producing quality

INSTRUCTIONS FOR USE

OPTIMUS ELITE WORKSTATION

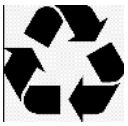
Rev 3.0. - 29/06/2023

www.optomic.com

OPTIMUS ELITE WORKSTATION

1. INDEX

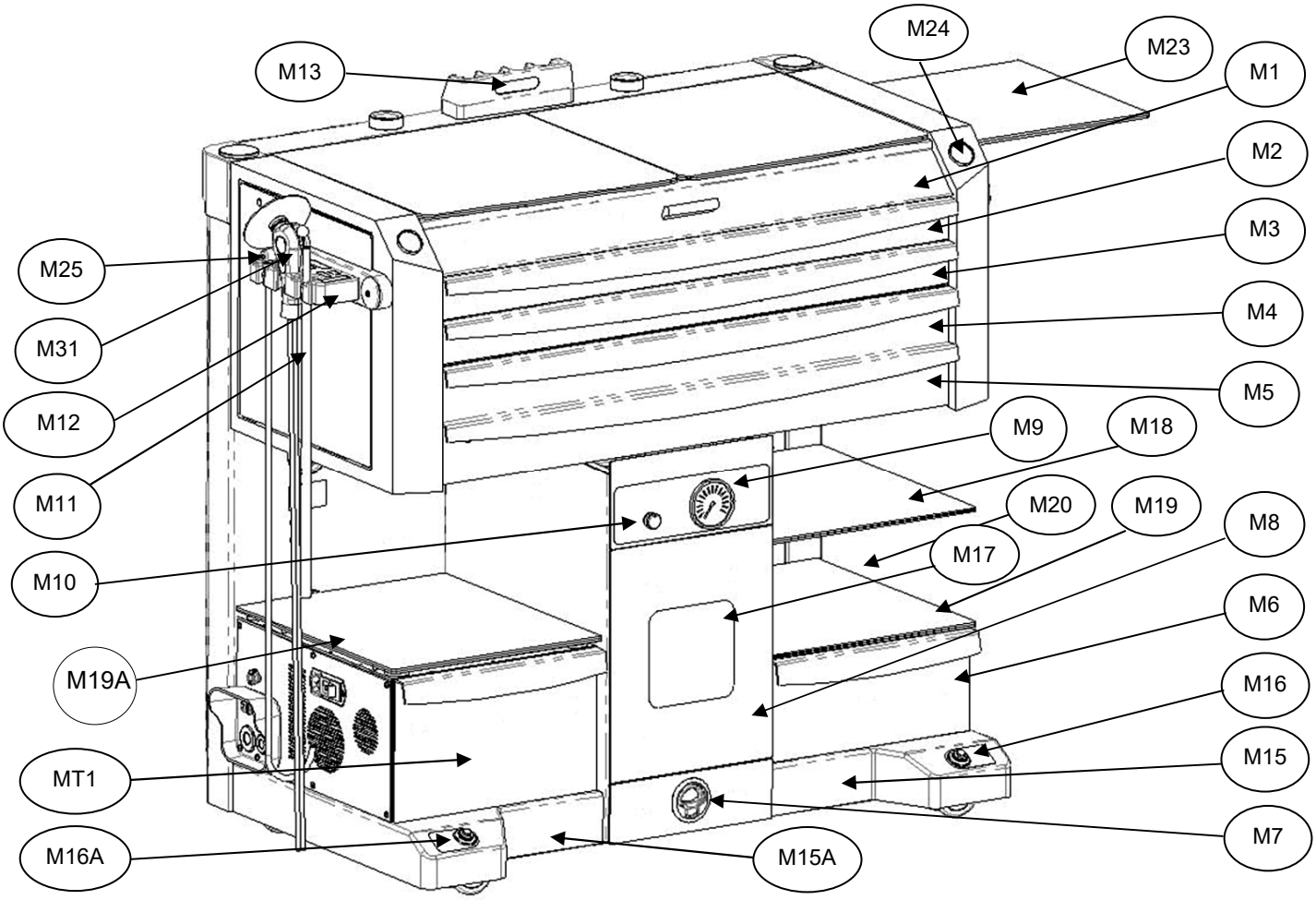
2. Safety symbols and instructions

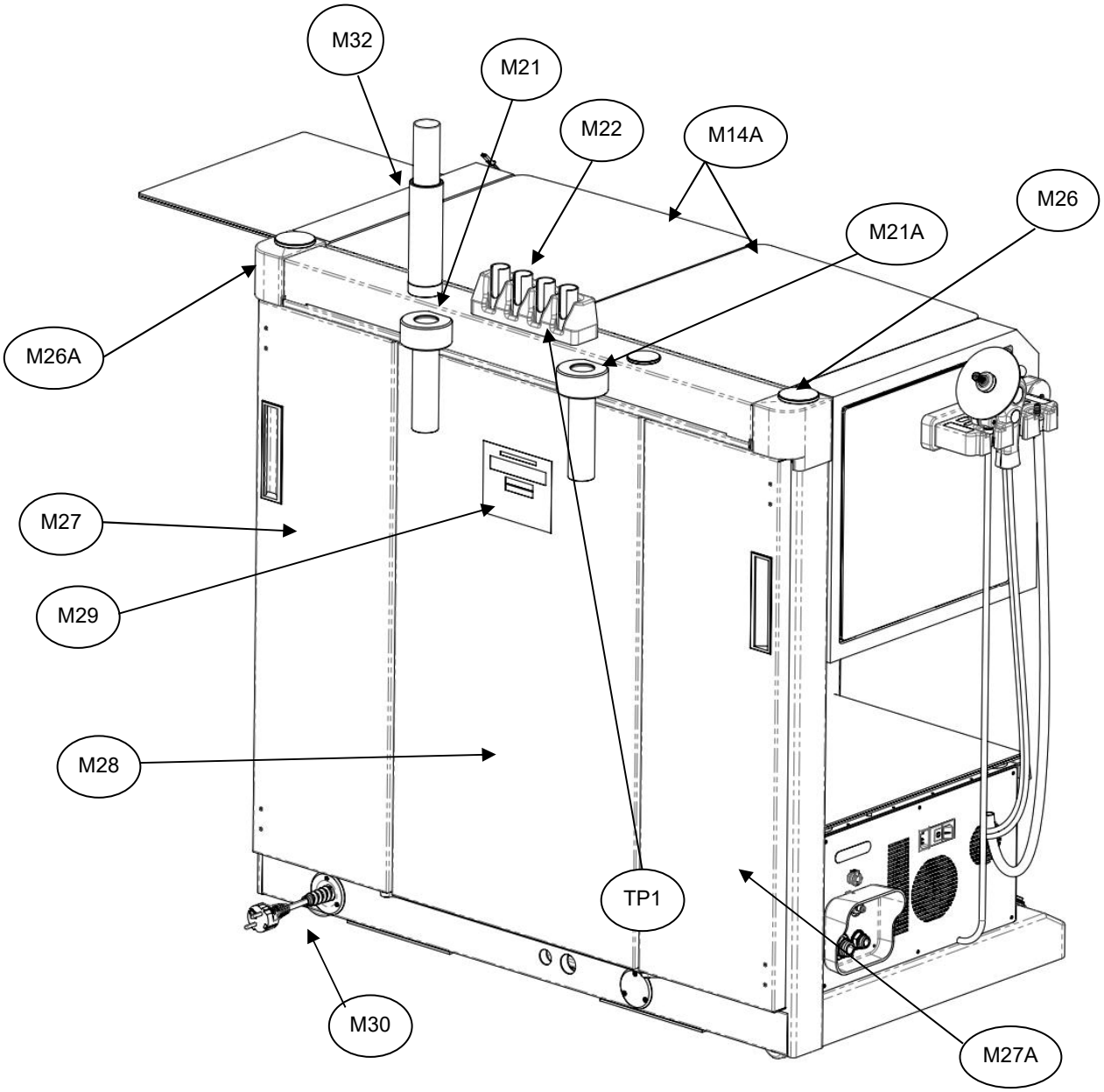
	Warning The term warning calls attention to a dangerous situation for the patient or the doctor. Failure to observe this notice could lead to injuries for the patient or the doctor.
	Caution The term caution draws attention to certain maintenance or safety measures that must be carried out in order to avoid damage to the device.
NOTE	Note The paragraph named with the term contain special information for handing the equipment.
	Recycling symbol
	Device type B
	Equipotential
	Stand by
	Earth
	Manufacturer
	Serial Number
	Electric and electronic device waste

	Operation instructions
	Alternating current
	Continuous current
	Certificate CE
	Autotransformer
	Medical Device
YYYY	XX YYYY ZZZZ Manufacturer`s identification date in SN. YYYY being the year of manufacture

OPTOMIC ESPAÑA S.A. reserves all rights to change the design and specifications contained in this manual without prior notice.

3. Product description





M1	**DRAWER**	**M13**	**OPTOMIC LOGO**	**M25**	**PRESSURE CONTROL**
M2	**DRAWER**	**M14**	**GLASS LID**	**M26/M26A**	**ACCESSORIES SUPPORT**
M3	**DRAWER**	**M15/M15A**	**BASE CASING**	**M27/M27A**	**SIDE DOORS**
M4	**DRAWER**	**M16/M16A**	**BIN BUTTON**	**M28**	**BACK PLATE**
M5	**DRAWER**	**M17**	**PUSH LABEL**	**M29**	**PRODUCT IDENTIFICATION**
M6	**DRAWER**	**M18**	**GLASS SHELVES**	**M30**	**MAINS CABLE**
M7	**HANDLE**	**M19/M19A**	**LOWER GLASS SHELVES**	**M31**	**IRRIGATION CONTROL**
M8	**BIN DRAWER**	**M20**	**DRAWER LOCK**	**M32**	**HEATING FIBERSCOPE**
M9	**GAUGE**	**M21/M21A**	**FIBERSCOPE TUBE'S SUPPORT**	**MT1**	**ELITE SYSTEM**
M10	**VACUUM CONTROL**	**M22**	**RIGID ENDOSCOPES SUPPORT**	**TP1**	**PLASTIC SHEATHS**
M11	**SUCTION HOSE**	**M23**	**SIDE GLASS**	**MM1**	**MICROSCOPE'S SUPPORT**
M12	**HOSE SUPPORT**	**M24**	**ON/OFF LED LIGHT SWITCH**	**MS1**	**MONITOR'S SUPPORT**

4. Intended use

The OPTIMUS ELITE workstation is indicated in the ENT specialty with the following functions:

- Removing cerumen from the ear through the aspiration and irrigation system,
- Cleaning the oral cavity to be examined using the pressure system,
- Storage of medical devices

Residual risks: No residual risks directly related to the product.

The following contraindications are considered relevant:

- Severe otitis
- Perforation of the eardrum
- Bacterial infection of the ear.

Side effects: there are no side effects that are directly related to the product.

5. User's qualification

The OPTIMUS ELITE workstation can only be used by personnel with the corresponding medical qualification.

The indications contained in the instructions for use are specific tools for handling, cleaning and maintenance of the equipment.

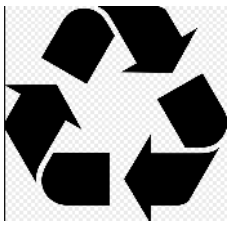
6. Warning indications

Please read these instructions for use as carefully as possible and strictly observe their instructions. The terms of warning, caution and note have special meanings. When they appear in the instructions for use, the text must be read carefully.

	Read the instructions for use before using the equipment.
	Check before use, operation and cleaning.
	Check the perfect condition of the equipment and accessories used in combination. Damaged equipment or accessories should no longer be used.
	Only the accessories specified in these instructions for use can be used. Follow carefully the instructions for use and the specifications of the medical equipment used in combination.
	The device must not be used in places where there is a danger of explosion.
	The equipment must not be used with hazardous gases or in conjunction with equipment that generates dangerous gases
	To avoid the risk of electric shock, this equipment must be connected to a power supply network with protective earth.

	Portable and mobile RF equipment can affect the proper functioning of the equipment. In the hypothetical case of the occurrence of electromagnetic interference, you can eliminate them by modifying the orientation or location of the equipment, reducing the distance between equipment or connecting the different devices to the independent electrical circuits.
	The use of the power cable other than the one supplied, with the exception of those sold by OPTOMIC, may cause an increase in emissions or a decrease in the immunity of the equipment.
	Safety related parts will be replaced only by original parts.
	The use of gloves is mandatory for the safe use of the device
	The pression atomizer is only suitable for saline solutions no for medicaments
	According to the legal provisions, the manufacturer is only liable for the safety specifications of the device if the maintenance, repair, and modification work is carried out by himself or by another person authorized by him. Otherwise, the manufacturer will not assume any responsibility, making NULL AND VOID the right of warranty and/or claim. The manufacturer shall also decline any liability for improper use of the equipment or if it has been used for purposes other than that for which it was MANUFACTURED. Safety-related components must only be replaced with original parts. After each modification or repair, a safety test must be carried out to ensure that the equipment complies with the technical safety specifications of current regulations.
	Repair of the device, regardless of importance, must only be carried out by qualified personnel who have passed the training course provided by OPTOMIC ESPAÑA, S.A. to authorized technicians. The user, or authorized distributor, is fully responsible for verifying that said technical personnel are qualified and authorized.

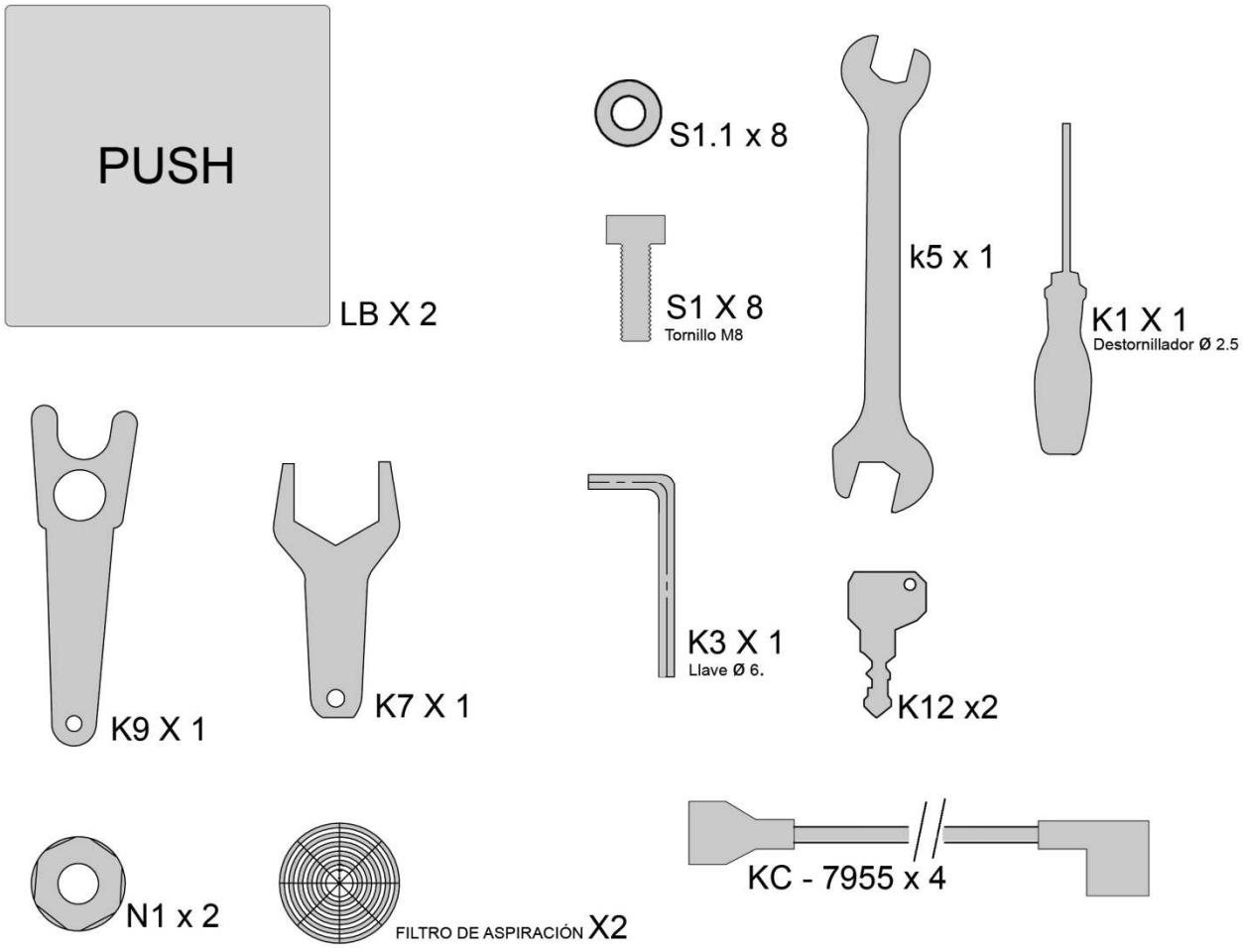
	Observer of the instructions for use for cleaning and maintenance of the equipment.

NOTE	Equipment damage resulting from improper handling of the equipment will not be recognized as a warranty right.	
	This equipment contains electronic components that can be harmful to the environment if they are not managed safely, so once the useful life of the required equipment is finished, follow the relevant national and local regulations. Regarding the management of electrical and electronic waste or the product may be returned to Optomic. to manage the recycling of hazardous components.	
	Any serious incident related to the product must be communicated to the manufacturer.	

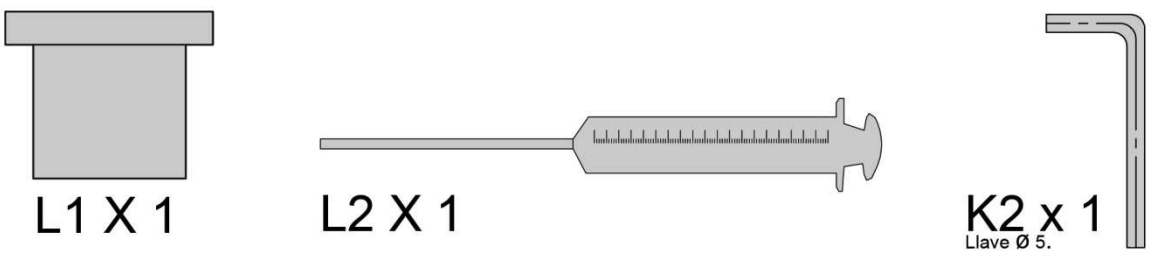
7. List of contents and unpacking

7.1. Tools and components for the Optimus Elite workstation

- Workstation
- Instructions for use
- Tools



LUBRICATION OF THE PUMP



7.2. Unpacking

The workstation is supplied with its own transport packaging and fixings.

1. Cut the strapping. (Fig. 1)
2. Remove the lid **T1**. (Fig. 2 and 3)
3. Locate the front panel **T2**, which forms the ramp. (Fig. 4)
4. Remove the front panel by unscrewing the side and front screws. (Fig. 4)
5. Place the ramp, front panel **T2**, in front of the pallet.(Fig. 5)
6. Unscrew the side panels **T3** and remove. (Fig. 6)
7. Optional: The transport handles **T4** are located on the sides. Remove the screws that attach them to the wood and remove the shafts **T5** that are located inside the pallet. (Fig. 7, 8 and 33). (See corresponding section).
8. Remove the back.
9. Optional: Remove the cardboard box which contains the accessories. (Fig. 9)
10. Remove the plastic with a cutter, taking care not to damage the workstation. (Fig. 10)
11. Remove the two cardboard boxes which contain the two bottom drawers. (Fig. 11)
12. Remove the protective side packaging **T11**. (Fig. 12)
13. Remove the 3 8x20 screws **T6** and the 3 8x90 screws **T7** (Fig. 13 and 14)
14. Place the 2 8x20 screws **T8 to** to lift the workstation a few millimetres and free the wood **T9**. (Fig. 15)
15. Remove the wood **T9**. (Fig. 16)
16. Roll the workstation down the ramp. (Fig. 17)
17. Place the workstation in the desired location.
18. If the equipment must be transported to a different level, use the transport handles (see corresponding section).

This manoeuvre should be carried out by at least 2 people. <u>One person should not attempt to unload the workstation from the pallet</u>, even by wheeling it off**.**

Given its weight, the workstation should be moved with **great care** and always by people who are experienced at moving heavy loads. Ensure that legs and feet are protected at all times and check constantly that no objects, animals, or children are in the way.

Fig. 1

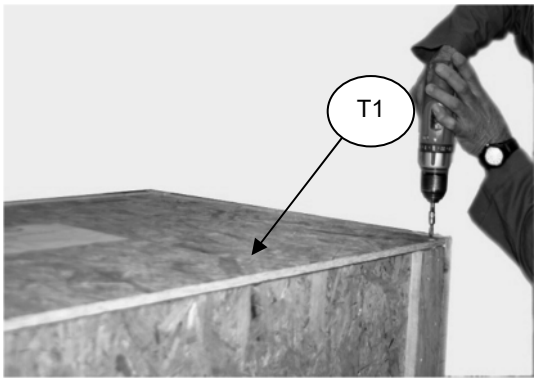


Fig. 2

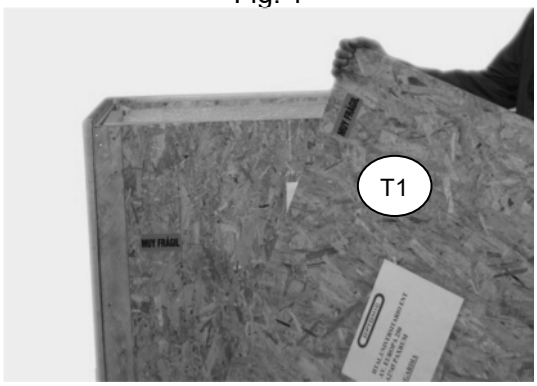


Fig.3

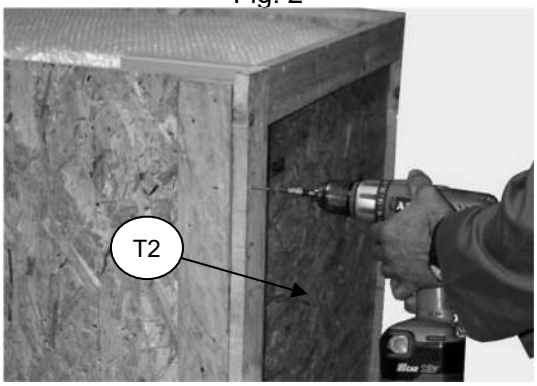


Fig. 4

Fig.5

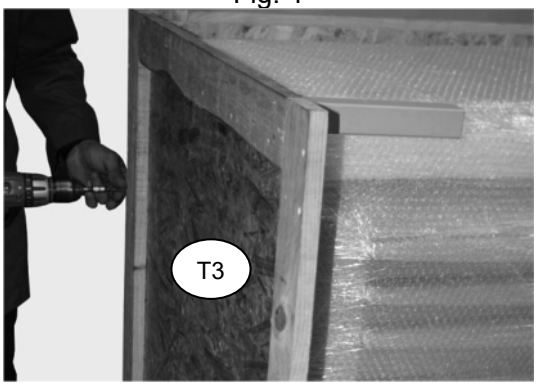


Fig. 6

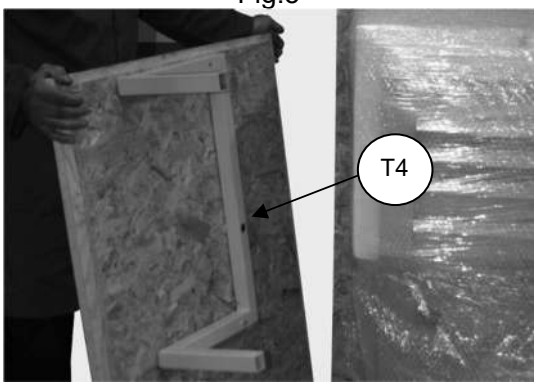


Fig.7

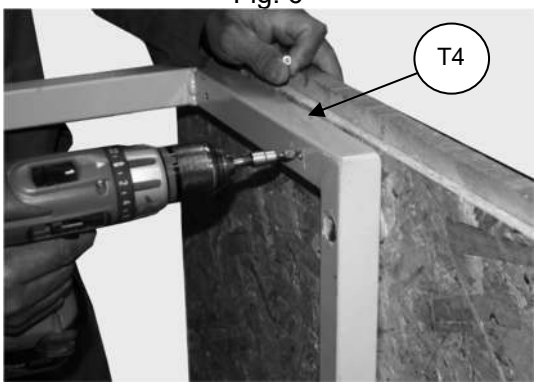


Fig. 8

Fig.9


Fig. 10

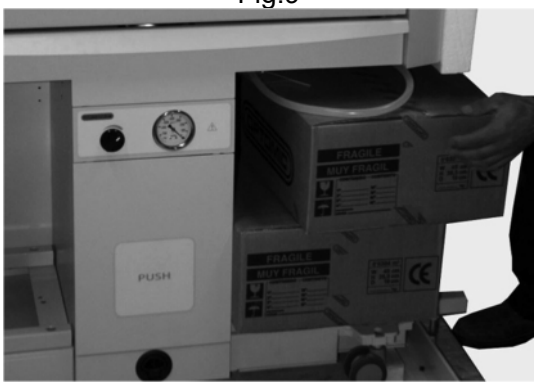


Fig.11

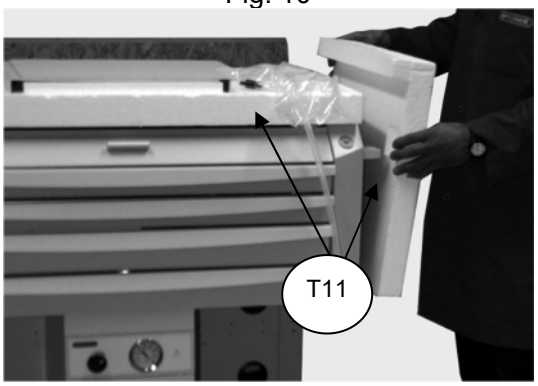


Fig. 12

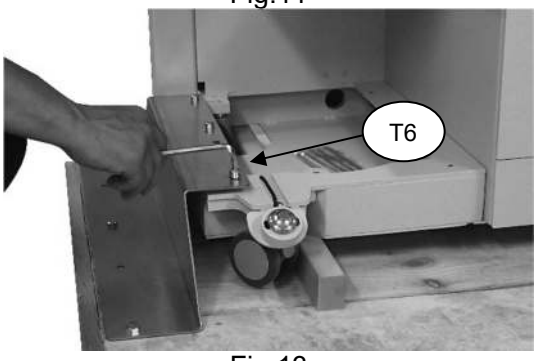


Fig.13

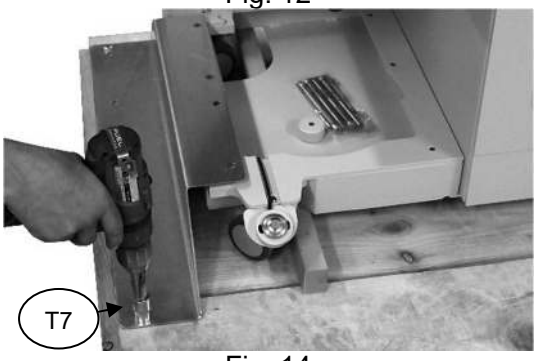


Fig. 14

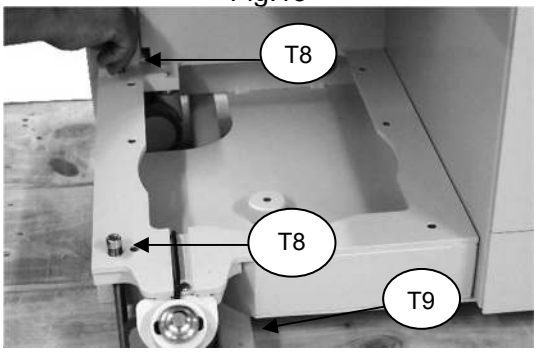


Fig.15

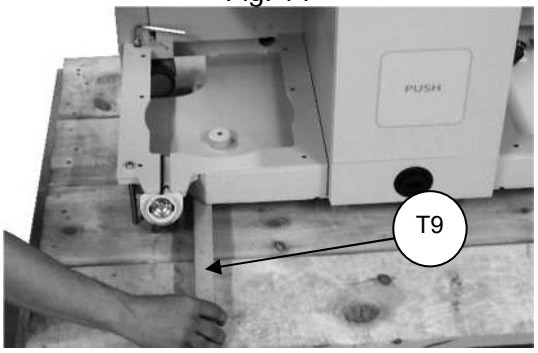


Fig. 16

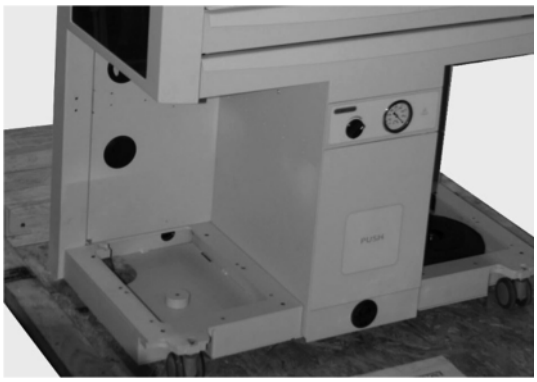


Fig.17

7.3. Optional: transport handles

⚠	***This manoeuvre must be carried out by at least 2 people.***

In the event that the workstation has to be transported over an uneven area or up a staircase, the carrying handles (optional) should be used and the weight of the workstation reduced by removing the drawers and other elements.
Total weight of the workstation – 210 Kg

1. Remove the five upper drawers **M1**, **M2**, **M3**, **M4** and **M5**.
   - Open the drawer.
   - Raise the plastic catch on the left hand drawer guide.
   - Lower the plastic catch on the right hand guide.
   - Remove the drawer (Fig. 18 and 19).
2. Remove the side glass **M23** removing first the captive screws in the hinges (Fig. 20)
3. Carefully remove the hinge axes, as the side extensions **M23** are free (Fig. 21)
4. Take out the glass extensions (Fig. 22)
5. Remove the central drawer **M8**:
   - Open the central drawer **M8** using the handle **M7** (Fig. 28).
   - Remove the suction hose connections of the bottle **PATIENT** (Fig. 29)
   - Remove the drawer (Fig. 30, 31 and 32)
6. Remove at the back the two doors which cover the cables **M27** and **M27A**, by opening them and unscrewing the grounding cable (Fig. 23, 24 and 25) and removing the latch (Fig. 26 and 27).
7. Screw the shafts **T5** (Fig. 33) onto the transport handles **T4** (Fig. 33)
8. Screw the four square yellow pipes **T10** to the workstation with two screws for each pipe. They are the same pipes that were removed when the workstation was unpacked (Fig. 17 and 18)
9. Insert the transport handles shafts **T4** in the pipes **T10** (Fig. 35).
10. Screw the transport handles **T4** to the pipes **T10** to properly attach them. (Fig. 36).
11. Lift the workstation by the transport handles to negotiate the stairs. (Fig. 37).

Fig.18

Fig. 19

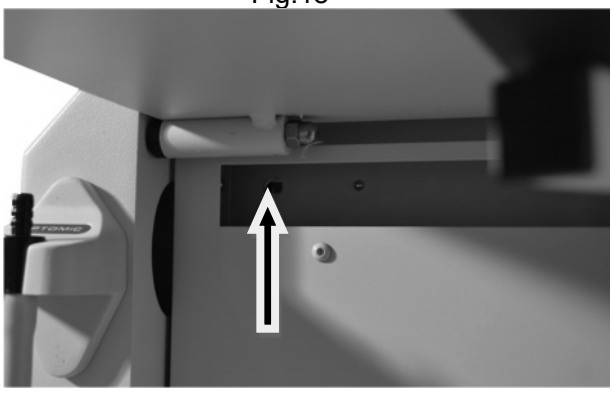


Fig.20

Fig. 21

Fig.22

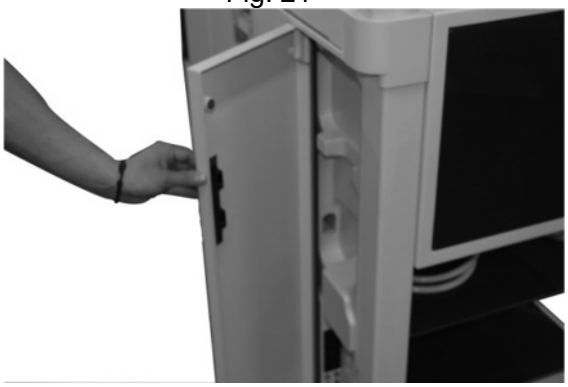


Fig. 23

Fig.24

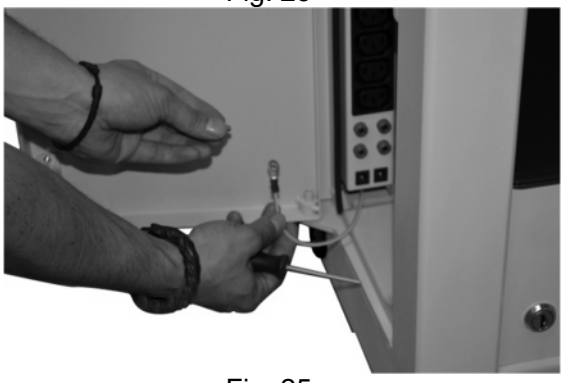


Fig. 25

Fig.26

Fig. 27

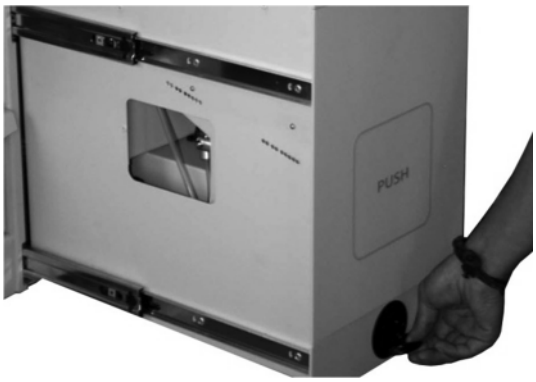


Fig.28

Fig. 29

Fig.30

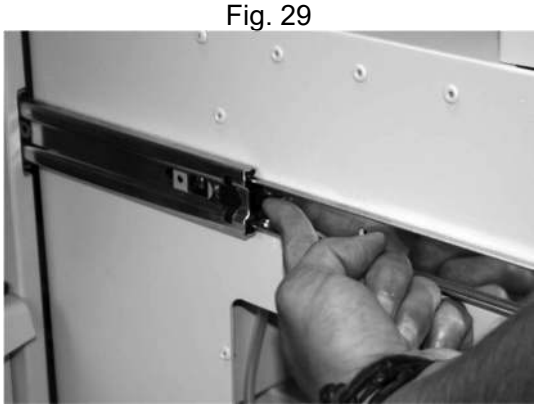


Fig. 31

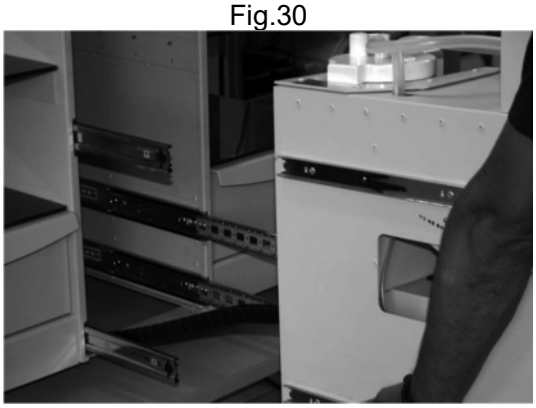


Fig.32

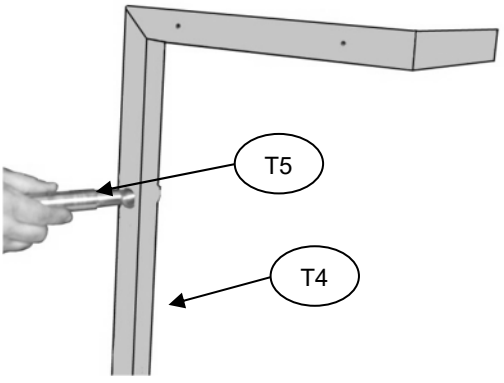


Fig. 33

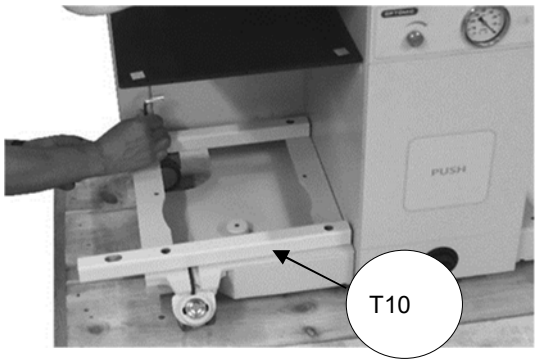


Fig. 34

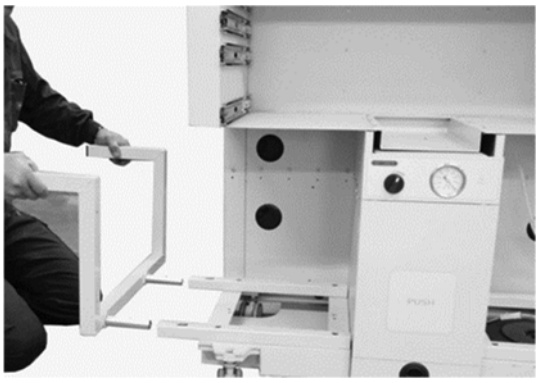


Fig.35

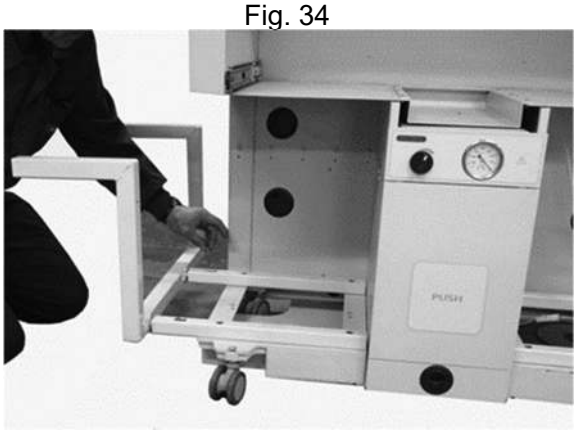


Fig. 36

Fig.37

12 After positioning the workstation in the desired location, follow the previous steps in reverse order:

- Remove the transport handles.
- Remove the pipes.
- Insert the upper drawers, match up the guides and push the drawers all the way in. Tap gently to ensure the guides slot into place correctly.

NOTE	When you find resistance, with small pushes you will overcome the entry of the guides, so we will very easily introduce the drawers completely.

- Insert the central drawer, and connect the hose **M11** to the bottle, match up the guides and push the drawer **M8** all the way in.
- Fit the side doors **M27**.
- Fit the side glass extensions **M23**.

8. Start up

8.1. Installation of drawers and shelves

1. Remove the plastic housing **M15** from the top. (Fig. 39)
2. Remove the polystyrene **T11**. (Fig. 40)
3. Take the box which contains the side shelves (Fig. 41)
4. Remove the side shelves carefully. (Fig. 42)
5. Remove the keys and screws.
6. Fit the side shelves **M18** . (Fig. 43 and 44)

7. Fit the plastic housing **M15** and **M15A**. (Fig. 45) carefully matching the rear, the central drawer unit and the **M16 and M16A** bin pushers (Fig. 46).
8. Attach the plastic housings **M15** and **M15A** with the nuts **N1** and the key **K7** (Fig.47)
9. Remove the drawers **M6** from the cardboard boxes. (Fig. 48 and 10)
10. The drawers **M6** contain power cables for equipment on shelves **CB 1** and the drawers' key. (Fig. 49)
11. Remove the drawers from the drawer frame by raising the catch on one drawer guide and lowering the other. (Fig. 50 and 51)
12. Place the drawer frame **M6** on top of the plastic housing **M15** and screw on. (Fig. 52)
13. Insert the drawers, match up the guides and push the drawer all the way in. (Fig. 53 and 54).

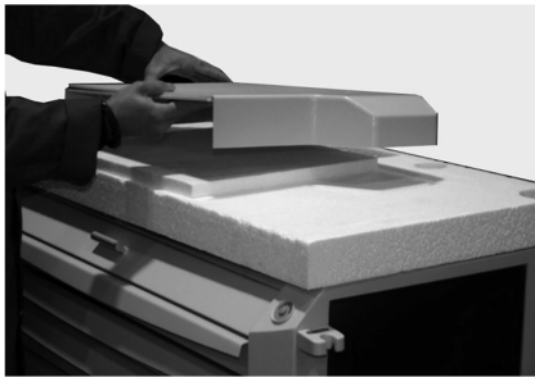


Fig.39

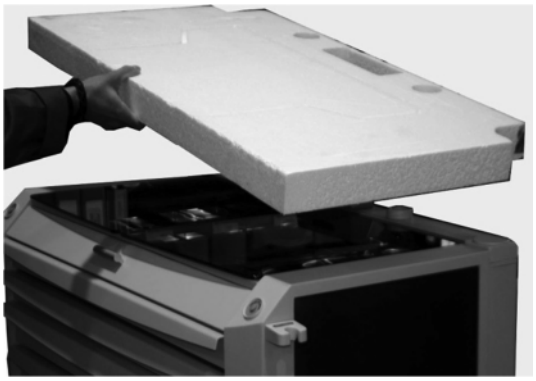


Fig. 40


Fig.41

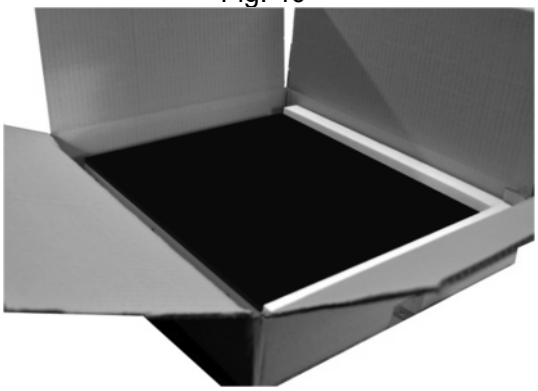


Fig. 42

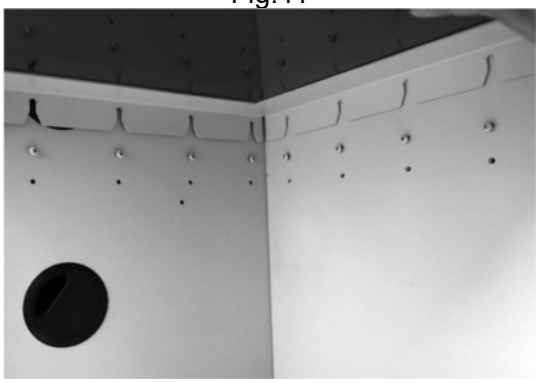


Fig.43

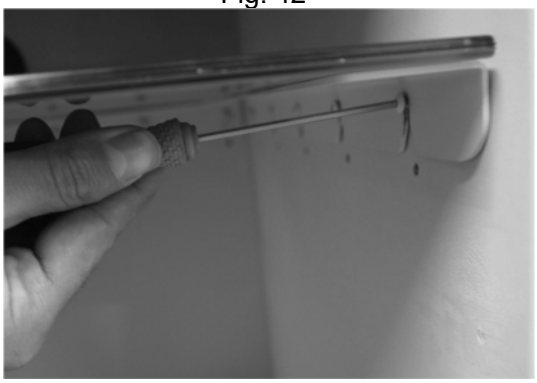


Fig. 44

Fig.45

Fig. 46

Fig. 47

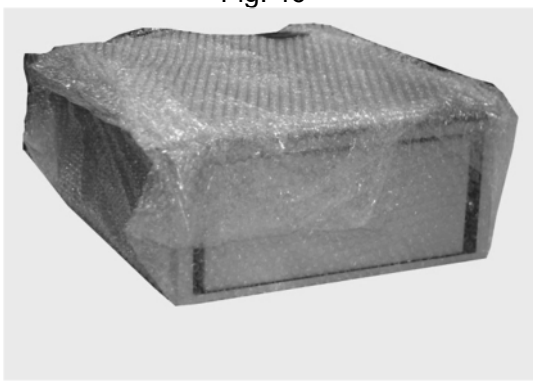


Fig.48

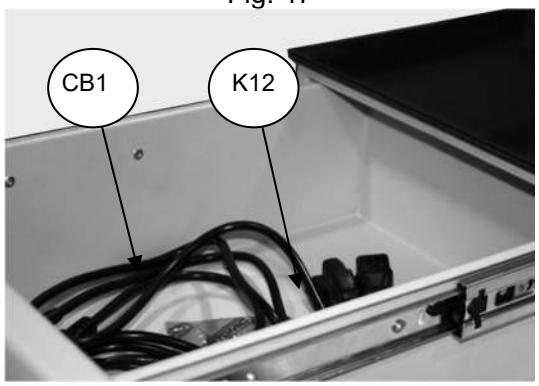


Fig. 49

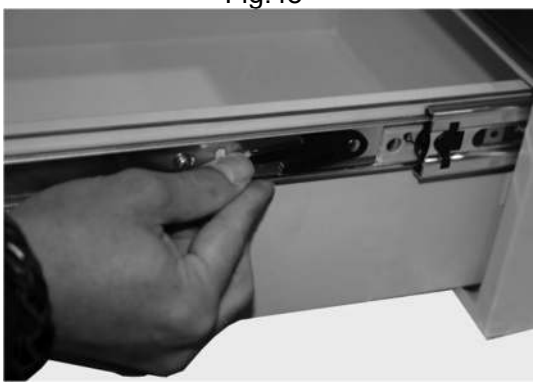


Fig.50

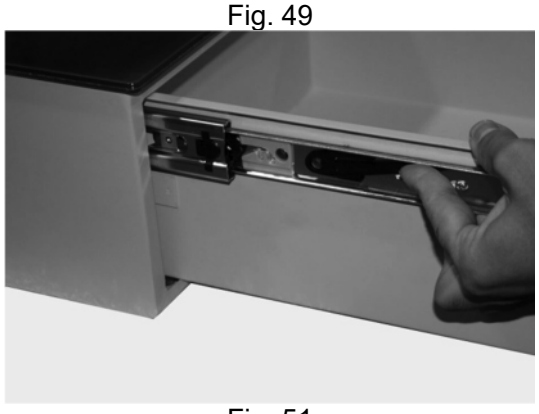


Fig. 51

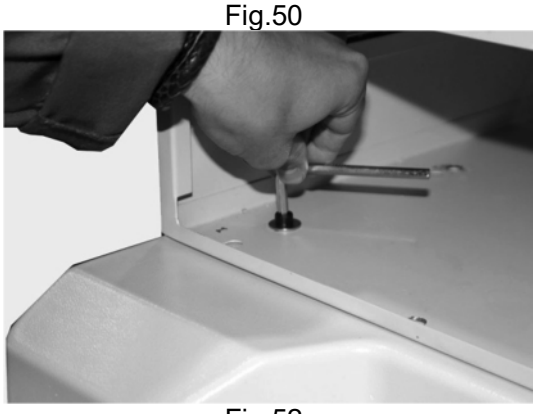


Fig.52

Fig.53

Fig.54

8.2. Irrigation system installation

1. Remove the module from its housing.
2. Place the module on the lower left side of the unit matching the holes.
3. Place the **M19A** glass shelf on top of the module fitting the holes.
4. Open the right-side door **M27A** and plug the bracket cable into the irrigation system module.

8.3. Connection to the building water inlet network and a drain

- The place of work shall be provided with a water inlet from the building mains and a drain.

- Connect a 1/2 "hose (angled) [Fig. 2 No. 1] of the required length, to the water inlet of the irrigation unit (Fig. 1 No. 1) and the other end (Fig. 2 No. 2) to the network of the building, inserting the pressure regulator attached (Fig. 4 Nº1) and the 20-micron filter [Fig. 5 Nº1].
- On the other adjoining connector [Fig. 1 Nº2], install the 3/8 ”hose (angled) [Fig.3 Nº1], and its free end (Fig.3 Nº2) to the drain.
- Install the irrigation handle [Fig. 6 Nº1], attaching the hose quick plug connectors [Fig. 6 Nº2] and [Fig. 6 Nº3], in those of the unit (Fig.1 Nº3) and (Fig.1 Nº4).
- Connect the insufflation hose (Fig. 7 Nº. 1) by inserting the hose connector (Fig. 7 Nº. 2) into the fitting (Fig. 1 Nº. 5) of the unit.
- Connect the power cable to the unit (Fig. 1 Nº6) and the other end to the power grid.

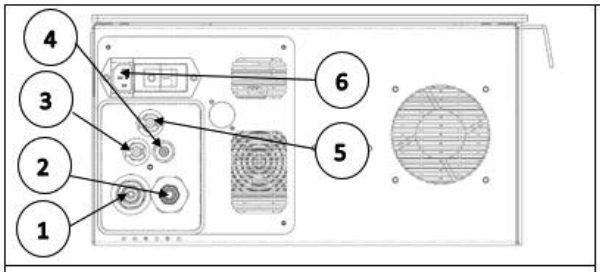


Fig. 1

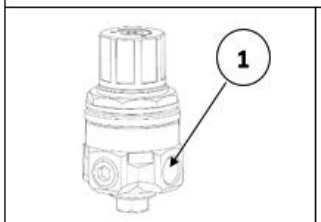


Fig. 4

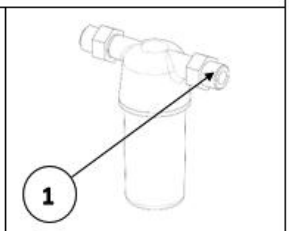


Fig. 5

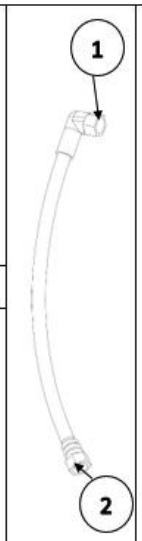


Fig. 2

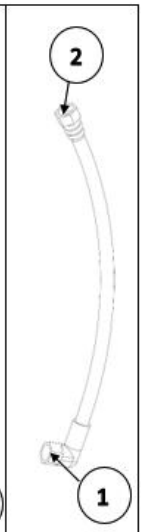


Fig. 3

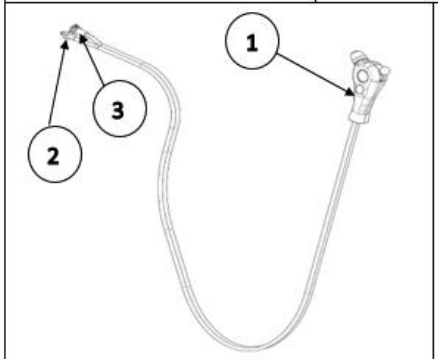


Fig. 6

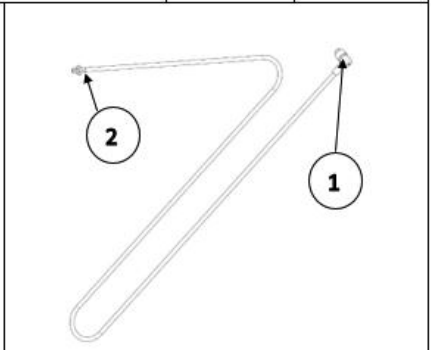


Fig. 7

9. Operation of the equipment

9.1. On/Off workstation operation

Before connection verify the following:

⚠	The voltage of the mains is the same as that indicated in the identification label **M29**.
	The grounding of the mains is in working order and connects perfectly with the equipment.

1. Connect the workstation's cable **M30** from the workstation to the mains (Fig.56). (Schuko cable, European use, others upon request).
2. To switch it on and off press the thermomagnetic switch to ON (I,) or OFF (o,) (Fig.55). It is above the right shelf.

NOTE	The thermomagnetic switch acts as a way of sectioning the mains supply.

Fig.55

Fig. 56

9.2. Irrigator for ears with high temperature water treatment and UV light.

1. Turn on the device with the switch ON (Fig. 1 Nº1)
2. The superheat cycle of water at 70º and the UV light cleaning start. The amber LED indicator [Fig. 2 Nº1], will shine intermittently, and the blue LED is permanently illuminated in the accessory holder.
3. The time for the superheat process will depend on the entry temperature of the water.
4. The green LED in the accessory holder will shine intermittently when the superheat cycle is coming to an end.
5. When the water reaches the wash temperature 36-38º C the green LED will be permanently illuminated [Fig. 2 Nº2] enabling the use of the water control.
6. Lift the irrigation handle [Fig. 2 Nº4] from its housing [Fig. 2 Nº5]. Proceed to perform the washing, orient the handle towards the patient's ear and regulate the water flow using the lever [Fig. 2 Nº6]
7. After 20 seconds without activity the water heater and UV light process will turn off to avoid unnecessary consumption.
8. For a new use, the system will return to the beginning of the heating operation until its 37º. The cycle will be repeated as many times as necessary to use the irrigation handle.
9. In the event of a power failure or after 10 hours of inactivity, the superheating cycle at 70ºC will start.

⚠	In the event of any flow rate change, the flow sensor will detect it and the superheating cycle will be restarted.

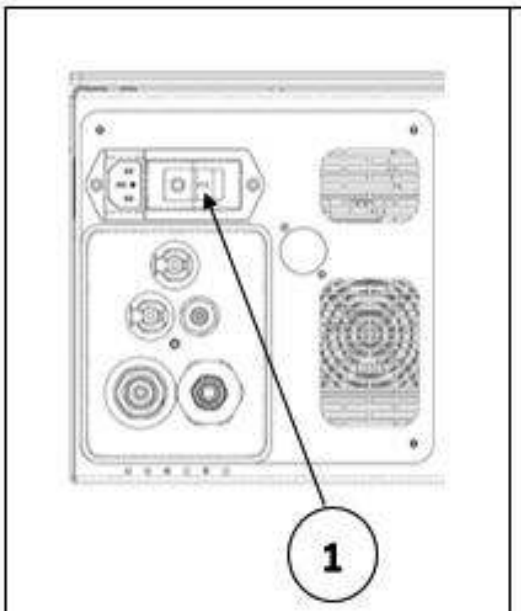


Fig. 1

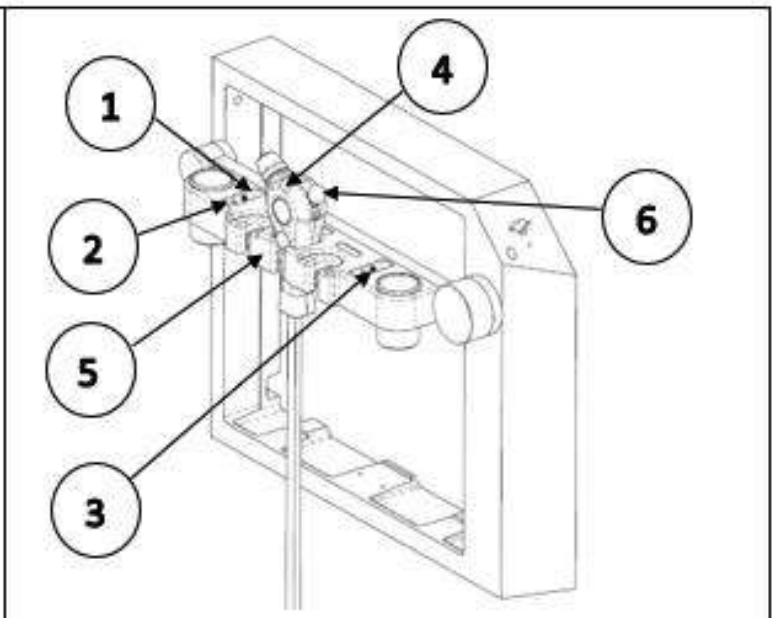


Fig. 2

The unit is ready for use when the blue and green LEDS are illuminated.

9.3. Air insufflation for the use of spray.

1. Lift the insufflation hose (Fig. 1 Nº1) the air pressure starts.
2. Place the spray bottle (not supplied) in the hose housing (Fig. 2 Nº1], just by pushing one over the other.
3. For its operation, with the thumb, we cover the rear hole and allow the spray to spray. (Fig. 2 Nº2).

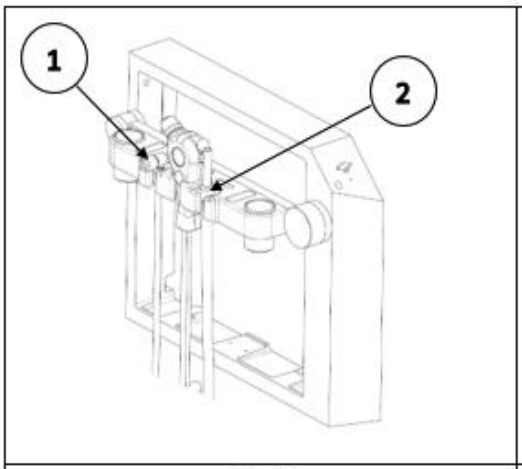


Fig. 1

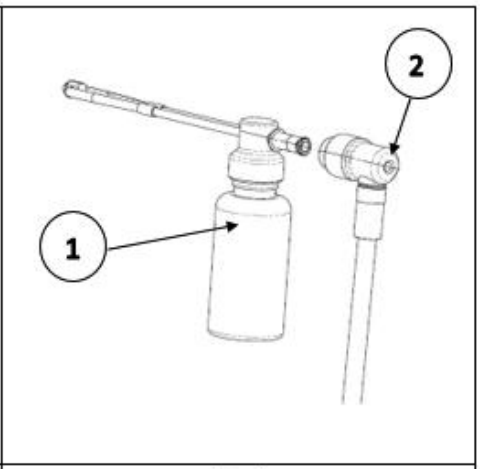


Fig. 2

9.4. Suction operation

Suction power is measured with the vacuum gauge **M9** and it can be regulated using the vacuum limitation control **M10**. This regulation will be done by the specialist, who will be able to achieve less vacuum turning the control anticlockwise and more suction turning it clockwise.

NOTE	The vacuum gauge values serve merely as guidance.

	The suction control is very important for patient safety reasons. This the specialist who regulates it will be responsible of its use.

1. The suction cannula (not supplied by OPTOMIC) is inserted into the suction hose **M11**, which is placed in a holder on the side **M12**.
2. Lifting the suction hose turns on the suction pump.
3. Replacing the suction hose switches off the suction pump.

After 20 minutes of use suction will stop for safety reasons. To switch it on again hook and unhook the hose from its support.

9.5. Glass'operation

1. Upper glass panels: Lift up the glass panels **M14** and **M14A** to access the surgical instrument storage. (Fig. 57)
2. Side glass panels: Lift up the glass side panels **M23** to obtain two work surfaces. (Fig.58)
3. The other glass panels are used to support various devices: **M18, M19** (Fig. 59)

Fig.57

Fig. 58

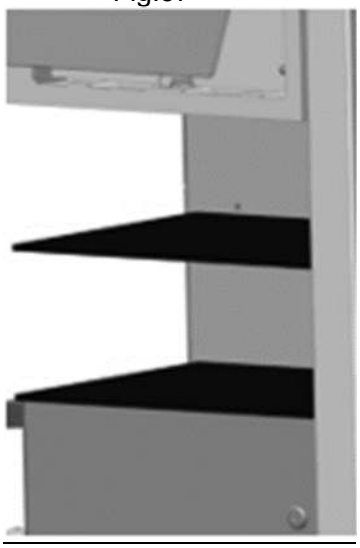


Fig.59

9.6. Drawers' operation

The workstation is equipped with six fully removable drawers:
All of the drawers can be removed in the same way (see section 8.1)

1. Four upper drawers **M1**, **M2**, **M3** and **M4** to store medical instruments with optional stainless-steel trays and adjustable divisions. One of them is a larger size to enable the storage of bulky items such as boxes for gloves, swabs, dressings, medicines, bottles with liquids and other materials. (Fig. 60)
2. The fifth drawer **M5** contains a tray and has a fold-down front that enables access to the tray. When the drawer is fully extended, it can be used as a work surface on which to place items, write, etc. In the centre of the drawer, there is a stainless-steel tray for depositing used medical instruments. (Fig. 61)
3. At the right bottom large side drawer **M6** for bulky and heavy items. They have lock and key **M20** for security.

4. A lower central drawer where the waste bin **M8** and suction pump are located. (Fig. 62)

Fig.60

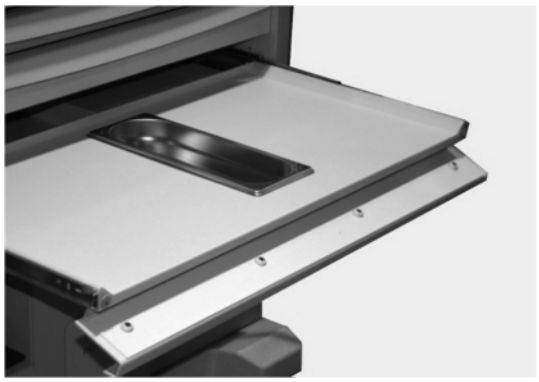


Fig. 61

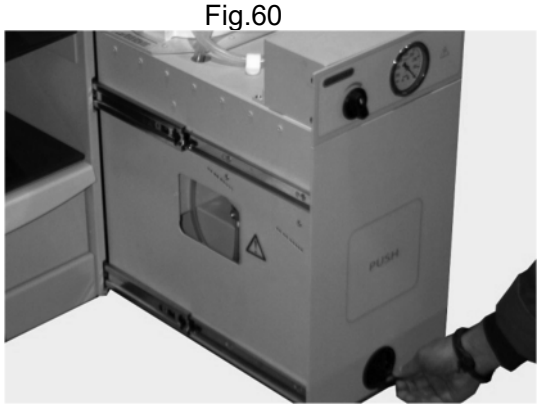
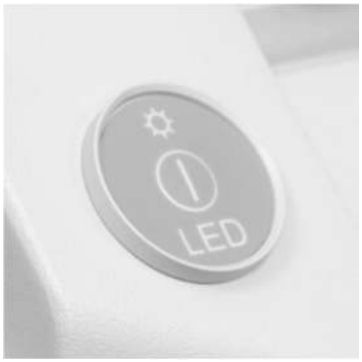


Fig.62

F

9.7. Operation of M1 drawer's LED light



1. Press on/off button **M24** to turn on, the LED will shine green.
2. Press on/off button **M24** to turn off**,** the LED.

9.8. Operation of M1 drawer's mirror heating - OPTIONAL

The mirror heating system is optional and must be installed during the manufacture process.
Operating:

1. Press button on/off from key **M24** to turn on the mirror heating system, During heating process the LED indicator will shine intermittently.
2. LED steady green means that the optimum temperature has been reached.
3. Press button on/off from key **M24** to turn off the mirror heating system. The LED will shine off.

M24 key

Mirror heating on/off button

NOTE	Opening drawer **M1** deactivates the mirror heating. Closing drawer **M1** reactivates the mirror heating.

9.9. Automatic waste bin operation

1. The bin **M8** can be opened automatically by means of the two buttons **M16** and **M16A** at the bottom of the workstation. (Fig. 63)
2. The drawer can be closed by pushing with the foot on the label **M17**. (Fig. 64)
3. The bin has electromagnetic activation.

Fig.63

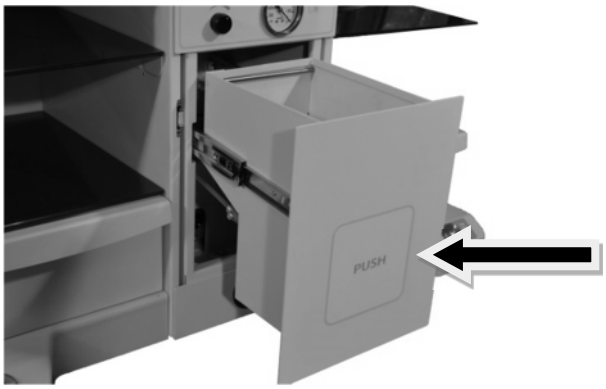


Fig. 64

I

9.10. Secretion container operation

The secretion container is located behind the waste bin. (Fig. 65)

⚠	Before using the secretion vessel for the first time, remove the wrapper from it.

In the workstation you can mount different vessels for secretions, these contained in the table of technical specifications of this manual.

Fig. 65

Connected vessel secretions:

- Connect "patient" end to its corresponding flexible connection also marked with the text "patient".
- Connect “vacumm” end to its corresponding flexible connection also marked with the text “vacumm”.

9.11. Electrical safety and connections

The workstation features internal electrical socket strips to power the external devices. To access them, open the rear doors (Fig. 66).
At the top of each strip there are 3 IEC-C13 connections of mains voltage **d1**. Under these, there are 3 banana connections **d2** to connect equipment to the equipotential (see accessories). (Fig. 67)

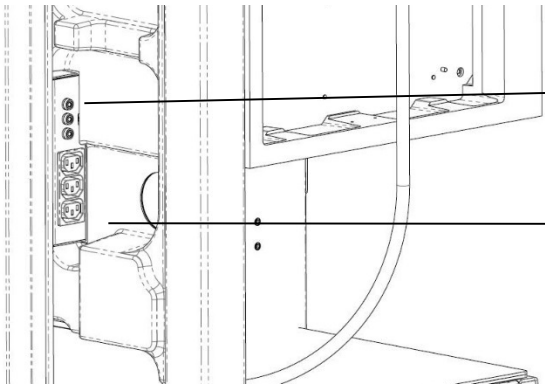


Fig. 66

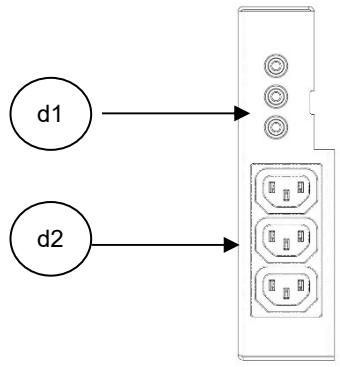


Fig. 67

Connectivity 230V (110v under request)

To connect endoscopy equipment or other devices to the workstation (230V~ or 110v under request), attach the “short cable **CB1”**, (No. KC-7955 OPTOMIC code) (Fig. 68), to the appropriate device and then pass it through the cable pass while placing on the shelf the device. (Fig. 69)
Plug the cable into the socket, ensuring that the doors can be closed.

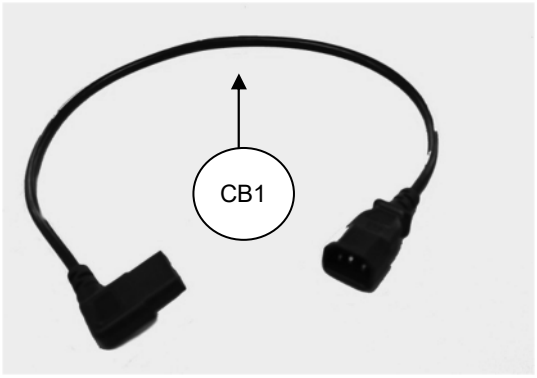


Fig. 68

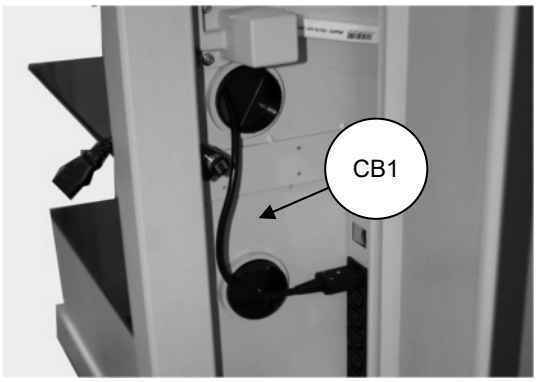


Fig. 69

9.12. Integrated endoscopy trolley

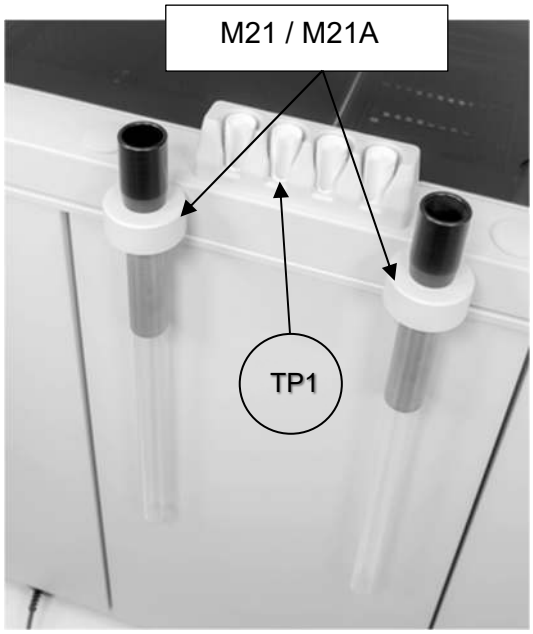
The workstation's four shelves **M18, M19** and **M19A** can be used to house endoscopy equipment and other devices, thus providing, in conjunction with the monitor support, an excellent space saving alternative to the conventional endoscopy trolley.

9.13. Rigid and flexible endoscope holders

They are located at the back of the workstation.
The central support **M22** for rigid endoscopes with four plastic sheaths **TP1** which can be washed and disinfected.
Optional – Previous purchase order we provide metallic sheaths.
Two lateral fiberscope's supports **M21 and M21A** to allocate Fiberscope's polycarbonate tubes.
which can be filled with sterilizing liquid (closed), and another polycarbonate tube (open), to hold the nasopharyngoscope.

NOTE	During the transport the polycarbonate tubes are on the **M1** drawer.

⚠	We recommend the use of an alarm to indicate maximum time of sterilization

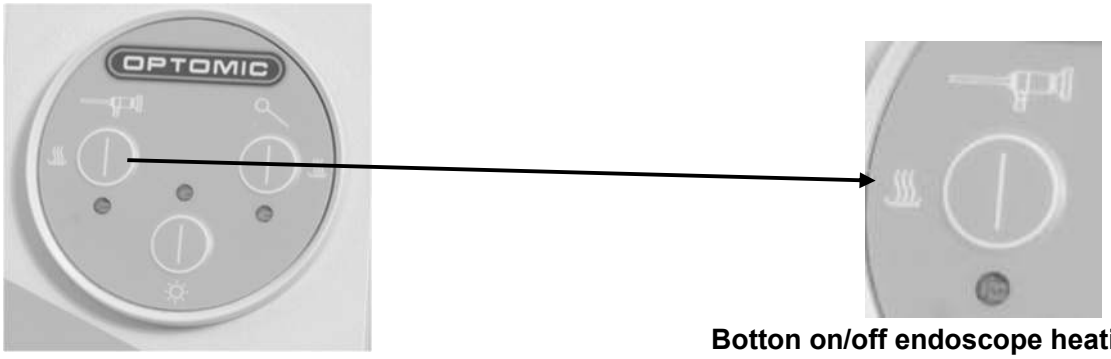


9.14. Operation endoscope's heating system - OPTIONAL

The endoscope's heating system is optional and must be installed during the manufacture process.

perating:

1. Press button on/off from key **M24** to turn on the endoscope heating system, During heating process the LED indicator will shine intermittently.
2. LED steady green means that the optimum temperature has been reached.
3. Press button on/off from key **M24** to turn off the mirror heating system. The LED will shine off.



Botton on/off endoscope heating system

M24 Key

10. Cleaning and maintenance

<table>
<tr><td rowspan="2">  </td><td>To perform any cleaning or maintenance work disconnect the equipment from its power supply.</td></tr>
<tr><td>Recurrent tests and after-repair tests must be conducted in accordance with IEC 62353:2014.
These tests must be carried out by qualified personnel. Qualification includes training, knowledge, experience on the subject matter and familiarization with relevant technologies, design standards and local regulations.
The personnel ensuring safety must be aware of the possible consequences and risks that may exist in the case of non-compliant equipment</td></tr>
<tr><td rowspan="3">  </td><td>During the preparation and application of solutions, strictly observe the chemical manufacturer's indications regarding the concentration and the application time.</td></tr>
<tr><td>To clean and disinfection of the external surfaces of the equipment, use a clean cloth, just moistened with a disinfectant solution (contamination according to the instructions of the substance manufacturer).

<table><tr><td>DESINFECTANTE</td><td>FABRICANTE</td></tr><tr><td>Dismozon plus</td><td>Bode Chemie, Hamburg</td></tr><tr><td>Green & Clean SK</td><td>Metasys, Rum (Austria)</td></tr><tr><td>Sani- Cloth active</td><td>Ecolab, Düsseldorf</td></tr></table></td></tr>
<tr><td>Check in each cleaning, the perfect state of conservation of all parts of the equipment.</td></tr>
</table>

Periodic inspection: A professional expert should perform an inspection of the operation and safety of the device.

10.1. Washing the container

1. Pull the drawer **M8** out completely, using the handle **M7**, leaving in view the secretion bottle and its tubes. (Fig. 71 and 72)
2. Remove the connections of the tube **VACUUM** to the bottle. (Fig. 73)
3. Remove the connections of the tube **PATIENT** to the bottle.

NOTE	If the connector is strongly fastened due to suction, use the key K9 to lever it out. (Fig. 74)

4. Place the tube “PATIENT” in its provisional housing to clean the bottle. (Fig. 75)
5. Remove the bottle and the cover for cleaning (Fig.76).

6. Check that the anti-overflow valve is clean and is working properly.
7. To replace the bottle, follow above steps in reverse order.

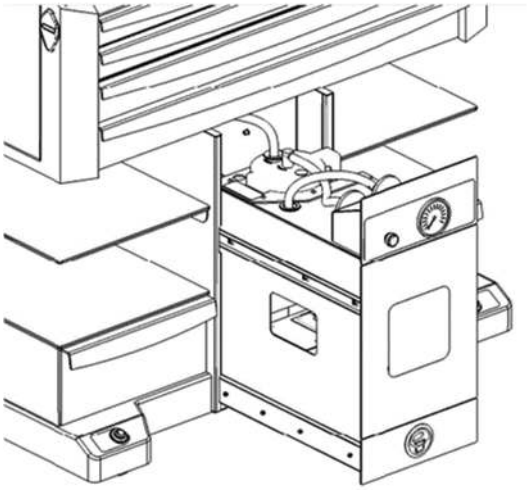


Fig. 71

Fig. 72

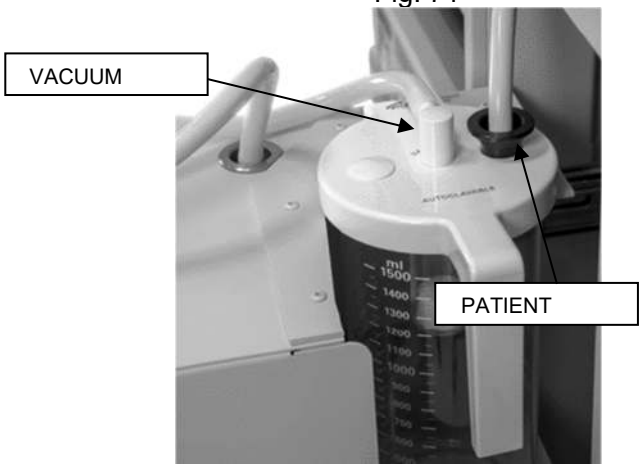


Fig. 73

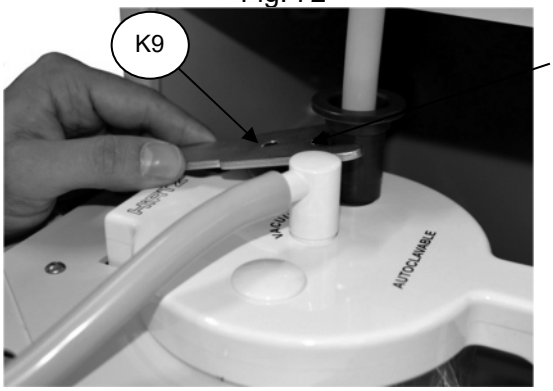


Fig. 74

Fig. 75

Fig. 76

10.2. Replacement of secretion suction circuit and bacteriological filter

After using the suction, the channels must be cleaned, suctioning around 100 cm3 of water with disinfectant solution.

Periodically it is advisable to replace all the silicone parts of the secretion suction circuit of the suction system, as well as the filter.

Replacement ‘s instructions:

1. Remove the suction hose **M11** from its holder **M12**. (Fig. 77)
2. Locate the hose output under **M5** drawer, which is fixed by a magnetic bracket, and remove it. (Fig. 78)
3. Open the central drawer **M8** and pull it out completely. (Fig. 79) (if it is more convenient, it can be completely removed)
4. Remove the suction hose from the secretion bottle connection **"PATIENT"** (Fig. 80) and replace it. Attach to the magnetic holder and replace the new hose in the **M12** holder for further use.
5. Remove the remaining tubes from their connectors **VACUUM** and the suction pump entrance. Replace and connect.
6. Remove and replace the bacteriological filter from their connectors and replace with the new ones. (Fig. 81-84).

NOTE	The filter instantly blocks any liquid that comes into contact with it. It is a protective measure.
	The filter should be replaced to prevent excessive moisture or water droplets from partially blocking it and causing the pump to have less suction power.

	The bacteriological filter Ref. 67639056 (box of 4 workstations) must be renewed periodically and should never exceed 10 hours of use, although a weekly visual check is recommended. The suction tubes, ref. 67639049 8 (Fig.85) not included should be changed periodically as the user sees fit and depending on use.

Fig. 77

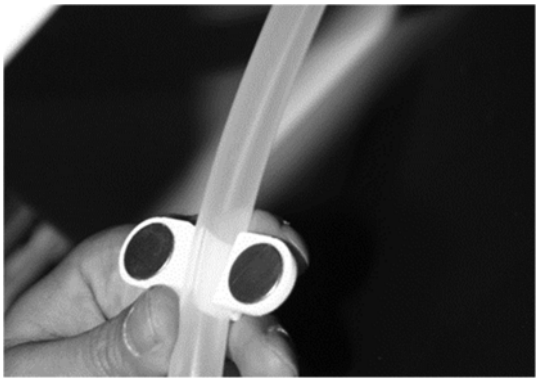


Fig. 78

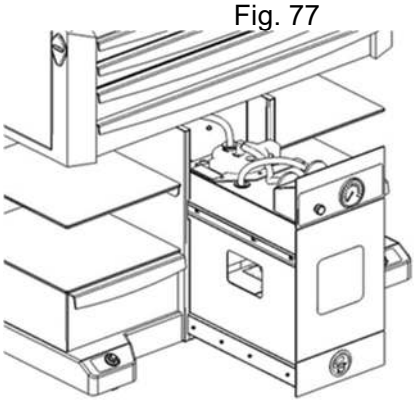


Fig. 79

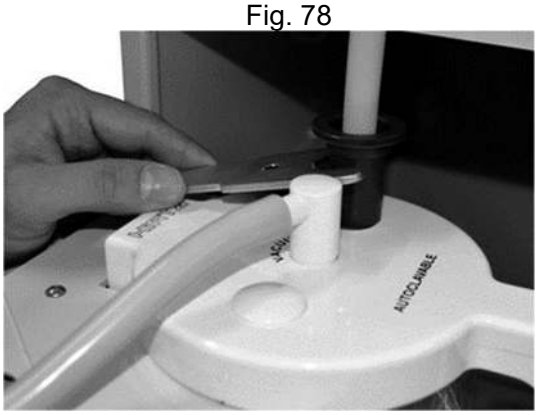


Fig. 80

Fig. 81

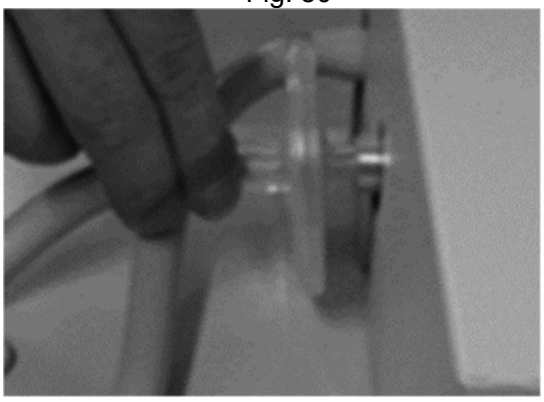


Fig. 82

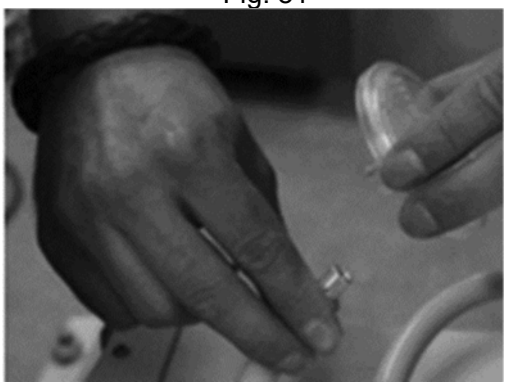


Fig. 83

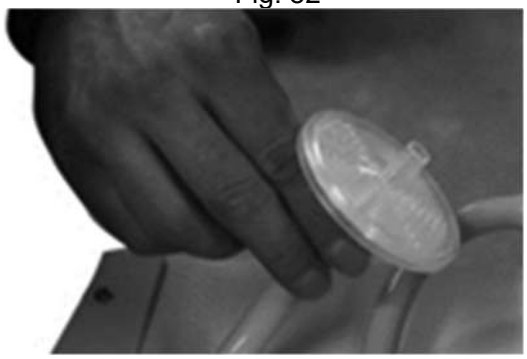


Fig. 84

Fig. 85

10.3. Changing the waste bin bag

1. Open the bin **M8** by pressing either of the lower buttons **M16** and **M16A**. (Fig. 86)
2. Remove the bag by lifting out the metal rim. (Fig. 87)
3. Detach the bag from the rim. (Fig. 88)
4. Attach a new bag to the rim and place it in the bin.
5. To leave the bag well positioned, place the hose in the hole in the bin and vacuum. (Fig. 89)

Fig. 86

Fig. 87

Fig. 88

Fig. 89

10.4. Vacuum pump maintenance

The suction pump OPTOMIC integrates in its ENT workstations, of the German brand BUSCH GmbH, has a suction close to the absolute thanks to its sophisticated system of lubricated blades, which allow it to reach -2 of the atmospheric vacuum.
In normal use*, the oil must be changed after 500-1.500 working hours, but it is advisable to check its level periodically in case it needs a top-up.

NOTE	*Normal use means that suction is always activated through a “Suction Terminal”.

OIL LEVEL CONTROL:

1. Pressing the buttons **M16** or **M16A**, open the bin **M8** (Fig.90).
2. Looking under the bin with the help of a torch, check the level of the oil (Fig. 91).
3. If above step is difficult to carry out, proceed to pull out the bin by removing the silicone tension belts (Fig. 92-93) and then unblock the guides as shown (Fig 94).
4. This way the oil level can be checked comfortably. (Fig. 96 y 97)

OIL REFILL:

1. Remove the bin as shown paragraph OIL LEVEL CONTROL. (Fig.92, 93 and 94)
2. Remove the protecting lid of the pump (Fig 97 and 98) with the Allen screwdriver K1.
3. You can see the upper threaded cap **C1** of the vacuum pump (Fig 99)
4. Loosen and remove upper threaded cap **C1** (Fig.100) with the Allen key K2.
5. Top-up with oil ISO-VG-32 or ISO-VG-22 (it is supplied in 60cc L1) with the syringe **L2** to the MAX mark (Fig.96)
6. Replace the upper upper threaded cap.
7. Then follow the steps 1 and 2 in reverse order.

OIL CHANGE:

When the use time limit is over, or if you see the oil has changed color or is not clear but rather milky, proceed to change all the oil as follows:

1. Remove the bin as explained earlier (Fig 92, 93 and 94)
2. Remove the protective lid of the pump (Fig 97 and 98) with the Allen screwdriver K1.
3. Under the pump place a small container or cloth for the used oil (Fig.102)
4. Remove the lower screw **C2** (Fig 101) with the Allen key K2.
5. Loosen and remove the upper threaded cap **C1** (Fig.100) with the same key.
6. Wait a few minutes until all the used oil has come out.
7. Remove the container or cloth with the used oil.
8. Replace the lower oil screw **C2.**
9. With the syringe insert 60cc of oil (Fig.101)
10. Replace the upper cap (Fig.100)
11. Repeat above steps 1 and 2 in reverse order.

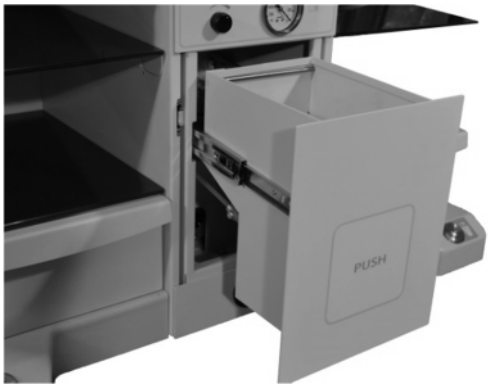


Fig. 90

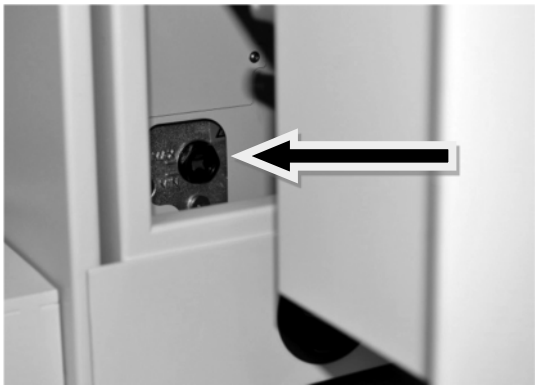


Fig. 91

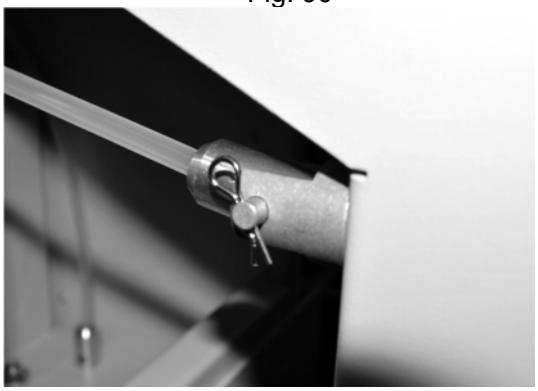


Fig. 92


Fig. 93


Fig. 94

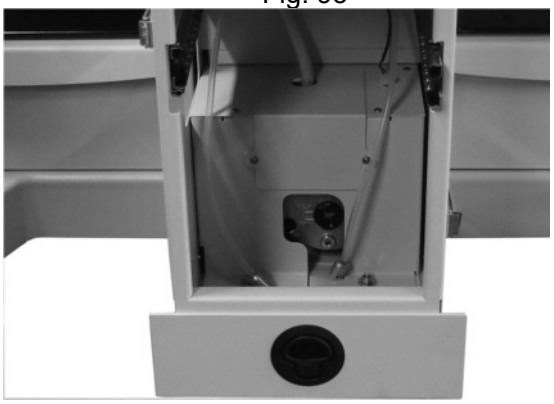


Fig. 95

Fig. 96


Fig. 97

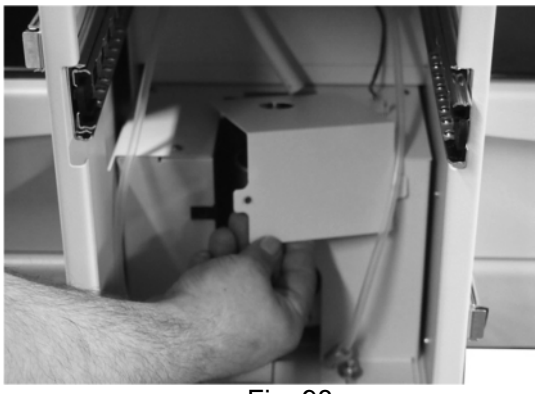


Fig. 98

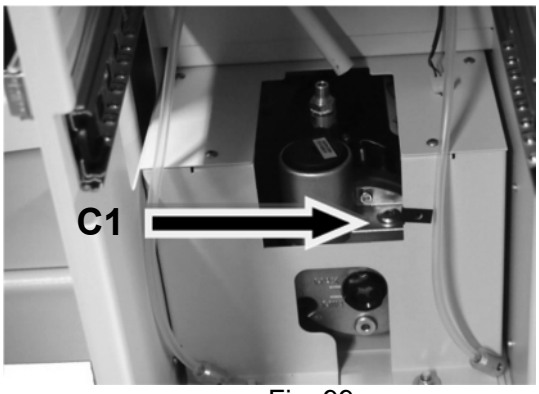


Fig. 99

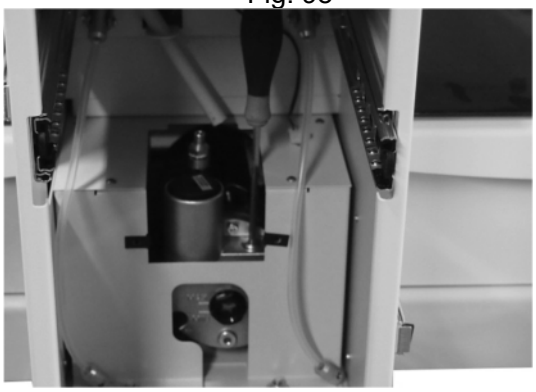


Fig. 100

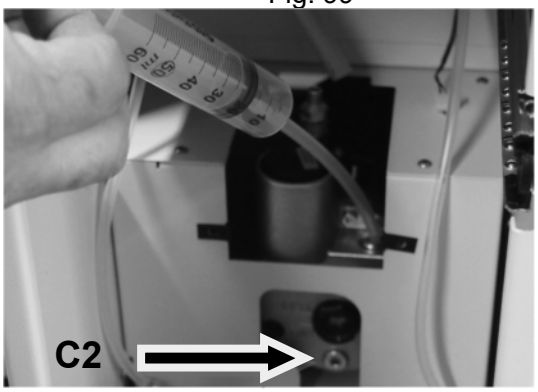


Fig. 101

Fig. 102

10.5. Maintenance Air Filter

You must change the air filter every 30 hours. for use of the insufflator, to remove the glass cover (lift it by hand, it is only held by magnets [Fig. 1 Nº1].
Inside, remove the used filter and place the new one [Fig. 1 Nº2].
Periodically visually checked the condition of the hoses.

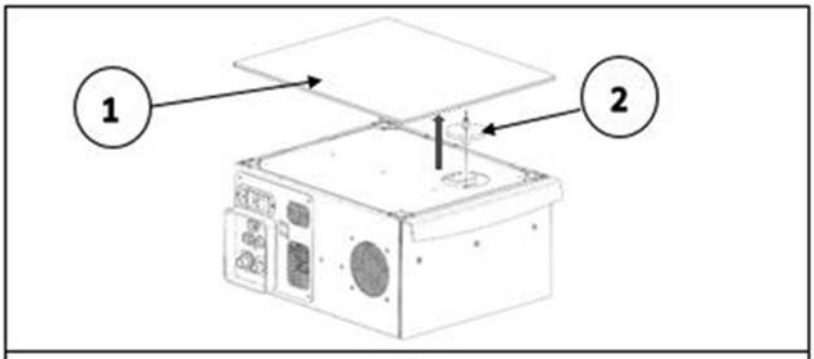
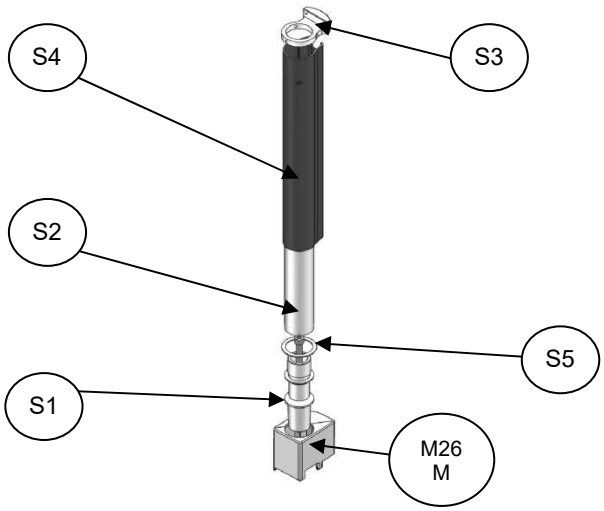


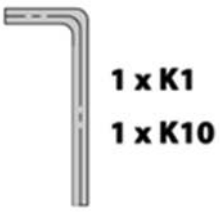
Fig. 1

11. Accessories

11.1. Microscope Support MM1

- Fastening cone = S1
- Column tube = S2
- Rotation limit = S3
- Cable pass sheath = S4
- Antifriction washers = S5
- Left trim = M26M
- Right trim = M26AM





TOOLS

1. Remove the parts from their packaging (Fig.1)
2. Determine whether it will go on the left or the right.
3. Remove the threaded part **M26B** (put it away for possible future use) which is over the trim **M26** or **M26A** (Fig.2)
4. Remove the corresponding plastic trim **M26** or **M26A**
5. Place the fastening cone **S1** matching up the red dot with the red line in the square tube. Then give it a little tap (Fig.3)
6. With the 10mm Allen key **K10** adjust moderately the internal screw (Fig.4)
7. Introduce in the cable housings at the back of the workstation the supply cable **CB2** and, if necessary, the supply cables for the beam splitter with camera **CB3** (accessories).
8. Thread the fastening cone **S1** to the tube column **S2** (Fig.6)
9. Leave enough length of cable to connect with the microscope, leaving a suitable loop.
10. Insert over the cable ends the new trim **M26M** or **M26AM**, provided with the monitor support, and down the tube column **S2** (Fig.7)
11. Insert also the antifriction plastic washers **S5** and behind, the cable pass sheath **S4** with the notch and the two oval holes looking up (Fig.8)
12. Over the tube column **S2** and placing the cable pass sheath with the cables behind the unit. Over the tube place the rotation limit part **S3**, introducing both its pins in the cable pass sheath **S4** (Fig.9)
13. Then put the cable pass sheath in its position so its oval holes match with the screw holes to fix the microscope to the tube column (Fig.10)
14. Without moving the sheath, tighten the captive screws M5 with the key **K1**, after matching up the end of the captive screws with their holes in the tube (Fig.10)
15. The microscope support is ready to place the OP-C12/OP-C16 microscope on it.When placing the OP-C12/OP-C16 microscope on this support, remember to tighten the captive screws on the tube column **S2** through the oval holes.

NOTE: supports for other microscope brands can be provided upon request.

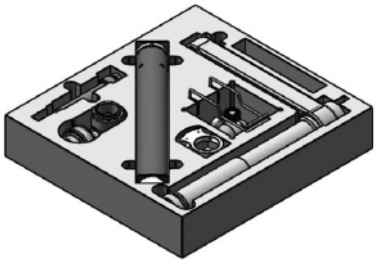


Fig. 1

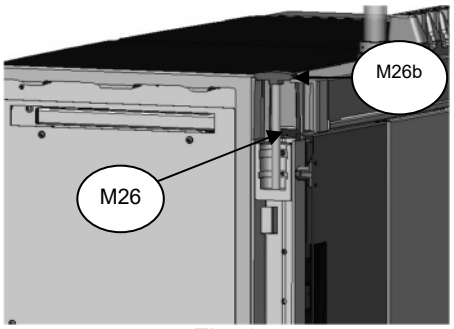


Fig. 2

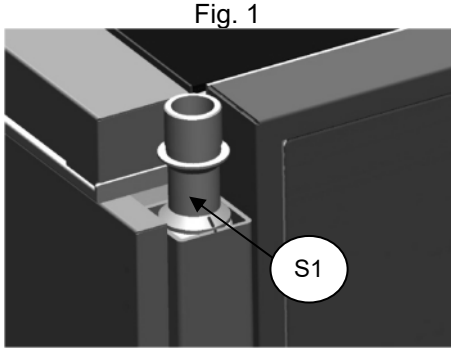


Fig. 3

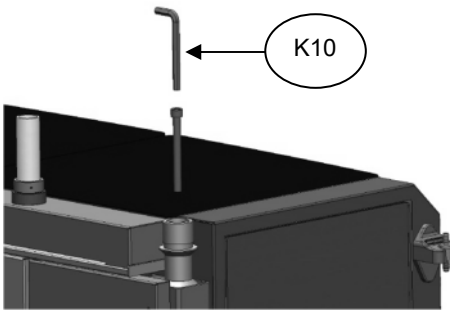


Fig. 4

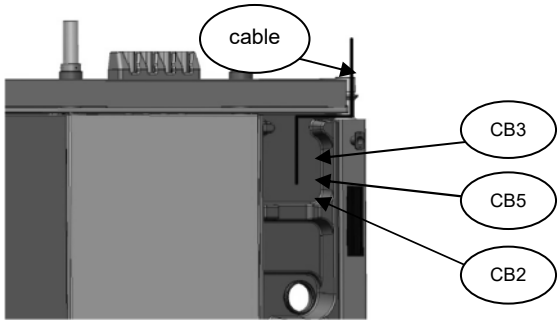


Fig. 5

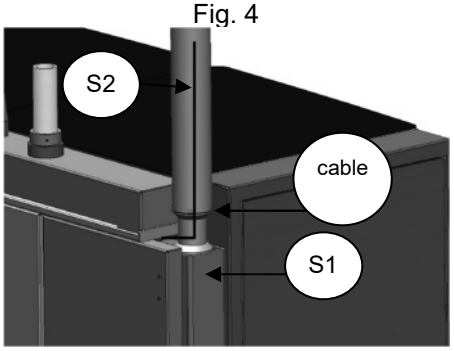


Fig. 6

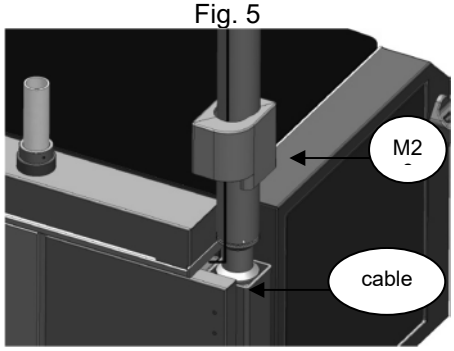


Fig. 7

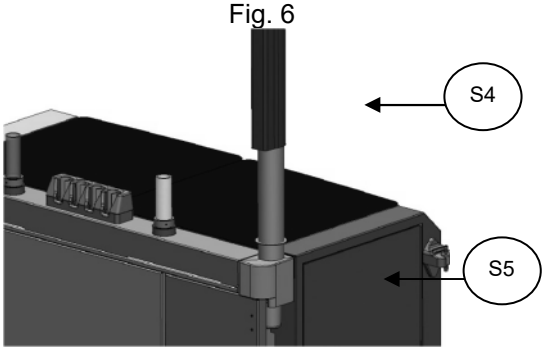


Fig. 8

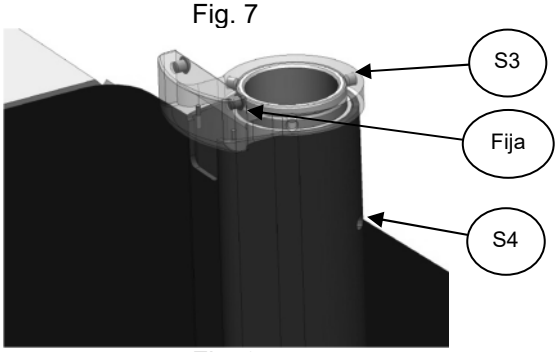
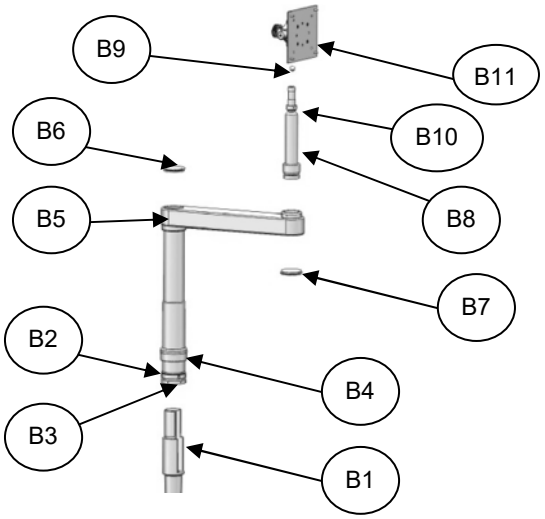


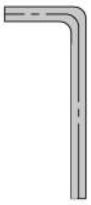
Fig. 9

Fig. 10

11.2. Lateral monitor support MS1

- Cable pass axis cone= B1
- Rotation strap= B2
- Tube-support union= B3
- Threaded trim= B4
- Elbow arm= B5
- Threaded upper lid= B6
- Threaded lower lid= B7
- VESA support axis= B8
- Ø 11 ball= B9
- Antirotation ring= B10
- VESA support= B11





1 x K4

1 x K10

TOOLS

1. Remove the parts from their packaging (Fig.1)
2. Determine whether it will go on the left or the right.
3. Remove the threaded part **M26B** (put it away for possible future use) which is over the trim **M26** or **M26A** (Fig.2)
4. Remove the corresponding plastic trim **M26** or **M26A**
5. Place the cable pass axis cone **B1**, making its slot face the endoscope holders, and parallel to the doors. Then give it a little tap (Fig.3)
6. With the 10mm Allen key **K10** adjust moderately the internal screw (Fig.4)
7. Place the support on a stable surface as taken out of the packaging (Fig.5)
8. Remove the threaded lids **B6** and **B7** (Fig.6)
9. Pass the cables, earth connection plus video cable connections BNC, Mini DIN, VGA, DVI, HDMI, etc through the inside of the tube to the other side, helping them pass through the elbow with your fingers. Let them out around 50 cm, to form a loop to allow the monitor to turn. The output length of the cables will vary depending on the connections and size of the monitor (Fig.7)
10. Pass the trim **M26** or **M26A** over the cables (Fig.8). Grab the support and take it to the unit to introduce the cables in the cone slot and take them inside the unit to the cable housing, lower the trim to its position, insert the tube-support union **B3** in the cable pass axis cone **B1**, while trying to lower the cables to the inside (Figs.9 and 10).

NOTE: the lateral monitor support has limits for rotation. This limitation has two options of angular movement, one wider than the other (Fig.11)

11. Once the support is mounted on the workstation, turn it left and right until its limits are in the desired position. Then adjust the captive screws M3 with the key **K4**. Do not adjust the screws that match with the cable pass slot of the cable pass axis cone **B1**, as they cannot be adjusted (it was oriented to the interior of the workstation). Finally lower and adjust the knurled trim (Fig.12)

12. If you wish to modify the rotation of the support between limits, before adjusting the captive screws M3, turn to one of the limits and then, holding the rotation strap **B2**, lift the support 2 cm and turn it in the same direction around 15º more. This way we enter the other section and then we can lower the support and adjust it as in step 12. (Fig.13)
13. On the upper end of the support, place the VESA support axis **B8**, passing the cables through the slot. Then adjust the three captive screws M3 (Fig.14)
14. Screw the VESA support to the monitor, place the Ø 11 ball **B9**, and place the VESA support on the axis of the monitor support. Then with the corresponding captive screw place the antirotation ring **B10** so the turn is limited to avoid damage to the cables. (Fig.15). Connect Earth connection to Vesa Support (Fig. 15a).

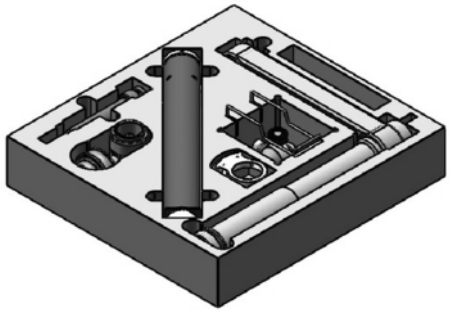


Fig. 1

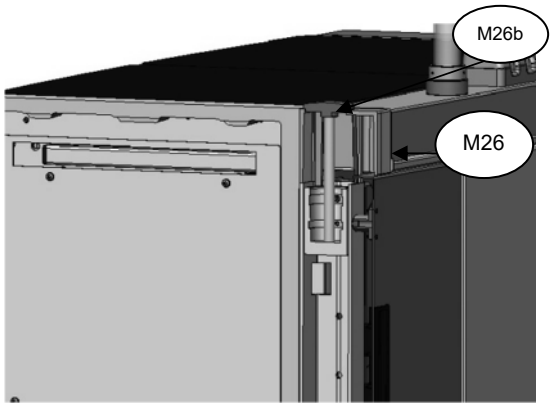


Fig. 2

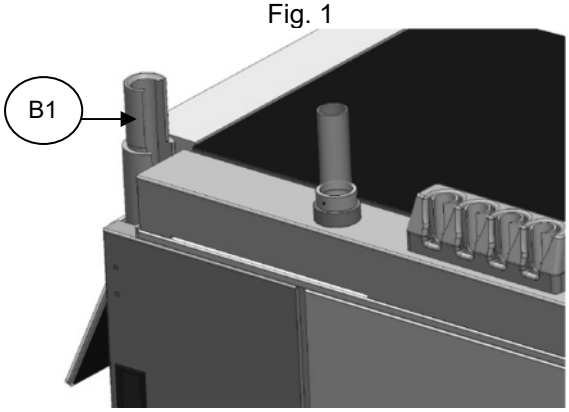


Fig. 3

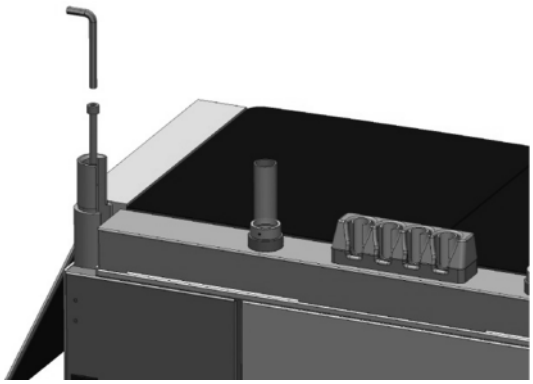


Fig. 4

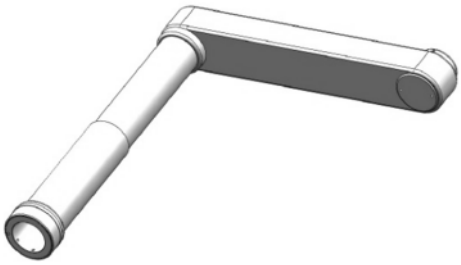


Fig. 5

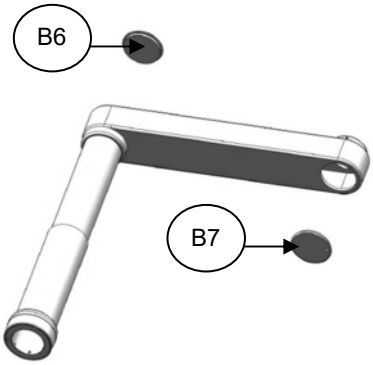


Fig. 6

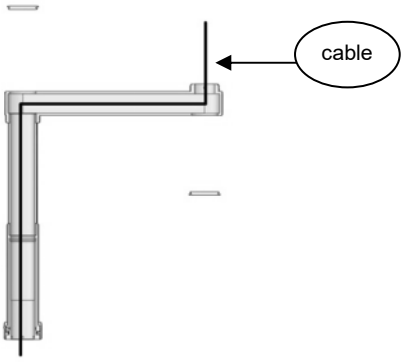


Fig. 7

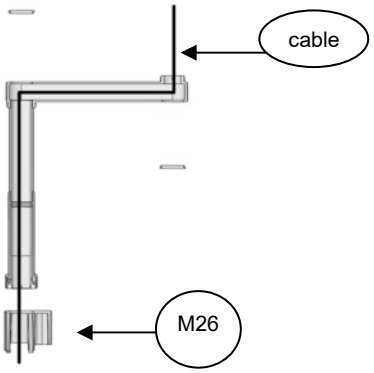


Fig. 8

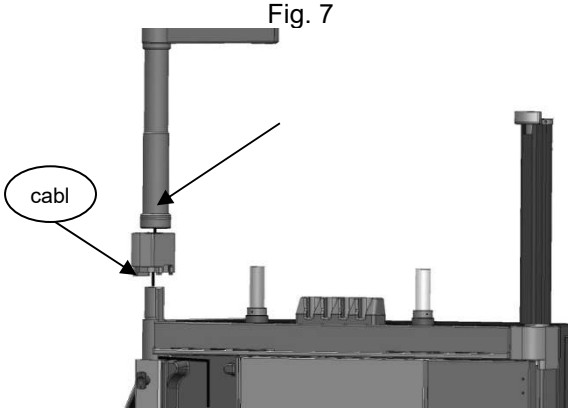


Fig. 9

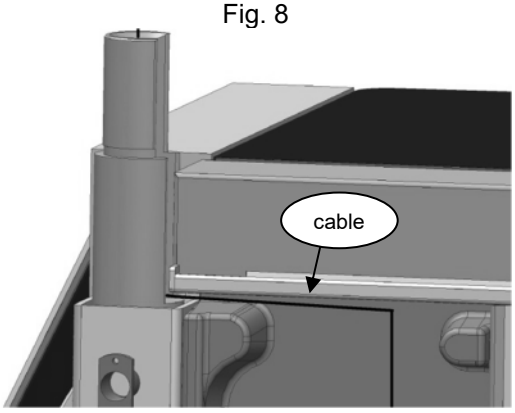


Fig. 10

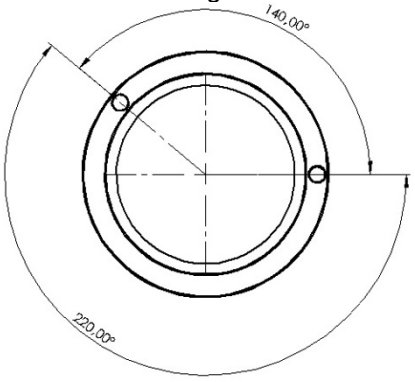


Fig. 11

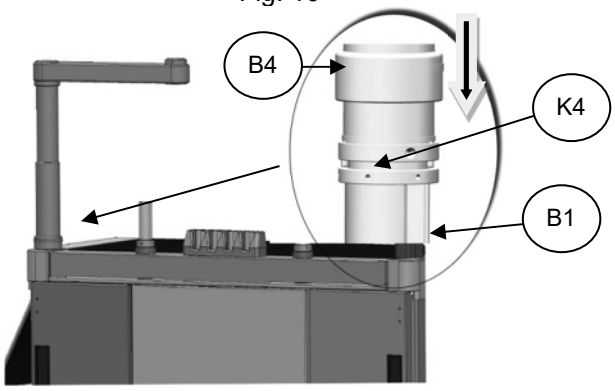


Fig. 12

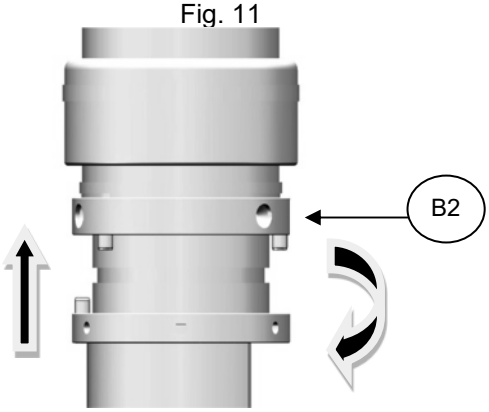


Fig. 13

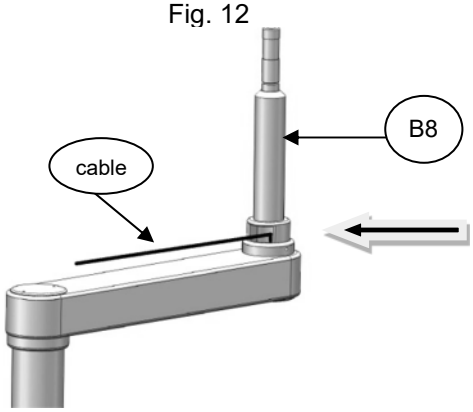


Fig. 14

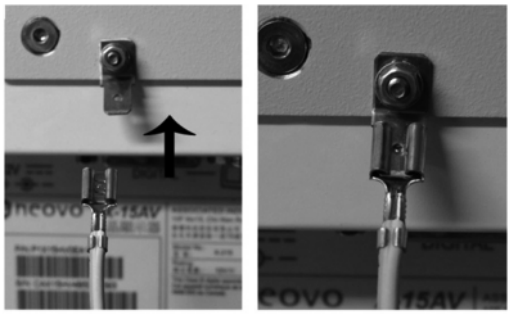


Fig. 15a

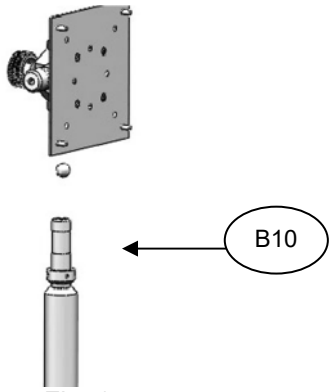
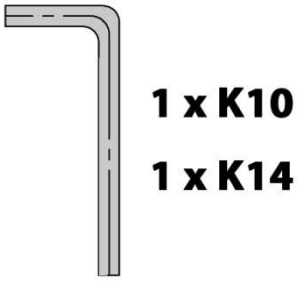


Fig. 15

11.3. Disassembling a support from the Optimus workstation

When removing a support from the workstation, or changing sides, proceed as follows:

1. Do all steps explained either for the microscope support **MM1** or for the lateral monitor support **MT1** but in reverse order.
2. Taking away the removable parts of the supports, you will see the fastening cone **S1** and the cable pass axis cone **B1** cannot be removed manually.
3. Inside each cone you will see a screw M12 which must be removed using the Allen key **K10**. This key has a retention ball which will permit the lifting of the screw once unthreaded. (Fig.1)
4. Introduce in the cone the M16 screw **T1** and with the key **K14**, adjust it until the cone is loose in its housing and remove it with your hand, so it is ready to remove the support or change it to the other side. (Figs.2 and 3)
5. If the support is going to be removed permanently, replace the plastic trim M30 or M26A, and over this the threaded part M26B (adjust it gently with your hand in order not to damage the trim).



TOOLS

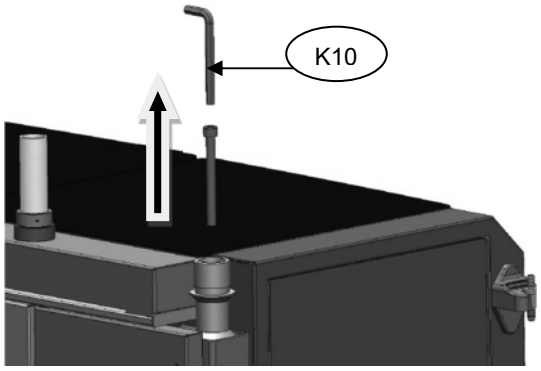


Fig. 1

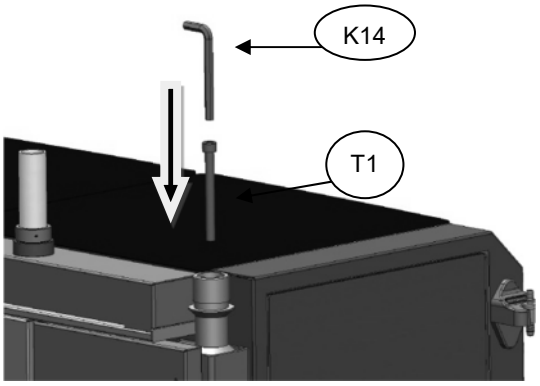


Fig. 2

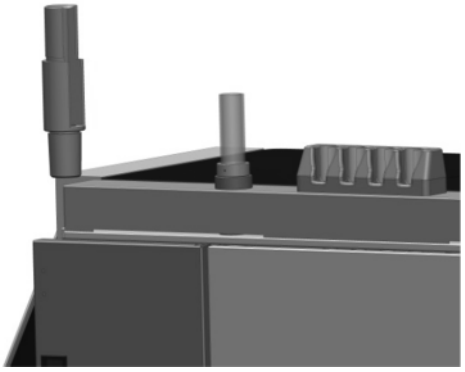
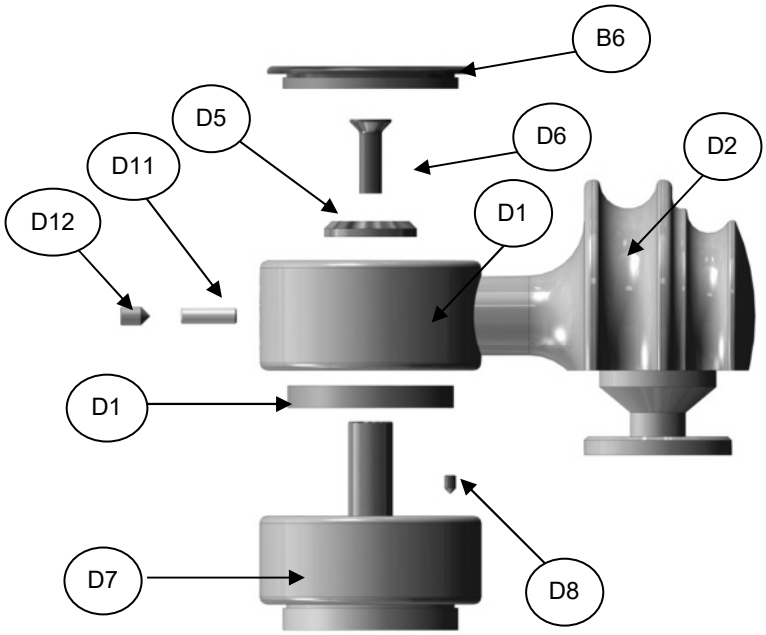


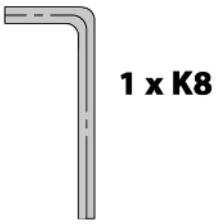
Fig. 3

11.4. Camera head holder CS-1a

CLAMP TO THE LATERAL MONITOR SUPPORT

- Rotation body= D1
- Cable hanger= D2
- Camera head coupling= D3
- Separating washer= D5
- Screw M6= D6
- Arnite friction ring= D13
- Lockable threaded lower hub= D7
- Adjustment screws for threaded lower hub= D8
- Plastic axis= D11
- Rotation adjustment captive screw= D12
- Allen key 1,5mm= K8





TOOLS

1. Remove the threaded top lid **B6** of the lateral monitor support **B5** (Fig.1)
2. In its place screw the lockable threaded lower hub D7 and then adjust the three M3 captive screws **D8** with the 1,5mm Allen key **K8** (Figs 2 and 3)
3. Insert the Arnite friction ring **D13** on the hub axis (Fig.4)
4. On this part place the rotation body **D1** and attach it with the separating washer **D5** and the screw **D6** (Fig.5)

5. On the cross part of the rotation body there is a threaded hole. Insert the plastic axis **D11** and then the rotation adjustment captive screw **D12** with which we will adjust the stiffness so that the SC-1a camera support does not turn too freely (Fig.6)
6. On the rotation body **D1** thread the threaded upper lid **B6**.

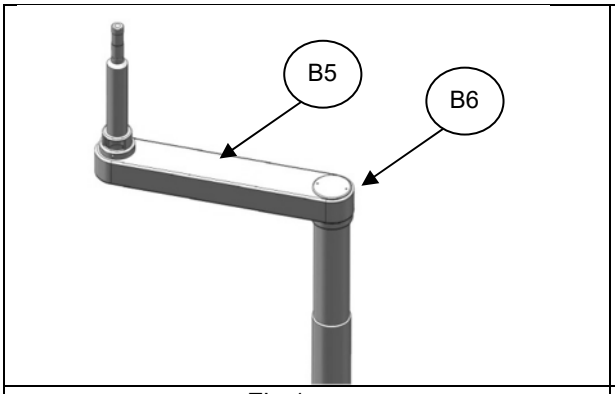


Fig.1

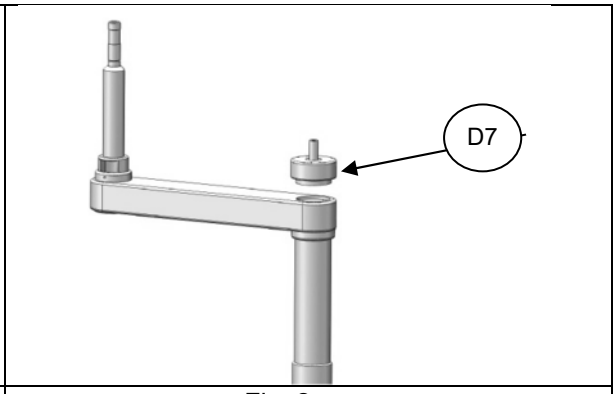


Fig. 2

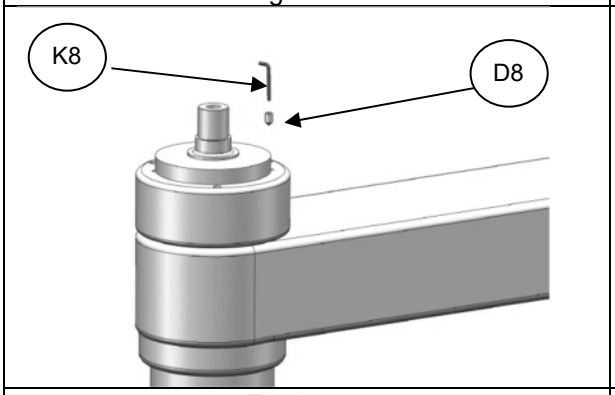


Fig.3

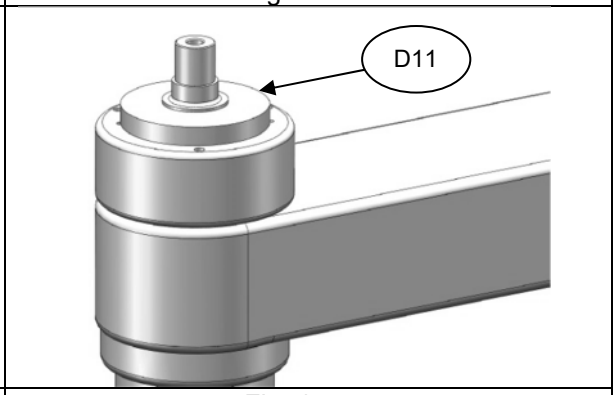


Fig. 4

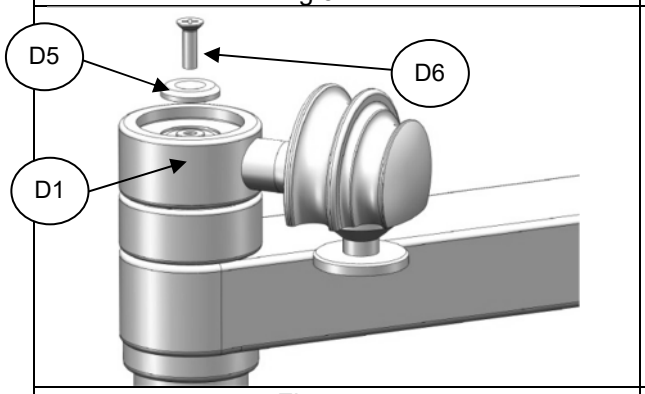


Fig.5

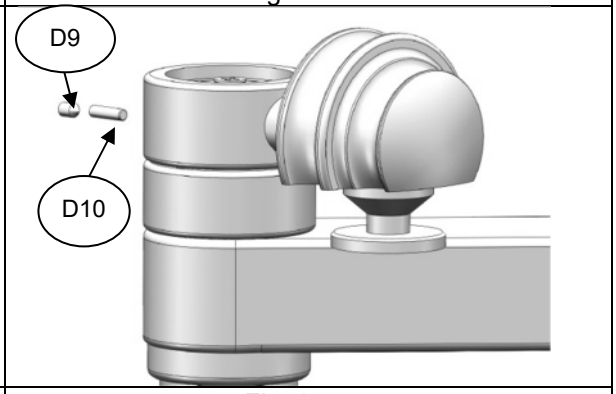


Fig. 6

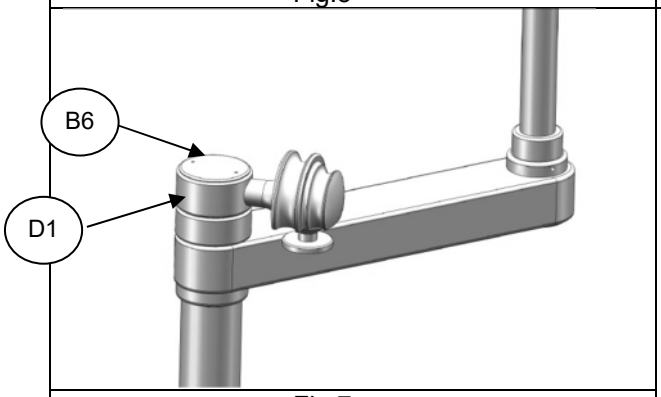
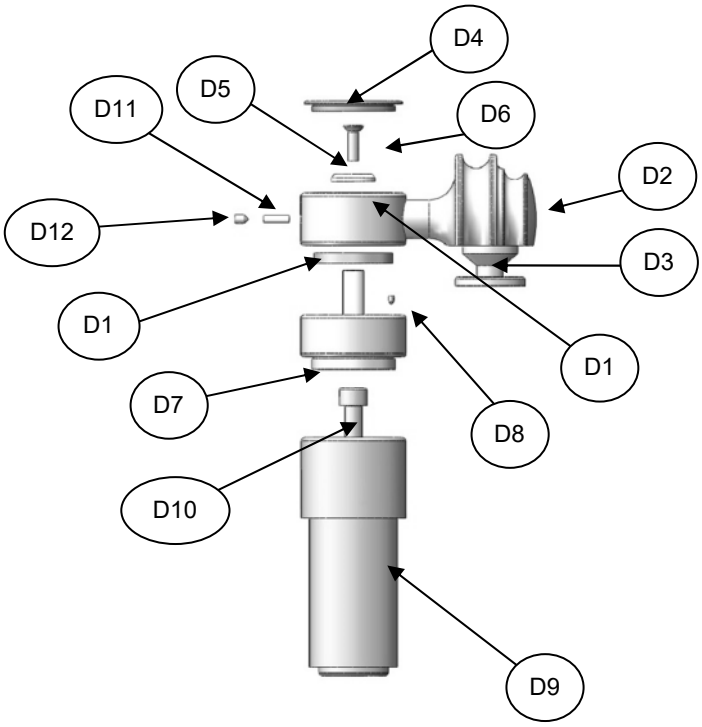
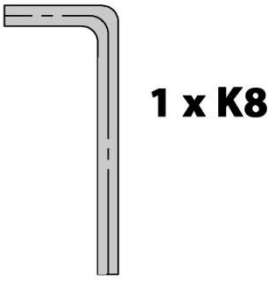


Fig.7

11.5. Camera holder cs-1b

- Rotation body= D1
- Cable hanger= D2
- Camera head coupling= D3
- Upper threaded lid= D4
- Separating washer= D5
- Screw M6= D6
- Arnite friction ring= D13
- Lockable threaded lower hub= D7
- Adjustment screws for threaded lower hub= D8
- Lower fastening cylinder for plastic trim= D9
- M12 screw for lower cylinder= D10
- Plastic axis= D11
- Rotation adjustment captive screw= D12
- Allen key 1,5mm= K8





1 x K8

TOOLS

1. Determine on which side it will be installed.
2. Remove the threaded part **M26b** which is on the plastic trim **M26** or **M26A** (Fig.1)
3. On the corresponding plastic trim **M26** or **M26A**, insert the lower fastening cylinder **D9** (Fig.2)
4. Insert in the part **D9** the M12 screw for lower cylinder **D10** and adjust with the Allen key **K10** (Fig.3)
5. On this part mount the camera support, the same as on the lateral monitor support steps 2, 3, 4 and 5.
6. On the rotation body **D1** adjust the upper threaded lid **D4**. (Fig.4)

Fig. 1

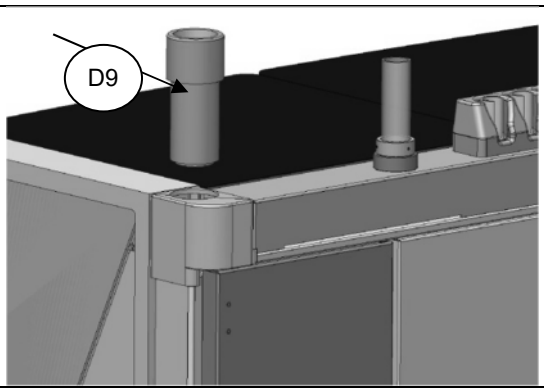


Fig. 2

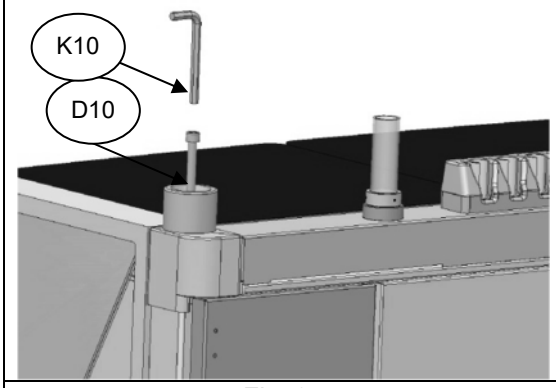


Fig. 3

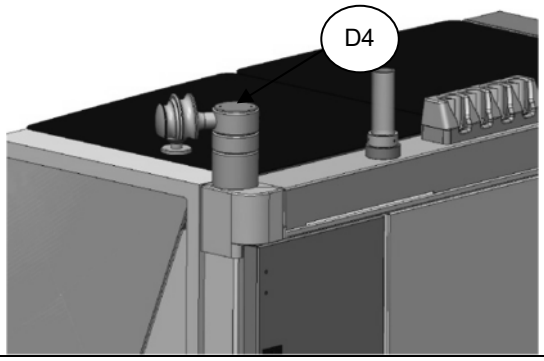


Fig. 4

12. Troubleshooting

If the equipment experiences a fault, consult the following troubleshooting chart:

PROBLEM	POSSIBLE CAUSE	ACTION
The workstation does not work.	• Workstation is disconnected • Workstation is not switched on. • Faulty board • Faulty motor	• Connect • Switch on • Contact the Technical Service • Contact the Technical Service
Suction does not work	• Faulty connection in holder connector • Damaged electronic board	• Connect properly. • Contact the Technical Service
The suction pump works, but there is no suction	• Filter blocked due to suction of fluid. • Some part of tube disconnected. • Bottle cover incorrectly placed • Broken bottle or tube • The bottle is full	• Change filter • Locate the section and reconnect. • Place the cover correctly • Replace • Empty
The waste bin's opening mechanism does not work.	• Faulty button • Faulty magnet • Damaged electronic board	• Contact the Technical Service • Contact the Technical Service • Contact the Technical Service
Drawers do not open properly	• Faulty drawer guide	• Contact the Technical Service
Locks on the lower drawers in poor condition	• Faulty	• Replace
Broken glass	• Impact	• Replace
Blue LED blinks too fast	• UV light underperforming	• Check and replace
All LEDs flashing	• Water supply interrupted	• Check water hoses and installation. • Check stopcock
All LEDs light up, one after the other in cyclical sequence	• Water loss inside the equipment	• Check water hoses and installation.
Beeps, long and short	• Cable between control panel and irrigation module disconnected.	• Connect cable
Beeps, short and fast	• Irrigation handle unhooked during cleaning cycle	• Return irrigation handle to holder.

13. Technical specifications

ELECTRICAL FEATURES:

Mains connection……110/230V-50/60Hz110V
Maximum consumption pression and irrigation……1600VA/1700VA
Maximum consumption suction……1600VA/1700VA
Output……800VA/1000VA 6X 110/230V~ 50/60Hz

SUCTION

Maximum vacuum working pressure .....-605 mm/Hg
Maximum flow rate …… 60l/min
Air inlet filter…… 2200-55
Glass ……1,5 L autoclavable (standard) (supplied OPTOMIC)
Glass …… ……1 L disposable (optional) (not supplied by OPTOMIC)

PRESSION

24v air insufflation pump…… Reg. 2 bares.
Air inlet filter……..2200-55

IRRIGATION

Hydraulic network connection …….. 1/2"
Connection to the drainage network …… 3/8”
Minimum pressure required in the water network……...3,5 bares
Minimum permissible water inlet temperature…….. 7ºC
Maximum permissible water inlet temperature……..34ºC
External water filter…….. 20 mµ
External pressure regulator……..3 bares
Liquid loss sensor…….. Optic

MATERIAL

Materials……Aluminium, Steel, ABS, fire retardant class -Fire Prof. nº UL94HB
Glass…… Laminated colors according to sample
Colors……Available in different colors

MECHANICAL FEATURES

Dimension ……110(width) x 95(height) x 54(depth) cm
Weight ……210 Kg

PERMISSIBLE ENVIRONMENTAL CONDITIONS OPTIMUS ELITE WORKSTATION

Permissible environmental conditions in use .....2~+45°C, 20~90% RH, non-condensing
Permissible environmental conditions in transport.....-10~+70°C, 10~95% RH, non-condensing
Permissible environmental conditions in storage .....-10~+70°C, 10~95% RH, non-condensing
Atmospheric pressure.....0,7 – 106 KPa

PRODUCT CLASSIFICATION

According to the Directives 93/42/EEC concerning Medical Devices the OPTIMUS ELITE Workstation is a Class IIa device.

MEDICAL DEVICE'S SPECIFICATIONS TO BE CONNECTED

NOTE	OPTOMIC does not provide these instruments

Cannula dimension for suction:
Compatible dimensions: (Ø in 1-4mm) (length approx. 100mm).

Cannula dimension for irrigation:
Compatible dimensions: (Ø 2.10, 1.80, 1.60, 1.40 (length approx. 80mm).

Universal atomizer for pression
LUER connector

14. Electromagnetic compatibility (emc)

<table>
<tr><th colspan="3">Manufacturer's guide and declaration - electromagnetic emissions</th></tr>
<tr><td colspan="3">The equipment is intended for use in the electromagnetic environment specified below. The customer or user of the equipment must assure that it is used in the mentioned environment.</td></tr>
<tr><th>Emissions test</th><th>Compliance</th><th>Electromagnetic Environment - Guide</th></tr>
<tr><td>RF CISPR11 emissions</td><td>Group 1</td><td>The equipment uses DR energy only for its internal function. Therefore, its RF emissions are very low and not likely to cause any interference in nearby electronic equipment.</td></tr>
<tr><td>RF CISPR11 emissions</td><td>Class B</td><td rowspan="3">The equipment is suitable for use in all establishments other than domestic establishments, and may be used in domestic establishments and those connected to the public low-voltage power supply network that supplies buildings used for domestic purposes, provided that the following warning is considered:

Warning: This equipment/system is intended for use by healthcare professionals only.
This equipment/system may cause radio interference or may disrupt the operation of nearby equipment. Mitigation measures may be required such as reorientation or relocation of the equipment or shielding the site.</td></tr>
<tr><td>IEC 61000-3-2 harmonic emissions</td><td>Class A</td></tr>
<tr><td>Voltage fluctuations / IEC 61000-3-3 flicker emissions</td><td>Complies</td></tr>
</table>

The equipment must not be used next to or stacked with other equipment. If it is necessary to use it next to or stacked with other equipment, it should be regularly checked to verify normal operation in the configuration to be used.

Manufacturer's guide and declaration - Electromagnetic immunity			
The equipment is intended for use in the electromagnetic environment specified below. The customer or user of the equipment must assure that it is used in the mentioned environment.			
Immunity test	**Test level of IEC 60601 Standard**	**Level of compliance**	**Electromagnetic Environment - Guide**
Electrostatic discharge IEC 61000-4-2	±8 kV by contact ±15kV by air	±8 kV by contact ±15kV by air	Floors should be wood, concrete, or ceramic tile. If the floor is covered with synthetic material, relative humidity should be at least 30%.
Fast Transients IEC 61000-4-4	±2 kV for mains supply. ±1kV for input/output lines 100 kHz	±2 kV for mains supply. ±1kV for input/output lines	Power supply quality should be that of a typical commercial or hospital environment.
Shock wave IEC 61000-4-5	±1 kV line ±2kV earth	±1 kV line ±2kV earth	Power supply quality should be that of a typical commercial or hospital environment.
Outages and interruptions IEC-61000-4-11	- 0% U_T; 0.5 cycle at 0º, 45º, 90º, 135º, 180º, 225º, 270º and 315º. - 0% U_T; 1 cycle. - 70% U_T; 25/30 cycles (at 0º). - 0% U_T; 250/300 cycles. NOTE: U_T = AC power supply voltage before application of test level.	- 0% U_T; 0.5 cycle at 0º, 45º, 90º, 135º, 180º, 225º, 270º and 315º. - 0% U_T; 1 cycle. - 70% U_T; 25/30 cycles (at 0º). - 0% U_T; 250/300 cycles.	Power supply quality should be that of a typical commercial or hospital environment. If the equipment user requires continued operation during power interruptions, it is recommended to have the equipment powered from an uninterrupted power supply or battery.
Magnetic field IEC 61000-4-8	30 A/m 50Hz or 60Hz	30 A/m 50Hz or 60Hz	Power frequency magnetic fields should be at levels typical of a commercial or hospital environment.
Conducted RF Immunity IEC 61000-4-6 Radiated Immunity IEC61000-4-3	3 V 150 kHz at 80 MHz 6 V ISM bands 3 V/m de 80 MHz at 2.7 GHz	3 V 3 V/m	Portable and mobile RF communications equipment should not be used closer to any part of the equipment, including cables, than the recommended separation distance at the transmitter frequency.

OPTOMIC®

producing quality

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