

Operating Manual pfm Forceps EWF 600

Please read this operating manual carefully before using the instrument for the first time and make certain that you are familiar with the method of operation as well as the instrument's operating elements to ensure that it is used in the correct way.

www.pfmmedical.com



Note

Dear Customer,

Please read this operating manual carefully before using the instrument for the first time and make certain that you are familiar with the method of operation as well as the instrument's operating elements to ensure that it is used in the correct way.

All the information in this operating manual applies to the pfm Forceps EWF 600.

Serial number: _____

Please enter the serial number of your instrument here. It can be found on the nameplate.

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Part 1 – Safety instructions

Please read this operating manual carefully before working with the pfm Forceps EWF 600. Make certain that you are familiar with the instrument's controls and method of operation. Always observe the following precautions during operation of the instrument. Failure to do so is contrary to the recognised technical regulations and the intended use of the instrument.

In case of infringement, pfm medical gmbh does not accept any form of liability.

1.1 Key to symbols



Caution! This symbol indicates a possible danger to life and health. Failing to observe these instructions can result in severe health impacts, including life-threatening injuries.

NOTE

Indicates useful information

WARNING

Indicates a dangerous situation



Manufacturer



Date of manufacture



Consult operating manual

PLEASE NOTE The up-to-date electronic operating manual can be found on our website:
<http://www.pfmmedical.com/downloads>



In vitro diagnostic (IVD) medical device



Catalogue number



Serial number



CE marking



UN3480 - Lithium-ion batteries



Biohazard warning



Hot surface warning



Dangerous electrical voltage warning



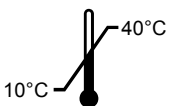
The instrument must not be disposed of in normal domestic waste.
It must be collected separately.



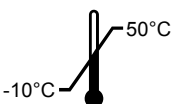
Keep dry



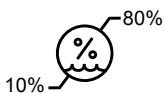
Fragile, handle with care



Permissible temperature range at the place of use
+10°C - +40°C



Permissible temperature range for storage and transportation
-10°C - +50°C



Permissible humidity range for storage and transportation, and at the place of use
10% - 80% (non-condensing)

1.2 Intended purpose

The pfm Forceps EWF 600 is the first wireless electronic forceps for safe transfer and alignment of human and animal tissue specimens during embedding in the histological laboratory in the fields of medicine, research and industry. It can be used as a diagnostic aid related to an in-vitro examination within the histopathological process and

may only be operated by appropriately trained personnel. The product facilitates the preparation of tissue samples which, after further processing, are diagnosed by a pathologist and provide information on the physiological or pathological condition.

1.3 User group/user profile

- ▶ The pfm Forceps EWF 600 must only be operated by appropriately trained staff who are familiar with the instrument's method of operation.
- ▶ Before using the instrument for the first time, the operating manual must be read so that the user is familiar with the method of operation and the operating controls. This is essential to ensure proper handling.

NOTE

The operating manual should be accessible to everyone.

1.4 Protective devices

- ▶ Temperature control and monitoring of the forceps tip via a wireless connection signal
- ▶ Connection signal strength indicator

WARNING

Caution! Protective devices must not be removed from the instrument or modified. The proper functioning of the protective devices must be checked by the user before starting work.

1.5 Operating the instrument

- ▶ Only use suitable accessories and connecting cables recommended/supplied by pfmmedical.
- ▶ Only operate the instrument from power outlets with an earth conductor.
- ▶ The external fuse protection must not exceed 16 A.
- ▶ If the instrument fuse needs to be replaced, the parameters specified by the factory must be observed (0.8 A).
- ▶ Observe all warnings.
- ▶ Warnings on the instrument must not be removed or obscured.
- ▶ Do not start up the instrument if it is damaged.
- ▶ Do not start up the instrument if it has a damaged mains power cable.
- ▶ The mains power cable must not come into contact with the hot forceps tips.
- ▶ Do not place the forceps on hot surfaces.
- ▶ Do not open the instrument housing/forceps.
- ▶ Do not remove the batteries
- ▶ The instrument must only be opened and repaired by service technicians trained and authorised by pfmmedical.
- ▶ For servicing and repair work, the instrument must be switched off and disconnected from the power supply.
- ▶ No corrosive, acidic or alkaline solutions should be used in the vicinity of the instrument, as they could cause corrosion and damage the instrument and accessories.

1.6 General precautions

Please take special note of the following warnings:

Beware of explosive gases

The instrument must not be used if dangerous gas concentrations could occur in the surrounding area.

Risk of infection

When working with infectious materials, appropriate safety measures must be implemented. The samples used may potentially be infectious. The general laboratory rules regarding protection against infections must therefore be observed.

Risk of radioactivity

When working with radioactive materials, the radiation protection regulations must be followed. Protective clothing must be worn in accordance with the rules and regulations that apply in your laboratory for handling radioactively contaminated materials. For the disposal of radioactive waste, the applicable regulations will apply in each instance.

Avoiding malfunctions

To avoid malfunctions, the instrument must not be used close to radio transmitters, e.g. mobile phones. If the instrument malfunctions, please switch it off and contact your dealer.

Caution

Before switching the instrument on for the first time, please check that the supply voltage/frequency at the place of use match the specifications on the nameplate.

Protective earthing of the instrument

To avoid the risk of electrocution, the instrument must be properly connected to an earth conductor. The instrument is equipped with a mains power plug with earth conductor (protection class I). It is very important to check that the mains power outlet used is equipped with an earth conductor, and that it complies with the regulations of the International Electrotechnical Commission (IEC).

Risk of chemical substances

Some of the alloys used in the components of this instrument contain small amounts of lead for improved machining. The lead is, however, firmly bound in the metal matrix. When used as intended, the lead in the alloys is not released and does not represent any risk to the user.

You can find additional information in the Declaration on the EU Regulation 1907/2006 (REACH) at:
<http://www.pfmmedical.de/downloads>

Mains voltage precautions

Never remove any part of the housing. The replacement of components and any adjustment or calibration must be carried out by trained service technicians.

Electromagnetic interference

The electromagnetic environment should be assessed before the pfm Forceps EWF 600 are operated. Do not use this instrument near strong sources of electromagnetic radiation (for example, unshielded, intentionally operated high-frequency sources) because these can interfere with the proper operation of the instrument. The pfm Forceps EWF 600 fulfil the requirements of the IEC 61326-2-6 standard on electromagnetic immunity and emissions.

WARNING

Caution! Switch off the instrument and disconnect it from the power supply before opening or removing any part of the housing.

WARNING

Caution! Warns of a hot surface. The forceps tips can be very hot in operating mode.



WARNING

Caution! Warns of dangerous electrical voltage.



Part 2 – Introduction

2.1 View of the pfm Forceps EWF 600



- 1 Antenna
- 2 Forceps

- 3 Base station
- 4 Display

2.2 Technical data for the pfm Forceps EWF 600

- ▶ **Dimensions (W/D/H):** 180 × 290 × 250 mm
- ▶ **Temperature range:** +30°C to +70°C
- ▶ **Temperature accuracy:** +/- 1°C, temperature display in 1 degree steps
- ▶ **Reaching the max. operating temperature (70°C):** after approx. 15 min.
- ▶ **Charging time:** approx. 30 min.
- ▶ **Power supply:** 110 - 240 V, 50/60 Hz
- ▶ **Fuse:** 0.8 A
- ▶ **Weight:** 4.8 kg
- ▶ **Pollution degree (according to IEC 61010-1):** II
- ▶ **Overvoltage category (according to IEC 61010-1):** II
- ▶ **Fluctuations in mains voltage:** ±10% of the mains voltage

2.3 Scope of delivery

pfm Forceps EWF 600
REF: 600600

Scope of delivery

Base station
 2 Forceps each with one pair of standard tips 2 mm (REF 600610)
 1 Mains power cable

NOTE

The up-to-date electronic operating manual can be found on our website: <http://www.pfmmedical.com/downloads>

Part 3 – Operating instructions

3.1 Transportation, unpacking and setting up the instrument

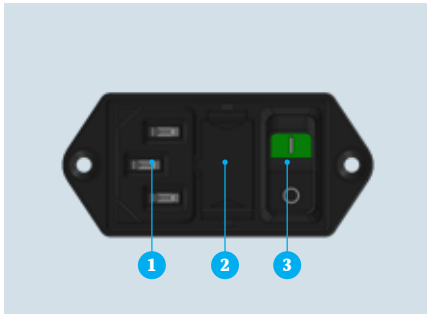
- ▶ Before unpacking the instrument, please check that it is complete and undamaged.
- ▶ Disassemble the packaging and remove the instrument. The accessories are packaged separately.
- ▶ Please read the operating manual carefully before using the instrument for the first time.
- ▶ The instrument should be placed on a stable, vibration-free table or desk.
- ▶ The instrument must be placed on a non-combustible, flat surface.
- ▶ Do not store flammable or combustible substances in the immediate vicinity of the instrument.
- ▶ The instrument must only be used indoors, and never in locations where there is a risk of explosion.
- ▶ Position the instrument so that the power plug is always accessible.
- ▶ Room temperature at the installation location of the instrument between +10°C and +40°C.
- ▶ Relative humidity at the installation location of the instrument max. 80% (non-condensing).
- ▶ Ambient temperature during the transportation and storage of the instrument: between -10°C and +50°C.
- ▶ Relative humidity during the transportation and storage of the instrument: max. 80% (non-condensing).

The operator is responsible for checking that the instrument is working properly and safely. The operator shall assume responsibility for any use of special equipment and/or materials for operating the instrument.

NOTE

If possible, retain the original packaging for the entire lifetime of the instrument so that you can repack the instrument correctly if it needs to be sent for servicing.

3.2 Initial operation



- 1 Power socket
- 2 Instrument fuse
- 3 Power switch

- ▶ Before switching on the pfm Forceps EWF 600 for the first time, check that the supply voltage and frequency specified on the nameplate match the mains voltage specifications at the installation location.
- ▶ Always connect the instrument to an earthed wall socket.
- ▶ Plug the power cable into the socket on the back of the instrument.
- ▶ The instrument socket also contains the fuse holder.
- ▶ Switch on at the mains power switch.
- ▶ Now switch on at the power switch on the instrument.
- ▶ 1=ON, 0=OFF

WARNING

Caution! Only use the mains power cable with ferrite core supplied with the instrument.

Caution! Do not use an extension cable.

Caution! If the instrument is not operated with the mains power cable supplied, the user must carry out a safety test with the new mains power cable before using the instrument for the first time.



Caution! If the instrument does not heat up, or heats up too much, it should immediately be taken out of operation. If this occurs, contact a service technician.

3.3 Initial recharging of the batteries



- 1 Colour-coded charging stations


WARNING

Caution! If the forceps have not been used for a long period of time, this initial recharging of the batteries should be carried out again. By pressing the  button, the temperature setting can be set to .

Caution! The forceps should always be fully recharged.

Caution! If the battery capacity decreases/reduces or in the event of malfunctions, the forceps should be taken out of operation. If this occurs, contact a service technician.

Caution! The handpieces of the forceps must be free of paraffin before they are put in the respective charging station to recharge.

- ▶ Before first use, the batteries must be completely recharged.
- ▶ For this purpose, the temperature setting in the display should be  on delivery, this is already set at the factory.
- ▶ Put the respective forceps in the colour-coded charging station.
- ▶ Charging the forceps takes approx. 1 hour, the charging status is indicated on the display.
- ▶ As soon as the batteries are fully recharged, the desired temperature can be set in the display.
- ▶ When the batteries are completely discharged (0%), this is indicated by the white and blue LEDs flashing.

3.4 Display



- 1 SET TEMPERATURE
- 2 ACTUAL TEMPERATURE
- 3 Temperature setting plus (+)
- 4 Temperature setting minus (-)

WARNING

Caution! Do not operate the instrument if the display does not work, shows illogical or incorrect values, or is damaged.

3.5 Temperature setting

- ▶ The display shows the **SET TEMPERATURE** and the **ACTUAL TEMPERATURE**.
- ▶ The desired temperature is set by pressing the (+) or (-) button.
- ▶ This set temperature will be maintained until the next adjustment is made.
- ▶ Depending on whether the newly set value is higher or lower than the current temperature, a rise or a fall to the programmed temperature can be observed on the display.
- ▶ The operating temperature can be set between +30°C and +70°C.
- ▶ The tips of the forceps are gold-plated for optimal thermal conductivity.

WARNING

Caution! The tips of the forceps can be very hot.

Caution! If the forceps tips or the forceps handpieces become too warm, the instrument should immediately be taken out of operation. If this occurs, contact a service technician.

3.6 Illumination of the working area



1 Temperature display field



1 White forceps illumination

- ▶ The pfm Forceps EWF 600 have an integrated white light in order to illuminate the work area for better detection of smaller tissue samples.
- ▶ The white illumination can be switched on and off by pressing on the corresponding temperature display field.

3.7 Forceps battery level



1 Forceps battery level



1 White forceps illumination

- ▶ The battery level of the forceps is indicated on the respective display.
- ▶ Charging the forceps takes approx. 30 minutes.
- ▶ The memory capacity during application is approx. 30 minutes.
- ▶ A low battery level is additionally indicated in good time by the white light on the forceps flashing. The forceps must then be exchanged.

3.8 Connection signal strength



1 Connection signal strength



1 Blue forceps illumination

The set temperature is kept constant via a wireless connection signal between the forceps and the base station. The signal strength is also shown on the display. The blue diode on the forceps indicates a stable connection.

WARNING

Caution! Make sure that the distance between the base station and the forceps is always correct. If the distance is too great, the quality of the signal strength will decline and lead to an unstable connection. A poor connection, or no connection, is indicated by the blue forceps light flashing.

3.9 Menu settings



The pfm Forceps EWF 600 are equipped with a modern touch screen. Lightly swiping the screen with the fingertip conveniently switches between the various display options.

Language

Press the **Language** button to select between the different languages.

Signal

Press the **Signal** button to switch the signal on or off.

Brightness

Press the **Brightness** button to adjust the brightness of the display. There are three levels in total.

Service menu

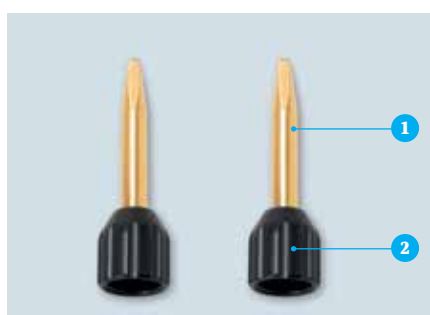
Press the **Service** button to enter the service menu. Access is password-protected.

3.10 Factory settings



By lightly swiping the screen with the fingertip, you can access the factory settings display. Here you will find detailed information on the current status of the firmware (software) and hardware.

3.11 Replacing the forceps tips



- 1 Forceps tips
- 2 Clamping screw

- ▶ To replace the forceps tip, the black clamping screw on the holder for the forceps tip must be loosened and removed.
- ▶ Then the gold-plated tip of the forceps can be carefully removed upwards.
- ▶ The selected forceps tip is mounted in reverse order.
- ▶ Caution: The parallel alignment of the forceps tips can only be achieved when the clamping screw is loosened.

3.12 Malfunctions and their correction

Fault	Possible cause	Remedy
No display after switching on the instrument	Mains cable not correctly connected	Check the mains cable connection
	Mains cable defective	Check the mains fuse and replace if necessary
	Instrument fuse defective	Change the instrument fuse
Forceps tips do not reach the set temperature	Forceps are not charged	Check the battery level, change the forceps
	No connection signal	Check the connection signal on the forceps (blue diode) Check the connection signal on the display Check the battery level Check the antenna
Forceps tips cannot be aligned	Dirt	Check the clamping screw or clean
	Tips position not correctly aligned	Check the adjustment of the forceps tips position before clamping
Forceps are not charged correctly or not charged at all	Battery defective	Battery must be replaced
	Charge contacts unclean	Clean the contacts
	Forceps not inserted correctly	Check the position of the forceps
	Connection signal	Check
	Battery completely discharged (blue and white LEDs flashing)	Charge the battery (see 3.3 Initial recharging of the batteries)
Display does not respond	Grease (e.g. from hand cream)	Check the display for damage or clean it
	Dirt and dust	The display must be dry and free of dirt
	Humidity	Restart the instrument
	Display damaged	

Part 4 – Maintenance, cleaning and care

4.1 Maintenance

In order to guarantee the reliable function of the pfm Forceps EWF 600, routine maintenance should be undertaken by a trained service technician once a year. pfm medical gmbh provides maintenance to ensure that your instrument

always remains in perfect condition. Details can be obtained from your sales representative or directly from pfm medical gmbh. We recommend an annual electrical safety inspection.

4.2 Cleaning and care



For the instrument to function reliably, it must be kept clean by the user. Mild household detergents are suitable for this purpose. Do not use any aggressive cleaning agents or solvents. Do not allow liquids to penetrate the inside of the charging stations. It is particularly important to ensure that excess paraffin is regularly wiped off. The handpieces must be free of paraffin before charging.

WARNING

Caution! Before cleaning, switch off the instrument and remove the mains power plug.

Caution! When handling disinfectants and cleaning agents, always follow the manufacturer's instructions regarding safety, dilution and exposure time.

4.3 Touch screen/display cleaning and care

The display and touch screen are made of glass and should not be touched with hard, sharp or pointy objects. Do not use any aggressive cleaning agent or solvents for the cleaning. No glass cleaners or detergent should be used as they contain aggressive soap solutions that attack and damage the surface. We recommend cleaning the touch screen without wetting it, preferably with a standard microfibre cloth.

WARNING

Caution! The display should not be sprayed with a cleaning agent or disinfectant because there is a danger that liquid will get between the films or behind the display, and damage the display.

4.4 Returning the pfm Forceps EWF 600 for repair or maintenance

Repairs and maintenance work are usually carried out on site. If this is not possible for any particular reason, the instrument can be sent to pfm medical gmbh. Before you send an instrument to pfmmedical for a service, it must be suitably cleaned and decontaminated. This also applies to instruments undergoing a service on site. Contaminated instruments pose a potential health hazard for anyone coming into contact with them due to infectious agents, pathogens or medicinal products. The legal requirements for the handling of contaminated instruments are specified in various regulations, including the Occupational Safety and Health Act (ArbSchG), the Biological Agents Ordinance (BioStoffV), the Occupational Safety Act (ASiG) and the Accident Prevention Regulations (UVV). To confirm that the instrument has been decontaminated, please complete the decontamination certificate carefully. You can find the current certificate on our website:

<http://www.pfmmedical.com/downloads>

Servicing can only be carried out if a certificate is fully completed in advance and enclosed with the instrument. If it is found that the instrument poses a potential hazard, we reserve the right to return the instrument to the sender immediately at the sender's expense.

WARNING

Caution! Always send the instrument in the original packaging together with the mains cable. Remove the forceps from the base station and carefully package them individually. Please contact pfmmedical if you no longer have the original packaging.

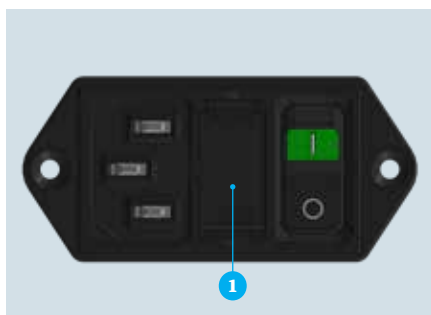
Caution! The package must be labelled with a UN 3480 hazard label prior to dispatch.

4.5 Decontamination

For the regular disinfection of the work surfaces and other surfaces of the pfm Forceps EWG 600, we recommend using single-use disinfectant wipes, for example those recommended

by the RKI (Robert Koch Institute) or the VAH (Association for Applied Hygiene) list: "Mikrozid AF" and "Bacillol AF".

4.6 Instrument fuse



1 Instrument fuse

- ▶ The instrument fuse is located on the rear of the instrument, and is integrated into the power switch.
- ▶ To replace the fuse, the instrument must be switched off at the power switch and the mains power plug must be unplugged.
- ▶ Open the protective cover with a small flat screwdriver and remove the fuse holder.
- ▶ The fuse can then be replaced with a new one.

WARNING

Caution! Switch off the instrument and disconnect it from the power supply before replacing the fuse.

4.7 Warranty

The instrument has been carefully checked and tested by us. However, in the event of any defect, apart from minor defects, occurring in an instrument or spare part distributed by us up to one year from delivery, we undertake to remedy the defect to the extent specified below, without prejudice to any statutory or other contractual claims, even where the defect was not present on delivery to the customer, provided that there has been no unauthorised interference with the instrument by third parties. This warranty does not cover normal wear and tear, nor does it constitute a guarantee of quality or durability of the instrument.

The remedying of defects under this warranty shall be carried out, at our discretion, by the replacement or repair of defective parts. Furthermore, spare parts can be supplied for 5 years after delivery of the instrument. Any warranty claims on the part of the customer beyond the above are hereby excluded, without prejudice to any statutory or other contractual claims. This applies in particular to any compensation claims for damage, consequential damage or costs relating to the defect. The transport of the instrument to us and return transport during this period shall be at the customer's risk.

To assert a claim under this warranty, the instrument concerned must be sent to us, at the customer's expense and risk, with a detailed description of the defect, and specifying the purchase order number, delivery note number and invoice number. Our address is: Wankelstrasse 60, 50996 Cologne, Germany.

Claims under this warranty expire 6 months from assertion of the claim, but not before the end of the warranty period. This warranty and any claims, rights and obligations arising therefrom are subject solely to the material law of the Federal Republic of Germany, to the exclusion of Private International Law and the UN Convention on Contracts for the International Sale of Goods. Our standard terms and conditions of supply and payment apply in addition.

All serious incidents that occur in connection with the device must be reported to the manufacturer and the competent authority of the Member State where the user and/or patient are located.

4.8 Declaration of Conformity

The current Declaration of Conformity can be found on our website: <http://www.pfmmedical.com/downloads>

4.9 Change history

State of revision	Change
Rev.2023-07-19	Design reworked
Rev.2024-01-01	Corporate identity guidelines

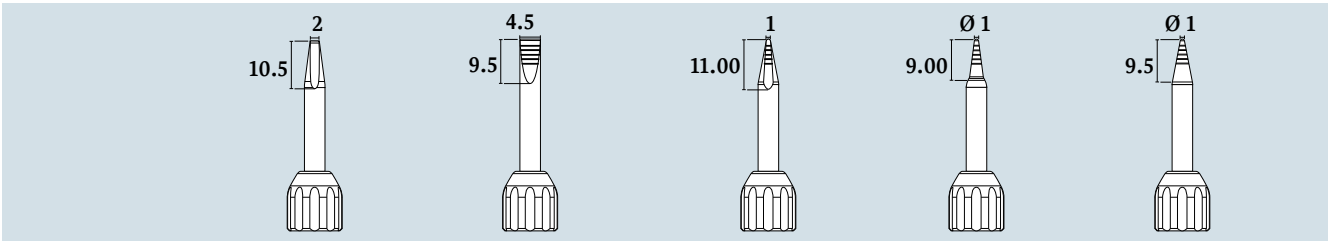
Part 5 – Accessories



Forceps tips 2 mm

REF 600610

- Size: 2 mm
- Type: flat
- Surface: smooth
- PU: 1 pair



REF	600610	600620	600630	600640	600650
Size	2 mm	4.5 mm	1 mm	Ø 1 mm 15°	Ø 1 mm 22°
Type	flat	flat	flat	round	round
Surface	smooth	ribbed	ribbed	ribbed	ribbed
PU	1 pair	1 pair	1 pair	1 pair	1 pair



Tripod forceps

REF 600660

- For convenient storage of the forceps during operation.



Spare tips box

REF 600670

- Box for storing forceps tips
- Capacity for 5 pairs of spare tips

Part 6 – Disposal of the pfm Forceps EWF 600 when put out of use

Return and disposal of waste electrical equipment

The WEEE directive 2002/96/EC (WEEE = Waste Electrical and Electronic Equipment) was issued in Europe with the aim of reducing the growing quantity of electronic scrap from discarded electrical and electronic devices and disposing of it in an environmentally friendly manner. In Germany, the directive was integrated in the 2005 Electrical and Electronic Equipment Act (ElektroG), which implemented both the WEEE directive and the RoHS (Restriction of Hazardous Substances in Electrical and Electronic Equipment).

Histotechnology-devices

As a registered manufacturer (WEEE Reg. No. DE85819911), we take back old histological electrical devices, manufactured by pfm medical gmbh, after they have been decommissioned and ensure that they are disposed of properly. For disposal, we work together with the certified specialist disposal company enretec GmbH, whose disposal facility is also registered with the ear foundation.

Arrange the return

To arrange for the return of your electrical device, please proceed as follows:
Contact us to arrange the return

- ▶ by phone: +49 2236 9641-0
- ▶ by e-mail: [service\[at\]pfmmmedical.com](mailto:service[at]pfmmmedical.com)
- ▶ by mail: pfm medical gmbh, Abteilung Histotechnology, Wankelstraße 60, 50996 Köln, Germany

Prepare the device for transport

Please use only the original packaging and instruct a carrier of your choice to return the device to the following address:

pfm medical gmbh
Abteilung Histotechnology
Wankelstraße 60
50996 Köln
Germany

Costs

The costs of disposal are borne by us as the manufacturer. Unless otherwise agreed, the transport and packaging costs are to be covered by the owner/user of the device.

WARNING


Caution! If the device has come into contact with infectious material and cannot be disinfected or decontaminated, we cannot accept it for disposal.


For your notes


Contact

Do you have any questions?

Our Customer Solutions Team will be happy to advise you.

 service@pfmmedical.com

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