



30 YEARS OF EXPERIENCE  
IN TRACEABLE SAMPLE  
STORAGE

CERTIFIED CLASS 7 CLEAN ROOM  
INJECTION MOLDING  
AND ASSEMBLY

PRODUCTION IN  
THE NETHERLANDS AND  
THE UNITED STATES

# POST-ANALYTICAL CAPPING SOLUTION

For the short-term storage of sample collection tubes

## MEDICAL LABORATORIES

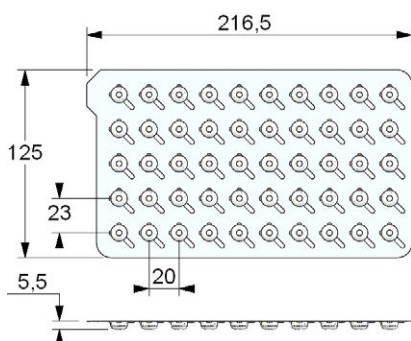
In medical laboratories analytical tests are usually conducted on clinical specimens (e.g. blood or urine) in order to obtain information about the health of a patient as pertaining to the diagnosis, treatment or prevention of a disease. Medical laboratories are thus focused on applied science mainly on a production-like basis, as opposed to research laboratories that focus on basic science on an academic basis.

During specimen collection, blood must be drawn in a specific order to avoid cross-contamination of additives between sample collection tubes. The procedure is the same for all types of tubes or instruments used. It is vital that the order is followed not only to avoid contamination, but also to ensure accuracy of test results. The smallest error could mean that the patient might not receive the most appropriate care and treatment for his specific case.

Next to avoiding cross-contamination and assuring accuracy of test results during the pre-analytical and analytical phase, these elements are also important during the post-analytical storage phase of the blood collection tubes. In case additional tests need to be conducted, a medical laboratory needs to be assured that the sample has not been contaminated during the storage procedure. Micronic offers the unique Novitain™ Post-Analytical Capping Solution to ensure sample integrity during storage.

### Micronic Novitain™ Push Caps

Capcluster-50 format



#### Specifications

Material:	Thermo Plastic Elastomer
Dimensions:	216.5mm x 125.0mm
Cap height:	5.5mm
Available colors:	Natural
Chemical resistance:	++
Temperature range:	-20°C to +100°C (without retaining foil)

# POST-ANALYTICAL CAPPING SOLUTION

FOR THE SHORT-TERM STORAGE OF SAMPLE COLLECTION TUBES

## NOVITAIN™ POST-ANALYTICAL CAPPING SOLUTION

### Novitain Capcluster-50 & Novitain Rack in 50-well Format

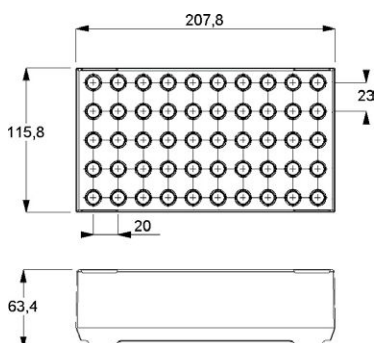
Designed in conjunction with health care professionals, the Novitain Capcluster-50 offers an ideal and economic solution for the secure short-term sealing of sample collection tubes (75.0mm x 13.0mm) stored in the Novitain Rack. After capping 50 tubes in one turn, the retaining foil can be removed to leave each tube individually capped, in turn minimizing cross contamination. Each tube can be easily opened again using the tab attached to the cap without the need for additional tools. The lightweight 50-well format Novitain Rack is compatible with automated pre-analytical systems and has an open well side design to ensure equal temperature for all tubes during cooled storage.

### Novitain Manual Capper CV750

Drawing upon proprietary Micronic technology, Novitain TPE Push Caps offer a rapid solution for capping 50 racked sample collection tubes using the Novitain Manual Capper CV750. The Novitain Manual Capper CV750, built to meet the specific individual requirements of our customers, can seal 50 sample collection tubes at once. The capper operates as a stand-alone device, is very easy to use and requires minimum force. Simply place the Novitain Capcluster-50 on the racked sample collection tubes, place the Novitain Rack into the rack entrance and with a simple forward / reverse action of the black handle all 50 tubes are now evenly capped.

## Micronic Novitain™ Rack

50-well format



### Specifications

Material:	Polypropylene
Dimensions:	207.8mm x 115.8mm x 63.4mm
Height tubes in rack:	85.5mm (with cap 86.5mm)
Available colors:	White
Chemical resistance:	++
Temperature range:	-20°C to +121°C

Class 7  
clean  
room ✓

RNase  
DNase  
Free ✓

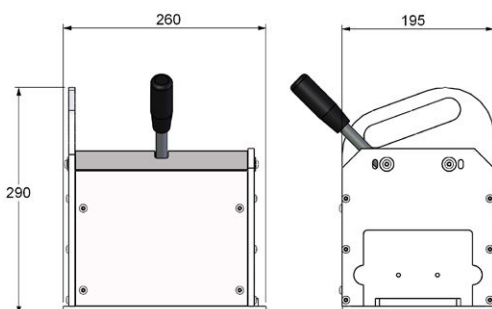
## User Application

The Micronic Novitain™ Post-Analytical Capping Solution is already used by many medical laboratories worldwide. Most laboratories are small to medium sized and use the Novitain products in combination with automated pre-analytical and analysis systems. As an example, one user provides the 50-well format Novitain Racks with the letter 'C', indicating samples for chemistry (see image), or the letter 'H', indicating samples for hematology. After registration and analysis in the automated systems the racked sample collection tubes including blood or urine samples are sealed with the Novitain Push Caps using the Novitain Manual Capper CV750. The racked sample collection tubes are then stored in a refrigerator at +6°C for several days. The chemistry samples are stored for 7 days and the hematology samples are stored for 3 days in case additional tests need to be performed. After temporary storage, the sample collection tubes including the samples are discarded and the Novitain Racks are washed for re-use.



## Micronic Novitain™ Equipment

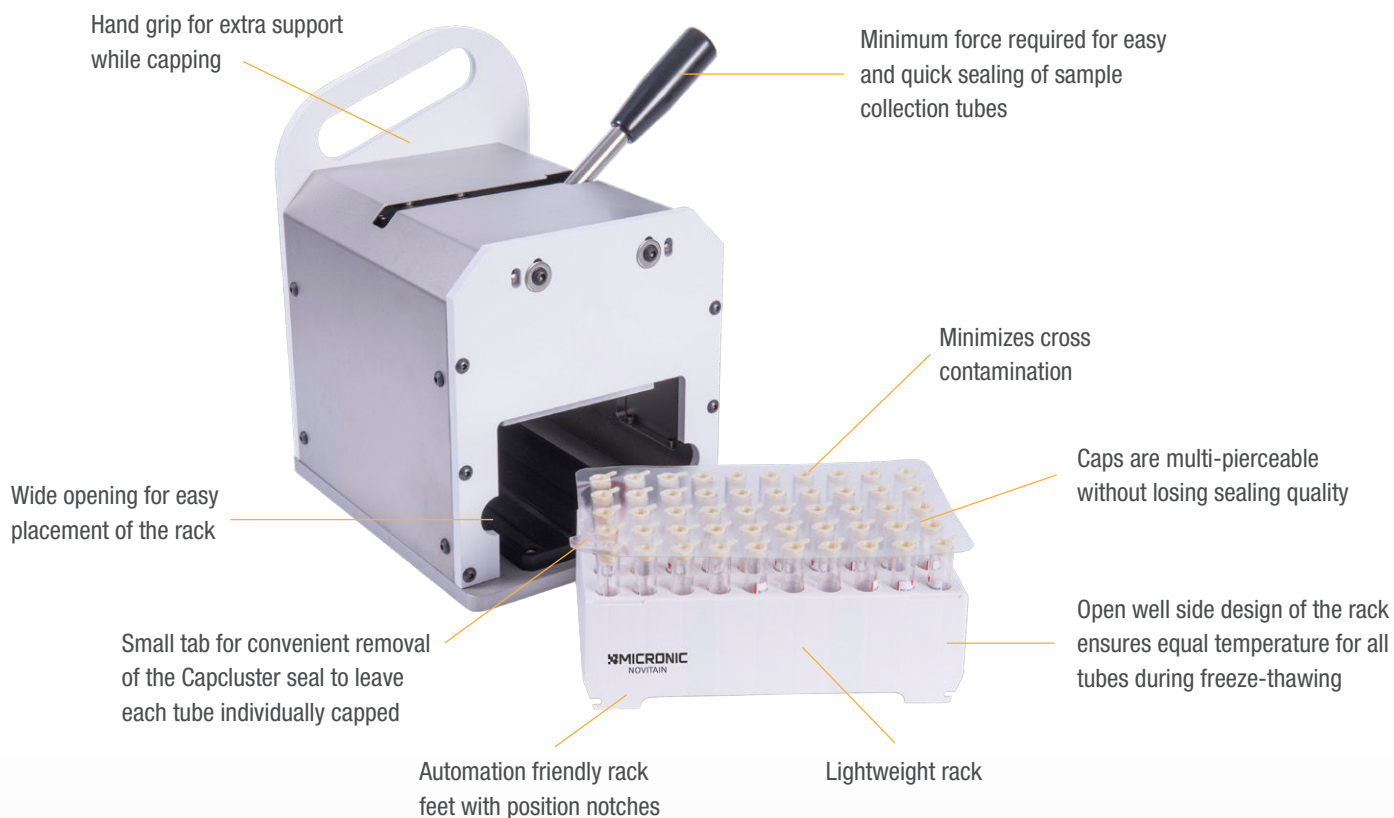
### Manual Capper CV750



### Specifications

Dimensions:	200mm x 260mm x 290mm
Weight:	12 Kg
Rack compatibility:	Novitain 50-well format Rack (13.0mm)
Tube compatibility:	75.0mm x 13.0mm
Cycle time:	2 seconds

# SUPERIOR FEATURES OF NOVITAIN™



## OPTIONAL FEATURES / SERVICES

**STERILE**

### Sterilization by Gamma Irradiation

Most of the Micronic products are sterilized by gamma irradiation (15.0 kGy). Sterilization by gamma irradiation can ensure a SAL of 10<sup>-6</sup>: a one millionth probability of microbial survival. Irradiation itself cannot guarantee that the product is free from any detectable RNases, DNases or pyrogens. Class 7 clean room production is therefore an essential requirement.



### Novitain Caps in Bulk

Next to offering the Novitain caps in a Capcluster-50 format, Micronic also has loose Novitain caps available in packages of 500 caps or 5000 caps. This way, the caps can also be used for sample collection tubes that are stored in other rack configurations.

## AUTOMATION COMPATIBILITY



### Pre-Analytical Automated Systems

The Novitain Capping Solution can be perfectly used in combination with pre-analytical automated systems. While these pre-analytical systems provide for the sorting and decapping of vacuum tubes before analytical tests are performed, the Novitain Capper, Rack and Push Caps ensure an easy and safe post-analytical seal for the same vacuum tubes.

# SHORT-TERM STORAGE OF BLOOD SAMPLES



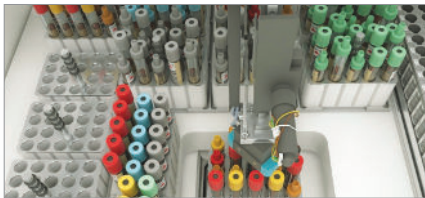
## BLOOD SAMPLES ARE OBTAINED IN SAMPLE COLLECTION TUBES

Blood analysis is one of the most important diagnostic tools available to clinicians within health care. The process of obtaining blood samples from patients for diagnostic purposes is performed by medical laboratory scientists, medical practitioners, paramedics or other nursing staff. Typically blood is collected in vacuum sample collection tubes.



## TUBES WITH SAMPLES ARE BEING SENT TO A MEDICAL LABORATORY

After the collection of blood in the vacuum sample collection tubes, the blood samples are being sent to a medical laboratory for testing. Under controlled conditions clinicians test for evidence of infection, disease or abnormalities.



## SORT AND DECAP SAMPLE COLLECTION TUBES FOR ANALYTICAL TESTS

Before analytical tests can be performed with the blood samples, the sample collection tubes are typically centrifuged first. Afterwards they are sorted by color (which indicates a specific analytical test) and decapped by pre-analytical sorting / decapping systems.



## ANALYTICAL TESTS ARE CONDUCTED WITH THE BLOOD SAMPLES

The prepared tubes containing the blood samples are transported to the specific analytical testing equipment. Blood is tested for cholesterol, diabetes, various infections, kidney function, calcium levels, liver function, blood disease or abnormalities in the body.



## TEMPORAL STORAGE OF SAMPLE COLLECTION TUBES WITH NOVITAIN™

After the analytical tests, the sample collection tubes need to be stored for several days in case additional tests need to be performed. The Novitain 50-well format rack and Push Caps provide an easy solution for short-term storage. The Novitain Manual Capper CV750 is designed to close 50 racked tubes at once. When the sample collection tubes are securely sealed, the samples can be registered and stored in a refrigerator.

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