

# CLEVAER G45

AUTOMATIC ENDOSCOPE REPROCESSOR



The CLEVAER G45 automatic endoscope reprocessor stands out for its innovative antibacterial coating, which represents a proactive approach to infection control. This advanced feature offers improved protection against microbial contamination and cross-infection, helping to improve standards in healthcare facilities. By investing in technologies such as the G45, CLEVAER enables healthcare facilities to effectively combat the risk of healthcare-associated infections (HAIs) while extending the life of critical medical devices. In light of developments in the healthcare sector, the integration of antibacterial coatings into the CLEVAER automatic endoscope reprocessor is an important step towards promoting safer and more efficient medical procedures.

**Flexible endoscopes are particularly difficult to clean and disinfect due to:**

- Their complex internal channels and narrow lumens.
- Delicate materials that can be damaged by aggressive sterilisation methods.
- High-level disinfection is often used instead of sterilisation, which requires meticulous cleaning prior to disinfection.

**For proper reprocessing of flexible endoscopes, a standardised 6-step process** must be followed to ensure patient safety and effective infection control.

**A key step in this process is the use of automated endoscope reprocessing systems, which play a vital role by providing:**

- Consistent and reproducible disinfection
- Standardised and validated processes
- Reduced risk of human error

All of this contributes significantly to **improving patient safety and preventing infections.**

Improper reprocessing can lead to the transmission of pathogens, causing infections and epidemics.





**CLEVAER G45 is a new generation of automatic endoscope reprocessors that set a new benchmark in terms of safety, performance and compliance.**

- **Certified and compliant** – Compliant with standards UNI EN ISO 15883-1:2014, UNI EN ISO 15883-4:2019, UNI EN ISO 15883-5:2021, UNI EN ISO14937, with MEDICAL DEVICE class IIb, CE marked.
- **Advanced reprocessing** – Performs washing, high-level disinfection (HLD) and chemical sterilisation for heat-sensitive endoscopes.
- **Optimised costs and efficiency** – Superior cycle performance, reduced use of chemicals and energy-efficient operation.

## Why choose CLEVAER G45?



### 1. Safety – uncompromising protection for operators, patients and equipment

#### (I) Operator safety features

- Automated door with foot pedal activation for hands-free operation
- Airtight door closure to prevent leaks
- Closed circuit system to eliminate the risk of chemical or fume leaks into the environment
- Integrated activated carbon filter to remove toxic fumes generated by PAA.

#### (II) Device safety features The G45 is designed with advanced protection systems to safeguard equipment, endoscopes and operators. These include:

- Anti-corrosion system
  - Made with materials resistant to peracetic acid (PAA)
  - Scheduled replacement of components to prevent long-term damage
  - Cold disinfection process to reduce corrosive effects
- Anti-contamination system
  - Chemical and thermal self-disinfection for guaranteed continuous hygiene
  - Non-return valves to prevent contamination risks
  - Separate water filling and emptying system for greater sterility
  - Smooth, easy-to-clean surfaces, compatible with commercial detergents
  - Instruments, washing machine and barcode gun with antimicrobial coating, compliant with ISO 22196

#### (III) Endoscope safety features

- Watertight door closure with a soft silicone sleeve to protect delicate instruments
- Continuous temperature monitoring throughout the entire reprocessing cycle
- Controlled maximum temperature of 45 °C to preserve the integrity of the endoscope
- Audible and visual alarm system to detect channel disconnections or obstructions
- Real-time monitoring of internal pressures in each individual channel of the endoscope

## 2. Use of water and chemicals – cost-effective and sustainable

- (I) Requires only cold drinking water – no hot water needed.
- (II) Uses only two chemicals (detergent and PAA), reducing management and costs

## 3. Fast and efficient cycles

- Processes up to 3 endoscopes per hour/chamber (depending on tank filling time and boiler heating time).

## 4. Integrated self-disinfection

- Thermal and chemical self-disinfection fully compliant with EN 15883-4.

## 5. Drying process

- No additional air supply required.
- The integrated drying technology of the G45 eliminates this need, reducing energy consumption and operating costs.

## 6. Single-channel control

A separate, autonomous pumping system for each of the 6 endoscopic channels, with pressure sensors that detect any missing connection/disconnection/occlusion in each channel.

## 7. Fully integrated traceability and digital monitoring

- Integration with barcode scanners for complete endoscope monitoring.
- Integrated printer for paper documentation of reprocessing cycles.
- Intelligent sensor system for real-time online work reports.

## 8. Remote control: ensuring operational continuity

- Real-time remote monitoring allows service teams to diagnose problems immediately.
- Minimises downtime by enabling targeted maintenance and rapid troubleshooting.
- Optimises workflow efficiency for hospitals and clinics.

## 9. Environmental sustainability with Gandy-45

- Reduced chemical and water consumption minimises environmental impact.
- Environmentally friendly materials and energy-efficient operation support sustainable healthcare practices.
- Minimal waste production thanks to optimised process cycles.
- No additional air supply is required, reducing energy consumption.
- Remote control reduces environmental impact by minimising unnecessary travel for maintenance, resulting in reduced carbon footprint reduction and sustainable equipment management.

## CLEVAER G45 - Cleaning and disinfecting solutions



**ECOSTERIL-F PLUS** is a high-level disinfectant, decontaminant, anti-depositing and descaling solution, suitable for the treatment of endoscopes using automatic instrument washers in healthcare environments. ECOSTERIL-F PLUS is a Class IIb medical device with CE marking in accordance with Par. 5.3.1 of Standard UNI EN 14937:2009.

**ECO ZYME** is a concentrated multi-enzymatic detergent solution, specifically designed for automatic instrument washers in hospitals, clinics, nursing homes, dental and veterinary practices. Thanks to the presence of antioxidants, it has no corrosive properties.



## CLEVAER G45 - Cleaning and disinfecting solutions



### DESCRIPTION OF THE MULTI-ENZYMATIC CLEANER

ECO ZYME is a concentrated multi-enzymatic cleaning solution specifically designed for automatic instrument washers in hospitals, clinics, nursing homes, dental practices and veterinary clinics. Thanks to the presence of antioxidants, it has no corrosive properties. ECO ZYME is a CE-marked medical device.

### COMPOSITION

Multi-enzyme mixture, surfactants, sequestrants, corrosion inhibitors, treated water 100.0 g.

### DIRECTIONS

Select the endoscope reprocessing programme as indicated by the machine manufacturer. The dosage is managed entirely by the machine via an integrated pump (Single-Shot).

ECO ZYME is supplied in 5000 ml containers.

### DESCRIPTION OF THE DISINFECTANT

ECOSTERIL-F PLUS is a high-level disinfectant, decontaminant, anti-depositing and descaling solution, suitable for the treatment of endoscopes using automatic instrument washers in healthcare environments. ECOSTERIL-F PLUS is a Class IIb medical device with CE marking in accordance with Par. 5.3.1 of Standard UNI EN 14937:2009.

### INSTRUCTIONS FOR USE

Select the endoscope reprocessing programme as indicated by the machine manufacturer. The dosage is managed entirely by the endoscope via an integrated pump (Single Shot).

ECOSTERIL-F PLUS is supplied in 5000 ml containers.



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