INSTRUCTIONS FOR MODELS SG6112, SG6113 & SG6114 HIGH PRESSURE, HIGH PURITY, IN-LINE FILTERS

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.

ADVANCED
Specialty Gas Equipment

SAFETY PRECAUTIONS

Protect yourself and others. Read and understand the following instructions before attempting to use these filters. 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 filters 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 filters, do not locate them near open flames or any other source of ignition.
- If toxic or flammable gases are used with these filters, 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.
- Never use oil or grease on these filters. Oil and grease are easily ignited and may combine violently with some gases under pressure.
- Never connect a filter to a supply source having a pressure greater than the maximum rated pressure of the filter. Refer to Product Specifications (page 5) for maximum inlet pressures.

DESCRIPTION

These in-line filters are designed to remove particulate matter (solids) from a gas stream. A large filtration area provides for high flow capacities; while their all-metal, welded construction makes these filters ideal for use in high purity and ultra high purity gas systems. They feature a pleated, stainless steel wire mesh element which can be easily cleaned by flushing the filter in the opposite direction to normal flow. Normal flow can be in either direction.

INSTALLATION

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

1. Inspect the filter for signs of physical damage or contamination. If the filter is damaged or contaminated, contact your Advanced Specialty Gas Distributor to arrange for repair or replacement.
2. Insure the service gas is compatible with the materials used to construct the filter.
3. Do not exceed the maximum operating pressure of the filter (6000 psig).
4. Do not exceed 100 psig maximum pressure differential across the filter (P1 – P2). Exceeding this differential pressure could cause the collapse of the filter element. Provisions within the system for monitoring pressure differential are recommended.
5. The filter may be installed with flow in either direction. Use Teflon® tape on pipe threads of the SG6112 and SG6113 filters. Do not use a lubricant/sealant on the threads of the SG6114 filter.
6. Leak test all connections after installation, using a clean, dry inert gas (e.g. Nitrogen) and a suitable leak detection fluid such as Snoop®.

CLEANING

As the filter removes contaminants it will, over time, begin to clog, reducing flow capacity and creating a pressure drop. It is highly recommended that the filter be cleaned on a regular basis. The filter can be cleaned by backflushing with a suitable solvent, or a strong solution of detergent and distilled water. The solvent must be compatible with the filter's materials of construction.

1. Remove the filter from the system.
2. Soak the filter in the solvent or cleaning solution for 15 minutes to loosen contamination, and rinse with clean solution.
3. Flush the filter by forcing solvent through it in the reverse direction of normal flow. This should be repeated at least five times.
4. Rinse with distilled water.
5. Purge the filter with clean, dry compressed air or nitrogen. Allow to dry completely before reinstalling.

SPECIFICATIONS

Maximum Operating Pressure	6000 psig
Operating Temperature Range	–320°F to +900°F
Maximum Differential Pressure	100 psig
Filtration Rating	See Table 1
Flow Coefficient (clean condition)	
SG6112	$C_V = 0.40$
SG6113 and SG6114	$C_V = 0.36$
Flow Capacity (Air @ 70°F)	
@ 10 psig Inlet, 0 psig Outlet	
SG6112	156 slpm
SG6113 & SG6114	140 slpm
@ 50 psig Inlet, 0 psig Outlet	
SG6112	433 slpm
SG6113 & SG6114	389 slpm
Dimensions	See Figures 1 & 2
Inlet and Outlet Connections	See Table 1
Weight (approx.)	4 oz.

MATERIALS OF CONSTRUCTION

Body	Type 316 Stainless Steel
Retainer Screens	Type 316 Stainless Steel
Pleated Mesh Element	
SG6112	Type 316 Stainless Steel
SG6113 & SG6114	Type 304 Stainless Steel

Table 1

Part No.	Inlet and Outlet Connections	Nominal Filtration Rating
SG6112	¼" NPT Male by ¼" NPT Female	15 micron
SG6113	¼" NPT Male by ¼" NPT Female	2 micron
SG6114	¼" Male VCR® (both ends)	2 micron

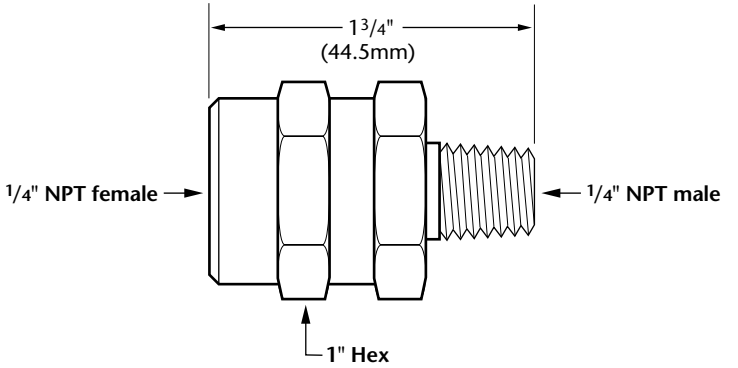

Figure 1 – SG6112 and SG6113 Filter Dimensions

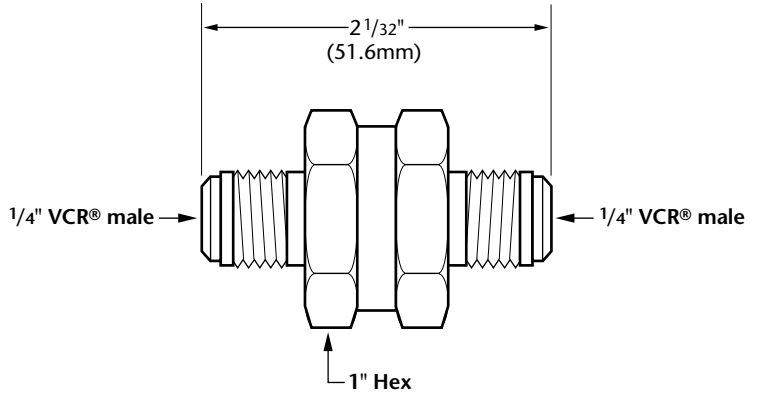

Figure 2 – SG6114 Filter Dimensions

WARRANTY

Advanced Specialty Gas Equipment Corp.,(the Company), warrants to the initial purchaser of each filter 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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Printed In U.S.A.
AI 2045
0127-1194