Cleaning and disinfection protocol

COBB flexible veterinary endoscopes

Ø12 mm gastroscope and Ø8.2 mm bronchoscope

Revision 3 dated 24 September 2026

Instructions for use and maintenance

This procedure distinguishes gastrointestinal use from use in the respiratory tract. The respiratory cycle applies to both models when used in the respiratory tract.

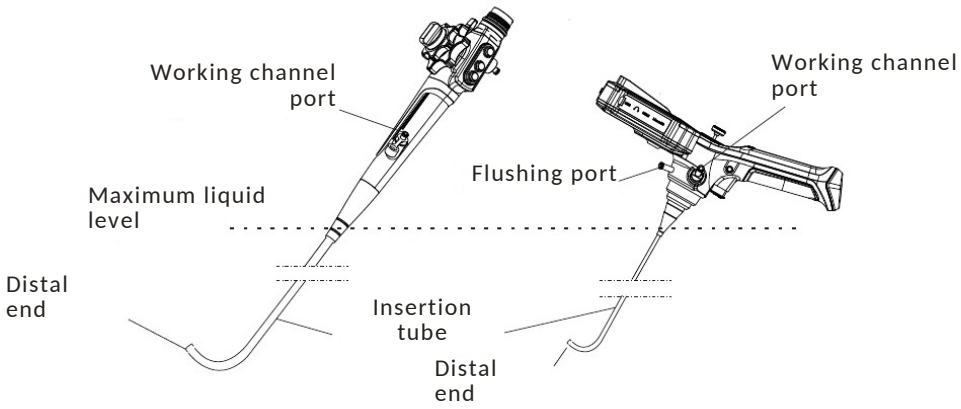
Scope

This procedure covers the two partially immersible VTN models specified above. It is based on the COBB protocol and the supplier's written responses. It does not automatically apply to other models or to fully immersible versions.

The cycle comprises pretreatment, cleaning, rinsing, disinfection, final rinse, drying and storage.

Immersible and non-immersible sections

Only the section from the distal end to the base of the insertion tube is immersible. The handle, monitor and all other components must remain outside the liquid, supported and protected against drips and liquid ingress.



1 Pretreatment

Start pretreatment immediately after removing the endoscope from the animal.

1. Switch off the equipment.
2. Remove contaminants from the surface using a cloth or disposable paper.
3. Repeatedly pass air and water through the respective circuits for at least 10 seconds, observing the pressure limits stated in section 3.
4. Transfer the instrument to the cleaning and disinfection area.

Indicative duration stated by the manufacturer: 1-3 minutes.

Complete pretreatment and start cleaning within 15 minutes of removing the instrument from the animal.

Biological residues, hair and tissue may dry and adhere to surfaces and channels, making subsequent cleaning more difficult.

2 Cleaning

Cleaning must always precede disinfection. The detergents and parameters below are transcribed from the COBB protocol. Also follow the instructions for use of the products actually used.

Detergent	Concentration	Immersion	Temperature
ENDOZIME AW Triple Plus with APA Code 34521	Approx. 0.4%	2 minutes	20-40 °C
CIDEZYME Enzymatic Detergent Solution	0.8-1.6%	1-3 minutes	20-40 °C

CIDEZYME is specified as an alternative to ENDOZIME. Excessive temperatures may inactivate the enzymes; follow the detergent instructions.

Cleaning the immersible section

1. Prepare the detergent solution and immerse only the permitted section.
2. Manually brush all channels with a suitable cleaning brush. Pass the brush out through the opposite end and remove the collected residues.
3. Circulate the detergent solution through all channels using a pump and repeatedly wipe the tube with a dedicated cloth.

2 Cleaning and instrument inspection

Continued cleaning of the immersible section

1. Continue brushing until visible contaminants have been removed. After brushing, observe the immersion time specified for the selected detergent.
2. Visually inspect the distal end, bending section and insertion tube for damage.
3. Replace the cloth and detergent solution after each use.

Indicative total duration stated by COBB: 5-10 minutes, including the detergent immersion time.

Cleaning the non-immersible section

Clean all accessible external surfaces of the handle and monitor with a cloth moistened with detergent solution. The liquid must not drip or enter the equipment.

Indicative duration: 1-3 minutes.

3 Rinsing after cleaning

1. Thoroughly rinse all channels until all detergent residues have been removed.
2. Rinse the immersible section under running water.
3. Pass air through the channels to remove residual water.
4. Dry the external surfaces with a clean cloth, preventing liquid ingress into the handle and monitor.

Fluid	Confirmed maximum pressure
Air	50 kPa = 0.5 bar
Water	200 kPa = 2 bar

These values are maximum limits, not pressures that must be reached. Do not exceed them.

Indicative rinsing duration: 2-4 minutes.

Always inspect the instrument before treatment; do not use an endoscope that is damaged or functioning abnormally.

4 Disinfection

Apply the gastrointestinal cycle when the instrument is used exclusively in the gastrointestinal tract. Apply the respiratory cycle to both models when used in the respiratory tract. The respiratory cycle is one and a half times the base duration in the COBB protocol.

Disinfectant and composition	Gastrointestinal use	Respiratory use	Temperature
STERANIOS 2% Glutaraldehyde 2%, pH 6 Ready to use	20 min	30 min	20-25 °C
CIDEX OPA Ortho-phthalaldehyde 0.55% Ready to use	10 min	15 min	20-25 °C
Revital-Ox RESERT HLD Hydrogen peroxide 2.0% w/w Ready to use	10 min	15 min	20-25 °C

The respiratory times already include the factor of 1.5. They must not be multiplied again and do not indicate cycles to be repeated.

The extended time for respiratory use takes into account possible contact with thick secretions and more resistant microorganisms, as clarified by the manufacturer. Always use the product in accordance with its label and the instructions applicable in the destination market.

Treatment of the immersible section

1. Complete cleaning and rinsing before disinfection.
2. Fully immerse only the permitted section in the specified solution. Keep the handle and monitor outside the liquid.
3. Ensure that the solution contacts all channels to be treated and eliminate air pockets.
4. Start timing once the surfaces and channels are in full contact with the solution. Apply the time specified in the table.

Check the solution concentration, temperature, reuse and replacement according to the selected product's instructions.

Treatment of the non-immersible section

Clean accessible external surfaces with a cloth moistened with disinfectant, avoiding liquid ingress. Keep the surfaces wet for the contact time specified for the selected disinfectant; COBB states an operating duration of 2-4 minutes.

5 Final rinse

Remove disinfectant from the surfaces and all channels, observing the 200 kPa water pressure limit and keeping the handle and monitor outside the liquid.

Use purified or sterile water for the final rinse of the immersible section. For respiratory tract use, use sterile water for the final rinse. Also observe the number of rinses, water volume and duration required by the selected disinfectant's instructions.

Specific check for CIDEX OPA

With CIDEX OPA, perform three separate rinses with fresh water, keeping the permitted section immersed for at least one minute during each rinse and rinsing all lumens with copious water. Do not immerse the handle or monitor.

With STERANIOS 2% or RESERT, perform internal and external rinsing according to the product instructions; do not automatically apply the CIDEX cycle to other products.

Rinsing the non-immersible section

COBB specifies a cloth moistened with purified or sterile water to remove disinfectant from accessible external surfaces, without liquid ingress. Indicative duration: 1-3 minutes. Check this method together with the treatment of non-immersible surfaces in section 4.

6 Drying

1. Place the endoscope on a support covered with a sterile drape; the COBB protocol requires the drape to be replaced every 4 hours.
2. Pass air through the channels for at least 30 seconds, until completely dry, without exceeding 50 kPa.
3. Dry the external surfaces with a sterile drape.

Indicative duration: 2-5 minutes. The indicative time does not replace verification of complete drying.

7 Storage and preparation for reuse

At the end of the working day, store the completely dry endoscope in a dedicated cabinet. Before use on the following day, repeat disinfection, final rinse and drying according to the approved cycle. COBB has confirmed this instruction for all VTN models.

References

This procedure combines the COBB protocol with the clarification on respiratory tract use and the operating instructions for the products cited.

Manufacturer’s documents

- VTN Cleaning and Disinfection (PDF), three pages, version received by COBB. The copy has no visible revision code or issue date.
- COBB’s responses to the five COBB questions in the email exchange provided by the user: confirmation of the two models, the 1.5-2 range for the bronchoscope, pressure limits and treatment before use on the following day. Chemical compatibility is stated subject to avoiding prolonged immersion.

Product documents

Keep the applicable instructions for the products actually used together with this protocol, including information on concentration, testing, reuse, rinsing and disposal.

ASP CIDEX OPA Instructions in Italian printed pages 33-42

ASP Instructions for use library

Ecolab STERANIOS 2% European product data sheet

STERIS Revital-Ox RESERT HLD Product documentation

User responsibilities

The user must wear appropriate personal protective equipment, prepare and replace solutions as specified in the relevant instructions, record the required checks and discontinue use if there is visible damage or abnormal operation.

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