)

TP Basic

The temperature calibrators of the TP Basic series are characterised by their efficiency and portability. The series consists of dry block calibrators covering a wide temperature range and are used on site, e.g. in marine applications.

The easy operation, the integrated internal reference temperature sensor and the dry block calibration function ensure an extremely easy calibration process.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

SIKA Dr. Siebert & Kühn GmbH & Co. KG
Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Features

Easy operation

- The TP 17166 can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

Different dimensions of the calibration insert available

- Our TP 17166 temperature calibrator features a large calibration insert with a diameter of 60 mm
- The large calibration insert takes a bit longer until it reaches the temperature, but is able to calibrate 1 to 20 conventional temperature sensors at the same time
- Another version with a calibration insert of Ø 28 mm and an otherwise equal design is also available → **TP 17165**
- The small calibration insert is ideally suited for quickly running up temperatures and calibrating 1 to 5 conventional temperature sensors at the same time
- We will be happy to help you select the ideal calibration insert for your application

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 17166		
Temperature range	-30...165 °C at ambient temperature 20 °C	-22...329 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 60 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.4 °C	±0.72 °F
Temperature stability	±0.1 °C	±0.18 °F
Resolution of the temperature display	0.1 °C	0.1 °F
Reference temperature sensor	internal, fixed installation	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm	
Weight	Approx. 10 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 375 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

SIKA Dr. Siebert & Kühn GmbH & Co. KG
Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
-30...165 °C	-22...329 °F	Dry block	Ø 60 x 150	100...240 V	EP171600601503

2. Calibration insert				
Bore holes [mm]	**Function**	**Calibration insert [mm]**	**Material**	**Article number**
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D04AL78
2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D10AL79
3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D12AL81
2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D10AL83
Without bore holes	Dry block	Ø 60 x 150	Aluminium	EZ15060B00AL00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 60 x 150	Aluminium	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 60 x 150	Aluminium	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	**Article number**
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG

Temperature calibrator TP 17166S
TP Solid // Dry block // -30...165 °C // -22...329 °C

TP 17166S

TP 17166S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- PC interface with connection cable to USB for use with SIKA calibration software
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for simple and fast calibrations, even below the ambient temperature and in the upper range up to above the often important temperatures such as 121 °C (249.8 °F) and 131 °C (267.8 °F)

TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

SIKA Dr. Siebert & Kühn GmbH & Co. KG
Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Features

Easy operation

- The TP 17166S can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

Different dimensions of the calibration insert available

- Our TP 17166S temperature calibrator features a large calibration insert with a diameter of 60 mm
- The large calibration insert takes a bit longer until it reaches the temperature, but is able to calibrate 1 to 20 conventional temperature sensors at the same time
- Another version with a calibration insert of Ø 28 mm and an otherwise equal design is also available → **TP 17165S**
- The small calibration insert is ideally suited for quickly running up temperatures and calibrating 1 to 5 conventional temperature sensors at the same time
- We will be happy to help you select the ideal calibration insert for your application

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 17166S		
Temperature range	-30...165 °C at ambient temperature 20 °C	-22...329 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 60 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.2 °C	±0.36 °F
Temperature stability	±0.05 °C	±0.09 °F
Resolution of the temperature display	0.01 °C between -9.99...99.99 °C, else 0.1 °C	0.01 °F between -9.99...99.99 °F, else 0.1 °F
Reference temperature sensor	internal, fixed installation	
PC interface	RS485 (calibrator) to USB (PC)	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm	
Weight	Approx. 7.5 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 375 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		Function	Calibration insert [mm]	Power supply	Article number
-30...165 °C	-22...329 °F	Dry block	Ø 60 x 150	100...240 V	EP17160S601503

2. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D04AL78
2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D10AL79
3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D12AL81
2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D10AL83
Without bore holes	Dry block	Ø 60 x 150	Aluminium	EZ15060B00AL00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 60 x 150	Aluminium	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 60 x 150	Aluminium	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
PC software (without TT-Scan)	EZ999999999971
PC software (with TT-Scan)	EZ380000000001
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Temperature calibrator TP 17200
TP Basic // Dry block // -55...200 °C // -67...392 °F

TP 17200 - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- -55...200 °C (-67...392 °F) is the widest temperature range with cooling and heating function on the market
- Unique hybrid technology: Combination of powerful resistance heating with specially cooling process optimized Peltier elements for fastest cooling and heating times
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for fastest calibrations thanks to hybrid technology

TP Basic

The temperature calibrators of the TP Basic series are characterised by their efficiency and portability. The series consists of dry block calibrators covering a wide temperature range and are used on site, e.g. in marine applications.

The easy operation, the integrated internal reference temperature sensor and the dry block calibration function ensure an extremely easy calibration process.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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www.sika.net

Features

Easy operation

- The TP 17200 can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

Unique hybrid technology

- The best of two worlds: With our unique hybrid technology, we combine the benefits of a powerful resistance heating with special Peltier elements that have been optimised for the cooling process.
- All heating and cooling processes of the temperature calibrator are significantly accelerated.
  → Time and cost savings with every calibration
  → Reduced standstill times in your company

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 17200		
Temperature range	-55...200 °C at ambient temperature 20 °C	-67...392 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.4 °C	±0.72 °F
Temperature stability	±0.1 °C	±0.18 °F
Resolution of the temperature display	0.1 °C	0.1 °F
Reference temperature sensor	internal, fixed installation	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm	
Weight	Approx. 12.5 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 555 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
-55...200 °C	-67...392 °F	Dry block	Ø 28 x 150	100...240 V	EP172000281503

2. Calibration insert				
Bore holes [mm]	**Function**	**Calibration insert [mm]**	**Material**	**Article number**
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed **Each calibrator is already delivered with a standard calibration certificate (6 test points).**	**Article number**
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG

Temperature calibrator TP 17200S
TP Solid // Dry block // -55...200 °C // -67...392 °F

TP 17200S

TP 17200S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- -55...200 °C (-67...392 °F) is the widest temperature range with cooling and heating function on the market
- PC interface with connection cable to USB for use with SIKA calibration software
- Unique hybrid technology: a combination of powerful resistance heating with special cooling process optimised Peltier elements for fastest cooling and heating times
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for fast calibrations thanks to hybrid technology

TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

SIKA temperature calibrators

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Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Features

Easy operation

- The TP 17200S can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

Unique hybrid technology

- The best of two worlds: With our unique hybrid technology, we combine the benefits of a powerful resistance heating with special Peltier elements that have been optimised for the cooling process.
- All heating and cooling processes of the temperature calibrator are significantly accelerated.
  → Time and cost savings with every calibration
  → Reduced standstill times in your company

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

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Technical data

TP 17200S		
Temperature range	-55...200 °C at ambient temperature 20 °C	-67...392 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.2 °C	±0.36 °F
Temperature stability	±0.05 °C	±0.09 °F
Resolution of the temperature display	0.01 °C between -9.99...99.99 °C, else 0.1 °C	0.01 °F between -9.99...99.99 °F, else 0.1 °F
Reference temperature sensor	internal, fixed installation	
PC interface	RS485 (calibrator) to USB (PC)	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm	
Weight	Approx. 12.5 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 555 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		Function	Calibration insert [mm]	Power supply	Article number
-55...200 °C	-67...392 °F	Dry block	Ø 28 x 150	100...240 V	EP17200S281503

2. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
PC software (without TT-Scan)	EZ999999999971
PC software (with TT-Scan)	EZ380000000001
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Temperature calibrator TP 17450
TP Basic // Dry block // Room temperature...450 °C // RT...842 °F

TP 17450

TP 17450 - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for the simultaneous calibration of many devices under test in the medium temperature range up to 450 °C (842 °F)

TP Basic

The temperature calibrators of the TP Basic series are characterised by their efficiency and portability. The series consists of dry block calibrators covering a wide temperature range and are used on site, e.g. in marine applications.

The easy operation, the integrated internal reference temperature sensor and the dry block calibration function ensure an extremely easy calibration process.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

SIKA Dr. Siebert & Kühn GmbH & Co. KG
Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Features

Easy operation

- The TP 17450 can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 17450		
Temperature range	Room temperature...450 °C	Room temperature...842 °F
Dimension of the calibration insert	Ø 60 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.6 °C	±1.08 °F
Temperature stability	±0.1 °C	±0.18 °F
Resolution of the temperature display	0.1 °C	0.1 °F
Reference temperature sensor	internal, fixed installation	
Dimensions		
→ Width → Height → Depth	150 mm 330 + 70 mm (Handle) 270 mm	
Weight	Approx. 7.5 kg	
Power supply	230...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 2000 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		Function	Calibration insert [mm]	Power supply	Article number
Room temperature...450 °C	RT...842 °F	Dry block	Ø 60 x 150	230 V	EP174500601500

2. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Brass	EZ15060B04MS01
2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5	Dry block	Ø 60 x 150	Brass	EZ15060D10MS80
3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x 10.5	Dry block	Ø 60 x 150	Brass	EZ15060D12MS82
2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Brass	EZ15060D10MS84
Without bore holes	Dry block	Ø 60 x 150	Brass	EZ15060B00MS06
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 60 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 60 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Transport bag	XE2193

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Temperature calibrator TP 17450S
TP Solid // Dry block // Room temperature...450 °C // RT...842 °F

TP 17450S

TP 17450S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- PC interface with connection cable to USB for use with SIKA calibration software
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for the simultaneous calibration of many devices under test in the medium temperature range up to 450 °C (842 °F)

TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

SIKA temperature calibrators

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Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Features

Easy operation

- The TP 17450S can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

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Technical data

TP 17450S		
Temperature range	Room temperature...450 °C at ambient temperature 20 °C	Room temperature...842 °F at ambient temperature 68 °F
Dimension of the calibration insert	Ø 60 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.3 °C	±0.54 °F
Temperature stability	±0.05 °C	±0.09 °F
Resolution of the temperature display	0.01 °C in the range room tempera- ture...99.99 °C, else 0.1 °C	0.01 °F in the range room tempera- ture...99.99 °F, else 0.1 °F
Reference temperature sensor	internal, fixed installation	
PC interface	RS485 (calibrator) to USB (PC)	
Dimensions		
→ Width → Height → Depth	150 mm 330 + 70 mm (Handle) 270 mm	
Weight	Approx. 7.5 kg	
Power supply	230...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 2000 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
Room temperature...450 °C	RT...842 °F	Dry block	Ø 60 x 150	230 V	EP17450S601500

2. Calibration insert				
Bore holes [mm]	**Function**	**Calibration insert [mm]**	**Material**	**Article number**
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Brass	EZ15060B04MS01
2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5	Dry block	Ø 60 x 150	Brass	EZ15060D10MS80
3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x 10.5	Dry block	Ø 60 x 150	Brass	EZ15060D12MS82
2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Brass	EZ15060D10MS84
Without bore holes	Dry block	Ø 60 x 150	Brass	EZ15060B00MS06
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 60 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 60 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Transport bag	XE2193
PC software (without TT-Scan)	EZ999999999971
PC software (with TT-Scan)	EZ380000000001
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Temperature calibrator TP 17650
TP Basic // Dry block // Room temperature...650 °C // RT...1202 °F

TP 17650

TP 17650 - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Particularly suitable for simple and fast calibrations up to 650 °C (1202 °F)

TP Basic

The temperature calibrators of the TP Basic series are characterised by their efficiency and portability. The series consists of dry block calibrators covering a wide temperature range and are used on site, e.g. in marine applications.

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Struthweg 7-9 // 34260 Kaufungen // Germany
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Features

Easy operation

- The TP 17650 can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

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Technical data

TP 17650		
Temperature range	Room temperature...650 °C	Room temperature...1202 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.8 °C	±1.44 °F
Temperature stability	±0.1 °C	±0.18 °F
Resolution of the temperature display	0.1 °C	0.1 °F
Reference temperature sensor	internal, fixed installation	
Dimensions		
→ Width → Height → Depth	150 mm 330 + 70 mm (Handle) 270 mm	
Weight	Approx. 7.5 kg	
Power supply	110...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 1000 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		Function	Calibration insert [mm]	Power supply	Article number
Room temperature...650 °C	RT...1202 °F	Dry block	Ø 28 x 150	110...240 V	EP176500281503

2. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Transport bag	XE2193

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Temperature calibrator TP 17650M
TP Basic // Dry block // Room temperature...650 °C // RT...1202 °F

TP 17650M - Highlights

- Version of our temperature calibrator TP 17650 specially optimised for the marine market
- Very easy operation with 4-button control and integrated reference temperature sensor
- Low weight and stable handle for easy transport
- Optional accessory: Transport bag or transport case with or without trolley
- Qualified for SIKA Gold Service

TP Basic

The temperature calibrators of the TP Basic series are characterised by their efficiency and portability. The series consists of dry block calibrators covering a wide temperature range and are used on site, e.g. in marine applications.

The easy operation, the integrated internal reference temperature sensor and the dry block calibration function ensure an extremely easy calibration process.

SIKA temperature calibrators

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Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Features

Easy operation

- The TP 17650M can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

SIKA Gold Service

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Technical data

TP 17650M		
Temperature range	Room temperature...650 °C	Room temperature...1202 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±1 °C	±1.8 °F
Temperature stability	±0.1 °C	±0.18 °F
Resolution of the temperature display	1 °C	1 °F
Reference temperature sensor	internal, fixed installation	
Dimensions		
→ Width → Height → Depth	150 mm 330 + 70 mm (Handle) 270 mm	
Weight	Approx. 7.5 kg	
Power supply → Standard → Optional	 230...240 VAC, 50 / 60 Hz 100...115 VAC, 50 / 60 Hz 100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 1000 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		

Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		Function	Calibration insert [mm]	Power supply	Article number
Room temperature...650 °C	RT...1202 °F	Dry block	Ø 28 x 150	230 V	EP17650M281500
Room temperature...650 °C	RT...1202 °F	Dry block	Ø 28 x 150	115 V	EP17650M281502
Room temperature...650 °C	RT...1202 °F	Dry block	Ø 28 x 150	110...240 V	EP17650M281503

2. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (3 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Transport bag	XE2193

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Temperature calibrator TP 17650S
TP Solid // Dry block // Room temperature...650 °C // RT...1202 °F

TP 17650S

TP 17650S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- PC interface with connection cable to USB for use with SIKA calibration software
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Especially suitable for simple and fast calibrations up to 650 °C (1202 °F)

TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

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Features

Easy operation

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- The TT-Scan and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
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Technical data

TP17650S		
Temperature range	Room temperature...650 °C	Room temperature...1202 °F
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)	
Dry block		
Display accuracy	±0.4 °C	±0.72 °F
Temperature stability	±0.05 °C	±0.09 °F
Resolution of the temperature display	0.01 °C in the range room temperature...99.99 °C, else 0.1 °C	0.01 °F in the range room temperature...99.99 °F, else 0.1 °F
Reference temperature sensor	internal, fixed installation	
PC interface	RS485 (calibrator) to USB (PC)	
Dimensions		
→ Width → Height → Depth	150 mm 330 + 70 mm (Handle) 270 mm	
Weight	Approx. 7.5 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 1000 W	
Display		
Display	2-line, 4-digit digital display red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two article numbers:

1. Calibrator

2. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
Room temperature...650 °C	RT...1202 °F	Dry block	Ø 28 x 150	100...240 V	EP17650S281503

2. Calibration insert				
Bore holes [mm]	**Function**	**Calibration insert [mm]**	**Material**	**Article number**
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator)	EKTPWP1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination)	EKTPDAKKS1FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Transport bag	XE2193
PC software (without TT-Scan)	EZ999999999971
PC software (with TT-Scan)	EZ380000000001
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Temperature calibrator TP M165S
TP Solid // Calibration bath // -35...155 °C // -31 °F...311 °F

TP M165S

TP M165S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- PC interface with connection cable to USB for use with SIKA calibration software
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Especially suitable for calibration of devices under test with special sensor geometry. DUTs are simply immersed in the calibration liquid, no calibration insert with specific bore hole pattern is required

TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

SIKA Dr. Siebert & Kühn GmbH & Co. KG
Struthweg 7-9 // 34260 Kaufungen // Germany
www.sika.net

Features

Easy operation

- The TP M165S can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP M165S		
Temperature range	-35...155 °C at ambient temperature 20 °C	-31...311 °F at ambient temperature 68 °F
Calibration volume	Ø 60 x 170 mm	
Calibration bath		
Display accuracy	±0.1 °C	±0.18 °F
Temperature stability	±0.05 °C	±0.09 °F
Resolution of the temperature display	0.01 °C in the range -9.99...99.99 °C, else 0.1 °C	0.01 °F in the range -9.99...99.99 °F, else 0.1 °F
Reference temperature sensor	internal, fixed installation	
PC interface	RS485 (calibrator) to USB (PC)	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm 300 mm	
Weight	Approx. 12.5 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 375 W	
Display		
Display	2-line, 4-digit digital display, red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two order numbers:

1. Calibrator
2. Linearisation

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
-35...155°C	-31...311 °F	Calibration bath	Ø 60 x 170	100...240 V	EPMB160S601503

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation					
Calibration function	**Calibration insert / calibration medium**			**Reference temperature sensor**	**Short designation**
Calibration bath (Direct filling)	10 cSt	-35...155 °C	-31...311 °F	internal	P
	Water	2...95 °C	35.6...203 °F	internal	V

Example article number linearisation

Function:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Article number:	**EK1**	**P**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

3. Calibration certificate - Select your calibration certificates as needed **Each calibrator is already delivered with a standard calibration certificate (3 test points).**	**Article number**
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function	EKTPDAKKS1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function	EKTPDAKKS2FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Tripod (holder for devices under test)	EZTPMSG0000000
Calibration liquid (silicone oil), 10cSt	EZSÖ0100000000
PC software (without TT-Scan)	EZ999999999971
PC software (with TT-Scan)	EZ380000000001
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Temperature calibrator TP M255S
TP Solid // Calibration bath // Room temperature...255 °C // RT...491 °F

TP M255S

TP M255S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- PC interface with connection cable to USB for use with SIKA calibration software
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Especially suitable for calibration of devices under test with special sensor geometry. DUTs are simply immersed in the calibration liquid, no calibration insert with specific bore hole pattern is required.

TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

SIKA temperature calibrators

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Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

SIKA Dr. Siebert & Kühn GmbH & Co. KG
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www.sika.net

Features

Easy operation

- The TP M255S can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button
- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car
- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

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Technical data

TP M255S		
Temperature range	Room temperature...255 °C	Room temperature...491 °F
Calibration volume	Ø 60 x 170 mm	
Calibration bath		
Display accuracy	±0.2 °C	±0.36 °F
Temperature stability	±0.05 °C	±0.09 °F
Resolution of the temperature display	0.01 °C in the range -9.99...99.99 °C, else 0.1 °C	0.01 °F in the range -9.99...99.99 °F, else 0.1 °F
Reference temperature sensor	internal, fixed installation	
PC interface	RS485 (calibrator) to USB (PC)	
Dimensions		
→ Width → Height → Depth	150 mm 330 + 70 mm 270 mm	
Weight	Approx. 7.5 kg	
Power supply	100...230 VAC, 50 / 60 Hz	
Power consumption	Approx. 1000 W	
Display		
Display	2-line, 4-digit digital display, red / green, unit °C / °F	
Approvals		
	EAC	

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Article numbers

To order a complete calibrator, you need two order numbers:

1. Calibrator

2. Linearisation

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
Room temperature...255 °C	RT...491 °F	Calibration bath	Ø 60 x 170	100...230 V	EPMB250S601503

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation				
Calibration function	**Calibration insert / calibration medium**		**Reference temperature sensor**	**Short designation**
Calibration bath (Direct filling)	20 cSt	7...220 °C / 44.6...428 °F	internal	R
	50 cSt	50...270 °C / 122...518 °F	internal	T

Example article number linearisation											
Function:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Article number:	**EK1**	**T**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

3. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (3 test points).	**Article number**
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function	EKTPDAKKS1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function	EKTPDAKKS2FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS

4. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
Tripod (holder for devices under test)	EZTPMSG0000000
Calibration liquid (silicone oil), 50cSt	EZSÖ0500000000
PC software (without TT-Scan)	EZ999999999971
PC software (with TT-Scan)	EZ380000000001
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Temperature calibrator TP 37165E.2 // TP 37165E.2i
TP Premium // Dry block // -35...165 °C // -31...329 °F

TP 37165E.2 / TP 37165E.2i - Highlights

- Patented control technology - Fastest stabilisation times on the market - Time savings of up to 50 %
- Patented touch screen function for simple and convenient operation
- Accessories: device under test management with barcode scanner
- Available with integrated measuring instrument → TP 37165E.2i

TP Premium

The calibrators of the TP Premium series are characterised by their unparalleled performance and outstanding operating comfort. By means of the intuitive menu structure, all necessary inputs can be made quickly and easily. The large touch screen has plenty of room to display the reference, target and devices under test temperatures. At the end of a calibration process, the TP Premium provides the complete calibration certificate. The continuously growing bandwidth of supported temperature ranges supports an increasing number of temperature sensors on the market. They can be calibrated with a resolution of up to 0.001 °C / K and thus meet the highest requirements, e.g. of the food and pharmaceuticals industry.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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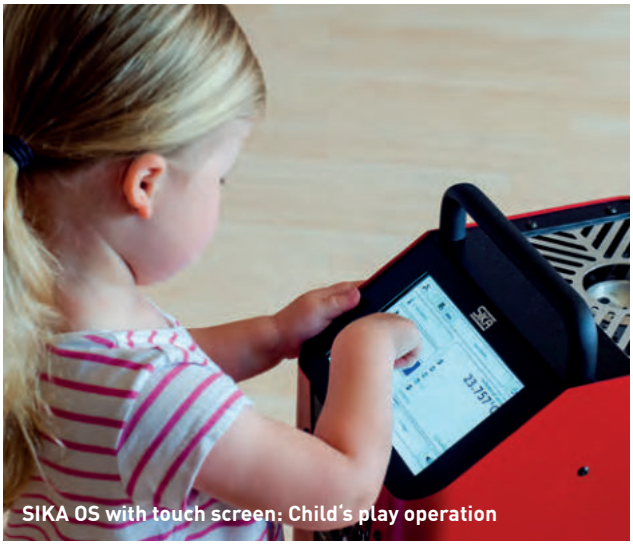
Features

SIKA OS with touch screen

- Simple operation of the temperature calibrator via the integrated 7" touch screen
  → Intuitive operation of the calibration functions
  → Management of calibration data directly on the calibrator
- Clear display
  → All important information at a glance
- Completely paperless calibration
  → Value calculation and transmission errors are excluded
- Glass surface made of multi-panel safety glass
  → Extremely robust against damage
  → Easy cleaning of the surface
  → Suitable for use in the food industry



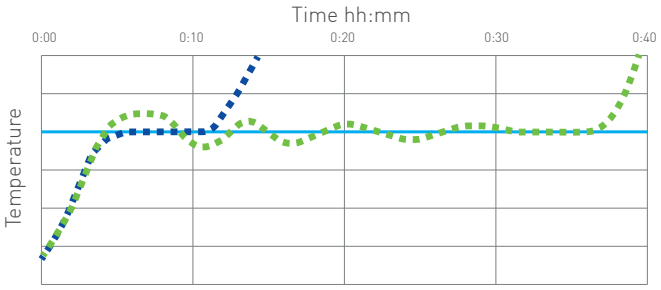
SIKA OS with touch screen: Child's play operation

Automatic calibration with camera

In calibration processes for devices under test with their own temperature display, the display of the DUT must be read for each calibration point. The read value is transferred by the user to the calibrator or the calibration certificate, and the subsequent calibration point is only approached after a manual acknowledgement. For this purpose, the user must return to the calibrator at each calibration point. In some cases, this can lead to long delays if the user carries out other tasks in between. With our automatic calibration with a camera, these time-intensive intermediate steps are no longer needed:

- The patented camera system automatically creates a recording of the DUT display at each calibration point. The subsequent calibration point is approached directly afterwards
  → No user interaction is required during the calibration process, as it is implemented automatically
  → All test points are approached without waiting times
- Upon completion of the entire calibration process, the user transmits the data of the created display records to the calibrator or calibration certificate
  → During the entire calibration process, the user is free to carry out other tasks
- The visual records of the device under test display at each calibration point are saved and attached to the calibration certificate as verification

Features



Without rocket controller: Long settling time to the target temperature
With rocket controller: Settling time to the target temperature reduced by approx. 90%

Temperature control with "rocket controller"

- Temperature regulator with model-based state control
- Special regulation algorithm based on knowledge and experience from space travel
- Unique temperature stability of < 0.001 °C / K
- Anticipatory activation of the heating and cooling elements
  → The settling time to the target temperature is reduced by approx. 90% at each calibration point
  → Time savings of up to 50% with each calibration process

WebApp - Plug and play for your temperature calibrator

- With the WebApp, ongoing or completed calibration processes can be comfortably displayed on a PC or a smart phone
- The connection is made via LAN or WLAN (via router)
- The WebApp is opened via the browser of your PC or mobile phone. Installation of drivers or software is not required
- Compatible with all current operating systems (Windows, Mac OS, Linux, iOS and Android)

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan is connected to a temperature calibrator, and the temperatures of the DUTs are directly shown on the display of the temperature calibrator.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

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Technical data

TP 37165E.2 / TP 37165E.2i				
Temperature range	-35...165 °C at ambient temperature 20 °C		-31...329 °F at ambient temperature 68 °F	
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)			
Dry block	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.2 °C	±0.36 °F	±0.3 °C	±0.54 °F
Temperature stability	±0.005 °C	±0.009 °F	±0.010 °C	±0.018 °F
Stabilisation time (with external reference temperature sensor) → to ±0.05°C → to ±0.005°C	→ to ±0.09 °F → to ±0.009 °F	From 1 min From 5 min		
Heating time → 20 °C...165 °C → -35 °C...165 °C	→ 68...329 °F → -31...329 °F	14 min 16 min		
Cooling time → 20 °C...-30 °C → 165 °C...20 °C	→ 68...-22 °F → -329...68 °F	13 min 11 min		
Resolution of the temperature display	0.1 / 0.01 / 0.001 °C (selectable)		0.1/0.01/0.001 °F (selectable)	
Hysteresis → internal reference temperature sensor → external reference temperature sensor		±0.25 °C ±0.025 °C		±0.45 °F ±0.045 °F
Temperature units	°C / °F / K (selectable)			
Reference temperature sensor	internal, fixed installation / external (selectable)			
Interfaces	Ethernet, 3 x USB			
Connectivity	OPC UA, serial communication, HTTP. Details and further possibilities on request.			
Dimensions				
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm			
Weight	Approx. 13.5 kg			
Power supply	100...240 VAC, 50 / 60 Hz			
Power consumption	Approx. 375 W			
Adjustable temperature range	-50...165 °C		-58...329 °F	
Display	Brilliant color touchscreen (7 inches), multi panel safety glass			
Approvals				

Temperature calibrator TP 37165E.2i // Integrated measuring instrument
Technical data

Device under test inputs - Resistance thermometers		
Number of channels	2	
Connection	4 mm safety socket, 4 per channel	
Connection type	2-, 3-, 4-wire technology	
Resistance range		
→ Pt100	0...400 Ω	
→ Pt1000	0...4000 Ω	
Accuracy		
→ Pt100	±0.03 °C	±0.054 °F
→ Pt1000	±0.06 °C	±0.108 °F
Device under test inputs - Thermocouple		
Number of channels	2	
Connection	2x thermocouple socket (mini)	
Measuring range	-10...100 mV	
Accuracy cold junction	±0.3 °C	±0.054 °F
Accuracy		
→ Type K	±0.08 °C	±0.144 °F
→ Type J	±0.07 °C	±0.126 °F
→ Type N	±0.13 °C	±0.234 °F
→ Type E	±0.06 °C	±0.108 °F
→ Type T	±0.09 °C	±0.162 °F
→ Type R	±0.78 °C	±1.404 °F
→ Type S	±0.73 °C	±1.314 °F
Standard signal input (Current)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...24 mA	
Accuracy	0.01 % of range	
Standard signal input (Voltage)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...12 VDC	
Accuracy	0.01 % of range	
Switch test		
Number of channels	2	
Transmitter supply		
Output current	Max. 24 mA	
Output voltage	24 VDC	

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The integrated measuring instrument in detail

Resistance thermometers, thermocouples and signals from temperature transmitters must be operated with an external measuring instrument which measures the output signals and displays them as temperature during the calibration. This temperature can then be compared to the set calibrator temperature.

Our integrated measuring instrument assumes the tasks of an external measuring instrument. It shows the temperature directly on the calibrator display and enables the fully automatic calibration of two devices under test at the same time.

Your benefits of the integrated measuring instrument at a glance:

- Temperature sensor calibration without additional measuring instrument
- Simultaneous calibration of several temperature sensors
- Fully automatic calibration and certification
- Enables the simplification of your work processes
- Offers great time savings compared to a temperature calibrator without integrated measuring instrument

The following DUTs can be connected to the integrated measuring instrument:

- Resistance thermometer (RTD): Pt100, Pt500 and Pt1000 in 2-,3- or 4-wire circuit
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, L and U
- 0(4)...20 mA current signals from temperature transmitters (mA), with and without supply voltage
- 0...10 V voltage signals
- Temperature switch (switch) with normally open and normally closed contacts

Article numbers

To order a complete calibrator, you need three article numbers:

1. Calibrator
2. Linearisation
3. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator

Temperature range		Function	Calibration insert [mm]	Power supply	Integrated measuring instrument	Article number		
-35...165 °C	-31...329 °F	Dry block	Ø 28 x 150	110...240 V	Without	EP3716	**0**	22815U3
-35...165 °C	-31...329 °F	Dry block	Ø 28 x 150	110...240 V	With	EP3716	**I**	22815U3

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation

Calibration function	Calibration insert / calibration medium	Reference temperature sensor	Short designation
Dry block	Cylindrical calibration insert	external	B
	Cylindrical calibration insert	internal	C

Example article number linearisation

Function:		1	2	3	4	5	6	7	8	9	10
Article number:	**EK1**	**B**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

3. Calibration insert

Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

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4. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	**Article number**
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function	EKTPDAKKS1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function	EKTPDAKKS2FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS
SIKA works calibration certificate integrated measuring instrument (Pt100, type K)	EKTPWPMI1
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPWPMI2
SIKA works calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPWPMI3
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPWPMI4
SIKA works calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPWPMIZUS
SIKA works calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPWPMIKOMPL
DAkkS calibration certificate integrated measuring instrument (Pt100, type K)	EKTPDAKKSMI1
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPDAKKSMI2
DAkkS calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPDAKKSMI3
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPDAKKSMI4
DAkkS calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPDAKKSMIZUS
DAkkS calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPDAKKSKOMPL

5. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
External reference temperature sensor TF 255-3-300 (-55...255 °C / -67...491 °F)	W033P413000GX002
External reference temperature sensor TF 255-3-300 (-55...255 °C / -67...491 °F), 90° angle	W033P413000GX0WI
Network switch	XE2103
Barcode scanner	XE2102
W-LAN router	XE2101
DUT temperature sensor for demo purposes (Pt100 3-phase) for integrated measuring instrument	WMQMP31020050003
Instruction in the temperature calibrator by SIKA field service	EKTPEINWEISUNG
Frame packaging for return of calibrator (e.g. for recalibration) Please indicate the calibrator model when ordering.	098V

Temperature calibrator TP 37200E.2 // TP 37200E.2i
TP Premium // Dry block // -55...200 °C // -67...392 °F

TP 37200E.2 / TP 37200E.2i - Highlights

- Patented control technology - Fastest stabilisation times on the market - Time savings of up to 50 %
- -55...200 °C (-67...392 °F) is the widest temperature range with cooling and heating function on the market
- World's fastest dry-block temperature calibrator
- Unique hybrid technology: combination of high-performance resistance heating with Peltier elements specially optimised for the cooling process for fastest cooling and heat-up times
- Patented touch screen function for simple and convenient operation
- Accessories: device under test management with barcode scanner
- Available with integrated measuring instrument → TP 37200E.2i

TP Premium

The calibrators of the TP Premium series are characterised by their unparalleled performance and outstanding operating comfort. By means of the intuitive menu structure, all necessary inputs can be made quickly and easily. The large touch screen has plenty of room to display the reference, target and devices under test temperatures. At the end of a calibration process, the TP Premium provides the complete calibration certificate. The continuously growing bandwidth of supported temperature ranges supports an increasing number of temperature sensors on the market. They can be calibrated with a resolution of up to 0.001 °C / K and thus meet the highest requirements, e.g. of the food and pharmaceuticals industry.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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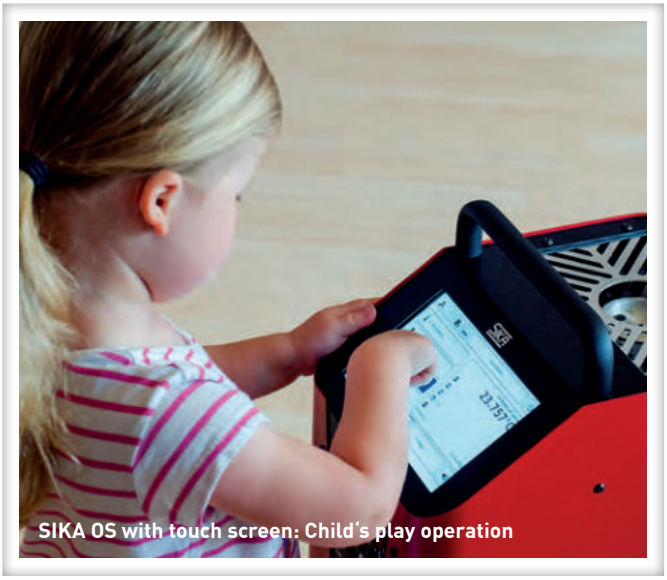
Features


SIKA OS with touch screen: Child's play operation

SIKA OS with touch screen

- Simple operation of the temperature calibrator via the integrated 7" touch screen
  → Intuitive operation of the calibration functions
  → Management of calibration data directly on the calibrator
- Clear display
  → All important information at a glance
- Completely paperless calibration
  → Value calculation and transmission errors are excluded
- Glass surface made of multi-panel safety glass
  → Extremely robust against damage
  → Easy cleaning of the surface
  → Suitable for use in the food industry

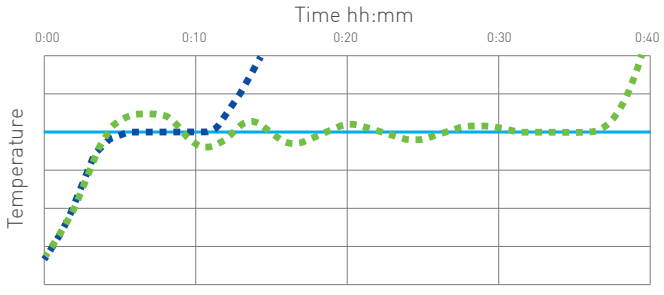
Automatic calibration with camera

In calibration processes for devices under test with their own temperature display, the display of the DUT must be read for each calibration point. The read value is transferred by the user to the calibrator or the calibration certificate, and the subsequent calibration point is only approached after a manual acknowledgement. For this purpose, the user must return to the calibrator at each calibration point. In some cases, this can lead to long delays if the user carries out other tasks in between. With our automatic calibration with a camera, these time-intensive intermediate steps are no longer needed:

- The patented camera system automatically creates a recording of the DUT display at each calibration point. The subsequent calibration point is approached directly afterwards
  → No user interaction is required during the calibration process, as it is implemented automatically
  → All test points are approached without waiting times
- Upon completion of the entire calibration process, the user transmits the data of the created display records to the calibrator or calibration certificate
  → During the entire calibration process, the user is free to carry out other tasks
- The visual records of the device under test display at each calibration point are saved and attached to the calibration certificate as verification

Temperature control with "rocket controller"

- Temperature regulator with model-based state control
- Special regulation algorithm based on knowledge and experience from space travel
- Unique temperature stability of < 0.001 °C / K
- Anticipatory activation of the heating and cooling elements
  → The settling time to the target temperature is reduced by approx. 90% at each calibration point
  → Time savings of up to 50% with each calibration process



Without rocket controller: Long settling time to the target temperature
With rocket controller: Settling time to the target temperature reduced by approx. 90%

Features

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan is connected to a temperature calibrator, and the temperatures of the DUTs are directly shown on the display of the temperature calibrator.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

HYBRID TECHNOLOGY

Unique hybrid technology

- The best of two worlds: With our unique hybrid technology, we combine the benefits of a powerful resistance heating with special Peltier elements that have been optimised for the cooling process.
- All heating and cooling processes of the temperature calibrator are significantly accelerated.
  → Time and cost savings with every calibration
  → Reduced standstill times in your company

WebApp - Plug and play for your temperature calibrator

- With the WebApp, ongoing or completed calibration processes can be comfortably displayed on a PC or a smart phone
- The connection is made via LAN or WLAN (via router)
- The WebApp is opened via the browser of your PC or mobile phone. Installation of drivers or software is not required
- Compatible with all current operating systems (Windows, Mac OS, Linux, iOS and Android)

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

SIKA GOLD SERVICE

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Technical data

TP 37200E.2 / TP 37200E.2i				
Temperature range	-55...200 °C at ambient temperature 20 °C		-31...329 °F at ambient temperature 68 °F	
Dimension of the calibration insert	Ø 28 x 150 mm (calibration insert easily exchangeable)			
Dry block	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.2 °C	±0.36 °F	±0.3 °C	±0.54 °F
Temperature stability	±0.005 °C	±0.009 °F	±0.010 °C	±0.018 °F
Stabilisation time (with external reference temperature sensor) → to ±0.05°C → to ±0.005°C	→ to ±0.09 °F → to ±0.009 °F	From 1 min From 5 min		
Heating time → 20 °C...200 °C → -55 °C...200 °C	→ 68...392 °F → -67...392 °F	9 min 12 min		
Cooling time → 20 °C...-55 °C → 200 °C...20 °C	→ 68...-67 °F → 329...68 °F	35 min 18 min		
Resolution of the temperature display	0.1 / 0.01 / 0.001 °C (selectable)		0.1/0.01/0.001 °F (selectable)	
Hysteresis → internal reference temperature sensor → external reference temperature sensor		±0.25 °C ±0.025 °C		±0.45 °F ±0.045 °F
Temperature units	°C / °F / K (selectable)			
Reference temperature sensor	internal, fixed installation / external (selectable)			
Interfaces	Ethernet, 3 x USB			
Connectivity	OPC UA, serial communication, HTTP. Details and further possibilities on request.			
Dimensions				
→ Width → Height → Depth	210 mm 380 + 50 mm (Handle) 300 mm			
Weight	Approx. 15 kg			
Power supply	100...240 VAC, 50 / 60 Hz			
Power consumption	Approx. 555 W			
Adjustable temperature range	-60...200 °C		-76...392 °F	
Display	Brilliant color touchscreen (7 inches), multi panel safety glass			
Approvals				

Temperature calibrator TP 37200E.2i // Integrated measuring instrument
Technical data

Device under test inputs - Resistance thermometers		
Number of channels	2	
Connection	4 mm safety socket, 4 per channel	
Connection type	2-, 3-, 4-wire technology	
Resistance range		
→ Pt100	0...400 Ω	
→ Pt1000	0...4000 Ω	
Accuracy		
→ Pt100	±0.03 °C	±0.054 °F
→ Pt1000	±0.06 °C	±0.108 °F
Device under test inputs - Thermocouple		
Number of channels	2	
Connection	2x thermocouple socket (mini)	
Measuring range	-10...100 mV	
Accuracy cold junction	±0.3 °C	±0.054 °F
Accuracy		
→ Type K	±0.08 °C	±0.144 °F
→ Type J	±0.07 °C	±0.126 °F
→ Type N	±0.13 °C	±0.234 °F
→ Type E	±0.06 °C	±0.108 °F
→ Type T	±0.09 °C	±0.162 °F
→ Type R	±0.78 °C	±1.404 °F
→ Type S	±0.73 °C	±1.314 °F
Standard signal input (Current)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...24 mA	
Accuracy	0.01 % of range	
Standard signal input (Voltage)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...12 VDC	
Accuracy	0.01 % of range	
Switch test		
Number of channels	2	
Transmitter supply		
Output current	Max. 24 mA	
Output voltage	24 VDC	

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The integrated measuring instrument in detail

Resistance thermometers, thermocouples and signals from temperature transmitters must be operated with an external measuring instrument which measures the output signals and displays them as temperature during the calibration. This temperature can then be compared to the set calibrator temperature.

Our integrated measuring instrument assumes the tasks of an external measuring instrument. It shows the temperature directly on the calibrator display and enables the fully automatic calibration of two devices under test at the same time.

Your benefits of the integrated measuring instrument at a glance:

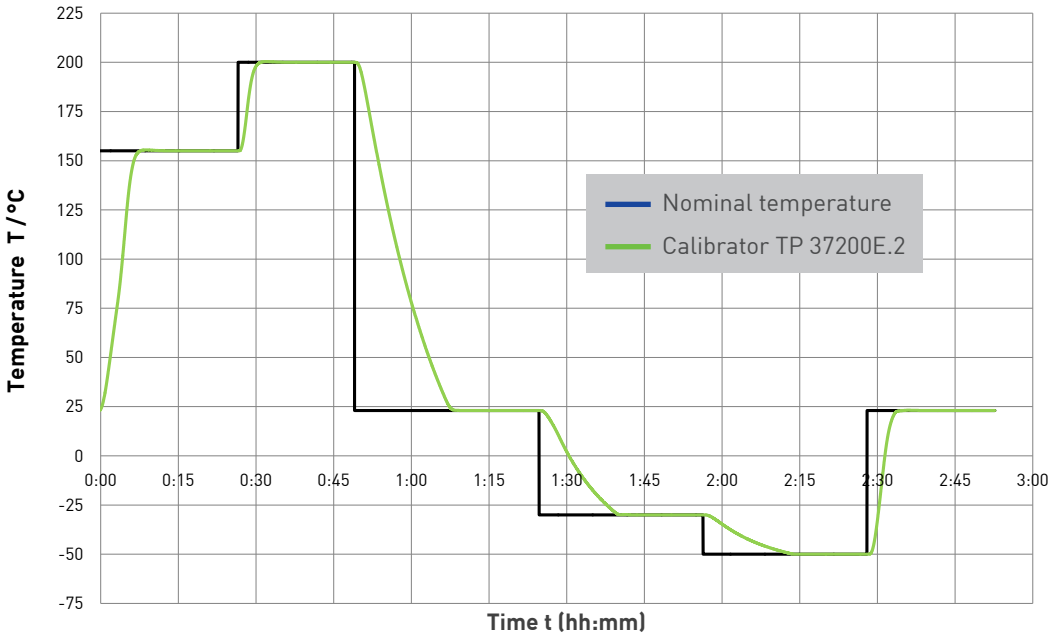
- Temperature sensor calibration without additional measuring instrument
- Simultaneous calibration of several temperature sensors
- Fully automatic calibration and certification
- Enables the simplification of your work processes
- Offers great time savings compared to a temperature calibrator without integrated measuring instrument

The following DUTs can be connected to the integrated measuring instrument:

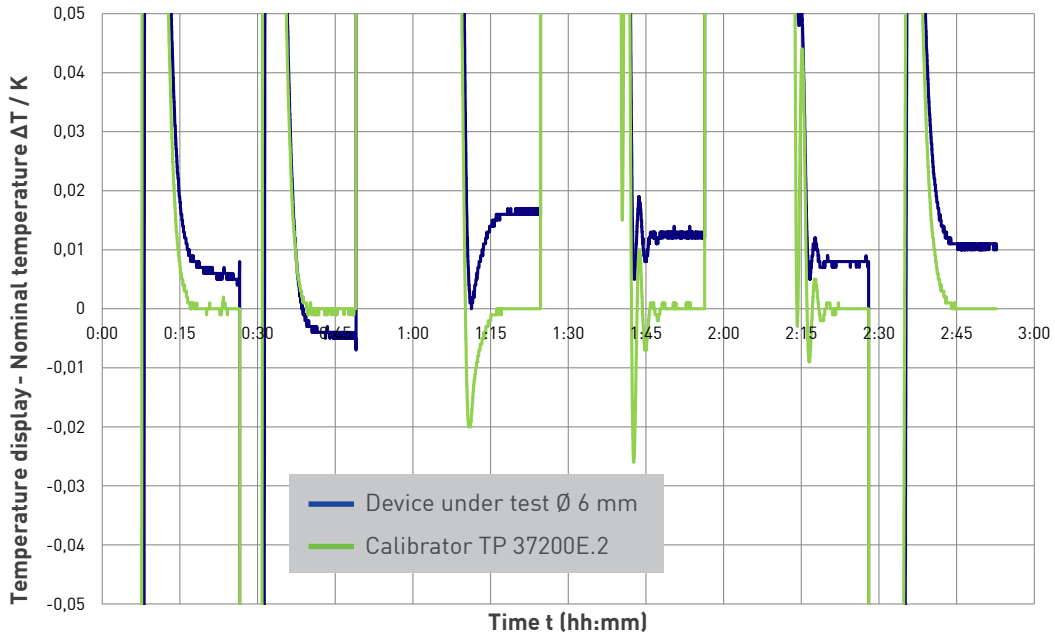
- Resistance thermometer (RTD): Pt100, Pt500 and Pt1000 in 2-,3- or 4-wire circuit
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, L and U
- 0(4)...20 mA current signals from temperature transmitters (mA), with and without supply voltage
- 0...10 V voltage signals
- Temperature switch (switch) with normally open and normally closed contacts

Temperature steps TP 37200E.2 with external reference temperature sensor

Step test with commercially established limit temperatures and 15 minutes additional holding time after stabilization.



Detailed image from step test: Fast settling to ±0.005 °C.



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Article numbers

To order a complete calibrator, you need three article numbers:

1. Calibrator
2. Linearisation
3. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator

Temperature range		Function	Calibration insert [mm]	Power supply	Integrated measuring instrument	Article number		
-55...200 °C	-67...392 °F	Dry block	Ø 28 x 150	110...240 V	Without	EP3720	**0**	22815U3
-55...200 °C	-67...392 °F	Dry block	Ø 28 x 150	110...240 V	With	EP3720	**I**	22815U3

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation

Calibration function	Calibration insert / calibration medium	Reference temperature sensor	Short designation
Dry block	Cylindrical calibration insert	external	B
	Cylindrical calibration insert	internal	C

Example article number linearisation

Function:		1	2	3	4	5	6	7	8	9	10
Article number:	**EK1**	**B**	**C**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

3. Calibration insert

Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5	Dry block	Ø 28 x 150	Brass	EZ15028B03MS17
1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028065MS00
2x Ø 3.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS09
1x Ø 3.5, 1x Ø 4.5	Dry block	Ø 28 x 150	Brass	EZ15028F02MS80
1x Ø 3.5, 1x Ø 6.5	Dry block	Ø 28 x 150	Brass	EZ15028H02MS01
1x Ø 3.5, 1x Ø 8.5	Dry block	Ø 28 x 150	Brass	EZ15028B02MS67
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 28 x 150	Brass	EZ15028C04MS15
Without bore holes	Dry block	Ø 28 x 150	Brass	EZ15028000MS00
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 28 x 150	Brass	Please indicate bore holes in the order
Each additional bore hole	Dry block	Ø 28 x 150	Brass	

4. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
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SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS
SIKA works calibration certificate integrated measuring instrument (Pt100, type K)	EKTPWPMI1
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPWPMI2
SIKA works calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPWPMI3
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPWPMI4
SIKA works calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPWPMIZUS
SIKA works calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPWPMIKOMPL
DAkkS calibration certificate integrated measuring instrument (Pt100, type K)	EKTPDAKKSMI1
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPDAKKSMI2
DAkkS calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPDAKKSMI3
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5. Accessories	Article number
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Network switch	XE2103
Barcode scanner	XE2102
W-LAN router	XE2101
DUT temperature sensor for demo purposes (Pt100 3-phase) for integrated measuring instrument	WMQMP31020050003
Instruction in the temperature calibrator by SIKA field service	EKTPEINWEISUNG
Frame packaging for return of calibrator (e.g. for recalibration) Please indicate the calibrator model when ordering.	098V

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Temperature calibrator TP 37450E.2 // TP 37450E.2i
TP Premium // Multifunction // Room temperature...450 °C // RT...842 °F

TP 37450E.2

TP 37450E.2i
Integrated measuring instrument

TP 37450E.2 - Highlights

- Best measurement uncertainties on the market
- Patented control technology - Fastest stabilisation times on the market - Time savings of up to 50 %
- Time and cost savings thanks to patented ventilator concept for fastest cooling times
- Patented touch screen function for simple and convenient operation
- Accessories: device under test management with barcode scanner
- Available with integrated measuring instrument → TP 37450E.2i

TP Premium

The calibrators of the TP Premium series are characterised by their unparalleled performance and outstanding operating comfort. By means of the intuitive menu structure, all necessary inputs can be made quickly and easily. The large touch screen has plenty of room to display the reference, target and devices under test temperatures. At the end of a calibration process, the TP Premium provides the complete calibration certificate. The continuously growing bandwidth of supported temperature ranges supports an increasing number of temperature sensors on the market. They can be calibrated with a resolution of up to 0.001 °C / K and thus meet the highest requirements, e.g. of the food and pharmaceuticals industry.

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Features

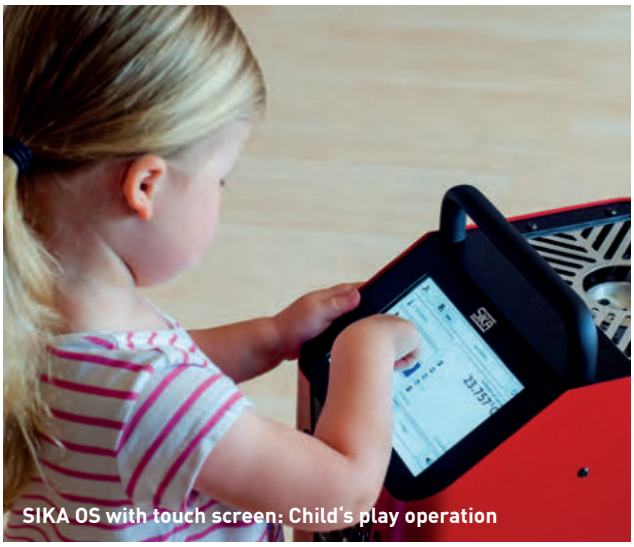
Three functions in one temperature calibrator

- Covering many calibration tasks with only one model: Dry block, infrared and surface calibration
  → Cost savings due to a reduction in the number of versions required
- Quick and easy change between the calibration functions
- Additional calibration functions for your application
  → Dry block for aseptic sensors
  → Air Shield Insert for the best measurement uncertainties

Dry block calibration

Infrared calibration

Surface calibration



SIKA OS with touch screen: Child's play operation

SIKA OS with touch screen

- Simple operation of the temperature calibrator via the integrated 7" touch screen
  → Intuitive operation of the calibration functions
  → Management of calibration data directly on the calibrator
- Clear display
  → All important information at a glance
- Completely paperless calibration
  → Value calculation and transmission errors are excluded
- Glass surface made of multi-panel safety glass
  → Extremely robust against damage
  → Easy cleaning of the surface
  → Suitable for use in the food industry

Temperature control with "rocket controller"

- Temperature regulator with model-based state control
- Special regulation algorithm based on knowledge and experience from space travel
- Unique temperature stability of < 0.001 °C / K
- Anticipatory activation of the heating and cooling elements
  → The settling time to the target temperature is reduced by approx. 90% at each calibration point
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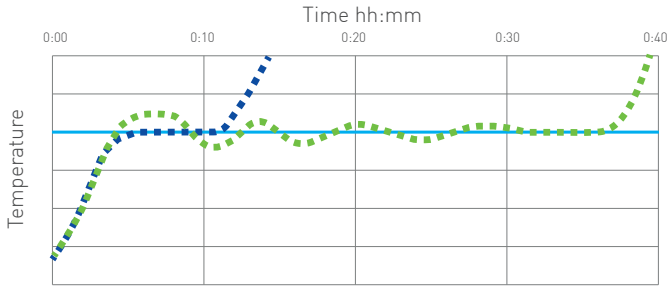
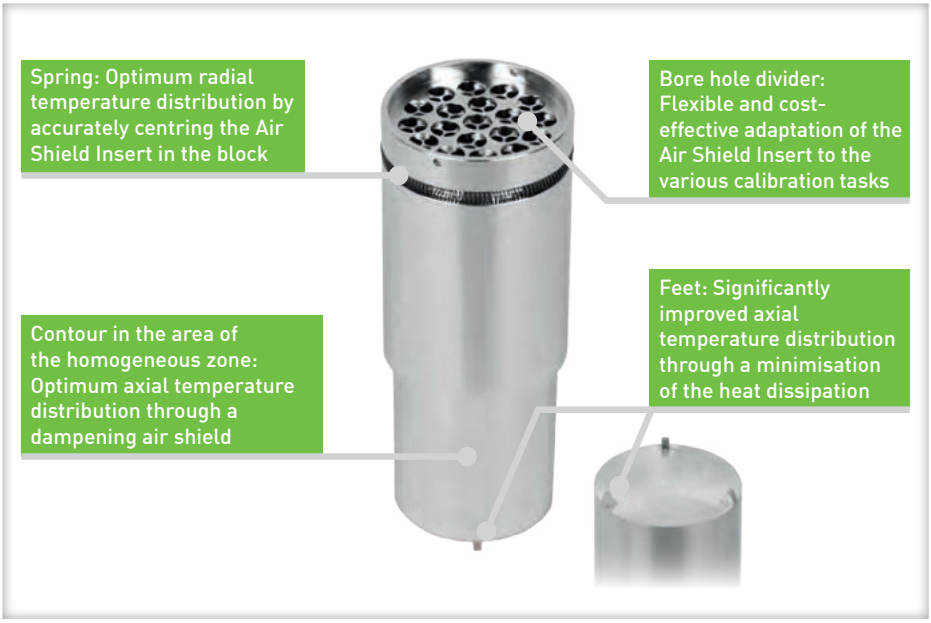


Without rocket controller: Long settling time to the target temperature
With rocket controller: Settling time to the target temperature reduced by approx. 90%

Features



Air Shield Insert

- Patented dry block version with optimum radial and axial temperature distribution
- Automatic centring of the Air Shield Insert in the block
  → User errors due to jiggling or twisting are excluded

WebApp - Plug and play for your temperature calibrator

- With the WebApp, ongoing or completed calibration processes can be comfortably displayed on a PC or a smart phone
- The connection is made via LAN or WLAN (via router)
- The WebApp is opened via the browser of your PC or mobile phone. Installation of drivers or software is not required
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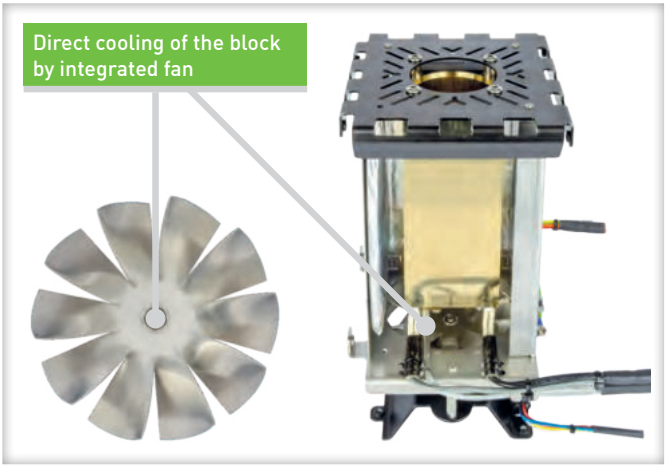
Automatic calibration with camera

In calibration processes for devices under test with their own temperature display, the display of the DUT must be read for each calibration point. The read value is transferred by the user to the calibrator or the calibration certificate, and the subsequent calibration point is only approached after a manual acknowledgement. For this purpose, the user must return to the calibrator at each calibration point. In some cases, this can lead to long delays if the user carries out other tasks in between. With our automatic calibration with a camera, these time-intensive intermediate steps are no longer needed:

- The patented camera system automatically creates a recording of the DUT display at each calibration point. The subsequent calibration point is approached directly afterwards
  → No user interaction is required during the calibration process, as it is implemented automatically
  → All test points are approached without waiting times
- Upon completion of the entire calibration process, the user transmits the data of the created display records to the calibrator or calibration certificate
  → During the entire calibration process, the user is free to carry out other tasks
- The visual records of the device under test display at each calibration point are saved and attached to the calibration certificate as verification



Innovative ventilator concept

- Temperature calibrators which do not have an active cooling, e.g. due to special Peltier elements, use one or several ventilators for cooling down.
- The innovative SIKA ventilator concept enables a very direct cooling of the block and thus achieves the fastest cooling-down times on the market
  → Time and cost savings with every calibration
  → Reduced standstill times in your company
- The ventilator is exclusively used for cooling down the temperature calibrator
  → Completely silent heating mode
  → Reduced noise emissions for the user

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 37450E.2 / TP 37450E.2i				
Temperature range	Room temperature...450 °C		Room temperature...842 °F	
Dimension of the calibration insert	Ø 60 x 150 mm (calibration insert easily exchangeable)			
Dry block Air Shield Insert	**External reference temperature sensor**			
Display accuracy	±0.2 °C		±0.36 °F	
Temperature stability	±0.010 °C		±0.018 °F	
Temperature distribution → Axial → Radial	 ±0.100 °C ±0.015 °C		 ±0.18 °F ±0.027 °F	
Influence of load	±0.010 °C		±0.018 °F	
Dry block	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.25 °C	±0.45 °F	±0.3 °C	±0.54 °F
Temperature stability	±0.010 °C	±0.018 °F	±0.030 °C	±0.054 °F
Temperature distribution → Axial → Radial	 ±0.300 °C ±0.060 °C	 ±0.54 °F ±1.08 °F	 ±0.300 °C ±0.060 °C	 ±0.54 °F ±1.08 °F
Influence of load	±0.015 °C	±0.027 °F	±0.015 °C	±0.027 °F
Infrared calibration	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.5 °C	±0.9 °F	±0.5 °C	±0.9 °F
Temperature stability	±0.030 °C	±0.054 °F	±0.100 °C	±0.18 °F
Emission factor	0,9994			
Surface calibration	**External reference temperature sensor**			
Display accuracy	±1 °C		±1.8 °F	
Temperature stability	±0.250 °C		±0.45 °F	

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TP 37450E.2 / TP 37450E.2i			
Stabilisation time (with external reference temperature sensor)			
→ to ±0.05°C	→ to ±0.09 °F	From 1 min	
→ to ±0.005°C	→ to ±0.009 °F	From 5 min	
Heating time			
→ 20 °C...440 °C	→ 68...824 °F	17 min	
Cooling time			
→ 450 °C...30 °C	→ 824...86 °F	36 min	
Resolution of the temperature display		0.1 / 0.01 / 0.001 °C (selectable)	0.1/0.01/0.001 °F (selectable)
Hysteresis		±0.020 °C	±0.036 °C
Temperature units		°C / °F / K (selectable)	
Reference temperature sensor		Internal / external (selectable)	
Interfaces		Ethernet, 3 x USB	
Connectivity		OPC UA, serial communication, HTTP. Details and further possibilities on request.	
Dimensions			
→ Width → Height → Depth		210 mm 330 mm + 50 mm (Handle) 300 mm	
Weight		11 kg	
Power supply		110...115 V 60 Hz / 230 V 50 Hz Protective conductor (PE) needed	
Power consumption		Approx. 1000 W	
Adjustable temperature range		0...450 °C	-76...842 °F
Display		Brilliant color touchscreen (7 inches), multi panel safety glass	
Approvals			

Temperature calibrator TP 37450E.2i // Integrated measuring instrument
Technical data

Device under test inputs - Resistance thermometers		
Number of channels	2	
Connection	4 mm safety socket, 4 per channel	
Connection type	2-, 3-, 4-wire technology	
Resistance range		
→ Pt100	0...400 Ω	
→ Pt1000	0...4000 Ω	
Accuracy		
→ Pt100	±0.03 °C	±0.054 °F
→ Pt1000	±0.06 °C	±0.108 °F
Device under test inputs - Thermocouple		
Number of channels	2	
Connection	2x thermocouple socket (mini)	
Measuring range	-10...100 mV	
Accuracy cold junction	±0.3 °C	±0.054 °F
Accuracy		
→ Type K	±0.08 °C	±0.144 °F
→ Type J	±0.07 °C	±0.126 °F
→ Type N	±0.13 °C	±0.234 °F
→ Type E	±0.06 °C	±0.108 °F
→ Type T	±0.09 °C	±0.162 °F
→ Type R	±0.78 °C	±1.404 °F
→ Type S	±0.73 °C	±1.314 °F
Standard signal input (Current)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...24 mA	
Accuracy	0.01 % of range	
Standard signal input (Voltage)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...12 VDC	
Accuracy	0.01 % of range	
Switch test		
Number of channels	2	
Transmitter supply		
Output current	Max. 24 mA	
Output voltage	24 VDC	

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The integrated measuring instrument in detail

Resistance thermometers, thermocouples and signals from temperature transmitters must be operated with an external measuring instrument which measures the output signals and displays them as temperature during the calibration. This temperature can then be compared to the set calibrator temperature.

Our integrated measuring instrument assumes the tasks of an external measuring instrument. It shows the temperature directly on the calibrator display and enables the fully automatic calibration of two devices under test at the same time.

Your benefits of the integrated measuring instrument at a glance:

- Temperature sensor calibration without additional measuring instrument
- Simultaneous calibration of several temperature sensors
- Fully automatic calibration and certification
- Enables the simplification of your work processes
- Offers great time savings compared to a temperature calibrator without integrated measuring instrument

The following DUTs can be connected to the integrated measuring instrument:

- Resistance thermometer (RTD): Pt100, Pt500 and Pt1000 in 2-,3- or 4-wire circuit
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, L and U
- 0(4)...20 mA current signals from temperature transmitters (mA), with and without supply voltage
- 0...10 V voltage signals
- Temperature switch (switch) with normally open and normally closed contacts

Article numbers

To order a complete calibrator, you need three article numbers:

1. Calibrator
2. Linearisation
3. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator

Temperature range		Function	Calibration insert [mm]	Power supply	Integrated measuring instrument	Article number		
Room temperature...450°C	RT...842 °F	Multifunction	Ø 60 x 150	110...240 V	Without	EP3745	**0**	26015U3
Room temperature...450°C	RT...842 °F	Multifunction	Ø 60 x 150	110...240 V	With	EP3745	**I**	26015U3

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation

Calibration function	Calibration insert / calibration medium	Reference temperature sensor	Short designation
Dry block	Air Shield Insert	external	A
	Cylindrical calibration insert	external	B
	Cylindrical calibration insert	internal	C
Infrarot	Calibration insert for infrared calibration	external	D
	Calibration insert for infrared calibration	internal	E
Surface	Surface calibration insert	external	F

Example article number linearisation

Function:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Article number:	**EK1**	**A**	**C**	**D**	**F**	**0**	**0**	**0**	**0**	**0**	**0**

3. Calibration insert

Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D04AL78
2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D10AL79
2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x Ø 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D12AL81
3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x Ø 10.5	Dry block	Ø 60 x 150	Aluminium	EZ15060D12AL81
Calibration insert for infrared calibration	Infrarot	Ø 60 x 150	Aluminium	EZ15060B03AL41IR
Calibration insert for surface calibration	Surface	Ø 60 x 150	Aluminium	EZ17260B02AL06OF
Without bore holes (Air Shield Insert)	Dry block	Ø 60 x 150	Aluminium	EZ15260B00AL23F
Air Shield Insert incl. 1 bore hole of choice	Air Shield Insert	Ø 60 x 150	Aluminium	Please indicate bore holes in the order

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4. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	**Article number**
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function	EKTPDAKKS1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function	EKTPDAKKS2FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS
SIKA works calibration certificate integrated measuring instrument (Pt100, type K)	EKTPWPMI1
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPWPMI2
SIKA works calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPWPMI3
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPWPMI4
SIKA works calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPWPMIZUS
SIKA works calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPWPMIKOMPL
DAkkS calibration certificate integrated measuring instrument (Pt100, type K)	EKTPDAKKSMI1
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPDAKKSMI2
DAkkS calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPDAKKSMI3
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPDAKKSMI4
DAkkS calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPDAKKSMIZUS
DAkkS calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPDAKKSKOMPL

5. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
External reference temperature sensor TF 450-4.5-300 (room temperature...450 °C), straight	W454P413000GX0A2
Network switch	XE2103
Barcode scanner	XE2102
W-LAN router	XE2101
DUT temperature sensor for demo purposes (Pt100 3-phase) for integrated measuring instrument	WMQMP31020050003
Bore hole divider for Air Shield Insert 3 x Ø 3 mm sensors from Ø 9 mm bore hole	XE2194
Spare part extension spring for Air Shield Insert	XE2267
Instruction in the temperature calibrator by SIKA field service	EKTPEINWEISUNG
Frame packaging for return of calibrator (e.g. for recalibration) Please indicate the calibrator model when ordering.	098V

Temperature calibrator TP 37700E.2 // TP 37700E.2i
TP Premium // Dry block // Room temperature...700 °C // RT...1292 °F


TP 37700E.2


TP 37700E.2i
integrated measuring instrument

TP 37700E.2 - Highlights

- Best measurement uncertainties on the market
- Patented control technology - Fastest stabilisation times on the market - Time savings of up to 50 %
- Temperature calibrator with highest temperature range in the TP Premium Series
- Use of an extremely resilient metal alloy for long life
- Patented touch screen function for simple and convenient operation
- Accessories: device under test management with barcode scanner
- Available with integrated measuring instrument → TP 37700E.2i

TP Premium

The calibrators of the TP Premium series are characterised by their unparalleled performance and outstanding operating comfort. By means of the intuitive menu structure, all necessary inputs can be made quickly and easily. The large touch screen has plenty of room to display the reference, target and devices under test temperatures. At the end of a calibration process, the TP Premium provides the complete calibration certificate. The continuously growing bandwidth of supported temperature ranges supports an increasing number of temperature sensors on the market. They can be calibrated with a resolution of up to 0.001 °C / K and thus meet the highest requirements, e.g. of the food and pharmaceuticals industry.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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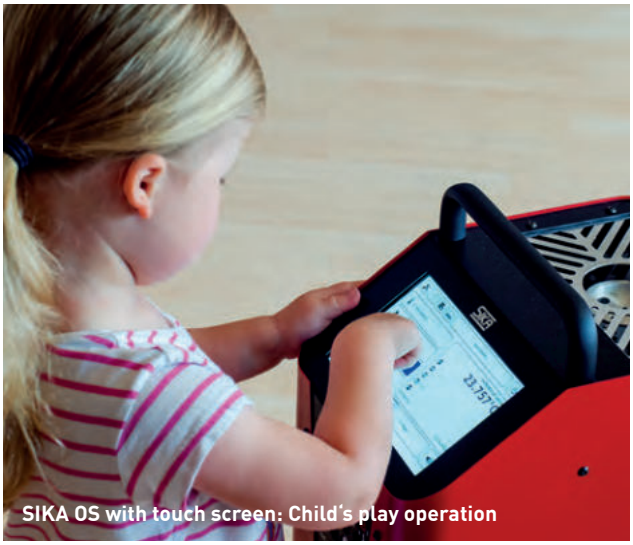
Features

SIKA OS with touch screen

- Simple operation of the temperature calibrator via the integrated 7" touch screen
  → Intuitive operation of the calibration functions
  → Management of calibration data directly on the calibrator
- Clear display
  → All important information at a glance
- Completely paperless calibration
  → Value calculation and transmission errors are excluded
- Glass surface made of multi-panel safety glass
  → Extremely robust against damage
  → Easy cleaning of the surface
  → Suitable for use in the food industry



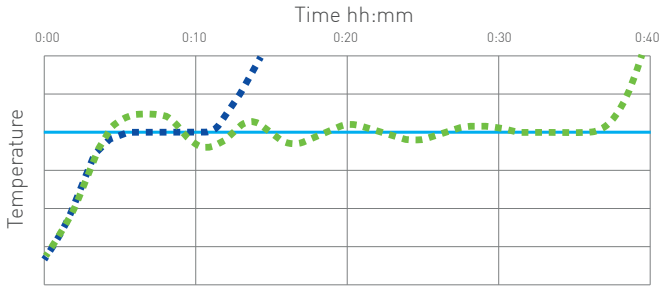
SIKA OS with touch screen: Child's play operation

WebApp - Plug and play for your temperature calibrator

- With the WebApp, ongoing or completed calibration processes can be comfortably displayed on a PC or a smart phone
- The connection is made via LAN or WLAN (via router)
- The WebApp is opened via the browser of your PC or mobile phone. Installation of drivers or software is not required
- Compatible with all current operating systems (Windows, Mac OS, Linux, iOS and Android)

Temperature control with "rocket controller"

- Temperature regulator with model-based state control
- Special regulation algorithm based on knowledge and experience from space travel
- Unique temperature stability of < 0.001 °C / K
- Anticipatory activation of the heating and cooling elements
  → The settling time to the target temperature is reduced by approx. 90% at each calibration point
  → Time savings of up to 50% with each calibration process



Without rocket controller: Long settling time to the target temperature
With rocket controller: Settling time to the target temperature reduced by approx. 90%

Automatic calibration with camera

In calibration processes for devices under test with their own temperature display, the display of the DUT must be read for each calibration point. The read value is transferred by the user to the calibrator or the calibration certificate, and the subsequent calibration point is only approached after a manual acknowledgement. For this purpose, the user must return to the calibrator at each calibration point. In some cases, this can lead to long delays if the user carries out other tasks in between. With our automatic calibration with a camera, these time-intensive intermediate steps are no longer needed:

- The patented camera system automatically creates a recording of the DUT display at each calibration point. The subsequent calibration point is approached directly afterwards
  → No user interaction is required during the calibration process, as it is implemented automatically
  → All test points are approached without waiting times
- Upon completion of the entire calibration process, the user transmits the data of the created display records to the calibrator or calibration certificate
  → During the entire calibration process, the user is free to carry out other tasks
- The visual records of the device under test display at each calibration point are saved and attached to the calibration certificate as verification

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan is connected to a temperature calibrator, and the temperatures of the DUTs are directly shown on the display of the temperature calibrator.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

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- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

The TP 37700 can be operated up to 700 °C (1292 °F). For physical reasons, it achieves the best accuracy at temperatures up to 660 °C (1220 °F). For temperatures between 660 (1220 °F) and 700 °C (1292 °F) we recommend the use of a separate reference thermometer.

TP 37700E.2 / TP 37700E.2i		
Temperature range	Room temperature...700 °C	Room temperature...1292 °F
Dimension of the calibration insert	Ø 29 x 150 mm (calibration insert easily exchangeable)	
Dry block Air Shield Insert All values determined at 660 °C (1220 °F)	**External reference temperature sensor**	
Display accuracy	±0.27 °C	±0.486 °F
Temperature stability	±0.015 °C	±0.027 °F
Temperature distribution → Axial → Radial	 ±0.400 °C ±0.020 °C	 ±0.72 °F ±0.036 °F
Influence of load	±0.020 °C	±0.036 °F
Dry block All values determined at 660 °C (1220 °F)	**Internal reference temperature sensor**	
Display accuracy	±0.43 °C	±0.774 °F
Temperature stability	±0.100 °C	±0.18 °F
Temperature distribution → Axial → Radial	 ±0.400 °C ±0.040 °C	 ±0.72 °F ±0.072 °F
Influence of load	±0.180 °C	±0.324 °F
General data		
Stabilisation time (with external reference temperature sensor) → to ±0.05 °C → to ±0.09 °F → to ±0.005 °C → to ±0.009 °F	 From 1 min From 5 min	
Heating time → 20 °C...690 °C → 68...1274 °F	 19 min	
Cooling time → 700...30 °C → 1292...86 °F	 85 min	
Resolution of the temperature display	0.1 / 0.01 / 0.001 °C (selectable)	0.1/0.01/0.001 °F (selectable)
Hysteresis	±0.015 °C (part of the display accuracy)	±0.037 °F (part of the display accuracy)
Temperature units	°C / °F / K (selectable)	
Reference temperature sensor	Internal / external (selectable)	
Interfaces	Ethernet, 3 x USB	
Connectivity	OPC UA, serial communication, HTTP. Details and further possibilities on request.	
Dimensions		
→ Width → Height → Depth	210 mm 330 mm + 50 mm (Handle) 300 mm	
Weight	10.0 kg	
Power supply	110...115 V 60 Hz / 230 V 50 Hz Protective conductor (PE) needed	
Power consumption	Approx. 1000 W	
Adjustable temperature range	0...700 °C	32...1292 °F
Display	Brilliant color touchscreen (7 inches), multi panel safety glass	
Approvals		
	CE RoHS REACH EAC	

Temperature calibrator TP 37700E.2i // Integrated measuring instrument
Technical data

Device under test inputs - Resistance thermometers		
Number of channels	2	
Connection	4 mm safety socket, 4 per channel	
Connection type	2-, 3-, 4-wire technology	
Resistance range		
→ Pt100	0...400 Ω	
→ Pt1000	0...4000 Ω	
Accuracy		
→ Pt100	±0.03 °C	±0.054 °F
→ Pt1000	±0.06 °C	±0.108 °F
Device under test inputs - Thermocouple		
Number of channels	2	
Connection	2x thermocouple socket (mini)	
Measuring range	-10...100 mV	
Accuracy cold junction	±0.3 °C	±0.054 °F
Accuracy		
→ Type K	±0.08 °C	±0.144 °F
→ Type J	±0.07 °C	±0.126 °F
→ Type N	±0.13 °C	±0.234 °F
→ Type E	±0.06 °C	±0.108 °F
→ Type T	±0.09 °C	±0.162 °F
→ Type R	±0.78 °C	±1.404 °F
→ Type S	±0.73 °C	±1.314 °F
Standard signal input (Current)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...24 mA	
Accuracy	0.01 % of range	
Standard signal input (Voltage)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...12 VDC	
Accuracy	0.01 % of range	
Switch test		
Number of channels	2	
Transmitter supply		
Output current	Max. 24 mA	
Output voltage	24 VDC	

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The integrated measuring instrument in detail

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- Simultaneous calibration of several temperature sensors
- Fully automatic calibration and certification
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The following DUTs can be connected to the integrated measuring instrument:

- Resistance thermometer (RTD): Pt100, Pt500 and Pt1000 in 2-,3- or 4-wire circuit
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, L and U
- 0(4)...20 mA current signals from temperature transmitters (mA), with and without supply voltage
- 0...10 V voltage signals
- Temperature switch (switch) with normally open and normally closed contacts

Article numbers

To order a complete calibrator, you need three article numbers:

1. Calibrator
2. Linearisation
3. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator								
Temperature range		Function	Calibration insert [mm]	Power supply	Integrated measuring instrument	Article number		
Room temperature...700 °C	RT...1292 °F	Dry block	Ø 29 x 150	110...240 V	Without	EP3770	**0**	22915U3
Room temperature...700 °C	RT...1292 °F	Dry block	Ø 29 x 150	110...240 V	With	EP3770	**I**	22915U3

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation											
Calibration function			Calibration insert / calibration medium				Reference temperature sensor			Short designation	
Dry block			Air Shield Insert				external			A	
			Cylindrical calibration insert				internal			C	
Example article number linearisation											
Function:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Article number:	**EK1**	**A**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

3. Calibration insert				
Bore holes [mm]	Function	Calibration insert [mm]	Material	Article number
Air Shield Insert incl. 1 bore hole of choice	Air Shield Insert	Ø 29 x 150	Copper-Alu	Please indicate bore holes in the order
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 29 x 150	Copper-Alu	

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4. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	**Article number**
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function	EKTPDAKKS1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function	EKTPDAKKS2FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA works calibration certificate integrated measuring instrument (Pt100, type K)	EKTPWPMI1
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPWPMI2
SIKA works calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPWPMI3
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPWPMI4
SIKA works calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPWPMIZUS
SIKA works calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPWPMIKOMPL
DAkkS calibration certificate integrated measuring instrument (Pt100, type K)	EKTPDAKKSMI1
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPDAKKSMI2
DAkkS calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPDAKKSMI3
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPDAKKSMI4
DAkkS calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPDAKKSMIZUS
DAkkS calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPDAKKSKOMPL

5. Accessories	**Article number**
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
External reference temperature sensor TF 660-4.5-300 (room temperature...700 °C / 1292 °F), straight	W454P413000GX0A3
Network switch	XE2103
Barcode scanner	XE2102
W-LAN router	XE2101
DUT temperature sensor for demo purposes (Pt100 3-phase) for integrated measuring instrument	WMQMP31020050003
Bore hole divider for 3 x Ø 3 mm sensors from Ø 9 mm bore hole	XE2194
Instruction in the temperature calibrator by SIKA field service	EKTPEINWEISUNG
Frame packaging for return of calibrator (e.g. for recalibration) Please indicate the calibrator model when ordering.	098V

Temperature calibrator TP 3M165E.2 // TP 3M165E.2i
TP Premium // Multifunction // -35...165 °C // -31...329 °F

TP 3M165E.2i
Integrated measuring instrument

TP 3M165E.2
Stainless steel version

TP 3M165E.2 / TP 3M165E.2i - Highlights

- Patented control technology - Fastest stabilisation times on the market - Time savings of up to 50 %
- Four functions in one calibrator (dry block / calibration bath / infrared / surface)
- Large calibration volume / large calibration insert for simultaneous calibration of many devices under test
- Patented touch screen function for simple and convenient operation
- Automatic generation of the calibration certificate
- Optional as pharmaceutical and food industry version with stainless steel housing
- Accessories: device under test management with barcode scanner
- Available with integrated measuring instrument → TP 3M165E.2i

TP Premium

The calibrators of the TP Premium series are characterised by their unparalleled performance and outstanding operating comfort. By means of the intuitive menu structure, all necessary inputs can be made quickly and easily. The large touch screen has plenty of room to display the reference, target and devices under test temperatures. At the end of a calibration process, the TP Premium provides the complete calibration certificate. The continuously growing bandwidth of supported temperature ranges supports an increasing number of temperature sensors on the market. They can be calibrated with a resolution of up to 0.001 °C / K and thus meet the highest requirements, e.g. of the food and pharmaceuticals industry.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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Features

Four functions in one temperature calibrator

- Covering all calibration tasks with only one model: Dry block, infrared and surface calibration as well as calibration by means of a calibration bath
  → Cost savings due to a reduction in the number of versions required
- Quick and easy change between the calibration functions
- Additional calibration functions for your application
  → Dry block for aseptic sensors
  → Air Shield Insert for the best measurement uncertainties
  → Different media for liquid calibration


Dry block calibration

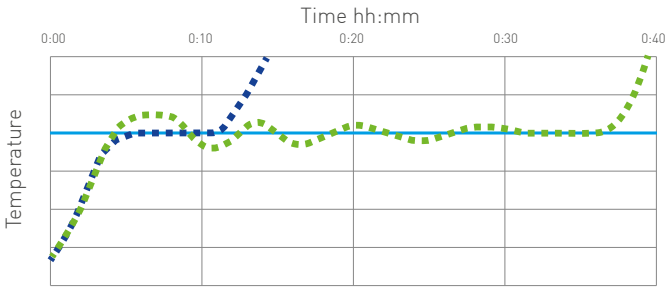

Calibration bath


Infrared calibration

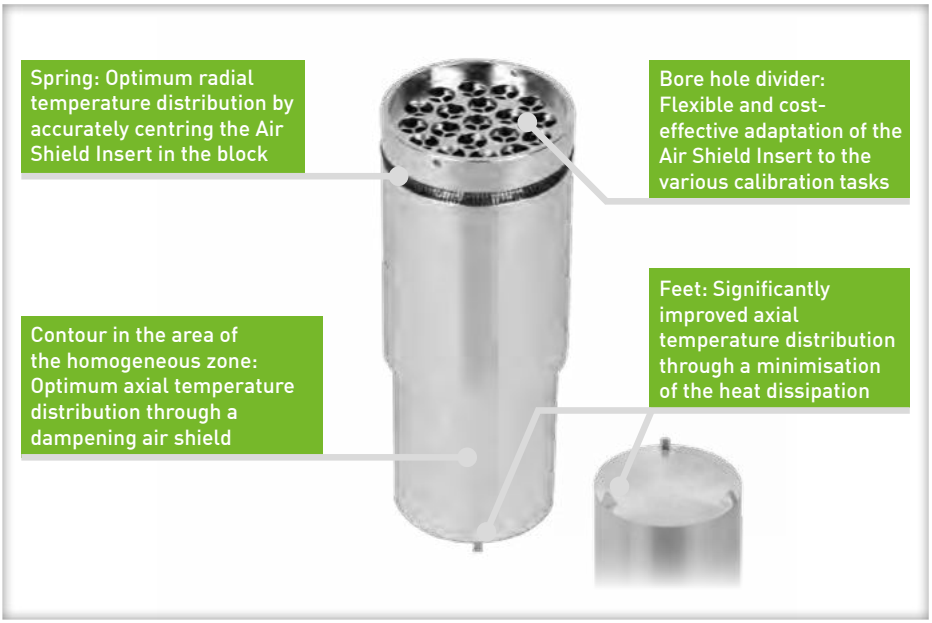

Surface calibration

Temperature control with "rocket controller"

- Temperature regulator with model-based state control
- Special regulation algorithm based on knowledge and experience from space travel
- Unique temperature stability of < 0.001 °C / K
- Anticipatory activation of the heating and cooling elements
  → The settling time to the target temperature is reduced by approx. 90% at each calibration point
  → Time savings of up to 50% with each calibration process



Without rocket controller: Long settling time to the target temperature
With rocket controller: Settling time to the target temperature reduced by approx. 90%



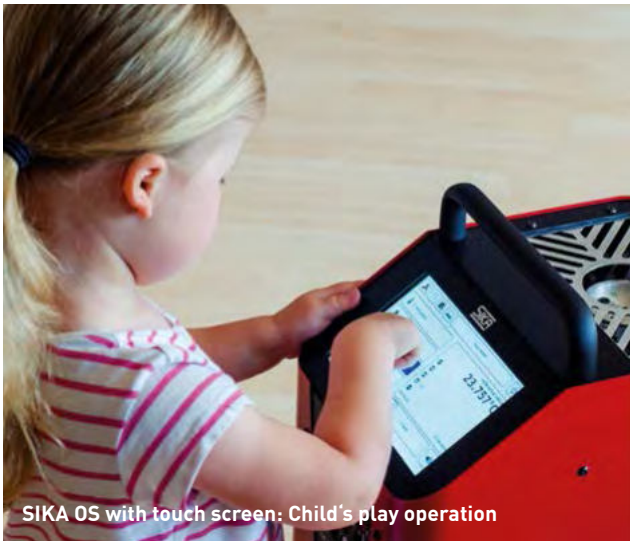
Air Shield Insert

- Patented dry block version with optimum radial and axial temperature distribution
- Automatic centring of the Air Shield Insert in the block
  → User errors due to jiggling or twisting are excluded

Features

SIKA OS with touch screen

- Simple operation of the temperature calibrator via the integrated 7" touch screen
  → Intuitive operation of the calibration functions
  → Management of calibration data directly on the calibrator
- Clear display
  → All important information at a glance
- Completely paperless calibration
  → Value calculation and transmission errors are excluded
- Glass surface made of multi-panel safety glass
  → Extremely robust against damage
  → Easy cleaning of the surface
  → Suitable for use in the food industry


SIKA OS with touch screen: Child's play operation

Automatic calibration with camera

In calibration processes for devices under test with their own temperature display, the display of the DUT must be read for each calibration point. The read value is transferred by the user to the calibrator or the calibration certificate, and the subsequent calibration point is only approached after a manual acknowledgement. For this purpose, the user must return to the calibrator at each calibration point. In some cases, this can lead to long delays if the user carries out other tasks in between. With our automatic calibration with a camera, these time-intensive intermediate steps are no longer needed:

- The patented camera system automatically creates a recording of the DUT display at each calibration point. The subsequent calibration point is approached directly afterwards
  → No user interaction is required during the calibration process, as it is implemented automatically
  → All test points are approached without waiting times
- Upon completion of the entire calibration process, the user transmits the data of the created display records to the calibrator or calibration certificate
  → During the entire calibration process, the user is free to carry out other tasks
- The visual records of the device under test display at each calibration point are saved and attached to the calibration certificate as verification

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WebApp - Plug and play for your temperature calibrator

- With the WebApp, ongoing or completed calibration processes can be comfortably displayed on a PC or a smart phone
- The connection is made via LAN or WLAN (via router)
- The WebApp is opened via the browser of your PC or mobile phone. Installation of drivers or software is not required
- Compatible with all current operating systems (Windows, Mac OS, Linux, iOS and Android)

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan is connected to a temperature calibrator, and the temperatures of the DUTs are directly shown on the display of the temperature calibrator.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 3M165E.2 / TP 3M165E.2i				
Temperature range	-35...165 °C at ambient temperature 20 °C		-31...329 °F at ambient temperature 68 °F	
	See the respective calibration function for details.			
Dimension for the calibration insert	Ø 60 x 170 mm (calibration insert easily exchangeable)			
Dry block Air Shield Insert Temperature range: -30...160 °C (-22...320 °F)	**External reference temperature sensor**			
Display accuracy	±0.07 °C		±0.126 °F	
Temperature stability	±<0.001...0.005 °C		±0.0018...0.009 °F	
Temperature distribution → Axial → Radial	 ±0.060 °C ±0.010 °C		 ±0.108 °F ±0.018 °F	
Influence of load	±0.010 °C		±0.018 °F	
Dry block Temperature range: -30...165 °C (-22...329 °F)	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.10 °C	±0.18 °F	±0.27 °C	±0.486 °F
Temperature stability	±0.005 °C	±0.009 °F	±0.010 °C	±0.018 °F
Temperature distribution → Axial → Radial	 ±0.200 °C ±0.050 °C	 ±0.36 °F ±0.09 °F	 ±0.200 °C ±0.050 °C	 ±0.36 °F ±0.09 °F
Influence of load	±0.080 °C	±0.144 °F	±0.150 °C	±0.27 °F
Calibration bath (stirred), direct filling Temperature range: -35...155 °C (-31...311 °F)	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.19 °C	±0.342 °F	±0.24 °C	±0.432 °F
Temperature stability	±0.010 °C	±0.018 °F	±0.020 °C	±0.036 °F
Temperature distribution → Axial → Radial	 ±0.325 °C ±0.080 °C	 ±0.585 °F ±0.144 °F	 ±0.325 °C ±0.080 °C	 ±0.585 °F ±0.144 °F
Influence of load	±0.040 °C	±0.072 °F	±0.200 °C	±0.36 °F
Calibration bath (stirred), tub insert Temperature range: -35...155 °C (-31...311 °F)	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.20 °C	±0.36 °F	±0.28 °C	±0.504 °F
Temperature stability	±0.010 °C	±0.018 °F	±0.020 °C	±0.036 °F
Temperature distribution → Axial → Radial	 ±0.350 °C ±0.080 °C	 ±0.630 °F ±0.144 °F	 ±0.350 °C ±0.080 °C	 ±0.630 °F ±0.144 °F
Influence of load	±0.040 °C	±0.072 °F	±0.300 °C	±0.54 °F
Infrared calibration Temperature range: -35...165°C (-31...329 °F)	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.5 °C	±0.9 °F	±0.5 °C	±0.9 °F
Temperature stability	±0.020 °C	±0.036 °F	±0.020 °C	±0.036 °F
Emission factor	0.9994			
Surface calibration Temperature range: -25...150°C (-13...302 °F)	**External reference temperature sensor**			
Display accuracy	±1 °C		±1.8 °F	
Temperature stability	±0.150 °C		±0.27 °F	

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TP 3M165E.2 / TP 3M165E.2i			
Stabilisation time (with external reference temperature sensor) → to ±0.05°C → to ±0.005°C	 → to ±0.09 °F → to ±0.009 °F	 From 1 min From 5 min	
Heating time → 20 °C...155 °C → -35 °C...155 °C	 → 68...311 °F → -31...311 °F	 27 min 34 min	
Cooling time → 165 °C...30 °C → 20 °C...-25 °C	 → 329...86 °F → 68...-13 °F	 17 min 35 min	
Resolution of the temperature display		0.1 / 0.01 / 0.001 °C (selectable)	0.1/0.01/0.001 °F (selectable)
Hysteresis → internal reference temperature sensor → external reference temperature sensor		 ±0.25 °C ±0.025 °C	 ±0.45 °F ±0.045 °F
Temperature units		°C / °F / K (selectable)	
Reference temperature sensor		internal, fixed installation / external (selectable)	
Interfaces		Ethernet, 3 x USB	
Connectivity		OPC UA, serial communication, HTTP. Details and further possibilities on request.	
Dimensions			
→ Width → Height → Depth		210 mm 380 + 50 mm (Handle) 300 mm	
Weight		Approx. 13 kg	
Power supply		100...240 VAC, 50 / 60 Hz	
Power consumption		Approx. 375 W	
Adjustable temperature range		-50...165 °C	-58...329 °F
Display		Brilliant color touchscreen (7 inches), multi panel safety glass	
Approvals			

Temperature calibrator TP 3M165E.2i // Integrated measuring instrument
Technical data

Device under test inputs - Resistance thermometers		
Number of channels	2	
Connection	4 mm safety socket, 4 per channel	
Connection type	2-, 3-, 4-wire technology	
Resistance range		
→ Pt100	0...400 Ω	
→ Pt1000	0...4000 Ω	
Accuracy		
→ Pt100	±0.03 °C	±0.054 °F
→ Pt1000	±0.06 °C	±0.108 °F
Device under test inputs - Thermocouple		
Number of channels	2	
Connection	2x thermocouple socket (mini)	
Measuring range	-10...100 mV	
Accuracy cold junction	±0.3 °C	±0.054 °F
Accuracy		
→ Type K	±0.08 °C	±0.144 °F
→ Type J	±0.07 °C	±0.126 °F
→ Type N	±0.13 °C	±0.234 °F
→ Type E	±0.06 °C	±0.108 °F
→ Type T	±0.09 °C	±0.162 °F
→ Type R	±0.78 °C	±1.404 °F
→ Type S	±0.73 °C	±1.314 °F
Standard signal input (Current)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...24 mA	
Accuracy	0.01 % of range	
Standard signal input (Voltage)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...12 VDC	
Accuracy	0.01 % of range	
Switch test		
Number of channels	2	
Transmitter supply		
Output current	Max. 24 mA	
Output voltage	24 VDC	

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The integrated measuring instrument in detail

Resistance thermometers, thermocouples and signals from temperature transmitters must be operated with an external measuring instrument which measures the output signals and displays them as temperature during the calibration. This temperature can then be compared to the set calibrator temperature.

Our integrated measuring instrument assumes the tasks of an external measuring instrument. It shows the temperature directly on the calibrator display and enables the fully automatic calibration of two devices under test at the same time.

Your benefits of the integrated measuring instrument at a glance:

- Temperature sensor calibration without additional measuring instrument
- Simultaneous calibration of several temperature sensors
- Fully automatic calibration and certification
- Enables the simplification of your work processes
- Offers great time savings compared to a temperature calibrator without integrated measuring instrument

The following DUTs can be connected to the integrated measuring instrument:

- Resistance thermometer (RTD): Pt100, Pt500 and Pt1000 in 2-,3- or 4-wire circuit
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, L and U
- 0(4)...20 mA current signals from temperature transmitters (mA), with and without supply voltage
- 0...10 V voltage signals
- Temperature switch (switch) with normally open and normally closed contacts

Article numbers

To order a complete calibrator, you need three article numbers:

1. Calibrator
2. Linearisation
3. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator						
Temperature range		Function	Calibration insert	Power supply	Integrated measuring instrument	Article number
-35...165 °C	-31...329 °F	Multifunction	Ø 60 x 170 mm	110...240 V	Without	EP3M16 **0** 26015U3
-35...165 °C	-31...329 °F	Multifunction	Ø 60 x 170 mm	110...240 V	With	EP3M16 **I** 26015U3
Version with stainless steel housing						
-35...165 °C	-31...329 °F	Multifunction	Ø 60 x 170 mm	110...240 V	Without	EP3M16 **0** 26015U3 **SS**
-35...165 °C	-31...329 °F	Multifunction	Ø 60 x 170 mm	110...240 V	With	EP3M16 **I** 26015U3 **SS**

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation				
Calibration function	**Calibration insert / calibration medium**		**Reference temperature sensor**	**Short designation**
Dry block	Air Shield Insert*		external	A
	Cylindrical calibration insert		external	B
	Cylindrical calibration insert		internal	C
Infrarot	Calibration insert for infrared calibration		internal	D
	Calibration insert for infrared calibration		external	E
Surface	Surface calibration insert*		external	F
Calibration bath (Tub insert)	10 cSt	-35...155 °C / -31...311 °F	external	G
	10 cSt	-35...155 °C / -31...311 °F	internal	H
	Water	2...95 °C / 35.6...203 °F	external	M
	Water	2...95 °C / 35.6...203 °F	internal	N
Calibration bath (Direct filling)	10 cSt	-35...155 °C / -31...311 °F	external	O
	10 cSt	-35...155 °C / -31...311 °F	internal	P
	Water	2...95 °C / 35.6...203 °F	external	U
	Water	2...95 °C / 35.6...203 °F	internal	V
Dry block for aseptic sensors	Calibration insert for aseptic sensors**		external (Cable sensor)	W

Example article number linearisation											
Function:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Article number:	**EK1**	**A**	**C**	**D**	**F**	**G**	**W**	**0**	**0**	**0**	**0**

* Only with external reference temperature sensor
** Only with W043P410400G3002 as external reference temperature sensor

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3. Calibration insert				
Bore holes [mm]	**Function**	**Calibration insert [mm]**	**Material**	**Article number**
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360C04AL05
2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360D10AL85
3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360D12AL86
2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360D10AL87
Without bore holes	Dry block	Ø 60 x 170	Aluminium	EZ16360000AL00
Tub insert	Calibration bath	Ø 60 x 170		EZTPMBEK000000
Calibration insert for infrared calibration	Infrarot	Ø 60 x 170		EZ15060B03AL41IR
Calibration insert for surface calibration	Surface	Ø 60 x 170	Aluminium	EZ20460B03AL05OF
Calibration insert for aseptic sensors	Aseptic sensors	Ø 60 x 170	Aluminium	EZ17160C02AL59
Air Shield Insert without bore holes	Dry block	Ø 60 x 170	Aluminium	EZ16360000AL00F
Air Shield Insert incl. 1 bore hole of choice	Dry block (ASI)	Ø 60 x 170	Aluminium	Please indicate bore holes in the order
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 60 x 170	Aluminium	
Each additional bore hole	Dry block	Ø 60 x 170	Aluminium	

4. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 3rd calibrator function	EKTPWP3FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 4th calibrator function	EKTPWP4FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function	EKTPDAKKS1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function	EKTPDAKKS2FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 3rd calibrator function	EKTPDAKKS3FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 4th calibrator function	EKTPDAKKS4FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS
SIKA works calibration certificate integrated measuring instrument (Pt100, type K)	EKTPWPMI1
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPWPMI2
SIKA works calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPWPMI3
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPWPMI4
SIKA works calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPWPMIZUS
SIKA works calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPWPMIKOMPL
DAkkS calibration certificate integrated measuring instrument (Pt100, type K)	EKTPDAKKSMI1
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPDAKKSMI2
DAkkS calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPDAKKSMI3
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPDAKKSMI4
DAkkS calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPDAKKSMIZUS
DAkkS calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPDAKKSKOMPL

Article numbers

5. Accessories	Article number
Transport case without trolley	EZTPKOFFER20
Transport case with trolley	EZTPKOFFER20TG
External reference temperature sensor TF 255-3-300 (-55...255 °C / -67...491 °F)	W033P413000GX002
External reference temperature sensor TF 255-3-300 (-55...255 °C / -67...491 °F), 90° angle	W033P413000GX0WI
External reference sensor as cable sensor (for function EPLIKSDE000)	W043P410400G3002
Tripod (holder for devices under test)	EZTPMSG0000000
Calibration liquid (silicone oil), 10cSt	EZSÖ0100000000
Network switch	XE2103
Barcode scanner	XE2102
W-LAN router	XE2101
DUT temperature sensor for demo purposes (Pt100 3-phase) for integrated measuring instrument	WMQMP31020050003
Bore hole divider for Air Shield Insert 3 x Ø 3 mm sensors from Ø 9 mm bore hole	XE2194
Spare part extension spring for Air Shield Insert	XE2267
Instruction in the temperature calibrator by SIKA field service	EKTPEINWEISUNG
Frame packaging for return of calibrator (e.g. for recalibration) Please indicate the calibrator model when ordering.	098V

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Temperature calibrator TP 3M255E.2 // TP 3M255E.2i
TP Premium // Multifunction // Room temperature...255 °C // RT...491 °F

TP 3M255E.2

TP 3M255E.2i
integrated measuring instrument

TP 3M255E.2 / TP 3M255E.2i - Highlights

- Patented control technology - Fastest stabilisation times on the market - Time savings of up to 50 %
- Four functions in one calibrator (dry block / calibration bath / infrared / surface)
- Large calibration volume / large calibration insert for simultaneous calibration of many devices under test
- Patented touch screen function for simple and convenient operation
- Automatic generation of the calibration certificate
- Optional as pharmaceutical and food industry version with stainless steel housing
- Accessories: device under test management with barcode scanner
- Available with integrated measuring instrument → TP 3M255E.2i

TP Premium

The calibrators of the TP Premium series are characterised by their unparalleled performance and outstanding operating comfort. By means of the intuitive menu structure, all necessary inputs can be made quickly and easily. The large touch screen has plenty of room to display the reference, target and devices under test temperatures. At the end of a calibration process, the TP Premium provides the complete calibration certificate. The continuously growing bandwidth of supported temperature ranges supports an increasing number of temperature sensors on the market. They can be calibrated with a resolution of up to 0.001 °C / K and thus meet the highest requirements, e.g. of the food and pharmaceuticals industry.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on long-term reliability and utmost accuracy in combination with easy operation. We can rely on more than 40 years of experience in doing this: SIKA's first dry block temperature calibrator was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for accuracy and stability. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a perfect product which can be traced back to national and international temperature measurement standards.

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Features

Four functions in one temperature calibrator

- Covering all calibration tasks with only one model: Dry block, infrared and surface calibration as well as calibration by means of a calibration bath
  → Cost savings due to a reduction in the number of versions required
- Quick and easy change between the calibration functions
- Additional calibration functions for your application
  → Dry block for aseptic sensors
  → Air Shield Insert for the best measurement uncertainties
  → Different media for liquid calibration


Dry block calibration

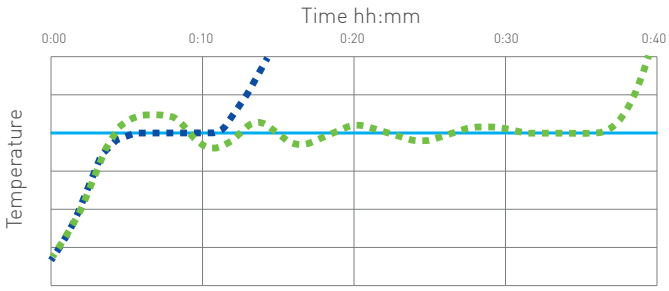

Calibration bath


Infrared calibration

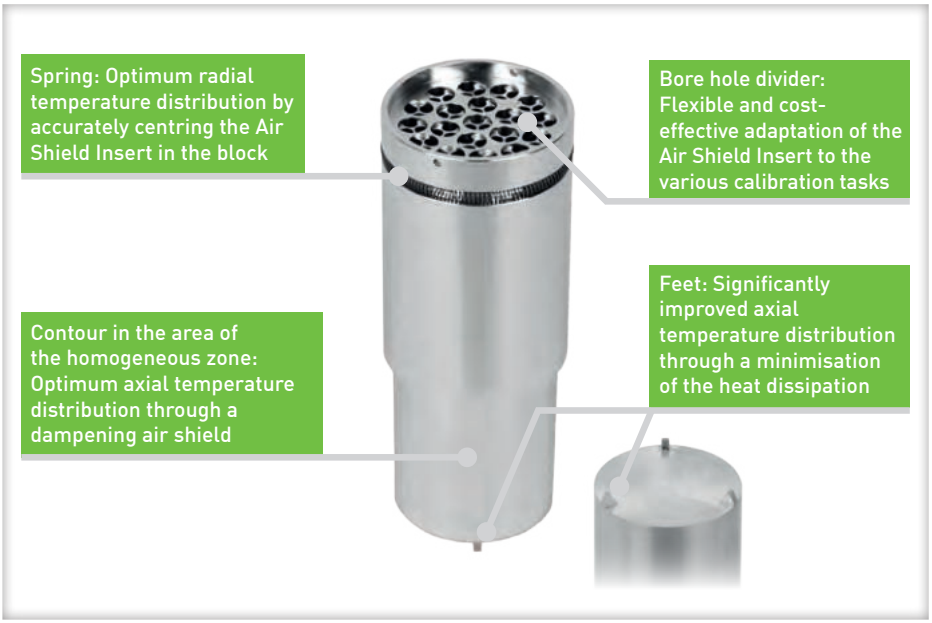

Surface calibration

Temperature control with "rocket controller"

- Temperature regulator with model-based state control
- Special regulation algorithm based on knowledge and experience from space travel
- Unique temperature stability of < 0.001 °C / K
- Anticipatory activation of the heating and cooling elements
  → The settling time to the target temperature is reduced by approx. 90% at each calibration point
  → Time savings of up to 50% with each calibration process



Without rocket controller: Long settling time to the target temperature
With rocket controller: Settling time to the target temperature reduced by approx. 90%



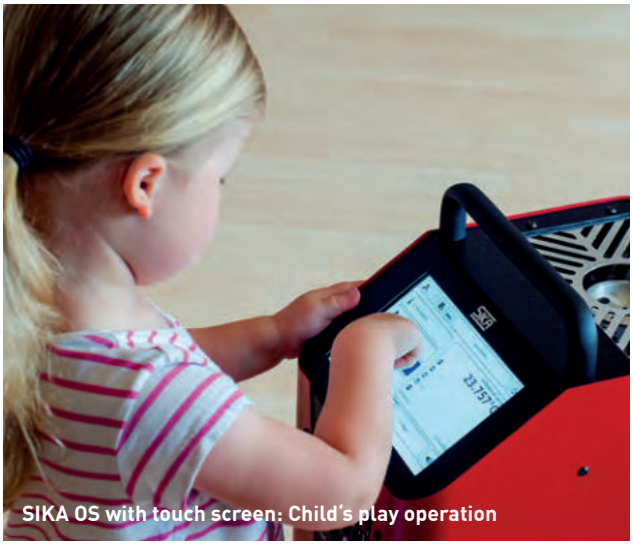
Air Shield Insert

- Patented dry block version with optimum radial and axial temperature distribution
- Automatic centring of the Air Shield Insert in the block
  → User errors due to jiggling or twisting are excluded

Features

SIKA OS with touch screen

- Simple operation of the temperature calibrator via the integrated 7" touch screen
  → Intuitive operation of the calibration functions
  → Management of calibration data directly on the calibrator
- Clear display
  → All important information at a glance
- Completely paperless calibration
  → Value calculation and transmission errors are excluded
- Glass surface made of multi-panel safety glass
  → Extremely robust against damage
  → Easy cleaning of the surface
  → Suitable for use in the food industry


SIKA OS with touch screen: Child's play operation

Automatic calibration with camera

In calibration processes for devices under test with their own temperature display, the display of the DUT must be read for each calibration point. The read value is transferred by the user to the calibrator or the calibration certificate, and the subsequent calibration point is only approached after a manual acknowledgement. For this purpose, the user must return to the calibrator at each calibration point. In some cases, this can lead to long delays if the user carries out other tasks in between. With our automatic calibration with a camera, these time-intensive intermediate steps are no longer needed:

- The patented camera system automatically creates a recording of the DUT display at each calibration point. The subsequent calibration point is approached directly afterwards
  → No user interaction is required during the calibration process, as it is implemented automatically
  → All test points are approached without waiting times
- Upon completion of the entire calibration process, the user transmits the data of the created display records to the calibrator or calibration certificate
  → During the entire calibration process, the user is free to carry out other tasks
- The visual records of the device under test display at each calibration point are saved and attached to the calibration certificate as verification

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WebApp - Plug and play for your temperature calibrator

- With the WebApp, ongoing or completed calibration processes can be comfortably displayed on a PC or a smart phone
- The connection is made via LAN or WLAN (via router)
- The WebApp is opened via the browser of your PC or mobile phone. Installation of drivers or software is not required
- Compatible with all current operating systems (Windows, Mac OS, Linux, iOS and Android)

TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan is connected to a temperature calibrator, and the temperatures of the DUTs are directly shown on the display of the temperature calibrator.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net

Technical data

TP 3M255E.2 / TP 3M255E.2i				
Temperature range	Room temperature...255 °C		Room temperature...491 °F	
Dimension of the calibration insert	Ø 60 x 170 mm (calibration insert easily exchangeable)			
Dry block Air Shield Insert	**External reference temperature sensor**			
Display accuracy	±0.08 °C		0.144 °F	
Temperature stability	±0.010 °C		0.018 °F	
Temperature distribution				
→ Axial	±0.080 °C		0.144 °F	
→ Radial	±0.050 °C		0.009 °F	
Influence of load	±0.025 °C		0.045 °F	
Dry block	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.25 °C	0.45 °F	±0.5 °C	0.9 °F
Temperature stability	±0.020 °C	0.036 °F	±0.05 °C	0.09 °F
Temperature distribution				
→ Axial	±0.300 °C	0.540 °F	±0.300 °C	0.540 °F
→ Radial	±0.150 °C	0.270 °F	±0.150 °C	0.270 °F
Influence of load	±0.100 °C	0.180 °F	±0.450 °C	0.810 °F
Calibration bath (stirred), tub insert	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.35 °C	0.63 °F	±0.53 °C	0.954 °F
Temperature stability	±0.05 °C	0.09 °F	±0.100 °C	0.180 °F
Temperature distribution				
→ Axial	±0.300 °C	0.540 °F	±0.300 °C	0.540 °F
→ Radial	±0.150 °C	0.270 °F	±0.150 °C	0.270 °F
Influence of load	±0.100 °C	0.180 °F	±0.400 °C	0.720 °F
Calibration bath (stirred), direct filling	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.18 °C	0.324 °F	±0.46 °C	0.828 °F
Temperature stability	±0.040 °C	0.072 °F	±0.050 °C	0.090 °F
Temperature distribution				
→ Axial	±0.150 °C	0.270 °F	±0.150 °C	0.270 °F
→ Radial	±0.150 °C	0.270 °F	±0.150 °C	0.270 °F
Influence of load	±0.100 °C	0.180 °F	±0.400 °C	0.720 °F
Infrared calibration	**External reference temperature sensor**		**Internal reference temperature sensor**	
Display accuracy	±0.5 °C	0,9 °F	±0.5 °C	0,9 °F
Temperature stability	±0.05 °C	0,09 °F	±0.05 °C	0,09 °F
Emission factor	0,9994			
Surface calibration	**External reference temperature sensor**			
Display accuracy	±1 °C		±1.8 °F	
Temperature stability	±0.2 °C		±0.36 °F	

* Extended measurement uncertainty according to DAkkS-DKD-R 5-4

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TP 3M255E.2 / TP 3M255E.2i			
Heating time			
→ 20 °C...245 °C	→ 68...473 °F	15 min	
→ 20 °C...255 °C	→ 68...491 °F	17 min	
Cooling time			
→ 255 °C...30 °C	→ 491...86 °F	50 min	
Resolution of the temperature display		0.1 /0.01 /0.001 °C (selectable)	0.1/0.01/0.001 °F (selectable)
Hysteresis			
→ internal reference temperature sensor		±0.25 °C	±0.45 °F
→ external reference temperature sensor		±0.025 °C	±0.045 °F
Temperature units		°C / °F / K (selectable)	
Reference temperature sensor		internal, fixed installation / external (selectable)	
Interfaces		Ethernet, 3 x USB	
Connectivity		OPC UA, serial communication, HTTP. Details and further possibilities on request.	
Dimensions			
→ Width → Height → Depth		210 mm 330 + 50 mm (Handle) 300 mm	
Weight		Approx. 8.5 kg	
Power supply		110...115 V 60 Hz / 230 V 50 Hz Protective conductor (PE) needed	
Power consumption		Approx.1000 W	
Adjustable temperature range		0...255 °C	32...491 °F
Display		Brilliant color touchscreen (7 inches), multi panel safety glass	
Approvals			

Temperature calibrator TP 3M255E.2i // Integrated measuring instrument
Technical data

Device under test inputs - Resistance thermometers		
Number of channels	2	
Connection	4 mm safety socket, 4 per channel	
Connection type	2-, 3-, 4-wire technology	
Resistance range		
→ Pt100	0...400 Ω	
→ Pt1000	0...4000 Ω	
Accuracy		
→ Pt100	±0.03 °C	±0.054 °F
→ Pt1000	±0.06 °C	±0.108 °F
Device under test input - Thermocouple		
Number of channels	2	
Connection	2x thermocouple socket (mini)	
Measuring range	-10...100 mV	
Accuracy cold junction	±0.3 °C	±0.054 °F
Accuracy		
→ Type K	±0.08 °C	±0.144 °F
→ Type J	±0.07 °C	±0.126 °F
→ Type N	±0.13 °C	±0.234 °F
→ Type E	±0.06 °C	±0.108 °F
→ Type T	±0.09 °C	±0.162 °F
→ Type R	±0.78 °C	±1.404 °F
→ Type S	±0.73 °C	±1.314 °F
Standard signal input (Current)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...24 mA	
Accuracy	0.01 % of range	
Standard signal input (Voltage)		
Number of channels	1	
Connection	4 mm safety socket	
Measuring range	0...12 VDC	
Accuracy	0.01 % of range	
Switch test		
Number of channels	2	
Transmitter supply		
Output current	Max. 24 mA	
Output voltage	24 VDC	

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The integrated measuring instrument in detail

Resistance thermometers, thermocouples and signals from temperature transmitters must be operated with an external measuring instrument which measures the output signals and displays them as temperature during the calibration. This temperature can then be compared to the set calibrator temperature.

Our integrated measuring instrument assumes the tasks of an external measuring instrument. It shows the temperature directly on the calibrator display and enables the fully automatic calibration of two devices under test at the same time.

Your benefits of the integrated measuring instrument at a glance:

- Temperature sensor calibration without additional measuring instrument
- Simultaneous calibration of several temperature sensors
- Fully automatic calibration and certification
- Enables the simplification of your work processes
- Offers great time savings compared to a temperature calibrator without integrated measuring instrument

The following DUTs can be connected to the integrated measuring instrument:

- Resistance thermometer (RTD): Pt100, Pt500 and Pt1000 in 2-,3- or 4-wire circuit
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, L and U
- 0(4)...20 mA current signals from temperature transmitters (mA), with and without supply voltage
- 0...10 V voltage signals
- Temperature switch (switch) with normally open and normally closed contacts

Article numbers

To order a complete calibrator, you need three article numbers:

1. Calibrator
2. Linearisation
3. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

1. Calibrator

Temperature range		Function	Calibration insert [mm]	Power supply	Integrated measuring instrument	Article number		
Room temperature...255 °C	RT...491 °F	Multifunction	Ø 60 x 170	110...240 V	Without	EP3M25	**0**	26015U3
Room temperature...255 °C	RT...491 °F	Multifunction	Ø 60 x 170	110...240 V	With	EP3M25	**I**	26015U3

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

2. Linearisation

Calibration function	Calibration insert / calibration medium			Reference temperature sensor	Short designation
Dry block	Air Shield Insert*			external	A
	Cylindrical calibration insert			external	B
	Cylindrical calibration insert			internal	C
Infrared	Calibration insert for infrared calibration			internal	D
	Calibration insert for infrared calibration			external	E
Surface	Surface calibration insert*			external	F
Calibration bath (Tub insert)	20 cSt	7...220 °C	44.6...428 °F	external	I
	20 cSt	7...220 °C	44.6...428 °F	internal	J
	50 cSt	50...270 °C	122...518 °F	external	K
	50 cSt	50...270 °C	122...518 °F	internal	L
Calibration bath (Direct filling)	20 cSt	7...220 °C	44.6...428 °F	external	Q
	20 cSt	7...220 °C	44.6...428 °F	internal	R
	50 cSt	50...270 °C	122...518 °F	external	S
	50 cSt	50...270 °C	122...518 °F	internal	T
Dry block for aseptic sensors	Calibration insert for aseptic sensors**			external (Cable sensor)	W

Example article number linearisation

Function:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Article number:	**EK1**	**A**	**C**	**D**	**F**	**G**	**W**	**0**	**0**	**0**	**0**

* Only with external reference temperature sensor
** Only with W043P410400G3002 as external reference temperature sensor

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Article numbers

3. Calibration insert				
Bore holes [mm]	**Function**	**Calibration insert [mm]**	**Material**	**Article number**
1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360C04AL05
2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360D10AL85
3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360D12AL86
2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5	Dry block	Ø 60 x 170	Aluminium	EZ16360D10AL87
Without bore holes	Dry block	Ø 60 x 170	Aluminium	EZ16360000AL00
Tub insert	Calibration bath	Ø 60 x 170		EZTPMBEK000000
Calibration insert for infrared calibration	Infrared	Ø 60 x 170		EZ15060B03AL41IR
Calibration insert for surface calibration	Surface	Ø 60 x 170	Aluminium	EZ20460B03AL05OF
Calibration insert for aseptic sensors	Aseptic sensors	Ø 60 x 170	Aluminium	EZ17160C02AL59
Air Shield Insert without bore holes	Dry block	Ø 60 x 170	Aluminium	EZ16360000AL00F
Air Shield Insert incl. 1 bore hole of choice	Dry block (ASI)	Ø 60 x 170	Aluminium	Please indicate bore holes in the order
Calibration insert incl. 1 bore hole of choice	Dry block	Ø 60 x 170	Aluminium	
Each additional bore hole	Dry block	Ø 60 x 170	Aluminium	

4. Calibration certificate - Select your calibration certificates as needed Each calibrator is already delivered with a standard calibration certificate (6 test points).	Article number
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function	EKTPWP1FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function	EKTPWP2FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 3rd calibrator function	EKTPWP3FKT
SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 4th calibrator function	EKTPWP4FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function	EKTPDAKKS1FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function	EKTPDAKKS2FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 3rd calibrator function	EKTPDAKKS3FKT
DAkkS calibration certificate (3 test points + measurement uncertainty determination) for 4th calibrator function	EKTPDAKKS4FKT
Each additional test point DAkkS calibration certificate	EKTPDAKKSZUSP
SIKA Gold Service works calibration certificate	EKTPGOLDWP
SIKA Gold Service DAkkS	EKTPGOLDDAKKS
SIKA works calibration certificate integrated measuring instrument (Pt100, type K)	EKTPWPMI1
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPWPMI2
SIKA works calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPWPMI3
SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPWPMI4
SIKA works calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPWPMIZUS
SIKA works calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPWPMIKOMPL
DAkkS calibration certificate integrated measuring instrument (Pt100, type K)	EKTPDAKKSMI1
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J)	EKTPDAKKSMI2
DAkkS calibration certificate integrated measuring instrument (Pt100, type K, mA, V)	EKTPDAKKSMI3
DAkkS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V)	EKTPDAKKSMI4
DAkkS calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V)	EKTPDAKKSMIZUS
DAkkS calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V)	EKTPDAKKSKOMPL

5. Accessories	Article number
Transport case without trolley	EZTPKOFFER007
Transport case with trolley	EZTPKOFFER007TG
External reference temperature sensor TF 255-3-300 (-55...255 °C / -67...491 °F)	W033P413000GX002
External reference temperature sensor TF 255-3-300 (-55...255 °C / -67...491 °F), 90° angle	W033P413000GX0WI
External reference sensor as cable sensor (for function EPLIKSDE000)	W043P410400G3002
Tripod	EZTPMSG0000000
Calibration liquid (silicone oil), 50cSt	EZSÖ0500000000
Calibration liquid (silicone oil), 20cSt	EZSÖ0200000000
Calibration liquid (silicone oil), 10cSt	EZSÖ0100000000
Calibration liquid (silicone oil), 5cSt	EZSÖ0050000000
Network switch	XE2103
Barcode scanner	XE2102
W-LAN router	XE2101
DUT temperature sensor for demo purposes (Pt100 3-phase) for integrated measuring instrument	WMQMP31020050003
Bore hole divider for Air Shield Insert 3 x Ø 3 mm sensors from Ø 9 mm bore hole	XE2194
Spare part extension spring for Air Shield Insert	XE2267
Instruction in the temperature calibrator by SIKA field service	EKTPEINWEISUNG
Frame packaging for return of calibrator (e.g. for recalibration) Please indicate the calibrator model when ordering.	098V

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