Accutron™ Ultra DC™ Flowmeter

USER MANUAL

HuFriedyGroup
The Best In Practice

INDICATIONS FOR USE

To be used in nitrous oxide-oxygen sedation systems for delivering to a patient a mixture of nitrous oxide and oxygen gases with a maximum nitrous oxide concentration of 70%.

CONTRAINDICATIONS

Contraindications for use of nitrous oxide/oxygen inhalation may include:

1. some chronic obstructive pulmonary diseases;
2. severe emotional disturbances or drug-related dependencies;
3. first trimester of pregnancy;
4. treatment with bleomycin sulfate;
5. methylenetetrahydrofolate reductase deficiency.

Whenever possible, appropriate medical specialists should be consulted before administering analgesic/anxiolytic agents to patients with significant underlying medical conditions (e.g., severe obstructive pulmonary disease, congestive heart failure, sickle cell disease, acute oritis media, recent tympanic membrane graft, acute severe head injury.[1])

[1] American Academy of Pediatric Dentistry. Clinical Guidelines: Guidelines on Use of Nitrous Oxide for Pediatric Dental Patients. Pediatr Dent 2009;31(6):148-151. Available at: "http://www.aapd.org/media/policies.asp". Accessed February 23, 2010.

WARNINGS

To be used only by a professional trained in the use of nitrous oxide.

Patient should always be closely monitored during nitrous oxide use. If patient has an adverse reaction, reduce or stop the flow of nitrous oxide as needed. The O_2 flush button can be used to rapidly purge the lines of N_2O. If patient does not show signs of quick recovery, remove nasal mask and treat with pure oxygen from either the O_2 resuscitator fitting or an auxiliary oxygen tank using a demand valve, oxygen assisted manual resuscitator, or equivalent. Call for emergency assistance if rapid response is not achieved.

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

Unit is calibrated at the factory to ±5% per industry recommendations.

Verify that the correct gases are being delivered to the correct ports on the analgesia gas machine before initial use. This can be done by shutting off the oxygen cylinders in the tank room. Gases should not flow when flowmeters are turned on.

CAUTIONS

Federal (U.S.) law restricts this device to sale by or on order of a dentist or physician.

Do not attempt to repair, alter, or calibrate this device. Unauthorized repair, alteration or misuse of this device is likely to adversely affect the performance and will void the warranty.

Safety features contained in this notice should be routinely checked to assure proper function. If any of these safety features are not functioning properly, contact your dealer or Accutron and arrange for the necessary repairs before reusing the machine.

Always use clean, dry medical gases. Introduction of moisture or other contaminants into Accutron™ Analgesia Gas Machines may result in defective operation.

INDICATIONS D'UTILISATION

Vous ne devez utiliser cette machine que dans des systèmes de sédation oxygène-oxyde nitreux qui livrent au patient un mélange de gaz d'oxyde nitreux et d'oxygène ayant une concentration maximale d'oxyde nitreux de 70%.

CONTRE-INDICATIONS

Les contre-indications sur l'inhalation d'oxyde azoteux/oxygène peuvent inclure:

1. certaines maladies respiratoires obstructives chroniques;
2. des troubles émotionnels graves ou des dépendances liées à la toxicomanie;
3. le premier trimestre d'une grossesse;
4. le traitement au sulfate bléomycinique;
5. une déficience en réductase d'acide tétrahydrofoliqueméthylène.

Dans la mesure du possible, consulter un spécialiste médical avant d'administrer des agents analgésiques/anxiolytiques aux patients qui présentent des troubles médicaux sous-jacents (par ex.: maladies respiratoires obstructives graves, défaillance cardiaque, drépanocytose, otite moyenne aiguë, greffon récent de la membrane du tympan, traumatisme crânien grave aigu.[1])

[1] American Academy of Pediatric Dentistry. Lignes directrices cliniques: Lignes directrices sur l'utilisation de l'oxyde azoteux pour les patients dentaires pédiatriques. Pediatr Dent 2009;31(6): 148-151. Disponible sur le site Web: "http://www.aapd.org/media/policies.asp". Accès le 23 février 2010.

AVERTISSEMENTS

Doit être utilisé uniquement par un professionnel formé dans l'utilisation de l'oxyde azoteux.

Le patient doit toujours faire l'objet d'une surveillance étroite pendant l'utilisation de l'acide azoteux. Si le patient présente des effets indésirables, réduire ou arrêter le débit de l'acide azoteux, selon le besoin. Le bouton de purge O_2 pour peut être utilisé pour évacuer rapidement les lignes de N_2O. Si le patient n'affiche aucun signe de récupération rapide, enlever l'enceinte nasale de mask et le traiter avec de l'oxygène pur, soit à partir du raccord du réanimateur O_2 ou d'une bouteille d'oxygène auxiliaire utilisant un détendeur, d'un réanimateur manuel assisté par de l'oxygène ou l'équivalent. Demander de l'aide d'urgence si une réponse rapide n'est pas obtenue.

Ne pas utiliser ce dispositif pour l'administration d'une anesthésie générale ou comme partie ou encore en conjonction avec un système d'administration d'anesthésie générale.

Unité est calibré à l'usine de ± 5% selon les recommandations de l'industrie.

Vérifiez que les gaz sont correctes livré dans les ports corrects sur la machine de gaz analgésique avant la première utilisation. Cela peut être fait en fermant les cylindres d'oxygène dans la chambre du réservoir. Les gaz ne doivant pas circuler lorsque les débimétres sont actirés.

ATTENTION

Conformément à la loi fédérale des États-Unis, cette machine ne peut être vendue que par un dentiste ou par un médecin ou sur leur ordonnance.

N'essayez jamais de réparer, de modifier ou de calibrer cet instrument. Toute réparation, modification non autorisée ou mauvais usage de cet instrument nuira considérablement à son rendement et annulera la garantie.

Vous devez vérifier couramment les caractéristiques de sécurité de cette brochure pour assurer un bon fonctionnement. Si l'une des caractéristiques de sécurité ne fonctionne pas bien, appelez votre revendeur ou Accutron™ et prenez les mesures nécessaires pour réparer votre appareil avant de l'utiliser à nouveau.

Utilisez toujours des gaz médicaux propres, secs. Toute introduction d'humidité ou d'autre contaminant dans un appareil d'analgésie à gaz Accutron provoquera un mauvais fonctionnement.

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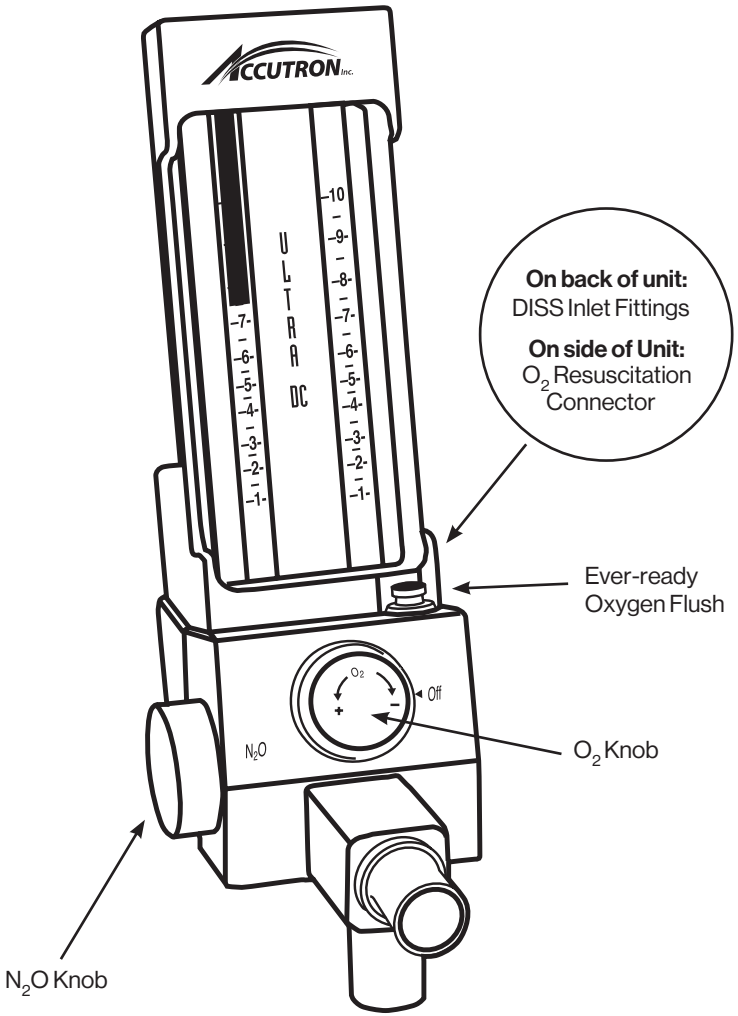
I. MECHANICAL FEATURES OF THE ULTRA DC™ FLOWMETER



Fail-safe System: Offers assurance that N_2O ceases if the O_2 supply is interrupted or pressure is reduced.

Emergency Air Valve: Automatically provides patient with ambient air if gas flow is interrupted.

Directional Check Valve: Prevents re-breathing of exhaled gases and protects against CO_2 build-up.

N_2O & O_2 Knobs: Separate control knobs for establishing N_2O and O_2 settings.

Ever-ready Oxygen Flush: Provides one-touch boost and continuous delivery of O_2 at greater than 20 lpm. Operates if flowmeter is on or off.

DISS Inlet Fittings: Gas connections conform to industry standards.

Oxygen Resuscitation Connector: Connection for emergency O_2 equipment.

II. FLOWMETER GENERAL INSTRUCTIONS

1. WARRANTY

Unpack the flowmeter and inspect to make certain that the unit has not been damaged during shipment.

The unit's serial number is located on back of the flowmeter. Record the serial number in the area provided at the back of this booklet. Always reference the serial number when corresponding with Accutron.

Complete the warranty card supplied at the end of this manual and mail to Accutron. Completion of this step ensures proper flowmeter warranty coverage. All Accutron flowmeters carry a two-year limited warranty (see Warranty on pg. 26 for details).

2. FLOWMETER MOUNTING OPTIONS

(For installation see "System Assembly" sections)

PORTABLE SYSTEM

Portable Cylinder Stand Mount — This type of mount creates a self-contained portable N_2O-O_2 system. The stand comes with regulators and mounting implements for attaching two or four smaller (E-size) gas cylinders.

CENTRAL SYSTEM

Mobile Stand Mount — This mount allows the flowmeter to be easily moved from room to room and used wherever a source of oxygen and nitrous oxide is available.

Wall Mount — This type of mount consists of a wall bracket and an adjustable arm. There are three wall arm models available from Accutron. They are:

9" Single Flex
16" Double Flex
Telescoping Wall Arm (8½" to 14")

Cabinet Mount — This type of mount consists of Universal Slide Bracket with a sliding arm. It allows a flowmeter to be attached and stored within cabinetry.

3. ADA REQUIREMENTS

For this device and installation of this device to meet the requirements of the American Dental Association, the following conditions must be met:

"The installation of the gas storage must be in accordance with the National Fire Prevention Association Standards and inspected by the local fire department to assure compliance with NFPA."

4. GAS SUPPLY CONNECTION

Always use clean, dry medical grade gases. Introduction of moisture or other contaminants into Accutron™ Analgesia Gas Machines may result in defective operation.

After installation of the flowmeter, connect the oxygen and nitrous oxide supply lines to the DISS fittings located on the back of the flowmeter unit. It is important that the regulators for both gases be set to give pressures in the range of
50 - 55 psi.

5. DISINFECTING THE FLOWMETER

Cleaning:
Clean flowmeter by wiping with towel moistened with mild cleaning agent. Do not spray directly onto unit.

Surface Disinfectants:
Any of the following commercially-available disinfectants can be used for disinfecting the flowmeter surface. Do not spray directly onto unit.

Commercial Brand Name	EPA Registration No.	EPA Establishment No.
AdvantaClear™ Surface Disinfectant	70144-5-75372	1130-IL-1
Lysol® Brand II I.C Disinfectant Spray	777-72-675	777-NJ-2
EcoTru™ (Spray)	70791-1	034490-CA-001
CaviCide®	46781-6	46781-MI-1
Microstat 2® Tablets	70369-1	69781-MN-01

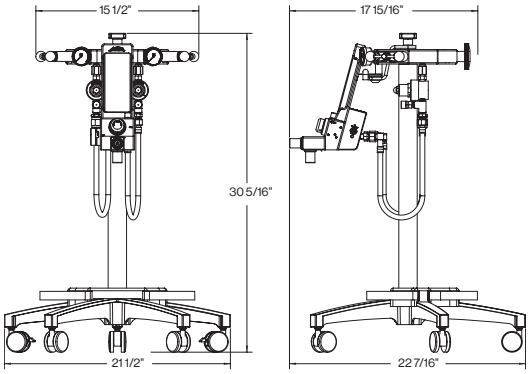
Note: Reference the disinfectant's label instructions for appropriate application procedures and inactivation of specific organisms. Care should be taken not to let disinfectant seep into flowmeter's sealed areas. Do not spray disinfectant directly on this device.

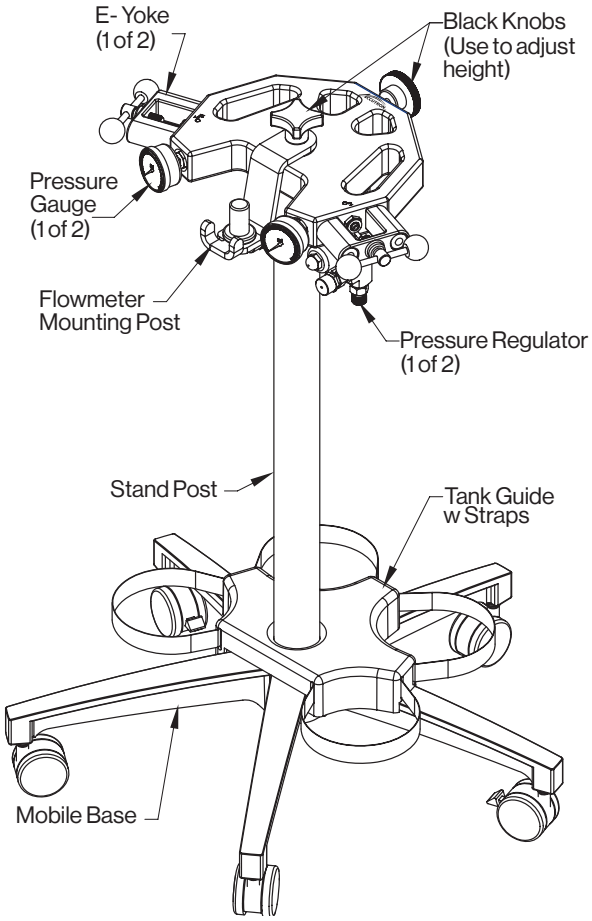
Barriers:
Barriers that are impervious to fluids are an acceptable alternative to chemical disinfection of environmental surfaces. In some cases, barriers may be the best way to prevent cross-contamination of equipment surfaces that are difficult to clean or that may be harmed by disinfectants. Choose barriers that are large enough to cover the area of concern, impervious to fluids such as blood and saliva, and do not impede the use of the device or equipment they cover. Change barriers between each patient.

2-CYLINDER PORTABLE SYSTEM ASSEMBLY

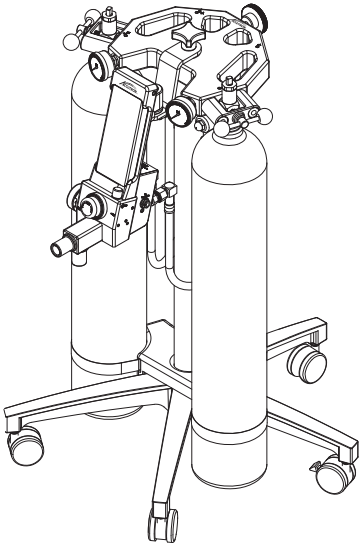
Identify the following components in the 2-cylinder portable system package:

- Flowmeter
- Portable Manifold (with DISS Hoses and mobile stand attached)
- E Cylinder Wrench (with chain attached)





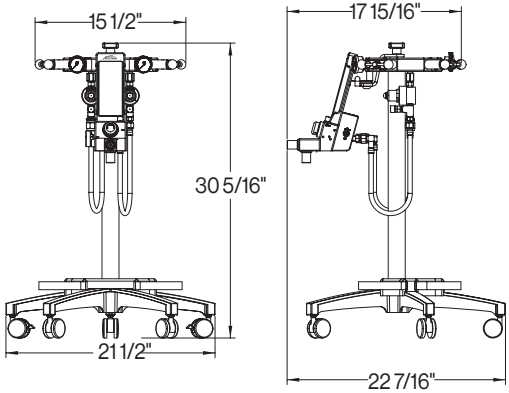
1. **Mount the flowmeter to the portable manifold:**
   a. Remove hole cap from the upper hole (use sharp edge knife or screwdriver) at rear of manifold and release set screw (use 5/32" Allen Wrench) enough to remove flowmeter mount.
   b. Remove protective cap from threads of mount and remove from manifold. Thread flowmeter mount into hole on the bottom of flowmeter by hand and tighten firmly using 5/32" Allen Wrench placed in hole on side of flowmeter mount.
   c. Place flowmeter on manifold with mount in pocket.
   d. Tighten set screw firmly from rear while keeping flowmeter oriented toward front of manifold.
   e. Place hole cap into hole behind the set screw and push it all way in.



2. **Attach the hoses to the flowmeter:**
   a. Run the nitrous oxide hose under the manifold and attach it to the nitrous oxide DISS fitting located on the back of the flowmeter.
   b. Run the oxygen hose under the manifold and attach it to the oxygen DISS fitting located on the back of the flowmeter.

Note: To avoid gas leaks, make certain all hose attachments are securely tightened.

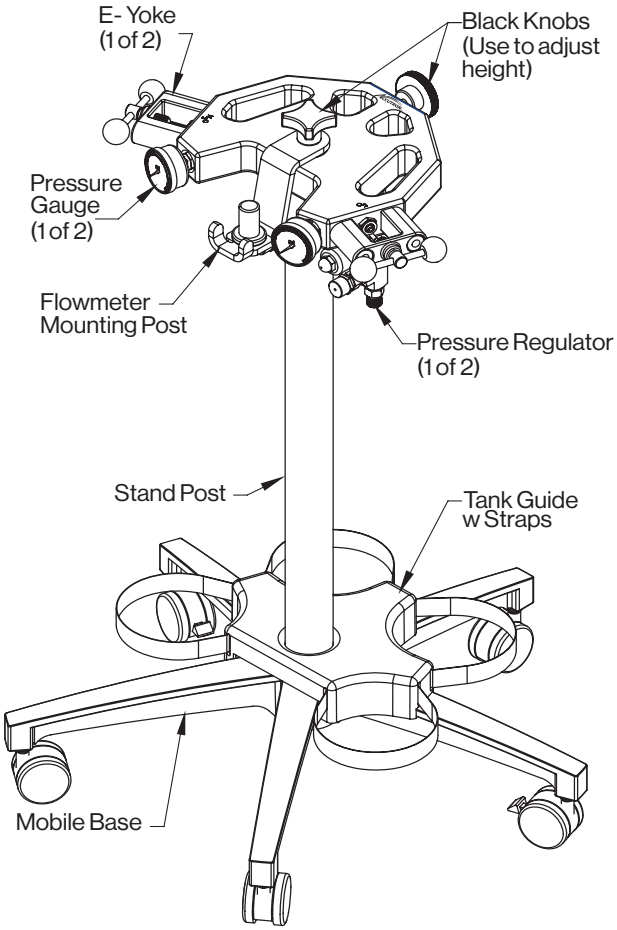
3. **Connect the gas cylinders to the manifold's "E" yokes:**
   a. Connect the nitrous oxide gas cylinders to the "E" yoke on the N_2O side.
   b. Connect the oxygen gas cylinders to the "E" yoke on the O_2 side.
   c. It is recommended to use new gasket every time tank is replaced or removed.
4. **(Keep wrench in handy location. It is used to open and close tanks).**
   a. Open both gas cylinders and turn off flowmeter.
   b. Check hose connections for leaks using soap solution.
   c. Tighten fittings as needed to stop leaks.
5. **Verify flowmeter operations.**



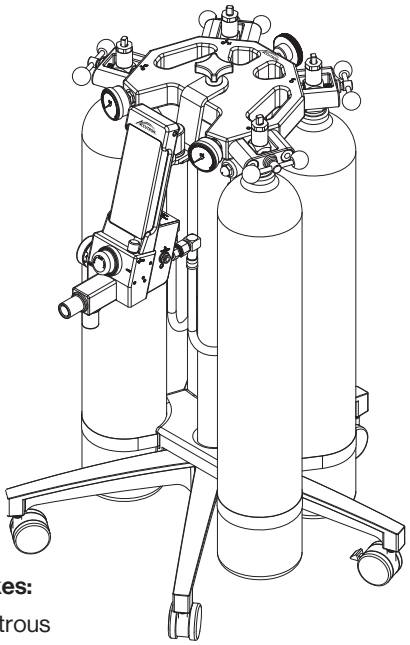
4-CYLINDER PORTABLE SYSTEM ASSEMBLY

Identity the following components in the 4-cylinder portable system package:

- Flowmeter
- Portable Manifold (with DISS hoses and adjustable mobile stand attached)
- "E" Cylinder Wrench (chain attached)



1. **Mount the flowmeter to the portable manifold:**
   a) Slip the fixed loop (located at the back of the flowmeter) over the mounting post (located at the manifold).



2. **Attached the hoses to the flowmeter:**
   a) Run the nitrous oxide hose under the manifold and attach it to the nitrous oxide DISS fitting located on the back of the flowmeter.
   b) Run the oxygen hose under the manifold and attach it to the oxygen DISS Fitting located on the back or the flowmeter.

Note: To avoid gas leaks, make certain all hose attachments are securely tightened.

3. **Connect the gas cylinders to the manifold's E-yokes:**
   a) Connect the nitrous oxide gas cylinders to the nitrous oxide "E" yokes.
   b) Connect the oxygen gas cylinders to the oxygen "E" yokes.

4. **To adjust the portable flowmeter unit's height:**
   a) Loosen the black knob on the back of the manifold.
   b) Guide the stand post's adjustable rod to desired position by pulling the black knob on the top of the manifold.
   c) Retighten the black knob on the back of the manifold.

Changing Gas Tanks

2 Cylinder Unit

1. Monitor N_2O and O_2 gas pressures at the beginning of each procedure to assure sufficient gas remains in the tank to complete procedure.

2. When empty, close the tank by turning valve clockwise. Replace the tank with spare full cylinder.

3. Notify gas supplier for replacement of tank.

Note: When changing tanks, always replace the regulator's washer seal located at the cylinder valve/regulator interface.

4 Cylinder Unit

For your convenience and to meet ADA requirements, the 4 cylinder portable N_2O-O_2 manifold is equipped with E-Yokes that contain check valves. To assure proper operation of the check valves, 4 cylinders must be installed at all times and the procedures listed below must be followed.

1. Identify the two in-use tanks (N_2O and O_2) by attaching "in-use" identification tags to them.

2. When one of the in-use tanks is empty, close the tank by turning the valve clockwise. Leave the empty tank in place.

3. Move the "in-use" tag to the appropriate reserve tank, which now becomes the in-use tank. Replace the empty tank with a new tank, which then becomes the reserve tank.

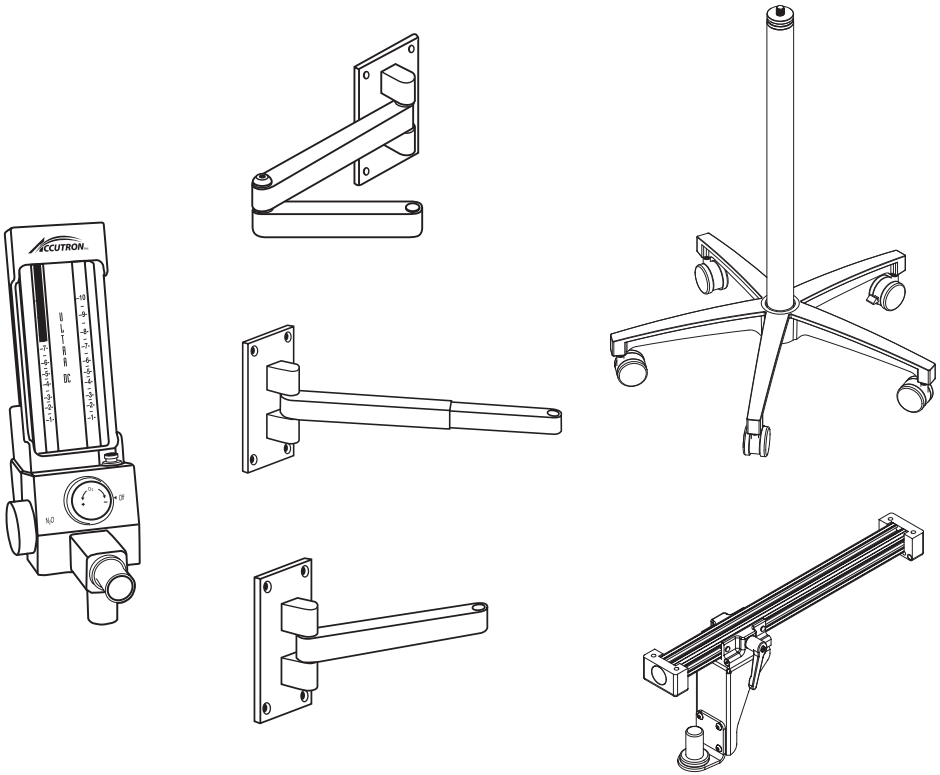
4. Open the valve located on the top of the in-use tank by turning counter-clockwise.

Note: Do not open the reserve tank until the in-use tank is empty. When changing gas tanks, make certain both same-gas cylinders (involved in the exchange) are closed. Always remember to switch the "in-use" tags over to the new tanks.

5. Contact gas supplier to request new gas cylinders as needed.

Note: When changing tanks, always replace the regulator's washer seal located at the cylinder valve/regulator interface.

IV. CENTRAL SYSTEM PROCEDURES



Central System Assembly: Flowmeter & Flowmeter Installation/Mounting

Conventional Flowmeter Mounting

Identify the following components in the flowmeter package:

- Flowmeter
- Rubber Goods
- Mounting Adaptor* (mounting cap, mounting pin and mounting nut)
- Mount (wall arm or mobile stand)

Note: Quick-connect gas hoses are to be purchased separately.

***When using a wall arm mount, the mounting adaptor can be configured to accommodate either a bottom mount or top mount flowmeter installation: (1) the adaptor and flowmeter are attached to the wall arm or (2) only the adaptor is attached to the wall arm. The flowmeter top mount is slipped over the adaptor on the wall arm.**

Follow the appropriate instructions by identifying flowmeter mount-type (wall arm, cabinet mount or mobile stand). If mount-type is wall arm, determine desired flowmeter attachment method—bottom or top mount.

WALL ARM MOUNT — BOTTOM MOUNT

1. Attach wall arm to wall or cabinet.

2. Locate the mounting adaptor and remove the mounting cap by unscrewing the cap from the mounting pin. Screw smaller end of mounting pin into threaded hole located on the bottom of the flowmeter (pin will protrude from bottom of flowmeter).

3. Place the protruding mounting pin through the top of the hole which is located at the end of the wall arm. Screw the mounting nut onto the thread-pin which now protrudes from the underside of the wall arm. Flowmeter and wall arm assembly is complete.

   Note: Flowmeter should swivel easily from side-to-side to accommodate desired viewing position.

4. Attach the oxygen and nitrous oxide hoses to the back of the flowmeter and connect to gas-supply wall outlets.

   Note: If non-Accutron wall arm, diameter of hole at the end of wall arm should be between 9/16" (14.5 mm) and 1" (25.4 mm).

WALL ARM MOUNT — TOP MOUNT

1. Attach wall arm to wall or cabinet.

2. Place the mounting pin end of the mounting adaptor into the top of the hole located at the end of the wall arm. Screw the mounting nut onto the mounting pin which now protrudes from nderside of wall arm. Adaptor (with mounting cap) is now a permanent part of the wall arm.

3. Slip the fixed loop (located on back of the flowmeter unit), over the mounting cap of the mounting adaptor. With this method of attaching the adaptor, the flowmeter is easily removed and can be transferred from one treatment room to another.

   Note: Flowmeter should swivel easily from side-to-side to accommodate desired viewing position.

4. Attach the oxygen and nitrous oxide hoses to the back of the flowmeter, and connect to gas-supply wall outlets.

Note: If non-Accutron wall arm, diameter of hole at the end of wall arm should be between 9/16" (14.5 mm) and 1" (25.4 mm).

CABINET MOUNT — TOP MOUNT

1. Attach the Undermount Slide to the inside top of the cabinet; attach Sidemount Slide to the interior side wall of the cabinet.

2. Slip the fixed loop (located on back of the flowmeter unit), over the bracket's mounting post. With this method of attachment, the flowmeter is easily detached and can be transferred from one treatment room to another.

Note: Flowmeter should swivel from side to side to accommodate desired viewing position.

3. Attach the oxygen and nitrous oxide hoses to the back of the flowmeter and connect to gas-supply wall outlets.

MOBILE STAND MOUNT

Mobile stand is shipped disassembled and in three parts: stand plug, stand post, and mobile base.

1. Attach stand post to mobile base by inserting the tapered end of the stand post into the mobile base. The stand post will have a snug (friction) fit in the mobile base.

2. Locate the mounting adaptor and remove the mounting cap by unscrewing the cap from the mounting pin. Screw the smaller end of the mounting pin into the threaded hole located on the bottom of the flowmeter (pin will protrude from bottom of flowmeter).

3. Attach flowmeter to stand plug by screwing the mounting pin protruding from bottom of flowmeter into the stand plug.

4. Attach the flowmeter unit to the open end of the stand post by inserting the stand plug into the stand post. The stand plug will have a snug (friction) fit in the stand post.

5. Attach the oxygen and nitrous oxide hoses to the back of the flowmeter and connect to gas-supply wall outlets.

V. DIRECTIONS FOR USE

Read instructions completely before operating flowmeter device.

Note: The steps listed below provide a basic functional description of the flowmeter usage. A training course that emphasizes a practical, hands-on approach combined with instructions on safe techniques for administration of nitrous oxide-oxygen conscious sedation is recommended before use of this flowmeter.

Reference flowmeter diagram on page 4 to locate the appropriate control knobs.

Minimum Oxygen Flow: The flowmeter is preset to deliver a minimum of 3 liters of oxygen (at 50-55 P.S.I.)

Maximum Nitrous Oxide Flow: The flowmeter is preset to deliver a maximum of 7 liters of nitrous oxide (at 50-55 P.S.I.)

1. Turn on unit and open valves on top of both the N_2O and O_2 "in-use" tanks.

2. Using O_2 Knob, set O_2 flow-rate to desired delivery level.

3. Using N_2O Knob set N_2O flow rate to desired delivery level.

4. When the procedure is nearing completion and the patient is placed on O_2 only, gradually turn the N_2O Knob clockwise to the off position. Turn the O_2 Knob counterclockwise to increase O_2 flow.

5. When the procedure is complete, gradually turn the O_2 Knob in a clockwise direction until the unit is off.

6. At the end of each day turn off gas supply at the tank. For 2 cylinder and 4 cylinder models, close N_2O cylinders and run N_2O through flowmeter until trapped gas is gone and gauge reads empty. Turn off O_2 cylinders and run O_2 gas until O_2 gauge reads empty.

VI. PERIODIC EQUIPMENT CHECKS

CAUTION

Do not attempt to repair, alter or calibrate this device. Unauthorized repair, alteration or misuse of this device is likely to adversely affect the performance and will void the warranty.

IMPORTANT

Safety features featured in this notice should be routinely checked to assure proper function. If any of these safety features are not functioning properly, contact your dental dealer or Accutron and arrange for the necessary repairs. Accutron™ recommends the repairs be made before reusing the analgesia gas machine.

Fail-Safe Test

Check before each use

1. Set the O_2 Knob to 3 lpm and set the N_2O Knob to zero.

2. Make certain that O_2 and N_2O gas lines are properly connected to the flowmeter and that the line pressure for each gas is set at 50 - 55 psi.

3. Turn the N_2O Knob to 3 lpm.

4. Interrupt the flow of O_2 by either disconnecting the oxygen hose from the wall or by turning off the oxygen supply at the tank. The N_2O flow-rate should drop to zero as the oxygen flow-rate decreases to zero.

WARNING: If the Fail-safe System does not perform as described above, do not use this analgesia gas machine prior to receiving technical assistance or repair. Improper function of this safety feature may permit N_2O to flow independent of the flow knob. This action could potentially allow N_2O to flow to the patient without oxygen.

Quick Reference Chart for Calculating % N_2O

N_2O Flow LPM	O_2 Flow LPM 1	2	3	4	5	6	7	8	9	10
10					67%	63%	59%	56%	53%	50%
9				69%	64%	60%	56%	53%	50%	47%
8				67%	62%	57%	53%	50%	47%	44%
7			70%	64%	58%	54%	50%	47%	44%	41%
6			67%	60%	55%	50%	46%	43%	40%	38%
5			63%	56%	50%	45%	42%	38%	36%	33%
4			57%	50%	44%	40%	36%	33%	31%	29%
3			50%	43%	38%	33%	30%	27%	25%	23%
2			40%	33%	29%	25%	22%	20%	18%	17%
1			25%	20%	17%	14%	13%	11%	10%	9%

Oxygen Flush Valve Test

Check monthly

1. Make certain the N_2O is turned fully clockwise (off position).

2. Reservoir bag should remain connected to the bag tee downspout.

3. Disconnect the corrugated tube from the bag tee outspout.

4. Turn on the Oxygen Flush while blocking the flow from the bag tee outspout.

Proper operation is indicated when the reservoir bag is filled in 5 - 10 seconds. Release blockage of oxygen flow from bag tee outspout after the 5 - 10 seconds, required to conduct the test, has elapsed.

Outspout Check Valve Test

Check monthly

1. Flowmeter should be in the off position.

2. Reservoir bag should be connected to the downspout of the bag tee.

3. Corrugated tube should be connected to the outspout of the bag tee but not connected to patient gas delivery tubing.

4. Breathe into the open end of the corrugated tube.

The reservoir bag should not fill. If the bag does fill during this test, the outspout check valve is not functioning properly. Do not use this analgesia gas machine prior to receiving technical assistance or repair.

Override Air Valve Test

Check monthly

1. Flowmeter should be in the off position.

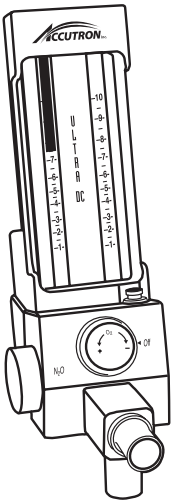
2. Reservoir bag should be connected to the downspout of the bag tee.

3. Corrugated tube should be connected to the outspout of the bag tee but not connected to patient gas delivery tubing.

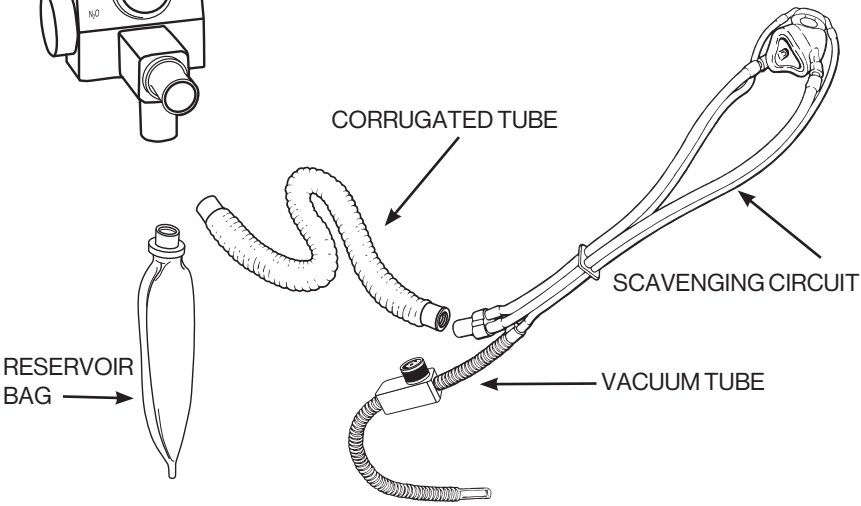
4. Draw air through the open end of the corrugated tube.

The override valve on the bag tee should open and allow air to enter the corrugated tube. Place your finger over the override valve and remove it to verify that air is entering the bag tee through the override valve. If the override valve does not function as described, do not use this analgesia gas machine prior to receiving technical assistance or repair. This test is best performed when the reservoir bag is completely deflated.

VII. RUBBER GOODS ATTACHMENT

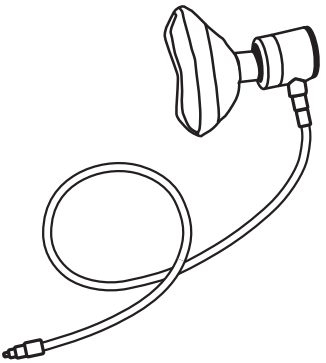


1. Slide the opening of the reservoir bag over the outside of bag tee downspout.
2. Attach the corrugated tube over the outside of bag tee outspout.
3. Connect "Y" connector of scavenging circuit to the inside of the corrugated tube.
4. Connect scavenging vacuum tube to vacuum source.



VIII. EMERGENCY OXYGEN EQUIPMENT

Accutron flowmeters are equipped with a resuscitation connector which allows for the attachment of an oxygen demand valve. See Accutron Catalog (Emergency Oxygen Equipment Section) for information regarding Accutron™ Portable Oxygen System and Accutron™ Demand Valve.



IX. TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	REMEDY
No flow of O_2 or N_2O when On-Off is on and N_2O Knob is set at concentration of N_2O or O_2 Knob is open to give flow.	1. O_2 and/or N_2O supply not turned on. 2. Analgesia gas machine not connected to source. 3. Empty O_2 or N_2O gas cylinders.	1. Turn on O_2 or N_2O gas supply in tank room or on portable unit. 2. Connect to wall outlet. 3. Replace with full cylinders.
Can get O_2 flow, cannot get N_2O flow.	1. N_2O supply not turned on. 2. N_2O cylinder empty. 3. O_2 line pressure low, activating fail-safe.	1. Turn on N_2O tank. 2. Replace with full cylinders. 3. Check O_2 gas line pressure. Be certain O_2 pressure is 50-55 psi. If not, call dealer for service.
With N_2O concentration set, both flows vary proportionally with no change in flow setting.	O_2 or N_2O regulator is not maintaining system pressure.	Check gas line pressure. Be certain line pressure is 50-55 psi. If not, call dealer for service.
Cannot get 10 lpm O_2 flow with N_2O Knob at zero and O_2 Knob open fully counter-clockwise.	Low O_2 pressure setting.	Check O_2 regulator. Be certain O_2 pressure is 50-55 psi. If not, call dealer for service.
With O_2 Knob at zero, N_2O flows are indicated.	Fail-safe system not functioning properly.	Remove from service and return to dealer or Crosstex, for service. Do not use unit until repaired.

X. WARRANTY

ACCUTRON 2-YEAR FLOWMETER LIMITED WARRANTY

IF AN ACCUTRON FLOWMETER NEEDS TO HAVE REPAIR WORK OR REPLACEMENT PARTS DURING THE 2-YEAR WARRANTY PERIOD DUE TO MANUFACTURING DEFECTS, ACCUTRON WILL PROVIDE THE PARTS AND LABOR AT NO CHARGE. THE FLOWMETER OWNER IS RESPONSIBLE FOR SHIPPING THE FLOWMETER TO ACCUTRON, INCLUDING COSTS.

SCAN QR CODE FOR WARRANTY TERMS

XI. WARRANTY AND RETURNED GOODS POLICY

All warranty resolution issues and merchandize returns will be handled through the local authorized Accutron™ Distributor. Contact distributor where unit was purchased.

XII. REPAIR SERVICE POLICY

All service issues will be handled through the local authorized Accutron™ Distributor. Contact distributor where unit was purchased. Check Troubleshooting Guide on page 25 prior to contacting distributor.

XI. WARRANTY AND RETURNED GOODS POLICY

For Assistance, contact your local dental distributor or call Accutron™ Customer Service at:

Toll-free: (800) 531-2221
Local: (623) 780-2020
Fax: (623) 780-0444

Hours of operation: 7:00 AM – 4:30 PM MST

Service ship-to address:

Accutron
1625 W. Pinnacle Peak Rd.
Phoenix, AZ 85027

Visit our website:

HuFriedyGroup.com/Accutron

XIV. OWNERSHIP INFORMATION

Dr. Name: _____

Street Address: _____

City/State/Zip: _____

Accutron Flowmeter Unit Model:

Ultra DC™ Flowmeter

Flowmeter Serial Number:_____

ACCUTRON
Nitrous Oxide/Oxygen Sedation

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US Made in USA

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