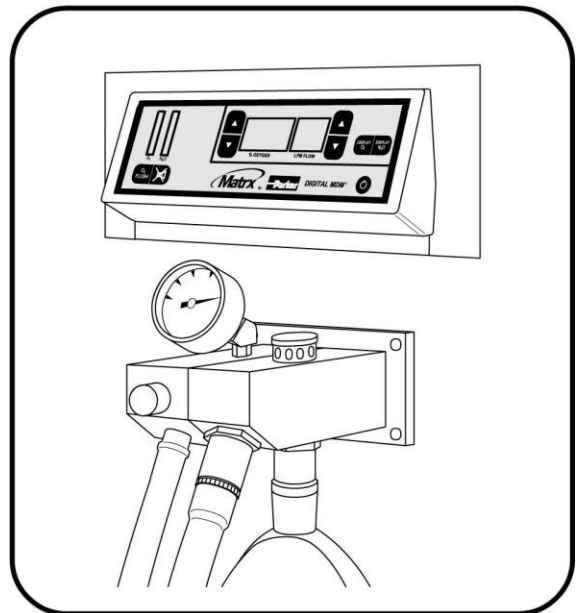


Matrix

by **Parker**

DIGITAL MDM[®] Cabinet Mount Installation Instructions



Parker Hannifin Corporation
Porter Instrument
245 Township Line Road
Hatfield, PA 19440 USA
Tel: 215-723-4000



Porter Regulatory Affairs:



Parker Hannifin Corporation
Porter Instrument
245 Township Line Road
Hatfield, PA 19440 USA
Tel: 215-723-4000



MEDICAL EQUIPMENT WITH
RESPECT TO ELECTRIC
SHOCK, FIRE AND
MECHANICAL HAZARDS
ONLY IN ACCORDANCE WITH
UL 2601-1, AND CAN/CSA C22.2
NO. 601.1

Symbol

Description



Alternating Current



Protective Earth (ground)



Attention, consult the accompanying documents

SAFETY SUMMARY

WARNINGS

The Matrx by Parker DIGITAL MDM® mixer is a specialized medical device and should be operated ONLY by a professional trained in the use of nitrous oxide. Nitrous oxide and oxygen mixtures should only be administered by or under the supervision of a medical professional.

The Matrx by Parker DIGITAL MDM mixer is designed for use with an oxygen supply assuring 100% medical oxygen concentration. The use of other oxygen sources (i.e., oxygen concentrators) could result in an unsafe condition to the patient.

Although this analgesia machine is designed to prevent the interchanging of the two gases, it is the responsibility of the user to determine that only oxygen flows into the oxygen connection and only nitrous oxide flows into the nitrous oxide connection located on the back of the analgesia head.

ELECTRICAL CONNECTIONS & GROUNDING INSTRUCTIONS

The unit must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electric shock.



A known Protective Earth (ground) connection must be made via one of the following methods:

- 1) The third wire on the power cord when plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes or ordinances.
- 2) The external ground lug on the rear of the device.

A Protective Earth (ground) connection is a connection attached to the facility grounding point outside the facility. A licensed electrical person should be consulted to confirm the Protective Earth (ground) connection.

Do not use an electrical cord with nicks, cuts, or other damage. Do not use the unit with an extension cord as it will be subject to electromagnetic interference (EMI).



BAG TEE REQUIREMENTS

A bag tee containing an air inlet valve is required for use with this unit. The bag tee is factory mounted on the unit or provided separately for remote mounting. Matrx by Parker Scavenging Nasal Inhalers provide the patient connection.

CAUTIONS

FACTORY SETTINGS

Do not change any internal factory set adjustments. The Matrx DIGITAL MDM mixer is adjusted and calibrated for proper operation prior to shipment. Any change could alter the specified operation and accuracy.

FACILITY PIPING

The user MUST perform tests independent of the dealer or contractor to verify that all pipelines are connected correctly. If you are unfamiliar with piping systems, order Matrx manual 10311700. The user has the ultimate responsibility for properly connected pipelines essential to patient safety.

DIAMETER INDEXED SAFETY SYSTEM

Gas connections in the DIGITAL MDM mixer are mechanically indexed using the Diameter Indexed Safety System (DISS). This feature helps to prevent the crossing of pipelines. Under no circumstances should these connections be altered.

DISCONNECT POWER

There are no user-serviceable parts inside this unit. A shock hazard exists if power is not disconnected prior to any internal servicing or maintenance. Always disconnect the power source before inspection or repair.



ALARM TEST

The user should test the alarm system for proper operation prior to each clinical use.

Table of Contents

	Notes and Contact Information	iv
	Introduction	1
	Intended Use.....	1
	User and Installer Responsibility	1
	System Notes.....	1
	NFPA Requirements and Warnings.....	1
Section 1	Installation Instructions	3
1.1	Description	3
1.2	Planning	3
1.3	Pre-Installation	4
1.4	Mixer Head Installation	4
1.5	Bag Tee and Scavenging Control Valve Installation	6
1.6	J Hook Installation.....	8
1.7	Hose Connection	8
1.8	Rubber Goods Installation	9
1.9	Installation of Power Cord and Protective Earth (ground) Connection.....	10
Section 2	Specifications.....	11
2.1	Minimum Space Requirements.....	11
Section 3	Safety Checks	11
3.1	Final Connection Checklist	11
3.2	Cross Pipeline Tests	11
3.3	Gas Outlet Station Tests.....	11
3.4	Mixer Tests	11
Section 4	Return Information and Warranty	12
4.1	Return Goods Procedure	12
4.2	Warranty	12
Section 5	Replacement Parts.....	13

Table of Illustrations

Figure 1.	Outside View of a Typical Digital MDM® Cabinet Mount with Flush Mounted Bag Tee/Scavenging Valve	3
Figure 2.	Installation of Demand Valves	4
Figure 3.	Digital MDM® Mixer Head Configurations	5
Figure 4.	Screw and Tee Nut Adjustment	5
Figure 5.	Digital MDM® Mixer Head Installation	6
Figure 6.	Flush Mounting the Bag Tee and Scavenging Control Valve	6
Figure 7.	Surface Mounting the Bag Tee and Scavenging Control Valve	7
Figure 8.	Mounting the Bag Tee and Scavenging Control Valve Inside the Cabinet.....	8
Figure 9.	Connection Schematic	9
Figure 10.	Installation of Rubber Goods	9
Figure 11.	Installation of Power Cord.....	9

Notes and Contact Information

Unit Serial Number

Date Purchased

Dealer Name

Dealer Phone Number

Notes:

Contact Information:



Parker Hannifin Corporation
Porter Instrument
245 Township Line Road
Hatfield, PA 19440 USA
Tel: 215-723-4000

Introduction

CAUTION

Federal Law in the U.S.A. and Canada restricts this device to sale by or on the order of a licensed practitioner.

Intended Use

The cabinet mount installation kit and accessories are intended for use in mounting the Digital MDM® mixer and associated accessories. The Digital MDM mixer is intended for use by trained medical personnel only.

User and Installer Responsibility

It is the responsibility of both the user and the installer to ensure that the correct gas, at the correct pressure, is supplied to the fittings at the rear of the unit. See Specifications in the Digital MDM Operations Manual.

System Notes

Matrix by Parker recommends the use of a permanently mounted oxygen analyzer in the patient circuit to monitor the oxygen levels being administered to the patient. Additional monitoring should be employed particularly if the delivered oxygen and nitrous oxide is being used as background to intravenous or inhalant deep sedation and anesthesia. The American Society of Anesthesiology (ASA) encourages the use of an ECG, a Blood Pressure Monitor, and a Pulse Oximeter in these cases.

NFPA Requirements and Warnings

General System Requirements

The Digital MDM mixer complies with the National Fire Protection Association (NFPA) 99C code requirements.

The NFPA is a body which has formulated a set of regulations widely adopted by local building authorities as the basis for their own local building code requirements. *Do not change fittings or tubing sizes from those specified in this manual.* The fittings and tubing incorporate unique tubing sizes for each gas, an important safety feature to prevent accidental crossing of lines during installation or maintenance.

The following basic requirements must be observed:

1. Remote tank rooms must be locked.
2. Ventilation of at least 72 square inches is required in the tank room or the cabinet.

WARNING

Medical gas fittings are manufactured according to the Diameter Indexed Safety System (DISS) to prevent the delivery of the wrong gas to the patient. The correct supply line sizes are as follows:

oxygen	1/2" OD copper
nitrous oxide	3/8" OD copper
evacuation	5/8" OD copper

The installer must ensure that each gas is connected to the proper stop valve to preserve the integrity of the Diameter Indexed Safety System (DISS).

3. Type K or L seamless, copper tubing or standard weight brass piping is required.
4. Copper-to-copper joints made using phosphorous brazing filler are allowed without flux.
5. During brazing, piping must be continuously purged with dry nitrogen.
6. The piping system must be tested for leaks at 150 psi followed by a 24-hour pressure test at 75 psi.

NOTE

Do not connect the Digital MDM during these pipeline tests.

Manifold Requirements

The Digital MDM mixer is intended for Type II facilities consisting of less than 2000 cu.ft. of gas and less than ten use points for the gas.

1. All systems shall be a minimum 2+2 configuration.
2. For a non-remote tank room, manual or automatic switchover is permitted. For a remote tank room, automatic switchover is required.

NOTE

A tank room is considered remote when it cannot be accessed from within the office.

3. A remote tank room requires a remote shutoff valve.
4. Each tank requires independent pressure regulators.

5. All systems require both audio and visual alarms for high and low pressure and/or automatic switchover. The audio alarm can be cancellable; however, the visual alarm must remain until the condition is corrected.
6. Line pressure gauges are required for each gas.
7. A pressure relief valve set at 75 psi is required for each gas.
8. All threaded connections must conform to Diameter Index Safety System (DISS) standards to prevent cross connections. The system of different tubing sizes helps to avoid the connection of a flowmeter or outlet to the wrong gas supply line.
9. Mechanical means, such as 3/8" OD piping for nitrous oxide and 1/2" OD piping for oxygen, must be used to ensure correct connections.

For more information on the NFPA 99C code requirements, consult your local Matrix by Parker representative or your local dental dealer.

U.S. Gas Color Coding

All products in this manual are manufactured according to the standard ANSI (USA) color coding. For products manufactured with other gas color-coding standards, call Matrix by Parker Customer Service at 1-888-723-4001 for assistance.

Gas	Color
Oxygen	Green
Nitrous	OxideBlue

WARNING

Route all hoses and cords so that there are no obstructions, pinched or kinked hoses, or potential abrasions of hoses or cords when the installation is completed.

WARNING

Although the Digital MDM® mixer is designed to restrict the interchanging of the two gases, it is the responsibility of both the user and the installer to determine that only oxygen flows into the oxygen fitting and that only nitrous oxide flows into the nitrous oxide fitting located on the back of the mixer head.

Section 1 Installation Instructions

1.1 Description

These instructions describe the installation of the Digital MDM® mixer and a bag tee in a cabinet's vertical surface. This manual includes installation instructions for an optional Matrix by Parker Scavenging System, as well as an optional gas outlet station. Figure 1 illustrates a typical installation.

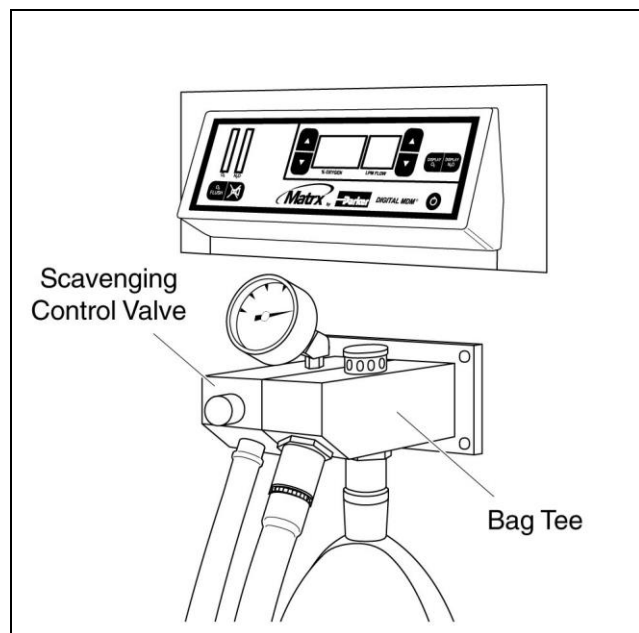


Figure 1. Outside View of a Typical MDM® Digital Cabinet Mount with Flush Mounted Bag Tee/Scavenging Control Valve

IMPORTANT

A bag tee containing an air inlet valve is required for use with this unit. The bag tee is provided separately for remote mounting. A standard Scavenging Nasal Inhaler or a set of rubber goods provides the patient connection.

To reduce trace N2O in the operator's environment, it is strongly recommended, though not required, that a Scavenging System be included with this installation. The scavenging system removes unwanted gases from the exhalation of the patient and the room.

1.2 Planning

Planning is essential to the proper installation of the equipment. Without proper planning, minor changes can quickly become major problems. Read the entire installation instructions before attempting any and every installation.

WARNING

These instructions fully comply with the National Fire Protection Association (NFPA) guideline No. 99C; see the Introduction for details. All equipment must be installed in accordance with these guidelines, as well as all local codes and ordinances.

Matrix by Parker makes no warranty for cabinets and equipment that have been installed improperly.

Planning should include the following:

1. The cabinet must be manufactured with the proper materials.
 - The mounting brackets are designed for mounting in wood, and wood and laminate, approximately 3/4" thick.
 - Due to the nature of the mounting and the need for equipment stability during use, plaster board and other soft wall materials are not suitable.
2. Determine the location of the mixer head.
 - Typically, the mixer head is located at the approximate eye level of a seated person.
 - Consult with the practitioner to determine the desired location.
3. Determine the location of the bag tee.
 - The bag tee is either flush mounted in the cabinet surface (hoses are not externally visible), surface mounted to the cabinet surface, or mounted to a bracket inside the cabinet.
 - If a scavenging system is to be installed, it is mounted next to the bag tee.
 - The bag tee/scavenging control valve is supplied assembled to the appropriate mounting hardware.
 - Consult with the practitioner to determine the desired location.
4. If necessary, determine the location of the gas outlet station.
 - If the outlet station delivers only oxygen, it can be located next to the mixer head. If this is the case, the oxygen outlet is supplied assembled to the mixer head bezel.

- The outlet station can be surface mounted to the cabinet surface, flush mounted in the cabinet surface, or mounted inside the cabinet. See the Outlet Stations installation and Parts Manual.
 - Consult with the practitioner to determine the desired location.
5. The cabinet must be properly designed.
- The cabinet must be large enough to contain the mixer head, the bag tee and scavenging system (if mounted inside), the gas outlet station, the gas shutoff valves, and all the connecting hoses and fittings.
 - NFPA 99C specifically prohibits hoses and flexible connectors from being installed in walls, floors, ceilings, and partitions.
 - The minimum depth of the cabinet, where the mixer head mounts, is 6-1/2". See Section 2, Specifications.
 - Check your local building codes regarding electrical, gas connection, and certification requirements. Typically, gas and electrical connections must be accessible after installation.
6. Determine the location of the cabinet.
- Consult with the practitioner to determine the desired location.
 - Consider the necessary connections to the central gas supply.
 - Consider the availability of an electrical outlet. The mixer head requires an electrical connection and is supplied with a 10' power cord. It may be necessary to install an electrical outlet.

1.3 Pre-Installation

1. Install the necessary gas plumbing from the central gas supply.
2. If separate gas outlet stations are to be installed, install the necessary gas plumbing. See the Outlet Stations Installation and Parts Manual.

NOTE

All piping for medical gases must conform to the NFPA 99C guidelines (see Introduction) and local fire and building codes.

3. If necessary, install the electrical outlet and connection.

4. Solder a Matrx shutoff valve to each gas line that will connect to the mixer head and the scavenging control valve; see Figures 2 and 9. For soldering requirements, see the NFPA 99C guidelines in the Introduction.

NOTE

Each mixer must have its own set of shutoff valves for its gases.

5. Install the cabinet according to the manufacturer's instructions.

1.4 Mixer Head Installation

There are 3 possible configurations for the mixer head (see Figure 3):

- small — use when there is no preexisting hole in the cabinet and no outlet station is to be mounted next to the mixer head
- large (centered) — use when there is a preexisting hole in the cabinet and no outlet station is to be mounted next to the mixer head
- large (with integral outlet station) — use when an oxygen outlet station is to be mounted next to the mixer head

Associated with each configuration is an installation template, a mounting shelf, and a bezel.

NOTE

The equipment is supplied with one installation template, one bezel (assembled to the mixer head), and one mounting shelf only.

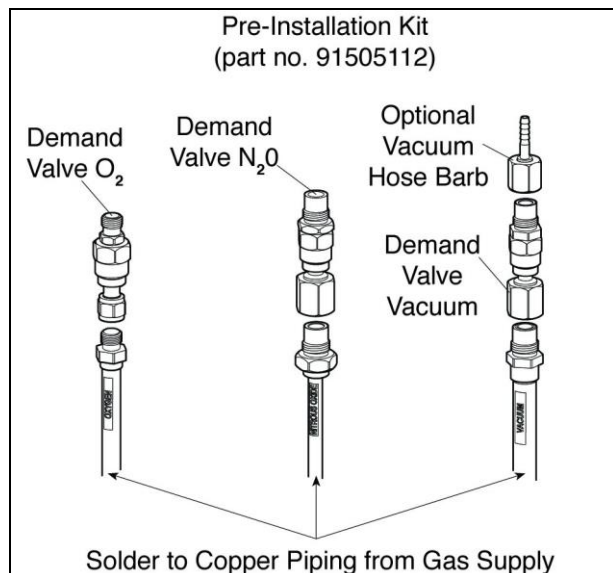


Figure 2. Installation of Demand Valves.

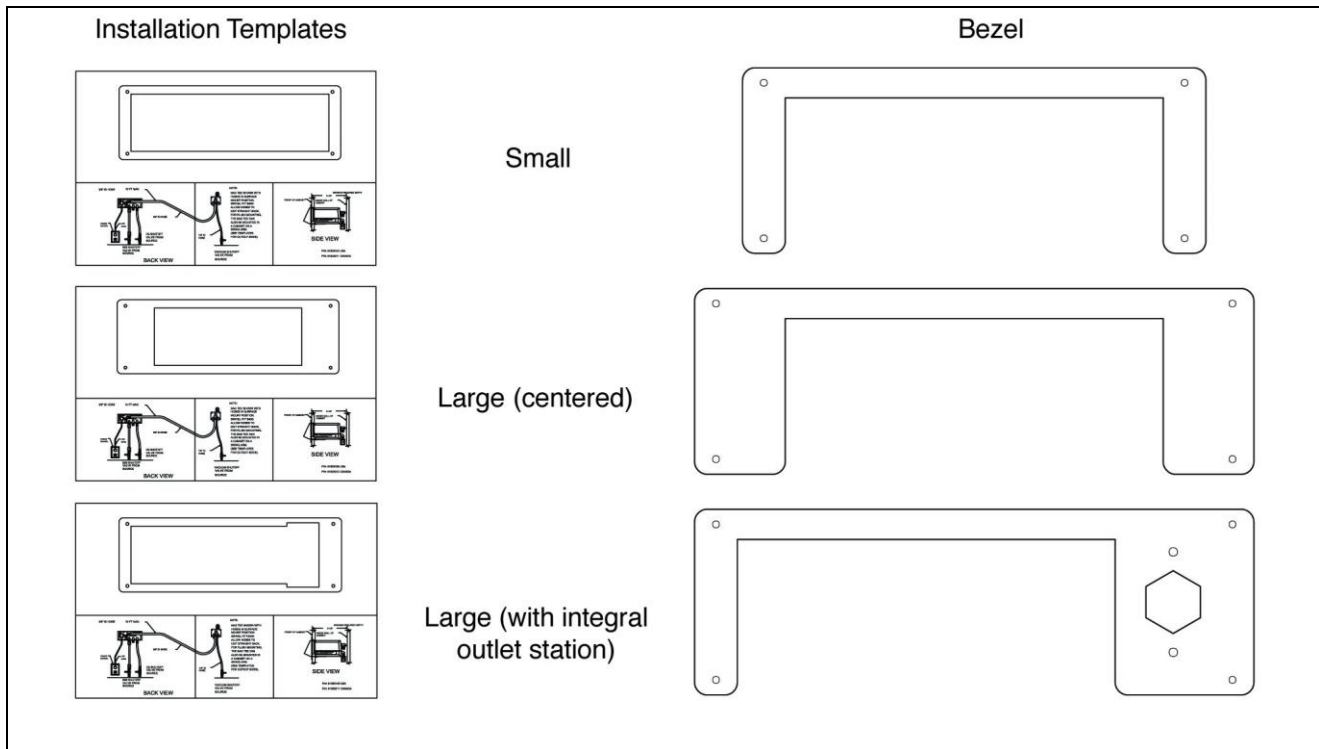


Figure 3. Digital MDM® Mixer Head Configurations.

If an oxygen outlet station is to be installed next to the mixer head, it will be supplied assembled to the bezel.

1. Position the installation template at the desired location on the cabinet surface.
2. Mark the (4) mounting holes and the cutout area on the cabinet surface.
3. Drill (4) 1/16" pilot holes for the cutout area, and cut out the area for the mixer head.
4. Using a #20 drill, drill (4) 0.161" mounting holes.
5. From inside the cabinet, insert the (4) tee nuts into the (4) mounting holes. See Figure 4.
6. While supporting the front of the cabinet, tap in the tee nuts with a hammer. Alternately, a C clamp can be used to squeeze the tee nuts into the cabinet surface. Be certain to protect the front surface of the cabinet with a clean piece of wood between the C clamp and the finished surface.
7. Align and slide the mixer head and bezel assembly into the mounting shelf.

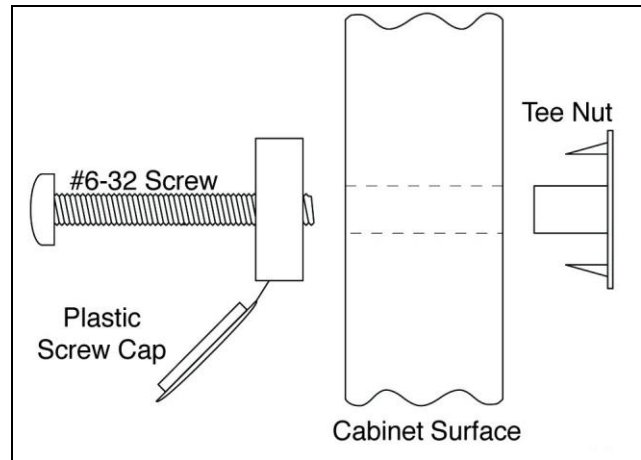


Figure 4. Screw and Tee Nut Attachment.

8. Align the mounting shelf and bezel assembly with the mounting holes, and slide it into the cutout area. See Figure 5.
9. Connect the gas hoses and the power cord to the rear of the mixer head. See Sections 1.7 and 1.9.
10. Slide a screw cap onto each of the (4) screws. See Figure 4.

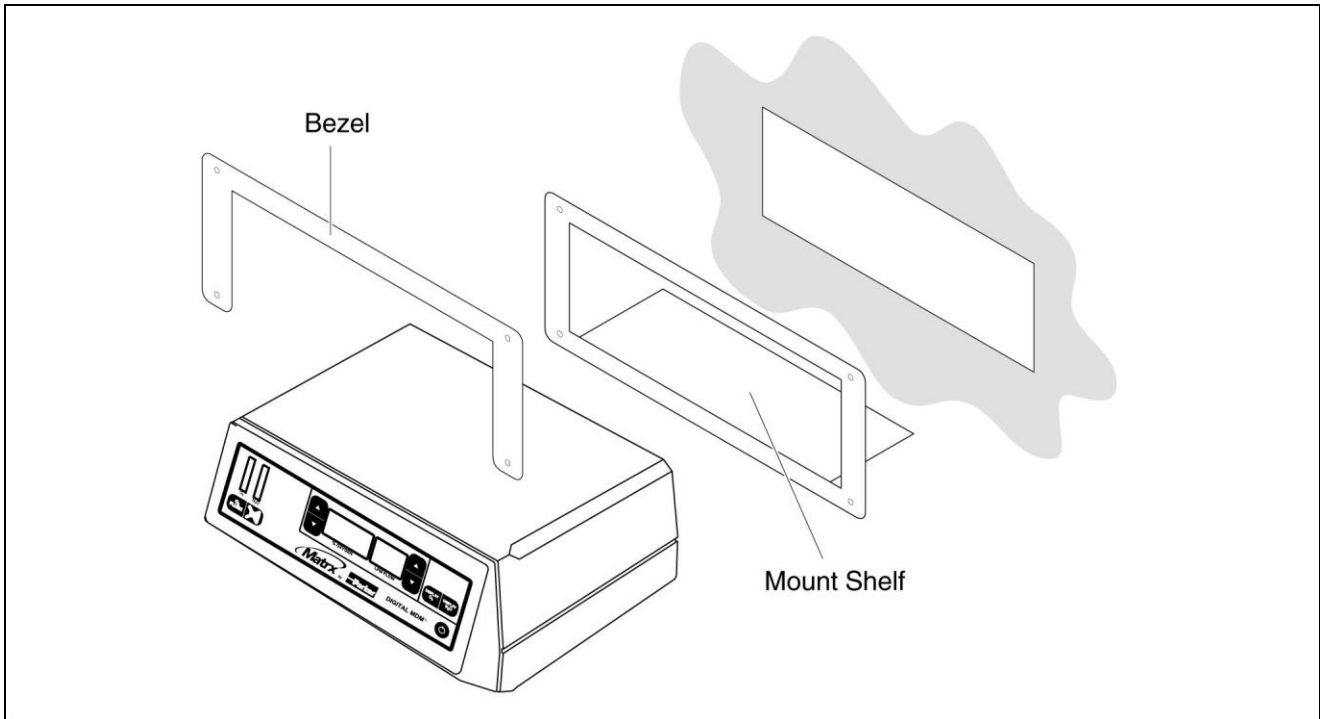


Figure 5. Digital MDM® Mixer Head Installation

11. With the (4) screws, secure the mixer head, the bezel, and mounting shelf to the cabinet surface. See Figures 4 and 5.
12. Tighten the (4) screws and snap the screw caps over the screw heads.

1.5 Bag Tee and Scavenging Control Valve Installation

If a scavenging control valve is to be installed, it is installed next to the bag tee. See Figure 6. The bag tee/scavenging control valve is supplied assembled to the appropriate mounting hardware.

CAUTION

During daily operation, the bag tee/scavenging control valve mount is occasionally stressed, for example, when the breathing bag is removed or installed. The attachment to the cabinet surface must be sufficiently rigid to withstand the stress.

The bag tee/scavenging control valve assembly may be installed on plywood attached to studs or on a wood cabinet surface. It must not be installed onto plaster board or other soft wall materials.

All hoses and gas connections must be *accessible* after the installation is complete.

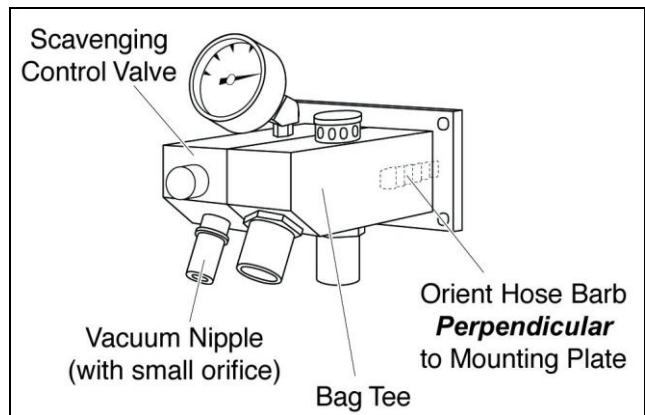


Figure 6. Flush Mounting the Bag Tee and Scavenging Control Valve.

- 1.5.1 Flush Mounting the Bag Tee/Scavenging Control Valve For flush mounting, the bag tee/scavenging control valve is supplied assembled to a mounting plate; see Figure 6.

1. Position the bag tee/scavenging control valve template at the desired location on the cabinet surface.
2. Mark the (4) mounting holes and the (2) holes for the gas hoses.
3. Using a #20 drill, drill (4) 0.161" mounting holes.

4. Drill the (2) 3/4" holes for the gas hoses.
5. From inside the cabinet, insert the (4) tee nuts into the (4) mounting holes. See Figure 4.
6. While supporting the front of the cabinet, tap in the tee nuts with a hammer. Alternately, a C clamp can be used to squeeze the tee nuts into the cabinet surface. Be certain to protect the front surface of the cabinet with a clean piece of wood between the C clamp and the finished surface.
7. Slide a screw cap onto each of the (4) screws. See Figure 4.
8. Orient the hose barbs (they turn) perpendicular to the mounting plate.
9. Align the mounting plate with the (4) holes. The hose barbs should extend into the cabinet surface.
10. Connect the gas hoses to the hose barbs. See Section 1.7.
11. Secure the mounting plate with the (4) screws.
12. Tighten the (4) screws and snap the screw caps over the screw heads.

1.5.2 Surface Mounting the Bag Tee/Scavenging Control Valve

For surface mounting, the bag tee/scavenging control valve is supplied assembled to a mounting plate; see Figure 7. The hose barbs are oriented so that, when installed, the hoses attach from below.

1. Position the bag tee/scavenging control valve template at the desired location on the cabinet surface.
2. Mark the (4) mounting holes.
3. Using a #20 drill, drill (4) 0.161" mounting holes.
4. From inside the cabinet, insert the (4) tee nuts into the (4) mounting holes. See Figure 4.
5. While supporting the front of the cabinet, tap in the tee nuts with a hammer. Alternately, a C clamp can be used to squeeze the tee nuts into the cabinet surface. Be certain to protect the front surface of the cabinet with a clean piece of wood between the C clamp and the finished surface.
6. Slide a screw cap onto each of the (4) screws. See Figure 4.

7. Orient the hose barbs (they turn) parallel to the mounting plate.
8. Align the mounting plate with the (4) holes, and secure with the (4) screws.
9. Tighten the (4) screws and snap the screw caps over the screw heads.
10. Connect the gas hoses to the hose barbs. See Section 1.7.

Mounting the Bag Tee/Scavenging Control Valve Inside the Cabinet

For mounting inside the cabinet, the bag tee/scavenging control valve is supplied with a mounting bracket. Figure 8 illustrates the bag tee/scavenging control valve installed on the mounting bracket.

Install the mounting bracket on one of the inside surfaces (right or left), toward the front of the cabinet. During use, the bag tee/scavenging control valve is turned toward the front of the cabinet. For storage, the bag tee/scavenging control valve is turned toward the rear of the cabinet.

CAUTION

The mounting bracket must be secured to the cabinet surface with bolts and nuts. A washer must be inside each nut. If necessary, strengthen the cabinet surface with a furring strip running from front to back.

Do not install the mounting bracket to the inside of the cabinet door. Daily use will put too much stress on the door hinges.

1. Position the bracket mounting template at the desired location inside the cabinet surface.
2. Mark the (2) mounting holes.

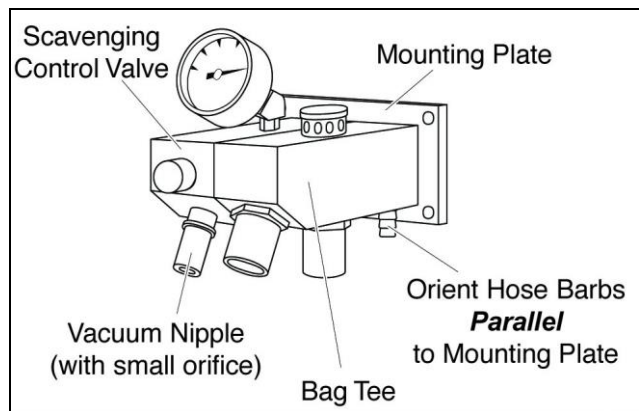


Figure 7. Surface Mounting the Bag Tee and Scavenging Control Valve

3. Drill the (2) 3/8" mounting holes.
4. Slide a screw cap onto each of the (4) short screws, as in Figure 4.
5. If the practitioner wants the hoses to attach from below, orient the hose barb (they turn) parallel to the mounting plate. If the practitioner wants the hoses to attach from behind, orient the hose barbs perpendicular to the mounting plate.
6. Align the mounting plate of the bag tee/scavenging control valve assembly to the front of the mounting bracket. Secure with the (4) screws.
7. Tighten the (4) screws and snap the screw caps over the screw heads.
8. Align the back of the mounting bracket with the (2) holes on the cabinet surface, and secure with the (2) 2-1/4" bolts.
9. From the other side of the cabinet, install a flat washer, a lock washer, and a nut on each bolt. Tighten the nuts.
10. Connect the gas hoses to the hose barbs. See Section 1.7.

NOTE

If desired, the installer may reverse the order of installation, first installing the mounting bracket to the cabinet surface (steps 8 – 9) and then installing the bag tee/scavenging control valve to the mounting bracket (steps 4 – 7).

1.6 J Hook Installation

The Digital MDM® Flush Cabinet Mount Installation Kit includes a J hook for rubber goods storage. Mount the J hook in a convenient location; consult with the practitioner.

1.7 Hose Connections

WARNING

The mixed gas outlet from the rear of the mixer head must be connected to a single bag tee only.

For gas compatibility, all hoses must be supplied by Matrix by Parker. These hoses are braided to prevent occlusion when bent.

All hoses should be as short as possible and installed in a manner that prevents kinking, crushing, and excessive movement. Properly installed, short hoses minimize back pressure on the system.

All hoses must be fully seated on the hose barbs. This prevents gas leakage, which would result in the mixer's incorrectly displaying the volume of gas being delivered to the patient.

Following the schematic in Figure 9, install all hoses at the proper connections. Be aware that your installation may not include all the components shown in Figure 9.

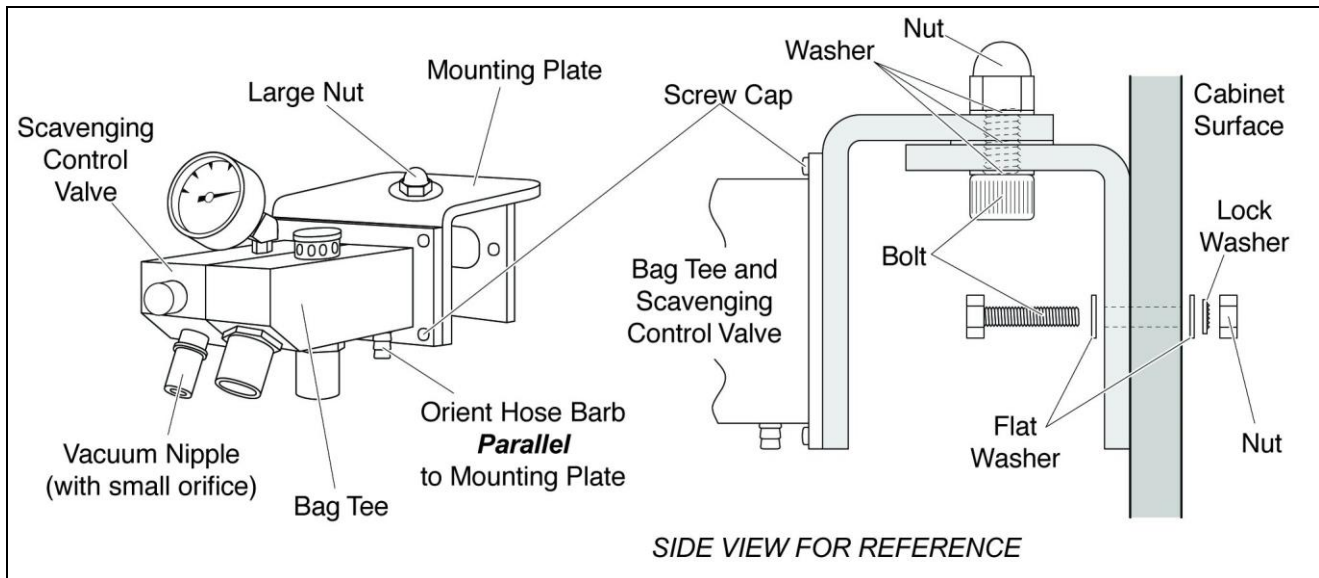


Figure 8. Mounting the Bag Tee and Scavenging Control Valve Inside the Cabinet

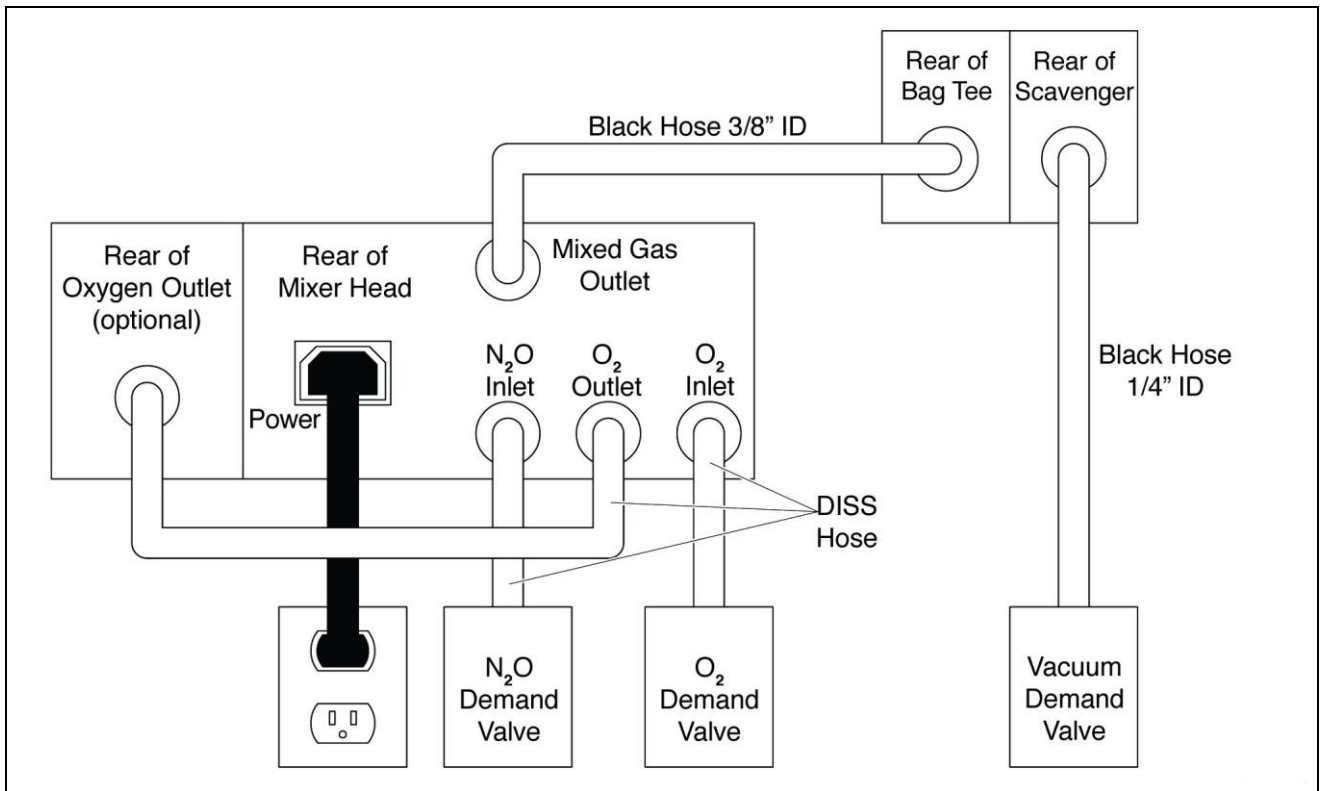


Figure 9. Connections Schematic (some components may not be part of your installation).

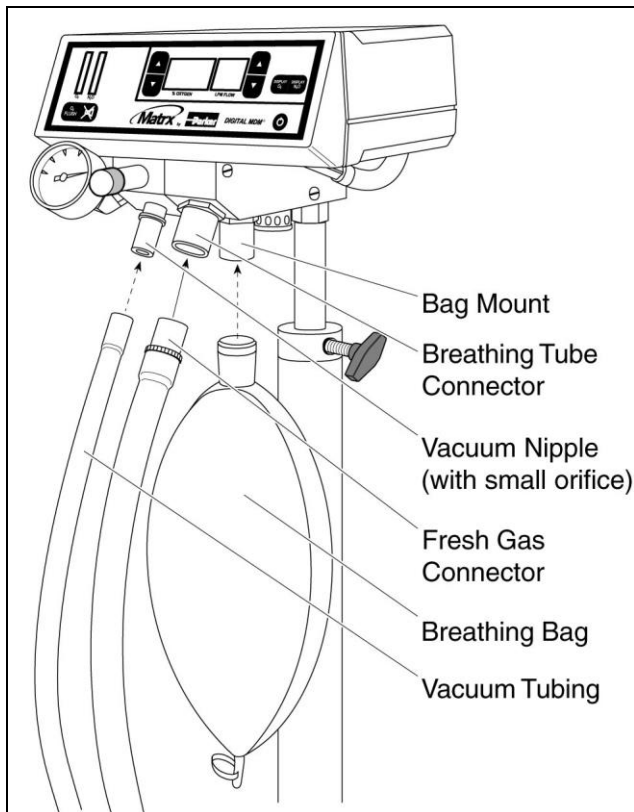


Figure 10. Installation of Rubber Goods.

1.8 Rubber Goods Installation

Install the rubber goods. See Figure 10.

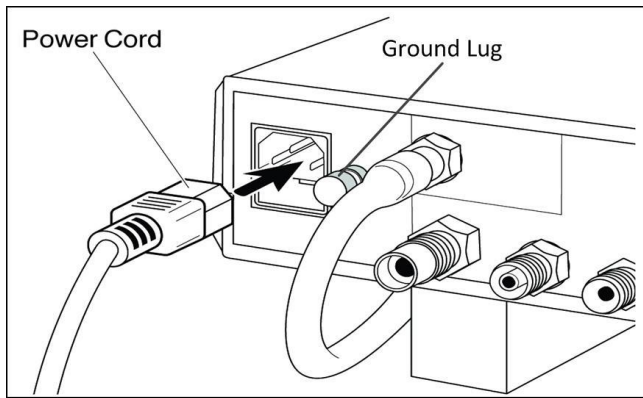


Figure 11. Installation of Power Cord

1.9 Installation of Power Cord and Protective Earth (ground) connection.

Install the power cord at the rear of the mixer head. See Figure 11. Connect the power cord to the electrical outlet.

WARNING

For safety a Protective Earth (ground) connection must be made through power cord 3rd wire or Ground Lug (see Figure 11.)

WARNING

Not providing a valid Protective Earth (ground) connection can result in the risk of electric shock.

Section 2 Specifications

2.1. Minimum Space Requirements

<u>Installation</u>	<u>W x W x D</u>
Digital MDM® mixer head (small bezel)	4-1/4" x 9-3/4" x 6-1/2"
Digital MDM® mixer head (large bezel)	4-1/4" x 12-5/8" x 6-1/2"
Digital MDM® mixer head (large bezel with outlet)	4-1/4" x 12-5/8" x 6-1/2"
Bag tee/scavenger system (flush mount)	18" x 3-1/2" x 4-1/4" *
Bag tee/scavenger system (mounted inside the cabinet on swing arm)	18" x 3-1/2" x 8-1/2" *

* Includes reservoir breathing bag

Section 3 Safety Checks

3.1 Final Connection Checklist

When all items have been installed, all hose connections must be checked and tested.

The installer must ensure that all gas connections are correctly made and leak free. The installation must conform to NFPA 99C guidelines, as well as all local codes and ordinances. For proper United States color coding, see page 2.

WARNING

Route all hoses and cords so that there are no obstructions, pinched or kinked hoses, or potential abrasions of hoses and cords when the installations complete.

NOTE

When all connections are complete, all gas stop valves and hoses must be accessible for future maintenance of the mixer and its components.

3.2 Cross Pipeline Tests

WARNING

Although this analgesia machine is designed to restrict the interchanging of the two gases, it is the responsibility of both the user and the installer to determine that only oxygen flows into the oxygen fitting and that only nitrous oxide flows into the nitrous oxide fitting located at the rear of the mixer head.

If the gas pipeline test fails at any step, the pipeline must be repaired and tested again, starting at step 1. Before repair or testing, the entire system must be purged of any residual gas. If repair is required, follow the NFPA 99C code for brazing requirements; see the Introduction.

1. Close the gas shutoff valves on the main supply cylinders.
2. Exhaust the gas from the entire manifold and pipeline system by sequentially connecting an indexed gas hose to each outlet station or connection point.

WARNING

To prevent injury from hose whip, always hold the free end of the hose.

3. Open the oxygen shutoff valve on the main cylinder only.
4. Verify:
 - that oxygen gas flows at each oxygen outlet station
 - that no gas flows at each nitrous oxide outlet station

NOTE

Use only oxygen or nitrous oxide when testing gas lines.

5. With the oxygen still pressurized, open the nitrous oxide shutoff valve on the main cylinder.
6. Verify that nitrous oxide gas flows at each nitrous oxide outlet station

3.3 Gas Outlet Station Tests

If additional gas outlet stations are installed, complete the test procedures listed in the Matrix by Parker Outlet Stations Installation and Parts Manual.

3.4 Mixer Tests

Complete the performance checks listed in section 3.1 of the Digital MDM® Operations Manual (Part No. 10545100).

Section 4 Return Information and Warranty

All repairs, unless otherwise specified, should be performed by an authorized Matrix by Parker service representative. Call 1-888-723-4001 for Customer Service.

4.1 Returned Goods Procedure

All returns must be made through an authorized Matrix dealer. Units for repair should be sent to Matrix by Parker and packaged in the original shipping container if possible. Enclose a letter detailing the difficulties experienced and the repairs you feel are necessary. Please contact our Customer Service Department prior to shipping the unit prepaid.

Ship to:

Parker Hannifin Corporation
Porter Instrument Division
245 Township Line Road
Hatfield, PA 19440 USA
Tel 215-723-4000

For international returns, contact your local Matrix by Parker dealer.

4.2 Warranty

This warranty is given in lieu of all other warranties, expressed or implied, of merchantability, fitness for a particular purpose, or otherwise.

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

Subject to the next sentences, Matrix by Parker warrants that each product be free from defects in workmanship and materials, under normal use and with appropriate maintenance, for the time listed below, commencing from the date of delivery to the customer.

Digital MDM® Cabinet Mount: 1 year

Matrix by Parker's obligations for breach of this warranty, or for negligence, or otherwise shall be strictly and exclusively limited to repair or replacement of the product. This warranty shall be void on a product on which the serial number has been altered, defaced, or removed.

Matrix by Parker 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 of 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 Matrix by Parker.

Under no circumstances shall Matrix by Parker be liable for incidental or consequential damages as those terms are defined in the Uniform Commercial Code.

Section 5 Replacement Parts

The following replacement parts may be obtained from Digital MDM®:

Matrx Part No.	Description
20183200	Power Cord (USA)
10545100	Instruction Manual
63882537	Fuse: 2.5 amp, 250 volt, slo-blo (time delay) 5 mm by 20 mm (Note: international 220-240 volt units require two fuses)
91515087	Autoclavable nitrous scavenging assembly Adult
91515088	Autoclavable nitrous scavenging assembly Medium
91515089	Autoclavable nitrous scavenging assembly Pediatric
62939600	Vacuum gauge (scavenger control valve)
91525136	Swing arm assembly, with mounting hardware
91505112	Pre-installation kit (shutoff valves)
91316043	3 liter breathing bag

Mounting Fasteners

91525141	Hardware Kit, 1" screws, tee nuts, (4) black caps
91525169	Hardware Kit, swing arm "wall side"
91525137	Hardware Kit, 1/2" screws, tee nuts, (4) black caps
91525142	Hardware Kit, 1" screws, tee nuts, (4) pebble grey caps

Installation Templates

63936200	10" bezel
63936300	12-5/8" bezel, unit centered
63938200	12-5/8" bezel, with O2 Quick Connect
63940000	Bag tee, scavenging control valve
63939900	Swing arm (wall side template)
63940100	Flush swivel bag tee (alone) template
63940400	Undercounter hinge

Matrx Part No.	Description	
Hoses		
Black		
91525143	Scavenging hose, 1/4" I.D., 10' long	
91525144	Bag tee hose, 5/16" I.D., 10' long	
Ohio Male Quick Connect		
92305126	Ohio Quick Connect male X DISS female	Oxygen
92305127	Ohio Quick Connect male X DISS female	Nitrous Oxide
92515063	Ohio Quick Connect male X 1/4 NPT	Vacuum
DISS (Diameter Indexed Safety System)		
92305110	DISS female X DISS female	Oxygen
92305111	DISS female X DISS female	Nitrous oxide
92305248	DISS female X DISS female	Vacuum
DISS Hand-I-Twist		
92305288	DISS Hand-I-Twist female X DISS female	Oxygen
92305289	DISS Hand-I-Twist female X DISS female	Nitrous oxide
92515064	DISS Hand-I-Twist female X 1/4 NPT	Vacuum
DISS X Ohio Female Quick Connect		
92305118	DISS female X Ohio QC female	Oxygen
92305119	DISS female X Ohio QC female	Nitrous oxide
92305353	DISS female X Ohio QC female	Vacuum