

## Shorter cycle times and greater cleaning performance



WD 150: EN ISO 15883-compliant cleaning, disinfection and drying

Fast on target, with minimal effort.  
That's real efficiency.

## High cleaning performance, exceptional quality

The WD 150 automatic washer-disinfector was developed for professional use in the hospital, medical practice and laboratory fields. The superb cleaning performance and the high quality of the washing chamber and components are distinguishing features of the device. Developed in compliance with EN ISO 15883, the machine is simple to operate and ensures fast and reliable reprocessing of medical devices. The washing chamber was designed in accordance with advanced hygiene requirements and meets pharmaceutical industry standards.

### Innovation and experience as basis

As one of the leading suppliers of system solutions in cleaning and sterilization, Belimed has over 40 years of experience in developing, producing and marketing innovative systems for cleaning and sterilization in the healthcare, pharmaceutical and laboratory sectors. As newest member of Belimed's family of cleaning systems the WD 150 sets new standards with regard to process reliability and performance.

### High cleaning performance, short cycle times

The WD 150 ensures a high throughput in instruments and utensils reprocessing, even the shortest program times achieve perfect cleaning results. Features, amongst others, which make this possible are the high washing performance combined with the high performance drying system with 40% greater intensity. In addition the RO water pre-heating system enables processing times to be substantially reduced.



*Ergonomic operation: WD 150 with base for storing process chemicals and accessories*

Technical data		
Outer dimensions, under-table model, without top cover, H x W x D (mm)	860 x 900 x 700	
Outer dimensions, with base, free-standing, with top cover, H x W x D (mm)	1450 x 900 x 700	
Chamber dimensions, H x W x D (mm)	635 x 580 x 550	
Chamber volume (liters)	210	
Items to be washed	Intake capacity	Cycle time <sup>1)</sup> (min)
Surgical instruments (DIN trays 485 x 260 mm)	4/6/8	50
MIC instruments (sets)	2 – 3	55
Anaesthesia material (sets)	3	58
OR shoes (pieces)	28	45
Baby bottles (pieces)	84	50
Laboratory glassware on direct injection nozzles (pieces)	32 – 56	55

<sup>1)</sup>Cycle time applying RO water pre-heating  
Subject to modification



There are many ways to protect life.  
Ours are the most effective.

## Hygienic, standard-compliant and reliable

The safety of patients and personnel is our uppermost priority which we guarantee by ensuring reliable process quality while keeping the system simple to operate. The consistent objective of ensuring reliable operation of the device is demonstrated in every detail.

### Hygiene in a new dimension

The chamber design, with rounded corners, was specially developed to avoid cross contamination and carry-over of rinsing media. Based on pharmaceutical technology this design guarantees fast and residue-free emptying in every process step. The WD 150 thus differs fundamentally from other washers which simply use seam-welded chamber designs common in the household device sector.

### Standard-compliant – requirements of current standards fully met

The WD 150 fulfills the requirements of all applicable directives – both internationally and at the country-specific level. EN ISO 15883, the most stringent standard, was fully implemented and compliance with the standards is certified by an independent expertise from the internationally accredited HygCen test institute.

### Easy to operate

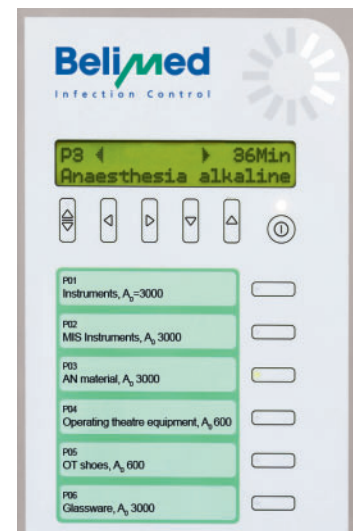
The WD 150 washer-disinfector is easy to operate; operation is intuitive and the controls are well arranged. The device fulfills all criteria for high user comfort. The program which is selected for the respective load can be started by simply pressing a button. The operator is always kept informed as to the progress of the program: important process data such as cycle processing time, program status, temperature and remaining run time are clearly indicated on the display. In addition, remaining run time, readiness for loading and unloading and error messages are shown on the patented Belimed process status display, which can be clearly seen from a distance.

### Automatic program selection

The advantage of simple and reliable operation is consistent across all modes of operation: Instead of manual program selection automatic program selection is also an option. In this process the controller identifies the respective rack via special sensors, selects the correct settings for cleaning, disinfection and drying and automatically starts the program cycle which itself is designed to be highly efficient.

### Fast and reliable data acquisition

The cycle data are printed out on a paper strip by the integrated printer which is standard. The WD 150 can also be connected up to the Belimed batch documentation system ICS 8535 for detailed paperless documentation and archiving. The cycle data can be presented in the form of a detailed cycle report and also graphically.



*Well arranged operating panel with patented process status display*



*Short cycle time, perfect cleaning quality.  
The WD 150 under-counter machine with hinged door*

# High flexibility, 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. The design ensures optimum cleaning, disinfection and drying along with short loading times. A selection from the wide spectrum of applications of the WD 150 is presented in the following.



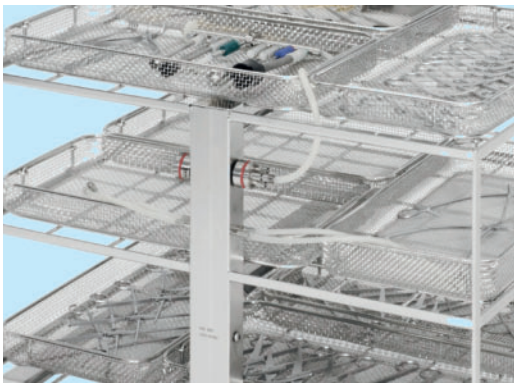
### 3-level instrument rack, art. no. 820 359

For loading with 6 standard instrument trays, H x W x D = 50 (100) x 485 x 260 mm, or 12 half size standard instrument trays, H x W x D = 50 x 243 x 260 mm; the rack is prepared for 6 Luer-Lock connection sets and 6 washing cylinders with filter for reprocessing MIS instruments.

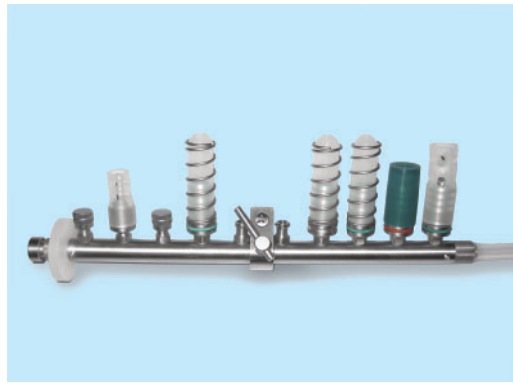


### 4-level instrument rack, art. no. 820 390

For loading with 8 standard instrument trays, H x W x D = 50 x 485 x 260 mm, or 16 half size standard instrument trays, H x W x D = 50 x 243 x 260 mm; the rack is prepared for 8 Luer-Lock connection sets and 6 washing cylinders with filter for reprocessing MIS instruments.



The instrument racks are prepared for Luer-Lock connection sets for reprocessing of MIS instruments.

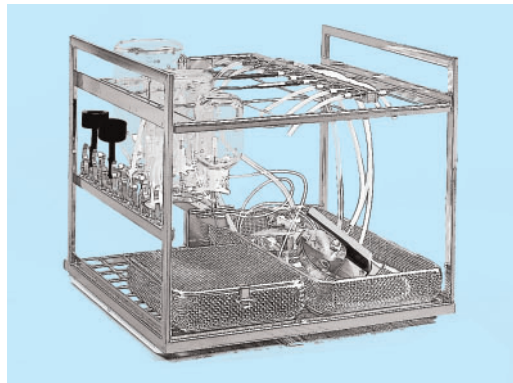


Washing terminal in form of tube with different self-closing connections for reprocessing of hollow instruments; can be adapted directly on the load carrier, is suitable for nearly all Belimed load carriers.



### MIS instrument rack, art. no. 870 064

Level 1: space for placing 2 standard instrument trays  
Level 2 (wire mesh, 11 x 11 x 1.6 mm): space for loading 2 tube reels or 2 cassettes for small parts, reprocessing of up to 52 cannulated instruments possible.

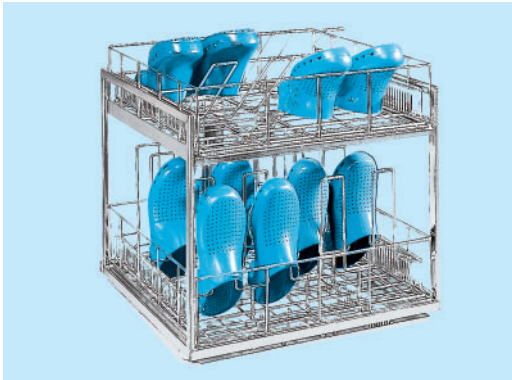


### ENT rack, art. no. 820 394

For reprocessing of ENT materials such as aspirator bottles, teflon tubes, ENT instruments and utensils.

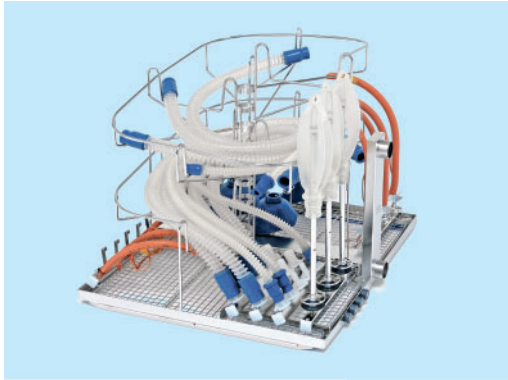


Great to be so flexible.  
But in more ways than the choice of color.

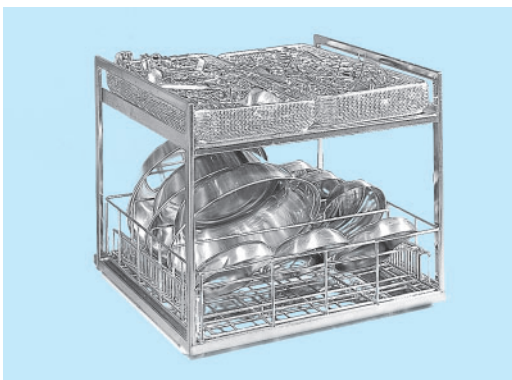


**Lower rack for OR shoes, art. no. 870 080**  
For reprocessing of 20 OR shoes, size 43.

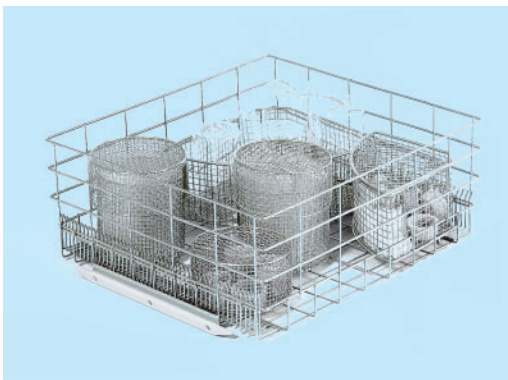
**Upper rack for OR shoes, art. No. 870 082**  
For reprocessing of 8 OR shoes, size 47.



**1-level AN rack, art. no. 870 078**  
For loading with 15 breathing tubes, 1.5 m max. (5 of these pediatric tubes), 3 suction tubes, 1.5 m max., 3 breathing bags, 5 breathing masks, 5 catheters, 5 tubes, 5 laryngeal masks, diverse nozzles, Y-pieces etc. Space for 2 cassettes for small parts.



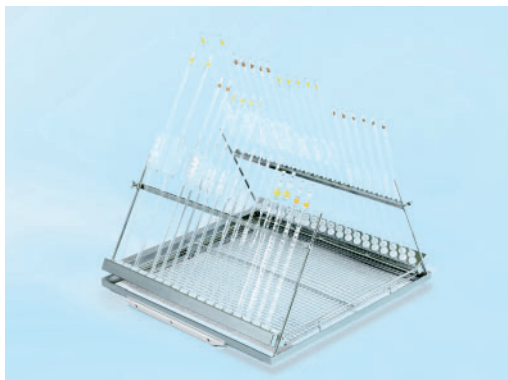
**2-level basic rack, art. no. 820 363**  
With 2 baskets and a variety of inserts with diverse subdivisions, e.g. for reprocessing of OR shoes.



**Upper basic basket, art. no. 870 086**  
**Lower basic basket, art. no. 870 084**  
**Set of rails for upper basic basket, art. no. 824 041**



**Multi-nozzle rack, art. no. 820 362**  
For intensive cleaning of diverse laboratory utensils such as volumetric flasks, measuring cylinders etc. Multi-nozzle rack with 32 nozzles (up to 56 nozzles possible), fitted with: 4 nozzles  $\varnothing$  6 mm x 200 mm, 6 nozzles  $\varnothing$  6 mm x 150 mm, 6 nozzles  $\varnothing$  5 mm x 150 mm and 16 nozzles  $\varnothing$  5 mm x 110 mm.



**Rack for pipettes, art. no. 820 366**  
For individual cleaning of 60 pipettes, also with special length up to 580 mm.



Our equipment lives just as long.  
But moves faster.

## High quality, long service life

Thanks to its robust design, the WD 150 ensures a long lifecycle. At the same time valuable medical devices are kept in good working order and flawless condition on a long-term basis thanks to gentle treatment.

Saving costs while protecting investments – Belimed caters to both aspects of high cost-effectiveness.

### Top quality, long service life

The WD 150 was designed for heavy-duty use. The high-quality materials and components used meet the highest requirements in terms of quality and longevity. For instance, the serially produced washing chamber is manufactured from 1.5 mm thick high-quality AISI 316L stainless steel which is typically used in pharmaceutical production, providing the best possible protection against corrosion caused by aggressive water and process chemicals. The piping system which has been perfected in terms of fluid engineering improves the washing performance by 20%. The sturdy stainless steel hinged door retains its extremely high resilience over a long period of use. Manufacturing is monitored by a quality management system certified in accordance with the ISO 13485 standard.

### Thorough and yet gentle reprocessing

If aggressive process conditions are required, Belimed offers a cost-saving alternative to strong oxidizing substances which is also very gentle to the material: the «Safe Efficient Cleaning Concept» based upon high alkaline cleaning agents which can be used at a higher temperature if necessary.

### High productivity through RO water pre-heating

The program phase of thermal disinfection is about to start – and the RO water required has already reached the correct temperature. This is made possible by pre-heating in a separate tank, an option which significantly reduces cycle time. An advantage in terms of time and performance in compliance with all EN ISO 15883 regulations: the tank can be completely emptied and was designed for optimized hygiene.

### A<sub>0</sub> value

The programmable microprocessor controller calculates the current A<sub>0</sub> value. As soon as the predefined value has been reached, the disinfection phase is terminated, avoiding unnecessary consumption of media and saving time. For surgical instruments a default A<sub>0</sub> value of 3000 is achieved. For more basic items to be washed, such as bowls and basins, an A<sub>0</sub> value of 600 is typically used.

### Saving resources with «Dynamic Filling»

With the unique product feature of «Dynamic Filling», Belimed actively ensures high cost-effectiveness and protection of the environment. The machines adjust the water used to the actual amount of items to be washed. If the load is small, water consumption is automatically reduced and consumption of energy and cleaning agents is reduced accordingly. At the same time the extremely quiet high-performance washing pump guarantees efficient cleaning and disinfection.



*Hygienic washing chamber design, with rounded corners, made of high quality AISI 316L stainless steel*

# Technical data

Device outfit	WD 150
Type tested according to EN ISO 15883	■
MPG, CE 0044, VDE, EMC, SVGW, DVGW	■
Single-door front loading device with door interlock	■
Stainless steel hinged door technology	■
Chamber made of AISI 316L stainless steel (execution meets pharmaceutical industry standards)	■
Fast filling valves for cold, warm and RO water with temperature control during filling	16 l/min
«Dynamic Filling» system to reduce media consumption	■
Dosing units for detergents (standard/additional as option)	2/1
Flow control for dosing units (standard/additional as option)	2/1
Wash pump capacity delivery Qmax	350 l/min
Empty level control of the process chemical containers	■
Washing system designed for eight 1/1 DIN sieve trays in 4 levels	■
Foam control	■
Washing dynamics control system	■
Drainage system with valve and pump	■
Guaranteed drainage of residual liquid to prevent carry-over of rinsing water	■
Electrical tank heating	8,5 kW
RO water pre-heating tank, electrically heated	0
High performance drying ventilator with HEPA filter H13 (load-dependent operating delivery rate)	ca. 200 m³/h
Drying system, electrically heated	3,5 kW
Monitoring of air flow to prevent overheating	■
Vapor condenser for exhaust air cooling	■
Patented process status display with LED technology	■
Foil keypad with 12 direct keys and tactile feedback	■
Selection of programs via coded racks	■
Programs freely programmable via code, program library with up to 100 standard programs	■
A <sub>0</sub> value control function and controller	■
Two-line LCD monitor display	■
Temperature monitoring: process and thermal disinfection	■
Thermal protection against overheating	■
Interfaces: RS 232 for printer, RS 485 for PC cycle documentation, RS 232 for barcode reader	■
Barcode reader for registering wash goods	0
Built in cycle printer	■
PC cycle documentation system to acquire all process data	0
Controller-independent process recording of conductivity	0
Acoustic signal at program end	■
Validation connections for external sensors	■
Device for withdrawing water samples	■
Modem for remote maintenance and diagnosis	0
Automatic maintenance reminder	■
Front, side and rear wall paneling made of AISI 304 ground stainless steel 4N	■
Stainless steel base (H = 540 mm) with drawer for chemicals	0
Machine top cover (W = 900 mm x H = 50 mm) made of stainless steel	0
Machine top cover (W = 1200 mm x H = 50 mm) made of stainless steel	0
Side cabinet (W = 300 mm x H = 860 mm) made of stainless steel for holding the RO water cartridge	0
Side cabinet (W = 300 mm x H = 860 mm) made of stainless steel for holding process chemicals	0
Connection data	
Cold water	200 - 500 kPa, ¾" -nipple
Warm water	200 - 500 kPa, ¾" -nipple
RO water	200 - 500 kPa, ¾" -nipple
Drain	ID 19, siphon on building side
Electrical connection	400 V 3N AC 50 Hz, 10.5 kW, 16A
Additional connection (not mandatory)	
Connection to building exhaust air system DN50	DN50

■ = standard 0 = optional  
 Subject to modification

[www.belimed.com](http://www.belimed.com)

#### **AUSTRIA**

Belimed GmbH  
Grüne Lagune 1  
8350 Fehring  
Tel. +43 3155 40 699 0  
Fax +43 3155 40 699 10  
info@belimed.at

#### **BELGIUM**

NV Belimed SA  
Rue de Clairvaux 8  
1348 Louvain-La-Neuve  
Tel. +32 10 42 02 40  
Fax +32 10 42 02 49  
info@belimed.be

#### **CHINA**

Belimed Medical Equipment  
(Shanghai) Co., Ltd  
CaiLun Road 780,  
5<sup>th</sup> floor, Room H  
ZhangJiang Hi-Tech Park  
201203 Pudong, Shanghai  
Tel. +86 21 513 709 98  
Fax +86 21 513 709 96  
info@belimed.cn

#### **FRANCE**

Belimed SAS  
Parc GVIO  
330 Allée des Hêtres, Hall E  
69760 Limonest  
Tel. +33 4 37 41 63 03  
Fax +33 4 37 41 63 04  
info.pharma@belimed.fr

Branch Office  
Belimed SAS  
ZAC Saumaty Séon  
19 rue Gaston Castel  
13016 Marseille  
Tel. +33 4 96 15 22 10  
Fax +33 4 96 15 22 19  
info.sud@belimed.fr

Branch Office  
Belimed SAS  
Parc Espale  
1, av. Pierre Pflimlin  
68390 Sausheim  
Tel. +33 3 89 63 65 40  
Fax +33 3 89 63 65 41  
info@belimed.fr

#### **GERMANY**

Belimed Deutschland GmbH  
Edisonstrasse 7a  
84453 Mühldorf am Inn  
Tel. +49 8631 9896 0  
Fax +49 8631 9896 300  
info@belimed.de

Branch Office West  
Belimed Deutschland GmbH  
Emil-Hoffmann-Strasse 27  
50996 Köln  
Tel. +49 2236 9642 0  
Fax +49 2236 9642 200  
info.west@belimed.de

#### **NETHERLANDS**

Belimed B.V.  
Vlambloem 65  
3068 JG Rotterdam  
Tel. +31 10 286 17 50  
Fax +31 10 456 56 97  
info@belimed.nl

#### **SLOVENIA**

Belimed d.o.o.  
Taborska cesta 38 E  
1290 Grosuplje  
Tel. +386 1 7866 000  
Fax +386 1 7866 011  
info@belimed.si

#### **SWITZERLAND**

Belimed Sauter AG  
Zelgstrasse 8  
8583 Sulgen  
Tel. 0848 55 88 11  
Fax +41 71 644 86 01  
contact@belimed.ch

#### **UNITED KINGDOM**

Belimed Limited  
Unit 4 Newbuildings Place  
Dragons Green Road  
Shipley  
West Sussex, RH13 8GQ  
Tel. +44 1403 738 811  
Fax +44 1403 730 830  
info@belimed.co.uk

#### **USA**

Belimed, Inc.  
2284 Clements Ferry Road  
Charleston, SC 29492  
Tel. +1 843 216 7424  
Fax +1 843 216 7707  
info@belimed.us

#### **OTHER COUNTRIES**

Medical/Medical Lab  
Belimed AG  
Dorfstrasse 4  
6275 Ballwil  
SWITZERLAND  
Tel. +41 41 449 78 88  
Fax +41 41 449 78 89  
info@belimed.ch

#### **OTHER COUNTRIES**

Pharma/Pharma Lab  
Belimed Sauter AG  
Zelgstrasse 8  
8583 Sulgen  
SWITZERLAND  
Tel. +41 71 644 85 00  
Fax +41 71 644 86 01  
pharma@belimed.com