
INSTRUCTIONS FOR MODELS SG6160 & SG6161 DISPOSABLE OXYGEN GETTERS

**THIS BOOKLET CONTAINS PROPRIETARY INFORMATION OF
ADVANCED SPECIALTY GAS EQUIPMENT CORP. AND IS PROVIDED
TO THE PURCHASER SOLELY FOR USE IN CONJUNCTION WITH
MODELS SG6160 AND SG6161 OXYGEN GETTERS.**

IMPORTANT

These instructions are for experienced operators who know the general principles and safety precautions to be observed in handling specialty gases and operating gas handling equipment. If you are not certain you fully understand the safety precautions for handling gases, we urge you to obtain and read the Material Safety Data Sheet (MSDS) for each gas being used.

Do not permit untrained persons to install, operate, or maintain this equipment. Do not attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your Advanced Specialty Gas Equipment Distributor.

Be sure this information reaches the operator. Your supplier has extra copies.



SAFETY PRECAUTIONS

Protect yourself and others. Read and understand the following instructions before attempting to use this equipment. Failure to understand and follow these instructions could result in serious personal injury and/or damage to equipment.

- Know and understand the physical and chemical properties of the gas being used.
- Observe general precautions for the use of gases.
- Observe safety precautions for the gas being used.
- Read and follow precautions on cylinder labels.
- Never use these getters with gases not compatible with the materials of construction. The use of gases not compatible with the materials of construction may cause damage to equipment or injury to personnel.
- If flammable gases are used with these getters, do not locate them near open flames or any other source of ignition.
- If toxic or flammable gases are used with these getters, emergency equipment applicable to the gases in use should be available in the operating area.
- Many gases can cause asphyxiation by displacing oxygen in the atmosphere. Make certain the area where this equipment is operated is well ventilated. Provide a device to warn personnel of oxygen depletion in the work area.
- Do not release toxic or flammable gases in the vicinity of personnel. Use this equipment only in well ventilated areas. Vent gases to the outside atmosphere, and in an area away from personnel. Be sure that venting and disposal methods are in accordance with Federal, State and local requirements. Locate and construct vent lines to prevent condensation or gas accumulation. Be sure the vent outlet cannot be obstructed by rain, snow, ice, insects, birds, etc. Do not interconnect vent lines; if more than one vent is needed, use separate lines.
- Relief devices should be installed and properly vented in all gas handling systems to protect against overpressurization.
- Never use oil or grease on these getters. Oil and grease are easily ignited and may combine violently with some gases under pressure.
- Never connect this equipment to a supply source having a pressure greater than 125 psig.

DESCRIPTION

Models SG6160 and SG6161 Oxygen Getters are designed to remove trace levels of Oxygen from Argon, Helium, Hydrogen or Nitrogen carrier gases. In addition they can be used to remove trace levels of Oxygen from Carbon Monoxide, Carbon Dioxide and Methane gas streams.

The getters incorporate a highly reactive metal reagent which is supported on an inert substrate coupled with molecular sieves. Oxygen is removed by chemical reaction with the reagent to form a metal oxide. Oxygen levels can be effectively reduced to below 50 ppb when incoming levels are at 10 ppm or less.

The service life of these getters vary depending on the incoming oxygen level in the carrier gas. It is estimated that four cylinders (1200 ft³) of carrier gas can be purified when starting oxygen concentration is below 10 ppm. It is recommended that the Model SG6150 Glass Encased, Indicating Oxygen Trap be used in conjunction with these purifiers to provide an indication when the oxygen getter requires replacement.

OPTIONAL EQUIPMENT

Mounting Clip with Screws – A clip used to mount the purifier to a wall or other flat surface.

MC-10 For Models SG6160

MC-11 For Models SG6161

INSTALLATION

WARNING: Before attempting to install and operate these traps, read and fully understand the safety precautions on page 2 in this booklet. Failure to follow the safety precautions may result in serious personal injury and/or damage to equipment.

1. Inspect the trap carefully for any evidence of damage that might have occurred in shipment.
Note: Do not remove end caps until you are ready to install unit.
2. Mount the trap by employing an optional mounting clip (MC-10 or MC-11) for convenient placement.
3. If possible, preset nuts and ferrules on the gas lines before removing nuts and protective plugs from the getter.

4. Gas lines should be pre-purged before installing the oxygen getter.
Note: If possible, installation should be done with the gas flowing at 5 to 10 sccm.

5. If nuts and ferrules have been preset on the gas lines, remove the compression nut and plug from each end of the getter. Immediately attach the gas line to the getter end fittings. Using a backup wrench for support, carefully tighten the nut $\frac{1}{4}$ -turn for $\frac{1}{8}$ " fittings using a $\frac{1}{2}$ " wrench on the fitting and a $\frac{7}{16}$ " wrench on the nut. For $\frac{1}{4}$ " fittings tighten the nut $\frac{1}{2}$ -turn using a $\frac{1}{2}$ " wrench on the fitting and a $\frac{9}{16}$ " wrench on the nut.

If nuts and ferrules are not preset on the gas lines, remove the compression nut and plug from one end of the getter. Insert one of the compression ferrules located in the bag into the compression nut and install the assembly loosely onto one end fitting. Orient the ferrule so that the narrow end faces the getter. Immediately insert the appropriate tubing into the fitting until it bottoms out. Tighten finger-tight. Repeat nut and ferrule installation for other end fitting. Using a backup wrench for support, carefully tighten the nut $\frac{3}{4}$ -turn for $\frac{1}{8}$ " fittings using a $\frac{1}{2}$ " wrench on the fitting and a $\frac{7}{16}$ " wrench on the nut. For $\frac{1}{4}$ " fittings tighten the nut $1\frac{1}{4}$ -turns using a $\frac{1}{2}$ " wrench on the fitting and a $\frac{9}{16}$ " wrench on the nut.

6. Once installed, pressurize the getter with the process gas to the desired operating pressure and leak check the end fittings with either a soap solution, such as Snoop[®] or gas leak detector. Do not exceed 125 psig during the leak test procedure. Vent all pressure from the system and repair any leaks before proceeding.

OPERATION

WARNING: DO NOT exceed pressure and temperature specifications during operation. Injury or death to personnel and/or damage to equipment may result. DO NOT operate the trap under any circumstances if it leaking or otherwise malfunctioning.

1. The getter is ready for operation after it has been installed in the flow system and connections have been tested for leaks.
2. Gradually introduce gas to prevent a pressure surge or thermal shock to the getter.

REPLACEMENT

WARNING: Be sure that disposal methods are in accordance with Federal, State and local requirements.

Discard the trap when expended and replace it with a new unit. The expended material is nonhazardous, nontoxic, nonflammable, nonreactive and safe for landfill disposal.

SPECIFICATIONS

Maximum Operating Pressure	125 psig
Efficiency	To <50 ppb Oxygen with inlet levels of 10 ppm or less
Oxygen Capacity	260 cc at 3 slpm flowrate
Maximum Flow Capacity	5 slpm at 125 psig
Pressure Drop	0.3 psi at 5 slpm nitrogen flowrate
Inlet and Outlet Connections	
Models SG6160-4 & SG6161-4	¼ in. compression
Models SG6160-8 & SG6161-8	½ in. compression
Dimensions and Weight	See Table 1

Table 1

Part No.	Length	Diameter	Weight
SG6160	10 inches	1.25 inches	12 oz.
SG6161	5.5 inches	2 inches	19 oz.

MATERIALS OF CONSTRUCTION

Body	Aluminum
Inlet and Outlet Fittings	Nickel-Plated Brass
Filters (60 micron)	Type 316 Stainless Steel

WARRANTY

Advanced Specialty Gas Equipment Corp.,(the Company), warrants to the initial purchaser of each unit described herein, that such equipment will be free from defects in material and workmanship which result in breakdown or failure under normal use during a period of 12 months from date of shipment by the Company if used and maintained according to Advanced Specialty Gas Equipment written instructions. This warranty does not cover damage or malfunction due to corrosion. Purchaser is aware that this equipment is designed for specific applications and that using this equipment with the wrong or improperly purged gas or at the wrong pressure may damage or corrode the unit and cause personal injury. Purchaser must confirm that this equipment is compatible with the gas being passed through it. If there is any doubt about compatibility, consult your Advanced Specialty Gas Equipment Corp. distributor.

The Company's liability under this warranty shall be limited to the repair, or at its option, replacement or refund of the purchase price, of such equipment which proves to be defective, provided; however, that this warranty shall only apply if the purchaser (1) gives the Company written notice within ten (10) days after discovery of such defect, (2) immediately on discovery of the claimed defect, discontinues all use of such equipment, and (3) returns such equipment freight prepaid to plant of manufacture.

THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SPECIFIED HEREIN. NO WARRANTIES ADVANCED SPECIALTY GAS EQUIPMENT CORP.(OTHER THAN WARRANTY OF TITLE AS PROVIDED IN THE UNIFORM COMMERCIAL CODE) SHALL BE IMPLIED OR OTHERWISE CREATED UNDER ANY APPLICABLE LAW, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. No claim against the Company of any kind, whether as to equipment delivery or for nondelivery of equipment and whether or not based on contract, warranty, negligence, strict liability in tort or otherwise, shall be greater in amount than the purchase price of the equipment in respect of which such claim is made. Without limiting the generality of the foregoing, Advanced Specialty Gas Equipment Corp. shall not be liable for any special, indirect, or consequential damage, such as failure of parts resulting from corrosion.

If it is determined by Advanced Specialty Gas Equipment Corp. that the equipment is to be repaired or replaced under the terms of this warranty, the cost of returning said equipment to the initial purchaser will be paid by the Company. If, however, equipment returned to the Company in connection with a claim under this warranty is found by the Company not to be defective hereunder, then such equipment will be returned to the initial purchaser, shipping charges collect, and additionally, a service charge will be paid by the purchaser to the Company to cover the cost of handling and testing such equipment.



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