

## Unique flexibility in the smallest of spaces – Standard-compliant endoscope and instrument reprocessing



WD 425: Washer-disinfector for reprocessing endoscopes, accessories, instruments and other medical devices in accordance with EN ISO 15883-1, -2 and -4

# Standard-compliant reprocessing of endoscopes

Endoscopic examinations and interventions are today indispensable for diagnostics and therapy. The quality of endoscope reprocessing is particularly important in this context. Effective prevention of infection transmission from the patient to the endoscopy personnel or to other patients through contaminated endoscopic instruments is essential.

## Infection prevention in gastroenterology

The best and safest way of reprocessing endoscopes is, according to the HYGEA survey (Hygiene in Gastroenterology – Endoscopic Reprocessing), manual pre-cleaning immediately after use on the patient. This is also emphasized by acknowledged guidelines, bodies such as the Robert Koch Institute and various gastroenterological societies. This should be followed by fully automatic, chemo-thermal reprocessing of the endoscopes, including final rinsing with thermally disinfected water.

## High capacity and cleaning performance

As one of the leading suppliers of system solutions in the field of infection prevention, Belimed has developed the cost-effective WD 425 washer-disinfector especially for medical practices and hospitals. With simultaneous reprocessing of up to 3 endoscopes, it enables a high turnover. The endoscope channels are each individually cleaned, disinfected and dried. With its high cleaning performance, WD 425 fully meets the requirements for standard-compliance.



*The WD 425 is available as under-bench machine (left) or mounted on a base designed to allow for ergonomic loading height (right).*



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

## High flexibility

One device for everything. Whether for reprocessing flexible or rigid endoscopes, surgical or MIS instruments, anesthesia materials or equipment – WD 425 convinces by its broad range of applications.

### Flexible application

WD 425 is suitable in any situation where both endoscopes and a wide variety of medical devices have to be reprocessed within extremely limited space. The broad range of application of WD 425 enables real cost savings. Both chemo-thermal procedures for endoscopes as well as thermal procedures for instruments can be applied. WD 425 is suitable for reprocessing all types of commercially available endoscopes from a wide range of manufacturers.

### Procedures using glutaraldehyde or peracetic acid

WD 425 is perfectly equipped for heavy-duty use. Thanks to high-quality components and parts, various procedures using peracetic acid or glutaraldehyde can be applied. Confirmation of compatibility of materials must be obtained from the endoscope manufacturers prior to reprocessing.

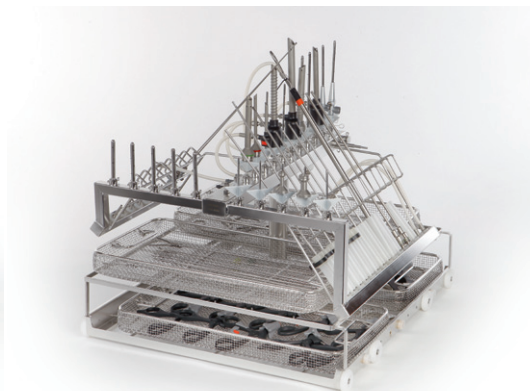
### Simple installation

The automated endoscope reprocessor WD 425 is easy and fast to install. Apart from water, RO water, drainage and electrical power, no further connections are required. The exhaust-air condenser is integrated as standard. Optional connection to the building exhaust-air system is also possible.

*3-level rack for 3 flexible endoscopes*



*MIS rack*



*8 DIN tray rack*



# Hygienic, safe and reliable

Our top priority is to protect patients and personnel. This we ensure through reliable process quality and simple operation. Our consistent endeavor to ensure safe and reliable operation of the device is revealed in every detail.

## A new dimension of hygiene

Each channel is individually cleaned and disinfected by the Belimed channel rinsing system which thereby ensures a hygienically flawless cleaning result. The new chamber design with rounded corners was especially developed to prevent cross-contamination and carry-over of rinsing media. The standard washing chamber is made of high-quality 316L stainless steel. This design, which is based on pharmaceutical technology, ensures fast and residue-free drainage in every process step.

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

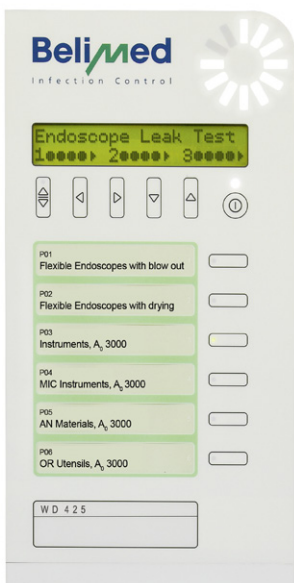
Verified and certified by an independent hygiene institute – WD 425 meets the requirements of all applicable guidelines – both at the international and at the country-specific level. EN ISO 15883, parts 1, 2 and 4, as most important standard, has been fully implemented.

## Simple, safe and reliable operation

Operation of the endoscope reprocessor WD 425 is simple, intuitive and well arranged. It fulfills all criteria for high user comfort. Just pressing one button is enough to start the appropriate program. Important process data such as cycle time, program status, temperature and remaining cycle time are indicated on the display in clearly readable form. Remaining cycle time, loading or removal readiness and error messages are additionally displayed via our patented status display that is well visible from afar.

## Automatic program selection and economic process cycle

The benefit of simple, safe and reliable operation is systematically optimized: automatic instead of manual program selection is optionally available. When automatic program selection is activated, the control identifies the respective rack using special sensors and automatically begins the cleaning process, based on rack identification.



Easy and ergonomic operation: the operating panel is located at the optimal height from an ergonomic point of view.



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

**Validated final rinse – recontamination ruled out**

Disinfected RO water is used for the final rinse, as recommended by the Robert Koch Institute (RKI). This ensures consistent quality of the final rinse water and effectively prevents recontamination of the endoscopes. The process, including indirect re-cooling, takes place in parallel to the ongoing cleaning process. Cycle times can thus be shortened by about 15 minutes.

**A<sub>0</sub> value-controlled thermal disinfection**

For surgical utensils and instruments, an A<sub>0</sub>-value of 3000 is normally accepted. Once this value has been reached, the controller terminates the disinfection phase. Approx. 5 minutes of processing time and 0.75 kWh of electrical energy per cycle can thus be saved compared to the previously customary control by temperature and time.

**Consistent data monitoring**

The essential program data are monitored by means of the printer that is integrated as standard. For paperless documentation and archiving, WD 425 can be connected up to the Belimed ICS 8535 cycle documentation system. The cycle data can be presented graphically or in form of a detailed cycle report.

**Fast data recording**

The use of barcode scanners enhances the efficiency and reliability of data recording – the barcodes on the endoscopes can be read in within a matter of seconds. The data are automatically recorded and documented and can thus be clearly retraced.



*Flexible individual endoscope-channel connection concept: endoscopes from all manufacturers can be easily and quickly connected up.*



*High cleaning performance: The endoscope channels are each individually cleaned, disinfected and dried.*



That's true greatness.  
Often concentrated in the smallest of spaces.

## Maximum capacity in the smallest space

Compact design with high turnover: WD 425 is the most powerful and most compact automated washer-disinfector in its class. Up to 3 endoscopes or 8 DIN instrument trays can be reprocessed simultaneously.

### Professional reprocessing – even under conditions of limited space

The WD 425 endoscope reprocessor combines high technology with an extremely compact design. Only 90 cm wide and measuring 70 cm in depth, the machine features an excellent relationship between payload space and room space required.

### Greater efficiency due to pre-loading outside the machine

Only a limited number of endoscopes is available in an endoscopy department, and it is thus all the more essential that endoscopes are reprocessed quickly so that they can be used again. An important precondition for this is that the capacity of the washer-disinfector is optimally utilized. The flexible loading system allows the WD 425 device to be utilized continuously. There are no downtimes due to loading. The endoscopes can already be loaded onto the racks and connected up to the individual channels in advance outside the machine. Thus, they are immediately ready for the next reprocessing cycle.

### Technical Data

Dimensions	
Outer dimensions, under-bench model, without cover, H x W x D (mm)	860 x 900 x 700
Outer dimensions, with base, free-standing, with 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
Flexible endoscopes (pieces)	3
Rigid endoscopes (pieces)	36
MIS instruments (sets)	2 – 3
Surgical instruments (DIN trays)	4/6/8
Endoscope accessories	on 2 tiers
Anesthesia material (sets)	3

For more technical data, see page 7



*The endoscopes can already be loaded in advance outside the machine. This saves time and costs.*

# Technical Data

Equipment	WD 425
Type tested according to EN ISO 15883-1, 2, 4	■
Medical product certificate CE 0044, VDE, EMV, DVGW, SVGW	■
Front-loading single-door model with door interlock	■
Manually operated full-glass hinged door made of safety glass	■
Wash chamber made of high quality stainless steel 1.4404 (AISI 316L); execution meets pharmaceutical industry design	■
Wash chamber illumination	■
Fast-filling valves for cold, warm and RO water with temperature control during filling (16L/min)	■
«Dynamic Filling» system to reduce media consumption	■
Procedures using glutaraldehyde or peracetic acid	■
Dosing pumps for cleaning agents and disinfectants (standard/additional as an option)	2/1
Flow control for dosing units (standard/additional as an option)	2/1
Empty level control of process chemical containers (standard/additional as an option)	2/1
Washing system designed for 3 flexible endoscopes with 7 channels each	■
Washing system designed for 8 DIN instrument trays on 4 levels	■
Leakage test for 3 endoscopes	■
Foam control system	■
Drainage system with valve and pump	■
Guaranteed drainage of residual liquid to prevent carry-over of rinsing water	■
Electrically heated tank (kW)	8.5
Thermal RO water disinfection with re-cooling function	■
High-performance drying ventilator with HEPA filter H13 (operational capacity in m <sup>3</sup> /h)	approx. 200
Drying system, electrically heated (kW)	3.5
Air flow surveillance to avoid 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	■
A <sub>0</sub> value control function and controller for thermal programs	■
Two-line VFD monitor display	■
Temperature monitoring for control and surveillance	■
Thermal protection against overheating	■
Interfaces: RS 232 for printer and barcode reader, RS 485 for PC cycle documentation	■
Barcode reader for recording goods to be cleaned	0
Built in cycle printer integrated into front side of device	■
PC cycle documentation for recording and archiving all process data	0
Independent process data monitoring using redundant sensor system	■
Controller-independent process recording of conductivity	0
Acoustic signal at program end	■
Validation nozzle for external sensors	■
Device for taking water samples	■
Modem for remote maintenance and diagnosis	0
Automatic maintenance reminder	■
Front, side and rear paneling made of AISI 304 stainless steel, smoothed, 4N	■
Stainless steel base (H = 540 mm) with drawer for chemicals	0
Machine top cover (W = 900 mm × H = 50 mm) made of stainless steel	0
Machine top cover (W = 1200 mm × H = 50 mm) made of stainless steel	0
Storage cabinet (W = 300 mm × H = 860 mm) made of stainless steel, for storing the RO water cartridge	0
Storage cabinet (W = 300 mm × H = 860 mm) made of stainless steel, for storing process chemicals	0
Floor pan with leakage sensor	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	DI 19, with 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	DN 50

■ = Standard, 0 = Optional

Subject to modification

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