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Mobile “E” Cylinder Stand (E-Stand)

Instructions for Use and Installation Guide

Representation

 	**Legal Manufacturer**	Parker Hannifin Corporation Precision Fluidics Division 245 Township Line Road Hatfield, PA 19440 USA Office: (215) 723-4000
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	**Conformité Européenne (CE) Mark**	Compliance with conformity assessment on quality management system and technical documentation per Regulations (EU) 2017/745 for Medical Device, Annex IX Chapters i & III
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READ INSTRUCTIONS FOR USE COMPLETELY BEFORE OPERATING THIS DEVICE

This document contains warnings, cautions, instructions for use, and maintenance information that the user must completely comprehend before using this device. Failure to properly operate and maintain this device may result in patient/user harm and/or damage to equipment.

Table Of Contents

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

CAUTION: Federal law restricts this device to sale by or on the order of a physician or dentist.

Visit our website: https://www.porterinstrument.com/wall-cabinet-mounts for additional information. To download Instructions for Use: visit https://www.porterinstrument.com/dental-support or https://www.porterinstrument.com/medical-supportChoose “Carts and Mounts” from the dropdown within the “Product Download” section.

1. Device Information

1.1. Intended Use/Intended Purpose

The is E-Stand is intended for use with a continuous or demand flow conscious sedation system to hold a gas mixing device and connect, regulate, and supply oxygen and nitrous oxide medical gas to the system.

1.2. Models

The E-Stand is available in 9 models (described below). The Mobile Stand is available in 3 models (described below). The Mobile Stand is considered a modification of the E-Stand wherein the manifold block (i.e., “E”-Block) and its features are removed. Stands are available with different height variations and hose coloring. Throughout this document, the E-Stand model 2045-3, is pictured. All instructions and information are the same for all models unless specified otherwise.

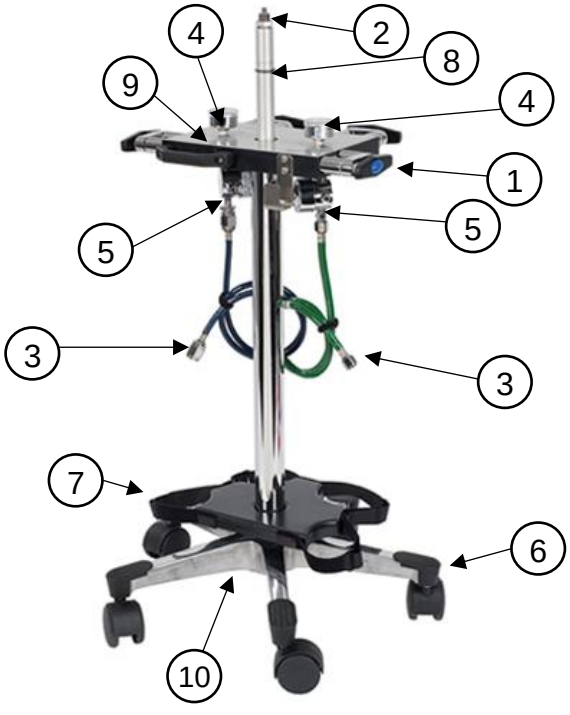
Device Model Table

Model Type	Model Number	Model Description
E-Stand	2045-2	Mobile E-Stand Assembly, Swivel Yoke
	2045-3	E-Stand, Tall
	2045-3CA	E-Stand, White Hose
	2045-3ISO*	E-Stand, Tall with Gas Supply Hoses
	2045-3RA	E-Stand, Extra Tall
	2045-SHORT	E-Stand, Short
	2045RAShort3	E-Stand, Short with Gas Supply Hoses
	2045-SHORT3	E-Stand, Compact
	2045-SHORT3-ISO*	E-Stand, International, Compact
Mobile Stand	2040*	Mobile Stand, Compact
	2042*	Tall Mobile Stand, Tall
	2044*	Mobile Stand, Extra Tall

*Denoted as CE Certified and available on European Market. Other models may be available on other international markets.

1.3. User Interface

#	Description
1	Swivel Yolk Assembly with Check Valves and Tee Handle
2	Mounting Stud
3	Gas Supply Hose and Connections
4	Pressure Gauges
5	Regulators
6	Brake on Casters
7	Cylinder Restraint
8	Telescoping Post
9	E-block Assembly
10	5-star Wheelbase



1.4. General Description/Principles of Operation

The E-Stand is a portable stand that provides nitrous oxide (N_2O) and oxygen (O_2) to a conscious sedation flowmeter. The E-Stand is used with two "E" sized cylinders of O_2 and two "E" sized cylinders of N_2O. The two pressure gauges reflect cylinder pressure only. When the gas supply is opened, gas will flow through the check valves into the E-block and be regulated down to 50 – 55 PSI at the pressure regulators, out through the hoses, and to the flowmeter. The check valves prevent the gas from flowing between cylinders or out into the room if only one cylinder is in use. The stand may be adjusted to a desired height for operatory use and storage.

The E-Stand is equipped with various safety features, which are described in Section 1.7.

1.5. Use of the Device

The E-Stand is to be used by a healthcare professional trained in the use and administration of N_2O and O_2 gases. The device is designed for use in a gas delivery and scavenging system for pain management and / or minimal conscious sedation, which is ideal for short, minimally invasive procedures to alleviate patient anxiety or minor pain and discomfort. It is the responsibility of the medical professional to consider the side effects, contraindications, and risks associated with administration of N_2O and use of conscious sedation.

The E-Stand is not used for the administration of general anesthesia or as part of, or in conjunction with, a general anesthesia administration system. The user should observe the patient to prevent over sedation in the event of an O_2 failsafe malfunction or crossed lines. If a patient becomes overly sedated when being delivered 100% O_2, immediately remove the nasal hood and encourage mouth breathing. This is an indication of a failsafe malfunction or crossed lines; in this case, only deliver pure O_2 from an independent source.

WARNING: Do not use this device for the administration of general anesthesia or as part of, or in conjunction with, a general anesthesia administration system.

NOTE: If a serious incident (death or any intervention) has occurred while the device was in use, it should be reported to the manufacturer immediately and the Competent Authority of the member state in which the serious incident occurred.

1.6. Patient Population

The patient population includes conscious, spontaneously breathing, awake, alert, and cooperative patients.

Patients are selected by a medical professional trained in the use and administration of nitrous oxide and oxygen gases. The medical professional must consider patients who are able to receive the gas mixture based on the risks associated with conscious sedation.

1.7. Warnings and Cautions

Warnings and cautions are listed where relevant to a certain section of this document.

A **WARNING** is an instruction, procedure, or explanation of hazards that may result in injury.

A **CAUTION** is an instruction, procedure, or explanation of hazards that may result in damage to a product, equipment, or the environment.

WARNINGS and **CAUTIONS** are presented throughout the document along with this symbol to alert the reader of their presence.

1.8. Safety Features

Cylinder Restraint:

The E-Stand is equipped with hook and loop cylinder restraints to ensure the “E” Cylinder cylinders are secure.

Brake on Casters:

The E-Stand is equipped with brakes on the caster to prevent it from rolling freely during use.

Check Valves:

The E-stand is equipped with check valves, which prevent the gas from traveling from a full cylinder to an empty cylinder or into the room.

Pressure Relief Valve:

The E-Stand is equipped with pressure regulators that include pressure relief valves, which vent excess pressure in the event of a pressure regulator failure.

DISS Fittings:

The E-Stand is equipped with Diameter Indexed Safety System (DISS) fittings, which act in a key-like fashion to ensure that each correct hose can be connected to the correct appropriate fitting. This prevents an accidental crossing of the N_2O when O_2 gas lines.

Pin Index Safety System:

The E-Stand’s E-Block assembly is equipped with cylinder mounting pins that are configured to prevent installation of the incorrect gas cylinder.

WARNING: The E-Stand is not intended to be used during an MR exam and has not been evaluated for safety and compatibility in the MR environment. The safety of the E-Stand in the MR environment is unknown, but due to the presence of materials in the device that may be ferromagnetic, the E-Stand should be considered “MR Unsafe” and should be kept outside of any MRI scanner rooms.

WARNING: Workers exposed to N_2O may suffer harmful effects. The healthcare professional is responsible for employing proper techniques, such as scavenging, room ventilation, system maintenance, and patient compliance to reduce exposure (ACGIH recommends a Threshold Limit Value of 50 parts per million over an 8-hour time-weighted average).

WARNING: The E-Stand is used with the delivery of Oxygen (O_2). Therefore, when this device is used in conjunction with energy producing devices (such as lasers, radio frequency sources, or other heat sources), the user must adhere to the instructions for use of those devices to avoid ignition of combustible materials.

1.9. Delivery Protocols

It is the responsibility of the medical establishment and the healthcare professional to develop specific delivery protocols for administration of N_2O using the E-Stand. Specific delivery protocols for adult and pediatric patients should be developed.

The E-Stand is considered transient (less than 60 minutes) in terms of continuous use when providing analgesia (minimal sedation). Procedures that occur intermittently over the course of many hours may also be considered transient. The upper limit of use duration is at the discretion of the medical professional.

1.10. Safe Combination of devices

The E-Stand is designed to be used within a nitrous oxide/oxygen conscious sedation delivery and scavenging system to deliver an accurate mixture of nitrous oxide and oxygen gases to a conscious, spontaneously breathing patient. The device system is also used to remove exhaled waste analgesic gas through a vacuum control system. The system is comprised of a series of devices and accessories, which includes a demand system or conscious sedation flowmeter, bag tee and breathing bag (if applicable), breathing circuit with face mask/mouthpiece or nasal hood, vacuum controller with reservoir bag, mounting stand, and gas supply hoses.

To ensure safe combination of device, user should follow the installation instructions in **Section 2** below and ensure all connections are secure and tight.

1.11. Specifications

Dimensions
2040: 20 in W x 37 in H
(50.8 cm W x 93.98 cm H)
2042: 20 in W x 51 in H
(50.8 cm W x 129.54 cm H)
2044: 20 in W x 33.9 in H
(50.8 cm W x 86.11 cm H)
2045-3: 20 in W x 32.4 in H
(50.8 cm W x 82.296 cm H)
2045-3CA: 20 in W x 32.4 in H
(50.8 cm W x 82.296 cm H)
2045-3ISO: 20 in W x 32.4 in H
(50.8 cm W x 82.296 cm H)
2045-3RA: 30 in W x 36.4 in H
(76.2 cm W x 92.46 cm H)
2045-SHORT3: 20 in W x 30.4 in H
(50.8 cm W x 77.21 cm H)
2045-SHORT3-ISO: 20 in W x 30.4 in H
(50.8 cm W x 77.21 cm H)

Regulated Output Pressure
O_2: 40 - 65 psi (275.79 - 448.16 kPa)
N_2O: 40 - 65 psi (275.79 - 448.16 kPa)

Atmospheric Pressure
1 atm ±0.2 atm (101 kPa ±20 kPa)

Gauges and Accuracy
Oxygen Regulator: 0-4000 psi
Nitrous Oxide Regulator: 0-4000 psi
Accuracy Range 3-2-3% of span*
*Accuracy for gauge reads in 3 sections

Weight
2040: 9 lbs (4.08 kg)
2042: 11 lbs (5.0 kg)
2044: 7 lbs (3.18 kg)
2045-3: 28 lbs (12.7 kg)
2045-3CA: 27 lbs (12.25 kg)
2045-3ISO: 27 lbs (12.25 kg)
2045-3RA: 26 lbs (11.79 kg)
2045-SHORT3: 25 lbs (11.34 kg)
2045-SHORT3-ISO: 25 lbs (11.34 kg)

Cylinder Supply Pressure
N_2O: 0 - 750 psi (5.17 MPa)
O_2: 0 - 2200 psi (15.85 MPa)

Connection Fittings
O_2 Outlet: DISS 1240 (female thread)
N_2O Outlet: DISS 1040A (female thread)

Environmental
Temperature
Storage/Transport: -30°F - 140°F
(-34°C - 60°C)
Operational: 50°F -113°F (10°C - 45°C)

Relative Humidity
Storage/Transport: ambient
Operational: ambient, non-condensing

2.Installation Instructions

WARNING: For centrally piped facilities, properly connected gas pipelines are essential to patient safety. The ultimate responsibility of assuring that lines are not crossed rests with the user. Per NFPA 99, the certified medical gas plumber, and verifier, should provide written documentation that all gas pipelines are connected properly and that all use points of the system have been tested prior to use. It is important that the user verify by their own test that all gas pipelines are connected properly prior to using the system.

2.1. Assemble E-Stand

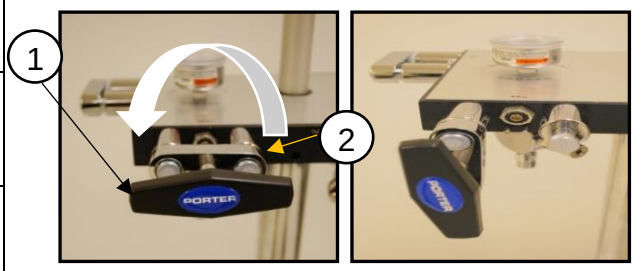
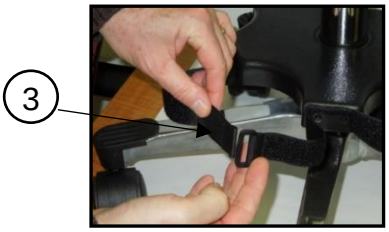
Assemble Stand		
1	Place E-Block and Telescoping Post subassembly onto 5-star Wheelbase so that the cylinder position on the cylinder restraints align with the openings between the 5-star wheelbase.	

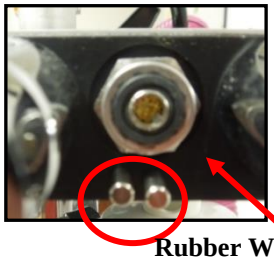
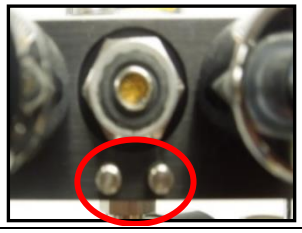
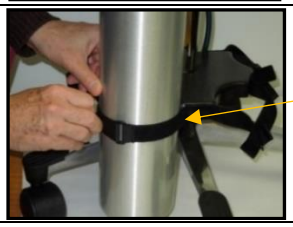
2.2. Connecting Supply Lines

WARNING: Always use clean, dry, medical grade gases, and never oil or grease any part of the device.

WARNING: Do not change the connection fitting type or diameter of the supply hoses. The Diameter Indexed Safety System (DISS) is designed to prevent misconnection of N_2O and O_2 supply lines.

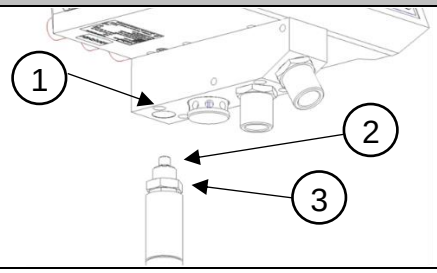
WARNING: Ensure Tee Handle is tightly secured to prevent possible cylinder leakage, which may be indicated by loud hissing or popping sounds.

Gas Supply and Other Connections		
1	Loosen the **Tee Handle** (1) until it is flush with the inside of the **Swivel Arm** (2).	
2	Push Tee Handle **inward** in order to flip Swivel Arm to the open position.	
3	Align Tee Handle vertically to allow clear path for installation of a cylinder.	
4	Undo the **Hook and Loop straps** (3) on the Cylinder Restraint	

5	Cylinder Preparation: a) Remove and discard any plastic wrap and plastic washer from the top of the cylinder. b) Crack the cylinder. c) Keep cylinder top clean. d) Verify that rubber washer provided with the E-Stand is still in place. Do not mount cylinder if the washer is missing.	 **N_2O Pins**  **Rubber Washer**  **O_2 Pins** 
6	Mount the "E" cylinders of N_2O and O_2 to the E-Stand Block by sliding the cylinder into place and by lining up the pins and pin holes on the cylinder valve. Push the cylinder into place. Properly placed, the cylinder should hang on the pins. **Note:** When installed properly, cylinders should hang freely between the Wheelbase.	
7	Push **Swivel Arm** (4) inwards and rotate it clockwise to the closed position.	4  
8	Pull outwards on Tee Handle fully and in order to lock the Swivel Arm in place.	
9	Ensure Swivel Arm is in parallel alignment with E-Block surface to prevent Swivel Arm from loudly popping into correct position.	
10	Gaps between Swivel Arm and the Telescoping Post should be equal on both sides and the bolt head should not be evident.	
11	Swivel Arm should stay in the locked aligned position when Tee Handle is tightened securely.	
12	Secure the **Hook and Loop straps** (5) to hold cylinder in place.	 5
13	The Valve Wrench attached to E-Block via chain is used to open/close Cylinder Valves.	

2.3. Mounting a Flowmeter to the E-Stand

WARNING: Ensure Knob is fully tightened after attaching the Flowmeter to avoid damage to the devices.

Flowmeter Connection		
1	Hold the E-Stand so that the **mounting hole** (1) is above the **mounting thread** (2).	
2	Thread stud into 5/8 - 18 **threaded hole** (3) on bottom of the outlet housing until nut is reached.	

3.Instructions for Use

3.1. Setup and Prechecks

WARNING: To minimize the risk of fire or explosion:

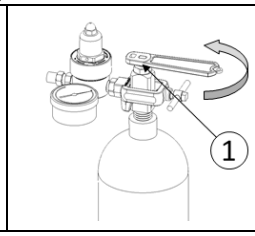
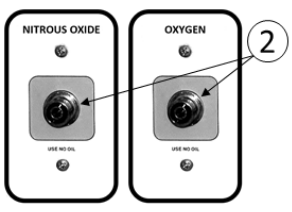
- Always ensure cylinder valves are clear of dust and dirt prior to connection. One method to clear dust and dirt is to briefly "crack" the cylinder valve open to blow out any debris in the line before installing the cylinder.
- Do not discharge the gas at any person or flammable material.
- Always turn on Cylinder Valves slowly and fully.

WARNING: The user should observe the patient to prevent over sedation in the event of an O_2 failsafe malfunction or a crossed lines situation. If a patient becomes overly sedated when being delivered 100% O_2, immediately remove the mask and encourage mouth breathing. This is an indication of a failsafe malfunction or crossed lines. In this case, only deliver pure O_2 from an independent source.

CAUTION: It is best practice upon completion of the procedure to close the cylinders (if portable gas supply) or disconnect from wall outlets (if central gas supply). Failure to do so may result in gas depletion should there be a leak.

WARNING: When removing gas cylinders, always ensure valves are closed tightly.

WARNING: Do not disconnect with supply line pressurized. Always disconnect at supply source first.

1	Ensure the flowmeter is securely mounted (as described in **Section 2**) and the gas supply hoses are connected to the correct fittings on the flowmeter.		
2	Ensure the necessary prechecks have been performed, before using the E-Stand. The precheck instructions are described in **Section 4.1 Prechecks**.		
3	Ensure E-Stand is populated with at least one full cylinder of O_2 and N_2O before starting any procedure. (Two cylinders of O_2 and two cylinders of N_2O are typically connected at all times.) Label each cylinder with a tag or sticker indicating "In-Use" or "Full" ("Full" is reserve).		
4	Using supplied Valve Wrench, turn on the N_2O and O_2 gas supplies. If using gas cylinders, slowly open the **cylinder valves** (1) to open the "In-Use" cylinders. If connecting to a wall supply, connect the supply lines to the appropriate **outlet connections** (2).		
5	Supply pressure is preset by the manufacturer on the E-Stand. When using a wall supply, refer to your flowmeter instructions for correct supply pressure.		

6	Cylinder pressure gauges on E-Block provide a visual indication of cylinder status. **Note:** If all four cylinders (or both cylinders of one gas) are open, the two cylinders of O_2 and N_2O will deplete in tandem. The "Full" cylinder will empty with the "In-Use" cylinder and will not be available as a future spare.
7	When "In-Use" cylinder is fully depleted, open the spare "Full" cylinder (Close valve on empty cylinder). Do not remove and replace partially full cylinder; only replace with new clean full cylinder.
8	At the end of procedure, using supplied Cylinder Wrench, turn off the N_2O and O_2 gas supplies. If connecting to a wall supply, disconnect the supply lines to the outlet connections.

4. Maintenance

The E-Stand has an expected service lifetime of 20 years. The device requires proper maintenance, pre-checks, and servicing. Once the device reaches an age of 20 years, a failed pre-check will indicate that the device has reached the end of its useful life.

The Gas Supply Hose has an expected lifetime of 20 years and once it reaches this age, any damage will indicate that the device has reached the end of its useful life

Check	Frequency
Inspect E-Stand, hoses, fittings, and connections for damage, wear, and audible leaks.	Before every use
Leak Test	Once a month
Cylinder Pressure Gauge Replacement	As needed
Check Valve Replacement	Once a year

WARNING: Proper inspection and maintenance of this device is essential to prevent gas leaks. All hoses, fittings, and connections should be inspected regularly, and all leaks should be repaired immediately.

WARNING: If precheck test cannot be executed successfully, do not use this device and contact distributor.

WARNING: Do not modify this equipment without authorization of the manufacturer.

WARNING: Do not use or replace any components or accessories, except those specified in these instructions for use and installation guide.

4.1. Pre-Check

Leak Test

1	Attach the gas supply hoses to a flowmeter and ensure the flowmeter and flow valves are off.
2	Turn ALL Cylinders ON.
3	After 5 seconds, turn ALL Cylinders OFF.
4	Apply masking tape to both gauge faces in a position where marking the needle movement will not be difficult.
5	Tap lightly on gauges and mark gauge needle positions on the masking tape.
6	There should be little or no movement of the gauge needles after 15 minutes.
7	If the needle on the gauges do not remain stationary, contact your authorized distributor for service and troubleshooting.

4.2. “E”-Block Cylinder Pressure Gauge Replacement

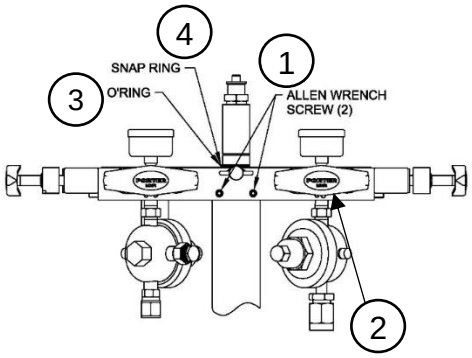
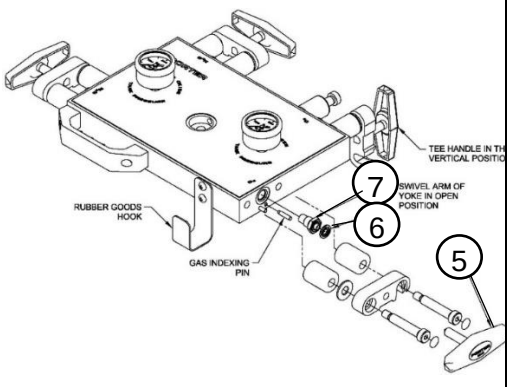
Warning: High pressure up to 2400 psi (16.54 MPa).

1	When replacing the pressure gauge, wear gloves to prevent debris from entering gas pathway. **Note:** Turn OFF all cylinder valves / supply pressure. Switch flowmeter on/off switch to the “on” position and open both valves to vent the pressure.
2	Unscrew the pressure gauge.
3	Install new pressure gauge and verify PTFE tape is applied to the NPT thread. Tighten carefully so as not to cross thread with the E-Block cavity.
4	Conduct pre-checks to ensure no leaks are present.

4.3. “E-Block” Check Valve Replacement

Warning: High pressure up to 2400 psi (16.54 MPa).

CAUTION: Do not allow Telescoping Post to drop into Tube.

1	Remove the E-Block to access the check valve: a) Unscrew (counterclockwise) the **set screws** (1) that normally secures E-block assembly to Telescoping Post. (Use 1/8” hex wrench) b) Unscrew **knob** (2) and the screw that locks Telescoping Post in position. c) Remove **O-ring** (3) from the post and push **snap ring** (4) out of groove on Telescoping Post. d) Lift off “E-block” off.	
2	When replacing the check valve, wear gloves to prevent debris from entering gas pathway	
3	Back out **Tee Handle** (5) until point is even with the inside of the Swivel Arm.	
4	Push Tee Handle “in” to open swivel.	
5	Swing Swivel Arm to open position.	
6	Remove **rubber washer** (6).	
7	Unscrew the Check Valve assembly using a 5/8” socket wrench.	
8	Install new **Check Valve assembly** (7) by reversing above steps.	

4.4. Cleaning

The E-Stand must be cleaned between each use in order to prevent the spread of infections. Cleaning the device has been validated with Super Sani-Cloth™ Germicidal wipes.

WARNING: The following warning applies to the device and any device's components and accessories:

- Do not spray directly with disinfecting chemicals.
- Do not immerse in water, sanitizer, cleaning solution, or any other liquid.
- Do not sanitize or wipe the inside of the fittings, gas supply hoses, or connection ports.
- Always ensure the device and device's components and accessories are completely dry before use.

1	Using a Super Sani-Cloth™ Germicidal wipe, thoroughly wipe down the E-Stand until all visible dirt and soil is removed. Take extra care to wipe cylinder restraints, tee handle, and swivel arm as these are the most handled areas of the device. A soft bristled brush may be used to loosen any soil that is difficult to remove.
2	Using a Super Sani-Cloth™ Germicidal wipe, thoroughly wipe down the gas supply hoses and fittings until all visible dirt and soil is removed. Do not wipe the inside of the hoses or fittings as this may deposit cleaning agents into the breathing pathway of the device.
3	Do not clean the check valve and rubber washer to prevent debris from entering the device. Avoid wiping and applying cleaner to the inside of the ports.

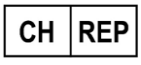
4.5. Disposal

It is best practice to inquire with local authorities for proper disposal guidelines, if applicable.

5. Symbols Glossary

The following symbols may be used throughout this document, as well as on device labels and packaging.

Symbol	Title of Symbol	Description of Symbol
	**Manufacturer Information**	Indicates the medical device manufacturer and is accompanied by the name and address of the manufacturer. [EN ISO 15223-1:2021, clause 5.1.1]
	**Date of manufacture and Country of Manufacture**	Indicates the country where the device was manufactured. Also Indicates the date when the device was manufactured. This symbol is accompanied by four digits for the year the device was manufactured. [EN ISO 15223-1:2021, clause 5.1.3, 5.1.11]

Symbol	Title of Symbol	Description of Symbol
	**Catalog Number**	Indicates the manufacturer's catalog number of the device and is used for identification of the device. [EN ISO 15223-1:2021, clause 5.1.6]
	**Serial Number**	Indicates the manufacturer's serial number of the device and is used for identification of the specific device. [EN ISO 15223-1:2021, clause 5.1.7]
	**Unique device identifier**	Indicates a carrier that contains unique device identifier information. [EN ISO 15223-1:2021, clause 5.7.10]
	**Prescription device**	Indicates that federal law restricts this device to sale by or on the order of a physician or dentist.
	**Medical Device**	Indicates the item is a medical device. [EN ISO 15223-1:2021, clause 5.7.7]
	**Consult Instructions for Use**	Indicates the need for the user to consult the instructions for use. [EN ISO 15223-1:2021, clause 5.4.3]
	**Caution**	Indicates the need for the user to consult the instructions for use for important cautionary information such as warnings and precautions that cannot be presented on the medical device itself. [EN ISO 15223-1:2021, clause 5.4.4]
	**Caution/Warning**	Indicates important cautionary or warning information to the user that is presented in the instructions for use that accompanies explanatory instructions to the user. [EN ISO 15223-1:2021, clause 5.4.4]
	**MR Unsafe**	Indicates that the product should not be used near any magnetic resonance equipment. [ASTM F2503-20 Table 1 and Table 2]
	**European Community Authorized Representative**	Indicates the authorized representative in the European Community (European Union) [EN ISO 15223-1:2021, clause 5.1.2]
	**Switzerland Authorized Representative**	Indicates the authorized representative in Switzerland. [MU600_00_016e / V3.0]

Symbol	Title of Symbol	Description of Symbol
CE 2862	**Conformité Européenne (CE) Mark**	Indicates that the product may be traded freely in any part of the European Economic Area, regardless of its country of origin. [2017/745 EU Annex V]

6. Warranty

CERTIFICATE OF WARRANTY

THIS WARRANTY IS GIVEN IN PLACE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

Under no circumstances shall Parker Hannifin Corporation be liable for incidental or consequential damages as those terms are defined in the uniform commercial code.

Parker Hannifin Corporation, Porter Instrument warrants that each product or part shall be free from defects in workmanship and materials, under normal use and with appropriate maintenance, for one (1) year from the date of delivery to customer unless otherwise specified in writing. All rubber and plastic parts and accessories are warranted under the same conditions for a period of ninety (90) days from date of purchase.

No statement or claim about the product by any employee, agent, representative, or dealer of Parker Hannifin Corporation shall constitute a warranty by Parker Hannifin Corporation or give to rise to any liability or obligation of Parker Hannifin Corporation.

Parker Hannifin Corporation shall not be liable for any damage, injury or loss arising out of the use of the product, whether as a result of a defect in the product or otherwise, if, prior to such damage, injury or loss, the product was (1) damaged or misused; (2) repaired, altered or modified by persons other than Parker Hannifin Corporation; (3) not installed in strict compliance with applicable codes and ordinances; or (4) not installed by an authorized Parker Hannifin Corporation dealer. Parker Hannifin Corporation's obligation for breach of this warranty, or for negligence or otherwise, shall be strictly and exclusively limited to the repair or replacement of the product or part. This warranty shall be void on any product on which the serial number has been altered, defaced or removed.

ORDERS All orders are to be made through authorized Parker Hannifin Corporation distributors. All billing will be done through said distributors. Direct orders will be handled through the authorized local dealer as determined by Parker Hannifin Corporation.

RETURNS All returned merchandise will be handled through the local Parker Hannifin Corporation distributor. No returns will be accepted unless authorized in writing by Parker Hannifin Corporation and accompanied by the original shipping invoice. All returns are subject to restocking charge.

Policies subject to change without notice.

To register your product: visit https://www.porterinstrument.com/dental-support and click on Warranty Registration Form button.