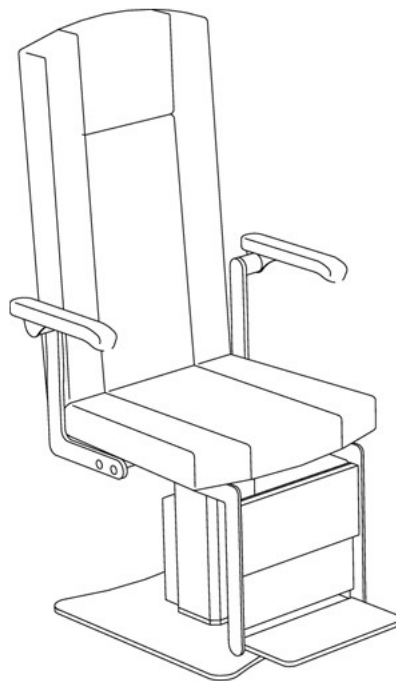


Model „Zac®“



## Technical manual

# Zac®

Sample illustration

Original manual since 2012

Status: October 2021

Subject to technical changes!

# Foreword

Thank you for the confidence you have placed in us by purchasing the patient chair. With the Zac® patient chair, you have chosen a modern, sophisticated product that has been manufactured and tested according to strict quality criteria. Continuous developments may cause changes in the design and scope of delivery. In individual cases, the illustrations in these operating instructions may differ from the chair delivered. If you have any questions or would like further information about your patient chair, please contact us! Our service team will be happy to assist you.

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## 1 General

### 1.1 Information about the user manual

The instructions are an integral part of the patient chair Zac® and must therefore be kept with the patient chair Zac®. Before using the Zac® patient chair, read these operating instructions carefully and familiarise yourself with all functions.

If you have any questions about its use, please contact our customer service/field staff who will be happy to help you.

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Email: [info@block-optic.com](mailto:info@block-optic.com)



Block Optic accepts no liability for damage resulting from improper operation of the Neo® patient chair and/or failure to observe the provisions of this operating manual.

#### **Notice:**

The illustrations in this manual may be shown differently from the actual delivery and are only for understanding the function.

### 1.2 General safety regulations

The Zac® patient chair is used exclusively in ophthalmic optics and ophthalmology. The patient chair Zac® fulfils the requirements of Annex 2 of the Medical Devices Act (MPBetriebV). In addition, the local accident prevention regulations and general safety regulations for the area of application of the patient chair Zac® fulfil the requirements of Annex 2 of the Medical Devices Act (MPBetriebV). In addition, the local accident prevention regulations and general safety regulations for the area of application of the patient chair Zac® apply, as do the respective valid regulations of the VDE/EN standard.

 	<p><b>WARNING!</b></p> <p>Before putting the Zac® patient chair into operation, read this manual carefully. It contains important data and information on handling and safety for users and patients. All electrical functions of the patient chair Zac® are explained here in connection with a Block Optic examination unit or as a stand-alone chair with foot switch. In connection with examination units of other manufacturers, not all electrical functions may be possible or the symbols of the operation may be different. For more details, please refer to the instructions of the corresponding manufacturer of examination and patient chairs.</p>
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### 1.3 Explanation of symbols

Important text passages in these operating instructions are specially marked by highlighting and keywords. The following highlighting is used in these operating instructions:

	<b>FORBIDDEN!</b> Failure to observe these instructions may endanger the user and/or patient and may damage the Zac® patient chair.
	<b>CAUTION!</b> Indicates a potentially dangerous situation. Observe the precautions marked in this way to avoid endangering persons or damaging the patient chair.
	<b>IMPORTANT!</b> Indicates important information. Read this information to maintain the high safety and functional standard of the Zac® patient chair.
	<b>NOTE!</b> Indicates information on correct use. Please read this information to avoid incorrect operation.
	<b>DANGER!</b> Indicates a potential danger to life due to electric shock.
	<b>SECURITY!</b> During electrical tests, the unit must be disconnected from the power supply and secured against being switched on again.
	<b>SERVICE!</b> Service should only be carried out by Block Optic or Block Optic authorised staff.
	<b>DANGER OF CROSSING</b> Indicates a potential danger of crushing.
	<b>DISPOSAL!</b> Disposal information.

### 1.4 Copyrights and trademarks

All rights to this operating manual, in particular the right of reproduction and distribution as well as translation, are reserved by Block Optic. In particular, these operating instructions may not be reproduced or distributed without the agreement of Block Optic.

Contraventions are punishable and oblige to compensation. All rights to exercise industrial property rights are reserved by Block Optic.

### 1.5 Limitation of liability


All information and notes in these operating instructions have been compiled taking into account the applicable standards and regulations, the state of the art and our many years of knowledge and experience.

**The company Block Optic accepts no liability for damage due to**

- Failure to follow the instructions
- untrained personnel
- unauthorised modifications
- technical changes
- Use of spare parts not approved by Block Optic

### 1.6 Repair and spare parts

The Zac® patient chair can only be repaired by Block Optic or by a specialist company authorised by Block Optic.

	<p><b>CAUTION!</b></p> <p>Incorrect or non-original spare parts can impair safety and lead to damage, malfunction or total failure. Therefore: Only use original spare parts from the manufacturer.</p>
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### 1.7 Warranty conditions

The "General Terms and Conditions of Sale and Delivery" of the company Block Optic apply. These can be viewed on our website [www.block-optic.com](http://www.block-optic.com).

### 1.8 Customer service

Our customer service is available for technical information.

In addition, our employees are constantly interested in new information and experiences resulting from the application and which lead to the improvement of the patient chair Zac®.

## 2 Safety

This section serves as an overview of all safety instructions that ensure the smooth and safe operation of the patient chair Zac®. Compliance with the handling instructions and the safety instructions must be ensured.

Failure to comply may result in danger to operators and/or patients.

### 2.1 Manufacturer responsibility

As the manufacturer, we guarantee that the patient chair Zac® has been manufactured according to the latest state of the art and the recognised safety rules.

This applies in particular to the:

compliance with the 2014/30/EU	(electromagnetic compatibility)
compliance with the 2017/745/EU	(medical devices)
compliance with the EN 60601-1-2 2015	(medical electrical devices)
compliance with the EN 55011	(interference emission)
compliance with the IEC 801	(interference immunity)

## 2.2 Operator responsibility

The operator is responsible for the perfect technical condition of the patient chair.

Therefore, the following applies:

- The operator must clearly regulate and define the responsibilities for operation, maintenance and cleaning.
- The operator must observe the maintenance intervals as described in the operating instructions.
- The operator must check the safety devices at regular intervals.
- The operator must check the Zac® patient chair for visible damage at regular intervals.
- In the event of damage, the operator must call in Block Optic or a specialist company authorised by Block Optic to repair the damage.

## 3 Technical specifications

### 3.1 Space requirement

Depending on the design of the Zac® patient chair, the dimensions may vary.

**Example:**

Version:	max. dimensions (L x B)
Zac® with or without mechanical seat shift	600 mm x 560 mm

### 3.2 Connection values in single installation or in combination with a Block Optic examination unit without docking station

Specification	Value
Line voltage	230 V AC
Frequency	50 Hz
Permissible deviation from the nominal line voltage	5,00 %
Max. Watt	160 Watt
Max. lifting capacity incl. chair top	250 kg
Stand-by power consumption when set up individually or with a Block Optic examination unit without docking station	2 Watt
Device fuse protection (on site)	Connection to a separate circuit with fuse T16 AH, 250V
Device protection in combination with a Block Optic examination unit	Fixed committee to the Block optic electronics with fuse T2,5A, 250V
Protection class	I
Risk classification	Ila



### 3.3 Connection values in combination with a Block Optic examination unit and a docking station






Specification	Value
Main voltage (from the examination unit)	36 V DC
Max. power consumption	160 Watt
Device fuse protection (SKF control box)	Direct connection to the circuit of the Innovario® examination unit with fuse T4, 250 V
Protection class	I
Risk classification	Ila

### 3.4 Operating condition

Specification	Value
Temperature range	+10° C to +40° C
Relative humidity	30 % to 70 %
Air pressure	700 hPa to 1060 hPa
Mounting	in dry indoor rooms

### 3.5 Label

The label on the patient chair shows the following information:

	Manufacturer with address
<b>Model:</b>	Type name
<b>SN:</b>	Serial number
	Year of manufacture
<b>VAC</b>	Line voltage and frequency max.
<b>VA</b>	max. power draw
<b>CLASS</b>	Risk class
	CE-label
	Disposal note
	Read manual carefully

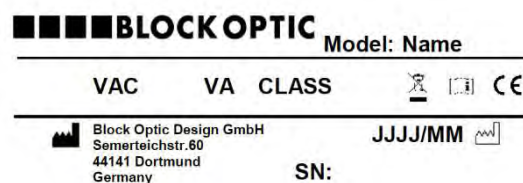


Figure 1: Label patient chair

## 4 Delivery

### 4.1 Scope of delivery

The scope of delivery of the patient chair Zac® varies depending on the equipment version. The respective scope of delivery is listed in detail on the delivery note.

### 4.2 Optional accessories

A list of the current accessories for the patient chair Zac® can be obtained from Block Optic or from specialist dealers authorised by Block Optic. You will find a short excerpt in chapter 8.

### 4.3 Packaging

If required, the patient chair Zac® can be delivered in a special transport box; the dimensions and weight of the packaging are variable depending on the equipment.

Upon delivery, please check the packaging boxes for external damage and observe the enclosed freight instructions!



#### **NOTE!**

The packaging weight is min. 100 Kg.

Please ensure that all the individual parts belonging to the Zac® patient chair have been removed.

## 5 Montage und elektrischer Anschluss






### 5.1 Mounting

The Zac® patient chair is set up exclusively by Block Optic or by a company authorised by Block Optic.

### 5.2 Electrical connection

The Zac® patient chair may only be installed in rooms that comply with the requirements of VDE 0100-710.


Depending on the equipment of the Zac® patient chair, it is integrated into the practice/clinic building installation by means of a protective contact plug (individual installation) or connected to a refraction unit.

	<p><b>CAUTION!</b></p> <p>The patient chair may only be set up by Block Optic or by a company authorised by Block Optic.</p>
 	<p><b>FORBIDDEN!</b></p> <p>The electrical coupling with an examination unit may only be carried out by Block Optic or by a company authorised by Block Optic.</p>
 	<p><b>NOTE!</b></p> <p>If the patient chair Zac® is set up in combination with an examination unit that is NOT from Block Optic, the corresponding safety devices of this third-party examination unit must be used against a possible crushing hazard.</p> <p>To do this, contact the relevant supplier.</p>

## 6 Basic concept

The Zac® refraction and patient chair has been specially developed for ophthalmologists and opticians with high demands on equipment and operating comfort. The fully equipped version has a wide range of characteristic features.






## 7 Handling

	<p><b>NOTE!</b></p> <p>Before each start-up, the patient chair and its external lines, if any, must be checked for external damage.</p>
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If the chair is connected to a Block Optic examination unit, electrical functions on the patient chair Zac® (up/down and seat forward and back) can be controlled via the ergonomic membrane keyboard on the Block Optic examination unit. With an optional foot switch, you can operate the function of the patient chair Zac® up/down parallel to the keyboard.

### 7.1 Functions via the keypad on a Block Optic examination unit

This symbolism only refers to Block Optic keyboards. If the patient chair Zac® is connected to a foreign examination unit, the symbols and also the function may be different.

Figure	Function	Description
	Chair UP	The chair moves upwards by electric motor.
	CHAIR DOWN	The chair moves downwards by electric motor.
	Chair AUTO DOWN	The chair moves to the basic position by electric motor.
	Chair FORWARD	No function for the Zac® patient chair
	Chair BACKWARD	No function for the Zac® patient chair

Whenever you adjust the height or turn the chair, make sure that the patient is not exposed to any danger. Especially when adjusting the height of the Zac® patient chair, the seat shift and footrest are a source of danger. Therefore, make sure that the patient always positions his or her feet on the footrest.

 	<p><b>CAUTION!</b></p> <p>If the patient's feet are not on the footrest when the chair is moved downwards, there is a risk of crushing!</p>
	<p><b>CAUTION!</b></p> <p>The motor of the patient chair Zac® is not suitable for continuous up and down operation by the electromotive height adjustment.</p> <p>After continuous operation of the height adjustment for 1.5 minutes, a cooling time of at least 8.5 minutes must be observed.</p> <p>If the height adjustment is operated continuously for longer than 1.5 minutes, this can lead to a defect in the height adjustment.</p>

## 8 Equipment features and optional accessories

### 8.1 Function via foot switch (optional)

Using the optional foot switch in conjunction with a Block Optic examination unit or in stand-alone set-up, you can move the Zac® patient chair up and down with an electric motor.

The assignment of the pedals for chair UP/DOWN can be done flexibly.

A Chair UP or DOWN  
B Chair UP or DOWN

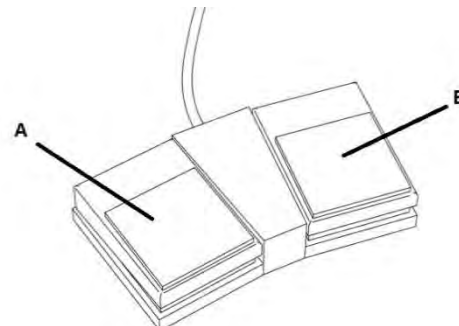


Figure 2: Foot switch

### 8.2 Footrest (optional)

The foldable footrest is fixed by a magnet so that it does not fold out by itself. If necessary, it can be folded out by the user so that the patient can sit relaxed on the Zac® patient chair.

A: Foldable footrest by 90°.

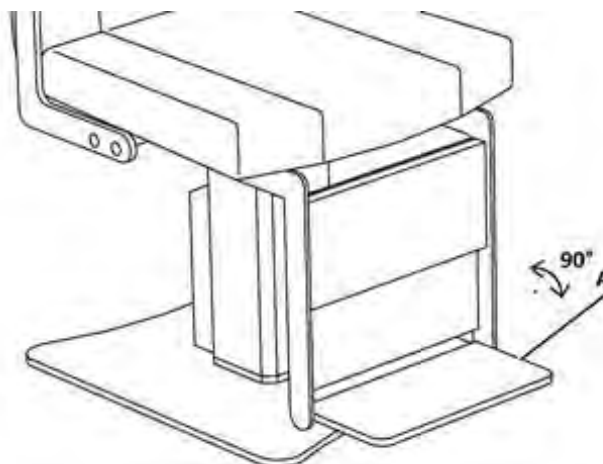


Figure 3: Footrest



#### **NOTE!**

The footrest does not serve as a standing aid. Placing the feet on the footrest while standing up from the Neo® patient chair will damage the footrest.

### 8.3 Manual seat adjustment (optional)

The patient chair Zac® can be equipped with a manual seat adjustment with three different shifting positions. Here, pull the lever upwards (Figure 4), so that it disengages and push the seat in the corresponding direction until the seat automatically engages again.

A: Release lever of the mechanical seat adjustment.

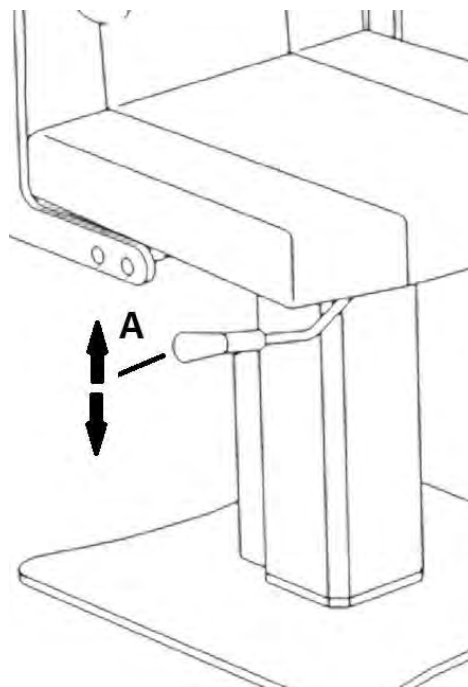


Figure 4: Release lever of the mechanical seat adjustment

### 8.4 Rotation 360° of the patient chair (optional)

The upper part of the Zac® patient chair can be swivelled, and the upper part locks into place every 90°. This possibility of rotating the upper part of the chair can be used advantageously when the examination device is placed on a separately table.

### 8.5 Folding armrests

The armrests (Figure 5) can be folded up 90°. Folding up the armrests allows obese patients to sit comfortably.

A: Folding armrests, can be folded up 90°.

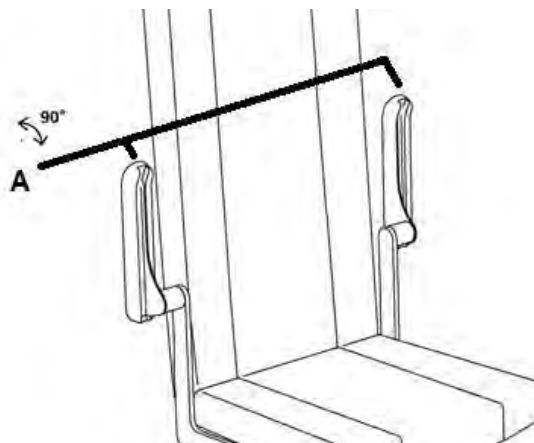



Figure 5: Armrests

	<p><b>NOTE!</b></p> <p>The armrests do not serve as a standing aid. Resting the hands on the armrests while standing up from the Zac® patient chair can damage the armrests.</p> <p>Tugging on the armrests to pull the chair out of its docking station can damage the armrests.</p>
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## 8.6 Chair docking station (optional)

The optional patient chair docking station, which is only possible in conjunction with Block Optic examination units, is optimal for examining patients in wheelchairs, as it eliminates the need to transfer the patient to the treatment chair. The chair is docked and undocked by means of a locking pedal (Figure 6) und (Figure 7).

Connection cables are not necessary with the patient chair docking station. After undocking, the patient chair Zac® can easily be moved in all directions via the castors.

- A: Locking pedal  
B: Patient chair with castors

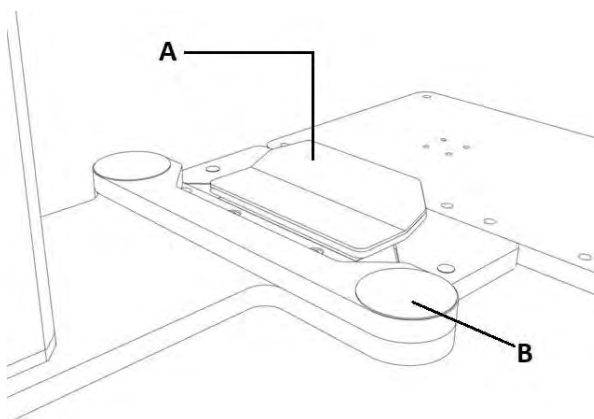


Figure 6: Patient chair docking station locked

- A: Locking pedal  
B: Wireless contact surface chair and docking station  
C: Patient chair with castors

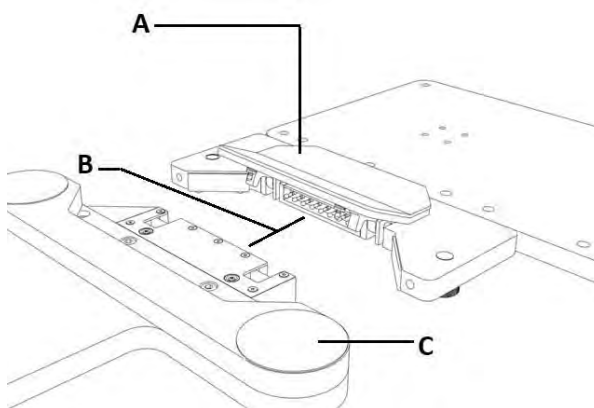




Figure 7: Patient chair docking station unlocked

	<p><b>FORBIDDEN, TIPPING HAZARD!</b></p> <p>It is prohibited to undock or dock and/or move the patient chair Zac® when the patient is sitting on the patient chair Zac®.</p>
	<p><b>HINWEIS!</b></p> <p>When undocked, no electric patient chair function is possible.</p>

### 8.7 Zac® chair without docking station with one examination unit or in single set-up

The Zac® patient chair can also be used with a cable connection (power supply from the examination unit) or in individual set-up with foot switch (up/down). Power supply via a protective contact socket (Figure 8).

- A: Motor column patient chair Zac®
- B: Status LED (voltage 230 V/AC) only in function without docking station or individual set-up
- C: Cover motor electrics
- D: Base plate patient chair Zac® without docking station and individual set-up

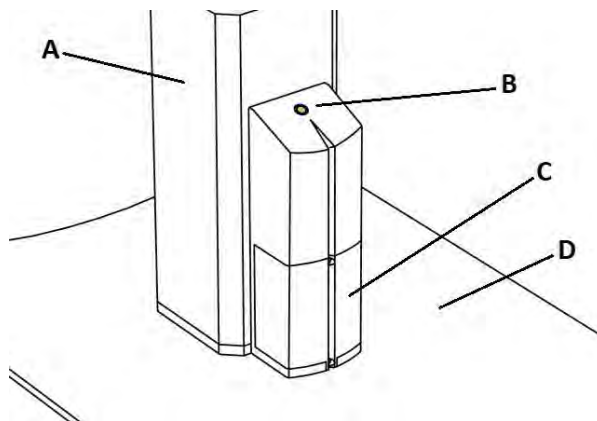


Figure 8: Zac® without docking station

## 9 Glass case (optional)

The optional glass case (Figure 9) with telescopic pull-out serves with the grooved frame as a receptacle for trial glasses. It is ergonomically mounted on the backrest of the Zac® patient chair.

- A: Glass case with telescopic pull-out

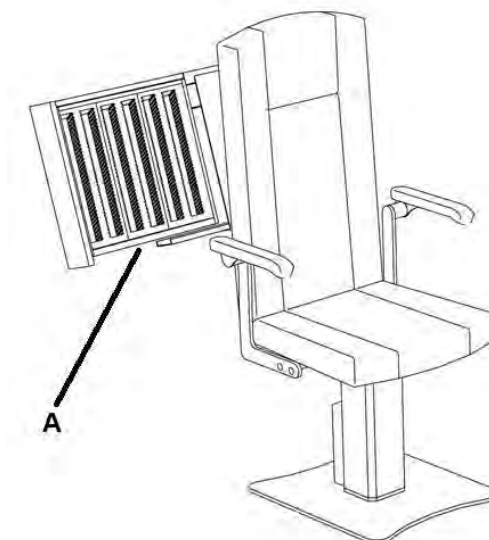


Figure 9: Glass case



### 9.1 BriTa (optional)

The „BriTa“ (Figure 10) is the optimal solution for putting down a pair of glasses and hanging a bag.

- A: Storage tray for one pair of glasses (reading aid)
- B: Holder for a bag up to max. 20 kg
- C: Mounting point flexibly mounted for the „BriTa“
- D: Armrest foldable 90°.

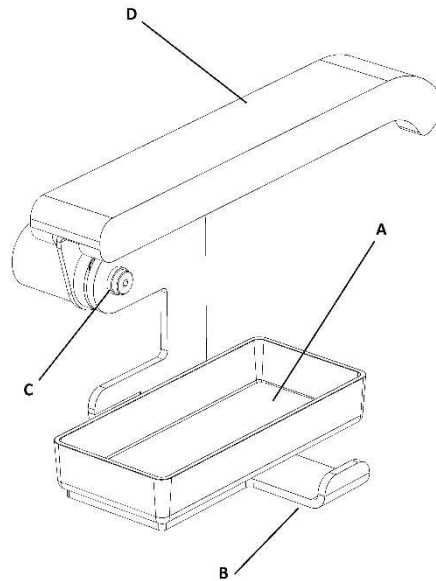


Figure 10: BriTa



#### **NOTE!**

The bag must not exceed the maximum weight of 20 kg.

## 10 Safety system

A safety shut-off bar is fitted to each underside of a Block Optic examination unit to protect the patient and prevent the patient's thighs from being pinched or crushed. Mechanical contact with the safety bar will cause the patient chair drive to stop immediately. For more details, see the instructions for a Block Optic examination unit.



#### **NOTE!**

When using the Block Optic examination units, make sure that the patient rests his hands comfortably on the armrests of the patient chair, as there is a risk of crushing at the headrest holders!

When combining with products from other manufacturers, pay particular attention to the safety requirements. The safety shut-off of the lifting function must be guaranteed.

**Block Optic accepts no liability for improper use and any resulting damage.**

## 11 Repairs

If a fault occurs that is not described in 11.1 or a repair needs to be carried out, contact Block Optic or an authorised service company directly.

Have the serial number of the Zac® patient chair and, if applicable, a customer number ready for quick assistance by Block Optic. If possible, send us photos or a video of the problem with a short description to [support@block-optic.com](mailto:support@block-optic.com).



### NOTE!

A comprehensive repair may only be carried out by Block Optic or by a specialist company authorised by Block Optic.

A trained electrician can be consulted for an initial diagnosis.

This is required:

- the appropriate circuit documents of the examination unit, which may be connected to the Zac® patient chair.
- a measuring device with continuity tester for fuses

A visual inspection is not possible depending on the type of fuse. Following works can be done:

- Checking the fuses
- Replacement of defective fuses



### CAUTION DANGER!

When testing fuses on a Block Optic examination unit, it must be de-energised and secured against being switched on again.



### IMPORTANT!

Only fuses with the same values may be used.




### 11.1 Faults on the Zac® patient chair

Error	Possible cause / possible solution
Chair does not move up	<p>Is the Zac® patient chair supplied with voltage?</p> <ul style="list-style-type: none"> <li>Switch on the examination unit or plug in the cold appliance plug of the Zac® patient chair in individual set-up.</li> </ul> <p>In conjunction with a Block Optic Design examination unit:</p> <p>Is the shut-off bar activated (obstacle)?</p> <ul style="list-style-type: none"> <li>Remove obstruction under the shut-off bar, see the Block Optic Design examination unit manual.</li> </ul> <p>If the cut-off strip is hidden?</p> <ul style="list-style-type: none"> <li>Check and straighten the cut-off strip plate see manual of the Block Optic Design examination unit</li> </ul> <p>Chair has reached its maximum height?</p>
Chair does not move down	<p>Is the Zac® patient chair supplied with voltage?</p> <p>Switch on the examination unit or plug in the cold appliance plug of the patient chair Zac® in individual set-up.</p>

## 12 Maintenance

### 12.1 Service

If the patient chair is coupled in combination with Block Optic examination units, the Zac® patient chair is also automatically checked during maintenance.


	<p><b>HINWEIS!</b></p> <p>In order to maintain the high safety standard and the high quality of the Zac® patient chair, we recommend regular maintenance and care.</p>
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Maintenance is divided into 2 categories. The maintenance interval type B is mandatory.

For the maintenance interval type A, this is max. one year for practical operation.

Depending on the frequency of use, the maintenance intervals may be shorter.

For operation in a clinic, the maintenance interval type A is one year.

	<p><u>Maintenance intervals type A:</u> <u>Practice operation and clinic operation</u> <u>max. 1 year</u></p> <ul style="list-style-type: none"> <li>General check for correct function</li> <li>Checking the spring contacts in the docking station.</li> <li>Checking that the docking station is correctly latched</li> </ul>	<p><u>Maintenance intervals type B:</u> <u>2 years</u></p> <ul style="list-style-type: none"> <li>Safety inspection (STK incl. DGUV A3 according to VDE 0751)</li> <li>Check the condition of all external cables (check for insulation damage).</li> <li>General check for correct function.</li> <li>Checking the spring contacts in the docking station.</li> </ul>
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Maintenance may only be carried out by:

Area	max. 1 year	2 years
Practice operation	Block Optic or a sepcialist company Authorised by Block Optic	Block Optic or a sepcialist company Authorised by Block Optic
Clinic operation	Block Optic or a specialist company authorised by Block Optic	Block Optic or a specialist company authorised by Block Optic

## 12.2 Cleaning and care of the Block patient chairs


It is recommended to clean the chair cover daily with a lukewarm damp cloth and a microfibre cloth. Please do not use solvents, chlorides, polishes, chemical cleaners or wax polishes. Please remove ink stains immediately, do not use agents containing oil or grease.

Only the artificial leather cleaner approved by Block Optic may be used for cleaning the patient chairs.

Aggressive cleaners or disinfectants containing solvents destroy the artificial leather surface.

This cleaner is included with the first delivery of your unit (chair) and can be reordered under art. no. 00 40 0001.

For the cleaning of chairs that do not come from the Block company, please enquire about the cleaning possibilities with your supplier.

	<p><b>IMPORTANT</b></p> <p>Only the cleaning agent approved by Block may be used to clean the Block patient chairs.  <b><u>In case of proven disregard, the warranty claims expire.</u></b></p>
--	---

This type of cleaning for the patient chair does not correspond to disinfection.

## 12.3 Disinfection of Block patient chairs


The surface materials of the chairs with the cover fabric Skai® and Skai® Pandoria Plus are antibacterial and suitable for the medical sector.

If you still wish to disinfect the surface of the Skai® cover, we recommend using Meliseptol® Foam Pure or Meliseptol® Rapid, for example. Please contact B. Braun Melsungen AG (<https://www.bbraun.de>) or the Hornschuch Group, Continental for Skai® (<https://www2.hornschuch.com>) for the exposure time of Meliseptol® Foam Pure or Meliseptol® Rapid.

When disinfecting with e.g. Meliseptol® Foam Pure or Meliseptol® Rapid and not completely reabsorbing the residual disinfecting liquid, damage may occur on the surface.

Before disinfecting, you should nevertheless test the agent for compatibility in an inconspicuous place.

## 13 Disposal!

	<p><b>DISPOSAL!</b></p> <p>All electrical appliances must be disposed of separately from household waste. For correct disposal, contact Block Optic.  This ensures that valuable raw materials are not wasted and harmful substances are not released into the environment.</p>
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## 14 EC Declaration of Conformity

For the following patient chairs and patient stools from Block Optic Design GmbH.

### **Zac® , C<sup>ara</sup>T®, Vito®, Neo®**

is hereby confirmed to comply with the requirements laid down in the following Council Directives on the approximation of the laws of the Member States:

89/336/EWG	electromagnetic compatibility and
93/42/EWG	Medical devices.

The following standards were used to assess the products:

EN 60601-1:2006	Medical electrical equipment
EN 55011	Emitted interference and
IEC 801	Interference immunity.

This declaration becomes the responsibility of the manufacturer:

Block Optic Design GmbH.  
Semerteichstr. 60  
44141 Dortmund  
Deutschland

These devices are marked with:



Issued by:

J. Grawunder, managing director  
Dortmund, 1. December 2021

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(place,date)

A handwritten signature in black ink, consisting of a series of loops and strokes, positioned above a horizontal line.

(valid signature)





# ISO 9001:2015

**BLOCK Optic Design GmbH**

Semerteichstraße 60, 44141 Dortmund, Deutschland  
(further locations see annex)

Certificate registration no.:	50716344/1	Certificate valid from:	2019-07-02
Validity of previous certificate:	2019-07-01	Certificate valid to:	2022-07-01

DEKRA Certification GmbH \* Handwerkstraße 15 \* D-70565 Stuttgart \* [www.dekra-certification.de](http://www.dekra-certification.de)

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## Annex to the Certificate No. 50716344/1

valid from 2019-07-02 to 2022-07-01

The following locations belong to the certificate above:

	Headquarter	Certified location	Scope of certification
	BLOCK Optic Design GmbH	Semerteichstraße 60 44141 Dortmund Deutschland	Development and production of ophthalmic and optical examination units and chairs
	Subsidiaries	Certified locations	Scope of certification
1.	BLOCK Optic Design GmbH	Industriestraße 6 46342 Velen Deutschland	Development and production of ophthalmic and optical examination units and chairs

*A. Nagel*  


Dr. Gerhard Nagel  
 DEKRA Certification GmbH, Stuttgart, 2019-07-02

DEKRA Certification GmbH \* Handwerkstraße 15 \* D-70565 Stuttgart \* [www.dekra-certification.de](http://www.dekra-certification.de)