

Лапауш

BeMicron

Лапауш

CLEANROOM SOLUTIONS



Lapauw throughout the *world*

Worldwide dealer network:

Lapauw has a worldwide dealer network to serve its customers with the professionalism that is required. All dealers have a warehouse with the most common parts and all spare parts are always on stock at Lapauw for a 24 hr service.

Your closest local Lapauw partner can be found on our website: www.lapauw.be

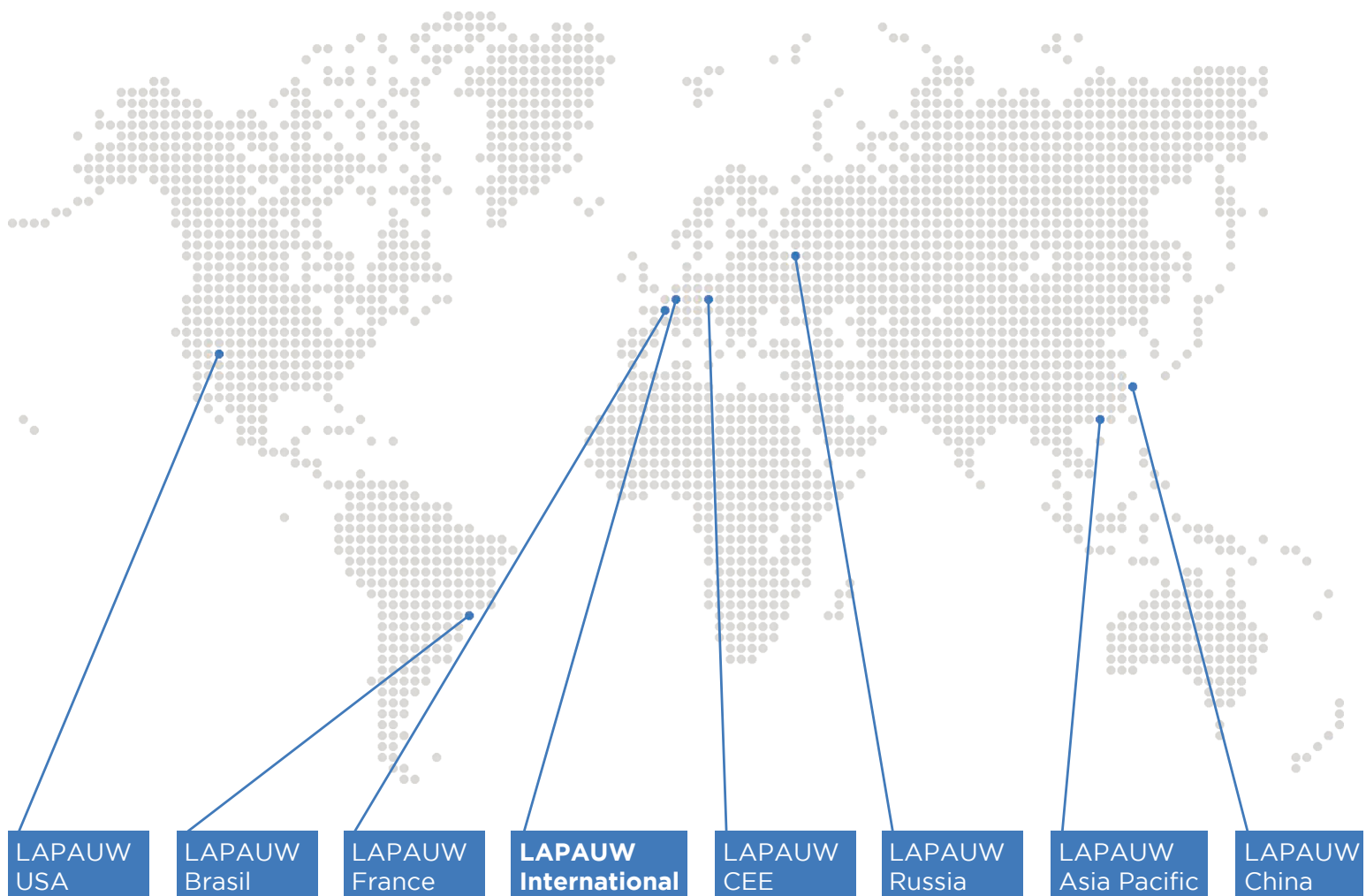


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    **BEYOND INNOVATION**

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Beyond Innovation

Lapauw: Shaping laundry technology

Since the mid 20th century, Lapauw has shaped laundry technology.

Did you know that the flexible chest technology is in fact a Lapauw development? And the “steamless laundry” concept would not even exist if it wasn’t for the gas heated ironers, a technology that saw the light in the Lapauw factory, in 1995. Ever since the very first ironer, in 1950 (with flexible chest), Lapauw has been on the vanguard of laundry technology, as Lapauw always adopted an “out of the box” approach to the specific challenges that come with laundry machinery.

Today, Lapauw manufactures a wide range of laundry equipment :

- Lapauw is one of the few manufacturers of heavy duty washer-extractors.
- Lapauw has the widest range of ironers, all of them equipped with the flexible chest technology.
- Lapauw complements its ironers with a full range of feeders and folders.
- The Hot Stream tunnel finisher is well reputed for the first class finish it delivers.
- The Lapauw Trolley Wash takes care of trolleys or even disinfects hospital beds.

But most important of all, owners of the more than 8000 machines sold in over 40 countries know the Lapauw machines as highly efficient, long lived machines that assure the lowest operational cost.



“Beyond Innovation”. These 2 words are more than a slogan, as they return to the 3 cornerstones of our philosophy.

Innovation

Lapauw invests heavily in R&D. The aim is not just to innovate, but to go beyond innovation by creating benefits for the customer. When developing new machines, we care about improving efficiency, ergonomics and ecology.

The R&D team is located in the factory in Kortrijk, where they stay in close contact with sales and manufacturing. This allows them to keep a finger on the pulse of laundry business and maintain a “hands-on” approach to Research and Development.

Quality Management

Having obtained the ISO 9001:2008 certificate in 2013, Lapauw is one of the very few laundry machinery manufacturers that can put the ISO seal on its official documents. A seal that is worldwide recognized as a symbol of “business excellence”.

With ISO 9001:2008, we go beyond just the quality of the machines and take quality management into the whole process: from the moment we pick up the phone to the after sales and shipments of spare parts, assuring that our customers are served with the highest level of professionalism.

Reliability and servicability

As the Total Cost of Ownership of laundry machines becomes more important, Lapauw goes to great efforts to keep the maintenance and operational costs of the machines to a minimum.

Through our network of distributors and Lapauw offices on every continent, we stay very close to our end users in hotels, hospitals and laundries, assuring them close support and short reaction times.

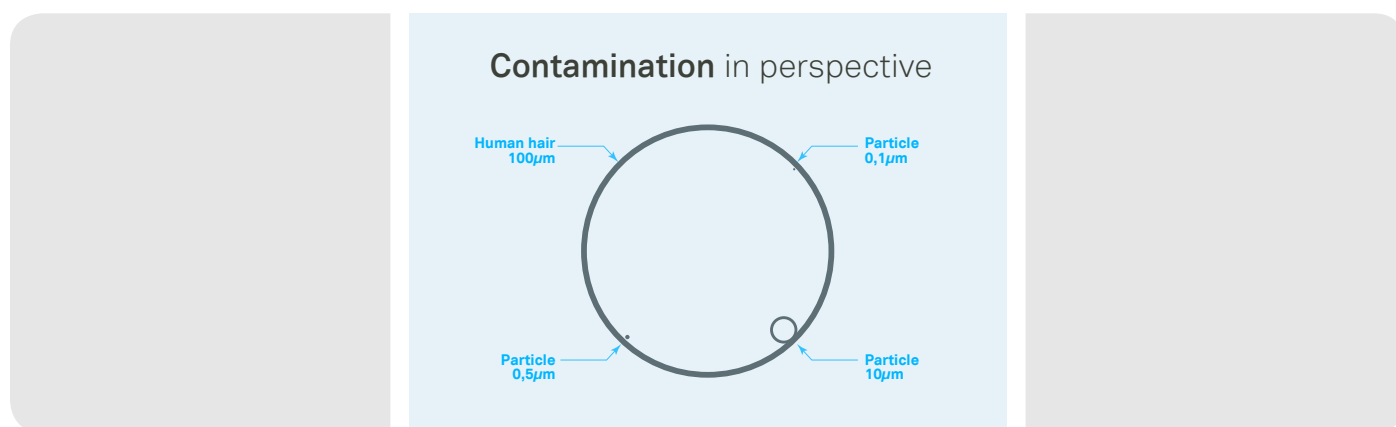
The simple, robust construction of the machines and the “Open Spare Parts” philosophy assure high reliability rates and minimum maintenance costs.



The *Cleanroom* Laundry

Cleanrooms adopt most stringent standards on cleanliness and separation between soiled and clean. In fact, cleanrooms have their own ISO standard (ISO14644-1) that defines the number and size of particles that are allowed in the room. But it's not only particles, as industries like pharmaceuticals and F&B also fear microbiological contamination.

Class	Number of particles per Cubic Meter by Micrometer Size					
	0.1 micron	0.2 micron	0.3 micron	0.5 micron	1 micron	5 microns
ISO1	10					
ISO2	100	24	10			
ISO3	1.000	237	102	35		
ISO4	10.000	2.370	1.020	352	83	
ISO5	100.000	23.700	10.200	3.520	832	
ISO6	1.000.000	237.000	102.000	35.200	8.320	293
ISO7				352.000	83.200	2.930
ISO8				3.520.000	832.000	29.300
ISO9				35.200.000	8.320.000	293.000



Needless to say that cleanroom laundries have to comply to ISO14644-1. However, cleanroom operations are more than just ISO14644-1 and their procedures and specifications differ from those of conventional laundries: they have different washing procedures; because of the typical environment in a cleanroom, ergonomics becomes a major factor and the cleanroom industry relies heavily on monitoring and traceability. All this, of course, transpires down to the machines.

This is why Lapauw developed, with the Mediwave washer-extractor and the Medistream cleanroom dryer, a dedicated cleanroom line in partnership with BeMicron.



Development of machinery in collaboration with BeMicron.

Cleanroom laundry machines have to be designed with minimal risk of cleanroom contamination.

As cleanroom laundries go up to ISO class 4 or even 3, the washer-extractor and dryer are a critical part as they still have a link with the environment external to the cleanroom and, thus, a possible source of contamination. Protection goes further than just a barrier washer and placing a HEPA filter. The question is how we prevent particle and cytological contamination via the washer and assure that the dryer keeps outside air out of the cleanroom.

Machines have to be adapted for specific cleanroom laundry requirements.

Cleanroom laundries use atypical fill ratios, and the dryer and washer-extractor must be compatible with these specs. ISO class 4 and 3 laundries, for example, use deionized water, which reacts with standard AISI304 stainless steel and could be an additional source of contamination.

The machines have to be able to measure and trace a wide range of parameters.

In the cleanroom industry, traceability is paramount. The washer-extractor and dryer must be able to measure and trace a wide range of parameters, from the number of particles to pH to conductivity.

The microprocessor from its side must be able to log these data and export them in easy to use files. Moreover, some projects require the full integration of the washer and dryer in the company's monitoring and validation chain.



Picture: Siemens microprocessor control system



Picture: Built-in LED signalization unit

The machines have to assure optimal working conditions.

With its ultra-conditioned, dry air and protective non-shedding clothing that covers over 90% of the skin, the cleanroom proves to be a harsh environment for the worker. An environment where heat stress can be up to 10,6°C higher than normal work places. So, working comfort is paramount.



Picture: Cleanroom environment with Lapauw Medistream and Mediwave at a BeMicron laundry.

The *Lapauw* Mediwave

The Clean Machine.

GRP: No build up of dust and dirt. 1

Unlike stainless steel, Glass Reinforced Polymer (GRP) has a one-piece design. Thanks to the monolithic design with rounded edges, the GRP covers leave no joints or crevices for dust, dirt or organic material to build up into.

GRP: High chemical and mechanical resistance.

A hardened gelcoat protects the cover from mechanical damage such as scratches or shedding. The polymer is also chemically inert, allowing it to be treated frequently with a wide range of cleaning agents.

GRP: Self-cleaning surface.

The white paint contains Titanium dioxide (TiO₂), which possesses anti-bacterial properties.



The most ergonomic machine.

Easy loading and unloading thanks to the ergonomically shaped cover. **2**

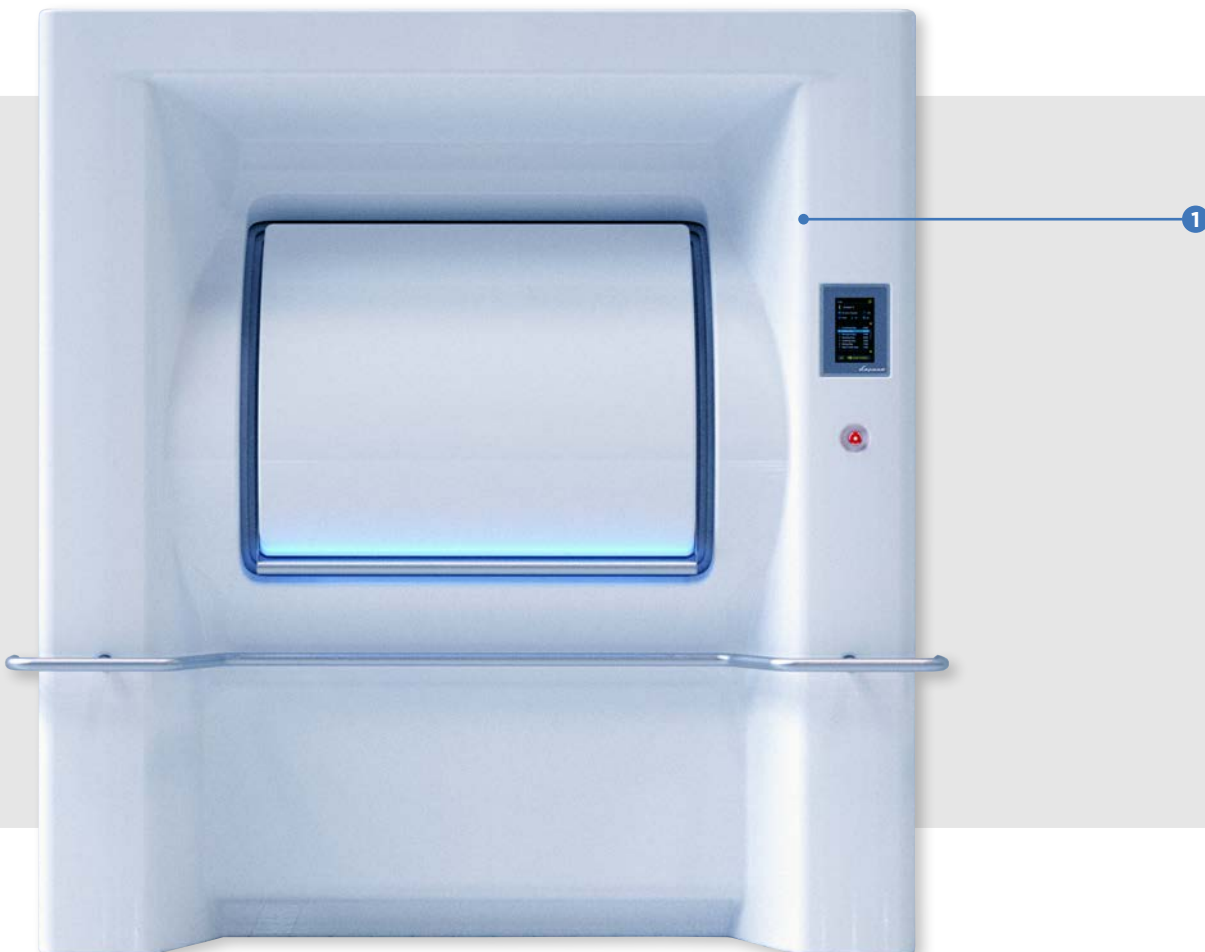
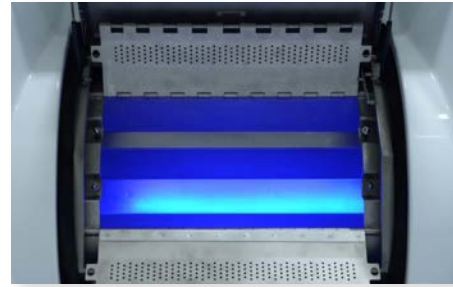
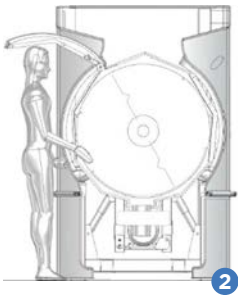
The GRP cover is shaped in such a way that the operator can stand closer to the drum, making loading and unloading far less strenuous than on conventional barrier washers.

Easy to open and lock drum access door. **3**

Thanks to the specially designed push system, opening and closing the inner door is easy and quick.

Automatic door opening (option).

The automatic door opening system allows the outer door to be opened and closed by a push of a button, which adds to the comfort of the operator.



The *Lapauw* Mediwave

Adapted for cleanroom operations.

Compatible with cleanroom loads. **1**

The Mediwave comes in 3 models: 60 kg, 80 kg and 110 kg capacity. The split drum (2 or 3 pockets available) assures maximal care for delicate fabrics and even allows you to process separate batches in the same machine.

316 Stainless steel or electro-polished steel drum. **1**

The inner and outer drum are standard in 304 stainless steel but can be electro-polished or made in 316 stainless steel.

Designed for maximal washing result. **2**

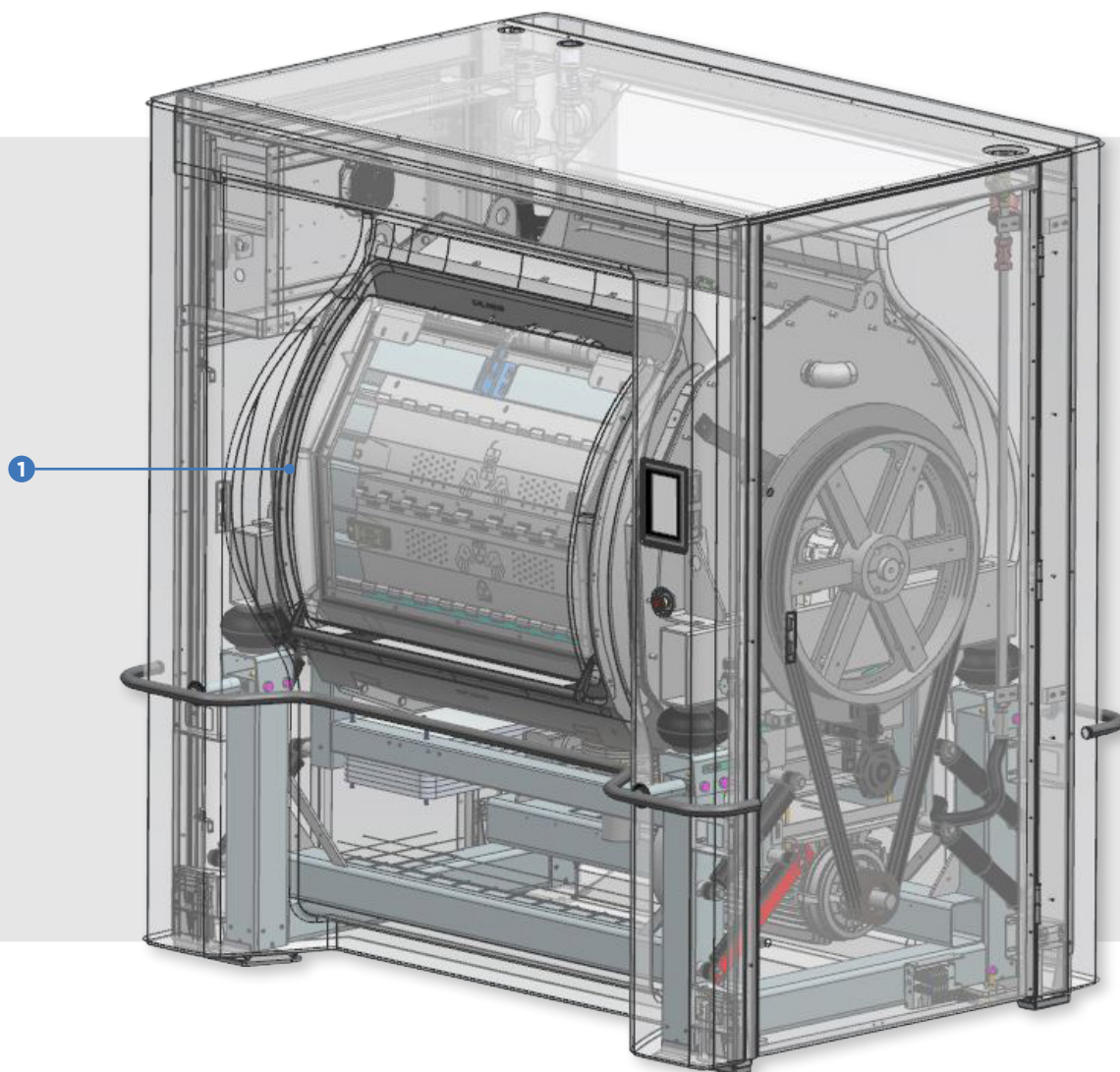
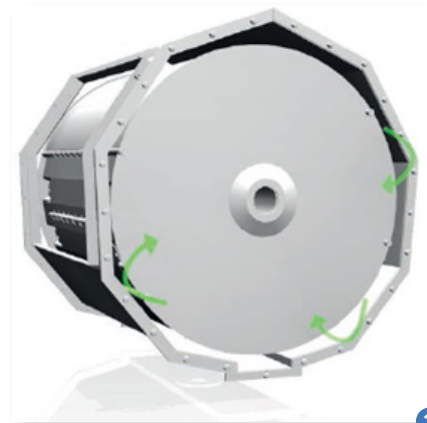
The detergents are injected below the waterline, which assures optimal dispersion in the bath. The angular outer drum creates turbulences. This enhances mechanical action and the water/detergent mixture.

Automatic weighing.

With the automatic weighing system (option), water and detergents are automatically adapted to the load, assuring maximal compliance with washing procedures.

Cleanroom seal (option). **3**

The cleanroom seal assures maximal separation between the soiled and clean side. The cleanroom seal is conceived in such a way that it accomodates positive pressure in the cleanroom.



HMI - maximal control and monitoring.



Intuitive controls. 4

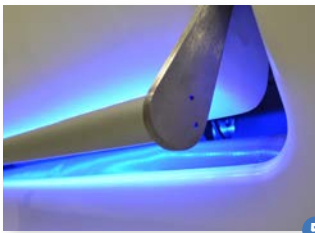
The intuitive SIEMENS control system guides the operator through the whole process. The graphical display provides an easy to understand overview of the process.

Visualize your business. 5

Thanks to the standard LED signalization unit in the door handle, the Mediwave provides prompt and efficient communication with the operators and plant managers, showing them when the machine is ready to load, unload...

4

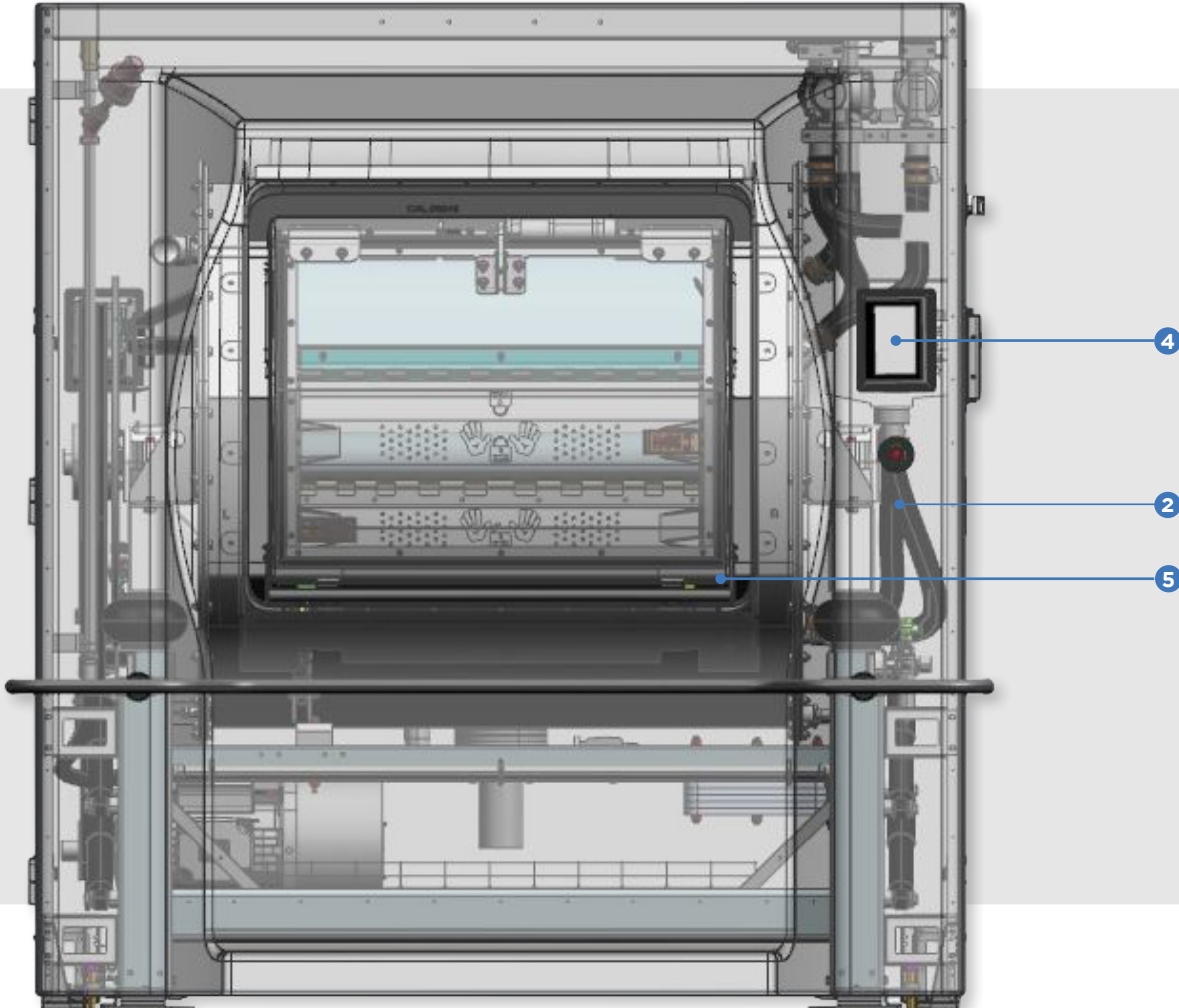
Moreover, a second screen (option) on the clean side allows the crew in the cleanroom to monitor the process and anticipate the next step in the process.



5

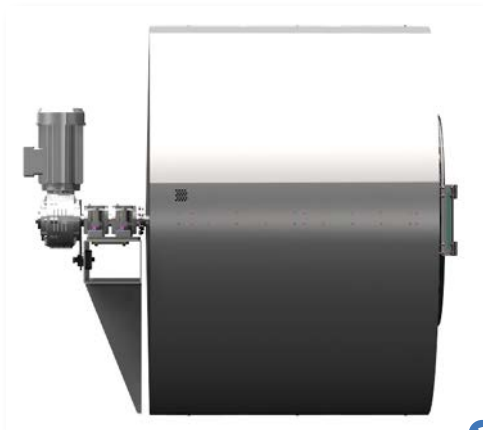
Traceability.

In the controlled world of cleanrooms, measuring and traceability are paramount. The Mediwave offers multiple connections for sensors and the microprocessor exports all data in easy to use and customize files.



The *Lapauw* Medistream

A cleanroom in the cleanroom.



Maximal separation between clean and non-clean.

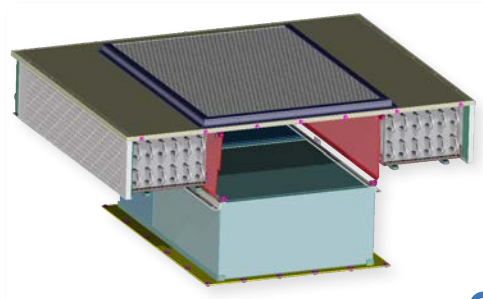
The Medistream is the first dryer on the market that has the drum fully encased in a closed box. This assures maximal separation between the cleanroom and the exterior.

Cantilevered drum prevents particle contamination from drive wheels. 1

Drive wheels are commonly used in dryers but are a source of particle contamination. The Medistream has a cantilevered drum, which excludes particle contamination from the drive wheels.

Optimal filter position. 2

Heating elements have proven to be an often overlooked but mayor source of particle contamination. This is why the Medistream has a high-temperature H13 HEPA filter mounted behind the heating element. A G4 pre-filter is mounted at the air intake, in front of the heating unit and complements the filter system.

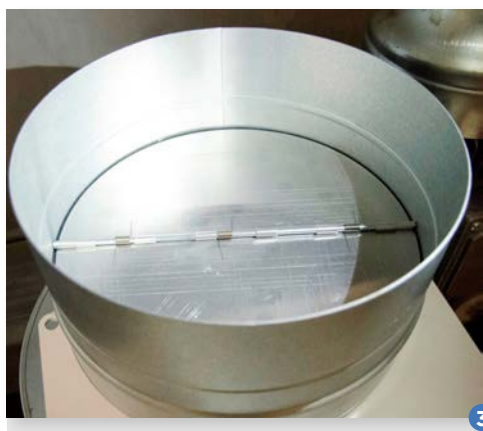


Anti-return valve in the exhaust. 3

The exhaust is equipped by an anti-return valve. This valve prevents external, unpurified air of leaking into drum via the exhaust and contaminating the contents and cleanroom.

GRP cover - the ultimate barrier.

The Medistream also has a GRP cover. Next to the smooth, washable surface, the GRP cover on the Medistream offers another important advantage: the cover is mounted on the dryer, which adds another barrier and offers a perfect base for the control buttons and panel to be mounted on without the risk of air leaks.



Adapted for cleanroom operations.

Optimized for cleanroom loads. 4

The Medistream drum has a volume of 1400 liters. In the typical cleanroom 1/35 - 1/40 fill ratios, this size is a perfect match with the Mediwave range.

Optimal airflow. 5

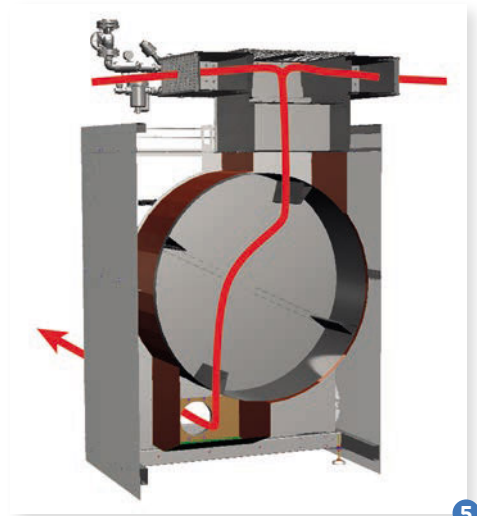
The Medistream offers an air flow of 4000 m³/hr. The airflow through the drum is diagonal, which maximizes air to fabric contact and increase drying efficiency.

Visual filter inspection.

Inspection of the filters and especially the HEPA filter is paramount. The filters on the Medistream can be inspected easily by sight. The optional BeMicron gas system makes inspection of the HEPA filter easy.



4



5



The *Lapauw* Medistream

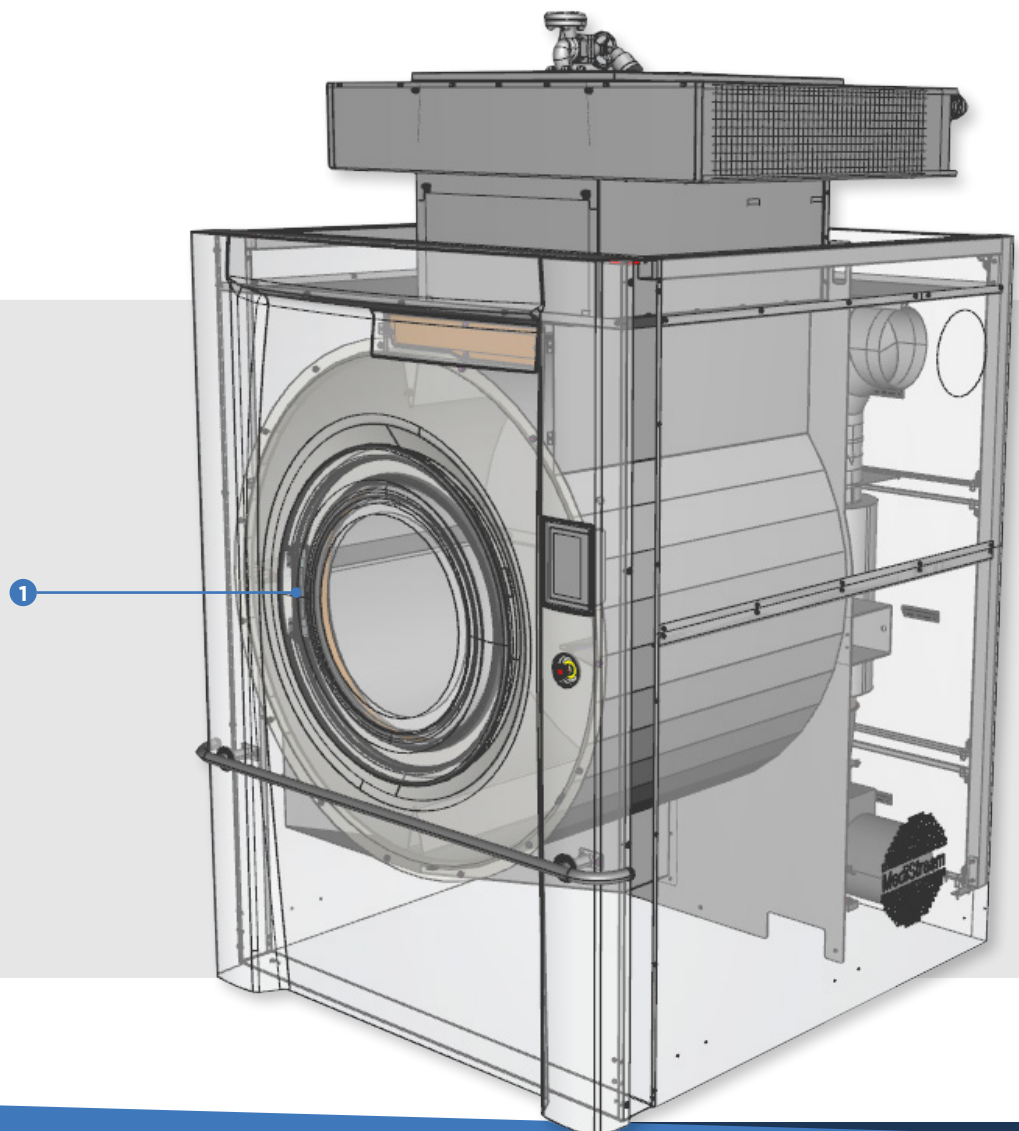
The most ergonomic.

Easy loading and unloading thanks to the ergonomically shaped cover. ①

Like with the Mediwave, the Glass Reinforced Polymer (GRP) cover is shaped in such a way that the operator can stand closer to the drum, making loading and unloading far less strenuous than on conventional dryers.

Large door opening. ①

With a 712 mm diameter, the Medistream offers maximal accessibility. The access opening is also mounted at 1450 mm from the floor, which is the ideal height for the operator to take the linen with minimal effort.



HMI - maximal control and monitoring.

Traceability.

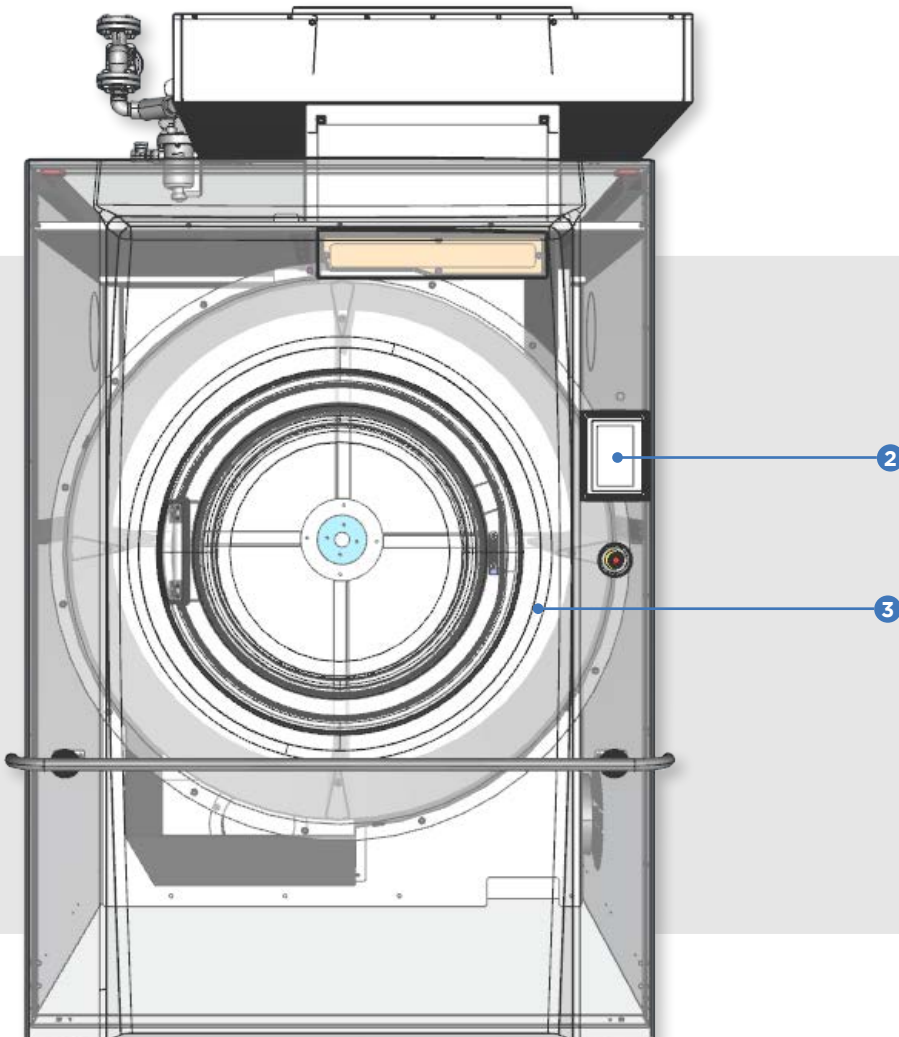
The permanent connection point for a particle measuring devise (devise not included) offers continuous control of the particle count and is located in the exhaust, which provides the most reliable data. Like on the Mediwave, this and other data are then exported to customizable files.

Intuitive controls. 2

The Medistream has the same intuitive SIEMENS control system as the Mediwave and guides the operator through the whole process. The graphical display provides an easy to interpret overview of the process.

Visualize your business. 3

Like the Mediwave, the Medistream is equipped with a LED system that gives highly visual and clear messages to the operator.



Technical *Specifications*

Mediwave

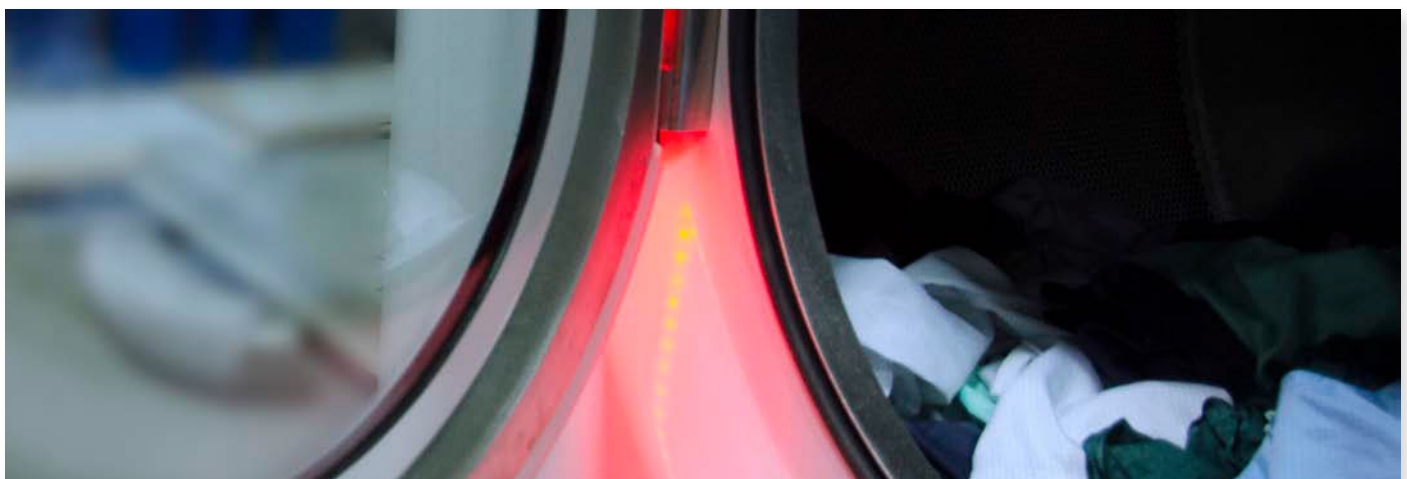
	Dimensions		
	C600	C800	C1100
Width	1.700 mm	1.700 mm	2.100 mm
Depth	1.495 mm	1.495 mm	1.495 mm
Height	2.259 mm	2.259 mm	2.259 mm
Weight	1.350 kg	1.600 kg	1.850 kg

	C600	C800	C1100
Loading capacity	60 kg	80 kg	110 kg
Compartments	2 or 3	2 or 3	2 or 3
Drum volume	604 liter	787 liter	1.135 liter
Drum diameter	1.080 mm	1.080 mm	1.080 mm
Drum depth	660 mm	860 mm	1.240 mm

Medistream

	Dimensions
	D1400MSSCR
Width	1.800 mm
Depth	1.950 mm
Height	2.800 mm
Weight	1.800 kg

	D1400MSSCR
Diameter basket	1400 mm
Depth basket	928 mm
Volume basket	1410 liter
Reversing basket?	Yes
Basket material	Stainless steel 304
Airflow	4000 m ³ /hour
HEPA Filter	H13
Prefilter	G4



Mediwave *Options*

Second screen on the clean side.

The second screen on the clean side allows the operators to follow the process. The second screen just offers monitoring but does not allow control or programming.

Automatic weighing.

Automatic weighing of the wash as it is loaded in the compartments. This system also adapts water, steam and detergents automatically to the load.

Automatic dooropening.

With this option, the outer door can be opened / closed by a push on the button.

Stainless steel 316 / electro polish.

Inner- and outer drum are electro polished or made entirely in 316 stainless steel.

Cleanroom seal.

Additional seal between GRP cover and washer, assuring maximal protection from contamination of the cleanroom. The seal is mounted on the clean side.

Electric heating.

The Mediwave is, as standard, equipped with steam heating but optional electric heating is also possible.



Lapauw: Product overview

WASHING SOLUTIONS



OPEN POCKET WASHER EXTRACTOR

Available: 60, 100, 120, 160, 200, 300 kg with frontal loading.



3 POCKET FRONTAL WASHER EXTRACTOR

Available: 60, 100, 160, 200, 300, 400 kg with frontal loading.



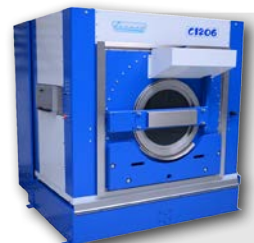
MEDIWAVE WASHER EXTRACTOR

Available: 60, 80, 110 kg with side loading.
Type: Barrier Washer.



PULLMAN WASHER EXTRACTOR

Available: 40, 60, 80, 110, 160, 200, 260 kg with side loading.
Type: Barrier washer.



TOPLOADER WASHER EXTRACTOR

Available: 120, 160, 200 kg with frontal loading.



TROLLEY-WASH



Disinfection, washing & drying. Multiple executions possible.

IRONING SOLUTIONS



UNIFED

Independent vacuum feeder for small items.



STARFEED

Small piece feeding unit for high quality manual feeding.



STARFEED

One feed station, one lane, 250 items.



CLASSIC STEAM

This is the standard Lapauw ironer, available in different diameters and with up to 3 rolls.



CLASSIC GAS

The classic gas ironer is the most efficient, heavy duty, high capacity, gas heated ironer on the market.



IRONMAX

With innovative features like a new chest design and parallel oil flow pattern, the IRONMAX is a new standard.



UNIFOLD

Universal folder with 2 to 3 primary folds by air, and 2 to 3 crossfolds by knife in multiple lanes with drop stacker.



SUPERFOLD

High quality folder with 2 to 3 primary folds by knife, 2 to 3 crossfolds by knife with automatic correction in multiple lanes & roll off stacker.



SOLUTIONS



FEED+
Feeding
up to
items/hour.



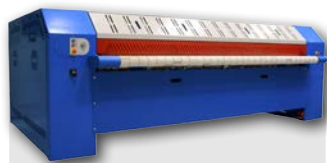
EXTRA
Two stations
cornerless
feeding, up to
750 items/
hour.



UNIX
3-4 feeding
stations, 1-2 la-
nes, up to 1800
items/hour with
manual feeding.



XXL
• Ø 1600 mm.
• Gas or steam heated.
• Chest covers roll
over 286°.



RELAX
Double roll Ø 800 mm
steam heated ironer,
perfect for basic
ironing.



IRONPRO
Brings the industrial
quality & technology
to the OPL and smaller
laundries. Roll diameters
of 500, 600 & 800 mm.



STARFOLD
Cost effective folder
with 2 to 3 primary
folds by air in multiple
lanes. The Starfold is
the ideal single roll
folder.



STACK & FOLD
Small piece folding &
stacking, in multiple
lanes. 1 cross fold +
stacking.

GARMENT SOLUTIONS



HOT STREAM TUNNEL FINISHER

Available in Mono & Duo, both gas or steam heated.
• Mono: T1 - T6: 150 - 1000 items/hour.
• Duo: T2 - T6: 750 - 2000 items/hour.

CONVEYOR SYSTEM

Ultra compact and flexible garment handling system
with capacity up to 2000 items/hour. Endless chain
system transports garments shoulder-to-shoulder.

GARMENT FOLDER

Garment folder with capacity of 800 items/hour and
one primary fold & 2 cross folds. Modular robotic
system which handles any type of hanger available.

CLEANROOM SOLUTIONS



MEDIWAVE

Double sided Barrier
washer with 2
compartments. Front
cover exists out of
Glass Reinforced
Polymer, which is used
in cleanrooms.

MEDISTREAM

First 100% cleanroom
dryer, highly
complementary
with the Lapauw
Mediwave. Keywords:
ergonomics, hygiene
and user-friendliness.



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