Parker Hannifin Corporation
Porter Instrument
245 Township Line Road
Hatfield, PA 19440

PORTER NITROUS SYSTEMS
The Trusted Name In Nitrous

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Guidance For Infection Control and Sterilization of Porter and Matrx Nitrous Oxide and Oxygen System Components

The dental and medical industries are on heightened alert regarding infection control standards. The following frequently asked questions and recommendations for care of your Porter or Matrx nitrous oxide and oxygen systems and respective components may be helpful at this time.

Frequently Asked Questions:

Do I need to be concerned with cross contamination of my flowmeter and breathing bag?
Your patients are not in contact with the flowmeter or the breathing bag. Their exhalation cannot travel "upstream" due to the one-way non-rebreathing valve that is a part of the flowmeter bag tee combined with scavenging flow away from the patient. Patient exhalation cannot go back into the breathing bag and cannot go back to the flowmeter. The office should confirm the function of the one-way non-rebreathing valve on a periodic basis (see User Manual or call us).

- *It is always best practice to turn on oxygen flow and scavenging flow (confirm that you have adequate vacuum flow for scavenging) prior to placing the mask on the patient.*

How can I protect my flowmeter and accessories from cross contamination?
Consider use of protective barriers / covers where possible – during use and when not in use. Be aware of what the team is "touching" in the operatory – and then touching the patient and vice versa. Ensure all items are covered and / or disinfected accordingly.

If using single use nasal hoods – dispose of after each use (do not re-use or send home with patient). When using autoclavable nasal hoods and tubing that can be sterilized – sterilize after each use.

Can I sterilize my breathing circuit tubing?
Please review the specific breathing circuit User Manual for cleaning and sterilization instructions and a list of components that can and cannot be sterilized (links below). If you are unsure what breathing circuit you have – take pictures and send to us on WhatsApp.

How often should I sterilize my breathing circuit components?
With concerns of cross infection of Covid-19 – all components that can be sterilized should be sterilized after each patient use.

We use nitrous often and will be sterilizing after each patient. How should we manage this?
You will need to consider how often you are using nitrous – and how long your sterilization process will take. As a result, you may need to obtain additional breathing circuits so that you have circuits ready for use while others are in the sterilization process. You may also wish to consider using a newer style disposable breathing circuit such as Silhouette (information / link below).

When using the Porter Autoclavable Double Mask – we normally wipe down the outer hood and sterilize the inner liners. Do we need to do anything different?
The User Manual instructions have always called for sterilization of both the outer hood and inner liners. All components that can be sterilized should be sterilized after each use.

We typically allow patients to take their disposable nasal hood home with them and then allow them to bring it back for use during return visits. Should we still do this?
We would advise to discontinue this activity. Single use nasal hoods are intended to be single use – and disposed of. If you want to give the patient the nasal hood that is fine – but they should not be re-used – even with the same patient.

What type of disinfectants and wipes can we use?
The materials of the Porter / Matrx breathing circuits are very durable. Most disinfectant wipes that are suitable for hard surface disinfection in the patient care environment will suffice. That said:

- *Any part / product that will be in contact with skin after disinfection – ensure that there is no disinfectant residue on that item. Disinfectants may cause skin irritation or other reaction with the patient.*
- *If using disinfectants and then steam sterilizing – ensure that the part was properly washed and rinsed. Putting a part that has disinfectant residue in an autoclave may result in the disinfectant crystalizing – and result in a skin irritation / reaction when in use with a patient.*
    - *Soap and water wash and rinse is advised for any part prior to the sterilization process.*
- *If using a disinfectant for the first time – test it on a small portion of the part to ensure no discoloring occurs.*
- *Avoid excess liquid when using disinfectant wipes.*
- *Never spray disinfectant on / inside any of the products.*

Is there a different option that has less parts to sterilize for us to consider versus using our current breathing circuit and having to sterilize after each use?
Yes – you may wish to consider the patented Silhouette Low Profile Nasal Mask system: www.PorterInstrument.com/Silhouette This is a newer style nasal mask and breathing circuit and in addition to being low profile includes other new features: 4 mask size options, easy to work around, provides the patient with a full range of motion (mask stays in place), and an improved seal around the nose for effective scavenging. From an infection control standpoint, the masks are connected to one metre of single use tubing and allow for a fast room turn over, reduced staff time for cleaning and sterilization as well as minimizing space needed in your sterilizer. The mask and tubing are single patient use.

Is there a location that I can find all of the User Manuals for our Porter and Matrx Products (Flowmeter, breathing circuit, nasal hoods, etc)?
Yes – you can visit our website (link below) Resources section and click on the Manuals tab for a complete listing: http://www.porterinstrument.com/resources-dental

Here is a list of commonly requested PDF's – (click on link):

Porter Breathing Circuit User Manual – disinfection and sterilization instructions found on page 8:

Matrx Breathing Circuit User Manual – disinfection and sterilization instructions found on page 6:

Silhouette Breathing Circuit User Manual – disinfection and sterilization instructions found on page 7:

What are the cleaning and sterilization instructions?
These should be reviewed per each specific product User Manual. The general instruction below advises a soap and water wash / rinse (no chemicals) followed by steam sterilization at the indicated times and temperatures below:

Cleaning	**Recommended:** Wash in warm water with a mild detergent. Proceed to sterilization step. Alternate Method: A thermal washer-disinfector may be used instead of warm soap and water. Proceed to sterilization step. (A washer-disinfector is not a substitute for sterilization, as it does not provide the same reduction in microbial contamination levels as sterilization.) Alternate Method: An ultrasonic cleaner may be used. Generally only required when dealing with blood or heavy bioburden. Proceed to sterilization step. **Required:** Rinse with water then follow the recommended Sterilization.
Sterilize	Steam Autoclave: bag or wrap. 134°C to 137°C for 3 minutes minimum; or bag or wrap. 121°C to 123°C for 15 minutes minimum Chemical Vapor Sterilizer: Let cleaned items dry completely then sterilize on any cycle recommended by the sterilizer manufacturer. **Dry Heat Sterilization and Chemical Disinfectants should not be used!**

What parts and components can I sterilize?
Porter Breathing Circuit: Nasal Masks – outer hood and inner liners (only grey silicone rubber inner liners can be sterilized – not single use liners which are white or green), grey coaxial tubing, plastic connectors, and grey breathing bag. The corrugated mixed gas tubing cannot be sterilized but can be soap and water wash and rinse (patient is not in contact with this hose).

- *You may wish to put a sheath around the corrugated hose as a protective barrier.*

Matrx Breathing Circuit: The entire breathing circuit can be sterilized. Only sterilize the blue silicone rubber nasal hoods. The Dynomite (white) nasal hoods are single use disposable.

Silhouette: Connection Kit Tubing (white tubing) and individual Sizer Masks. Individual Silhouette masks and connected I metre tubing (clear) are single use only. Connection Kit tubing can be cut to a desired length to make sterilization processing easier.

Is there a need for some type of filter on my nitrous system?
Filters are commonly used on anesthesia systems and other devices where the patient exhalation may be recirculated back to the device. Porter and Matrx flowmeters and breathing circuits do not function this way and do not allow for the patient exhalation to recirculate back to the device. All of the flow paths are designed to be one-way directional flow.

Do not hesitate to contact us if you have any other questions about cleaning and sterilization of your nitrous oxide/oxygen sedation equipment.

Julien Zermatten
Europe/Middle East/Africa
Email: julien.zermatten@matrxporter.com
Mobile: +41 79 388 55 87
WhatsApp: +44 74 621 57 480

Celia Zermatten
Regional Manager
celiazermattenmatrx@bluewin.ch
Tel +41 27 481 65 70
Mobile: +41 79 435 11 61 Tel +41

Websites:
www.porterinstrument.com/dental
www.porterinstrument.com/silhouette