



Disinfectants and Cleaning Solutions for Ultrasound Systems and Transducers

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1 Read This First

The user information for your VINNO product describes the most extensive configuration of the product, with the maximum number of options and accessories. Some functions described may be unavailable on your product's configuration.

Transducers are available only in countries or regions where they are approved. For information specific to your region, contact your local VINNO representative.

This manual lists the disinfectants and cleaning solutions that are compatible with your VINNO ultrasound systems and transducers. The information in this manual is applicable to the following ultrasound systems:

- G86 series
- G80 series
- G50 series
- E20 series
- VINNO 8 series

For information about VINNO ultrasound systems or transducers that are not specially mentioned in this document, see your system's User Manual, which contains information that is specific to your system and transducers.

Always follow the manufacturer's instructions when using disinfectants and cleaning solutions. Because of the large number of available cleaning and disinfection products, it is impossible to have an all-inclusive list. If you are unsure of the suitability of a particular product, please contact your VINNO representative for more information.

For a list of the transducers supported by your system, see your system specification, which contains information that is specific to your system and transducers.

For more information, Call VINNO at 0086-512-62873806.

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reduce the ability of VINNO to provide accurate and current information to users.

Warning Symbols

The system may use the following warning symbols. For additional symbols used on the system, see the "Safety" section in your system User Manual.

Warning Symbols

	General Warning Sign.	Rear of unit
	MUST read the document accompanying the device!	Rear of unit
	Warning: dangerous voltage. This is a warning mark for an electric shock hazard to indicate there is a potential electric shock risk.	Rear of unit
	Do not put hands here. There is a risk of hands crush.	Rear of console

Customer Comments

If you have questions about the user information, or you discover an error in the user information, please call your local VINNO customer service representative.

Customer Service

Customer service representatives are available worldwide to answer questions and to provide maintenance and service. Please contact your local VINNO representative for assistance. You can also contact the following office for referral to a customer service representative, or visit this "Contact Us" website:

Website: www.vinno.com

Email: vinno@vinno.com

Tel: +8651262873806

Fax: +8651262873801

2 Safety

Read the information included in this section to ensure the safety of all persons operating and maintaining ultrasound equipment, all patients participating in exams, and to ensure the quality of the system and its accessories.

Warnings and Cautions

When using the cleaners and disinfectants, observe the following warnings and cautions:



WARNING

Not all disinfectants are effective against all types of contamination. Ensure that the disinfectant type is appropriate for the specified system or transducer and that the solution strength and time of contact are appropriate for the intended clinical use.



WARNING

Disinfectants are recommended because of their chemical compatibility with product materials, not their biological effectiveness. For the biological effectiveness of a disinfectant, see the guidelines and recommendations of the disinfectant manufacturer, the U.S. Food and Drug Administration, and the U.S. Centers for Disease Control.



WARNING

If a pre-mixed solution is used, be sure to observe the solution expiration date



WARNING

The level of disinfection required for a device is dictated by the type of tissue it will contact during use. Ensure that the disinfectant type is appropriate for the type of transducer and the transducer application. For more information, see the disinfectant label instructions and the recommendations of the Association for Professionals in Infection Control, the U.S. Food and Drug Administration, and the U.S. Centers for Disease Control.

**WARNING**

Always use protective eyewear and gloves when cleaning, disinfecting, or sterilizing any equipment.

**Caution**

Using non-recommended disinfectants, using incorrect solution strengths, or immersing a transducer deeper or longer than recommended can damage or discolor the transducer and voids the transducer warranty.

**Caution**

The use of isopropyl alcohol (rubbing alcohol), denatured ethyl alcohol, and alcohol-based products on all transducers is limited. Ensure that the solution is only 91% or less isopropyl alcohol or 85% or less denatured ethyl alcohol. Do not clean any other part of a transducer with alcohol (including cables or strain reliefs), because it can damage those parts of the transducer. This damage is not covered by the warranty or your service contract.

**Caution**

Some cleaning and disinfectant products may result in discoloration if residual

disinfectant and gel have not been completely removed between each use. Always remove gel completely before using cleaners and disinfectants. If necessary, where compatible for use,

70% isopropyl alcohol may be used to remove residue buildup on system components.



Caution

Do not apply adhesive films, such as Tegaderm, to the transducer lens. Application of such films can damage the lens.

Glutaraldehyde Exposure

The United States Occupational Safety and Health Administration (OSHA) has issued a regulation covering levels of acceptable glutaraldehyde exposure in the working environment. VINNO does not sell glutaraldehyde-based disinfectants with its products, but this type of disinfectant is recommended for the disinfection of transducers used in intraoperative, endocavity, needle guidance, and biopsy procedures.

To reduce the presence of glutaraldehyde fumes in the air, be sure to use a covered or ventilated soaking basin. Such systems are commercially available.

3 Disinfectants and Cleaning Solutions

The following topics list the disinfectants and cleaning solutions that are compatible with your VINNO ultrasound system and transducers.

Disinfectants and Cleaners for System Surfaces

The compatibility of disinfection and cleaning solutions varies depending on the item on which they are used.

All Systems

The products in the following table are compatible with these system surfaces:

- ECG trunk cables, leads, and electrodes
- External plastic and painted surfaces of system and cart
- System control panel
- Touch screens and monitor screens
- Easy-clip transducer cable managers
- System control panel

Cleaning Solutions for All Surfaces	Cleaning Solutions for Touch Screens and Monitor Screens	Disinfectants for System Surfaces and Touch Screens
<p>Mild soap solution</p>	<ul style="list-style-type: none"> • Mild soap solution¹ • Cleaners designed for LCDs or OLEDs • Purified water 	<ul style="list-style-type: none"> • 70% isopropyl alcohol (IPA)

1. Mild soap solutions do not contain any harsh ingredients and are not irritating to the skin. They must not contain fragrance, oils, or alcohols. Hand sanitizers are not approved for use.



Caution

Do not use abrasive cleaners, or acetone, MEK, paint thinner, or other strong solvents on the system, peripherals, or transducers.



Caution

On display screens, do not use glass cleaners or products containing bleach. Immediately wipe away disinfectants or cleaners to prevent residue buildup.



Caution

Do not spill or spray liquid into any system seams, ports, or transducer receptacles.



Caution

On display screens, use microfiber cloth; do not use paper towels.



Caution

System surfaces and transducers are resistant to ultrasound gel, alcohol, and disinfectants, but if you use those substances, you must wipe them off to prevent permanent damage.

Guidelines for ARs (Automated Reprocessors)

Only some transducers are compatible with an automated reprocessor (AR), and the AR can use only specific solutions or processing conditions. You can reprocess VINNO transducers in an AR, if the following criteria are met:

- All chemicals and processing conditions used must be compatible with the specific VINNO transducer model being reprocessed, and they must be used under the conditions recommended by the AR manufacturer.
- The temperature used during reprocessing must not exceed 55°C (131°F).
- The transducer connector must be isolated from the cleaning or disinfectant solution throughout the reprocessing. This limits the risk of splashing onto the handle or connector.
- The following are the ARs that meet the reprocessing requirements of specific VINNO transducers. These ARs are either specifically designed for, or provide attachments that support, specific transducer reprocessing.

Manufacturer	Country of Origin	Model	Transducer Type	Compatible Disinfectants	Processing Conditions
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CIVCO Medical Solutions	US	Astra VR	Endocavity ¹	Cidex OPA, Resert XL HLD, Metricide OPA	32°C
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ARs Compatible with VINNO Transducers

Disinfectants and Cleaning Solutions for Transducers

This section includes one table that allow you to find the disinfectant and cleaning solutions that are available for your transducers.

“Disinfectant Compatibility by Transducer Name”: Lists the transducers in order, with references to their disinfectants and cleaning solutions compatibility. Here we use the “√” for compatibility. “x” is for incompatibility

Transducer Name	Transducer Type	Disinfectants name			
		Alkazyme	Klenzyne	Steranios 2%	Cidex OPA
S1-8C	convex	√	√	√	√
S2-9C	convex	√	√	√	√
G2-5C	convex	√	√	√	√
F2-5C	convex	√	√	√	√
D3-6C	volume	√	√	√	√
G4-9E	micro convex(transvaginal)	√	√	√	√
F4-9E	micro convex(transvaginal)	√	√	√	√
D4-9E	Volume(transvaginal)	√	√	√	√
G3-8M	micro convex	√	√	√	√
G4-9M	micro convex	√	√	√	√
X4-12L	linear	√	√	√	√
X6-16L	linear	√	√	√	√
U5-15L	linear	√	√	√	√

I4-11T	linear	√	√	√	√
F4-12L	linear	√	√	√	√
X10-23L	linear	√	√	√	√
X9-22L	linear	√	√	√	√
I7-18L	linear	√	√	√	√
G1-4P	phased array	√	√	√	√
S1-6P	phased array	√	√	√	√
G3-10PX	phased array	√	√	√	√
G3-10P	phased array	√	√	√	√
G4-12LV	Linear(trans-rectal)	√	√	√	√

Disinfectants name	Intended Use	Manufacturer
Alkazyme	Alkazyme a combined cleaner-predisinfection agent for use in the repossessing of all reusable immersible, surgical, medical and dental devices prior to sterilisation. Unique mono enzymatic action ensures rapid results when used within either instrument soaking tanks, sinks or ultrasonic cleaners.	
Klenzyme	Klenzyme is a liquid, enzyme-based presoak for medical appliances and instruments. The protease enzyme in Klenzyme is especially effective in the removal of protein (such as blood, mucus, feces, albumin, etc.) from medical appliances (such as surgical instruments, specula, flexible fiberoptic endoscopes) and glassware. Klenzyme is safe for use on most materials commonly used in the manufacture of health care equipment. Klenzyme may be used in ultrasonic machines, automated equipment with presoak cycles, and manual cleaning operations.	

<p>Steranios 2%</p>	<p>STERANIOS 2% NG – STERANIOS 2% ECS High level disinfectant /Cold sterilant CHARACTERISTICS</p> <ul style="list-style-type: none"> • Clear green solution. • Active against Helicobacter pylori. • 2% glutaraldehyde solution buffered at pH 6 (sodium citrate). • STERANIOS 2%NG and STERANIOS 2%ECS contain compounds limiting and controlling glutaraldehyde evaporation. • Complete efficacy against spores of bacteria (5 log reduction). • Wide compatibility with all kind of materials. • Shelf-life: 3 years from the production date. • Can be used in association with any kind of cleaning pre-disinfectant product. 	
<p>Cidex OPA</p>	<p>Effective. Fast-acting. Since its introduction in 1999, thousands of healthcare facilities around the world have been using CIDEX® OPA Solution every day to safely high-level disinfect flexible endoscopes and other medical devices.</p> <ul style="list-style-type: none"> • Effective – achieves high-level disinfection in 5 minutes at 20°C. • Fast-acting – fast turnaround of reprocessed instruments. • Long-lasting efficacy – reusable for up to 14 days when monitored with CIDEX® OPA Test Strips. • Easy-to-use – solution with low odor – requires no activation or mixing. • Safe to use for healthcare professionals – low vapor pressure for minimal inhalation exposure risk, ready-to-use solution reduces handling. <p>CIDEX® OPA Solution provides a broad-spectrum activity against bacteria, mycobacteria, viruses and fungi. CIDEX® OPA Solution offers excellent materials compatibility and can therefore be used to disinfect a wide range of medical instruments made of aluminum, brass, copper, stainless steel, plastics, elastomers and dental materials.</p>	

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