

Shorter cycle times and greater
cleaning performance



WD 200 / WD 250 / WD 290

Cabinet washer-disinfectors in compliance with EN ISO 15883

Belimed
Infection Control



*Schulthess Klinik, Zurich/Switzerland,
Swiss Olympic Medical Center*

Belimed enhances CSSD performance

Central Sterile Supplies Departments (CSSD) are an integral department in most clinic and hospital operations. The demands placed on instrument re-processing within these units have never been more stringent than now. With a vast diversity of material and equipment to be cleaned, disinfected and dried, this volume is increasing all the time.

With current trends in merging clinics and hospitals into larger sterile service facilities, plus the additional legislation and standards that have become more rigorous in monitoring operational and patient safety procedures, Belimed as a leading manufacturer of decontamination equipment, has brought together its knowledge and expertise in this area to provide a range of washer- disinfectors, to meet these new demands.

Innovation and experience

As a leading supplier of decontamination systems and solutions in the area of infection control, Belimed has over 40 years of experience developing and manufacturing innovative disinfection and sterilization products for the healthcare, pharmaceutical and laboratory sectors.

Numerous requirements – one contact

Belimed offers everything a CSSD requires for cleaning, disinfection and sterilization. In addition to being high-quality decontamination systems provider, Belimed also supplies a broad range of additional solutions. That include an in-house service, extending from planning project management through to after sales support with validation and maintenance. Belimed works together with their clients to develop solutions to provide a system giving them efficient workflow and maximum productivity.

Technical expertise

Performance, quality, economy and consistency are the main features of Belimed's WD 290, WD 250 and WD 200 series of washer-disinfectors. Developed to comply with the latest EN ISO 15883 directive, they ensure safe cleaning, disinfection and drying of medical devices.

Exceptional quality with short cycle times

Belimed washer-disinfectors ensure a high throughput in instrument re-processing, even the shortest program times achieve exceptional cleaning results. Factors that make this possible include specifically designed process parameters to meet the precise load to be cleaned and disinfected. With Belimed's unique drying system combined with RO water pre-heat tanks, cycle times can be shortened to allow users a greater operational performance.

Space saving

With a width of only 68 cm for WD 200 and 90 cm for the WD 250/290 and a maximum height of 184 cm, the Belimed washer-disinfector range of machines achieves one of the smallest footprints of any unit on the market.

Three models for greater flexibility

Belimed offers three models: WD 290, WD 250 and WD 200. This allows you to match the features and performance of the washer-disinfectors precisely to your specific requirements.

Low media consumption and high productivity

"Dynamic Filling" is a unique economic feature. Water volume is automatically matched to the load carrier and the material to be processed. This optimizes utilisation of water, detergents and energy resulting in savings of up to 20% in utility and additive consumption per cycle.

Energy saving by heat recovery

As an optional feature, heat recovery from the exhaust air can be used to reduce energy and media consumption by an additional 20%.

Belimed washer-disinfectors ensure a perfect cleaning result due to its high washing performance and its innovative wash arm design.



Safety and well-being in the CSSD – Belimed's new product design

The new Belimed machine generation was developed in accordance with the latest guidelines. It provides the highest degree of user friendliness, safety and cost-efficiency in addition to an attractive design and clear forms.

Today's CSSD

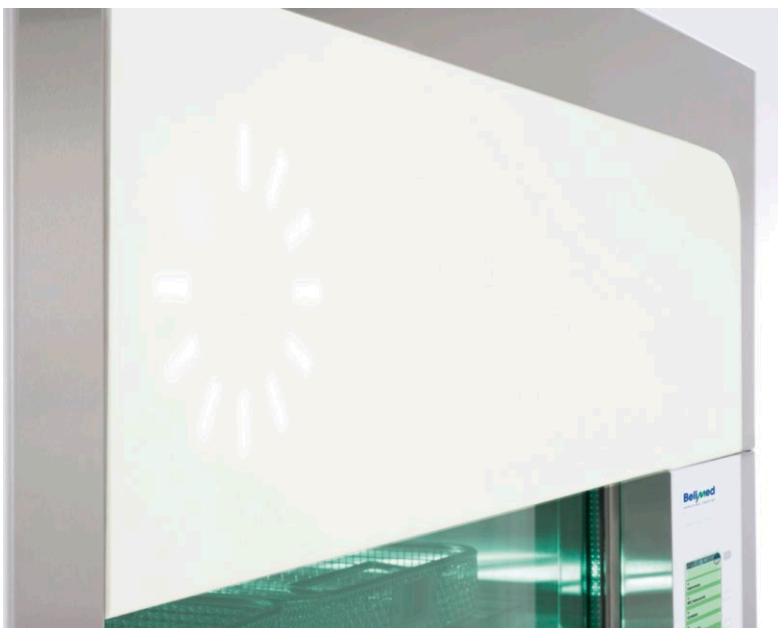
Belimed's new machine generation is fully oriented to the requirements of CSSD employees. The modern, light product design provides greater safety and well-being at the workplace. This is highlighted, for example, by the flush operating interface that combines green glass windows with stainless steel and white HI-MACS® material. No protruding elements, grooves or corners. The smooth surface is easy to clean, thus conforming in a special way to aspects of hygiene. Even the operating panel is located behind a glass plate.

Correct and fast information

Important process data, such as remaining duration, loading or removal readiness or error messages are displayed on our systems via the patented process status display. The employee can see the relevant information clearly at a glance, even from a distance. The display works in the manner of an analogue clock by means of LED technology.

High quality

Our customers' requirements as well as current guidelines are our benchmark for safety, quality, efficiency and ecology. This is once again highlighted by the new product generation. Exclusive use of high-quality materials combined with careful workmanship make our products durable and robust. The best proof of this is the scratch-resistant and extremely tough glass front of our machines. The devices comply with all international as well as country-specific directives, such as for example the most important standard EN ISO 15883.



Important process data such as the remaining cycle time, loading or removal readiness and error indication are displayed via our patented status display that is well visible from afar.



Improved work quality – the focus is on the human being

CSSDs manage high workloads with little staff. Belimed systems help the staff and relieve the workload by focusing on ease of operation and maximum process reliability.

Consistent and ergonomic operation

Whether for washer-disinfectors or sterilizers, the new generation of Belimed systems offers a uniform operating interface, thus reducing training requirements and error sources to a minimum. The “CP-TOP” operating panel is located at an ergonomically optimal height in all machines.

Automatic program selection and efficient re-processing

Another advantage is the automatic program selection option. This allows programs to be automatically or manually selected. The control identifies the relevant rack using special sensors and automatically begins the cleaning process, based on rack identification.

Comfortable and transparent user guidance

Clear menu navigation and the illuminated color display ensure even greater user comfort. Activation of the respective keys with a simple touch is confirmed by an acoustic signal.



*Uniform CP-TOP operating panel,
behind glass, with function buttons in
touch screen technology*

WD 290 – 18 DIN tray washer-disinfector with automatic sliding doors

New product design successfully implemented: With the largest capacity in the series, the WD 290 is the highest performing machine to fully utilize its capabilities. The complete process, including loading and unloading, can be automated to enhance the machine's throughput capacity.

Increased capacity and cost efficiency

The WD 290 is fully compatible with the Belimed WD 350 Dual-Washer and the WD 390 multi-chamber washer-disinfector. This combination results in an overall system within a minimal space requirement, providing a combined operation that achieves a real cost saving in space. Racks and transport carts for the WD 290 are also interchangeable with the WD 350 Dual-Washer and the WD 390 multi-chamber washer-disinfector.

Operating location

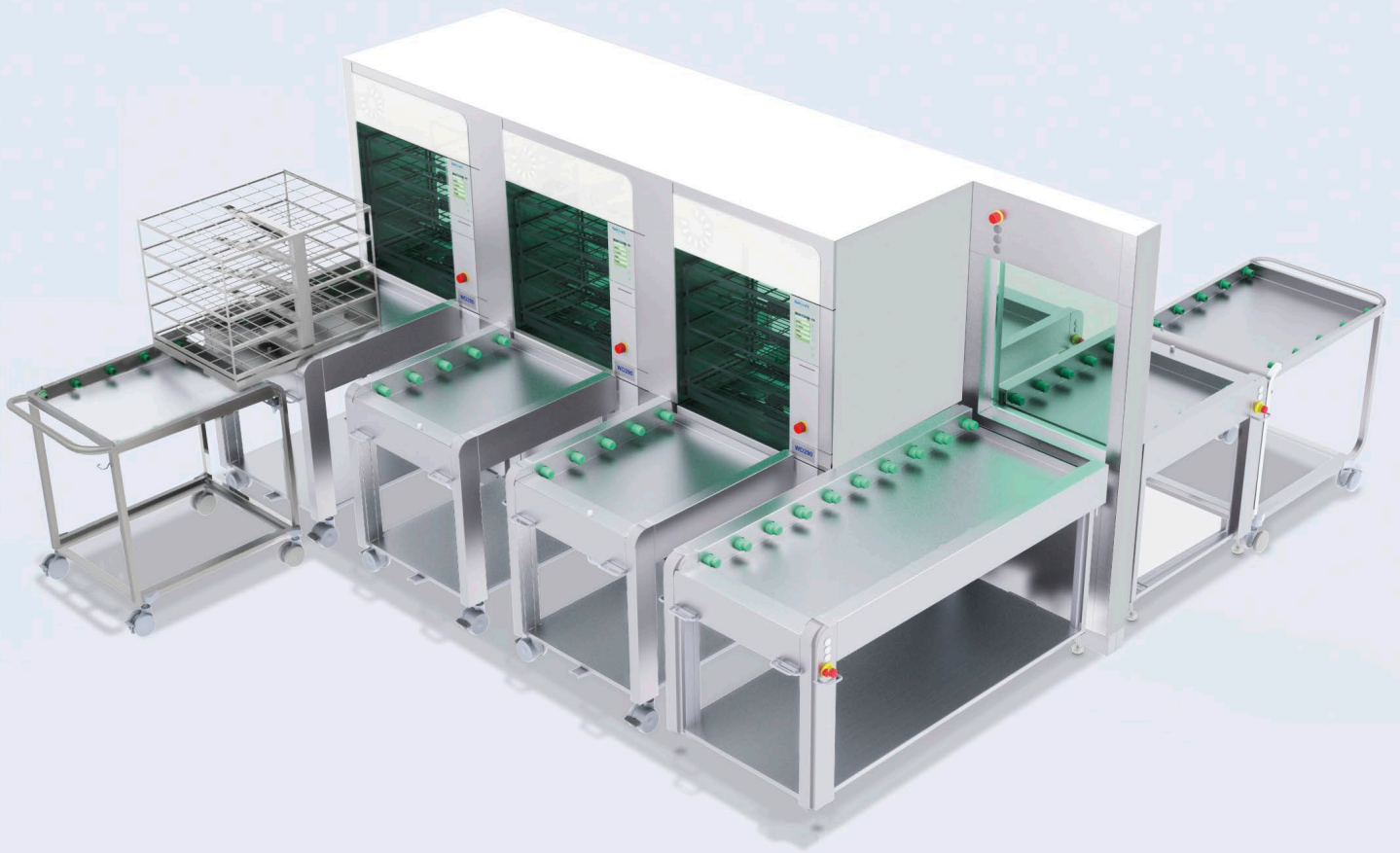
The WD 290 is suitable in any Sterile Services Department wherever there is demand for high throughput of medical equipment. Because of the machine's capacity and automation options offered, the WD 290 is the choice for the larger CSSD operations.



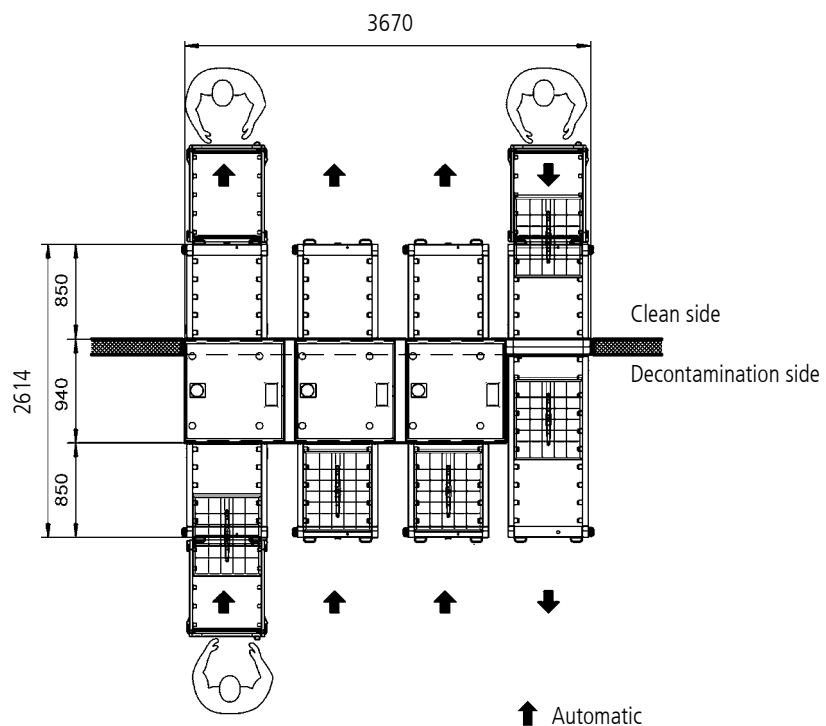
Technical data, WD 290

Dimensions	
Outer dimensions H x W x D (mm)	1840 x 900 x 940
Chamber dimensions H x W x D (mm)	690 x 630 x 800
Chamber volume (l)	350
Cycle capacity	
Surgical instruments (DIN trays)	18
MIC instruments (pieces)	150
Anaesthesia material (sets)	7
Sterile goods containers including lid and filter lid (pieces)	5
including lid, without filter lid (pieces)	6
OR shoes (pieces)	60
Baby bottles including caps (pieces)	126

See page 19 for further technical data



Automation helps to streamline decontamination process and increase productivity. Operating staff are able to prepare several racks at once and time is saved as loading and unloading of the machines is carried out automatically without operator involvement.





The WA 290 is an innovative development of Belimed automatic systems. The rotary modules link to form an entirely automated circuit no longer requiring the operating staff to manually lift or re-site the racks. This is due to the Belimed intelligent transports system that allows the racks to go directly into the next available washer-disinfector. Especially useful when goods have to be fast tracked ensuring minimal wait time, guaranteeing a continuous workflow.

Hygiene and Cost-Effectiveness in the CSSD: Your Requirement – Our Core Competence

Implement appropriate technical support to respond to rising standards for the reprocessing of medical devices. With our new fully automatic WA 290 shuttle system, the WD 290 washer-disinfectors can be loaded and unloaded even more professionally.

Expertise in technology and automation

Modern medical technology and process optimization in the CSSD are tried and tested ways to manage these challenges. As one of the leading suppliers of infection control system solutions, we reduce both approaches to one common denominator. With the WD 290, we thus offer you one efficient device for cleaning, disinfection and drying. To make the reprocessing procedure even more efficient, we have specifically expanded the device with the new WA 290 shuttle system that makes fully automatic loading and unloading of the WD 290 possible.

Technology and quality combined with added value for people and businesses

The WA 290 shuttle system improves corresponding procedures so much that it effectively relieves the load on employees. At the same time, CSSD throughput times are reduced, as are processing times and costs. The system is most ideally suited to the high load in everyday practice. The system's quality, reliability and stability have been thoroughly tested. To support this continuing development, we designed the WA290 according our highest quality standards.

Automated processes improve work efficiency

Automation for the WD 290 provides flexibility in both loading and unloading or just one of the two functions. In addition, there are further automated options such as return conveyors and transfer windows.

Automation provides greater efficiency

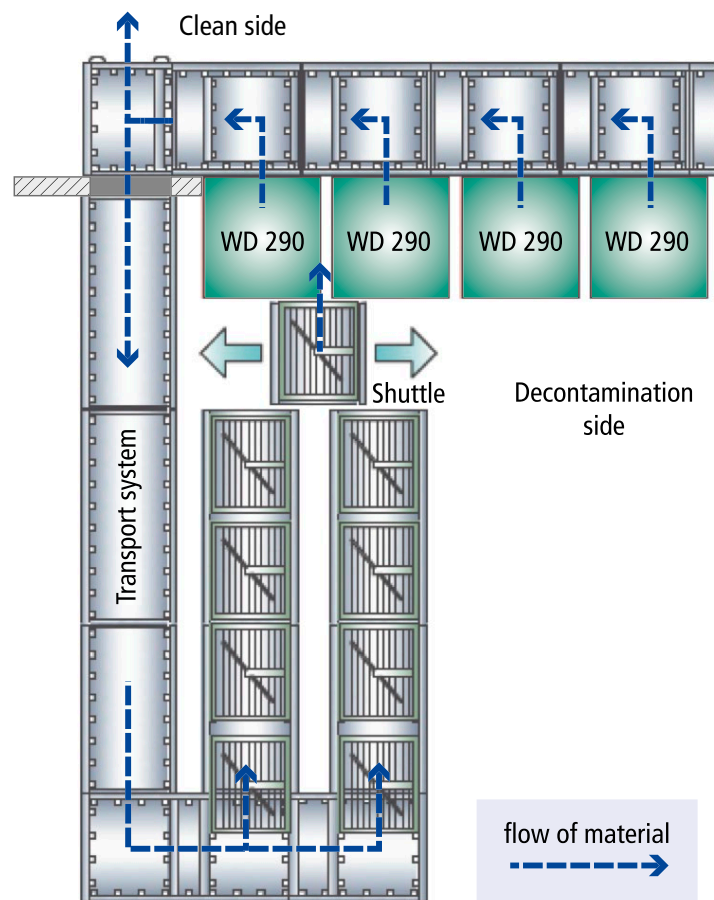
The fundamental requirement for any return on investment is to maximise the washer-disinfector's throughput capabilities. With automation, several racks may be positioned on a loading conveyor. The rack is automatically transported into the WD 290 and at the same time the racks coding selects the cycle appropriate to the load to be processed. Once the cycle has been completed and verified, the rack will be automatically delivered on to the unloading conveyor. At peak flow times, the washer-disinfector is constantly in use, avoiding any downtimes. An automated process allows operating staff to focus their efforts in areas other than loading and unloading. In addition, the CSSD gains valuable operating time as the WD 290 can independently handle several cycles at the end of the working day without personnel involvement.

Flexibility

The fully automatic WA290 design is based on the latest hygienic recommendations, whereat the focus of the system is always absolutely flexibility. Although the WA290 is a closed system, the user may manually interrupt the process to load an express charge, anytime. With the add-on solution the system can be upgrade during his own lifetime in case of rising demand of reprocess medical goods. Concluding offers the option "Direct Dock" a solution for constricted rooms in a CSSD.

Cleaning and maintenance made easy

Belimed's transport system is designed to meet hygiene requirements and may be cleaned quickly and easily at all times. Also the usability for the user and the easiness of maintenance is outstanding.



WD 250 – 10 DIN tray washer-disinfector with automatic sliding doors

The WD 250 also offers a high degree of operator friendliness and features automatic sliding doors with the option of combining a fully automated loading and unloading system.

Optimal visual inspection

Solid-glass doors are standard on every WD 250. Therefore, workflow and operating processes are always safely in view.

Operating location

The two-door WD 250 was developed specifically for use in CSSD units. It ensures separation between the decontamination area and clean sides. Interlocking of the doors prevents the system from being opened to both areas at the same time.

Easy to use

Important data, such as remaining duration, loading or removal readiness or error messages are displayed on our systems via the patented process status display. The employee can see the relevant information clearly at a glance, even from a distance. The display works in the manner of an analogue clock by means of LED technology. Clear menu navigation and the illuminated color display ensure even greater user comfort.



Technical data, WD 250

Dimensions	
Outer dimensions H × W × D (mm)	1840 × 900 × 800
Chamber dimensions H × W × D (mm)	690 × 630 × 660
Chamber volume (l)	286
Cycle capacity	
Surgical instruments (DIN trays)	10
MIC instruments (sets)	3
Anaesthesia material (sets)	5
Sterile goods containers including lid and filter lid (pieces)	4
OR shoes (pieces)	50
Baby bottles including caps (pieces)	84

See page 19 for further technical data

WD 200 – High user convenience in each detail

Our customers' requirements as well as current guidelines are our benchmark for safety, quality, efficiency and ecology. This is once again highlighted by the new product generation of the WD 200, which was developed for professional use in hospitals and small clinics.

Sturdy double-glazed hinged doors are standard feature, as well as an illuminated, excellently worked AISI 316L stainless steel chamber.

Features

- Large wash chamber, small outside dimension
- "Dynamic Filling" system to reduce media consumption
- Exhaust-air flap to prevent thermal energy loss
- Heat recovering system by condenser and RO water pre-heating (optional)
- Very low noise level <65dB (A)
- Validation port for external measuring devices and sample drawing tap
- Heavy duty drying unit (325 m³/h)
- EN ISO 15883 compliant
- Thermal disinfection by A₀ value
- Conductivity measurement (optional)
- Full process monitoring and independent data archiving (optional)
- Up to 4 dosing units with flow sensors (2 standard)
- Pump pressure monitoring for high process safety
- 12 validated factory programs, program library



WD 200 with storage of 2 × 10l detergents



WD 200 with ergonomic operating panel and integrated printer

Technical data, WD 200

Dimensions	
Outer dimensions H × W × D (mm)	1840 × 680 × 710
Chamber dimensions H × W × D (mm)	625 × 575 × 628
Chamber volume (l)	225
Cycle capacity	
Surgical instruments (DIN trays 486 × 260 mm)	up to 12
MIS instruments (connections, jets / DIN trays)	48 / 4

See page 19 for further technical data

Extensive range of accessories

Belimed offers the right accessory solution within its comprehensive range of accessories whether it be for surgical instruments, minimal invasive equipment, anaesthetics tubing, operating room shoes, containers, baby bottles and laboratory glassware.

All Belimed racks are constructed of high-quality stainless steel with electropolished surfaces. This makes for a rugged and resistant product with a long service life. Belimed racks can be easily and quickly loaded from all sides.

Instrument re-processing

Belimed offers various multi-level racks for instrument re-processing. The instrument rack features Luer-Lock connections as standard. This allows instruments with inner lumens to be prepared along with other surgical instruments.

MIC/TUR re-processing

The new Belimed MIS-TOP rack for minimal invasive surgery instruments enables easy re-processing. The light, modular trays can be assembled and simply linked up with just a few hand movements. The modular design and multi-flexible adaptation options ensure a high degree of user comfort. Whether for short or long instruments, hollow instruments or accessories: specially designed trays provide the right solution for every application. Adapters for the instruments of the most common manufacturers are integrated into the coupling system, thus guaranteeing easy handling.

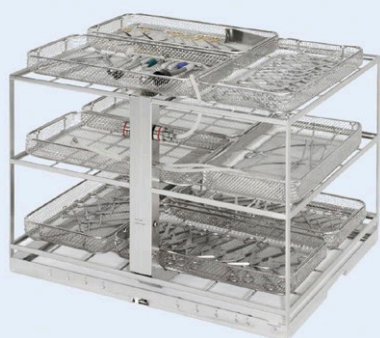
Eye instrument re-processing

Instrument geometries, including those used on the eye, are becoming more and more complex. This places more challenging demands on the machine and its re-processing process. Belimed has solved this problem by developing a special ophthalmic instrument rack. Up to six operating sets may be processed. The instrument trays are supplied with washing and rinse media through Luer-Lock connections. The incline of the trays allows water to rapidly drain off faster to avoid any residue to collect. Two nozzle tubes with Luer-Lock and hose connectors allow various other hollow-bodied instruments and tubes to be processed.

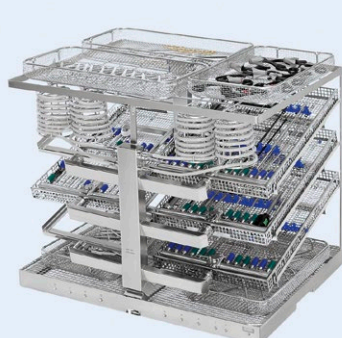
Container re-processing

Belimed container racks are very versatile. Their ergonomic design allows a wide variety of container types to be processed. The spray heads also ensure thorough internal cleaning of containers, lids and filter lids.

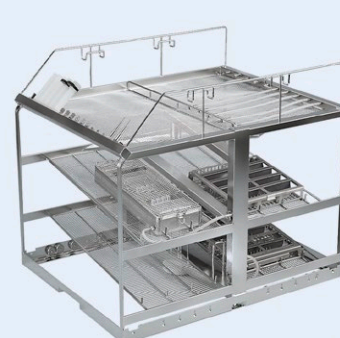
Instrument re-processing



MIC instrument re-processing



Eye instrument re-processing





Anaesthesia material re-processing

Belimed anaesthesia racks offer a variety of re-processing options. Materials such as corrugated tubes, smooth tubes, paediatric respiration tubes, masks, respiratory bags and other items may be processed reliably and efficiently. The rack's upward-flowing water column achieves an excellent cleaning result. Upon completion of the cleaning and disinfection process, detergent drains off fully from the anaesthesia tubes. Then follows the drying process to ensure an optimal result.

Jet spray rack

Belimed's jet spray rack offers a high level of flexibility. The screw-in spray nozzles allow it to be matched individually to the particular needs of the user, providing a broad range of application.

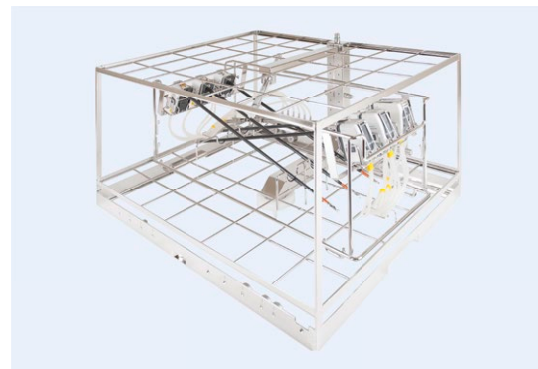
Inserts for dishes, trays, OR shoes, etc.

Belimed's modular system allows a variety of implements to be prepared easily on the single or two-level basic rack. Up to four different trays or types of material may be combined.

Ergonomically designed transport carts

Belimed transport carts are easy and safe to use. The docking and locking process connects the cart to the washer-disinfector, preventing it from rolling away while loading and unloading the machine. The rack rest features rollers for easy rack moving. Integrated drip pans are easy to clean to maintain hygiene. In addition, racks may be stored temporarily on the lower level of the transport cart.

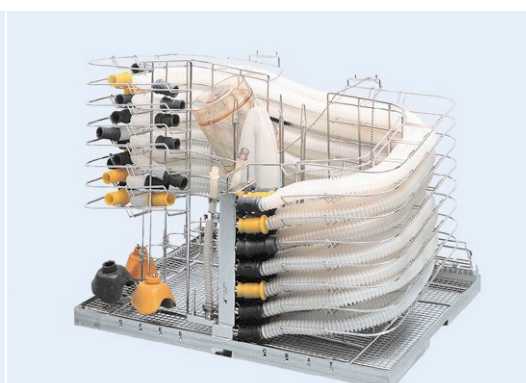
da Vinci®



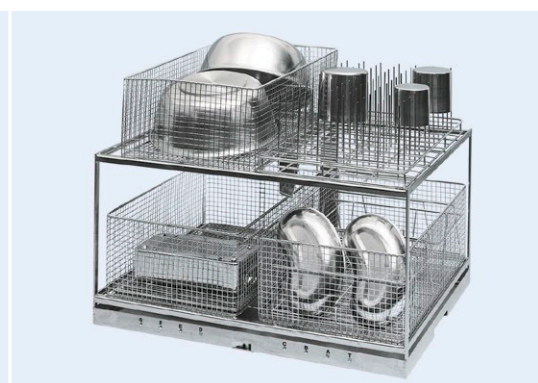
Container re-processing



Anaesthesia material re-processing



Inserts for dishes, trays, OR shoes, etc.



Cycle documentation

Hospitals are required to document re-processing data. The Belimed ICS 8535 Infection Control Software is an IT solution for ensuring traceability of medical devices during each step of the complete decontamination circle.

Integrated printer

Without the need for additional software, an integral printer can be fitted to either loading or unloading side, allowing program data to be printed directly onto a paper strip.

Belimed Infection Control Software ICS 8535

All process information, the measured values and program parameters are automatically downloaded to either a stand alone PC or to a clients network. The data may be retrieved at any time and used to provide documentation for quality assurance or product release purposes.

Our Infection Control Software ICS 8535 can also provide, via data loggers independent of the machine's control, the key parameters that impact on the cleaning and disinfection efficacy.

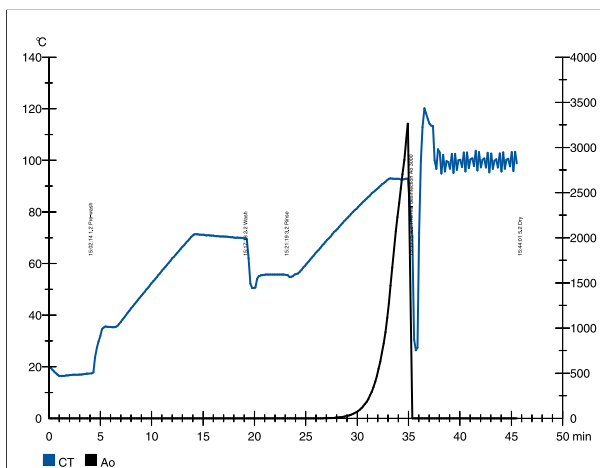
Full data traceability

At any time Belimed's Infection Control Software ICS 8535 may be extended for use with other decontamination equipment such as cart washers or sterilisers. Due to using an SQL platform, the ICS 8535 allows either machine's process data or independent monitoring data to be easily exported, to ensure full integration and connectivity with any client's electronic tracking and traceability system.

Shorter cycle times, immaculate cleaning

If this is desired, extremely short cycle times of only 31 minutes including drying can be achieved under optimal conditions. Evidence for effective, standard-compliant cleaning has been provided by an independent accredited test laboratory.

Cycle documentation		24.10.2007 06:53:46	
User	: Hospital & Medical Center	Manufacturer	: Belimed
Machine Type	: WD290	User	:
Machine No.	: 1	Cycle counter	: 1033
Cycle name	: Instruments	Cycle start	: 22.10.2007 14:58:14
Prog. No. / Version	: 1 / 22.10.2007	Cycle time [Min:Sec]	: 46:28
Software index	: V1.05A	Desinfection period [Min:Sec]	: 1:39
No. of carrier for mat.	:	Designation of carrier for mat.	:
Result	: Cycle passed		



Signature

Enable: yes [] / no []

Clearly structured cycle documentation

The Belimed barcode scanner allows fast detection of instrument trays



A₀ value

Belimed's programmable microprocessor control provides the A₀ value during each cycle. The disinfection phase is only completed when the appropriate A₀ value is reached. This prevents unnecessary resource consumption and saves time. The A₀ value is a measure of the effectiveness of thermal disinfection as a function of temperature and time. Mathematically, this is described with the integral of temperature over time. The Standard states variable A₀ in seconds.

Fast and reliable data acquisition

Belimed provides tracking of processed items by using either hand-held or attached bar code scanners to their washer-disinfectors. Barcodes on instrument trays can be scanned before and after the process to identify its assigned program and batch number providing documentation of the goods cleaning and disinfection process.

Greater safety and reliability due to independent process data monitoring

Monitoring sensors ensure maximum process reliability. Relevant performance parameters are monitored continuously:

- Number and type of process step
- Pump pressures
- Temperature-time profiles of water and air
- Quantity and volume of detergents used
- Conductivity of the final rinse water

If any variations of the preset cleaning and disinfection parameters are not met, the machine will give an audible alarm alerting the operator to an aborted cycle. Belimed's open architecture monitoring allows easy interfacing with electronic track and traceability systems.



Integrated printer in front panel

Efficient and economical operation

The Belimed commitment to high economic efficiency includes a focus on cost savings and maximising the investment in your equipment. Our systems feature economical use of resources of water, detergents and energy.

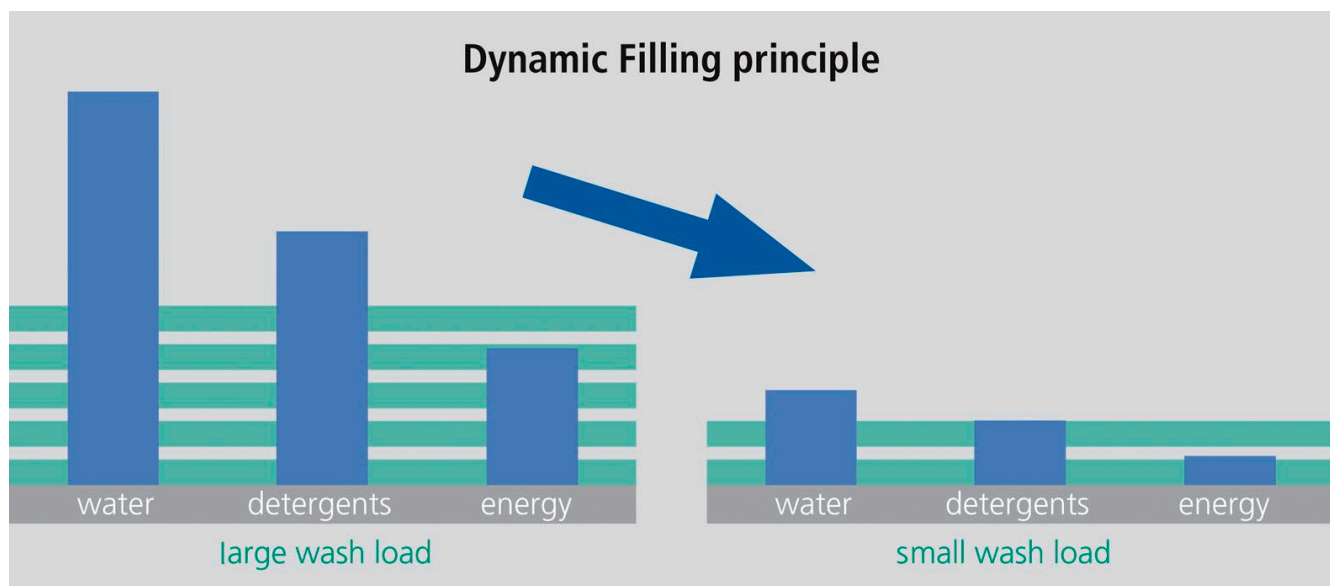
Dynamic Filling:

Saves up to 20% of resources per cycle

Belimed's "Dynamic Filling" contributes to high economic efficiency and environmental protection in either a clinic or hospital operation. The washer-disinfector's water intake is monitored to the actual rack that is to be processed; therefore water consumption is reduced automatically. This also cuts the demand for energy and detergents accordingly.

High-performance drying: effective, yet gentle

Two powerful turbines are used in the high-volume Belimed dryers. Although the drying achieves an unrivalled performance in efficiency and time operating noise levels are kept to a low level. The large air volume and dual circulation dries even the critical inner lumens of cannula instruments within a very short time. The air used for drying is provided by an upstream HEPA filter. Fast, yet gentle drying maintains long term working condition of high-value medical instruments.



RO water pre-heating:

25 % increase in productivity

When the program phase of thermal disinfection begins, the required RO water is already provided at the required thermal disinfection temperature. This is achieved by preheating this medium in a separate tank. This option reduces the overall cycle time, providing an increase in productivity of up to 25 %. This addition complies with EN ISO 15883: the tank is positioned above the wash chamber to ensure no pipework dead legs and complete draining of the tank between each intake.

Exhaust air condenser:

hygiene in exhaust air cooling

The problem of exhaust air cooling has been solved with a unique counter-flow heat exchanger. This technology avoids condensation in the exhaust air pipe and protects against microbial contamination and corrosion.

Exhaust air heat recovery:

20 % reduction in energy consumption

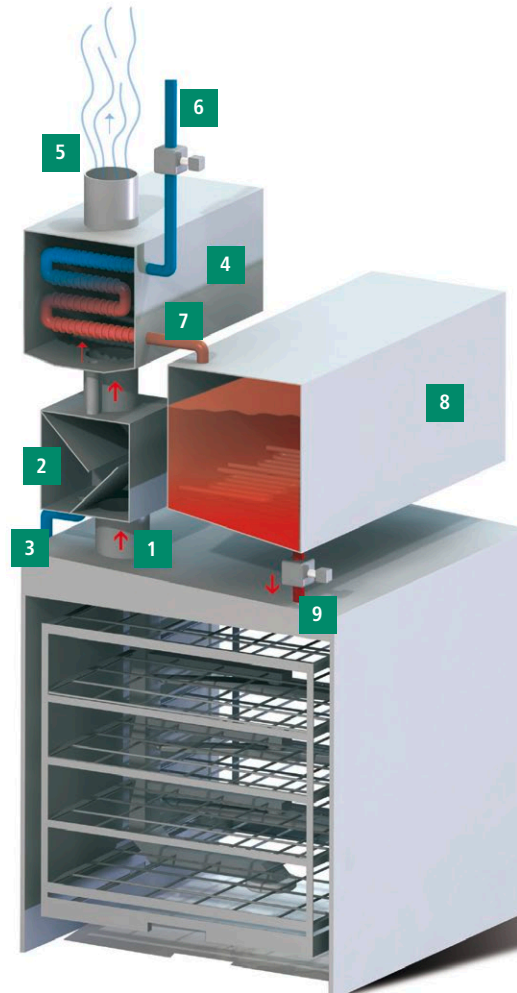
The principle of RO water preheating and vapour condensation may be taken one step further. The RO water is heated via the machine's exhaust to reduce the energy consumption. The incoming RO water also cools the exhaust air at the same time, saving up to 40 liters of cooling water per cycle. The RO water heated via the vapour condenser is supplied to the RO water preheating tank and used for the machine's thermal disinfection phase. Exhaust air heat recovery reduces energy consumption by up to 20 %. The financial savings achieved by this option means that investment costs are recouped within a very short period of time.

Exhaust air flap with condensate drain:

shorter cycle times and less energy

Belimed systems provide an effective solution to capture heat resulting from high washing temperatures. The washer-disinfectors feature a dynamic exhaust air flap that opens only in the event of excess pressure in the chamber. This means that the heating energy for washing is not tapped from the exhaust air. The CSSD benefits from real energy savings and shorter cycle times. Another feature, the condensate drain, reliably prevents condensate backflow into the machine, routing condensate from the exhaust air pipe directly into the drain instead.

- 1 Exhaust air hot
- 2 Exhaust air flap
- 3 Condensate drain
- 4 Condenser with heat recovery system
- 5 Exhaust air cold
- 6 RO water cold
- 7 RO water preheated
- 8 RO water tank with heating elements
- 9 RO water hot



Innovative function

When developing the WD 200, WD 250 and WD 290, Belimed's focus was also on the protection of both patient and staff. Every detail in the machine's design provides the user with a safe and reliable operation.

Load protection: effective prevention of heat damage

A specific sensor in the wash chamber prevents instrument damage due to overheating. The defined temperatures of the selected programs are constantly measured and compared throughout the process. If a deviation occurs, the system responds immediately by switching off the heater, pump, and dryer to protect the wash load.

Docking coupler: high cleaning action

The machine and rack connect to form one whole system. A hydraulically activated docking device connects the washer and rack providing a water tight seal resulting in an improved cleaning action in comparison to many other conventional docking systems.

Self-cleaning: thorough disinfection of the entire system

To meet hygiene standards, the entire system including wash chamber and RO water preheating system, is cleaned and disinfected automatically during the defined site operational procedure downtimes. Therefore, the washer-disinfector is always in a hygienic condition for operation at all times.

Complete drainage: automatically and reliably after each program phase

The design and construction of Belimed chambers and its associated pipework eliminates the risk of carry-over between each phase of the cycle. The entire system is drained completely after each process step.

Foam monitoring: quality assurance and relieving staff workload

Contamination on the instrument or medical device from pre-treatment such as manual disinfection may lead to foaming during re-processing and impair the cleaning quality. Belimed systems automatically monitor pre-rinsing so that excessive foaming is detected and the corresponding rinse operation is automatically repeated. Monitoring relieves the CSSD staff of checking this manually and ensures that the required cleaning process is achieved.

Electrical/steam heating: selectable for stable productivity

The washer-disinfectors may be equipped with two heating systems, steam and electrical, for optimal reliability. Manual or automatic switching between both systems may be performed at any time. This provides backup to minimise any bottlenecks should the steam supply go down.

Process monitoring: active, integral system monitoring

Belimed's "Dynamic Control" is one of the most advanced monitoring technologies on the market. The monitoring covers the entire washing system and the materials to be processed without being restricted to individual machine components. This means that cleaning of critical medical devices such as hollow-bodied instruments, tubes or anaesthetic hardware, is reliably checked.

Additional process security through optional rotation control

The movement of the wash arm is monitored by an integrated sensor. If the wash arms no longer rotate correctly, an error message is triggered promptly and the current program is discontinued immediately.

Technical data	WD 200	WD 250	WD 290
Type tested according to EN ISO 15883-1 and 15883-2	■	■	■
Medical Product Certificate CE 0044, VDE, EMV, DVGW, SVGW, etc	■	■	■
Double door pass-through model with door interlock	■	■	■
Single door model with manual hinged glass door	■		
Manual hinged door with glass window	○		
Automatic vertical sliding full glass doors manufactured from safety compound glass		■	■
Wash chamber made of high quality stainless steel, AISI 316L	■	■	■
High capacity valves for fast filling with temperature control during filling for hot, cold and DI water (40 l/min)	■	■	■
Dynamic Filling system to reduce consumption	■	■	■
Dosing units for detergents (standard / optional)	2 / 2	3 / 2	3 / 2
Flow control for dosing units	■	■	■
Wash pump capacity (l/min)	625	900	1000
Foam control	■	■	■
Pump pressure monitoring (wash dynamic)	■	■	■
Wash arm rotation control			○
Easy to clean wash arms with removable end caps	■	■	■
High-capacity drain valve 5 l/s	■	■	■
Drain pump	○	○	○
Electrically heated wash chamber; heating power (kW)	18	18	22.5
Tank heating with steam heat exchanger, approx. 30 kW		○	○
Manual or automatic switch for wash chamber heating electric / steam		○	○
Electrically heated RO water tank 9 kW	○	○	○
Steam heated RO water tank ca. 9 kW at 3 bar	■	○	○
Heavy duty drying ventilators with HEPA filter H13 (capacity: m³/h)	324	500	500
Electrically heated drying unit (kW)	3.5	10.5	10.5
Steam heated drying unit 16.5 kW		○	○
Sterile filter monitoring by pressure measurement	■	○	○
Exhaust air condenser operated either by fresh water or by cooling water loop	○	○	○
Heat recovering system by condenser and RO water pre-heating	○	○	○
Exhaust air flap to prevent thermal energy loss	■	■	■
Wash chamber illumination	■	■	■
Patented status display; remaining cycle time, loading or removal readiness and error messages are displayed well visible from afar	■	■	■
Illuminated Belimed touch panel CP-TOP (H × W = 160 × 110 mm) at loading side, located behind a glass plate			■
LCD display at unloading side, black / white (H × W = 25 × 120 mm)			■
User interface with touch response, with 2 line LCD display at loading side	■		
User interface with 12 keys and touch response, with 2 line LCD display at loading side		■	
2 line display at unloading side (H × W = 25 × 120 mm)	■	■	
Recognition of coded racks	○	○	■
12 validated factory settings, programmable by user interface or by external computer	■	■	■
Disinfection by A ₀ -value	■	■	■
Temperature monitoring during complete cycle	■	■	■
Interfaces: RS 232 for printer, RS 485 for PC cycle documentation, RS 232 for barcode reader	■	■	■
Barcode reader for registering wash goods	○	○	○
Data storage of the wash goods through RFID technology			○
Built in cycle printer at loading or unloading side	○	○	○
PC cycle documentation system ICS 8535 to acquire all relevant process data		○	○
Independent process documentation (IPD) to monitor process data by independent sensors (water temperature, pump pressure and detergent dosing, conductivity control for final rinsing phase)	○	○	○
Conductivity measurement	○	○	○
Empty level indicator	○	○	○
Acoustic signal at program end	■	■	■
Peak load cut-off for electrical heater	■	■	■
Validation port for external measuring devices and sample drawing tap	■	■	■
Modem connection for remote access and diagnosis	○	○	○
Automatic maintenance reminder	■	■	■
Front covers made of stainless steel AISI 304, grinded 4N, combined with high-quality white HI-MACS® material			■
Front covers made of stainless steel AISI 304, grinded 4N	■	■	
Side panels (left / right) and base panels made of stainless steel AISI 304, grinded 4N	○	○	○
Floor tube made of stainless steel with drain and leakage sensor	○	○	○
Automatic rack transport within the machine		○	○
Automatic loading / unloading units for 1 or 2 racks (length 840 / 1640 mm)			○
Fully automated loading and unloading system WA 240			○

■ = standard / ○ = optional Subject to modification

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