

# Operating instructions



## Room temperature sensor (wired)

Product family CosiTherm®

Type: D

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## 1 About these operating instructions

These operating instructions describe the room temperature sensor "D" (also referred to as "product" in these operating instructions). These operating instructions are part of the product.

- You may only use the product if you have fully read and understood these operating instructions.
- Verify that these operating instructions are always accessible for any type of work performed on or with the product.
- Pass these operating instructions as well as all other product-related documents on to all owners of the product.
- If you feel that these operating instructions contain errors, inconsistencies, ambiguities or other issues, contact the manufacturer prior to using the product.

These operating instructions are protected by copyright and may only be used as provided for by the corresponding copyright legislation. We reserve the right to modifications.

The manufacturer shall not be liable in any form whatsoever for direct or consequential damage resulting from failure to observe these operating instructions or from failure to comply with directives, regulations and standards and any other statutory requirements applicable at the installation site of the product.

## 2 Information on safety

### 2.1 Safety messages and hazard categories

These operating instructions contain safety messages to alert you to potential hazards and risks. In addition to the instructions provided in these operating instructions, you must comply with all directives, standards and safety regulations applicable at the installation site of the product. Verify that you are familiar with all directives, standards and safety regulations and ensure compliance with them prior to using the product.

Safety messages in these operating instructions are highlighted with warning symbols and warning words. Depending on the severity of a hazard, the safety messages are classified according to different hazard categories.



## DANGER

DANGER indicates a hazardous situation, which, if not avoided, will result in death or serious injury.

## NOTICE

NOTICE indicates a hazardous situation, which, if not avoided, can result in equipment damage.

In addition, the following symbols are used in these operating instructions:



This is the general safety alert symbol. It alerts to injury hazards or equipment damage. Comply with all safety instructions in conjunction with this symbol to help avoid possible death, injury or equipment damage.



This symbol alerts to hazardous electrical voltage. If this symbol is used in a safety message, there is a hazard of electric shock.

## 2.2 Intended use

CosiTherm® is a single room temperature controller used to control the temperature in rooms with underfloor heating system (heat/cool).

The product is a part of CosiTherm® and may only be used to control the room temperature (heat/cool).

Any use other than the application explicitly permitted in these operating instructions is not permitted and causes hazards.

Verify that the product is suitable for the application planned by you prior to using the product. In doing so, take into account at least the following:

- All directives, standards and safety regulations applicable at the installation site of the product
- All conditions and data specified for the product
- The conditions of the planned application

In addition, perform a risk assessment in view of the planned application, according to an approved risk assessment method, and implement the appropriate safety measures, based on the results of the risk assessment. Take into account the consequences of installing or integrating the product into a system or a plant.

When using the product, perform all work and all other activities in conjunction with the product in compliance with the conditions specified in the operating instructions and on the nameplate, as well as with all directives, standards and safety regulations applicable at the installation site of the product

## 2.3 Predictable incorrect application

The product must never be used in the following cases and for the following purposes:

- In conjunction with products which are used for health-saving or life-saving purposes or whose operation may incur hazards to humans, animals or property.

## 2.4 Staff qualification

Only appropriately trained persons who are familiar with and understand the contents of these operating instructions and all other pertinent product documentation are authorized to work on and with this product.

These persons must have sufficient technical training, knowledge and experience and be able to foresee and detect potential hazards that may be caused by using the product

All persons working on and with the product must be fully familiar with all directives, standards and safety regulations that must be observed for performing such work.

## 2.5 Personal protective equipment.

Always wear the required personal protective equipment. When performing work on and with the product, take into account that hazards may be present at the installation site which do not directly result from the product itself.

## 2.6 Modifications to the product

Only perform work on and with the product which is explicitly described in these operating instructions. Do not make any modifications to the product which are not described in these operating instructions.

## 3 Transport and storage

The product may be damaged as a result of improper transport or storage.

### NOTICE

#### INCORRECT HANDLING

- Verify compliance with the specified ambient conditions during transport or storage of the product.
- Use the original packaging when transporting the product.
- Store the product in a clean and dry environment.
- Verify that the product is protected against shocks and impact during transport and storage.

**Failure to follow these instructions can result in equipment damage.**

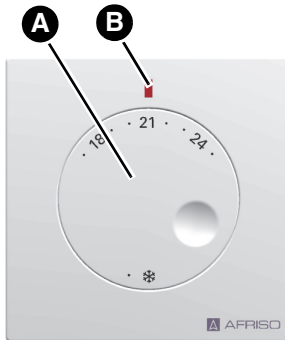
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## 4 Product description

### 4.1 Overview of the individual CosiTherm® components

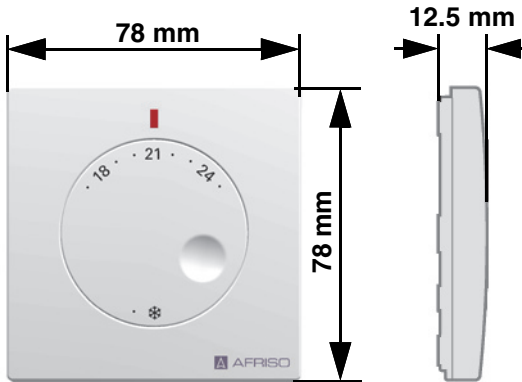
Component	Versions	Explanation
Base module	BM	-
Timer module	UM	-
Room temperature sensor	D	Wire
	FT	Wireless and temperature
	FTF	Wireless, temperature and humidity
Controller module	D2	Wired with 2 control circuits
	D6	Wired with 6 control circuits
	F2	Wireless with 2 control circuits
	F6	Wireless with 6 control circuits
	F2A	With external antenna and 2 control circuits
	F6A	With external antenna and 6 control circuits

### 4.2 Overview



- A. Rotary knob for adjusting the reference temperature
- B. LED red: Heating  
LED blue: Cooling

## 4.3 Dimensions



## 4.4 Function

CosiTherm® is a single room temperature controller used to control the temperature in rooms with underfloor heating system (heat/cool). The product is a part of CosiTherm®.

The products measure the actual temperature in the corresponding rooms. The reference temperature is adjusted via the rotary knob of the product.

The product is wired to the controller module.

## 4.5 Approvals, conformities, certifications

The product complies with:

- EMC Directive (2014/30/EU)
- RoHS Directive (2011/65/EU)



## 4.6 Technical specifications

Parameter	Value
<b>General specifications</b>	
Dimensions (W x H x D)	78 x 78 x 12.5 mm
Weight	30 g
Housing material	PC
Colour	White, similar to RAL 9003
Temperature adjustment range/ temperature measuring range	6 ... .30 °C
Temperature reduction	4K (only if higher than 12 °C)
<b>Operating temperature range</b>	
Ambient	-10 ... 60 °C
Storage	-20 ... 65 °C
Max. humidity	Non-condensing
Frost protection	8 °C
<b>Supply voltage</b>	
Nominal voltage	DC 5V, via controller module
Nominal power per room temperature sensor	0.015 W
Permissible cable type, wire colours	J-Y (St) Y 2 x 2 x 0,6 mm <sup>2</sup> : red, black, white, yellow
Maximum cable length	100 m
<b>Electrical safety</b>	
Protection class	III (EN 60730-1; SELV)
Degree of protection	IP 30 (EN 60529)
<b>Electromagnetic compatibility (EMC) (2014/30/EU)</b>	
Interference/immunity	EN 61326-1:2006-10

## 5 Mounting

### 5.1 Electrical connection



## DANGER

### ELECTRIC SHOCK

- Verify that the degree of protection against electric shock (protection class II, double insulation) is not reduced by the type of electrical installation.
- Verify that the product is not connected to 230 V nominal voltage.

**Failure to follow these instructions will result in death or serious injury.**

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## DANGER

### ELECTRIC SHOCK CAUSED BY LIVE PARTS

- Disconnect the mains voltage supply before performing the work and ensure that it cannot be switched on.
- Verify that no hazards can be caused by electrically conductive objects or media.

**Failure to follow these instructions will result in death or serious injury.**

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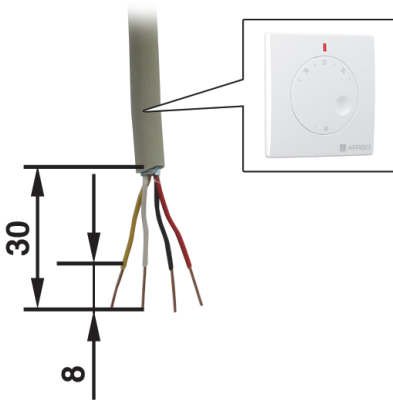
## NOTICE

### ELECTROSTATIC DISCHARGE

- Always earth yourself before touching electronic components.

**Failure to follow these instructions can result in equipment damage.**

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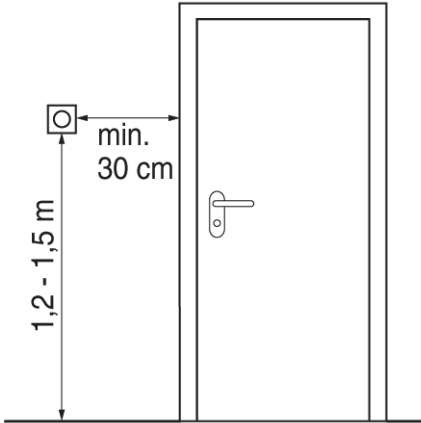
- ⇒ Verify that all cables are disconnected from power.
1. Strip the cables as shown.

If cables  $> 0.6 \text{ mm}^2$  are already installed in the wall, you can use a screw terminal for connection with the product. The screw terminal must be located in the in-wall junction box. Only cables with a maximum of  $0.8 \text{ mm}^2$  may be connected to the product.

## 5.2 Wall mounting

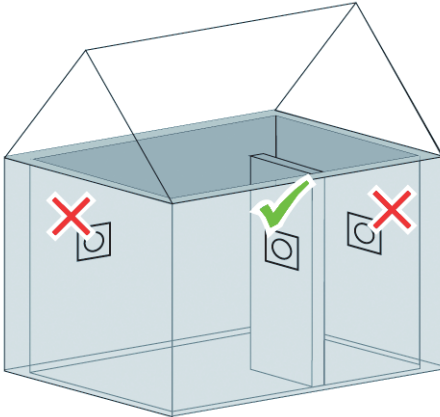
- ⇒ If you want to install several products, install an installation plan with the individual installation sites. Then label the individual products according to the installation plan with a number or the designation of the installation site in order to reduce the possibility of confusion.

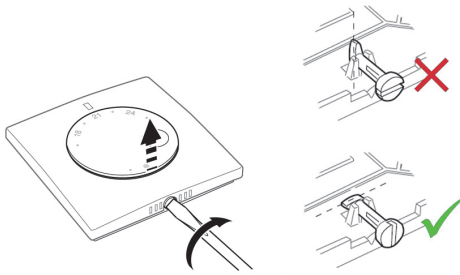
## 5.3 Mounting the product



Cold walls and draughts affect temperature measurement.

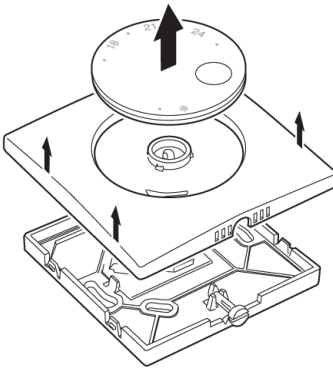
1. Mount the product to inner walls and at an adequate distance from doors and windows.





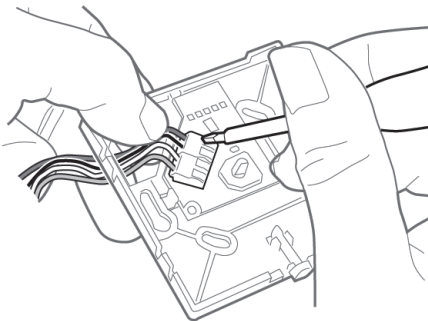
## Removing the rotary knob and the upper part of the housing

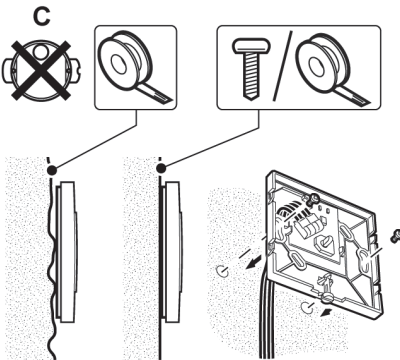
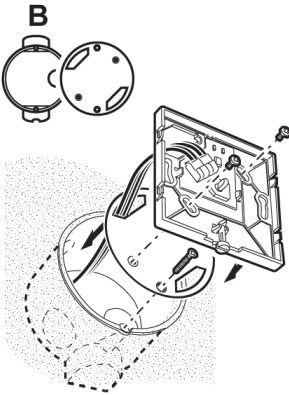
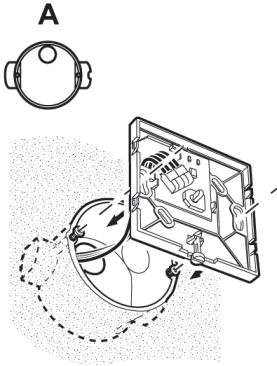
1. Turn the cam screw at the room temperature sensor by approximately 90° using a screwdriver.
2. This lifts the rotary knob so that you can remove it.
3. Remove the upper part of the housing.



## Connecting the cable

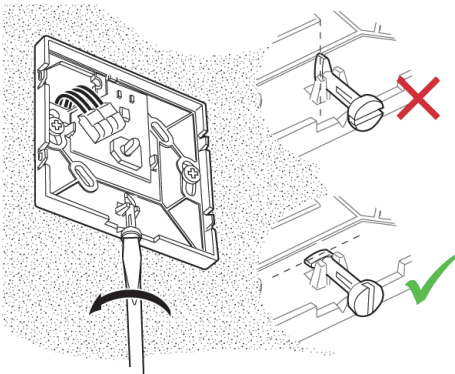
4. Connect the wires of the cable to the terminals of the product (observe colour coding).





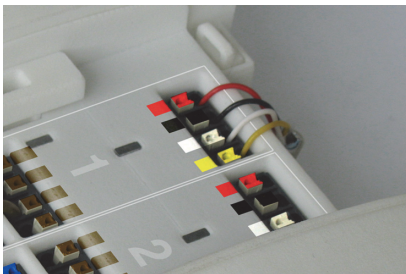
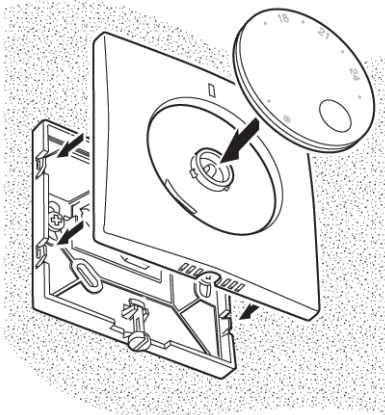
## Mounting by screwing/glueing

5. Mount the product.
- A. Mounting to a horizontally aligned cable box.
- B. Mounting to a vertically aligned cable box using the adapter plate supplied.
- C. Mounting directly to the wall.
  1. Attach the bottom part of the housing to uneven walls using double-sided adhesive tape or construction adhesive.
  2. Screw or glue the bottom part of the housing to even walls.



## Refitting the rotary knob and the upper part of the housing

3. Turn the cam screw at the product back to the initial position using a screwdriver.
4. Refit the upper part of the housing and the rotary knob to the bottom part of the housing.



5. Connect the wires of the cable of the product to the terminals of the corresponding heating circuit at the controller module (observe colour coding).

Further mounting instructions can be found in additional operating instructions of the CosiTherm® product line.

## 6 Commissioning

### 6.1 Function test

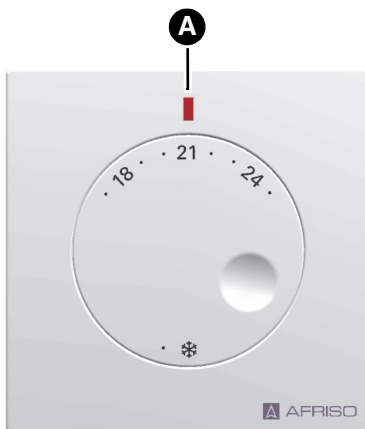
⇒ Verify that the room temperature is between +15 °C and +25 °C.

1. Set the product to be tested to frost protection.
2. Set the product to be tested to +30 °C.
  - The red LED at the product lights up.
  - After no more than one minute, the yellow LED lights up at the controller module to which the product is connected/taught-in.
3. Verify that the product to be tested is connected to the correct control circuit.
4. Repeat this procedure for all other products.



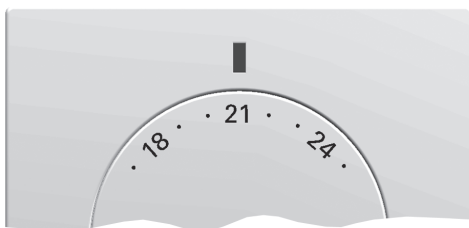
## 7 Operation

### 7.1 Overview of the LED signals



- A. LED
- Solid red:  
During heating
  - Solid blue:  
During cooling
  - Not lit:  
Reference temperature reached

### 7.2 Adjusting the room temperature

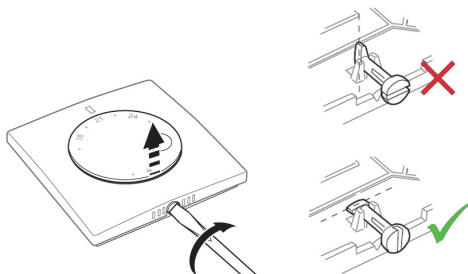


1. Adjust the desired temperature at the product.
  - Without temperature reduction: CosiTherm® sets the room temperature to the adjusted value
  - With temperature reduction: CosiTherm® sets the room temperature to a value 4 K below the adjusted value

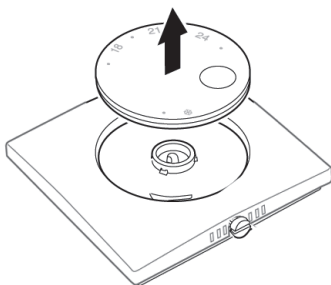
Abbildung 1: Adjusted room temperature (for example, 21 °C)

## 7.3 Limiting temperature adjustments

The adjustment range of the rotary knob is factory-set to a minimum of 8 °C and a maximum of 30 °C by means of restrictors. The restrictors can be adjusted to set the minimum and the maximum adjustable temperature.

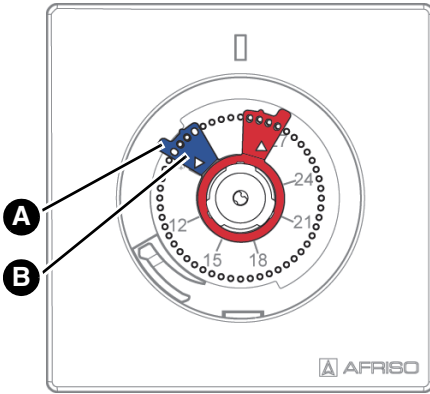


1. Turn the cam screw at the room temperature sensor by approximately 90° using a screwdriver.



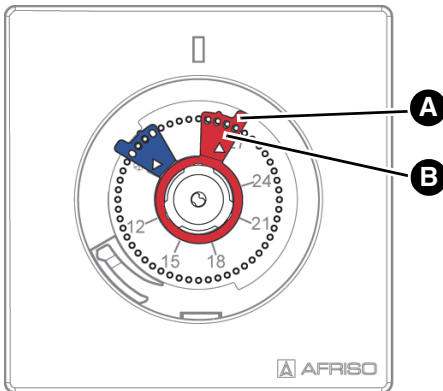
2. The rotary knob is lifted and can be removed.

## 7.3.1 Setting the minimum temperature



1. Lift the blue restrictor at the flag (A).
2. Turn the blue restrictor with the restrictor adjustment edge (B) to the desired value for the minimum temperature and refit it.

## 7.3.2 Setting the maximum temperature



1. Lift the red restrictor at the flag (A).
2. Turn the red restrictor with the restrictor adjustment edge (B) to the desired value for the maximum temperature and refit it.
3. Turn the cam screw at the product back to the initial position so that you can refit the rotary knob.
4. Refit the rotary knob.

## 7.3.3 Frost protection function



Abbildung 2: Frost protection (8 °C)

- CosiTherm® adjusts the room temperature to 8 °C
- If the product is set to "Frost protection", the cooling function is disabled

## 8 Maintenance

The product is maintenance-free.

## 9 Troubleshooting

Any malfunctions may only be repaired by the manufacturer.

## 10 Decommissioning, disposal

Dispose of the product in compliance with all applicable directives, standards and safety regulations.

Electronic components must not be disposed of together with the normal household waste.



1. Disconnect the product from mains.
2. Dismount the product (see chapter "Mounting", reverse sequence of steps).
3. Dispose of the product.

## 11 Returning the device


Get in touch with us before returning your product ([service@afribo.de](mailto:service@afribo.de)).

## 12 Warranty

See our terms and conditions at [www.afribo.com](http://www.afribo.com) or your purchase contract for information on warranty.




## 13 Spare parts and accessories

### Product

Product designation	Part no.	Figure
Room temperature sensor "D"	78110	

## 14 Appendix

## 14.1 EU-Konformitätserklärung

		
<b>Technik für Umweltschutz</b> Messen. Regeln. Überwachen.		
<b>EU - Konformitätserklärung</b> <i>EU Declaration of Conformity / Déclaration EU de conformité / Declaración de conformidad CE / Declaração de conformidade CE / Deklaracja zgodności UE</i>	 <b>Formblatt FB 27 - 03</b>	
Name und Anschrift des Herstellers: <u>AFRISO-EURO-INDEX GmbH, Lindenstraße 20, 74363 Güglingen</u> <i>Manufacturer / Fabricant / Fabricante / Nome e endereço do fabricante / Producent:</i>		
Erzeugnis: <u>Einzelraum-Temperaturregelung</u> <i>Product / Produit / Producto / Produto / Produkt:</i>		
Typenbezeichnung: <u>CosiTHERM (Draht/Funk): Basis- und Reglermodule,</u> <i>Type / Type / Tipo / Tipo / Typ:</i> <u>inkl. optionaler Module Raumfühler Draht, Uhrmodul</u>		
Betriebsdaten: <u>230V AC, 50-60 Hz, IP 20</u> <i>Techn. Details / Caractéristiques / Características / Detalhes técnicos / Dane techniczne:</i>		
Wir erklären in alleiniger Verantwortung, dass das bezeichnete Erzeugnis mit den Vorschriften folgender Europäischer Richtlinien übereinstimmt: <i>We declare under our sole responsibility that the above mentioned product meets the requirements of the following European Directives:</i> <i>Le produit mentionné est conforme aux prescriptions des Directives Européennes suivantes:</i> <i>El producto indicado cumple con las prescripciones de las Directivas Europeas siguientes:</i> <i>O produto indicado cumpre com as prescrições das seguintes Diretivas Europeias:</i> <i>Wymieniony wyżej produkt spełnia wymagania następujących Dyrektyw Europejskich:</i>		
<b>Radio Equipment Directive, RED (2014/53/EU)</b> <i>RED Directive / Directive RED / Directiva RED / Diretiva RED / Dyrektywa radiowa</i>		
<u>EN 301489-3-V1.6.1, EN 61000-3-2:2019, EN 61000-3-3:2020</u> <u>EN 300220-2-V3.1.1, EN 62479:2010</u>		
<b>Elektromagnetische Verträglichkeit (2014/30/EU)</b> <i>Directive Electromagnetic Compatibility / Directive compatibilité électromagnétique / Directiva compatibilidad electromagnética / Diretiva sobre compatibilidade eletromagnética / Dyrektywa kompatybilności elektromagnetycznej</i>		
<u>DIN EN 61326-1:2013</u>		
<b>Niederspannungsrichtlinie (2014/35/EU)</b> <i>Low Voltage Directive / Directive basse tension / Directiva baja tensión / Diretiva sobre baixa tensão / Dyrektywa niskonapięciowa</i>		
<u>DIN EN 60730-1:2012 (erfüllt auch / meets also DIN EN 60730-1:2017-05)</u>		
<b>RoHS-Richtlinie (2011/65/EU)</b> <i>RoHS Directive / Directive RoHS / Directiva RoHS / Diretiva RoHS / Dyrektywa RoHS</i>		
<u>EN IEC 63000:2018</u>		
Unterzeichner:	<u>Dr. Späth, Geschäftsführer Technik</u>	
<i>Signed / Signataire / Firmante / Assinado por / Podpisat:</i>	<i>Technical Director / Diretor Técnico / Dyrektor Techniczny</i>	
<u>27.1.2023</u>		
<i>Datum / Date / Fecha / Data</i>	<i>Unterschrift / Signature / Firma / Assinatura / Podpis</i>	
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