PORTER Nitrous Oxide Sedation Systems
Proven to be
Best for your patients
Best for your practice
Porter's trailblazing innovations in measuring and controlling gases in critical applications reach their highest realization and effectiveness in the Porter Nitrous Oxide Sedation Systems. This unparalleled 30 year legacy of precision is your assurance of a sedation system offering the highest attainable levels of patient comfort and system safety, reliability and ease of operation. The entire Porter system, from the precision flowmeter, to the patented automatic vacuum switch, to the double mask scavenger are designed to enhance the patient experience while helping generate a desirable and dependable revenue stream for you.

Featuring an Unequaled Blend of Precision, Safety and Comfort

**Precision!**
**Porter Glass Tubes and Valve Design**
Unsurpassed for accurate visual read flow readings with .5 liter markings, Porter flow tubes have become the standard of the Dental and Medical professions. The needle valves, designed and manufactured by Porter Instrument, provide quick, accurate, one-hand adjustment of gas flows to match the patients breathing rate.

**Safety!**
**Porter Automatic Vacuum Switch and Failsafe**
Patented design, the AVS automatically prevents nitrous oxide/ oxygen from being administered without scavenging. Whenever the “gas” flows, the vacuum is “ON”. It’s automatic and a real time saver! A dual-seal, one-piece, solid aluminum construction failsafe virtually eliminates internal gas leaks. The proportional failsafe automatically reduces/stops the flow of nitrous oxide if the oxygen line pressure is reduced or the oxygen flow is interrupted.

**Comfort!**
**Porter Double Mask Scavenger**
A soft and flexible inner liner provides a better seal around the nose, a more comfortable fit for your patient, and extraordinary, industry-leading scavenging efficiency.*

* Virginia Commonwealth University test data available, contact Porter.
These are the gas-saving flowmeters that have set the new standard for accuracy so high, they are trusted in hospitals across the country for the critical administration and regulation of anesthetic gases. The full range of exceptional performance and safety features built into the Porter Flowmeters make them the most trustworthy instruments of their kind for your practice.

Porter MXR-1 Cabinet Mount Flowmeter

Installed in the preferred 12 o’clock position behind the dentist, it affords convenient and easy access, out of the patient’s line of sight, and in the position that gives you the greatest efficiency of movement.

The cabinet mount flowmeter comes standard with a NIOSH recommended inter-connect between the delivery unit and the vacuum system for fail-safe operation.

The original gas-saving Porter MXR Flowmeter

Offers all the fail-safe and security features of the Porter cabinet mount MXR-1 to those dentists who would prefer an at-your-side vertical version. The only practical difference is that the breathing bag and bag tee are attached to the machine for ideal monitoring efficiency. Dual-seal, one-piece solid aluminum construction virtually eliminates internal gas leaks.

Outstanding Features Include:

1. Porter Flowmeter Tubes.
   Provide accurate, visual flow readings—the standard of the industry.

2. Dual Seal Fail-Safe.
   Automatically reduces and eliminates N2O if O2 is shut off or the pressure is reduced.

3. Gas Control Block.
   Virtually eliminates internal gas leaks. One-piece, solid aluminum construction.

   Throttle-type knobs allow quick, accurate, one-hand adjustment of gas flows.

5. Emergency Air In-Take Valve.
   Automatically provides patient with ambient air if gas flow is interrupted.

6. Check Valve.
   Prevents rebreathing of used gases and guards against CO2 build-up in the breathing bag.

7. Positive ON-OFF Switch.
   On all models, the on-off switch eliminates the possibility of accidentally leaving the machine on.

   Provides an easily accessible override of all other gas flows and delivers 100% O2.

   Spring washer design prevents overturn of needle stems and resulting damage to seats and valves.

10. Oxygen Quick Connect.
    Facilitates connection of resuscitation equipment to the central system.

11. Total Flow Adjustment Knob.
    Controls flow of both N2O and O2 at any desired concentration. Total flow can be adjusted without affecting concentration. Low flow capability means economy of operation. Available only on MXR model.

The ADA Council on Scientific Affairs’ Acceptance of Porter Conscious Sedation Flowmeter MXR 3000 is based on its finding that the product is effective for use in delivering nitrous oxide-oxygen conscious sedation in the dental operatory.
Scaevenger System
The Porter "Double Mask" Scavenger

Unique, Comfortable, Quiet and Safe

The Porter scavenging system is the only double mask (mask-within-a-mask) system. It features an outer mask and a flexible, disposable (single-use), or autoclavable (multi-use), easily removable inner liner. It is the soft inner liner that creates the complete, yet comfortable, seal around the patient's nose, thus assuring the Porter mask's superior scavenging efficiency. The Porter masks are available in both adult and pedo sizes; the inner liners either unscented or citrus scented. The masks are autoclavable by either steam or chemical sterilizing and the Porter scavenging system is retrofittable to most flowmeters.

Rated #1 in Scavenging Efficiency in Independent Clinical Trial*: The Porter Scavenger was the only system tested shown to maintain nitrous oxide levels below 50 ppm, the maximum exposure limit recommended by the National Institute of Occupational Safety and Health (NIOSH) and the American Conference of Governmental Industrial Hygienists (ACGIH).

*Virginia Commonwealth University Dental School

The Porter AVS

Automatic Vacuum Switch

The failsafe is the heart of the scavenger system. The patented Porter AVS prevents nitrous oxide/oxygen from being administered without scavenging, per mandated NIOSH and OSHA guidelines. The Porter AVS provides safety with certainty. It is automatic "on" and automatic "off". Nothing is required of the system operator. The minute the gas begins to flow from the flowmeter, the Porter AVS activates the scavenger vacuum. When the procedure is finished, it automatically shuts down the vacuum. The Porter AVS is another integral component of the complete Porter Nitrous Oxide Sedation System.

Help promote office efficiency and infection control, these disposable or autoclavable latex-free liners can be on and gone, while complying fully with infection control protocols. Available in both adult and pedo sizes, unscented and citrus scented.

New Available!
Scavenger System Retrofit Kits

PORTER No. 5800-1 Universal Retrofit Kit includes the PORTER Scavenger with in-line vacuum control in adult or pedo sizes, 3-liter breathing bag flowmeter adapters and bag tee where necessary to upgrade systems using these flowmeters. Contact your full-service authorized Porter dealer for additional information.
Automatic changeover to reserve tank; memory of tank usage and empty tank indicator all accomplished automatically.*

Failsafe protection- loss of oxygen supply pressure shuts down nitrous oxide supply pressure.*

Cross+protection diameter indexed tubing connections.

Swivel tubing connections allow for easy connection of piping in up or down configuration.

Pressure relief valves for operatory equipment protection.

Diameter indexed inlet fittings (DISS) with O-ring seal back-up and check valves.

*Pertains to Vanguard manifold systems (see page 10)

1. No more than 3000 cubic feet of gas in the tank room.
2. Gas stored in a locked cabinet or room.
3. At least 72 sq. inches of vent area in cabinet or room.
4. A separate regulator for each cylinder of gas.
5. A pressure relief valve set at 75 psi.
6. A check valve downstream of each regulator.
7. Line pressure gauges for each gas.
8. Type K or L, pre-cleaned, degreased capped copper piping ONLY.
9. Flexible tubing with minimum burst pressure of 1000 psig.
10. Flexible tubing must NOT go through wall or partition.
11. System must be tested for leaks with dry nitrogen for 24 hours at 150 psi.
12. Line pressure set at 50-55 psi.
13. All joints must be silver soldered with 1000ºF melting point.
14. An audible and visual alarm, set at 40 psi low, and 60 psi high, must be in a constantly monitored area.
15. A remote shut-off must be used if gases are stored in a remote area, i.e. outside, in the basement, etc.
16. Automatic changeover (Vanguard system) required if tanks are stored in a remote area.

The Sentinel System provides immediate audible, and highly visible alarms, should gas supply pressure begin to fluctuate out of the normal operating zone. The compact, high precision alarms are available in on-desk or flush-mounted wall models.
Typical Nitrous Oxide/Oxygen Central Piping System
Incorporating Porter’s cross+protection system
All nitrous oxide lines are 3/8” O.D. copper piping. All oxygen lines are 1/2” O.D. copper piping. Unless deliberately tampered with, nitrous oxide and oxygen lines cannot be crossed. The use of two different pipe sizes eliminates the greatest cause for concern and potential problems connected with the installation of central piping systems, meeting NFPA 99 recommended guidelines.

Porter’s Vanguard System incorporates precise monitoring of gas pressures, providing both audible and visual alarms if line pressures fluctuate more than 20% in either direction. The Vanguard offers the additional benefit of automatic changeover of gas supply from empty to reserve tanks.

Vanguard Wall Alarm
Just press a button and gas supply is delivered from the manifold system. Provides automatic changeover from empty to reserve tank. Audible alarm monitors the gas supply, and LED’s indicate line pressure and on-line tank status.

Vanguard Desk Alarm
All the features of the Vanguard wall alarm, but in a convenient desk model.

Vanguard Manifold
Both gases are manifolded through one compact unit. Easily installed and simple to operate. An attractive neutral-color cover in a pebble-finish, conceals connections. Easy to read gauges indicate system pressure. The standard combination of O2 and N2O tanks is generally two O2 and two N2O. Contact Porter to add more oxygen cylinders.

In lieu of outlet stations, diameter indexed gate valves with check valves are utilized when connecting to a flushmount flowmeter within a cabinet.
Outlet Stations

Porter Operatory Outlet Stations

Triple Outlet Station
(6255-1, 6256-3)
This is Porter’s advanced one-piece combination Clean-Air™ and Nitrous Oxide/Oxygen gas outlet station that both delivers and removes Oxygen and Nitrous Oxide in the dental operatory.

Standard Outlet Station
(6200-1)
This is Porter’s performance proven, diameter indexed Nitrous Oxide/Oxygen outlet station.

Floor Mounted Outlet Station
(6300-1)
Identical in operation to the Standard Outlet Station, but in a compact size for clean, un-obtrusive floor installation.

Mounting & Accessories

Porter Flowmeter Mountings and Accessories

A. Solid Wall Mount (2020)
Sturdy aluminum construction with telescoping arm that extends or retracts

B. Cut Out Wall Mount (2022)
For use with Porter’s 6255-1 outlet station

C. Side Cabinet Slide Mount for AVS/bag tee
(2036-2, 2036-4, 2037-1)
Slides out for easy access and storage. For use with flushmount flowmeters for AVS/bag tee. Minimum cabinet depth needed is 18” for AVS and 12” for bag tee only.

D. Cabinet Mount, Slide Away
(2035-1)
Under the cabinet mounting for flowmeters. Measures 9 1/2” long by 3” wide with a 5” extension.

E. Cabinet Side Mount
(2036-3)
Slides out for easy access and storage. For use with flowmeter head.

F. Compact Mobile Stand
(2040)
Top of meter telescopes from 24” to 36” high.

G. Short Portable “E” Tank Stand
(2045-short)
Adjusts from 31” to 37” high

H. Portable “E” Tank Stand
(2045-2)
For use with two "E" tanks O₂ and two "E" tanks N₂O. Height adjusts from 43” to 50”
Emergency Oxygen

Porter O-Two Demand Valve Resuscitation

Whether your patients experience cardiac or respiratory arrest, you'll be much better prepared with the Porter O-Two Demand Valve Resuscitator. In a crisis, it's fast, easy to use and highly effective.

The Porter O-Two combines two lifesaving technologies:

1. Positive Pressure Resuscitation
   It ventilates non-breathing patients with 100% oxygen.

2. Demand Valve Oxygen Delivery
   It delivers 100% oxygen 'on demand' to patients suffering respiratory distress.

These fact-packed brochures on the Porter O-Two and Porter Office Communication Systems are available as PDF files on the Porter web site, www.porterinstrument.com

Typical Order

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Additional products and accessories are available in the Porter Products and Parts Catalog. Contact your Authorized Porter Full-Service Dental Dealer or visit Porter online at www.porterinstrument.com