# Технические характеристики на стирально-сушильные машины GEW cGMP, оборудование для загрузки стиральных машин GMP, стойки GMP, аксессуары компании GETINGE

**Аксессуары и принадлежности:** транспортные тележки, шкафы для хранения, корзины, решетки инжектора и др.

# Closure Processing System (CPS)

Clean, sterile, and dry stoppers and closures delivered to the filling machine without breaking containment.

Getinge's Closure Processing System (CPS) provides an unbroken chain of sterility for efficient processing of all types of closures in conjunction with filling lines in pharmaceutical production.

## Unbroken chain of sterility

- Efficient closure processing
- Minimize manual handling and intermediate transfers
- Complete process capabilities

The Closure Processing System efficiently washes, sterilizes, dries, and delivers all types of closures to isolated or RABS-installed filling lines. The system is based on mobile MPVs (multi-purpose vessels) that hold the closures and can be transferred between the processing unit and the filling machine.

The CPS maintains a constant supply of sterile stoppers and closures while minimizing manual handling and intermediate transfers.

## Treatment unit

The MPV is connected to the treatment unit (WSSD) for complete processing of the closures within the vessel by washing, siliconizing, sterilizing, and drying.

## Storage and transfer

Transport washed, sterilized, and siliconized (optional step) closures directly to the filling line for aseptic transfer, or store in the MPV until use.

## Closure discharge

A lift-and-turn station (LTS) enables the MPV to dock with the filling machine and discharge its load of closures aseptically.

## An unbroken aseptic chain

The CPS from Getinge is a complete integrated system for treatment, storage, distribution, and transfer of stoppers in aseptic production. It minimizes intermediate handling and transfer to maintain sterility and increase integrity control over the aseptic chain. The mobile multi-purpos vessel (MPV) that holds the closures is also use for transportation between the processing unit a the filling machine of the downstream process.

## Complete process capabilities

The complete processing steps in the CPS syst[em]
includes washing, rinsing, siliconization (option[al]
sterilization, drying, and cooling. All process ste[ps]
are carried out in the MPV when it is docked to [the]
treatment unit.

## Washing, rinsing, and siliconization

Closures in the MPV are subjected to the agitation of sterile filtered air passing through water to fluidize the load during the washing, rinsing and siliconizing (if required) steps. The combination of forceful airflow and constant water overflow moves the closures to ensure continuous removal of particles.

## Adjustable process conditions

The process conditions can be adjusted to suit the particular closure being treated. The closures, vessel and piping system are steam-sterilized using a traditional vacuum steam sterilization process.
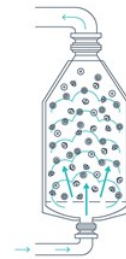
## Drying and cooling

The closures are dried using a combination of heated sterile air and vacuum drying, and are finally cooled using compressed air. Periodic air shocks prevent the closures from clumping. Drying parameters can be adjusted to meet levels required for lyophilized products.

# High-quality construction

The CPS unit uses industry-standard, high-qua
non-proprietary components that maximize
equipment uptime. The piping is made from
sanitary 316L stainless steel. Piping and
components are arranged for self-draining to av
residual water in dead legs.

The MPV is designed with no internal moving
parts to avoid particle generation within the load
is made in 316 L stainless steel with
electropolished internal surfaces for sanitary
operations. The perforated distribution plate in t
bottom of the vessel ensures proper media and
distribution.

# Getinge GEW cGMP washer/dryer
Cleaning for Biopharmaceutical Production

# Complete sterile processing systems

## – meeting strict biopharmaceutical requirements

Our GEW cGMP washer/dryers have been developed in cooperation with users and engineers to maximize efficiency, reliability, and traceability. They are configured to meet the most demanding requirements for pharmaceutical manufacturing. Together with purpose-designed inventory systems, they provide critical cleaning of equipment, parts and components.

Full traceability (ASME BPE) and documentation packages are included to meet your regulatory requirements, allowing you to track design, construction, and processes. The GEW cGMP range is easy to maintain, which minimizes downtime to keep your facility running smoothly.

### Versatility for production and QA/QC

GEW Series washer/dryers are suitable for many common applications within biopharma production. They are equipped with appropriate features and options for demanding processes within production and QA/QC laboratory environments.
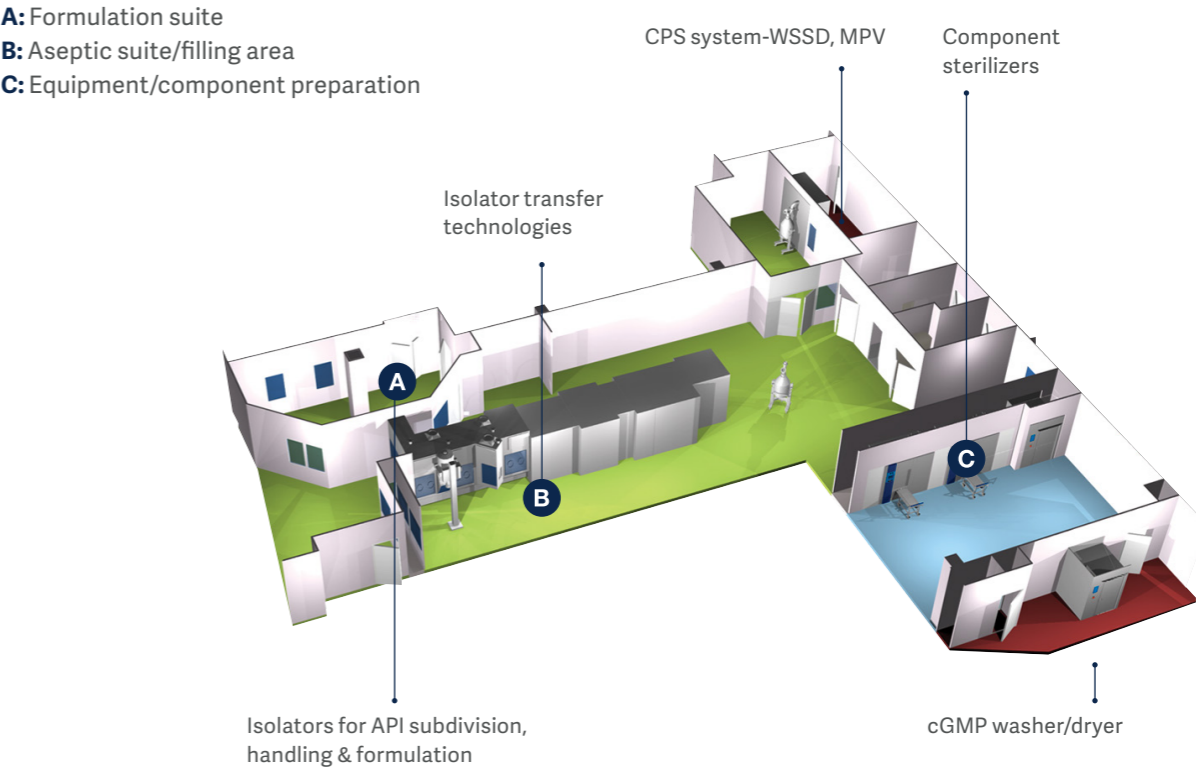
### Environmental efficiency

The Getinge GEW cGMP Series washer/dryers have the lowest utility and water consumption on the market, reducing your environmental footprint and total cost of ownership.

Getinge GEW washer/dryers are completely integrated cleaning systems. They have been designed to meet the specific needs and stringent regulations for cleaning glassware, components, and production equipment in biopharmaceutical production and quality assurance laboratories.

### Pharmaceutical Production

**A:** Formulation suite
**B:** Aseptic suite/filling area
**C:** Equipment/component preparation

CPS system-WSSD, MPV

Component sterilizers

Isolator transfer technologies

Isolators for API subdivision, handling & formulation

cGMP washer/dryer

### QA/QC Laboratory

**A:** Reception area
**B:** Preparation area
**C:** QA test area (clean area)

cGMP sterilizer

cGMP washer/dryer

Sterility test isolators (not shown)

| Distribution | Reception | Barrier | Clean Zone | Barrier | Sterile Zone |
|---|---|---|---|---|---|

# A comprehensive range
## – critical cleaning for your unique processing needs

The Getinge GEW Series of washer/dryers includes a variety of sizes to fit your needs. All models include a full traceability and validation package.

### GEW 888
**A compact washer for small premises**
For biotech/biopharmaceutical manufacturing or QC applications

The compact GEW 888 washer/dryer with an automatic vertical sliding door that does not require additional height above the washer is the ideal solution for space constraints. It can accommodate a broad range of items, from 50 L Nalgene bottles to small glassware. Service access can be configured from the front or side to accommodate your workflows.

- Single- or double-door models are available for single-side or pass-through operation
- Two independent wash levels deliver increased flexibility and throughput
- Low water consumption with only 40 liter (10,6 gal) per fill
- Chamber capacity: 469 L (17 ft$^3$)
- Internal dimensions, W x H x D: 805 x 725 x 805 mm (31.8" x 28.5" x 31.8")
- Cross contamination barrier (CCB) available as option

### GEW 9109
**Ideal for multipurpose applications**
For biopharmaceutical manufacturing and QA/QC applications

The larger GEW 9109 washer/dryer is a multipurpose washer for cleaning glassware, filling line modules and equipment parts. Horizontal sliding doors minimize floor space needed for operation.

- Single- or double-door models are available for single-side or pass-through operation
- A two-port wash system allows for use of two level accessory racks thereby increasing productivity and reducing cycle costs
- Chamber capacity: 810 L (211.3 gal)
- Internal dimensions, W x H x D: 900 x 1000 x 900 mm (35.5" x 39.4" x 35.5")
- Cross contamination barrier (CCB) available as option

### GEW 101210 and GEW 131313
**Designed for manufacturing**
For biopharmaceutical manufacturing and bulk chemical/API production

These medium-sized washer/dryers include many standard features necessary for GMP compliance in cleaning of IBCs, carboys and equipment. A wide range of optional features are also available to make the models adaptable to a variety of applications. A variety of standard racks and an ergonomic transport trolley are available for common applications. Custom racks can also be designed and provided.

- Single- or double-door models are available for single-side or pass-through operation
- Glass doors are vertically hinged to save space
- Loading height: 710 mm (28")
- Chamber capacity:
  GEW 101210: 1212 L (43 ft$^3$) / GEW 131313: 2146 L (76 ft$^3$)
- Internal dimensions, W x H x D:
  GEW 101210: 1005 x 1200 x 1005 mm (39.6" x 47.2" x 39.5")
  GEW 131313: 1300 x 1285 x 1285 mm (51" x 50.5" x 50.5")
- Cross contamination barrier (CCB) available as option

### GEW 131820
**The largest, pit-mounted washer**
For biopharmaceutical manufacturing and bulk chemical/API production

The GEW 131820 is the largest washer in the series. It is designed for pit mounting in a 500 mm (19.7") deep pit, allowing direct floor loading of large, heavy or bulky items. Where pit mounting is not possible, the machine may be floor mounted with a loading height of 500 mm (19.7''). Use for cleaning IBCs, bulk chemical containers, vessels, machine parts.

- Racks are application-specific to maximize throughput
- Single- or double-door models are available for single-side or pass-through operation
- Sliding doors save space and optimize ergonomics
- Chamber capacity: 4680 L (165 ft$^3$)
- Internal dimensions, W x H x D: 1300 x 1800 x 2000 mm (51" x 70.9" x 78.7")
- Cross contamination barrier (CCB) available as option

| Model | Configuration<br>doors | Overall dimensions*<br>W x H x D |
|---|---|---|
| GEW 888-1 | Single | 2003 x 2170 x 1076 mm (78.7" x 85.4" x 42.4") |
| GEW 888-2 | Double | 2003 x 2170 x 1170 mm (78.7" x 85.4" x 46.1") |
| GEW 888-1 | Single (with SPRF option) | 2365 x 2686 x1125 mm ( 93.1" x 105.7" x 44.3") |
| GEW 888-2 | Double (with SPFR option) | 2365 x 2686 x1170 mm ( 93.1" x 105.7" x 46.1") |
| GEW 9109-1 | Single | 2350 x 2243 x 1185 mm (92.5" x 88.3" x 46.6") |
| GEW 9109-2 | Double | 2350 x 2243 x 1320 mm (92.5" x 88.3" x 52") |
| GEW 9109-1 | Single (with SPRF option) | 2593 x 2243 x 1260 mm (102.1" x 88.3" x 49.6") |
| GEW 9109-2 | Double (with SPFR option) | 2593 x 2243 x 1320 mm (102.1" x 88.3" x 52") |
| GEW 101210-1 | Single | 2190 x 2485 x 1266 mm (86.2" x 97.8" x 49.8") |
| GEW 101210-2 | Double | 2190 x 2485 x 1345 mm (86.2" x 97.8" x 53") |
| GEW 101210-1 | Single (with SPFR option) | 2350 x 2485 x 1266 mm (92.5" x 97.8" x 49.8") |
| GEW 101210-2 | Double (with SPFR option) | 2350 x 2485 x 1345 mm (92.5" x 97.8" x 53") |
| GEW 131313-1 | Single | 2439 x 2604 x 1716 mm (96" x 102.5" x 67.6") |
| GEW 131313-2 | Double | 2439 x 2604 x 1947 mm (96" x 102.5" x 76.6") |
| GEW 131313-1 | Single (with SPFR option) | 2678 x 2604 x 1716 mm (105.4" x 102.5" x 67.6") |
| GEW 131313-2 | Double (with SPFR option) | 2678 x 2604 x 1947 mm (105.4" x 102.5" x 76.6") |
| GEW 131820-1 | Single | 3053 x 2850 x 2300 mm (120.2" x 112.2" x 90.6") |
| GEW 131820-2 | Double | 3053 x 2850 x 2600 mm (120.2" x 112.5" x 102.4") |

*Subject to modifications due to technical development

# Form follows function

## – experience the benefits of intelligent design



**1. Efficient drying**
Two separate drying systems (one for the chamber and one for the process path and racks) provide once-through HEPA filtered air for maximum drying efficiency. Ceramic heating elements enable variable drying temperature control for different materials (steam heating is an option). All components are upstream of the final HEPA filters. Air is exhausted to a vent connection on the washer.

**2. Filter monitoring for safety**
DOP ports and differential pressure switch are standard features, providing essential routine monitoring capability of the HEPA filters. Magnhelics® differential pressure gauges are available for visual verification of filter loading.

**3. Fully automated for efficiency**
The Getinge GEW washer/dryer is equipped with a GAMP 5 compliant, 21 CFR Part 11 capable, state-of-the-art modular PLC system. Getinge offers a selection of Allen Bradley or Siemens platforms, all with equal functionality and documentation.

Siemens interface

**4. Robust and sanitary construction**
A sloped (min 2%) design, and smooth (Ra < 0.6 mm/25 mm), crevice-free construction of chamber, piping, and racks eliminates water retention and sites for biofilm or corrosion. 316L stainless steel is used throughout, with EPDM, PTFE, or other FDA (21 CFR part 177) and USP class VI approved gaskets. Globally available components, e.g. GEMU process valves, are standard. Orbital welding is used wherever possible and extensive documentation is provided.

**5. Washing configurations improve throughput**
An integral chamber spray system with wash rack interface provides multi-level washing that optimizes load configuration and minimizes processing time. Water is heated using an efficient and effective sanitary steam-water heat exchanger in the sump of the chamber (electrical heating is optional).

**6. Recessed installation**
All models are provided with brush finish stainless steel fascia panels for recessed installation, with additional side panels to form a cabinet as an option. On larger models, single or dual cross-contamination barriers are available to maintain clean area classification and facilitate room air balancing (optional).

**7. Confirmed proper chemical addition**
The washer can be fitted with up to three peristaltic dosing pumps (according to application) for cleaning and neutralization agents to aid the mechanical cleaning process. Sanitary dosing valves are welded directly to the chamber wall to ensure proper rinsing. Pump pressure is continuously monitored, and a conductivity sensor (optional) is available to confirm proper additive dosing.

**8. Final rinse with high-quality WFI**
The sump is filled with water for injection (WFI) and recirculated throughout the hydraulic circuit; this provides a single fluid path design to ensure complete rinsing of the entire system. This process continues for the time interval specified during process development studies and is followed by a conductivity check of rinse water. Optimal total organic carbon check may also be included as part of final rinse.

Conductivity and/or online TOC monitors are available to confirm that all cleaning agents and soil have been removed. This process minimizes WFI consumption and provides a validated, repeatable result.

**9. Single pass final rinse**
To meet specific process requirements, Getinge offers a Single Pass Final Rinse (SPFR) system which can be programmed as a part of the total validated cycle. During SPFR, components are not exposed to recirculated water.

The SPFR step can be user-programmed and repeated in accordance with process requirements. Rinse water conductivity is monitored by the control system. If the conductivity goes out of range, a fault code is activated.

**10. Air exhaust system for API containment**
Active Pharmaceutical Ingredients (APIs) and Highly Potent Active Pharmaceutical Ingredients (HPAPIs) may be highly toxic substances contained in today's drugs.

The Getinge GEW cGMP washers model 101210 and 131313 can be equipped with an Air Exhaust Unit that uses a highly effective HEPA filtration system to capture the residual APIs during the equipment cleaning process.
Multiple system parameters are consistently monitored to ensure reliable system performance, protecting your employees and your environment from the potential dangers of API exposure.

**11. Safe, lockable door configurations**
Each model is available in single door or double door configuration. Doors are equipped with interlocks to prevent opening during washer operation and simultaneous opening of the dual door units.

# Inventory systems
## – have equipment ready when you need it

Smooth, uninterrupted production requires that the right tools and equipment are available and ready for use when you need them. Getinge inventory management and handling accessories allow you to move heavy or awkward articles where they are needed, safely and efficiently.

We work in cooperation with our customers to optimize and customize washer/dryer accessories, ensuring a safe, ergonomic system that keeps you up and running.

When designing custom accessories, Getinge uses CAD systems with 3D modeling to ensure that every corner and every cavity is being thoroughly washed and dried with hot, sterile and filtered air.

This technology helps you to eliminate the possibility of cross-contamination from lingering residue.

Getinge has designed specialized racks and trolleys to accommodate both large and small parts. These custom creations complement the wide variety of standard racks that are available for more common applications.



Loading trolleys can be provided to efficiently and ergonomically move materials to and from washer/dryers.

**Customized racks based on your needs**



Valve bodies, mounted on a customized manifold fitted to an otherwise standard rack, ensure 100 % coverage of all product contact parts, as well as the exterior sufaces.

**Innovative standardized modular rack solution**



Getinge has developed modular rack solutions to better satisfy your needs.
Read more about our Modular Rack Solutions for GEW cGMP Washers in the rack catalogue.

# Inspection, testing and documentation

## – comprehensive manufacturing validation

Every GEW washer/dryer undergoes rigorous testing. Getinge follows ISPE's Baseline® and GAMP 5 Guides to support our clients' qualification of sterile process equipment.

Quality is inherent to the design, development, and manufacture of every Getinge product. The design and construction are sanitary and traceable at every step of the process.

From the design specification, through component selection, fabrication, assembly and factory testing, we examine and document every aspect of the manufacturing process in accordance with Good Engineering Practice. You can be confident that the product you receive has been designed, built and tested according to your specifications and performance requirements.

**Comprehensive validation support documentation**
During the manufacturing process, in-process checking is performed to ensure compliance with specifications; documentation is maintained as confirmation. After manufacturing, every unit undergoes comprehensive and rigorous Factory Acceptance Testing (FAT), again accompanied by detailed documentation. A complete package of testing documentation, installation guides,

and user and technical manuals, is provided with the equipment. These documents support your on-site qualification procedures, saving you considerable time, effort, and expense.

We can also provide a "pre-qualification" of the system upon request, carrying out the same test procedures defined in the IQ/OQ protocols as will later be performed on site as part of the validation exercise. This exhaustive procedure identifies any minor issues with equipment and documentation and ensures a trouble-free startup and site acceptance testing later on.

Deliverable documentation packages include:

• Submittals (design documentation)
• Construction
• Automation
• Testing and qualification
• Installation manual
• User manual
• Technical manual

# Reliability and reproducibility

## – the cornerstone of life science applications

To minimize human error, Getinge supplies PLC-based automation systems designed for the challenging environments typically found in life science applications.

Getinge offers a choice of hardware platforms for wash process traceability, each with the same fundamental equipment functionality and programming methodology.

• Rockwell – Allen Bradley (Logix platform)
• Siemens – Simatic (S7 Based platform)

All systems accurately handle tasks such as parameter setting, recipe handling, sequence control, and data processing, presentation and storage.

A TOC monitoring option is also available on every Getinge GMP washer/dryer. With this option, you will be able to self-run controls on level of endotoxins and microbes at the end of your cycle — a key element to track the efficiency of your cleaning process. The TOC option saves time and money by providing direct results of your cleaning process, without the need to wait for external results.
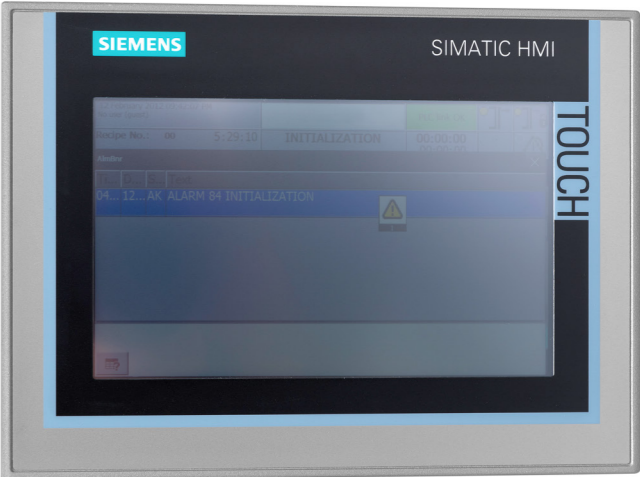
The Siemens - Simatic (S7 Based platform) control system incorporates an intuitive touchscreen interface that provides reports, control options and real-time system monitoring.

## Included benefits

• User-friendly interface
• Extensive documentation
• Remaining cycle-time indicator
• Automatic sensor calibration
• Comprehensive alarms/alerts
• Process and alarm logging
• Multi-level password protection
• Highly customized control system available

## Regulatory compliance

Getinge's automation systems are developed according to stringent GAMP 5 (Good Automated Manufacturing Practice) guidelines of the pharmaceutical industry and are FDA 21 CFR part 11 capable. Every system is supported with comprehensive documentation.

# Important features

## – supporting production efficiency in the biopharma industry

Getinge GEW cGMP Series washer/dryers are designed for optimized layout and easy maintenance. Innovative door designs maximize chamber volume while minimizing the external footprint.



### Key features

- Hinged and sliding glass door(s) to optimize installation footprint
- Heat and noise insulated glass allows for visual monitoring of cleaning process
- Single- or double-door models for optimized workflows
- Cross-contamination barrier (CCB) to prevent excessive air transfer and contamination of clean areas
- Fully drainable, sanitary design
- ASME BPE compliant design

- HEPA filtered dual path drying system with independent channels for chamber and load
- Lowest utility and water consumption on the market
- Powerful recirculation pumps for cleaning efficacy
- Selection of automation systems
  – Rockwell – Allen Bradley (Compact Logix as standard
  – Siemens – (Simatic S7 platform)
- GAMP 5 compliant documentation and programming
- Highest level of parametrically controlled cleaning to meet the demands of the biopharmaceutical industry

| Chamber | |
|---|---|
| 316L stainless steel construction/FDA (USP class VI) approved elastomeric seals / Ra < 0.6 μm (< 24 μin) surface finish or better. Radius-corner chamber (>12 mm (½")) and fully drainable hydraulic circuit | ■ |
| Chamber welds ground flushed | ■ |
| Chamber welds polished | ■ |
| Chamber light for load viewing/verification of water distribution | ■ |
| **Door** | |
| Glass door for load viewing, double pane insulated safety glass for verification of water distribution | ■ |
| **Process Piping and Valves** | |
| Fully drainable hydraulic circuit | ■ |
| Orbitally welded, chamber piping slope > 2% | ■ |
| Forged sanitary diaphragm valves | ■ |
| ASME BPE compliant | ■ |
| **Pump** | |
| Sanitary recirculation pump | ■ |
| Recirculation pump pressure monitoring with vertical pump outlet | ■ |
| **Water Inlets** | |
| Quantity of water inlets *If the SPFR option is chosen, one additional water inlet will be required. | 1 |
| Additional water inlets (up to 3 total) | ☐ |
| Water distribution loop piloting | ☐ |
| **Chemical Dosing Systems** | |
| Quantity of dosing pump | 1 |
| Additional dosing pump (up to 3 total) | ☐ |
| Chemical pump pressure monitoring | ■ |
| Conductivity monitoring-final rinse phase | ■ |
| Conductivity monitoring-final rinse phase and wash phase | ☐ |

| Automation system | |
|---|---|
| Allen Bradley/Siemens PLC | ☐ |
| A4 printer (for Siemens) | ☐ |
| **Installation** | |
| Side access for easy maintenance | ■ |
| Single (GEW 888 and GEW 9109) or dual cross contamination barrier (GEW 101210, GEW 131313 and GEW 131820) | ☐ |
| Flush brush finish stainless steel front panels/easy cleaning/washdown capable | ■ |
| **Documentation** | |
| GAMP 5 compliant validation support for documentation package and comprehensive manuals | ■ |
| Weld numbering, weld mapping and weld boroscopic inspection | ■ |
| Full material traceability (3.1 certificates) | ■ |
| **Testing and qualification** | |
| Prequalification in factory | ■ |
| **Accessories** | |
| Range of customized and standard modular racks (basic rack, jet rack) | ☐ |
| Custom made racks - e.g. glassware, filling line, hoses, IBCs, carboys | ☐ |
| Transfer trolleys for racks | ☐ |
| **Rinse** | |
| Single Pass Final Rinse System | ☐ |
| **Air exhaust system for API containment** | |
| Air exhaust unit | ☐ |

■ Standard / ☐ Optional features

# Protecting your investment
## – value in performance and reliability

A production system represents a major capital investment in your future revenue stream. That's why Getinge works hard to ensure that our GEW washer/dryers provide true value in design, performance and reliability. Our commitment to excellence is why the world's leading biopharmaceutical companies rely on Getinge.

**State-of-the-art value**
Getinge continually invests in state-of-the-art factories, production equipment and process development for one important reason: to ensure that we can continue to provide our clients with the best equipment available. We offer true value for your money.

**Protecting the environment**
The Getinge GEW washer/dryers operate on remarkably low water volumes without compromising cleaning efficiency. This reduces the consumption of detergents and energy to minimize the total cost of ownership.

**Easy maintenance access**
The washer/dryers require only one side for maintenance access – either the front or side panel. Units can be placed along a wall, if needed. With front access, the electrical cabinet is mounted on runners and fully extendable. The cabinet can rotate on a vertical axis for side access.

**Wide selection of chamber configurations**
The Getinge GEW Series consists of a range of chamber sizes that offer optimal handling of common loads. Combining our five standard models with a wide variety of options allows us to provide a custom washer/dryer configuration to meet your specific needs.

**Meeting regulatory requirements**
Getinge actively participates in the groups that establish and update industry best practices, operational guidelines, and regulatory requirements. All of our washer/dryers are manufactured in accordance with application specific guidelines.

**Designed for the toughest applications**
Getinge GEW Series washer/dryers are built on a foundation of practical experience and are designed to handle the toughest applications. To complement our standard models, we also offer an extensive choice of standardized accessories for common applications. Single-door and double-door models are available to suit your building layout and workflow.

**Ergonomic design for user-friendly handling**
Our user-friendly systems protect the safety of your operators. Load handling systems and hinged and sliding doors provide easy and safe access during loading and unloading. A range of trolleys and other accessories enable easy transportation of racks and articles to and from the work area.

# Experience to rely on
## – from concept to compliance

Getinge brings more than 100 years of cleaning and sterilization experience to each project. We are uniquely prepared to provide you with all aspects of a complete sterile process system – saving you time, effort and money. Let Getinge help you satisfy all of your sterile processing needs.

**Early involvement for best outcomes**
Our early involvement in the planning process can help you to achieve more cost-effective solutions. We offer support with initial advice and system design; we provide an extensive range of washer/dryers and sterilizers, closure processing systems, and barrier isolation technology; and we can guide your project through installation and validation.

**Quality performance from custom systems**
Our systems are based on compatible modular units. These standardized, tested units can be integrated and installed quickly to form complete customized solutions that meet your unique needs. These systems offer the high quality and performance that have made Getinge the world leader in cleaning and sterilization systems.
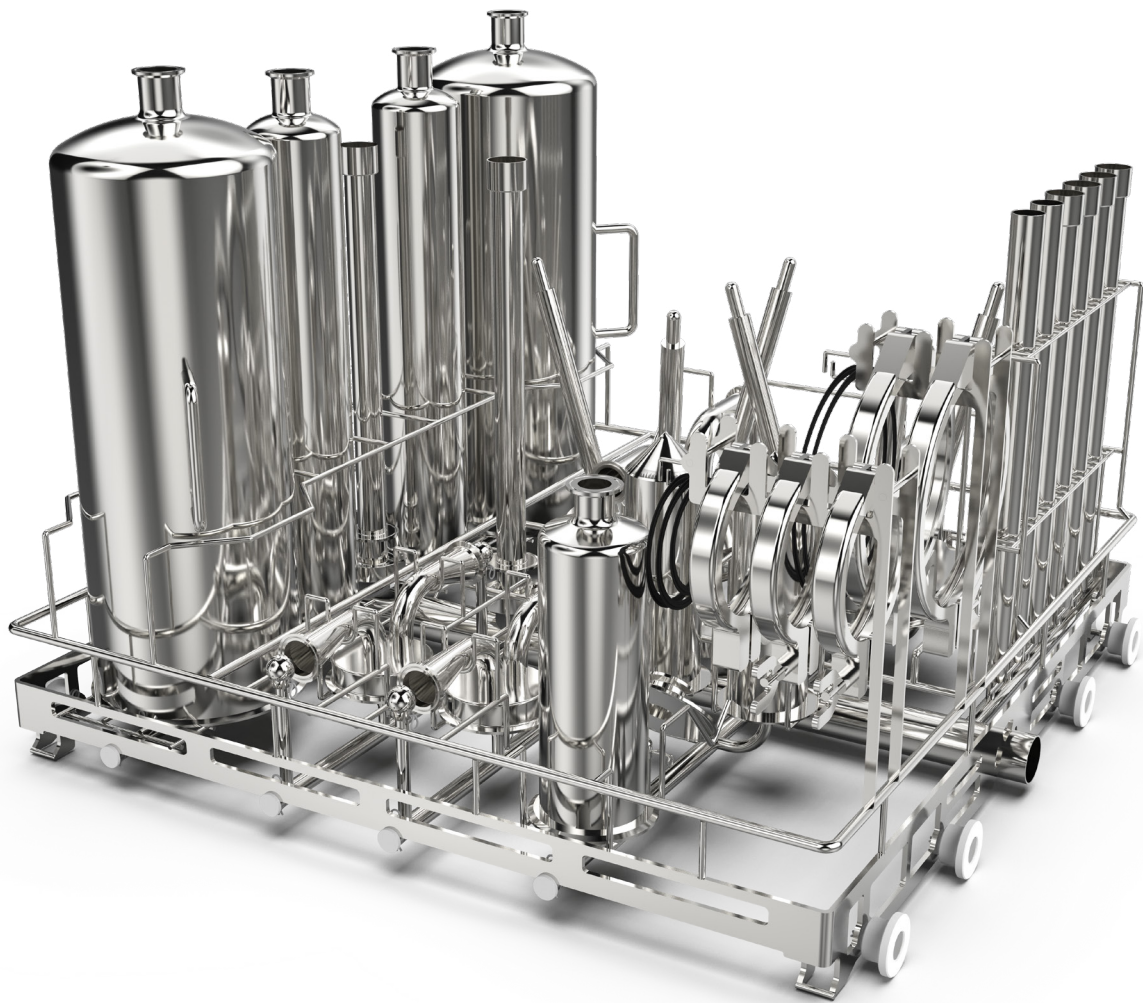
**Global support and training**
Wherever you are, we're here to support you. We have comprehensive resources for service, maintenance, and support on six continents.

Our Getinge Academy educational programs provide thorough training, both online and on-site, as needed. With Getinge, you can be certain that your operators are thoroughly trained in the proper and efficient handling of equipment for sterile processing.

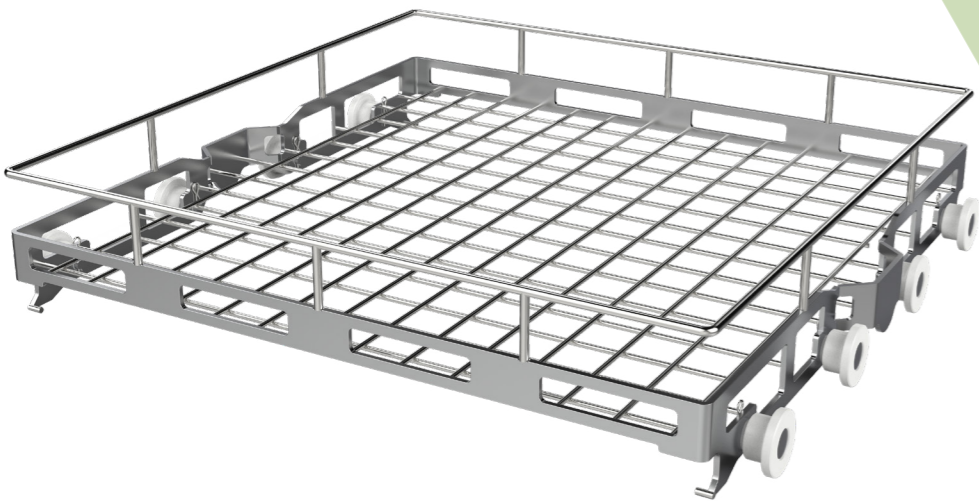**For more than a century, customers have been in safe hands with Getinge.**



**GAMP 5 • EU & US cGMP • ASME BPE Standard • ISPE'S Baseline® Guides • ISO 9001 & 14001 • 21 CFR Part 11**

# Washing Rack Solutions
for cGMP GEW Washers

# Basic Racks

Grid racks for glassware or machinery parts which do not require direct injection.

## Basic rack

Grid rack (50x50mm) allows loading of mesh baskets and miscellaneous accessories to wash large neck items

**Model 888– Part Number:** 02300003
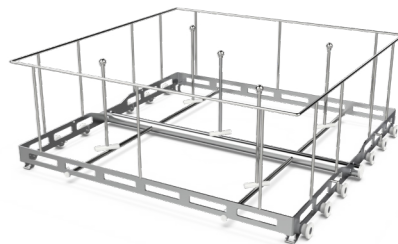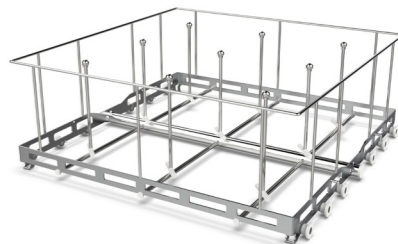**Model 9109- Part Number:** 02270004
**Model 101210 – Part Number:** 02270004
**Model 131313 – Part Number:** 02280004
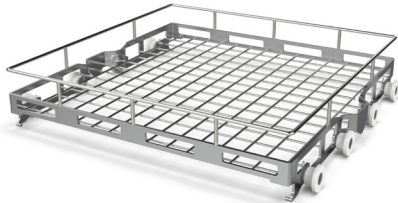
## Standard two level rack incl. basic + 1 ps type rack with spray arm

Grid rack (50x50mm) on two levels allows loading of mesh baskets and miscellaneous accessories to wash large neck items

**Model 101210 – Part Number:** AA02280021
**Model 9109- Part Number:** 02270015
**Model 131313 – Part Number:** AA02260023

## PSB basic rack with spray arm

Allows for mesh basket 50 x 50mm and miscellaneous accessories on upper level.

**Model 888 – Part Number:** 023000071

### WASH LOAD CONFIGURATIONS

| GEW 888 | GEW 9101 | GEW 101210 | GEW131313 |
|---------|----------|------------|-----------|

Total chamber height 700mm — Height 313mm — 681 mm / 663 mm
Total chamber height 1000mm — 949 mm / 936 mm
Total chamber height 1200 mm — 1150 mm / 1144 mm
Total chamber height 1284 mm — 1240 mm / 1230 mm
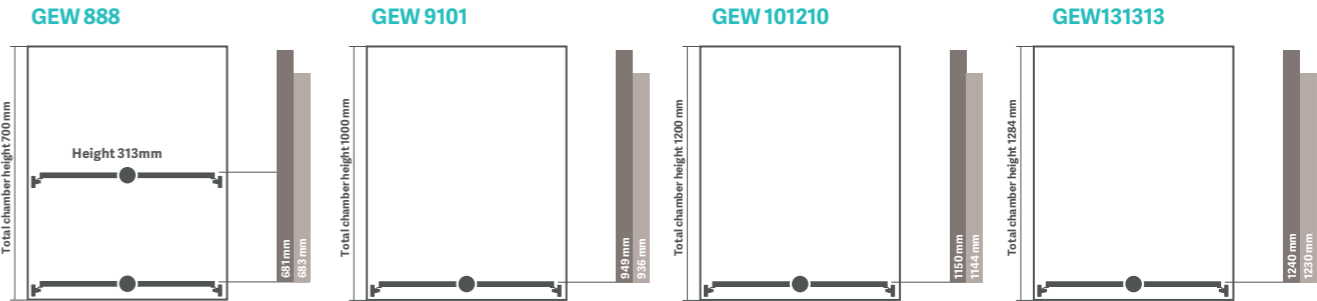
Usable height: ▮ Basic rack ▮ Injector rack

| Usable dimensions on rack | | | | |
|---|---|---|---|---|
| | **GEW 888** | **GEW 9101** | **GEW 101210** | **GEW 131313** |
| Injector rack frame inside | 705x705 (27.75" x 27.75") | 800x800 (31.5" x 31.5") | 907x907 (35.7" x 35.7") | 1200x1200 (47.24" x 47.24") |
| Basic rack frame inside | 705x705 (27.75" x 27.75") | 800x800 (31.5" x 31.5") | 907x907 (35.7" x 35.7") | 1200x1200 (47.24" x 47.24") |

# Standard Racks – Glassware

Injector rack that offer great flexibility, different shapes and sizes can be treated easily and efficiently at the same time.
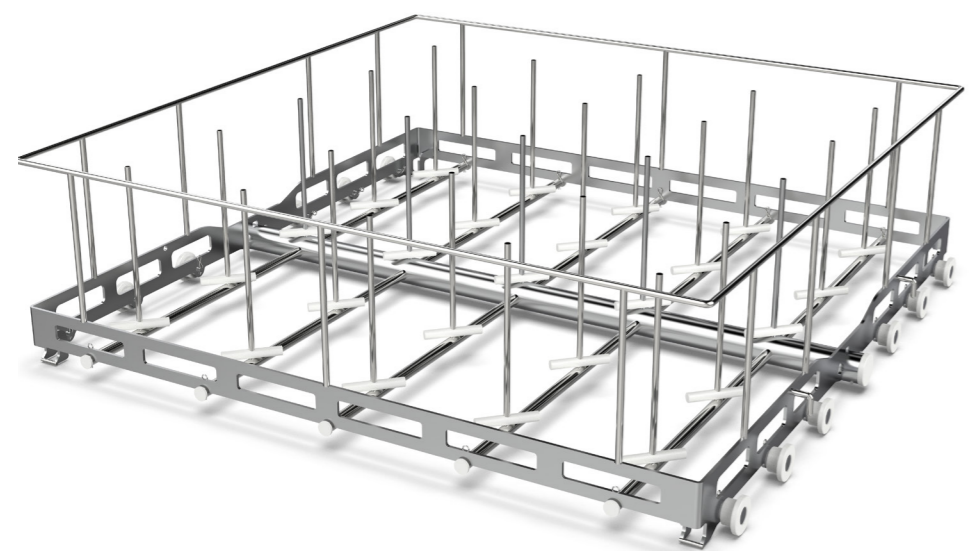
## 1 IXL Injector racks

PTFE holder with one injector including spray ball.
Application – big volume carboys.

**Model 9109 – Part Number:** 02270005
**Model 101210 – Part Number:** 02280005
**Model 131313 – Part Number:** 02260003
**Model 888 – Part Number:** AA02300010

## 2 IXL Injector racks

2 PTFE holder with one injector including spray ball.
Application – big volume carboys.

**Model 131313 – Part Number:** 02260004
Other models available upon request.
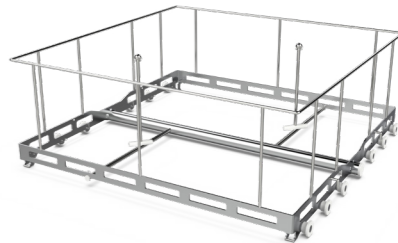
## 4 IXL Injector racks
4 PTFE holder with one injector including spray ball.
Application – big volume carboys.
**Model 888 – Part Number:** AA02300015
**Model 9109 – Part Number:** 02270006
**Model 101210 – Part Number:** 02280006
**Model 131313– Part Number:** 02260005
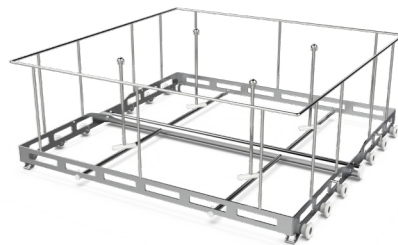
## 5 IXL Injector racks

5 PTFE holder with one injector including spray ball.
Application – big volume carboys.

**Model 888 – Part Number:** AA02300011
**Model 9109 – Part Number:** 02270007
**Model 101210 – Part Number:** 02280006
**Model 131313– Part Number:** 02260006

## 9 IXL Injector racks

9 PTFE holder with one injector including spray ball.
Application – carboys, stainless steel balls, bowls, bottles.

**Model 888 – Part Number:** AA02300016
**Model 9109 – Part Number:** 02270008
**Model 101210 – Part Number:** 02280008
**Model 131313– Part Number:** 02260007
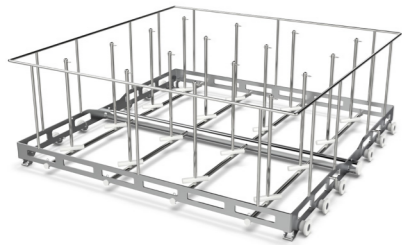
## 16 IXL Injector racks

PFTE holder with injector nozzle.
Application – carboys, stainless steel balls, bowls, bottles.

**Model 888 – Part Number:** AA02300017
**Model 9109 – Part Number:** 02270009
**Model 101210 – Part Number:** 02280009
**Model 131313– Part Number:** 02260008

## 25 IXL Injector racks

PFTE holder with injector nozzle.
Application – carboys, stainless steel balls, bowls, bottles.

**Model 888 – Part Number:** AA02300012
**Model 9109 – Part Number:** 02270010
**Model 101210 – Part Number:** 02280010
**Model 131313– Part Number:** 02260009

## 36 IXL Injector racks

PFTE holder with injector nozzle.
Application – carboys, stainless steel balls, bowls, bottles.

**Model 888 – Part Number:** AA02300018
**Model 9109 – Part Number:** 02270011
**Model 101210 – Part Number:** 02280011
**Model 131313– Part Number:** 02260010

## 49 IXL Injector racks

PFTE holder with injector nozzle.
Application – carboys, stainless steel balls, bowls, bottles.

**Model 888 – Part Number:** AA02300013
**Model 9109 – Part Number:** 02270012
**Model 101210 – Part Number:** 02280012
**Model 131313– Part Number:** 02260011

## 64 IXL Injector racks

PFTE holder with injector nozzle.
Application – small size glassware.

**Model 9109 – Part Number:** 02270013
Other models available upon request.

| DISTANCE BETWEEN INJECTORS - STANDARD GLASSWARE RACKS | | | | |
|---|---|---|---|---|
| | GEW 888 | GEW 9101 | GEW 101210 | GEW 131313 |
| 1 IXL | 705mm (27.75") | 800mm (31.5") | 907mm (35.7") | 1200mm (47.24") |
| 2 IXL | | | | 700mm (27.55") |
| 4 IXL | 352.5mm (13.88") | 400mm (15.75") | 453.5mm (17.85") | 600mm (23.62") |
| 5 IXL | 292mm (11.49") | 330.5mm (13") | 375.5mm (14.78") | 497mm (19.57") |
| 9 IXL | 235mm (9.25") | 266mm (10.47") | 301mm (11.85") | 400mm (15.75") |
| 16 IXL | 176mm (6.93") | 200mm (7.87") | 225mm (8.86") | 300mm (11.81") |
| 25 IXL | 141mm (5.55") | 160mm (6.3") | 179mm (7.05") | 240mm (9.45") |
| 36 IXL | 117.5mm (4.62") | 133mm (5.24") | 148.5mm (5.85") | 200mm (7.87") |
| 49 IXL | 100.5mm (3.96") | 114mm (4.49") | 130mm (5.12") | 171mm (6.73") |
| 64 IXL | 88 mm (3.46") | 100 mm (3.4") | 113 mm (4.45") | |

# Custom Racks – Glassware

## Custom Rack for glassware

Including empty MTC basket, 3 injectors with spray balls, 12 injectors standard.
Customized basket will be adjusted washer chamber dimensions.

**Part Number:** 99702076



## Custom Rack for glassware

Including empty MTC basket, 5 injectors with spray balls, 11 standard injectors, and 6 perforated angled injectors used for measuring cylinders.

Customized basket will be adjusted washer chamber dimensions.

**Part Number:** 99702083
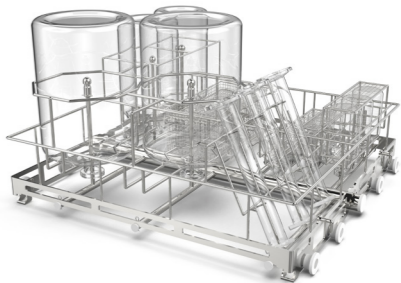


## Custom 2 level Rack for glassware

Down level: Grid measure 50 x 50, 3 MTC baskets ⅓.
Upper level: 31 Injectors with nozzles, 19 standard injectors.

Customized basket will be adjusted washer chamber dimensions.

**Part Number:** 99702168
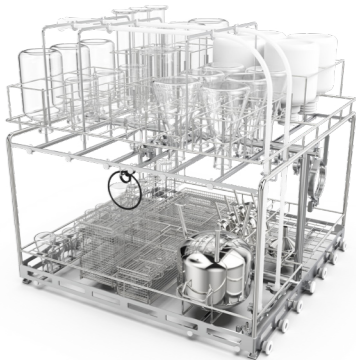


## Custom 2 level Rack for glassware

Down level: mech Grid 50 x 50, 3 MTC baskets + 18 standard injectors
Upper level: 18 standard injectors.

Customized basket will be adjusted washer chamber dimensions.

**Part Number:** 99702076
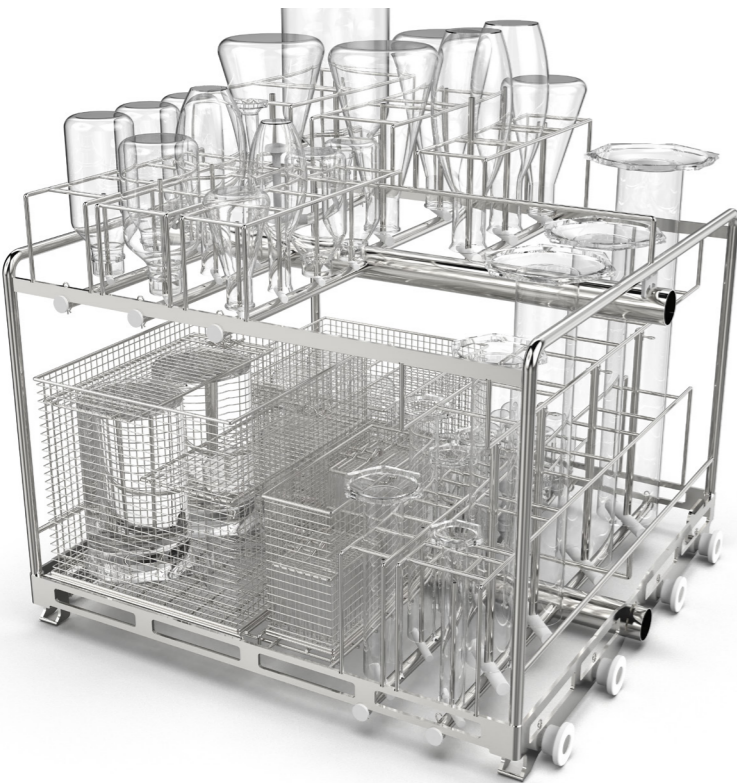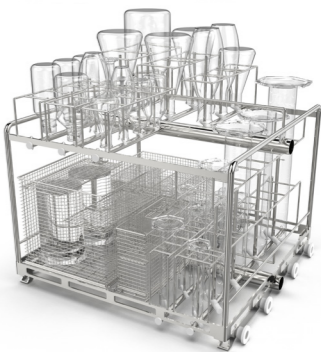
# Custom Racks – Containers

Special designed racks for large volume items.

Optimal layout and perfect cleaning results.
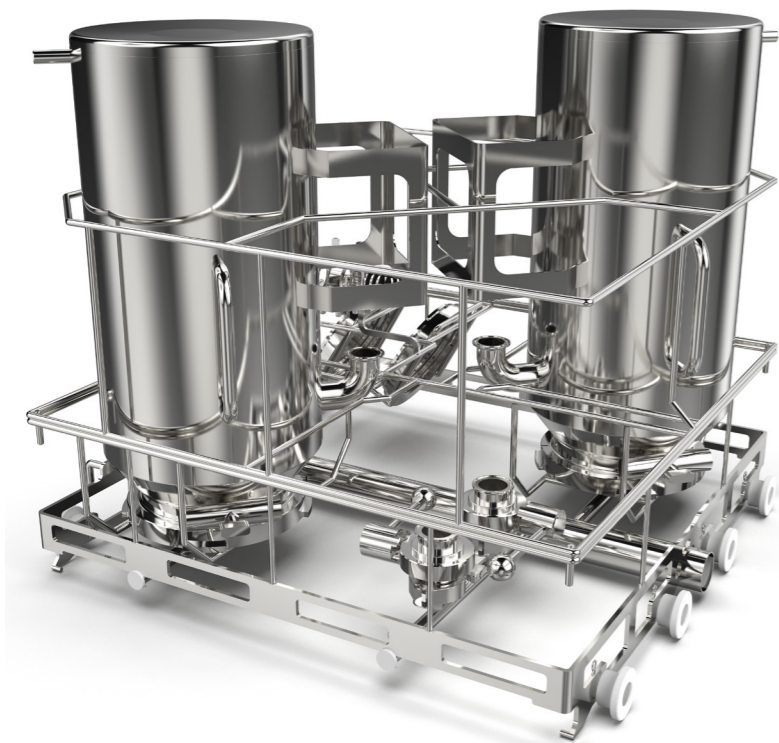
### Special rack for containers and filling line parts

9 injectors, 1 injector with flexible hoses.

**Part Number:** 99701659

### Special rack for 6 carboys

6 injectors with spray ball, two custom MTC baskets with spray arm.

**Part Number:** 99701849

### Custom made bioreactor rack

4 injectors, 2 with spray balls, 2 with clamps and spray arms.

**Part Number:** 99702001

### Special rack for larger containers

4 injectors with spray balls and removable support for stabilizing items in the rack.

**Part Number:** 99702016

### Nalgene rack

4 standard injector with fixed support for stabilizing items in the rack and adjustable cross grid.

**Part Number:** 99702074

# Custom Racks – Hoses

Special designed racks for different hoses

### Special hose rack

Tubes can be inserted to 14 clamp injector connections. 7 clamp injectors for tubes.

Maximal diameter for tubes are 25.4 mm

**Part Number:** 99702167
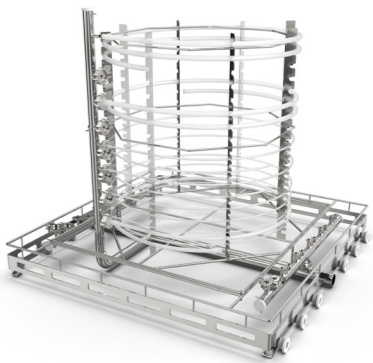


### Special hose rack

7 clamp connection for optimal water presssure to clean hoses (rewrite).

Maximal diameter for tubes are 25.4 mm

**Part Number:** 99702167
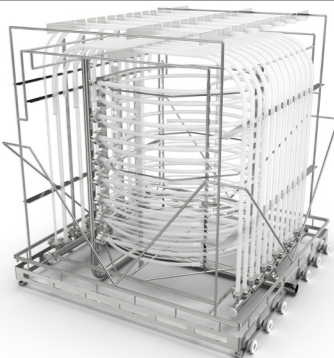


### Special hose rack

5 clamp connections and 6 standard injectors.
Including a PPM 80 BASKET.

**Part Number:** 99702153
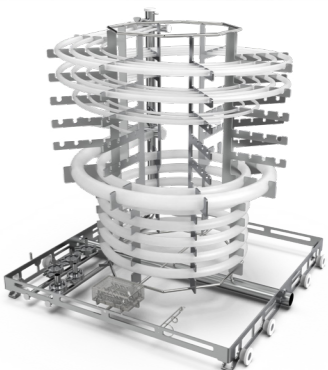


### Special hose rack

Down level: 8 clamp connections, 20 standard injectors and mtc basket mech Grid 50 x 50mm.

Upper level 47 standard injectors with different diameters.

**Part Number:** 99701848
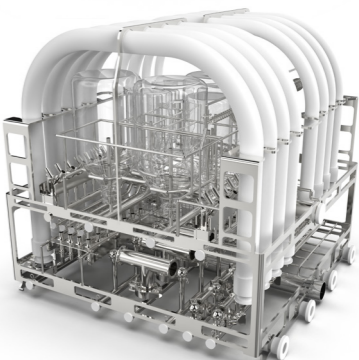


### Special hose rack

15 clamp connection for hoses and 26 standard injectors some with spray ball.

**Part Number:** 99701889
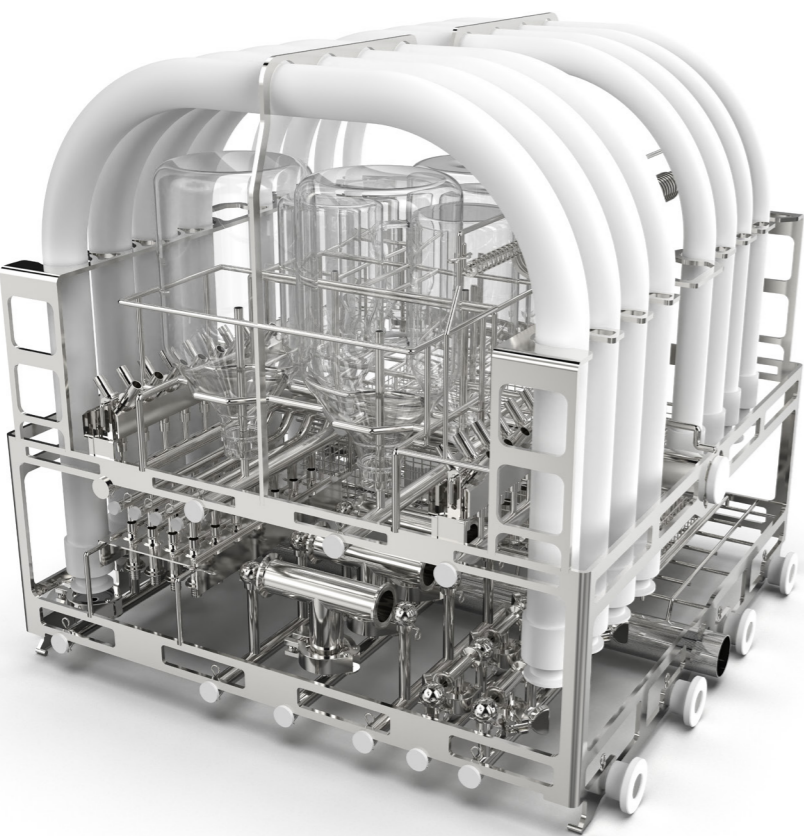
# Custom Racks – Machinery parts

Customized racks for perfect cleaning for complex and in product contacted parts.
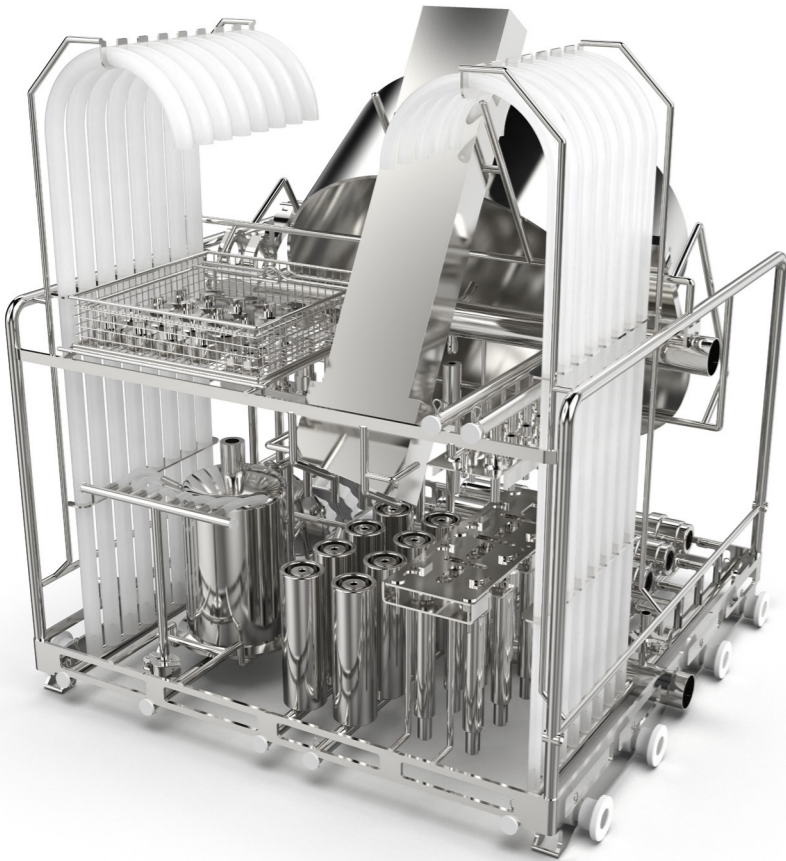
## Filling line rack

Half of the rack comes with mesh grid 50x50 mm + mtc basket
Other half: 4 injectors with clamps for hoses, 5 standard injectors

**Part Number:** 99702089
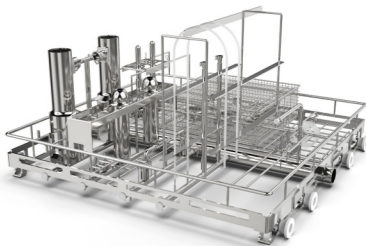
## Filter housing rack

3 clamp injectors and 32 standard injectors some with spray balls and nozzles.

**Part Number:** 99702144
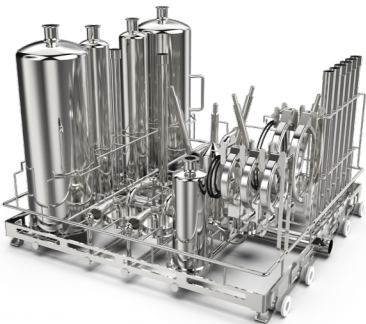
## Filter housing rack

Standard injectors some with spray balls and some with clamps.
Mech grid below of safety of items. (so they do not fall through - rewrite)

**Part Number:** 99702149
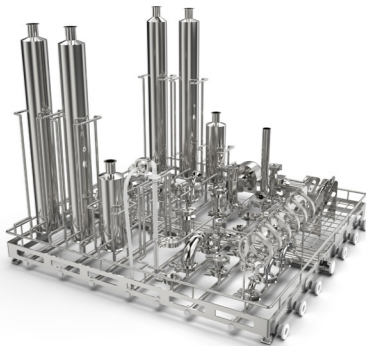
## Filling level rack

Down level: Standard injectors and mtc basket
Upper level: Standard injector for hoses or needles.

**Part Number:** 99702172
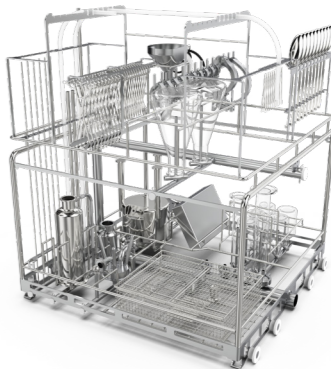
## Filling line rack

78 standard injectors and 25 clamp connection for filter housings.
Customized mtc basket.

**Part Number:** 99702173

### Filling line rack

Down level: ⅓ rack mech grid 50x50 mm with 3 small baskets.
3 injectors with clamps.
Upper level: 40 standard injectors some with nozzles.

**Part Number:** 99701373

### Various rack

1 injector with spray ball, 2 injectors with clamps and rotating spray balls.
Mech grid. Application rack within transfer line.

**Part Number:** 99701892





### Filling line rack

Down level: 40 standard injectors, 2 clamp injector for hoses.
Upper level: 1 clamp injector, 36 standard injectors some with nozzles
and  rotating spray ball.

**Part Number:** 99701520

### Various rack

Customized mtc rack with 34 injectors clamp connection for hoses.
Application: Hoses and manifolds.

**Part Number:** 99701925





### Filling line rack

Down level: 94 small injectors
Upper level 36 standard injectors some with mech grid and spray arms.

**Part Number:** 99701567

### Valve and filter housing rack

29 standard injectors ¼ spray arm.

**Part Number:** 99701997





### Fittings and valves rack

Down level: ⅓ mech grid 50x50 mm, ⅔ customized mtc baskets.
Upper level: ½ rack injectors with nozzles and ptfe connections.

**Part Number:** 99701801

### Cosmetic filling line rack

1 flexible injector, 2 injectors with clamp connection, 1 small standard
injector, 16 standard injectors with spray balls and nozzles.

**Part Number:** 99701999





### Fliling line rack

⅓ mesh grid 50x50 mm and ⅔ 45 standard injectors some with spray balls
and nozzles.

**Part Number:** 99701839

### Special rack for bowls

Mech grid + 4 standard injectors, 3 injectors with rotating spray ball.

**Part Number:** 99701974

# Accessories

A variety of solutions for cleaning of small parts.

### Mesh basket MTC ⅓ with cover

⅓ mesh basket to be put on a basic rack to be washed without direct injection.  Dimensions 162x454x100 mm (6.38" x 17.87" x 3.94" )

**Part Number:** 02000018

### Mesh basket MTC

Small mesh basket to be put on a basic rack to be washed without direct injection. Dimensions 162x162x100 mm (6.38"  x 6.38" x 3.94" )

**Part Number:** 02100017

### Removable adjustable injector grid

**Model GEW 888 Part Number:** AA02300020
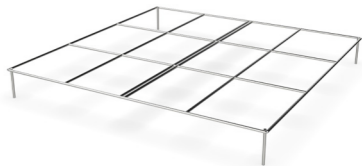**Model GEW 9109 Part Number:** AA02270019
**Model  GEW 101210Part Number:** AA02280022
**Model  GEW 131313 Part Number:** AA02260024

### Removable fixed grid for injector rack model 131313

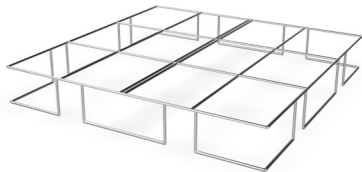Available for all models upon request.

**Part Number:** 02260013

### Removable fixed grid for injector rack model 131313

Available for all models upon request.

**Part Number:** 02260012

**2 Level trolley for model 888**

For loading and unloading, multi directional for ease of use.



**TN 888 GMP. Part Number:** AA0230021

# Transfer carts and storage cabinets

Transfer cart allows an easy loading.
Transfer cart is connected to the
machine by docking device.



**1 level trolley for all models except (888)**

Walk in Trolley for loading and unloading, multi directional for ease of use.



**NB 9109 GMP. Part Number:** AA0227020
**NB 101210 GMP.  Part Number:** AA0228023
**NB 131313 GMP.  Part Number:** AA0226025
**NB 131820 GMP. Part Number:** 02290002

## Storage cabinet model 9109

Storage cabinets of 3 empty racks.

**Part Number:** 02270003

## Storage cabinet model 121012

Storage cabinets of 3 empty racks.

**Part Number:** 02280003

## Storage cabinet model 888

Storage of 3 racks.

**Part Number:** 02300005

## Storage cabinet model 131313

One level storage for one rack

**Part Number:** 02260015

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**А**рхангельск (8182)63-90-72
**А**страхань (8512)99-46-04
**Б**арнаул (3852)73-04-60
**Б**елгород (4722)40-23-64
**Б**лаговещенск (4162)22-76-07
**Б**рянск (4832)59-03-52
**В**ладивосток (423)249-28-31
**В**ладикавказ (8672)28-90-48
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**В**оронеж (473)204-51-73
**Е**катеринбург (343)384-55-89

**И**ваново (4932)77-34-06
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**Н**оябрьск (3496)41-32-12
**Н**овосибирск (383)227-86-73
**О**мск (3812)21-46-40
**О**рел (4862)44-53-42
**О**ренбург (3532)37-68-04
**П**енза (8412)22-31-16
**П**етрозаводск (8142)55-98-37
**П**сков (8112)59-10-37

**П**ермь (342)205-81-47
**Р**остов-на-Дону (863)308-18-15
**Р**язань (4912)46-61-64
**С**амара (846)206-03-16
**С**аранск (8342)22-96-24
**С**анкт-Петербург (812)309-46-40
**С**аратов (845)249-38-78
**С**евастополь (8692)22-31-93
**С**имферополь (3652)67-13-56
**С**моленск (4812)29-41-54
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**С**ургут (3462)77-98-35
**С**ыктывкар (8212)25-95-17
**Т**амбов (4752)50-40-97

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**Т**омск (3822)98-41-53
**Т**ула (4872)33-79-87
**Т**юмень (3452)66-21-18
**У**льяновск (8422)24-23-59
**У**лан-Удэ (3012)59-97-51
**У**фа (347)229-48-12
**Х**абаровск (4212)92-98-04
**Ч**ебоксары (8352)28-53-07
**Ч**елябинск (351)202-03-61
**Ч**ереповец (8202)49-02-64
**Ч**ита (3022)38-34-83
**Я**кутск (4112)23-90-97
**Я**рославль (4852)69-52-93