

# Ophthalmic unit

INSTRUCTIONS FOR USE

## FUSION



COSTRUZIONE STRUMENTI OPTALMICI

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## 1 INTRODUCTION

The ophthalmic unit is the result of a long research period, conducted by experts to give the product technical innovation, quality and design.

Ophthalmic units are characterized by their practicality compatible with a wide range of devices for the modern ophthalmological diagnostics. The careful selection of materials and the wide range of colours and customizations available allow the creation of a harmonious and comfortable work environment both for the operator and the patient.

### 1.1 SYMBOLS

Within the instructions for use, on the package or on the ophthalmic unit, the following symbols may be displayed:

Symbol	Meaning
	Caution
	Danger of electric shock
	Read the instructions for use
	General obligation
	Note. Useful information for the user
	General prohibition sign
	Manufacturer
	CE Marking (EU Regulation 2017/745)



Medical device



Waste disposal in compliance with Directives 2012/19/EU (WEEE) and 2011/65/EU (RoHS II)

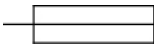
1.1.1 OPTHALMIC UNIT SYMBOLS

Symbol

Meaning



Type B applied part



Fuse

1.2 GENERAL WARNINGS

THESE INSTRUCTIONS FOR USE REFER TO THE FUSION OPTHALMIC UNIT ("OPHTHALMIC UNIT" FROM NOW ON).

THE OPTHALMIC UNIT IS A MEDICAL DEVICE DESIGNED FOR USE IN COMBINATION WITH OTHER MEDICAL DEVICES. THE OPTHALMIC UNIT ALLOWS THE POSITIONING OF MEDICAL DEVICES ON THE TABLE TOP.



For further information on the intended use of the ophthalmic unit, please refer to the paragraph **"Intended use" on page 10.**



In the instructions for use, the term "device" only identifies the medical devices placed on the ophthalmic unit.

In some paragraphs taken from the current and applicable legislation, the term "device" can also identify the ophthalmic unit. This exception is signalled by an information note within the specific paragraph.

THE ORIGINAL TEXT IS IN ITALIAN.



Before using the ophthalmic unit or if you don't use it since a long time, read these instructions carefully. Follow the directions provided in the instructions for use and reported on the ophthalmic unit.



Always keep these instructions for use in an accessible and nearby place. If you decide to sell this ophthalmic unit to others, remember to include these instructions, complete and readable.



Keep the original packaging, as the free-of-charge service does not cover any damage resulting from inadequate packaging of the ophthalmic unit when it is sent back to an authorised Service Centre.



Before using the ophthalmic unit, check that there are no damages due to transport or inappropriate storage, which could affect the correct functioning of the ophthalmic unit.



It is forbidden to reproduce, totally or partially, texts or images contained in these instructions for use without the written authorization of the Manufacturer.



The Manufacturer reserves the right to modify the contents of the instructions for use without advance notice.

### 1.3

## NORMATIVE REFERENCES



In this paragraph, the term "device" identifies the ophthalmic unit.

#### 1.3.1

### EU DIRECTIVES

- Regulation (EU) 2017/745 of the European Parliament and of the Council of 5th April 2017 on medical devices
- Directive 2012/19/EU on waste from electrical and electronic equipment (WEEE)

#### 1.3.2

### TECHNICAL STANDARDS

- IEC 60601-1: 2005 + A1:2012 - Medical electrical equipment - Part 1: General requirements for basic safety and essential performance
- EC 60601-1-2:2014 Edition 4 - Collateral Standard: Electromagnetic disturbances - Requirements and tests
- UNI CEI EN ISO 14971:2012 Medical devices. Application of risk management to medical devices

#### 1.3.3

### QUALITY MANAGEMENT SYSTEM STANDARDS

- UNI CEI EN ISO 13485:2016 Medical devices. Quality management systems - Requirements for regulatory purposes

### 1.4

## WARRANTY

The Manufacturer is responsible for the ophthalmic unit conformity to the Regulation (EU) 2017/745 of April 5th 2017 for:

- features
- safety and reliability
- CE marking

The Manufacturer refuses any responsibility for:

- installation and start-up operations not carried out in compliance with the indications and precautions reported in the instructions for use
- use of the ophthalmic unit that fails to comply with the indications and precautions reported in the instructions for use
- use of non-original accessories or spare parts
- repairs and safety checks carried out by personnel not being competent, qualified, trained and authorized by the Manufacturer
- failure of the electrical system of the premises where the ophthalmic unit is installed to comply with the technical standards, laws and regulations in force in the country where the ophthalmic unit is installed
- direct or indirect consequences or damage to objects or persons caused by the misuse of the ophthalmic unit or erroneous clinical analysis originating from its use

The Manufacturer guarantees the ophthalmic unit for 24 months after the invoice date. The Warranty includes the substitution, at the Manufacturer's or an Authorized Service Centre, of components and materials and the relative labour. Shipping and transport fees are to be paid by the client.

The warranty does not cover:

- repairs of faults originating from natural disasters, mechanical shocks (fall, hit, etc), electrical system faults, negligence, improper use, maintenance or reparations carried out with non-original materials
- any other method of improper use and/or not foreseen by the Manufacturer
- damage caused by service failings or inefficiencies due to causes or circumstances out of the Manufacturer's control
- wear and/or deterioration of parts caused by normal use of the ophthalmic unit and failures caused by misuse of the ophthalmic unit or by maintenance carried out by personnel not authorized by the Manufacturer

To request maintenance interventions or technical information about the ophthalmic unit, contact an authorised Service Centre or the ophthalmic unit Manufacturer directly.



The client will not be refunded for damages caused by the ophthalmic unit stoppage.

## 1.5

### MANUFACTURER IDENTIFICATION

C.S.O. SRL  
Costruzione Strumenti Oftalmici  
Via degli Stagnacci, 12/E  
50018 - Scandicci (FI) - ITALY  
phone: +39-055-722191 - fax +39-055-721557  
cso@csoitalia.it  
[www.csoitalia.it](http://www.csoitalia.it)



**2****SAFETY****2.1****SAFETY WARNINGS****DANGER**

Danger of electric shock. Do not let water fall on the ophthalmic unit. Do not immerse the ophthalmic unit in water or other liquids.

**DANGER**

Danger of electric shock. If the power cables are damaged, have them replaced at an authorized Service Centre, in order to prevent any risk.

**DANGER**

Danger of electric shock. Unplug the power supply cable from the power socket before disinfecting or cleaning the ophthalmic unit and before any maintenance operation.

**CAUTION**

Do not use the ophthalmic unit if visibly damaged. Periodically inspect the ophthalmic unit and connection cables to check for any signs of damage.

**CAUTION**

Always keep the ophthalmic unit out of the reach of children.

**CAUTION**

Danger of stumbling and falling. Do not leave loose cables which may represent an obstacle or danger for the patient or operator.

**CAUTION**

Risk of electric shock. Do not touch the power supply cables with wet hands.

**CAUTION**

Risk of electric shock. Do not leave the power supply cables in contact with sharp edges or cutting parts. Always collect and fasten the power supply cables.

**CAUTION**

If you notice a strange odour or smoke coming out of the ophthalmic unit or if it emits heat, turn the ophthalmic unit off immediately. Do not continue to use a damaged ophthalmic unit or damaged part. Danger of injuries.

**CAUTION**

**The power grid shall have a residual-current device ( $I_{\Delta n}=30\text{mA}$ ) and a circuit breaker ( $V_n=230\text{V}$ ) to protect the ophthalmic unit. Place the ophthalmic unit so that the power socket is easily accessible.**



It is forbidden to carry out any maintenance operation on the ophthalmic unit not mentioned in the instructions for use.



It is forbidden to place the ophthalmic unit in humid, dusty places or environments subject to sudden variations in temperature and humidity.



It is forbidden to use any extension cable not authorised by the ophthalmic unit Manufacturer.



It is forbidden to use the ophthalmic unit outdoors.



The ophthalmic unit does not generate and does not receive any electromagnetic interference if placed near other electrical appliances. No preventive or corrective actions are required.



The ophthalmic unit is classified following the technical standard IEC 60601-1: 2005 + A1: 2012 as an electro-medical device and is therefore suitable for installation in the patient area.



Patient area: any volume in which a patient with applied parts may intentionally or unintentionally come into contact with other electromedical devices or electromedical systems, masses or foreign masses, or other people in contact with these elements.

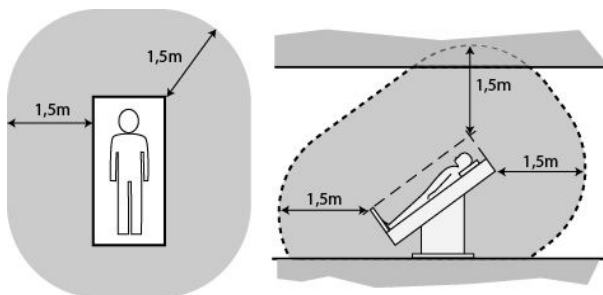


Fig. 1 - Patient area

## 2.2 OPHTHALMIC UNIT IDENTIFICATION

### 2.2.1 REGISTRATION DATA IN THE LIST OF MEDICAL DEVICES

The ophthalmic unit registration data can be verified on the Italian Ministry of Health website at this page:

[Ministero della Salute - Ricerca dispositivi](#)

### 2.2.2 OPHTHALMIC UNIT DATA PLATE

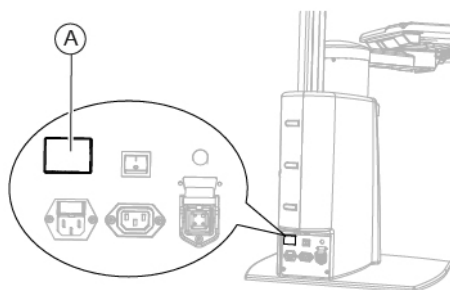


Fig. 2 - Data plate position

Pos	Description
A	Ophthalmic unit data plate



Fig. 3 - Ophthalmic unit data plate

## 2.3 INTENDED USE

The FUSION model ophthalmic unit allows the positioning of two medical devices on the table top. The table top sliding allows to easily and efficiently switch from one device to another. Several accessories can be installed on the column to complement the ophthalmic unit (for example: ceiling lamp with three LED lights, eye chart projector, etc.).

Main features of the ophthalmic unit include:

- functions complete programmability
- movable table top
- possibility to lock the table top in any working position
- possibility to electrically adjust the height position of the table top (optional)
- possibility to control the room lighting (ROOM function), auxiliary functions and more from the workstation.

The chair lifting is controlled directly from the control panel positioned on the structure of the ophthalmic unit.

Upon request, the ophthalmic unit is also available with an electrically-lifted table top. Upon request, the chair is also available with an electrically-controlled front-back movement.

Other accessories can be connected to the ophthalmic unit via the analogue or digital interfaces.

The accessories (printer, modem, scanner, etc) shall be installed outside the patient area.



The accessories shall comply with standard IEC 60950-1 Information technology equipment - Safety - Part 1: General requirements.

If the accessories are installed in the patient area, it is necessary to install an isolation transformer that complies with standard IEC 60601-1:2005 + A1:2012 - Electromedical equipment - Part 1: General requirements for basic safety and essential performance.



The ophthalmic unit shall only be used by specialist practitioners and professionals (such as optometrists), within the limits of the law and regulations for the exercise of the profession.

## 2.4 MEDICAL DEVICE CLASSIFICATION



In this paragraph, the term "device" identifies the ophthalmic unit.

Technical data	Value
Classification in compliance with annexe VIII of Regulation (EU) 2017/745	Class I

## 2.5 ELECTROMEDICAL DEVICE CLASSIFICATION



In this paragraph, the term "device" identifies the ophthalmic unit.

Classification based on the IEC 60601-1:2005 + A1:2012 technical standard

Technical data	Value
Type of protection against direct and indirect contacts	Class I
Applied parts	Type B
Protection degree against humidity	IP20 (no protection against infiltration by liquids)
Sterilisation or disinfection method	This device can be disinfected
Degree of protection in the presence of anaesthetics or inflammable detergents	No protection
Degree of electrical connection between device and patient	Devices with part applied to the patient
Use conditions	Continuous functioning

2.6 ENVIRONMENTAL CONDITIONS

Phase	Technical data	Min	Max
Transport	Temperature	-10°C	+60°C
	Atmospheric pressure	500 hPa	1060 hPa
	Relative humidity	10%	90%
Storage	Temperature	-10°C	+55°C
	Atmospheric pressure	700 hPa	1060 hPa
	Relative humidity	10%	95%
Use	Temperature	+15°C	+30°C
	Atmospheric pressure	700 hPa	1060 hPa
	Relative humidity	30%	75%



**CAUTION**  
Danger of damage to the ophthalmic unit. During transport and storage, the ophthalmic unit may be exposed to the environmental conditions described for a maximum period of 15 weeks, if kept in the original package.

## 2.7

## DISPOSAL AT THE END OF THE USEFUL LIFE



In this paragraph, the term "device" identifies the ophthalmic unit.



**Warnings for the correct disposal of the device in accordance with Directive 2012/19/EU and Directive 2011/65/EU relating to the reduction of the use of hazardous substances in electrical and electronic equipment, as well as waste disposal.**

**At the end of its useful life, the device shall not be disposed of as urban waste. The device may be delivered to designated waste sorting centres set up by the municipal administration or to dealers that offer this service. Separately disposing of an electrical device prevents possible negative consequences for the environment and health, caused by its improper disposal, and lets the materials it is made of to be recycled so as to achieve significant savings of energy and resources. The symbol of the crossed-out wheeled bin is shown on the data plate of the device. The graphic symbol of the crossed-out wheeled bin indicates the obligation to separately collect and dispose of the electrical and electronic equipment at the end of their useful life.**



The user has to consider the effects potentially dangerous for the environment and the human health originating from an improper disposal of the whole device or its parts.

In case the user wishes to dispose of the device used at the end of its useful life, the Manufacturer facilitates the possibility of its reuse and the recovery and recycling of the materials contained therein. This to prevent the release of hazardous substances into the environment and to promote conservation of natural resources. Before disposing of the device, it is necessary to take into consideration the European and national regulations that order what follows:

- not to dispose as urban waste but collect it separately and address to a firm specialized in the disposal of electrical and electronic equipment or to the local administration in charge for waste collection
- in the event that a new device is purchased from the same Manufacturer to replace an old one placed on the market before 13 August 2005, equivalent and with the same functions of the new device, the Distributor or Manufacturer are legally required to collect the old device
- if the user decides to dispose a used device, put on the market after the 13th August 2005, the Distributor or the Manufacturer have to collect it
- the Manufacturer provides for the processing and recycling of the used device, joining a technological waste consortium and paying for the corresponding costs.



The Manufacturer is available to provide the user with information regarding the dangerous substances contained in the device, the recycling of these substances and the potential reuse of the used device.

Strict administrative sanctions for transgressors are provided for by law.

For specific information about the disposal in countries other than Italy, contact the local Dealer.

## 2.8 MANUFACTURER DECLARATIONS

### 2.8.1 ELECTROMAGNETIC EMISSIONS



The copy of the documentation of the electromagnetic compatibility (EMC) can be demanded at any time to C.S.O. Costruzione Strumenti Oftalmici SRL.

The ophthalmic unit complies with all the electromagnetic compatibility (EMC) requirements established by the standard CEI EN 60601-2-40 "Medical electrical equipment".

The ophthalmic unit can be used in an electromagnetic environment where the disturbances of radio-frequency irradiated fields are controlled.



The ophthalmic unit shall not be used near other devices that are not components of the device itself. If it is necessary to do so, ensure that their operation in this configuration is regular and safe.

If the ophthalmic unit performances are affected by other appliances, remove the cause of the interference. For any doubts or clarifications, contact the Manufacturer.



Do not use devices other than those designated by the Manufacturer as parts of the ophthalmic unit. Other devices could cause increased electromagnetic emissions and a decreased immunity of the ophthalmic unit. For any doubts or clarifications, contact the Manufacturer.



### 3 DESCRIPTION

### 3.1 SUPPLY DESCRIPTION

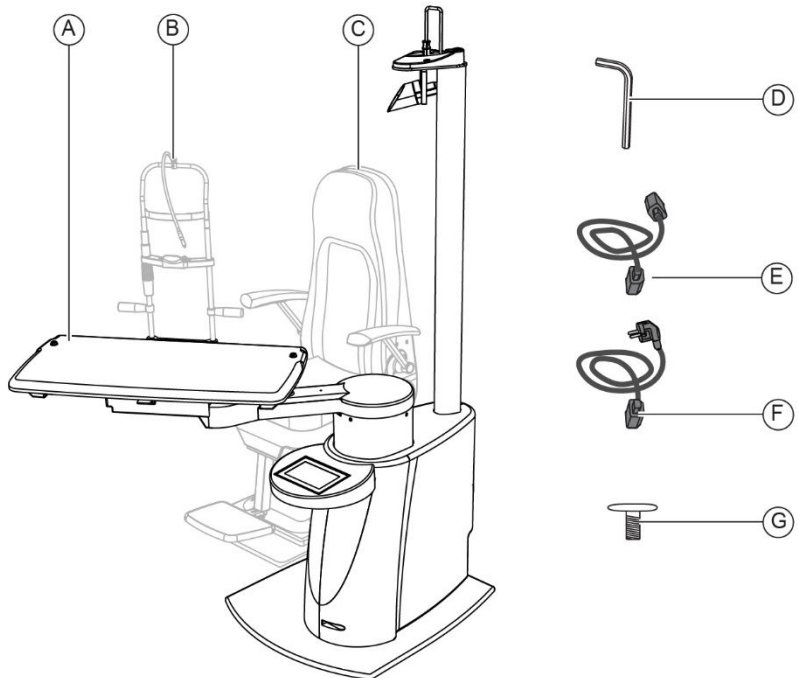


Fig. 4 - Supply composition

Pos	Name		Description
A	Ophthalmic unit		Comprised of a two-position sliding table top, an adjustable intensity LED spotlight, a projector support and a column. The structure is complete with circuit board, protective shells and control panel. The control panel installed on the ophthalmic unit is touch-screen and equipped with a 7" display.
B	Chin rest	Optional	Adjustable height. Adjustable distance between chin and forehead. Adjustable chin cup.
C	Chair	Optional	Chair equipped with electric elevation.
D	Hex wrench		
E	Connection cable of the chair		For connecting the chair to the ophthalmic unit.
F	Power supply cable of the ophthalmic unit		For connecting the ophthalmic unit to the power supply.
G	Handle		To lift the counterweight inside the structure of the ophthalmic unit.



When installing the ophthalmic unit, the handle may have been left in place on the counterweight.  
The handle allows easier positioning of the counterweight.  
Whenever possible, make sure the handle is placed on the counterweight.  
Leave the handle on the counterweight. Always keep the handle.



Optional: accessory not provided with the basic supply.

On specific request, the ophthalmic unit can be customized with:

- version of the FUSION ophthalmic unit with table top opening on the left
- accessories for positioning medical devices on the table top (sliding plate and guides)
- chair with electrical elevation
- electrically-lifted table top
- chair equipped with manually or electrically-controlled front-back movement
- ceiling light with three LEDs (for column)
- self-balancing phoropter arm
- phoropter arm support
- various supports for column
- hook for ophthalmic electrode cap
- table top for LCD monitor (for column)
- digital video system
- control panel equipped with tonometer shelf
- special support for chin rest
- desks and drawers
- finishing with special materials



For the list of available accessories and models, contact the Manufacturer or the local Distributor.

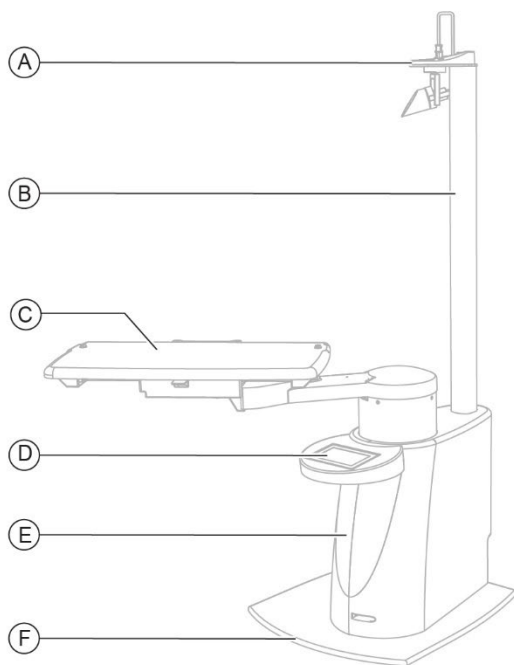
**3.1.1 OPTHALMIC UNIT**

Fig. 5 - FUSION ophthalmic unit

Pos	Description
A	LED spotlight and projector support
B	Column
C	Table top
D	Control panel
E	Structure complete with protective shells
F	Base

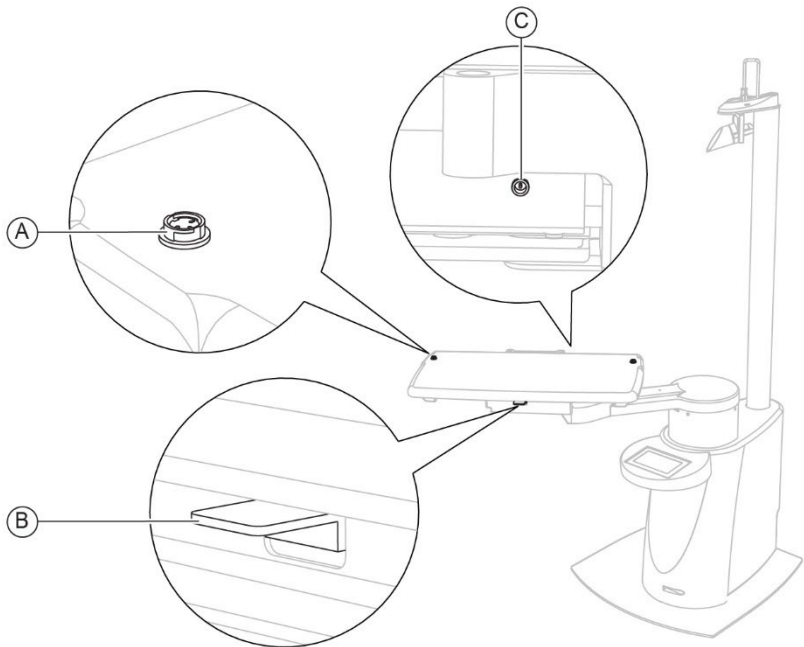


Fig. 6 - Table top

Pos	Description
A	Power socket of the device placed on the table top
B	Mechanical lever for the table top movement
C	Power socket of the chin rest fixation point (if any)



The table top is equipped with a sensor (leg-protection device) that prevents the patient's legs to get crushed during the chair movement. Mechanical controls on the chair allow the user to control other chair movements.

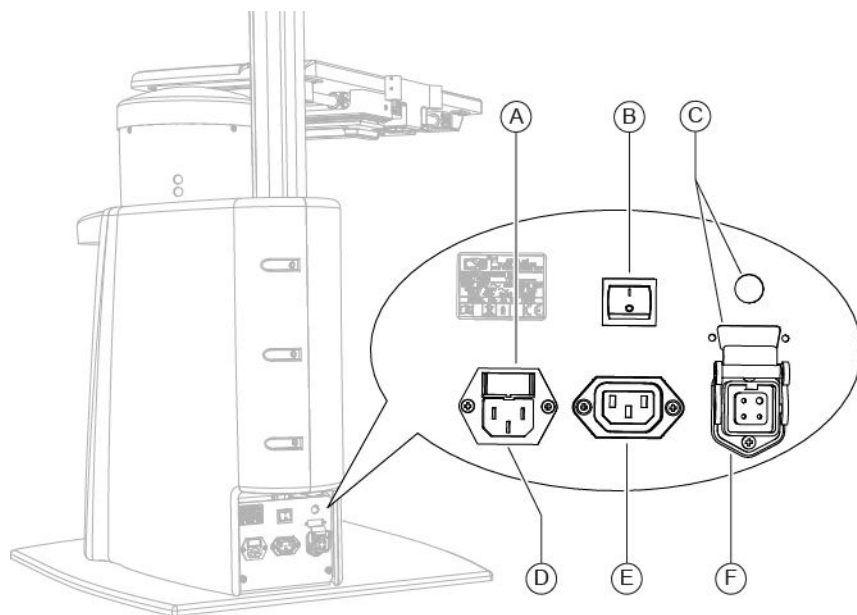


Fig. 7 - Electrical panel

Pos	Description
A	Fuse drawer
B	Power switch
C	Auxiliary sockets
D	Power supply outlet for ophthalmic unit
E	Auxiliary power supply outlet
F	Power socket of the chair

### 3.1.2 CONTROL PANEL

#### 3.1.2.1 START PAGE

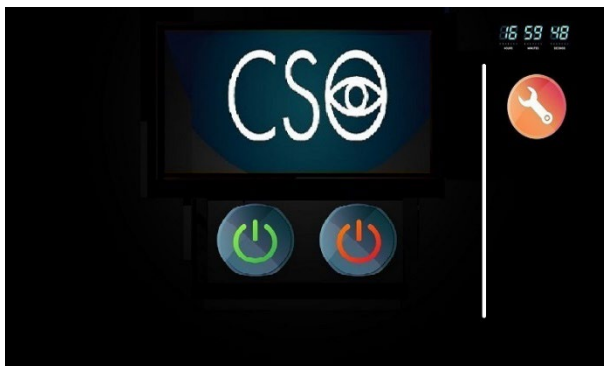







Fig. 8 - Start page

Icon	Name	Description
	Logo display box	It displays the CSO logo or the logo set by the user.
	Power on button	It allows the user to turn on the control panel of the ophthalmic unit.
	Power off button	It allows the user to turn off the control panel of the ophthalmic unit and return the chair to the rest position.
	Setup button	It allows the user to access the settings to customize and program the functions of the ophthalmic unit.
	Date and time display box	It allows the user to display the current date and time.

### 3.1.2.2 SET UP PAGE

The control panel set up page allows the user to set up all the functions available on the ophthalmic unit and the related parameters.



For the description of the control panel set up page, refer to the service manual. The set up of the ophthalmic unit functions shall only be carried out by qualified and trained technical personnel.

### 3.1.2.3 MAIN PAGE

The main page of the control panel allows the activation, deactivation and control of all the functions that can be set through the set up page of the control panel.



For the set up of the ophthalmic unit functions, refer to the service manual. The set up of the ophthalmic unit functions shall only be carried out by qualified and trained technical personnel.



The buttons and boxes vary by the ophthalmic unit configuration and may not be present or may differ from illustrations.

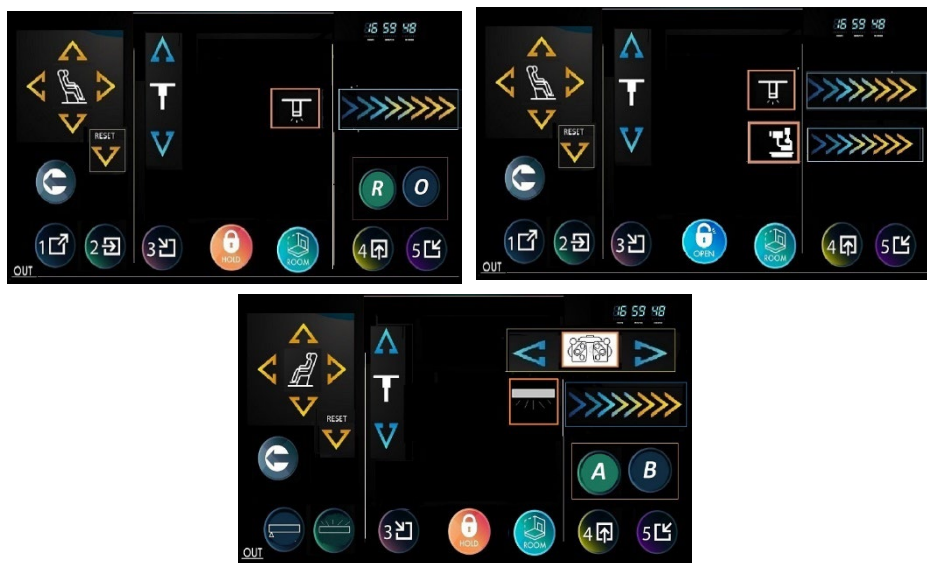







Fig. 9 - Main page



Icon	Name	Description	Notes
	Date and time display box	It allows the user to display the current date and time.	
	Control buttons of the chair lifting and front-back movement	It allows the user to move the chair up, down, forward and backward.	The front-back movement control is available only if the chair is equipped with an electric front-back movement mechanism.
	RESET button	It allows the user to return the chair to the rest position.	
	Button for moving between the pages of the control panel	It allows the user to go back to the previous page than the one displayed on the control panel.	
	Control button of the auxiliary output 1	It allows the user to enable/disable the auxiliary output 1.	The button is active only if the output has been set up through the control panel.
	Control button of the auxiliary output 2	It allows the user to enable/disable the auxiliary output 2.	The button is active only if the output has been set up through the control panel.
	Control button of the auxiliary output 3	It allows the user to enable/disable the auxiliary output 3.	The button is active only if the output has been set up through the control panel.
	Control button of the auxiliary output 4	It allows the user to enable/disable the auxiliary output 4.	The button is active only if the output has been set up through the control panel.
	Control button of the auxiliary output 5	It allows the user to enable/disable the auxiliary output 5.	The button is active only if the output has been set up through the control panel.

Icon	Name	Description	Notes
	Control buttons of the optional auxiliary outputs R-O	It allows the user to enable the optional auxiliary outputs R (for retinoscope use) and O (for ophthalmoscope use).	<p>The button can only be used for low voltage devices from 0 to 20 V.</p> <p>The button is active only if the output has been set up through the control panel.</p> <p>The activation of one of the two outputs deactivates the other.</p>
	HOLD button	It allows the user to lock the table top in place.	
	OPEN button	It allows the user to unlock the table top.	
	ROOM button	It allows the user to activate/deactivate the room lighting.	This function is only available if the electrical system of the room is connected to the specific relay on the ophthalmic unit.
	Control button of the table top lifting	It allows the user to move the table top up or down.	This function is only available if the table top is equipped with an electric lifting mechanism.
	Light intensity control slider	It allows the user to adjust the light intensity of the related lighting accessory.	
	LED spotlight control button	It allows the user to turn on/off the LED spotlight.	

Icon	Name	Description	Notes
	Ceiling lamp control button	It allows the user to turn on/off the main light of the ceiling lamp.	This function is available only if the accessory is installed on the ophthalmic unit. The button is active only if the function has been set up through the control panel.
	Control button of the spot light of the ceiling lamp	It allows the user to turn on/off the spot light of the ceiling lamp.	This function is available only if the accessory is installed on the ophthalmic unit. The button is active only if the function has been set up through the control panel.
	Control button of the upper light of the ceiling lamp	It allows the user to turn on/off the upper light of the ceiling lamp.	This function is available only if the accessory is installed on the ophthalmic unit. The button is active only if the function has been set up through the control panel.
	Control button of the phoropter arm	It allows the user to move the phoropter arm back and forth.	The button is active only if the function has been set up through the control panel. This function is only available if the phoropter arm is equipped with an electric front-back movement mechanism.
	Control button of the slit lamp	It allows the user to turn on/off the slit lamp.	The button is active only if the slit lamp is installed on the table top and connected to the ophthalmic unit.

### 3.1.3 CHIN REST (OPTIONAL)

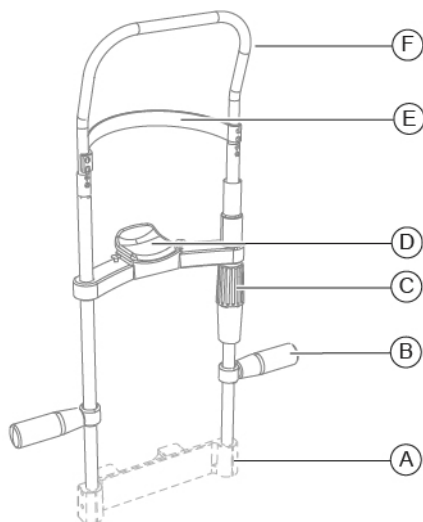


Fig. 10 - Chin rest

Pos	Description
A	Chin rest support (*)
B	Chin rest handle
C	Chin cup adjustment knob
D	Chin cup
E	Forehead rest
F	Chin rest structure



(\*) The chin rest support can be different depending on the table top where the chin rest will be installed.



For instructions on using the chin rest, read the instructions for use of the device placed on the table top. Chin rest models might differ depending on the device used.

### 3.1.4 CHAIR (OPTIONAL)

Different chair models are available according to the customer's choice. The base with telescopic column allows the height adjustment of the chair. In some models, the adjustment of the front-back position and the height position of the chair can be controlled directly from the control panel of the ophthalmic unit.



For instructions on using the chair, read the instructions for use of the chair.

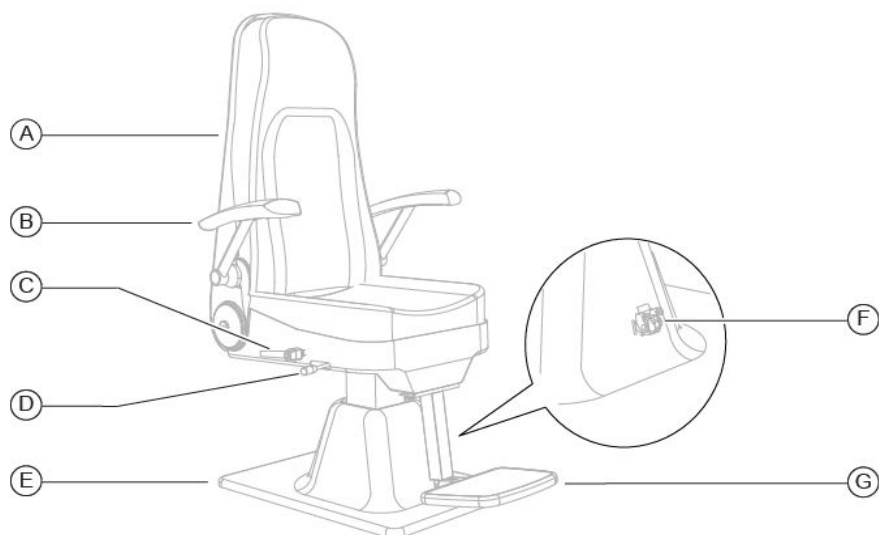


Fig. 11 - Chair

Pos	Description
A	Chair
B	Arm
C	Lever for chair rotation
D	Lever for backrest reclining
E	Base equipped with lifting mechanism
F	Outlet for connecting the chair to the ophthalmic unit
G	Footrest

3.2 TECHNICAL DATA

Technical data	From	A
Supply voltage	90V	264V
Power frequency	47 Hz	63 Hz
Network fuses	4A T 5x20 mm	8A T 5x20 mm
Auxiliary sockets (chair and devices)	115 Vac 50 Hz	240 Vac 60 Hz
Maximum power absorbed by the auxiliary sockets	100 Va	100 Va
Maximum power absorbed by the ophthalmic unit	600 Va	600 Va
Voltage for devices on the table top	From 0 Vac/Vdc to 24 Vac/Vdc for Ophthalmometer and Slit lamp From 0 Vac/Vdc or 24 Vac/Vdc for Chin rest fixation point	

Description	Value
Weight without electrical elevation	160 kg
Weight with electrical elevation	160 kg
Maximum size (LxDxH)	160x160x190 cm
Maximum total weight supported by the table top	40 kg

### 3.3 OPHTHALMIC UNIT OVERALL DIMENSIONS

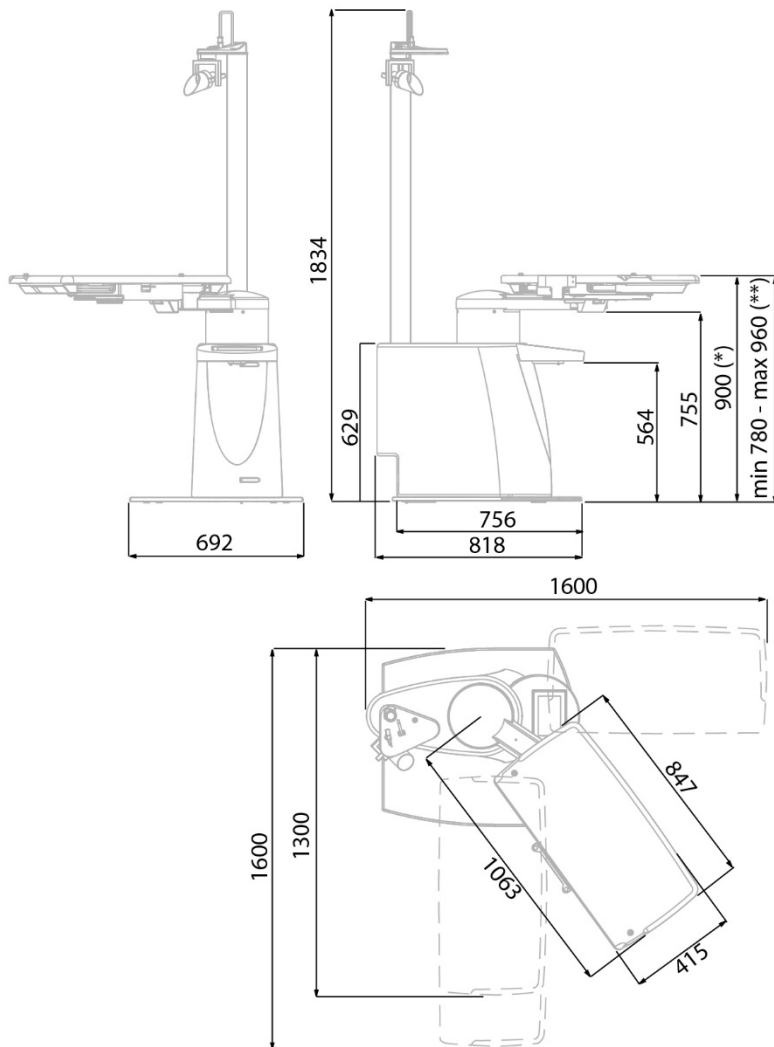


Fig. 12 - Overall dimensions of the ophthalmic unit

(\*) No elevation for the table top

(\*\*) Table top with electrical elevation

3.4 OPTHALMIC UNIT WEIGHT

Version without electrically-lifted table top

Overall dimensions		Total weight	
160x160x190 cm		160 kg	
Component	Size (cm)	Weight (kg)	Number of operators required for handling
Counterweight (x2)	8x8x38	18.7 (x2)	2
Base	70x76x68	75	3
Structure	74x34x61	8	1
Arm	130x45x30	34.6	2
Column	8x8x130	5	1

Version with electrically-lifted table top

Overall dimensions		Total weight	
160x160x190 cm		160 kg	
Component	Size (cm)	Weight (kg)	Number of operators required for handling
Counterweight	8x8x38	18.7	1
Motor	13x11x38	8	1
Base	70x76x68	90.5	4
Structure	74x34x30	8	1
Arm	130x45x25	37.8	2
Column	8x8x130	5	1



## 4 INSTALLATION

### 4.1 HOW TO INSTALL THE OPHTHALMIC UNIT



For the installation procedure of the ophthalmic unit, refer to the service manual. The installation of the ophthalmic unit shall only be carried out by qualified and trained technical personnel.

### 4.2 HOW TO CHOOSE THE POSITION OF THE DEVICES ON THE TABLE TOP



The ophthalmic unit allows to place two devices on the table top. The maximum total weight supported by the table top is 40 kg.



In the case of very heavy devices (weighing more than 20 kg), with a 230 V  $\pm 10\%$  power supply:

- If the ophthalmic unit is equipped with table top opening on the right, the device with a 230 V  $\pm 10\%$  power supply shall be positioned on the right side of the table top.
- If the ophthalmic unit is equipped with table top opening on the left, the device with a 230 V  $\pm 10\%$  power supply shall be positioned on the left side of the table top.

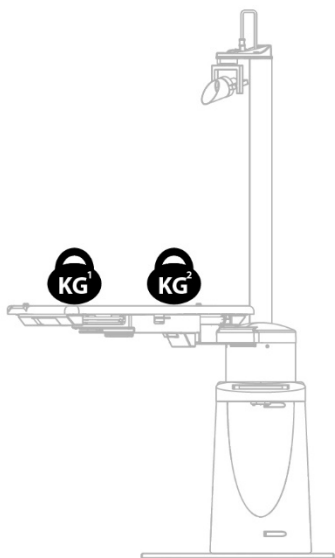


Fig. 13 - Weight supported by the table top



The sum of the weights of the devices shall not exceed the maximum total weight supported by the table top of the ophthalmic unit.



Never place the heavier device on the external part of the table top.

- 1 To choose the devices position on the table top of the ophthalmic unit, first consider their individual weight.  
If a device weighing 20 kg is positioned on the internal part of the table top<sup>(2)</sup>, the maximum weight supported by the external part of the table top<sup>(1)</sup> is 20 kg.  
If a device weighing 30 kg is positioned on the internal part of the table top<sup>(2)</sup>, the maximum weight supported by the external part of the table top<sup>(1)</sup> is 10 kg.

### 4.3 HOW TO ASSEMBLE THE INSTALLATION ACCESSORIES OF THE DEVICE ON THE TABLE TOP



The ophthalmic unit allows to place two devices on the table top. Some devices require assembling the installation accessories on the table top of the ophthalmic unit.



Before assembling the installation accessories of the device on the table top, choose the position of the devices to be installed on the table top.

Follow the procedure described in paragraph **"How to choose the position of the devices on the table top"** on page 31.

If required for the chosen device, assemble the installation accessories of the device on the table top of the ophthalmic unit.



For the assembly procedure of the installation accessories of the device on the table top, refer to the service manual of the ophthalmic unit. The assembly of the installation accessories of the device on the table top shall only be carried out by qualified and trained technical personnel.

### 4.3.1 HOW TO PLACE THE STICKER PAD FOR INSTALLING THE DEVICE ON THE TABLE TOP

If the sticker pad is not already placed on the table top and is required for installing the device, place the sticker pad.

- 1 Carefully clean the surface of the table top.
- 2 Verify the sticker pad position respectively to the central axis (A).
- 3 Remove the protective film. Place the sticker pad between the two guides and the sliding plate.



Respect the indicated distances while placing the sticker pad on the table top.

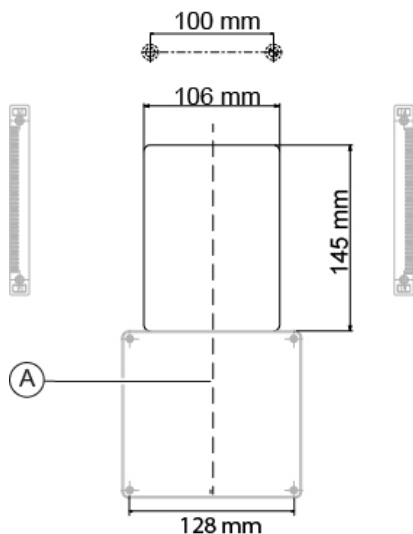


Fig. 14 - Distances for installing the sticker pad

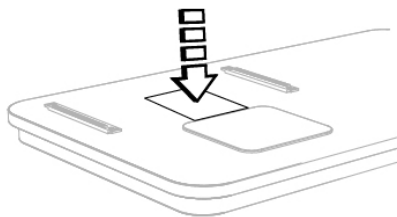


Fig. 15 - Place the sticker pad



For more information on using the sticker pad, refer to the instructions for use of the selected device.

#### 4.4 HOW TO INSTALL THE CHIN REST ON THE TABLE TOP



Before positioning the chin rest, choose the position of the devices to be installed on the table top.

Follow the procedure described in paragraph **"How to choose the position of the devices on the table top"** on page 31.



Only some devices need to be used in combination with the chin rest. Before positioning the chin rest, check whether and which devices require a chin rest.

The chin rest shall be placed on a specific support which is fixed to the table top. The table top is composed of a moving upper part (A), equipped with a sliding mechanism, and a fixed lower part (B), which connects the table top to the arm of the ophthalmic unit.

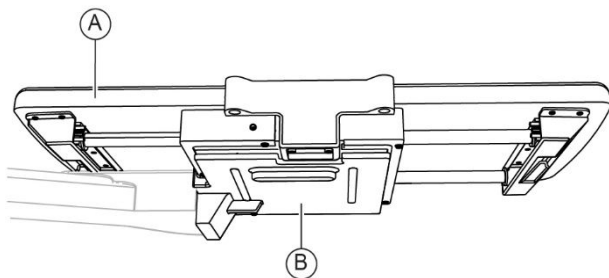


Fig. 16 - Table top

Depending on the desired type of positioning, the chin rest support is installed on the upper or lower part of the table top. There are two positioning methods, based on the devices chosen to be installed on the table top.

- Mobile positioning: the chin rest support is installed on the lower part of the table top. The devices are installed on upper part of the table top. When the user slides the table top with the devices on it to the right or left, the device chosen to carry out the examination is positioned in front of the chin rest, which remains fixed. In this way, all the devices installed on the table top can be positioned in front of the chin rest.

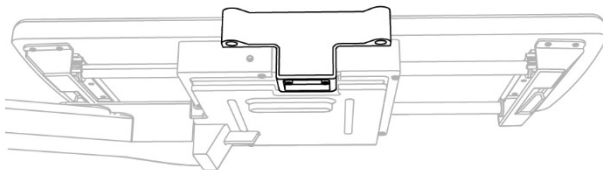


Fig. 17 - Chin rest support (Mobile positioning)

- Fixed positioning: the chin rest support is installed on the upper part of the table top. The devices are installed on upper part of the table top. When the user slides the table top with the devices on it to the right or left, the chin rest slides together with the table top. In this way, the chin rest is always positioned in front of the same device. This solution is recommended when there are devices on the table top that do not require a chin rest.

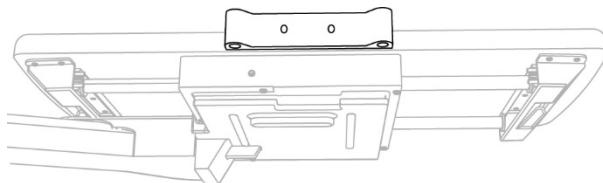


Fig. 18 - Chin rest support (Fixed positioning)

- 1 Choose the desired type of positioning, based on the devices chosen to be installed on the table top.
  - 2 Install the chin rest support.
- For mobile positioning, follow the procedure described in paragraph **"Installing the chin rest support - Mobile positioning" on page 37.**
  - If the ophthalmic unit is equipped with table top opening on the right, for fixed positioning follow the procedure described in paragraph **"Installing the chin rest support - Fixed positioning [Version equipped with table top opening on the right]" on page 39.**

- If the ophthalmic unit is equipped with table top opening on the left, for fixed positioning follow the procedure described in paragraph **"Installing the chin rest support - Fixed positioning [Version equipped with table top opening on the left]"** on page 40.
- 3 Place the chin rest on the chin rest support. Follow the procedure described in paragraph **"Placing the chin rest on the support"** on page 42.
- 4 If necessary, adjust the height position of the chin rest. Follow the procedure described in paragraph **"Adjusting the height position of the chin rest"** on page 44.



For the full list of chin rest supports and their features, refer to the **"List of spare parts and accessories"** on page 69.

#### 4.4.1 INSTALLING THE CHIN REST SUPPORT - MOBILE POSITIONING



The installation procedure described is valid for ophthalmic units both in the version equipped with table top opening on the right and in the version equipped with table top opening on the left.

- 1 Place the chin rest support on the lower part of the table top, at the sliding mechanism.
- 2 Tighten the screws (A) to fasten the chin rest support to the table top.

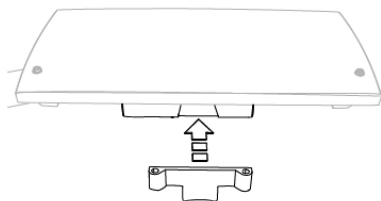


Fig. 19 - Place the chin rest support

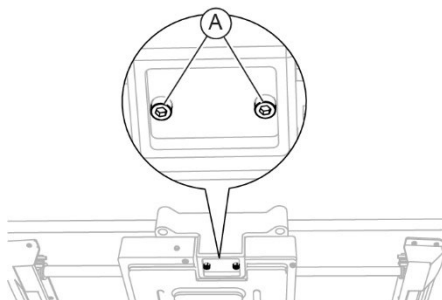


Fig. 20 - Tighten the screws

- 3 Check that the chin rest support (B) is correctly fastened to the table top.  
Move the table top in front of the chair.
- 4 Push the release lever (C) upwards.

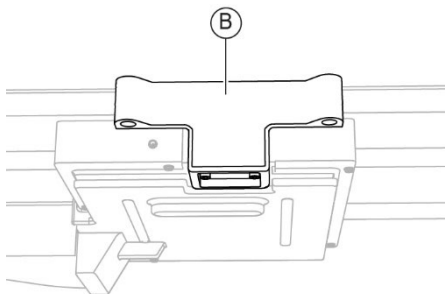


Fig. 21 - Check that the chin rest support is correctly fastened

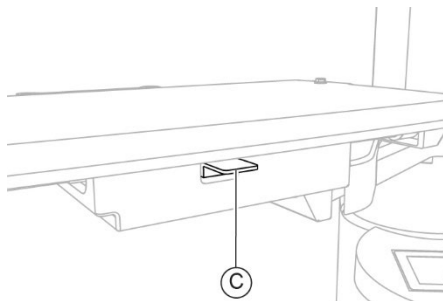


Fig. 22 - Push the release lever

- 5 Slide the table top to the left until it locks into place. Repeat the operation on the right side.
- 6 Check that the chin rest support remains stationary while the table top slides.

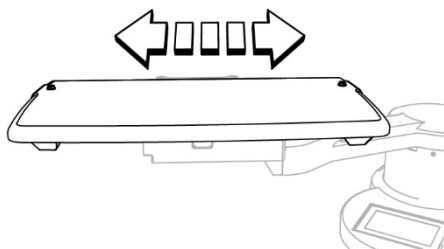


Fig. 23 - Slide the table top



#### 4.4.2 INSTALLING THE CHIN REST SUPPORT - FIXED POSITIONING [VERSION EQUIPPED WITH TABLE TOP OPENING ON THE RIGHT]



The installation procedure described is valid for ophthalmic units in the version equipped with table top opening on the right.

- 1 Place the chin rest support on the upper part of the table top, at the holes on the side where the device requiring the chin rest will be positioned.
- 2 Tighten the screws (A) to fasten the chin rest support to the table top.

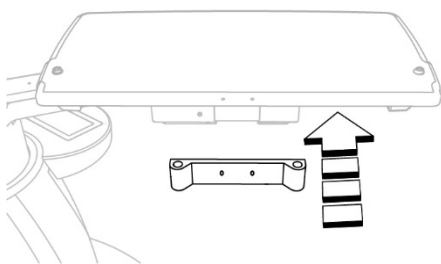


Fig. 24 - Place the chin rest support

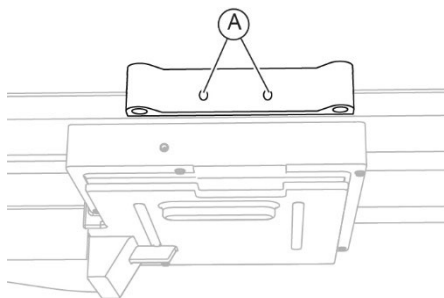


Fig. 25 - Tighten the screws

- 3 Check that the chin rest support (B) is correctly fastened to the table top. Move the table top in front of the chair.
- 4 Push the release lever (C) upwards.

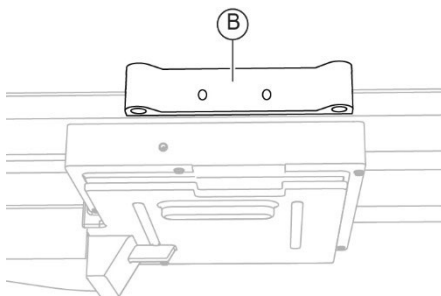


Fig. 26 - Check that the chin rest support is correctly fastened

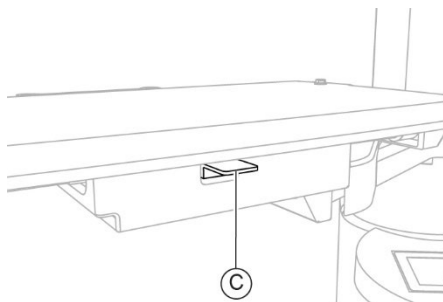


Fig. 27 - Push the release lever

- 5 Slide the table top to the left until it locks into place. Repeat the operation on the right side.
- 6 Check that the chin rest support slides together with the table top.

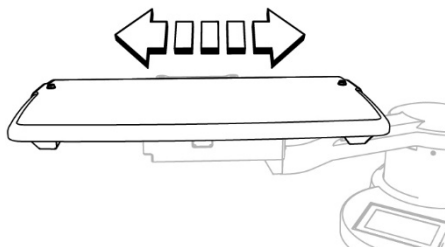


Fig. 28 - Slide the table top

#### 4.4.3 INSTALLING THE CHIN REST SUPPORT - FIXED POSITIONING [VERSION EQUIPPED WITH TABLE TOP OPENING ON THE LEFT]



The installation procedure described is valid for ophthalmic units in the version equipped with table top opening on the left.

- 1 Place the bracket (A) under the chin rest support (B). Place the bracket (A) and the chin rest support (B) on the upper part of the table top, at the holes on the side where the device requiring the chin rest will be positioned.
- 2 Tighten the screws (C) to fasten the bracket and the chin rest support to the table top.

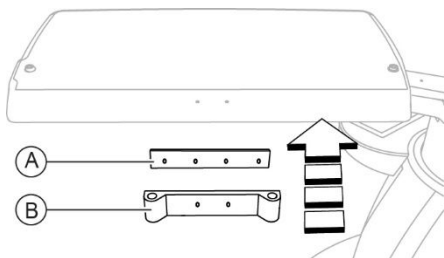


Fig. 29 - Place the bracket and the chin rest support

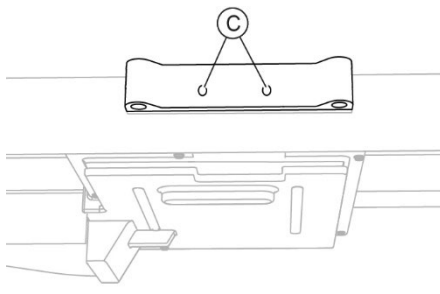


Fig. 30 - Tighten the screws

- 3 Check that the chin rest support (B) is correctly fastened to the table top.  
Move the table top in front of the chair.
- 4 Push the release lever (D) upwards.

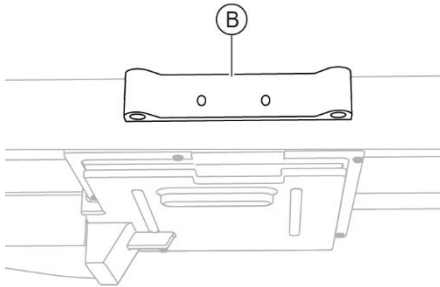


Fig. 31 - Check that the chin rest support is correctly fastened

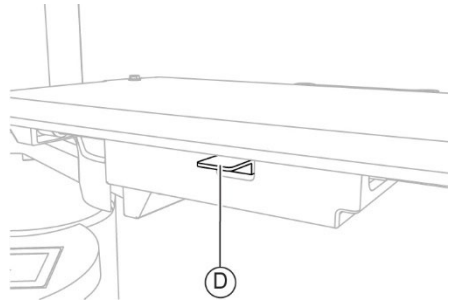


Fig. 32 - Push the release lever

- 5 Slide the table top to the left until it locks into place. Repeat the operation on the right side.
- 6 Check that the chin rest support slides together with the table top.

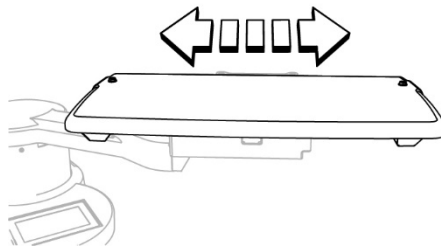


Fig. 33 - Slide the table top

#### 4.4.4 PLACING THE CHIN REST ON THE SUPPORT



The procedure described is valid for all types of chin rest support.

- 1 Unscrew the grub screw (A) that fasten the chin rest to the chin rest support provided with the supply.
- 2 Remove the chin rest support (B) provided with the supply.
- 3 Place the chin rest on the chin rest support (C) previously installed on the table top.

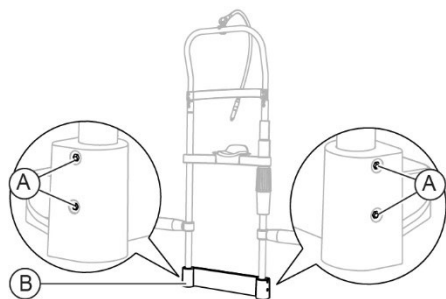


Fig. 34 - Remove the chin rest support provided with the supply

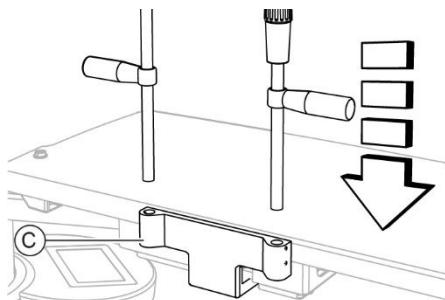


Fig. 35 - Place the chin rest

- 4 Screw in the grub screws (A) to fasten the chin rest to the support installed on the table top.
- 5 Connect the power supply cable (D) of the chin rest fixation point to the connector (E) on the table top.

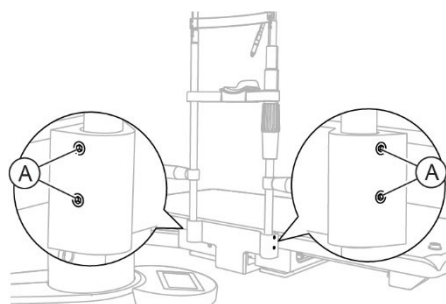


Fig. 36 - Screw in the grub screws

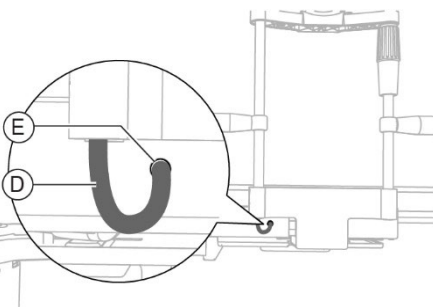


Fig. 37 - Connect the cable to the connector



If the ophthalmic unit is equipped with table top opening on the left, a specific connection is pre-installed on the table top in order to connect the power supply cable of the chin rest fixation point.

- 6 Check that the chin rest is correctly aligned with the device installation accessories on the table top.  
If necessary, align the chin rest with the device installation accessories on the table top.
- Push the release lever (F) upwards.
  - Slide the table top to the left or to the right until it locks into place.

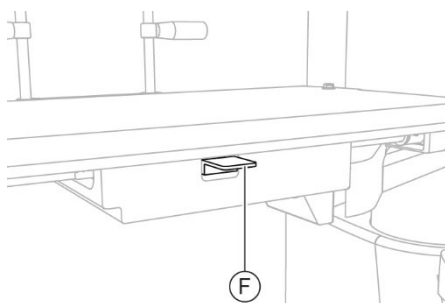


Fig. 38 - Push the release lever

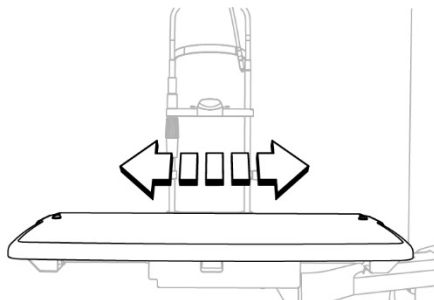


Fig. 39 - Slide the table top

#### 4.4.5 ADJUSTING THE HEIGHT POSITION OF THE CHIN REST



The chin rest shall be installed so that the eye level indicator (1) is placed at a height of 380 mm from the table top.

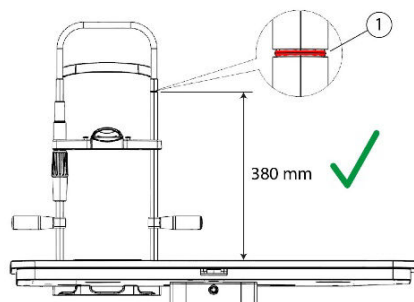


Fig. 40 - Correct height of the eye level indicator

- If the eye level indicator does not reach the required height, adjust the chin rest.
- 1 Loosen the 4 locking grub screws placed on the chinrest support.
  - 2 Slide the rods of the chin rest until reaching the required height of 380 mm. Tighten the previously loosened locking grub screws.



The chin rest rods shall be adjusted upwards no more than 15 mm.

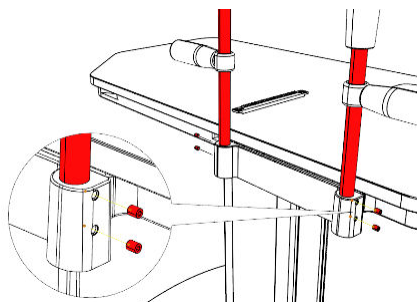


Fig. 41 - Loosen the grub screws of the chin rest

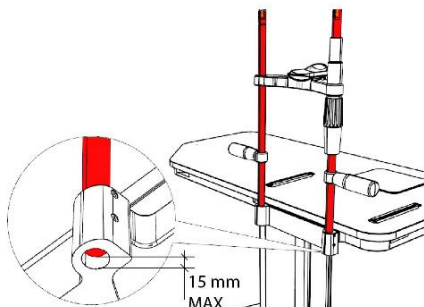


Fig. 42 - Maximum adjustment height of the rods

- If necessary, adjust the height position of the chin cup.
- 1 Turn the knob (A) to lift or lower the chin cup.
- 2 Adjust the height position of the chin cup until reaching the desired position.

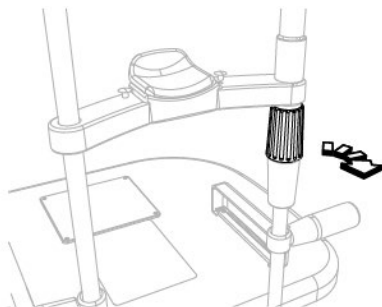


Fig. 43 - Turn the knob

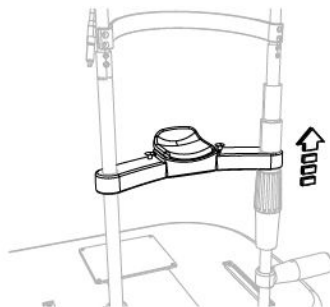


Fig. 44 - Adjust the height position

## 4.5 HOW TO PLACE DEVICES ON THE TABLE TOP

- 1 If the device requires being placed on the installation accessories:
  - If any, remove the joystick protection placed under the device base.
  - Place the device on the table top and align the cogwheels on the guide rails.
  - Install the two wheel covers on the guides on the table top.

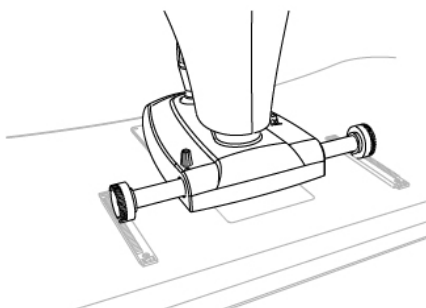


Fig. 45 - Place the device

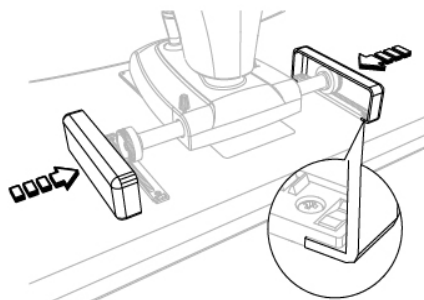


Fig. 46 - Install the wheel covers

- 2 If the device does not require being placed on the installation accessories:
  - Place the device on the table top.
- 3 Connect the power supply cable of the device to the connector on the table top. Choose the connector closest to the device.

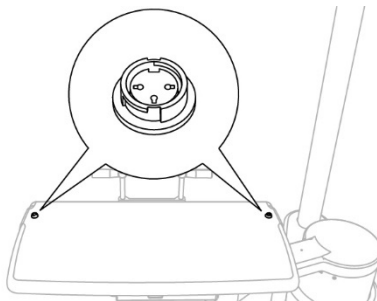


Fig. 47 - Connectors on the table top

- 4 Repeat the procedure for all the devices to be installed on the table top.



## 4.6 HOW TO CARRY OUT THE ELECTRICAL CONNECTIONS OF THE OPHTHALMIC UNIT

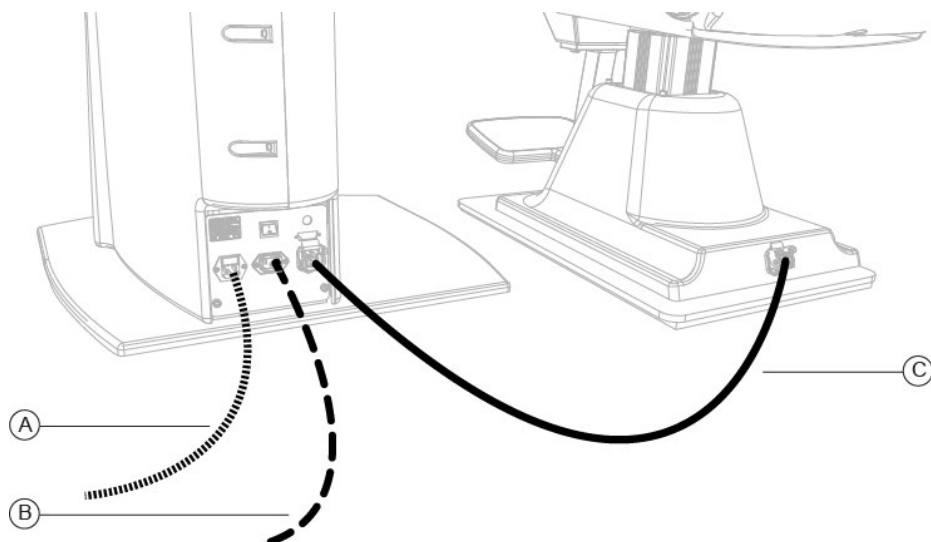


Fig. 48 - Connections of the ophthalmic unit

Pos	Name
A	Power supply cable of the ophthalmic unit
B	Auxiliary connection cable between the ophthalmic unit and a device or an external accessory
C	Connection cable between the ophthalmic unit and the chair (*)



### CAUTION

**Danger of stumbling and falling. Do not leave loose cables which may represent an obstacle or danger for the patient or operator.**




(\*) The presence of the cable depends on the chair model.

- 1 Carry out the electrical connections between the components.
- 2 Connect the power cable of the ophthalmic unit to the power supply.

## 5 USE OF THE OPHTHALMIC UNIT

### 5.1 HOW TO TURN ON THE OPHTHALMIC UNIT

- 1 Set the power switch (A) of the ophthalmic unit to I.
- 2 Press the power on button (  ) on the control panel (B) display.  
After a few seconds, the main page appears on the display.

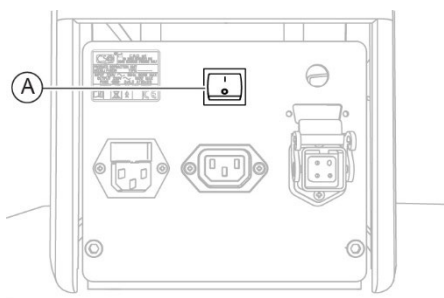


Fig. 49 - Power switch of the ophthalmic unit

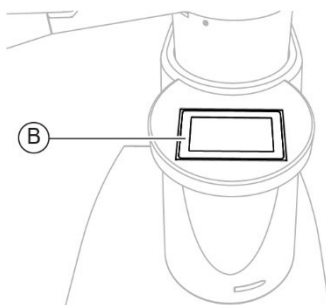


Fig. 50 - Control panel

### 5.2 HOW TO SET UP THE OPHTHALMIC UNIT FUNCTIONS



For the set up of the ophthalmic unit functions, refer to the service manual. The set up of the ophthalmic unit functions shall only be carried out by qualified and trained technical personnel.

### 5.2.1 HOW TO CHANGE THE LOGO

If desired, the user can customize the logo that appears on the control panel display.

- 1 Use an image editor (e.g. Paint) to open the desired logo file.
- 2 Save the file with a resolution of 355x172 pixels and in *.bmp* format. The file name must be: *logo.bmp*.
- 3 Load the saved file onto an empty USB pen drive.
- 4 Connect the USB pen drive (A) to the control panel.

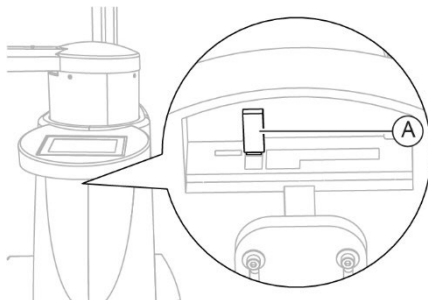










Fig. 51 - Connect the USB pen drive

- 5 Turn on the ophthalmic unit. Follow the procedure described in paragraph **"How to turn on the ophthalmic unit" on page 48.**
- 6 Press and hold the setup button () to access the settings.
- 7 Click on the button () . After about 2 minutes the setting will be active.
- 8 Press the () button to go back to the start page.
- 9 Remove the USB pen drive (A) from the control panel.
- 10 Press the () button to turn off the ophthalmic unit.  
The new logo will appear on the display.

## 5.2.2 HOW TO SET TIME AND DATE

If desired, the user can set the date and time that appear on the control panel display.

- 1 Turn on the ophthalmic unit. Follow the procedure described in paragraph **"How to turn on the ophthalmic unit"** on page 48.
- 2 Press and hold the setup button () to access the settings.
- 3 Click on the button (). The date and time setting page appears on the display.  
The upper part of the page (A) is dedicated to setting the time.  
The lower part (B) of the page is dedicated to setting the date.
  - The TIME and DATE display boxes (yellow-coloured) show the currently set date and time.
  - The SET setting boxes (white-coloured) allow the user to change the currently set values.
- 4 Press the SET box (C) to change the time. A keyboard appears on the display.
- 5 Set the hours and minutes. Follow the format indicated in the time display box. Press ENT to confirm.
- 6 Press the () button to save the set time.
- 7 Press the SET box (D) to change the date. A keyboard appears on the display.
- 8 Set the day, month and year. Follow the format indicated in the date display box. Press ENT to confirm.
- 9 Press the () button to save the set date.

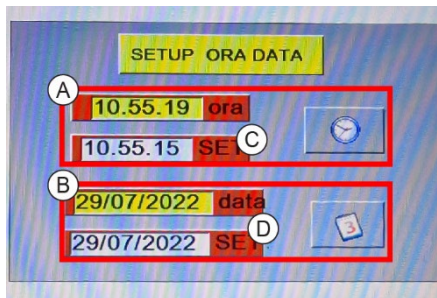



Fig. 52 - Control panel

The date and time display boxes will show the previously set values.

10

Press the () button to go back to the start page.





The date and time are always visible in the upper right part of the display.



After a few months of inactivity of the ophthalmic unit, or in case of prolonged absence of electrical power, it is necessary to reset the date and time.

### 5.3

### HOW TO MOVE THE TABLE TOP

- 1 Access the main page of the control panel.
- 2 (\*) Press the OPEN button () to unlock the table top arm.
- 3 Move the table top arm to the desired position.
- 4 Press the HOLD button () to lock the table top arm.
- 5 Push the release lever (A) upwards.

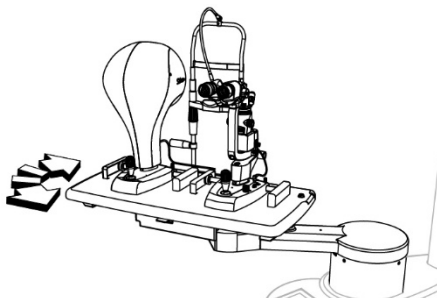


Fig. 53 - Move the ophthalmic unit arm

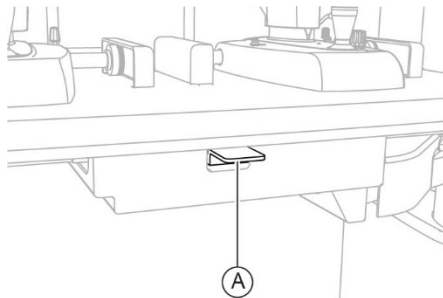


Fig. 54 - Push the release lever



(\*) When the ophthalmic unit is turned on, the table top is unlocked. If the table top is unlocked, it is not necessary to press the OPEN button.

- 6 Slide the table top to the left or to the right until it locks into place. The device to be used for the examination shall be in front of the patient.

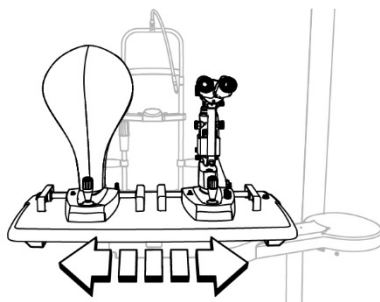




Fig. 55 - Slide the table top

### How to adjust the height position of the table top



This function is only available if the table top is equipped with an electric lifting mechanism.

- 1 Access the main page of the control panel.  
From the section dedicated to controlling the table top movement (A), adjust the height position of the table top.
- 2 Press the (  ) button to lift the table top.  
Press the (  ) button to lower the table top.

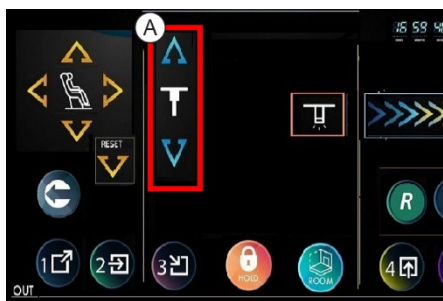


Fig. 56 - Main page

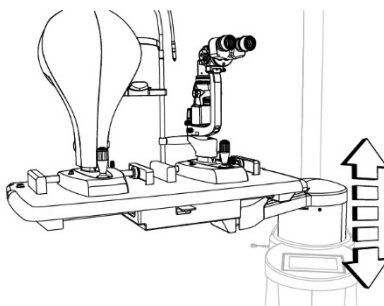






Fig. 57 - Adjust the height position of the table top

## 5.4 HOW TO MOVE THE CHAIR

- 1 Access the main page of the control panel.  
From the section dedicated to controlling the chair movement (A), adjust the chair position.
- 2 Press the  or  button to adjust the height position of the chair.
- 3 Press the  or  button to adjust the front-back position of the chair.  
(\*)

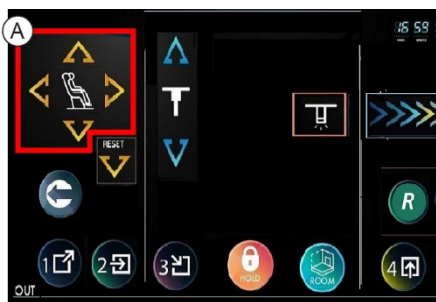


Fig. 58 - Main page

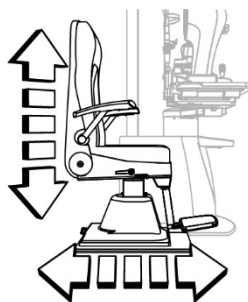


Fig. 59 - Adjust the chair position



(\*) This function is only available if the chair is equipped with an electric front-back movement mechanism.

### 5.4.1 HOW TO RESET THE CHAIR



The chair is in the rest position when it is fully lowered. The chair reset returns the chair to the rest position.

- 1 Access the main page of the control panel.
- 2 Press the RESET button  to reset the height position of the chair.

## 5.5 HOW TO CONTROL THE LIGHTING OF THE WORK AREA

The control panel allows the user to control all the lighting accessories installed on the ophthalmic unit, based on the model and accessories chosen. The control panel also allows the user to control the room lighting.

Each function described in this section is only available if it has been previously set up from the control panel. Follow the procedure described in paragraph **"How to set up the ophthalmic unit functions" on page 48**.

Each paragraph is dedicated to a single function and describes one or two use modes, based on the settings chosen during setup.

Some functions may not even be enabled or may be partially enabled, based on the settings chosen during setup. The procedure for using the single function does not describe any partial enabling chosen during setup.



For further details on the settings available during setup, refer to the service manual. The set up of the ophthalmic unit functions shall only be carried out by qualified and trained technical personnel.



Contact the CSO Technical Assistance to change the settings chosen during setup.



### 5.5.1 HOW TO CONTROL THE ROOM LIGHTING



This function is available only if has been previously set up through the control panel.


- 1 Access the main page of the control panel.

- Mode 1:

Press and hold the ROOM button () to activate the room lighting.

Release the ROOM button () to deactivate the room lighting.

- Mode 2:

Press the ROOM button () to activate or deactivate the room lighting.

### 5.5.2 HOW TO CONTROL THE LIGHTING OF THE LED SPOTLIGHT





This function is available only if the accessory is installed on the ophthalmic unit.



This function is available only if has been previously set up through the control panel.

- 1 Access the main page of the control panel.

- Press the () button to turn on or off the LED spotlight.

- Touch the () slider to adjust the light intensity of the LED spotlight.



The minimum and maximum light intensity of the LED spotlight depends on the values set during setup. The light intensity of the LED spotlight may not be adjustable, based on the settings chosen during setup.

## 5.5.3





## HOW TO CONTROL THE LIGHTING OF THE CEILING LAMP



This function is available only if the accessory is installed on the ophthalmic unit.



This function is available only if has been previously set up through the control panel.

- 1 Access the main page of the control panel.
- Press the  button to turn on or off the main light of the ceiling lamp.
- Touch the  slider to adjust the light intensity of the main light of the ceiling lamp.
- Press the  button to turn on or off the spot light of the ceiling lamp.
- Press the  button to turn on or off the upper light of the ceiling lamp.

## 5.6

## HOW TO PREPARE THE OPHTHALMIC UNIT FOR THE MEDICAL EXAMINATION

**How to prepare the ophthalmic unit to examine the patient:**

- 1 Let the patient sit on the chair.
- 2 Move the table top to the final position and place the medical device to be used for the examination in front of the patient. Follow the procedure described in paragraph **"How to move the table top" on page 51.**
- 3 Check the patient's height respectively to the chin rest.
  - If necessary, adjust the height position of the chair. Follow the procedure described in paragraph **"How to move the chair" on page 53.**
  - If necessary, adjust the height position of the chin rest. Follow the procedure described in paragraph **"Adjusting the height position of the chin rest" on page 44.**
- 4 Carry out the medical examination using the chosen medical device.



Refer to the device instructions for use and, if applicable, the Phoenix application software handbook to carry out the desired examination.

- 5 Once the medical examination ends, move the table top to bring it back to its start position. Follow the procedure described in paragraph **"How to move the table top" on page 51.**
- 6 Tell the patient to get up.



The table top is in its start position when fully closed.  
The table top is in its final position when fully opened.

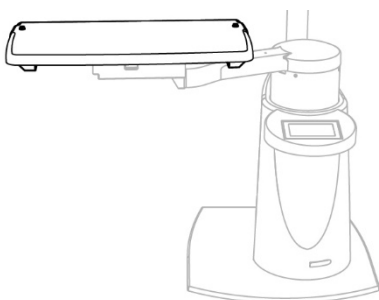


Fig. 60 - Table top in the final position

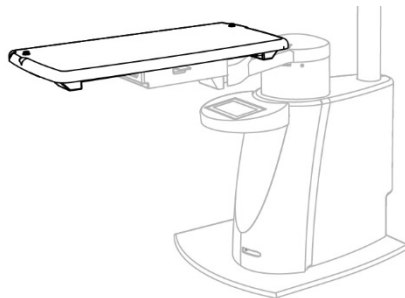


Fig. 61 - Table top in the start position

#### How to prepare the ophthalmic unit to examine a patient with motor difficulties:

- 1 Keep the table top in the start position.
- 2 Have the patient with motor difficulties sit in front of the table top and place the medical device to be used for the examination in front of the patient. Follow the procedure described in paragraph "**How to move the table top**" on page 51.
- 3 Check the patient's height respectively to the chin rest.  
If necessary, adjust the height position of the table top. Follow the procedure described in paragraph "**How to move the table top**" on page 51.
- If necessary, adjust the height position of the chin rest. Follow the procedure described in paragraph "**Adjusting the height position of the chin rest**" on page 44.
- 4 Carry out the medical examination using the chosen medical device.



Refer to the device instructions for use and, if applicable, the Phoenix application software handbook to carry out the desired examination.



The table top is in its start position when fully closed.

## 5.7 HOW TO CONTROL THE DEVICES AND ACCESSORIES CONNECTED TO THE OPHTHALMIC UNIT

The control panel allows the user to control all the devices and accessories installed on the ophthalmic unit, based on the model, devices and accessories chosen.

The control panel also allows the user to control the lighting of the work area. Follow the procedure described in paragraph **"How to control the lighting of the work area" on page 54.**

Each function described in this section is only available if it has been previously set up from the control panel. Follow the procedure described in paragraph **"How to set up the ophthalmic unit functions" on page 48.**

Each paragraph is dedicated to a single device or accessory and describes two use modes, based on the settings chosen during setup.

Some functions may not even be enabled or may be partially enabled, based on the settings chosen during setup. The procedure for using the single function does not describe any partial enabling chosen during setup.



For further details on the settings available during setup, refer to the service manual. The set up of the ophthalmic unit functions shall only be carried out by qualified and trained technical personnel.



Contact the CSO Technical Assistance to change the settings chosen during setup.

### 5.7.1 HOW TO MOVE THE PHOROPTER



This function is available only if the accessory is installed on the ophthalmic unit.











This function is available only if has been previously set up through the control panel.

- 1 Access the main page of the control panel.  
From the section dedicated to controlling the phoropter arm movement (A), adjust the phoropter position.



Fig. 62 - Main page

- Mode 1:  
Press and hold the () or () button to adjust the front-back position of the phoropter arm.  
Release the () or () button to lock the phoropter arm in the desired position.
- Mode 2:  
Press the () or () button to adjust the front-back position of the phoropter arm.  
Press the () or () button again to lock the phoropter arm in the desired position.

### 5.7.2 HOW TO ADJUST THE SLIT LAMP ILLUMINATION





This function is available only if the device is installed on the ophthalmic unit.



This function is available only if has been previously set up through the control panel.



This function is available only when the table top is locked.

- 1 Access the main page of the control panel.
- When the table top is locked, the slit lamp turns on automatically.
- Press the  button to turn off the slit lamp.
- Touch the  slider to adjust the light intensity of the slit lamp.



The minimum and maximum light intensity of the slit lamp depends on the values set during setup. The light intensity of the slit lamp may not be adjustable, based on the settings chosen during setup.

### 5.7.3 HOW TO TURN ON THE OPHTHALMOSCOPE



This function is available only if the device is installed on the ophthalmic unit.



This function is available only if has been previously set up through the control panel.



This function is available only when the table top is unlocked.

- 1 Access the main page of the control panel.
- 2 Press the button to turn on or off the ophthalmoscope.

### 5.7.4 HOW TO TURN ON THE RETINOSCOPE



This function is available only if the device is installed on the ophthalmic unit.



This function is available only if has been previously set up through the control panel.



This function is available only when the table top is unlocked.

- 1 Access the main page of the control panel.
- 2 Press the button to turn on or off the retinoscope.

### 5.7.5 HOW TO USE THE AUXILIARY OUTPUTS








This function is available only if has been previously set up through the control panel.

The auxiliary outputs allow the user to connect other devices to the ophthalmic unit. Each auxiliary output control button manages the turning on of a device.






- 1 Access the main page of the control panel.

- Mode 1:

Press and hold the , , ,  or  button to turn on the device.

Release the , , ,  or  button to turn off the device.

- Mode 2:

Press the , , ,  or  button to turn on or off the device.



Some auxiliary outputs may not be available, based on the settings chosen during setup.



## 5.8

### HOW TO TURN OFF THE OPHTHALMIC UNIT



#### CAUTION


**Do not turn off the ophthalmic unit and do not disconnect the power supply cable when the ophthalmic unit is in use.**




Before turning off the ophthalmic unit, check that the devices connected to the PC are turned off.

1 Access the start page of the control panel.

2 Press the  button to turn off the ophthalmic unit.

The button  lights up. The chair returns to the rest position.


When the chair reaches the rest position, the  button turns off.

The control panel display turns off. The date and time display box remains visible in the upper right part of the display.

- If you do not plan to use the ophthalmic unit for more than a week, unplug the ophthalmic unit power supply cable.

## 5.9

### HOW TO SET THE OPHTHALMIC UNIT TO STANDBY MODE

Press the  button to turn off the ophthalmic unit.

The control panel automatically activates the standby mode after approximately 20 seconds of not using the ophthalmic unit.

The control panel display turns off. The date and time display box remains visible in the upper right part of the display.

## 5.10 HOW TO MOVE AND DISASSEMBLE THE OPHTHALMIC UNIT

### Disassembling the ophthalmic unit



For the disassembling procedure of the ophthalmic unit, refer to the service manual. The ophthalmic unit disassembling procedure shall only be carried out by qualified and trained technical personnel.



Before carrying out the ophthalmic unit disassembling procedure, check that the power supply cable is disconnected from the power grid.

### Transport and handling of the ophthalmic unit



For transporting the ophthalmic unit, refer to the service manual. The transport of the ophthalmic unit shall only be carried out by qualified and trained technical personnel.



Some components of the ophthalmic unit weigh more than 25 kg.

Before handling the components of the ophthalmic unit, consider the weight of the components of the ophthalmic unit and the number of operators required.

**If possible, use a forklift for handling.**

Check the weight of the individual components of the ophthalmic unit and the number of operators required for handling. Read the paragraph "**Ophthalmic unit weight**" on page 30.

## 6 ORDINARY MAINTENANCE

### 6.1 SAFETY WARNINGS



#### **DANGER**

**Danger of electric shock. Unplug the power supply cable from the power socket before disinfecting or cleaning the ophthalmic unit and before any maintenance operation.**



#### **CAUTION**

**The ophthalmic unit contains no components that require the user intervention. Do not disassemble any part of the ophthalmic unit.**



It is forbidden to carry out any maintenance operation on the ophthalmic unit not mentioned in the instructions for use.



In the event of faults or malfunctions or for any maintenance operations not mentioned in the instructions for use, contact the authorized Service Centre or the Manufacturer of the ophthalmic unit.

### 6.2 CLEANING AND DISINFECTION



#### **CAUTION**

**Carefully follow the instructions for cleaning and disinfection described in this manual, in order to avoid any damage to the ophthalmic unit and accessories.**



#### **CAUTION**

**A correct cleaning and disinfection procedure, together with appropriate operating procedures, is essential to preventing the spread of infections or cross contamination.**



#### **CAUTION**

**Danger of material damage. Do not use spray products. Do not use excessively wet cloths, as they may drip. If needed, use a damp and well wrung out cloth. Make sure no liquid penetrates into the ophthalmic unit.**



Cleaning and disinfection procedures shall be routinely carried out.



The ophthalmic unit parts that do not come into direct contact with the patient shall be cleaned at least once a day.

The ophthalmic unit parts that do come into direct contact with the patient shall be thoroughly cleaned and disinfected after each use.

This section describes the procedures to be carried out during use and maintenance in order to ensure proper cleaning and disinfection of the ophthalmic unit and its accessories.

### 6.2.1

### RECOMMENDED PRODUCTS FOR CLEANING AND DISINFECTION



#### CAUTION

**Danger of material damage. Do not use solvents, acidic or basic solutions (pH <4,5 or >8,0), abrasive or caustic substances, chlorine-based and chlorine-derived products.**

**The Manufacturer is not liable for any damage caused by using disinfectant products not indicated in this manual.**

The choice of the most suitable product and procedures for the cleaning and disinfection of the ophthalmic unit shall take into account both the sensitivity of the ophthalmic unit to specific substances and the product's effectiveness.

For cleaning and disinfection procedures, use products approved by the FDA or CE for medical devices or medical-surgical devices.

Abide by the products listed below, divided by category:

Detergents	Use polyezymatic solutions or neutral surfactant-based solutions.
Disinfectants and decontaminating products	Use products for disinfecting surfaces (containing or not containing aldehyde) or formaldehyde-free surface disinfectants (i.e. Kohrsolin FF). Alternatively, you may use ethyl alcohol, 70% v/v alcohol or isopropyl alcohol.

For information about using the chosen product, please comply with the instructions provided by the manufacturer.

### 6.2.2 CLASSIFICATION OF THE CRITICALITY OF THE DEVICE



In this paragraph, the term "device" identifies the ophthalmic unit.



#### CAUTION

**The device is supplied non-sterile and it shall not be sterilized prior to use.**

This device is classified as "non-critical" since it only comes into contact with intact skin and therefore has a low infectious risk.

For devices classified as non-critical, regular cleaning or low-level disinfection is sufficient.

However, when the patient's condition is transmissible by direct contact or in the case of accidental exposure to body fluids, the device shall be disinfected with a higher-level disinfectant after cleaning.

### 6.2.3 CLEANING OF THE OPHTHALMIC UNIT



#### CAUTION

**Carefully follow the cleaning instructions described in this section in order to avoid any damage to the ophthalmic unit and its accessories.**



#### CAUTION

**Danger of material damage. Clean using a non-abrasive cloth to avoid damaging the surface.**



The ophthalmic unit shall be regularly cleaned.

Clean the outer parts of the ophthalmic unit using a damp, non-abrasive cloth and a rinse-free cleaning solution.



For more information about suitable cleansing products, read the paragraph **"Recommended products for cleaning and disinfection"** on page 66.

## 6.3

## NETWORK FUSES REPLACEMENT

**CAUTION**

**Danger of electric shock. Unplug the power supply cable from the power socket before disinfecting or cleaning the ophthalmic unit and before any maintenance operation.**

- 1 Pull out the fuse drawer (A). Remove fuses to be replaced.
- 2 Check that the voltage indicated on the new fuses is compatible with the supply voltage used. Check the data shown on the electrical panel of the ophthalmic unit.
- 3 Place new fuses into the fuse drawer.
- 4 Insert the fuse drawer into the seat on the electrical panel of the ophthalmic unit.
- 5 Connect the power supply cable of the ophthalmic unit to the power socket.

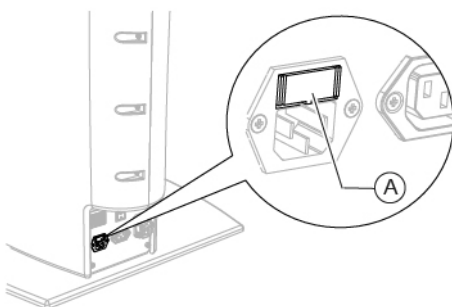


Fig. 63 - Fuse drawer

## 6.4

## LIST OF SPARE PARTS AND ACCESSORIES



For spare parts or accessories not included in the list, ask the Manufacturer or local Dealer.

Code	Description
300502090	Motor for the table top lifting (230 V $\pm$ 10%)
300502091	Motor for the table top lifting (120 V $\pm$ 10%)
3014020	Magnet
100819110	Circuit board
610540-HK4020	Rotation bearing
4109010	Decelerator
100819142	Control panel
100811560	LED spotlight
30080250010	Bulb for LED spotlight
6141111	Flat spring
100810304	Micro-switch for leg-protection device
3020690	Switching
100819323	Right table top
100812321	Left table top
100805721V	Chin rest support for fixed positioning (for table top opening on the right)
100815721V	Chin rest support for fixed positioning (for table top opening on the left)
100810315V	Chin rest support for mobile positioning (for table top opening on the right)
100818355 (*)	Bracket for the chin rest support
330803040	Connection cable between the ophthalmic unit and the chair
300202010	Power switch
100801029	Handle
100801027	Counterweight
100819141	Control panel support (V7)
100805-35	Ceiling lamp with three LED lights



(\*) The chin rest support bracket shall always be ordered together with the chin rest support for fixed positioning on table top opening on the right (code 100805721V) or on table top opening on the left (code 100815721V).

6.5 TROUBLESHOOTING

Issue	Cause	Solution
While changing the logo, the display gets stuck on the loading screen and the new logo is not active.	The uploaded logo file is corrupted or the USB pen drive does not work.	<ul style="list-style-type: none"><li>- Set the power switch of the ophthalmic unit to 0.</li><li>- Wait a few minutes.</li><li>- Set the power switch of the ophthalmic unit to I.</li><li>- If the problem persists, use another USB pen drive.</li><li>- If the problem persists, create a new logo file to upload.</li></ul>
The control panel does not turn on.	The power supply cable of the ophthalmic unit is not connected to the power grid. The connection cable between the control panel and the ophthalmic unit it is not properly connected.	<ul style="list-style-type: none"><li>- Check that the power supply cable of the ophthalmic unit is properly connected to the power socket.</li><li>- Set the power switch of the ophthalmic unit to I.</li><li>- Check the operation of the mains fuses.</li><li>- If the problem persists, replace the mains fuses. Follow the procedure described in paragraph "Network fuses replacement" on page 68.</li><li>- Check that the connection cable between the control panel and the ophthalmic unit is properly connected.</li><li>- If the problem persists, contact the CSO Technical Assistance.</li></ul>
The chair does not respond to commands.	The connection cable between the chair and the ophthalmic unit it is not properly connected. The control panel does not work properly.	<ul style="list-style-type: none"><li>- Check that the connection cable between the chair and the ophthalmic unit is properly connected.</li><li>- Check the proper functioning of the buttons on the control panel.</li><li>- If the problem persists, contact the CSO Technical Assistance.</li></ul>



Issue	Cause	Solution
<b>The table top arm does not move.</b>	Rotation bearings may be broken.	- Contact the CSO Technical Assistance.
<b>The table top arm does not lock into place when rotating.</b>	<p>The magnet used to rotate the table top arm does not work properly.</p> <p>The magnet used to rotate the table top arm does not lock the rotation plate sufficiently.</p>	- Contact the CSO Technical Assistance.
<b>The table top does not slide properly.</b>	<p>The table top is not properly installed.</p> <p>The table top locking mechanism is broken.</p>	- Contact the CSO Technical Assistance.
<b>The devices on the table top do not turn on or do not work.</b>	<p>The control panel does not work properly.</p> <p>The connection cables between the device and the ophthalmic unit are not properly connected.</p> <p>The connection cables between the device and the ophthalmic unit are damaged.</p> <p>The fuses do not work properly.</p> <p>No electrical voltage on the circuit board.</p>	<ul style="list-style-type: none"> <li>- Check the proper functioning of the buttons on the control panel.</li> <li>- Check that the connection cable of the device is properly connected to the connector on the table top of the ophthalmic unit.</li> <li>- If the problem persists, contact the CSO Technical Assistance.</li> </ul>
<b>The lighting accessories or the accessories connected to the auxiliary outputs do not turn on.</b>	<p>The connection cables between the accessories and the ophthalmic unit are not properly connected.</p> <p>The control panel does not work properly.</p> <p>The auxiliary outputs have not been correctly set up from the control panel.</p> <p>The accessories connected to the auxiliary outputs do not work properly.</p>	<ul style="list-style-type: none"> <li>- Check the proper functioning of the buttons on the control panel.</li> <li>- Check that the connection cable between the accessories and the ophthalmic unit is properly connected.</li> <li>- If the problem persists, contact the CSO Technical Assistance.</li> </ul>







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