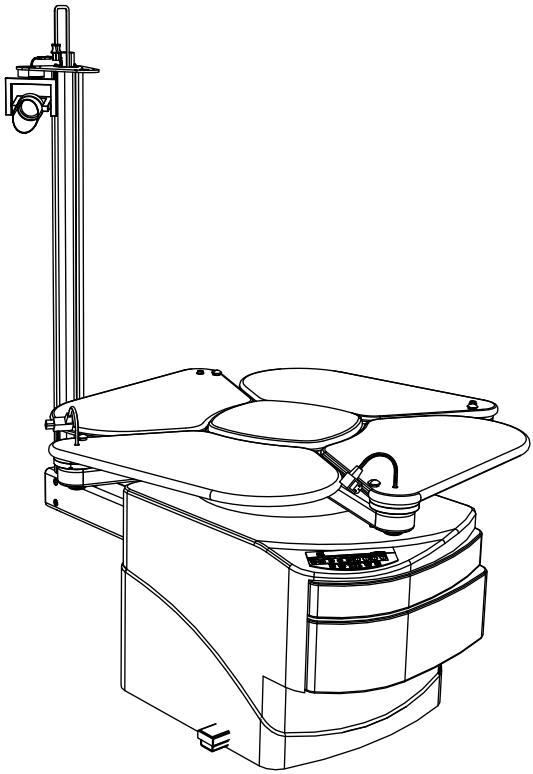
CSO® COSTRUZIONE STRUMENTI OFTALMICI



VINTAGE

Ophthalmic unit

INSTRUCTIONS FOR USE

CSO®
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

IFU320EN01.00 - 02/2022

EN

1 INTRODUCTION

The device 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 diagnostic. Thanks to an attentive selection of the materials and a wide range of available colours and customizations, it is possible to create a harmonious and comfortable working environment both for the operator and the patient.

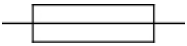
1.1 SYMBOLS

Within the instructions for use, on the package or on the device, there can be the following symbols:

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	CE Marking (EU Regulation 2017/745)
MD	Medical device
	Waste disposal in compliance with the Directive 2012/19/EU (WEEE), and 2011/65/EU (RoHS II)

1.1.1 DEVICE SYMBOLS

Symbol	Meaning
	Type B applied part
	Fuse

1.2 GENERAL WARNINGS

THESE INSTRUCTIONS FOR USE REFER TO THE DEVICE OPHTHALMIC UNIT, MODEL VINTAGE (DEVICE FROM NOW ON).

THE ORIGINAL TEXT IS IN ITALIAN.

Before using the device or if you don't use it since a long time, read these instructions carefully. Read the instructions given in the instruction manual and reported on the device.

Keep this manual close by for future consultation. If you should decide to sell this appliance to other people, remember to also include these instructions, complete and readable.

Keep the original box and packaging, as the free-of-charge service does not cover any damage resulting from inadequate packaging of the product when this is sent back to an Authorized Service Centre.

Before using the device, check that there is no sign of damages due to transport or an incorrect storage, that could compromise the correct functioning of the device.

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 himself the right to modify the contents of the instructions for use, without notice.

1.3 NORMATIVE REFERENCES

1.3.1 COMMUNITY 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 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 SYSTEMS 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 device 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 activation not activated in conformity to the indications and the precautions reported in the instructions for use
- use not in compliance with the instructions for use and precautions reported in the instructions for use
- use of accessories or spare parts not provided or suggested by the Manufacturer
- repairs and safety controls not effectuated by expert, qualified, trained and personnel authorized by the Manufacturer
- electrical system of the space where the device is installed not in compliance with the technical standards, the laws and regulations in effect in the country of installation of the device
- direct or indirect consequences or damages to objects or persons, originating from the improper use of the device or erroneous clinical analysis originating from its use

The Manufacturer guarantees the device for 24 months after invoicing. The Warranty includes the substitution, at the Manufacturer's or an Authorized Service Centre, of components and materials and the relative labour. The 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 improper use or not intended by the Manufacturer
- damages caused by service lack or inefficiency, originating by causes or circumstances out of the Manufacturers control
- the parts subject to usage and/or deterioration originating from the normal use and those that might be broken because of an improper use or maintenance carried out by personnel non-authorized by the Manufacturer.

To ask maintenance interventions or to have technical information about the device, address to an Authorized Service Centre or directly to the device Manufacturer.

The client will not be refunded for damages originating from the device halt.

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

2 SAFETY

2.1 SAFETY WARNINGS

DANGER
Electric shock danger. Do not let water fall on any part of the device. Do not immerse any part of the device into the water or other liquids.

DANGER
Electric shock danger. If the power cables are damaged, they must be replaced in an Authorized Service Centre to prevent any risk.

DANGER
Electric shock danger. Unplug the power cable from the mains socket before disinfecting the device and before any maintenance operation.

CAUTION
Do not use the device if visibly damaged. Periodically inspect the device and the connection cables to verify if there are damage signs.

CAUTION
Always keep the device out of the reach of children.

CAUTION
Danger of stumbling and falling. Do not let the power cables or the connection cables free in a place where people could walk.

CAUTION
Electric shock risk. Do not touch the power supply cables with wet hands.

CAUTION

Electric shock risk. Do not leave the power supply cables in contact with sharp corners or objects. Always collect and fasten the power supply cables.

CAUTION

If you notice a wired odour or smoke coming out of the device or if it emanates heat, turn it off immediately. Do not keep using a damaged device or a damaged part. Danger of injuries.

CAUTION

The power grid must have a Residual-Current Circuit Breaker (IΔn=30mA) Thermal-Magnetic Circuit Breaker (Vn=230V) to protect the device. Place the device in such a way that the power socket is easily accessible.

It is forbidden to carry out any technical operation on the device that is not recalled or described in the instructions for use.

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

It is forbidden to use any extension cable not authorized by the device Manufacturer.

It is forbidden to use the device outdoors.

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

2.2 DEVICE IDENTIFICATION

2.2.1 REGISTRATION DATA IN THE MEDICAL DEVICES LIST

The device registration data can be verified on the Italian Ministry of Health website at this page:
Ministero della Salute - Ricerca dispositivi

2.2.2 DEVICE DATA PLATE

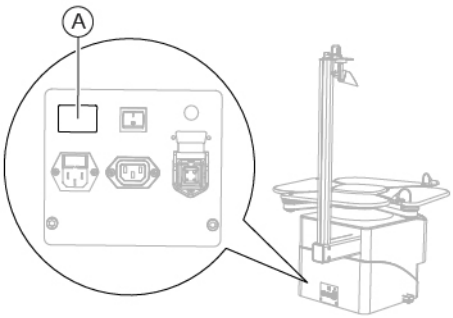


Fig 1 - Data plate position

Pos	Description
A	Device data plate

Fig 2 - Device data plate

2.3 INTENDED USE

VINTAGE is an ophthalmic unit which allows to place four devices on the movable table top.
Thanks to the table top rotation, you can easily and efficiently pass from one device to the other.
It is equipped with a keypad from which instruments can be used and all functions can be programmed for a fast and comfortable use.
It is also possible to command chair elevation directly from the unit keypad.
It is also possible to command the table elevation directly from the keypad.

It is possible to connect other accessories to the device through the analogical or digital interfaces.
The accessories (printer, modem, scanner, etc) must be installed outside the patient area.

The accessories must be compliant to the norm 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 compliant with the directive IEC 60601-1:2005 + A1:2012 - "Medical electrical equipment - Part 1: General requirements for basic safety and essential performance".

The device must be only used by specialist practitioners and operators (such as optometrists), within the limits of the law and the regulations for the exercise of the profession.

Patient area: any volume in which a patient with applied parts can intentionally or unintentionally come into contact with other electro-medical devices or electro-medical systems or with foreign masses and masses or with other people in contact with these elements.

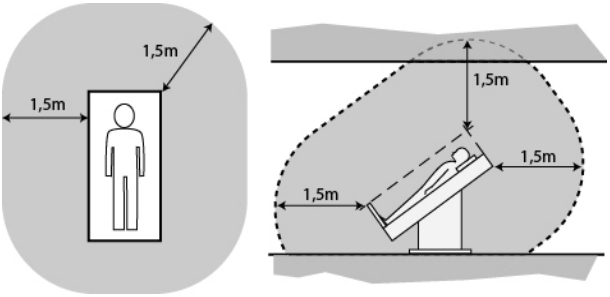


Fig 3 - Patient area

2.4 MEDICAL DEVICES CLASSIFICATION

Technical data	Value
Classification in compliance with the attached Regulation (EU) 2017/745	Class I

2.5 MEDICAL ELECTRICAL DEVICES CLASSIFICATION

Classification complying with the standard EN 60601-1:2005 + A1:2012

Technical data	Value
Type of protection against the direct and indirect contacts	Class I
Applied parts	Type B
Protection degree against humidity	IP20 (no protection against liquid infiltration)
Sterilization or disinfection method	This device can be disinfected
Protection degree in presence of anaesthetics or inflammable detergents	No protection
Electrical connection degree between device and patient	Appliances with applied part on 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 device damages. During transport and storage, the device can be exposed to the environmental conditions for a maximum period of 15 weeks, only if kept in the original package.

2.7 DISPOSAL AT THE END OF THE USEFUL LIFE

Instruction for the correct disposal of the device according to European Directive 2012/19/EU, and 2011/65/EU about the reduction of use of dangerous substances in the electrical and electronic equipment, as well as waste disposal.
At the end of its useful life, the device must not be disposed of as urban waste. The device can be delivered to the appropriate separate waste collection centres set up by municipal administrations or to retailers 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. On the label of the device there is the symbol of the of the crossed-out wheeled bin. The graphic symbol of the crossed-out wheeled bin, indicates the obligation to collect and dispose separately 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 takes care, by joining a consortium for electronic waste, of the treatment and the recycling of the used device by paying its costs.

The Manufacturer is available to give the user all the information about the dangerous substances contained in the device, and on the recycling modalities of those substances and about the possibility of a reuse of the used device.
Strict sanctions for transgressors are provided for by law.
For specific information about the disposal in other countries than Italy, contact the local Dealer.

2.8 MANUFACTURER DECLARATIONS

2.8.1 ELECTROMAGNETIC EMISSIONS

The device is designed to be used in a room with the following electromagnetic characteristics:

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 device is compliant with all the requirements of electromagnetic compatibility (EMC) decided by the norm CEI EN 60601-2-40 "Electromedical devices".
The device can be used in an electromagnetic environment where the disturbances of radio-frequency irradiated fields are controlled.

The device shall not be used near other devices that are not components of the device itself. In case it is necessary, you should make sure that their functioning in this configuration is regular and safe.
If the device performances are affected by other appliances, remove the cause of the interference. For any doubts or explanations contact the Manufacturer.

Do not use as device components other devices than dose indicated by the Manufacturer. They could cause an increase of the devices' emissions and a reduction of the device immunity. For any doubts or explanations contact the Manufacturer.

3 DEVICE DESCRIPTION

3.1 SUPPLY DESCRIPTION

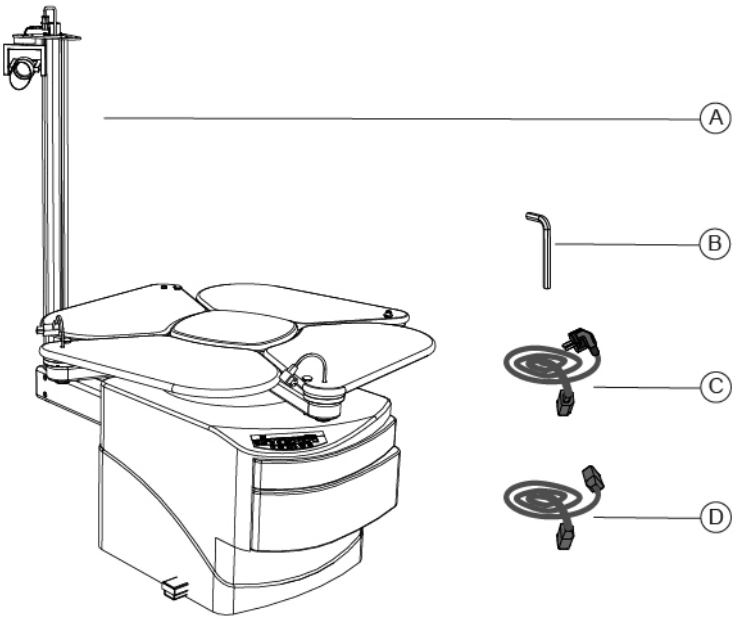


Fig 4 - Supply description

Pos	Denomination	Description
A	VINTAGE ophthalmic unit	The unit is composed of 4 table tops. On each table top you can place one medical device. On the central table top you can place a fifth medical device.
B	Hex wrench	
C	Chair power cable	For connecting the chair to the ophthalmic unit
D	Power supply cable of the ophthalmic unit	For connecting the ophthalmic unit to the power supply

If requested, the ophthalmic unit can be personalised with the following accessories:

- VINTAGE ophthalmic unit, version with table top opening on the left
- accessories for placing the devices on the table top (scrolling plate and cogged guides)
- chair with electrical elevation
- ceiling light with three LEDs (for column)
- self-balancing arm for phoropter
- support for phoropter arm
- support for column table top
- hook for ophthalmic electrode cap
- various supports for column
- table top for LCD monitor (for column)
- digital video system
- controlled drawer to be connected to an ophthalmic unit
- finishing with special materials.

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

3.1.1 VINTAGE OPHTHALMIC UNIT

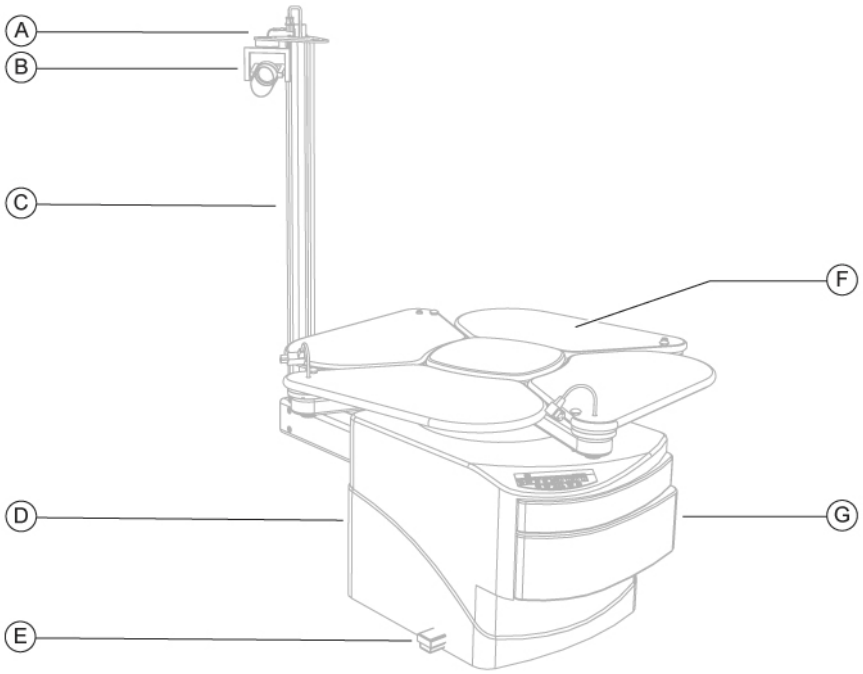


Fig 5 - VINTAGE ophthalmic unit

Pos	Description
A	Projector and spotlight support
B	Adjustable LED spotlight
C	Column
D	Structure with protection carter
E	Unlocking foot control for table top
F	Rotating table top in four positions
G	Lenses and/or storage drawers

The arm is equipped with a fifth fixed table top to place a fifth device which does not require contact with patients (e.g. video projector, ultrasound pachymeter, lensmeter, mouse and keyboard, etc).

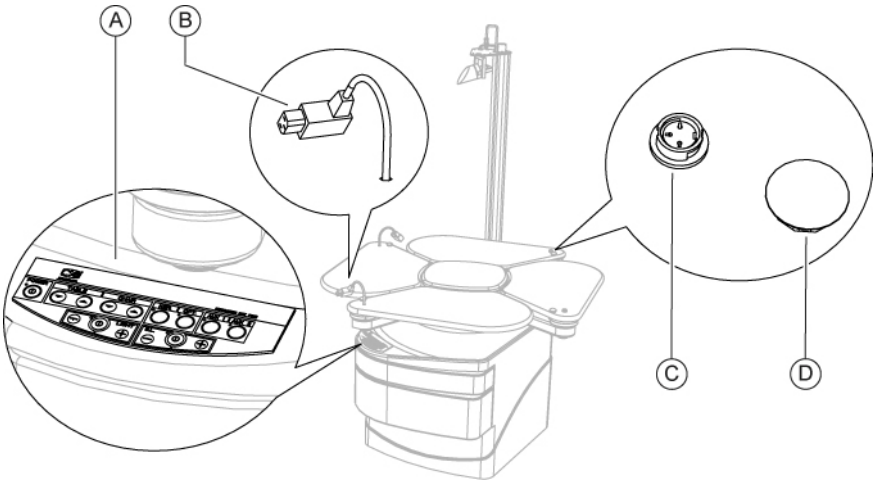


Fig 6 - Table top for devices

Pos	Description
A	Command keypad
B	Outlet for device (power supply 230V)
C	Outlet for device (from 6V to 12V)
D	Button for table top unlocking

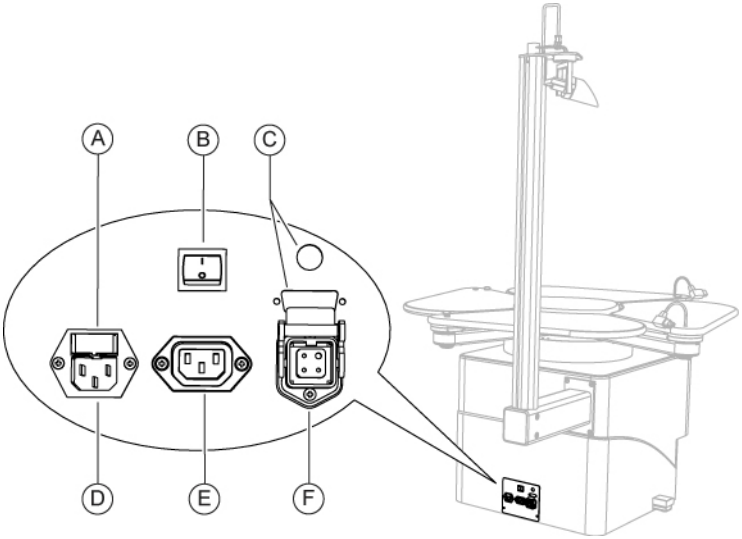


Fig 7 - Electrical connections

Pos	Description
A	Fuse drawer
B	ON/OFF button
C	Auxiliary joints
D	Power supply outlet for ophthalmic unit
E	Auxiliary power supply outlet
F	Power supply outlet for chair

3.1.2 COMMAND KEYPAD ON THE STRUCTURE

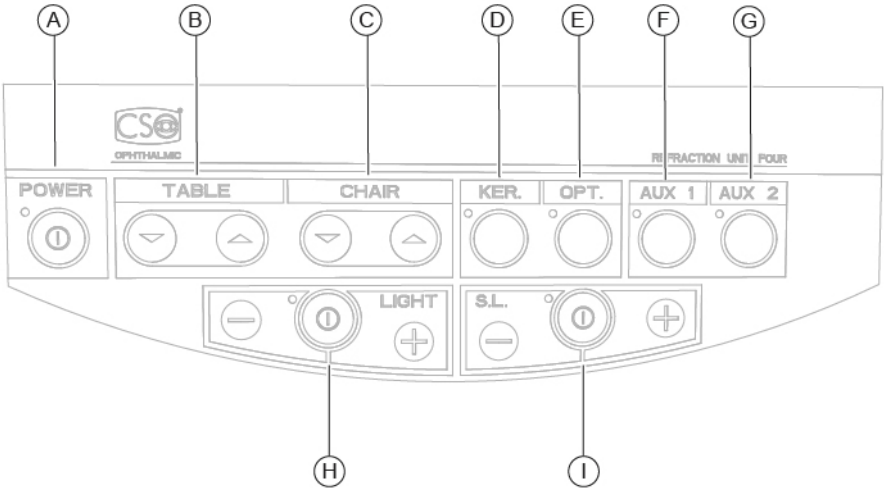


Fig 8 - Keypad

Pos	Function	Description
A	**POWER**	ON/OFF button for ophthalmic unit
B	**TABLE**	Buttons to adjust table top elevation
C	**CHAIR**	Buttons for adjusting chair elevation
D	**KER**	Activation/deactivation button for ophthalmoscope connector
E	**OPT**	Activation/deactivation button for retinoscope connector
F	**AUX 1**	Auxiliary activation/deactivation button 230V
G	**AUX 2**	Auxiliary activation/deactivation button 230V
H	**LIGHT**	ON/OFF and light intensity adjustment button
I	**S.L.**	ON/OFF button for slit lamp

3.1.3 CHIN REST (OPTIONAL)

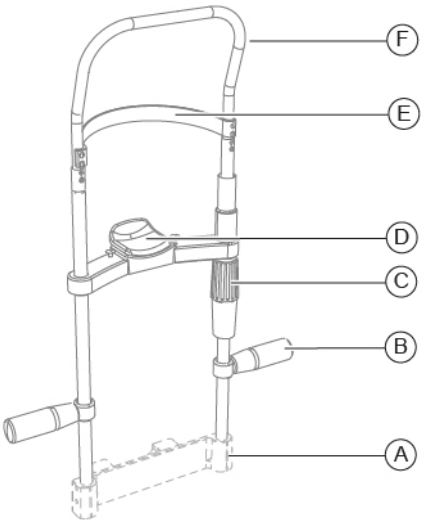


Fig 9 - Chin rest

Pos	Description
A	Chin rest support
B	Handle
C	Chin cup adjustment knob
D	Chin cup
E	Forehead rest
F	Chin rest structure

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

Indications for using the chin rest are included in the instructions for use manual of the device. Chin rest models might differ depending on the device used.

3.1.4 DRAWER (OPTIONAL)

Different drawer models are available accordingly to the client's choice. The top surface is equipped with a control keypad. The keypad includes the same buttons and functions as the keypad placed on the ophthalmic unit.

Fig 10 - Drawer

Pos	Description
A	Drawer
B	Support for retinoscope/ophthalmometer
C	Command keypad

Description	Value
Drawer weight	from 42 to 45 Kg
Maximum size (LxPxH)	80x64x75 cm

3.1.5 CHAIR (OPTIONAL)

Different chair models are available accordingly to the client's choice. The base with telescopic column allows to adjust the elevation of the chair. It is possible to adjust elevation and position directly from the unit keypad, depending on the model.

Read the indications given in the instructions to use chairs.

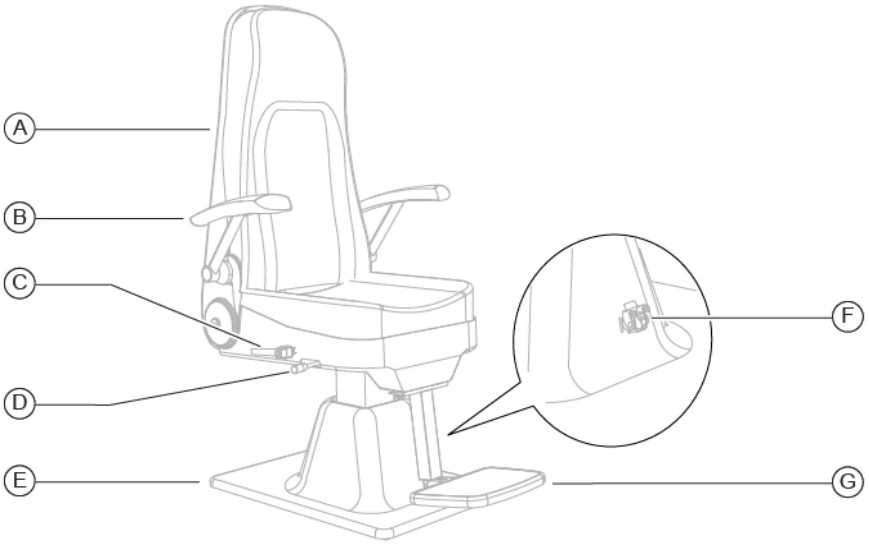


Fig 11 - Chair

Pos	Description
A	Chair
B	Movable arm
C	Lever for chair rotation
D	Lever for backrest reclining
E	Base with elevation
F	Outlet for connecting the chair to the ophthalmic unit
G	Footrest with adjustable baseplate

3.2 ACCESSORIES FOR PLACING THE DEVICE (OPTIONAL)

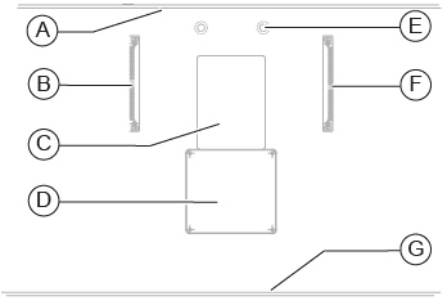


Fig 12 - Table top accessories

Pos	Description
A	Table top front edge
B	Left cogged guide
C	Sticker pad (for right/left alignment of the device)
D	Scrolling plate
E	Lower inserts for chin rest fixing
F	Right cogged guide
G	Table top rear edge

3.3 TECHNICAL DATA

Technical data	Version 230V	Version 120V
Supply voltage	230 Vac ±10%	120 Vac ±10%
Power frequency	50 Hz	60 Hz
Network fuses	4A T 5x20 mm	8A T 5x20 mm
Auxiliary sockets (chair and devices)	230 Vac 50 Hz	120 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 to 15 Vac for Ophthalmometer and slit lamp from 0 Vac to 15 Vac for the chin rest fixation point 2x230V for other devices	

Description	Value
Ophthalmic unit weight	253 Kg
Ophthalmic unit maximum size (LxDxH)	190x170x190 cm
Maximum weight for the table top	25 Kg
Maximum total weight for the table top arm	125 Kg

3.4 OPHTHALMIC UNIT BULK

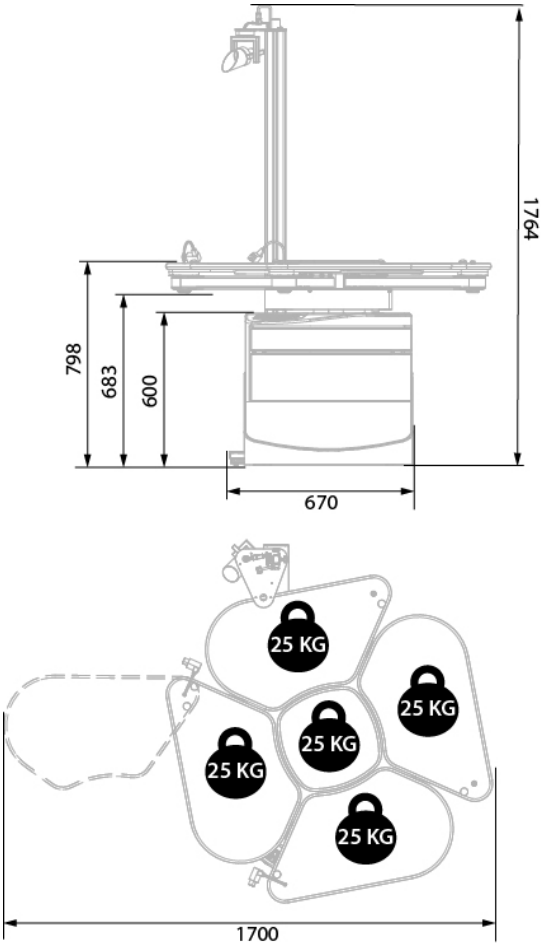


Fig 13 - VINTAGE ophthalmic unit bulk

Upon request, the maximum capacity of one or more table tops can be increased up to 35 Kg max.

4 DEVICE USE

4.1 HOW TO INSTALL THE OPHTHALMIC UNIT

For the ophthalmic unit installation procedure refer to the service manual. The installation has to be carried out by expert and competent personnel. The installation must be only carried out by expert authorised personnel.

4.2 HOW TO INSTALL STICKER PAD FOR PLACING THE DEVICE ON THE TABLE TOP

The ophthalmic unit allows to place two devices on the table top. Some devices, however, do not require installing further accessories to be placed on the table top. The chin rest support is fixed position: if you move the table top the chin rest will always be in front of the same device.

For the table top's configuration procedure for devices, please refer to the service manual.

1 Place the sticker pad between the two cogged wheels and the scrolling plate on the table top.
2 Verify the position respectively to the central axis (A).

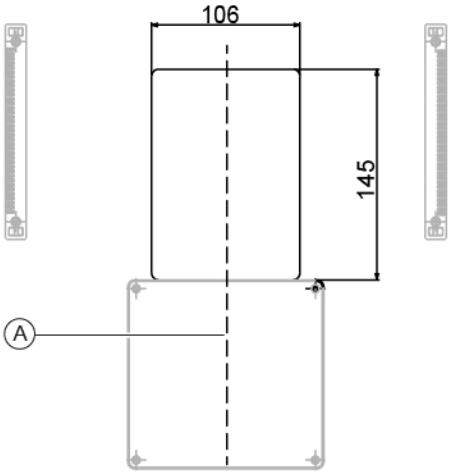


Fig 14 - Placing the sticker pad on the table top

4.3 HOW TO PLACE THE CHIN REST

1 Place the chin rest support under the table top. If required for the device, a chin rest shall be installed on each table top.
2 Fasten screws to the table top.
3 If a fixation point is provided, connect the cable to the outlet placed under the table top.

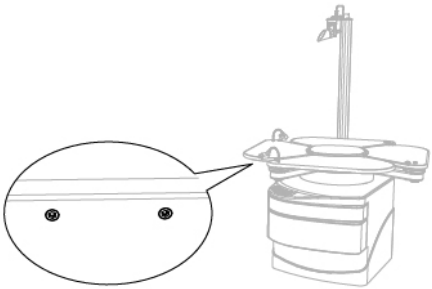


Fig 15 - Fixing holes on the table top

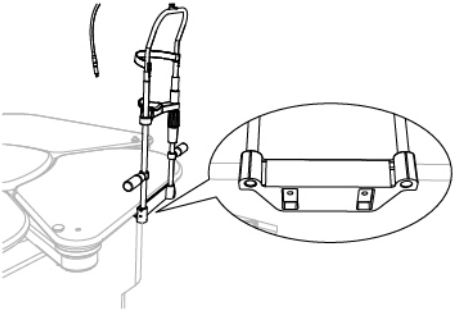


Fig 16 - Chin rest placement

4 Lift or lower the chin cup by rotating the knob.

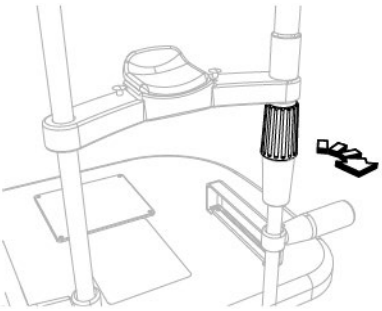


Fig 17 - Knob rotation

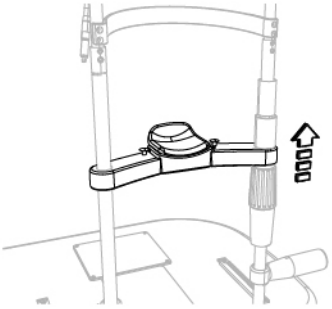


Fig 18 - Placing the chin cup

4.4 HOW TO PLACE DEVICES ON THE TABLE TOP

The Slit Lamp shall be placed in line with the outlet (C) on the table top. The device with 230V power shall be placed in line with the outlet (B) on the table top. The slit lamp luminous intensity can be adjusted by using the control keypad (A).

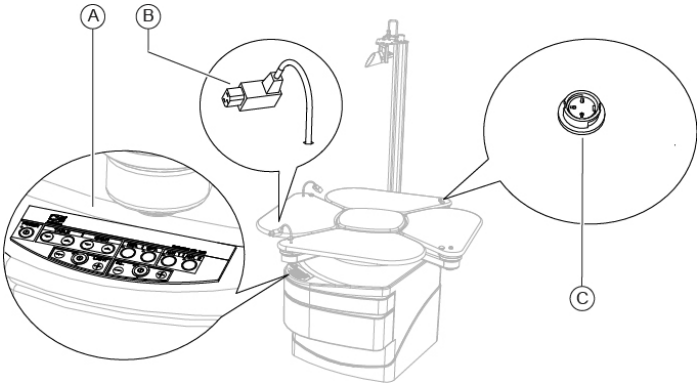


Fig 19 - Power supply ports

1 Place the device on the table top and align the cogged wheels on the cogged guides.

2 Fasten the two wheel cover carters to the cogged wheels on the table top.

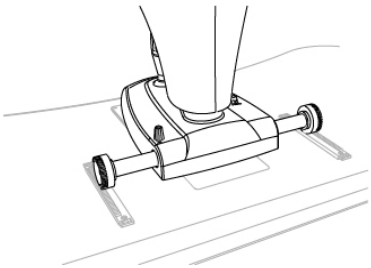


Fig 20 - Placement of the device

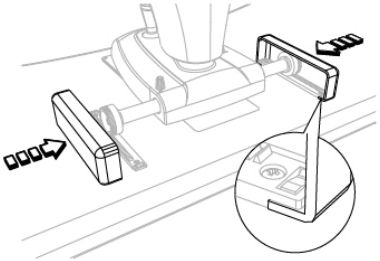


Fig 21 - Placement of wheel cover carters

3 Connect the device cables to both connectors placed on the table top. Connect 6V, 12V or 15V cables to the outlet (B). Connect the other devices, with 230V power, to the outlet (A).

4 Always make sure the fuse on the board is compatible with the 230V device connected to the same board. If this is not the case, install a device with the same power.

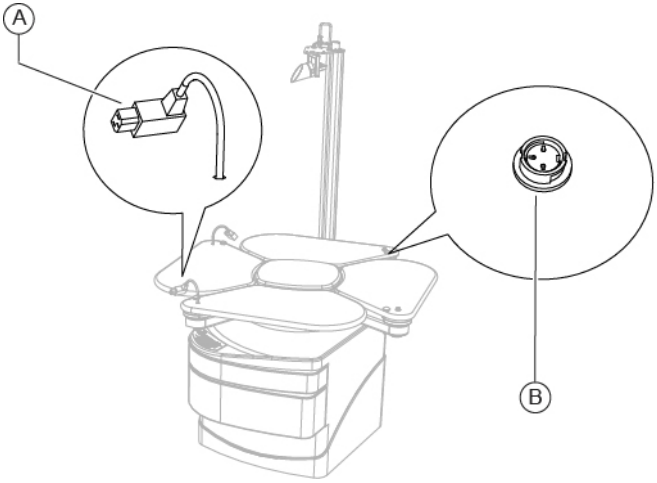


Fig 22 - Power supply ports on the table top

4.5 HOW TO CONNECT THE OPHTHALMIC UNIT

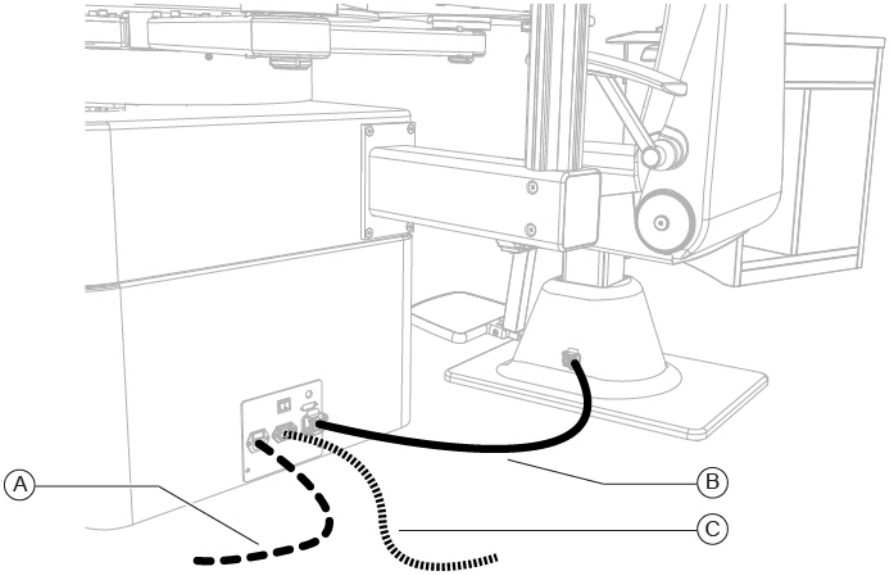


Fig 23 - Connecting the ophthalmic unit

Pos	Denomination
A	Power cable for connecting the ophthalmic unit to the power supply
B	Power cable for connecting the ophthalmic unit to the chair. The provision of the cable depends on the chair model.
C	Auxiliary power cable for connecting the ophthalmic unit to a device or an external accessory.

CAUTION
Danger of device falling down. Do not leave free cables which can represent an obstacle or a danger for the patient or the operator.

4.6 HOW TO TURN ON THE OPHTHALMIC UNIT

1 Press the main switch of the ophthalmic unit on ON.
2 Press the POWER button on the structure keypad. The projector will automatically turn on when the unit does.
3 Press the unlocking foot control of the table top arm.
4 Rotate the table top to place the device to be used.

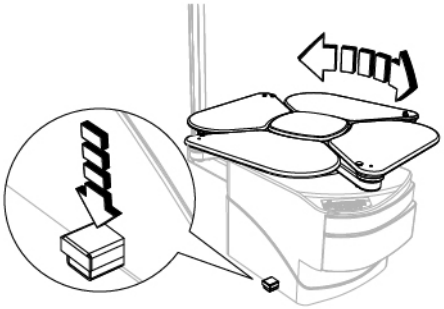


Fig 24 - Arm rotation

5 Press the button on the table top. Open the table top.

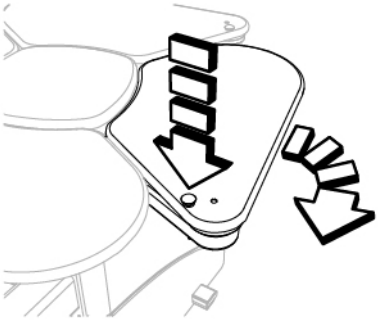


Fig 25 - Placing the table top

6 Press the CHAIR buttons (C) to adjust chair elevation.
7 Adjust table top elevation by pressing the TABLE button (B) on the control keypad.

CAUTION
Risk of object crushing. Do not leave objects on the structure table top. While adjusting table top elevation, the lower edge of the protection band represents a danger for the objects.

CAUTION
Risk of hand crushing. Do not keep hands on the structure table top. While adjusting table top elevation, the lower edge of the protection band represents a danger for the patient or the operator.

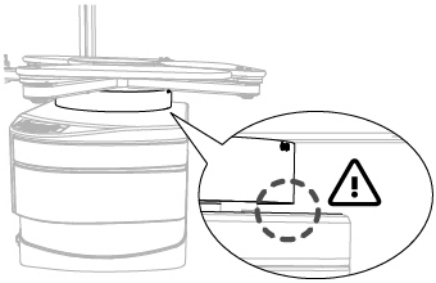


Fig 26 - Crushing risk

8 Adjust the spotlight intensity (H).

9 If using a slit lamp, adjust light intensity by pressing the buttons (I).

10 Press buttons (D), (E), (F) and (G) depending on the device to be used.

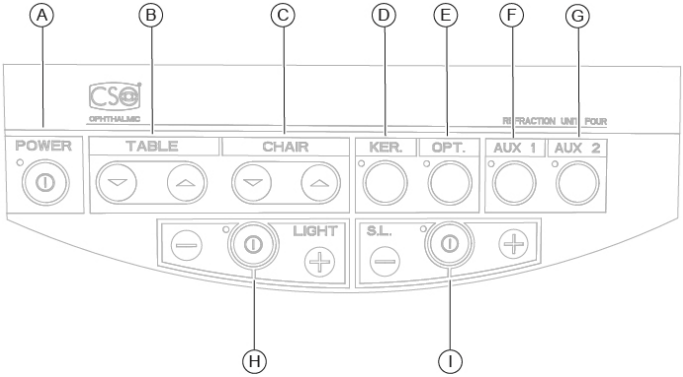


Fig 27 - Keypad on the arm of the table top

Command functions for the control keypad can be set during installation and programming operations.

4.7 HOW TO RESET THE CHAIR

Chair elevation can be restored by using the structure keypad.

1 Simultaneously press the chair adjustment buttons (A) placed on the structure keypad.

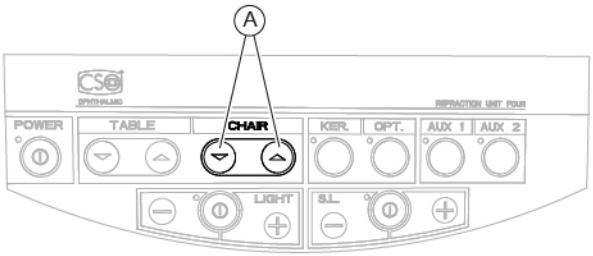


Fig 28 - Structure keypad

4.8 HOW TO SET FUNCTIONS

4.8.1 FUNCTIONS SETTING

1 Press the POWER button (A) on the structure keypad to turn on the ophthalmic unit.

2 Set the desired functions (e.g. AUX1, light).

3 Press and hold the POWER button (A) for 10 seconds circa. Wait for an acoustic signal.

4 Press the POWER button (A) on the structure keypad to turn on the ophthalmic unit. Functions are now set. To change functions repeat the indicated operations.

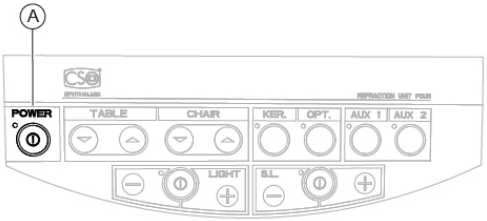


Fig 29 - Control keypad

4.8.2 SETTING THE SLIT LAMP LIGHT INTENSITY

1 Press the POWER button (A) to turn on the ophthalmic unit.
2 Press the POWER button (B) to turn on the slit lamp.
3 Press + buttons to adjust the slit lamp light intensity.
4 Press the POWER button (B) to turn off the slit lamp.
5 Press and hold the + button on the structure keypad for 10 seconds circa. Wait for an acoustic signal.
6 Press the POWER button (A) on the control keypad to turn on the ophthalmic unit. Functions are now set. To change functions repeat the indicated operations.

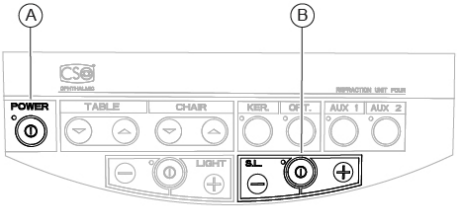


Fig 30 - Control keypad

4.8.3 ADJUSTING THE SPOTLIGHT INTENSITY

1 Press the POWER button (A) to turn on the ophthalmic unit.
2 Press the LIGHT button (C) to turn on the spotlight.
3 Press + (B) and - (D) buttons to adjust the spotlight intensity.
4 Press the POWER button (A) to turn off the ophthalmic unit.
5 Press and hold the + button (B) on the control keypad for 10 seconds circa. Wait for an acoustic signal.
6 Press the POWER button (A) on the structure keypad to turn on the ophthalmic unit. Functions are now set. To change functions repeat the indicated operations.

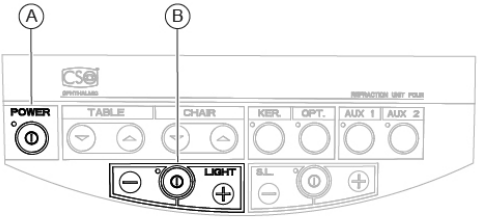


Fig 31 - Control keypad

4.8.4 SETTING BUTTONS AUX1 AND AUX2

AUX1 and AUX2 buttons can have double or single function according to the settings programmed during the installation stage.
The AUX2 button simultaneously commands another function: an AUX2 INS switch (jumper8 connector on the electronic tab) which allows for both turning on an external lamp from a switch placed in the room and the AUX2 button.

1 When the ophthalmic unit is off, press the AUX1 (A) or AUX2 (B) button, then wait for an indicator to turn on and for an extended acoustic signal.

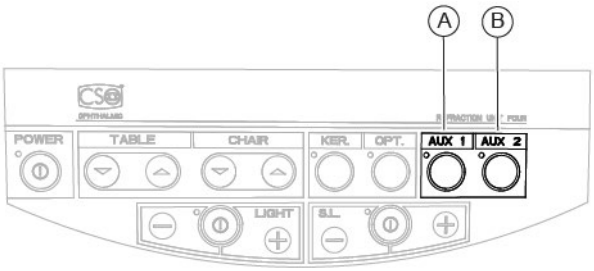


Fig 32 - Control keypad

4.9 HOW TO USE THE AUX FUNCTION

The ophthalmic unit is equipped with two auxiliary outputs to directly power devices with a 230V supply (maximum absorbed power 100W).
Auxiliary outputs are placed on the power outlets module (1 and 1 directly on the board under AUTOREF).
Press the POWER button on the ophthalmic unit keypad to activate auxiliary outlets.

4.10 HOW TO USE THE KER AND OPT BUTTONS

1 Press the OPT button (B) to turn on the 230V device. The LED will show the device is on.

2 Press the KER button (A) to turn on the ophthalmometer or a 6V or 12V device. The LED will show the device is on.

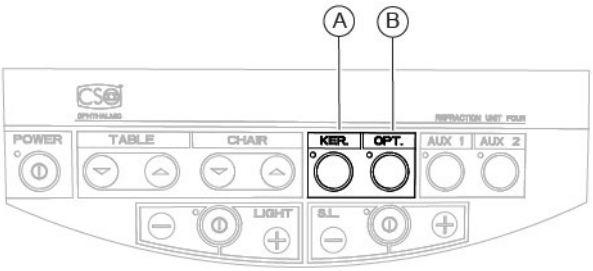


Fig 33 - Control keypad

4.11 HOW TO PLACE THE TABLE TOP TO EXAMINE THE PATIENT

1 Inform the patient to take a seat.
2 Press the unlocking foot control.
3 Manually place the arm and the table top in front of the patient.
4 Press the button of the chosen device to turn on the table top.

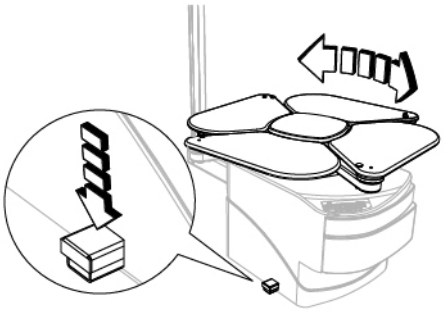


Fig 34 - Moving the table top arm

The table top can rotate at 360 degrees both clockwise and counterclockwise.

5 Place the table top in front of the patient. To open the table top, press the button on it. Turn the table top by 45° until reaching the locking position towards the outer part of the table top.
6 Check the patient's height respectively to the chin rest. Press the chair height adjustment button on the command keypad.
7 Perform the check-up with the medical device.

Refer to the device user manual and, if needed, the software user manual to perform medical investigations.

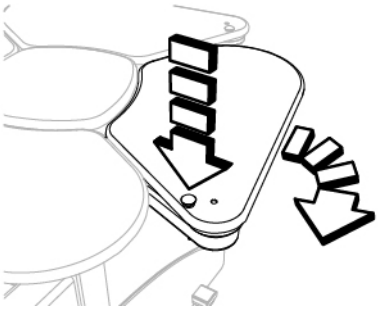


Fig 35 - Table top open position

8 To use another device close the table top. Press the button and turn the table top by 45° until reaching the locking position towards the inner part of the table.

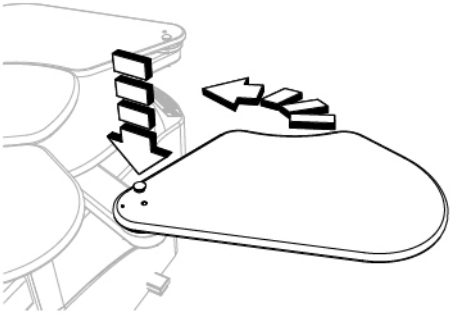


Fig 36 - Table top closed position

9 Perform the check-up with the medical device.

Refer to the device user manual and, if needed, the software user manual to perform medical investigations.

10 Once the check-up ends, close the table top. Press the button and turn the table top by 45° until reaching the locking position towards the inner part of the table.

11 Tell the patient to get up.

4.11.1 HOW TO PLACE THE TABLE TOP TO EXAMINE MOBILITY IMPAIRED PATIENTS

1 Open the table top perpendicularly respectively to the column position. Press the button on the table top. Turn the table top by 45° until reaching the locking position towards the outer part of the table.
2 Place the patient in front of the table top.
3 Adjust the table top height and the chin rest height.
4 Perform the check-up with the medical device.

Refer to the device user manual and, if needed, the software user manual to perform medical investigations.

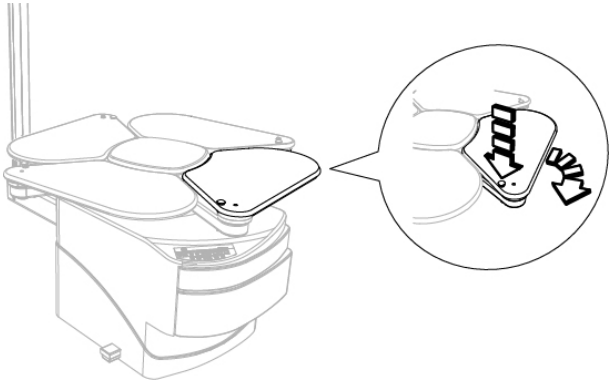


Fig 37 - Moving the table top

5 To use another device close the table top. Press the button and turn the table top by 45° until reaching the locking position towards the inner part of the table.
6 Perform the check-up with the medical device.

Refer to the device user manual and, if needed, the software user manual to perform medical investigations.

7 Once the check-up ends, close the table top. Press the button and turn the table top by 45° until reaching the locking position towards the inner part of the table.

4.12 HOW TO TURN OFF THE DEVICE

CAUTION
Do not turn off the unit and do not disconnect the connection cable when it is in use.

Before turning off the ophthalmic unit, make sure the devices presenting an integrated operating system that needs to be turned off, if present, have been turned off.

1 Press the ON/OFF button on the arm keypad of the table top.
2 Turn the ON/OFF button on OFF.
3 Disconnect the power cable from the power supply.

4.13 HOW TO USE THE OPHTHALMIC UNIT IN THE EVENT OF ELECTRICAL FAILURE

The ophthalmic unit is provided with a system that allows for continuing tests even in the event of a circuit board failure. To restore the proper functioning of the ophthalmic unit, the electronic tab needs to be replaced.

The following procedure can only be carried out by expert authorised personnel.

1 Identify failure causes.
2 Press the ON/OFF button on the keypad to turn off the ophthalmic unit.
3 Disconnect the power cable from the power supply.
4 Open the compartment related to the electronic tab.
5 Move the needed jumpers on the circuit board to keep using the ophthalmic unit in emergency mode.

Here follow the main Jumpers:

Pos	Jumper	Description
A	Jumper JP1 from NORM to EMER	Allows for chair elevation by using the up and down buttons
B	Jumper JP4 from NORM to EMER	Allows for table top elevation by using the up and down buttons
C	Jumper JP8 from NORM to EMER	Allows for turning on all functions of the ophthalmic unit.
D	Jumper JP3 from NORM to EMER	Allows for turning on the devices placed on the table top
E	Jumper JP9 from NORM to EMER	Allows for turning on the spotlight

4.14 HOW TO MOVE AND DISASSEMBLE THE OPHTHALMIC UNIT

4.14.1 DISASSEMBLING THE OPHTHALMIC UNIT

For the disassembly procedure refer to the installation manual.

For the ophthalmic unit disassembly procedure refer to the service manual. The procedure has to be carried out by expert and competent personnel. The disassembly procedure must be only carried out by expert authorised personnel.

Before disassembling and reassembling the ophthalmic unit make sure the power supply cable is unplugged.

4.14.2 TRANSPORTING THE OPHTHALMIC UNIT

For the ophthalmic unit transport procedure refer to the service manual. The procedure has to be carried out by expert and competent personnel. The transport procedure must be only carried out by expert authorised personnel.

The weight of some components of the ophthalmic unit exceeds 25 kg.
Always move the component considering its weight and the number of operators needed.

Size	Weight
190x170x190	253 Kg

Components	Size (cm)	Components weight (Kg)	Number of operators
Base	72x64x73	99	4
Motor	21x21x37	18	1
Structure	94x67x62	52	3
Arm with table tops	100x100x18	62 (arm)	3
		40 (table tops)	2
Column	8x8x130	5	1

CAUTION
Danger of objects damage. Be careful not to hit the electronic tab while moving it. Make sure the electronic tab is protected before moving it.

5 ORDINARY MAINTENANCE

5.1 SAFETY WARNINGS

DANGER
Electric shock danger. Unplug the power cable from the mains socket before disinfecting the device and before any maintenance operation.

CAUTION
The device does not contain any piece that requires the user's intervention. Do not dismantle any part of the device.

It is forbidden to carry out any maintenance operation on the device that is not recalled in the instructions for use.

In case of operational faults or malfunctions or for every maintenance operation not mentioned in the instructions for use, there is the obligation to address an authorized technical service centre of the device Manufacturer.

5.2 DEVICE CLEANING

Clean the external parts of the unit using a damp non-abrasive cloth to avoid damaging the material. Use soap and water to remove stains on the table top.

CAUTION
Danger of material damages. Do not use solvents or diluents to clean the device.

5.3 NETWORK FUSES REPLACEMENT

CAUTION

Danger of material damages. The fuses have to be replaced only when the power cable is disconnected from the mains power. For any other kind of fault please contact the installation company.

1 Pull out the fuse drawer. Remove fuses to be replaced.
2 Check that the new fuses value is compatible with the voltage of the electrical system. Check the data reported on the power outlets.
3 Place new fuses into the fuse drawer.
4 Put back the fuse drawer in the ophthalmic unit module.
5 Connect again the power cable to the power supply.

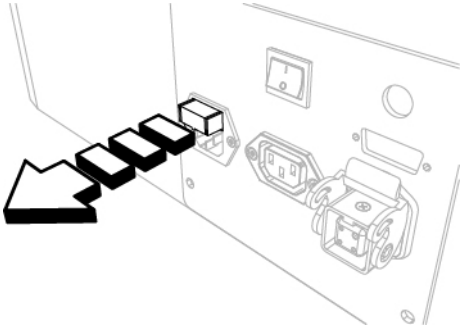


Fig 38 - Fuse drawer

5.4 SPARE PARTS AND ACCESSORIES LIST

To order spare parts or accessories, provide the product code as indicated in the list. If not included in the list, contact the Manufacturer or the local Distributor.

Code	Description
120811100	Electronic tab
300502240	Motor up
100811122	Unlocking cable
610435-32007	Conical bearing for arm
610455-32011	Conical bearing for table
4109010	Decelerator
330801090	Flat cable
100811121	Command keypad
100811520	Spot Diapason Twister
30080250010	Halopar light
100811326	Unlocking pin
301304140	Power supply unit
100811350V	Table top
330803040	Chair cable

5.5 TROUBLESHOOTING

Issue	Cause	Solution	Note
The ON/OFF button on the keypad does not work	Power cable not connected to the power supply unit.	Connect the power cable of the unit to the power supply outlet. Press the main switch of the ophthalmic unit on ON.	Verify the connection between the ophthalmic unit and the mains power. Check the functioning of the fuses. Verify the connection of the keypad.
The chair does not respond to the commands	Power cable not connected to the ophthalmic unit.	Connect the power cable of the chair to the outlet on the chair base and on the outlets panel of the ophthalmic unit.	Check the functioning of the up and down movement on the chair cable. Check that the chair motor is functioning properly by powering it separately.
The table top does not rotate or does not block		Check the releasing rope condition.	If the problem persists, check the bearings condition of the locking mechanism and the stopping unit.
The keypad does not turn on	Connection cables are not connected properly.	Connect the connection cables properly.	Verify the cables connection. Check the keypad buttons' condition. Check the electronic tab is properly powered. If everything is functioning, select the EMER mode for the electronic tab by moving the jumper (see paragraph 4.13).

Issue	Cause	Solution	Note
The table top does not rotate properly	The table top is not properly installed.	Check locking brackets. Check if the locking system is properly functioning. Check the foot control is properly functioning.	If the problem persists, check the bearings and the steel bars' condition. Make sure nothing blocks the rotating mechanism.
The devices connected to the table of the ophthalmic unit do not work	Connection cables are not connected properly.	Connect the connection cables properly.	Check that the table top is connected. Check the output voltage. Connector on the table top. Check the right power has been programmed.
The spotlight or the different outputs do not turn on.	Connection cables are not connected properly. The different devices might be off or not working	Connect the connection cables properly.	Check that the cables are connected properly. Check the output voltage for each peripheral device that is not working. Check the fuse for each relative output. Check the functioning of the connected units. If the problem persists, activate the emergency system for turning on the devices.

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