

TISSUE VACUUM

Tissue Vacuum employs a new technique for transporting specimens and ensures total safety for operators involved in the process, as it completely removes formalin from work place.



Tissue Vacuum is a system created to transfer in oxygen absence conditions all the samples coming from the operating room to the pathology laboratory. The surgical specimen characteristics can thus be preserved during transportation.

The management of the biological sample is very simple and requires no special care, nor for the instrument (it can stand in the pre-operative room and requires no more than a plug for electrical supply), nor for the bags containing the samples.

Bags are manufactured in a controlled environment and carry biohazard symbology on the external side (complying with Italian law D.Leg.vo n.81 dated 08 aprile 2008 (ex 626) safety on work places). They are equipped with an adhesive side pocket where operators can insert documents.

Bags are made of high resistant materials, which allows the preservation of the samples up to 72 hours. The ultravacuum preservation technique delays the autolysis process (due to air absence inside the bag).



Conservation of histological samples requires controlled temperature from 0°C up to 4°C: this condition can be obtained using a common refrigerator.

This system is excellent for the management of the archive (prior to disposal) of biological tissues after their excision. The benefits are many:

- ✓ Zero emissions of formaldehyde vapors and consequent decrease in filters exchange needs;
- ✓ Minimal amount of space needed in the storage cabinets.



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TISSUE VACUUM PLUS

The brand new system for operator's safety in surgical specimens management.

Tissue Vacuum Plus is a new and innovative system which allows operators to transport surgical specimens from operating room to pathology laboratory without formaldehyde, but using a vacuum and nitrogen technique. During the transfer procedure samples maintain all their morphological characteristics.



Tissue Vacuum Plus brings many advantages:

- ✓ It reduces over 90% of the consumption of formaldehyde in the operating room;
- ✓ Differently from many other systems Tissue Vacuum Plus does not require two operators to insert samples (for instance when using vacuum bags). Furthermore, it assures safe handling of surgical specimens;
- ✓ Containers are closed by heat sealing of an oxygen barrier film;
- ✓ Using Tissue Vacuum Plus combined with Tissue Filling Plus (Automatic formaldehyde filling system), contact with formalin is limited to the minimum;
- ✓ Preservation of fresh tissue allows laboratory operators to obtain samples for bio-banking. Furthermore the fixation procedure for surgical samples can be properly controlled;
- ✓ A single container can be used for transport, fixation and preservation of surgical samples;
- ✓ The specimen can be stored up to 7 days at low temperature without significant variations.

Sampling procedure:

- I. After excision, insert the surgical specimen inside Oxigen-Barrier® container and take it to pre-operative room, where it is immediately heat sealed with film by using Tissue Vacuum Plus. Sealing operation may last max. 10 seconds;
- II. The oxygen barrier container is equipped with a large area where operators can enter identification data; with a handle to make transport operations easier and with the symbology required for transportation of fresh tissues;
- III. Upon request, the system is equipped with a data logger (optional) to monitor temperature during transport. Laboratory personell verifies data and print them if necessary.
- IV. In the pathology department the film can be removed and the sample can be further processed. The container with the tissue can be inserted into Tissue Filling System that verifies its weight, fills with fixative and performs a new sealing. This new system allows for the use of a proper formalin quantity, without wastefulness and with total safety for the user.



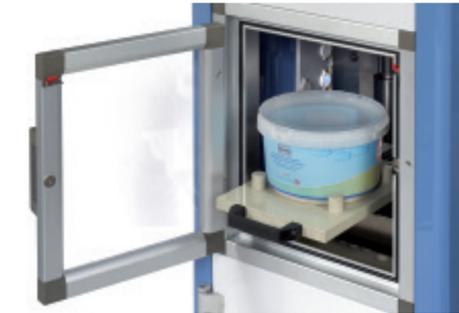
TISSUE FILLING SYSTEM



Tissue Filling System has been created for the automatic filling of containers with fixative liquid during transport of biological samples from the operating room to the laboratory. The system is used in association with Tissue Vacuum Plus to ensure continuity in pre-analytical procedures and a total protection of the user from formaldehyde exposure. The Oxigen-Barrier® containers for surgical specimens are sealed with the Tissue Vacuum Plus System and then quickly filled with the exact amount of formalin; this procedure ensures a proper fixation of the tissue.

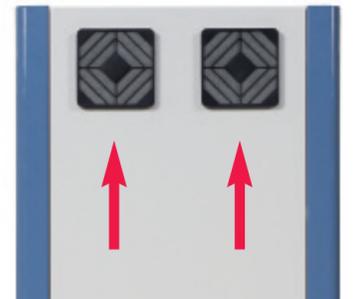
Tissue Filling System is the best choice for laboratories whose aim is to standardize the procedures for biological samples fixation. It provides a new method for processing tissues in the easiest, safest and most effective way for the operator.

Oxigen-Barrier® containers in four different sizes, perfectly suits to this system which recognizes the container dimensions. The filling is performed by an automatic punching of the oxygen barrier film. The sample and the container are weighed through a built-in system for the exact fixative quantity determination.



Four different programs can be set by the user for an optimal fixation in order to establish the most suitable fixative amount in relation to sample size. This variability allows a greater flexibility of use and a reduction of the fixative material used in the procedure.

Suction assemblies with charcoal filters for aldehydes and the low noise motor ensure a complete safety for the operator. Moreover the compartment containing the formalin tanks is totally sucked and sealed. Thanks to its reduced dimensions and consumptions the device is suitable in laboratories of any size.



Instrument scale is equipped with a system performing an automatic calibration without the need for any additional operations.

Tissue Filling System is equipped with alarms which allow a control of the entire system during all operating phases:

- ✓ Audible alarm for informing that the tanks do not contain sufficient fixative to complete the entire filling operation;
- ✓ Warnings when container is not suitable for the amount of fixative required for proper fixation of the sample.

Touch screen display shows different parameters which can be selected for ensuring an optimal fixation procedure:

- ✓ Sample weight;
- ✓ Fixative percentage in relation to sample weight;
- ✓ Formalin quantity in the tank;
- ✓ Filters use;
- ✓ Number of filled containers;
- ✓ Formalin quantity used.

