

Important information on NIOX VERO®

Cleaning and Filtration Efficiency

Guidance on cleaning the NIOX VERO®

- Clean the instrument and breathing handle with a cloth dampened with water or a mild detergent.
- The following categories of alcohol-free cleaning compounds are also recommended:

Recommended Active Ingredients	Concentrations	Examples
Sodium Hypochlorite	<1.5%	
Quaternary Ammonium Compounds	<5%	<ul style="list-style-type: none"> • Benzalkonium Chloride
Biguanides	<1%	<ul style="list-style-type: none"> • Polyhexamethylene biguanide • Chlorhexidine Digluconate • Poly (hexamethylene biguanide) hydrochloride
Isothiazolinones	0.01%	<ul style="list-style-type: none"> • 2-methyl-2H-isothiazol-3-one • 5-chloro-2-methyl-2H-isothiazol-3-one
Pentapotassium bis(peroxymonosulphate) bis(sulphate)	40-55%	
Malic acid	20-25%	
Sulphamidic acid	4-6%	
Sodium dodecylbenzenesulfonate	3-5%	
Dipotassium peroxodisulphate	<1.56%	
Glucoprotamine	25-30%	
Diethylene glycol mono-butyl ether	10-20%	
Hydrogen peroxide	<2.5%	
Glycolic acid	<2.5%	

- Cleaning products and cleaning wipes containing those ingredients within the recommended concentrations are suitable for use with NIOX VERO®.
- We also have tested and can recommend the following cleaning wipes for use with the NIOX VERO® device:
 - Azo Universal Wipes (Vernacare)
 - Bechtifix (Alfred Becht GMBH)
 - Cavi-Wipes Bleach (by Metrex Research)
 - Chemgene HLD4I Wipes (by MediMark Scientific)
 - Clear Power (Hakujuji)
 - Clinell Universal Wipes (by Gama Healthcare)
 - Darodor Spray (Jose Collado SA)
 - Destix Disinfection and Cleaning Wipes (by Kleinmann)
 - Dispatch Hospital Cleaner Towels with Bleach (by The Clorox Company)
 - Oneshot Plus Hexidine (Hakujuji)
 - Incidin Oxywipe S (by Ecolab)
 - Incidin Plus Liquid (by Ecolab)
 - Medipal (by Pal International)
 - Mikrozyd Sensitive Wipes (by Schülke)

- Q-Connect Screen and Keyboard Cleaning Wipes (by Interaction-Connect)
- Skitcross (Osaki Medical)
- Soflite (Asahi Kasei)
- Triamin Disinfection (by Wet-Wipes A/S)
- UV light sterilizers may also be used with NIOX VERO®.
- **DO NOT** clean the instrument or handle with products containing any type of alcohol, including any cleaning agents used to clean the facility, or other equipment in the area, as well as alcohol wipes or sprays used on patients. Do not use products such as, but not limited to:
 - Disinfectants, sprays, or wipes containing alcohol.
 - Any cleaning agents used to clean your facility or other equipment in the area, as well as alcohol wipes or sprays used on patients.
 - Hand sanitizer containing alcohol.
- Use of substances containing alcohol in the proximity of the NIOX VERO® instrument may cause erroneous FeNO measurements.
- Minimise the use of any solvents near the device.
- Regarding COVID-19 specifically, sodium hypochlorite 0.5-0.65% is recommended against SARS-CoV-2 (COVID-19 virus) and can be used to clean the NIOX VERO device itself. Benzalkonium chloride 0.05-0.2% is also an effective cleaning agent against coronaviruses and is compatible with NIOX VERO.

Information on the filtration efficiencies of NIOX VERO® mouth and nasal filters

- NIOX VERO mouth and nasal filters meet international standards of filtration performance for “Breathing System Filters for Anaesthetic and Respiratory Use” (ISO 23328-1, EN 13328-1), which many other respiratory devices in hospital settings also adhere to. The filters have been tested for bacterial filtration efficiency (BFE) and viral filtration efficiency (VFE) to the highest ASTM standard F2101.
- The BFE of the mouthpiece filter is $\geq 99.99\%$ and the VFE is $\geq 99.97\%$.
- The BFE of the nasal filter is $\geq 99.93\%$ and the VFE is $\geq 99.24\%$.

For any additional information, please contact the Circassia Technical Operations team:

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