

# Nitrous Oxide / Oxygen FLOOR MOUNTED OUTLET STATION Installation and Instructions

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MODEL 6300-1



**PORTER** INSTRUMENT COMPANY, INC.

245 TOWNSHIP LINE RD. P.O. BOX 907 HATFIELD, PA 19440-0907 USA [215] 723-4000 / FAX [215] 723-2199

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## Nitrous Oxide / Oxygen Floor Mounted Outlet Station Installation and Instructions

The Porter Floor Mounted Outlet Station is manufactured of durable, satin-finished aluminum with a color coded faceplate to provide instant gas identification. The station's compact size (less than three inches high) allows for a clean, unobtrusive installation. Features include the **cross+protection** system to prevent unintentional misconnection to the central piping system. The outlet station utilizes a duplex connector which prevents the Nitrous Oxide from being connected unless the Oxygen is connected, and offers resuscitator quick connect compatibility. A qualified plumber can install the outlet station by following the details listed in this brochure.



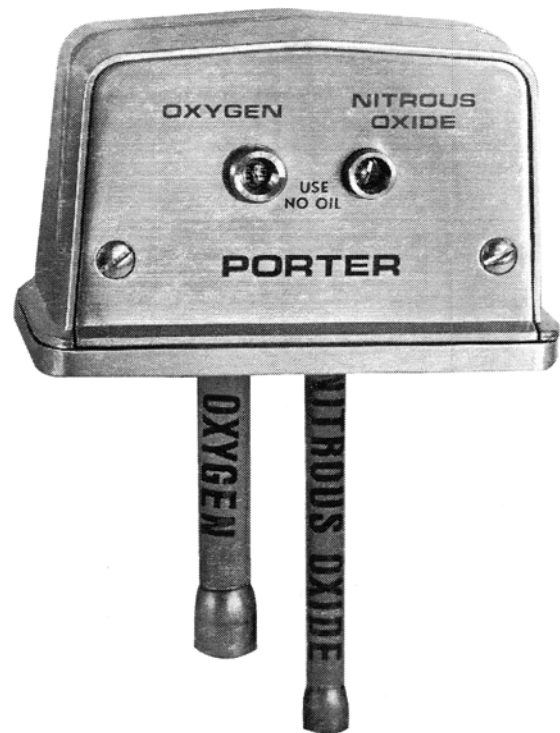
### WARNING

Porter Instrument Company, Inc. Outlet Stations utilize the **cross+protection** system. The copper tubing is diameter indexed; 3/8" O.D. for Nitrous Oxide and 1/2" for Oxygen. The **cross+protection** system is designed to prevent misconnection of Oxygen and Nitrous Oxide piping. **DO NOT ATTEMPT TO CHANGE THE DIAMETERS!** Tampering with the **cross+protection** system constitutes acceptance of liability by the installer. For your own protection, as well as that of the Doctor and the patients, use 3/8" O.D. tubing for all Nitrous Oxide lines and 1/2" O.D. tubing for all Oxygen lines.

To assure safe operation and conformation to local fire codes, all Porter Instrument Company Outlet Stations are designed to be used with sedation delivery systems mounted inside walls or flooring and they meet or exceed the guidelines established by the National Fire Protection Association for Nonflammable Medical Gas Systems, NFPA 99. Copies of NFPA 99 or portions thereof may be obtained by writing to:

National Fire Protection Association  
Batterymarch Park  
Quincy, MA 02269-9904  
Or call: 1-800-344-3555

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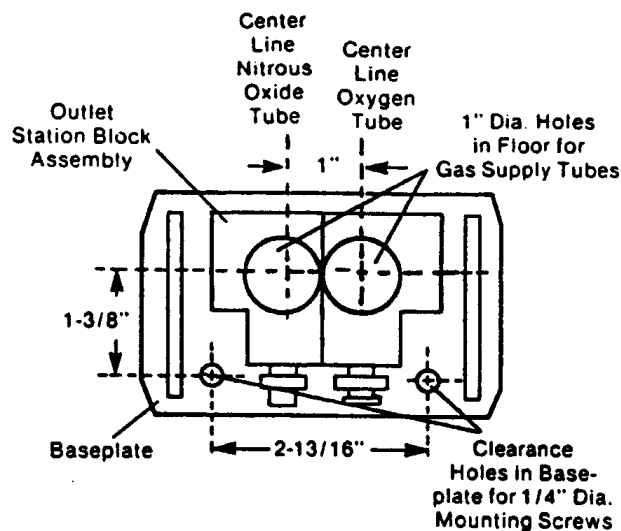
### WARNING

Dental workers are exposed to N<sub>2</sub>O during administration of N<sub>2</sub>O/O<sub>2</sub> conscious sedation analgesia. NIOSH has recommended that exposures should be minimized. Contact NIOSH (1-800-35-NIOSH) to receive NIOSH Publications on *Control of Nitrous Oxide in Dental Operatories*. Exposure can be minimized by effective controls. National Institute for Occupational Safety and Health (NIOSH) publications state that controls, including System Maintenance, Ventilation and Work Practices can effectively reduce N<sub>2</sub>O concentrations in dental operations. Your Porter Scavenger System is an important part of the system of controls.

## STATION INSTALLATION INSTRUCTIONS

1. Select and prepare appropriate location for mounting station. See Typical Station Mounting Plan (below) for gas supply and base plate mounting hole locations.

### Typical Station Mounting Plan

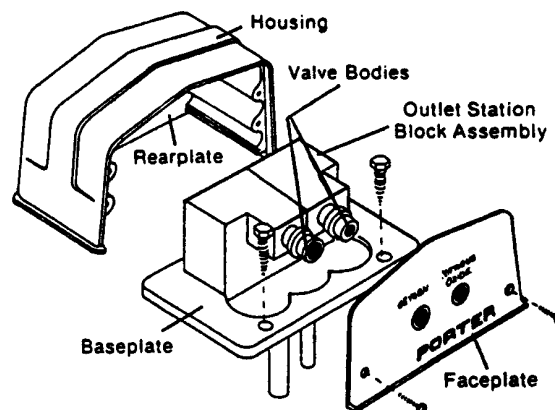


2. Install the gas lines. Note: The station is designed and intended to be used with gas supply lines installed using NFPA 99 guidelines, including a 150 PSI piping integrity test. Medical grade dry Nitrogen should be used as a "forming gas" while soldering. To prevent oxidation inside supply lines:
  - (a) Use type K or L, pre-cleaned, degreased, capped copper tubing **ONLY**.
  - (b) Use 3/8" O.D. for Nitrous Oxide, use 1/2" O.D. for Oxygen. **DO NOT CHANGE TUBING DIAMETERS!!**
  - (c) All copper to copper joints are to be made using a brazing allow conforming to AWS Classification BcuP-5 (see AWS Std. A5.8). Flux shall not be used.
3. Remove front faceplate from Outlet Station.
4. Remove housing from base plate by sliding Housing to rear.
5. Solder gas supply lines to Outlet Station tubes. Solder all joints. Use silver solder or other brazing alloy with a melting point of 1000°F or more.
6. Position base plate and mount securely to floor with 1/4" diameter mounting screws or lag bolts.
7. Slide Housing onto base plate.
8. After connecting all gas lines, check the system for leaks with dry Nitrogen per NFPA 99, by performing a 150 psi, 24 hour piping integrity test (5 psi drop allowed).

9. **Check for crossed lines.** (Refer to NFPA Gas and Vacuum Systems Code for Level III Systems) (See **cross+protection Warning** in this brochure.)
10. Alignment and Adjustment for Front Faceplate Installation – The Oxygen and Nitrous Oxide valve bodies are factory adjusted to allow for the back of the front faceplate to press against the metal surfaces of both valve bodies. If adjustment is needed:

Rotate the Oxygen and Nitrous Oxide valve bodies so they both uniformly contact the back of the front faceplate when it is installed. Oxygen has right hand threads and Nitrous Oxide has left hand threads.

11. Install front faceplate to housing so it contacts housing and valve bodies.
12. Connect an 8060 series duplex connector and hoses into the completely assembled Floor Mounted Outlet Station. Attach the other end of the hoses to a flowmeter and turn the flow control knobs to the off position and the on/off switch to the off position.
13. **Leak test the entire system for working pressure leaks.** Pressurize the sedation gas supply lines with 50 PSI. Observe any pressure decay after 12 hours. This 50 PSI test with the flowmeter tubing connections in place tests the seal of the duplex connector extended into the o-rings of the outlet station primary check valves. (5 PSI drop allowed.)



## CONNECTIONS TO FLOWMETER – OPERATING INSTRUCTIONS

Flowmeter gas supply tubing and vacuum tubing is connected to the Outlet Station via two quick connect couplers. The Porter 8060 series duplex connector simultaneously connects the Oxygen and Nitrous oxide tubing, and prevents the Nitrous Oxide from being connected unless the Oxygen is connected.

## QUICK CONNECTING

You may quick connect to the station when the system pressure is at its normal 50 PSI; the primary check valves seal this pressure. The coupler has a locating latch. Simply insert the coupler into the appropriate check valve and confirm the latch is in place behind the catch feature of the valve. A gentle tug on the coupler will confirm a stable latch position. Internally, within the primary check valve, an o-ring seals against a poppet. The same o-ring seals against the quick connect extensions upon insertion. Slide the latch out of position to remove the connector and the internal poppet will automatically move back into its sealing position.

## RESUSCITATOR

Remove the duplex connector so a resuscitator quick connect may be inserted into the Oxygen station position.

## MAINTENANCE AND SERVICE

### Use Scavenging

Monitor for N<sub>2</sub>O in the operatory to insure that controls are effective in achieving low levels of ppm (parts per million) exposure. Contact your Porter dealer for details on monitors and testing.

**Inspect and maintain** the analgesia delivery system to prevent N<sub>2</sub>O leaks in all hoses, connections and fittings. Repair all leaks immediately.

## MONTHLY CHECK

**Leak test the entire system for working pressure leaks.** Connect an 8060 series duplex connector and hoses into the Outlet Station. Attach the other end of the hoses to a flowmeter and turn the flow control knobs to the off position and the on/off switch to the off position.

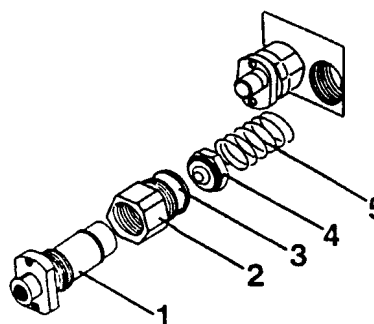
Pressurize the sedation gas supply lines with 50 PSI. Observe any pressure decay after 12 hours. This 50 PSI test with the flowmeter tubing connections in place tests the seal of the duplex connector extended into the o-rings of the outlet station primary check valves. (5 PSI drop allowed.)

## SERVICE PRIMARY AND SECONDARY CHECK VALVE ASSEMBLIES

The Oxygen and Nitrous Oxide primary and secondary check valve assemblies may be field disassembled and replaced.

- |                                   |                                                          |
|-----------------------------------|----------------------------------------------------------|
| 1) Primary Check Valve Assembly   | O <sub>2</sub> A-2689-000<br>N <sub>2</sub> O A-2690-000 |
| 2) Cartridge Body                 | O <sub>2</sub> B-2237-000<br>N <sub>2</sub> O B-2275-000 |
| 3) O16 O' Ring                    | PB-102-215                                               |
| 4) Secondary Check Valve Assembly | A-2699-000                                               |
| 5) Compression Spring             | PB-115-63SS                                              |

### PRIMARY CHECK VALVE DISASSEMBLY INSTRUCTIONS



### SERVICE PRIMARY CHECK VALVE

**May be serviced with station pressurized to 50 PSI.**

1. Remove front plate. Mounting screws are behind plate labels.
2. Unscrew the primary check valve assembly. Oxygen right hand threads; Nitrous Oxide left hand threads. **Note: the secondary check valve will move into position and seal the 50 PSI of the station pressure as the primary check valve assembly is removed.**



### WARNING

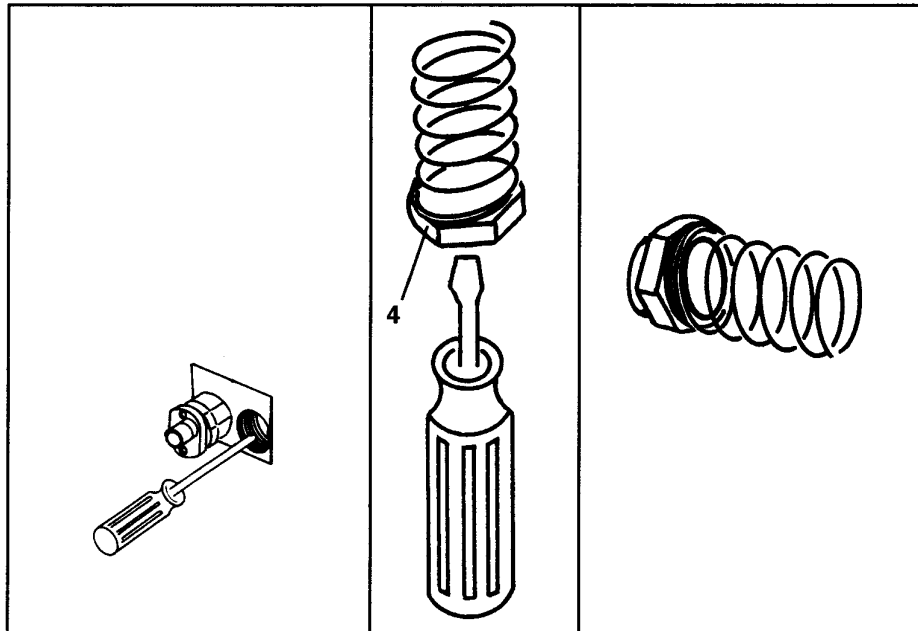
**Do not remove the cartridge body while servicing the primary check valve assembly. The secondary check valve cannot seal the 50 PSI pressure if the cartridge body is removed.**

3. Replace the entire assembly.
4. Screw the replaced assembly into the cartridge body.
5. Alignment and Adjustment for Front Faceplate Installation – The Oxygen and Nitrous Oxide the back of the front faceplate to press against the metal surfaces of both valve bodies. If adjustment is needed:

Rotate the Oxygen and Nitrous Oxide valve bodies so they both uniformly contact the back of the front faceplate. Oxygen has right hand threads and Nitrous Oxide has left hand threads.

6. **Leak test the entire system for working pressure leaks per the Monthly Check.**

### SECONDARY CHECK VALVE DISASSEMBLY INSTRUCTIONS



### SERVICE SECONDARY CHECK VALVE



#### **WARNING**

**To service the secondary check valve, first turn off pressure. Do not remove the cartridge body until the pressure is bled off. The secondary check valve cannot seal the 50 PSI pressure if the cartridge body is removed.**

1. **Turn off pressure at tanks in tank room.**
2. Follow procedure to remove primary check valve assembly.
3. Depress secondary check valve further into station block using a small probe or screw driver to bleed off pressure.
4. Unscrew cartridge body out of the station block.
5. Take a small screw driver or needle nose pliers and insert into holes at the center of secondary check valve. Carefully remove check valve and spring.
6. Replace the 016 o-ring and secondary check valve parts as required and place in position for reassembly.
7. Screw in the cartridge body and tighten.
8. Screw in the primary check valve assembly and align and adjust for front plate installation.
9. **Leak test the entire system for working pressure leaks per the Monthly Check.**