The XAD-072 is a combination regulator, flowmeter and injector assembly. The regulator is a two-stage type. Gas at cylinder pressure is reduced in the first-stage of the regulator to an intermediate pressure, which is further reduced in the second-stage to the desired delivery pressure. From the second-stage of the regulator the gas passes through the flowmeter where the quantity is correctly measured. The injector has a small breather hole located in the side of the front body through which air is sucked by the oxygen stream as it passes through the injector. IT IS IMPORTANT THAT THE BREATHER HOLE BE KEPT OPEN. The percentage of oxygen in the mixture is indicated on the calibrated tube by the position of the ball float in the tube (readings are taken across the top of the ball float). By turning the adjusting handle out (counter-clockwise) the percentage of oxygen is increased, turning it in (clockwise) decreases the percentage of oxygen. Except to adjust the percentage of oxygen, do not attempt any other adjustments.

IMPORTANT: The XAD-072 is specifically adjusted and calibrated to deliver a total of 16 liters per minute, of air plus oxygen, when discharging to a Bloxom air lock. The total flow of gas, and the oxygen percentage of that flow (as indicated by the flowmeter) will not be the same when the regulator is operated under different discharge-pressure conditions. If you wish to use the regulator to supply air-oxygen mixtures for other uses, please request additional information from Linde Air Products Company.

**FOLLOW THESE INSTRUCTIONS STEP BY STEP TO ASSURE EFFICIENT OPERATION OF THIS REGULATOR**

A. Preparing the Oxygen Cylinder
   Steps 1 and 2 should take place outside the patient's room.

1. Unscrew the valve protecting cap from the top of the cylinder. Place the cap where it will not be lost so that it can be replaced when the cylinder is empty.

CAUTION: DO NOT USE THIS REGULATOR FOR METERING PURE OXYGEN. IT IS DESIGNED TO DELIVER MIXTURES OF AIR AND OXYGEN.
2. Open the cylinder valve slightly for an instant and then close it. (To do this turn the valve wheel counterclockwise and then quickly clockwise.) This will blow out any dust or other foreign matter that might be present in the valve opening. Stand to one side of the oxygen outlet when opening the valve.

3. Stand the oxygen cylinder in a place where it cannot be knocked or pushed over or secured by means of a chain or strap, to the wall.

B. Connecting the Regulator

BEFORE HANDLING THE REGULATOR, BE SURE YOUR HANDS ARE FREE FROM OIL OR GREASE. NEVER CARRY OR LIFT THE REGULATOR BY THE PLASTIC TUBE.

1. Hold the regulator in the palm of one hand, and with the other hand screw the inlet connection nut to the cylinder valve outlet. Tighten the connection nut with a wrench, after making sure that the flowmeter tube of the regulator is vertical.

2. Insert the hose nipple into the regulator outlet and tighten the hose connection nut securely. Attach the hose from the air lock to the regulator outlet nipple.

C. Operating the Regulator

1. Make sure that the flow-adjusting valve handle on the regulator is screwed all the way in (clockwise) before opening the oxygen cylinder valve. This will prevent oxygen from entering the air lock before the patient is prepared.

2. Stand to one side of the regulator. Turn on the oxygen slowly by turning the oxygen cylinder valve handwheel to the left (counter-clockwise) a fraction of a turn.

3. After the pointer on the cylinder-contents gauge has stopped moving, open the cylinder valve from 1/2 to 3/4 of a turn.

D. Regulating the Oxygen Flow

IMPORTANT: When initially placing the XAD-072 in service (and whenever it has been out of service for more than a week), fully open and close the flow-adjusting valve a few times with oxygen flowing through the regulator, before connecting the regulator to the air lock. (See Precautions on page 3.)

1. Turn the flow-adjusting valve handle on the regulator to the left (counter-clockwise) until the desired flow is read on the graduated scale on the flowmeter tube. Always take the reading across the top of the ball float.

2. To stop the oxygen flow, turn the flow-adjusting valve handle on the regulator to the right (clockwise) as far as it will go, or until the ball in the graduated tube is resting on the bottom of the tube.

3. If the apparatus is not to be used for a period of time—a half hour or longer—but is to remain ready for future use, turn off the oxygen at the cylinder by turning the cylinder valve handwheel to the right (clockwise) as far as it will go.

4. To shut down the apparatus preparatory to moving it, TURN OFF THE CYLINDER VALVE FIRST. Then, turn off the flow-adjusting valve handle on the regulator after ball has dropped to zero.

E. When to Change Cylinders

When the cylinder contents gauge hand drops to the pin—the EMPTY mark on the gauge dial—the cylinder should be changed for a full one.

DO NOT ATTEMPT TO REPAIR THE XAD-072 OR REPLACE ANY PARTS (except as noted below). Special knowledge and equipment is required in the repair, replacement, and adjustment of parts. If the regulator does not operate properly or needs repair, send it to the apparatus repair station of Linde Air Products Company, at 111 West Chippewa Street, Buffalo, N.Y., or at 6119 Harrisburgh Blvd., Houston, Texas. In Canada, send it to the apparatus repair station of Dominion Oxygen Company, Ltd., Terminal Building, 207 Queen's Quay W., Ft. York Street, Toronto 1, Ontario.

A. Cleaning the External Flowmeter Tube

Use only a mild solution of soap and water (or detergent and water) to clean the plastic external flowmeter tube. Do not use organic solvents such as alcohol, carbon tetrachloride, and ether.

B. To Replace the External Flowmeter Tube

1. Place the regulator in the upright position.

2. Remove the screw and lockwasher from the flowmeter body at the base of the tube.

3. Unscrew the tube (Part No. 27284) by hand. The "O" sealing ring (Part No. 84W84) will come out with the tube.

4. Assemble the "O" ring (a new one is recommended) snugly under the shoulder of the new tube.

5. Screw the tube into the flowmeter body and tighten it securely (hand-tight).

6. Replace the lockwasher and screw in the flowmeter body.
C. Safety Release Valves

The regulator is equipped with two safety valves, one in each stage. A noticeable popping noise signals the operation of the valve. After venting it will re-seat until sufficient pressure builds up to vent it again. Continued operation of either or both valves indicates leakage in one or both stages of the regulator, and it should be returned for repair.

D. To Tighten or Loosen Valve Packing

If the flow-adjusting valve turns too freely or too stiffly, you can alter the pressure on the packing to get the exact ease of adjustment you wish. First, close the valve by turning the valve wheel to the right (clockwise) as far as it will go. Tighten or loosen the packing nut (the round nut with two flat surfaces) using a suitable wrench. Then turn the valve wheel to test the amount of resistance offered. If more stiffness or looseness is desired, close the valve and again tighten or loosen the nut until the valve wheel turns with exactly the amount of resistance you desire. NOTE: The pressure on the packing must be kept sufficient to maintain gas-tightness.

PRECAUTIONS

1. The injector piston is sealed by means of a floating "O" ring. If the ball float rides to the top of the tube when the flow-adjusting valve is fully open, the "O" ring is not properly sealing. This condition can be corrected by disconnecting the hose from the regulator outlet, and with oxygen flowing through the regulator, fully open and close the flow-adjusting valve a few times.

When the "O" ring seals properly, the ball float will ride only slightly above the 100 per cent mark when the flow-adjusting valve is fully open.

2. Never carry or lift the regulator by the plastic tube.

3. Avoid kinks or tangles in the hose leading from the regulator to the apparatus.

4. Before tightening a leaky connection between the regulator and the cylinder, be sure to shut off the flow of oxygen from the cylinder by closing the oxygen cylinder valve.

5. Never use a regulator which is in need of repair.

USE NO OIL ON THIS REGULATOR. Oil and grease, if subjected to oxygen under pressure, may ignite and burn with explosive violence. Never allow oil or grease to come in contact with oxygen equipment, including cylinders, valves and regulators. Oxygen equipment does not require lubrication.

* XAD-972 Regulator Connected to Cylinder *
INDUSTRIAL GASES
LINDE Oxygen, Nitrogen, Argon, Neon, Helium, Krypton, Xenon, Hydrogen
PREST-O-LITE Acetylene
CALCIUM CARBIDE
UNION Carbide
CARBIC Processed Carbide

OXY-ACETYLENE EQUIPMENT
OXWELD Apparatus for Cutting, Joining, Treating, and Forming Metals
Acetylene Generators
Manifolds, Regulators and Valves
Welding Rods and Supplies
PREST-O-WELD Welding and Cutting Apparatus
PUROX Welding and Cutting Apparatus
PREST-O-LITE Air-Acetylene Apparatus and Small Tanks
CARBIC Acetylene Flood Lights
Acetylene Generators

ELECTRIC WELDING EQUIPMENT
UNIONMELT Automatic Welding Apparatus and Supplies
HELARC Welding Torches
LINDE Sigma Welding Equipment

SPECIAL EQUIPMENT
LINDE Jet Piercing Equipment
Plate-Edge Preparation Equipment
Polyethylene Powder and Flame-Spraying Equipment
Steel-Conditioning Machines
Sub-Zero Cold Treatment Equipment

OXWELD Oxy-Acetylene Cutting Machines
Pressure-Welding Machines

OXYGEN THERAPY SUPPLIES
LINDE Oxygen U.S.P.
Oxygen Therapy Regulators
Oxygen Therapy Manifolds and Valves

SYNTHETIC CRYSTALS
LINDE Synthetic Sapphire, Ruby, Spinel, and Titania
Synthetic Calcium- and Cadmium Tungstates
Fine Alumina Abrasive

ORGANOSILICONS
LINDE Silane Monomers
Polysiloxane Polymers and Resins


LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION

DOMINION OXYGEN COMPANY, LIMITED, TORONTO

General Office
30 East 42nd Street, New York 17, N. Y.

Eastern States
Baltimore, 19, MD.
532 East 25th Street
Boston 16, MASS.
441 Stuart Street
Buffalo 2, N. Y.
250 Delaware Ave.
Charleston 1, W. VA.
2 Virgina Street
New York 17, N. Y.
202 East 42nd Street
Philadelphia 22, PA.
1421 North Broad Street
Pittsburgh 19, PA.
311 Ross Street

Central States
Chicago 1, ILL.
230 North Michigan Avenue
Cincinnati 29, OHI0
709 Melich Avenue
Cleveland 14, OHIO
1513-17 Superior Avenue
Detroit 2, MICH.
6-240 General Motors Building
Indianapolis 4, IND.
725 North Pennsylvania Street
Milwaukee 46, WIS.
1623 South 38th Street
Minneapolis 2, MINN.
587 Second Avenue, South
St. Louis 6, MO.
4228 Forest Park Boulevard

Southern States
Atlanta 1, GA.
310 Peachtree Street, N. L
Birmingham 5, ALA.
100-11 South 22nd Street
Jacksonville 3, FLA.
2420 Dennis Street
Memphis 9, TENN.
48 West McLemore Avenue
New Orleans 13, LA.
500-32 Howard Avenue

Southwestern States
Dallas 1, TEXAS
2626 Commerce Street
Denver 9, COLORADO
205 South Broadway
Houston 11, TEXAS
6110 Harrisburg Boulevard
Kansas City 5, MO.
910 Baltimore Avenue
Tulsa 3, OKLA.
414 National Bank of Tulsa Building

Western States
El Paso, TEXAS
810 Texas Street
Los Angeles 58, CALIF.
2770 Louisiana Boulevard
Phoenix, ARIZ.
401 East Buchanan Street
Portland 9, ORE.
1200 Northwest Marshall Street
Salt Lake City 3, UTAH
362 Pierpont Avenue
San Francisco 6, CALIF.
22 Battery Street
Seattle 4, WASH.
2903 First Avenue, South
Spokane 12, WASH.
2023 West Maxwell Avenue

In Canada
Dominion Oxygen Company, Limited
Toronto - Montreal
Winnipeg - Vancouver