



MATHESON

The Gas Professionals

CABINET ENCLOSURES

Installation Manual

*READ AND COMPLY WITH THESE INSTRUCTIONS BEFORE
INSTALLING, OPERATING, OR SERVICING*

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I. SERVICE

General Service

A unit which is not functioning in a normal manner should be removed from service until such time that repairs or replacement can be made. Upon completion of repair, full testing should be performed to assure the user that the unit has been returned to its original operating parameters. MATHESON can repair or replace equipment. To arrange for repair or replacement service, call 1-800-828-4313 and ask for the Warranty Administrator. **No product will be received by MATHESON without indication of gas service and without proper return material authorization provided by the warranty administrator. (All repairs must be made by MATHESON or an assigned and approved facility to maintain any warranties or guarantees).**

If the unit is under an applicable warranty, return the unit to MATHESON for repair or replacement. To arrange for warranty service, call 1-800-828-4313 and ask for the Warranty Administrator. **No product will be received by MATHESON without indication of gas service and without proper return material authorization provided by the warranty administrator.**

If advised by the Warranty Administrator to return the product to MATHESON, prepare the product for shipment and write, in large lettering the RMA Number assigned by the Warranty Administrator on the outside of the box. Also, if required by the Warranty Administrator, supply the completed RMA form with the product. Make sure that the product is adequately packaged, in the original shipping container if possible, and shipped prepaid (MATHESON will not accept COD freight) with a description of the observed deficiency to the attention of the:

Warranty Administrator
MATHESON
166 Keystone Drive
Montgomeryville, PA 18936

The user is expected to periodically inspect the product for leaks, loose or worn parts, broken or non-functioning components and to address those situations immediately. If the user would require verbal assistance in ascertaining the potential of a problem with any MATHESON product, contact the local MATHESON branch for assistance or your MATHESON Sales Representative.

II. LIMITED WARRANTY

This equipment is sold by MATHESON under the warranties set forth in the following paragraphs. Such warranties are extended only with respect to the purchase of this equipment directly from MATHESON or MATHESON's Authorized Agent as new merchandise and are extended to the first Buyer thereof other for than the purpose of resale.

For a period of one year from date of original delivery (ninety days in corrosive service) to Buyer or to Buyer's order, this equipment, is warranted to be free from functional defects in materials and workmanship and to conform to the description of this equipment contained in this manual and any accompanying labels and/or inserts, provided that this equipment is properly operated under the conditions of normal use and that regular and periodic maintenance and service is performed or replacements are made in accordance with the instructions provided. Expendable parts of this equipment are similarly warranted to be free from functional defects in materials and workmanship and to conform to the description of this equipment contained in this manual and any accompanying labels and/or inserts. The foregoing warranties shall not apply if the equipment has been repaired other than by MATHESON or a service facility designated by MATHESON, or if this equipment has not been operated and maintained in accordance with written instructions provided by MATHESON, or has been altered by anyone other than MATHESON, or if the equipment has been subject to abuse, misuse, negligence or accident.

MATHESON's sole and exclusive obligation and the Buyer's sole and exclusive remedy under the above warranties is limited to repairing or replacing, free of charge, at MATHESON's sole discretion, the equipment or part which is telephonically reported to be a problem to the local MATHESON Branch Location, and which if so advised, is returned with a written statement of the observed deficiency, not later than seven days after the expiration of the applicable warranty, to the MATHESON Gas Equipment Technology Center during normal business hours, transportation charges prepaid, and which, upon examination, is found to comply with the above warranties. The Buyer shall pay for return trip transportation charges for the equipment or part.

MATHESON shall not be otherwise liable for any damages including but not limited to incidental damages, consequential damages, or special damages, whether such damages result from negligence, breach of warranty or otherwise.

There are no express or implied warranties that extend beyond the warranties hereinabove set forth. MATHESON makes no warranty of merchantability or fitness for a particular purpose with respect to the equipment or parts thereof.

Acceptance of the equipment by the final buyer indicates the final buyer's acceptance of all warranties and limitations set forth above.

III. USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically, with the frequency of such inspections depending upon the scope of use. Damaged, worn or contaminated equipment should not be used. Parts that are broken, missing, plainly worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, MATHESON recommends that a telephonic or written request for service advice be made to the MATHESON Equipment Engineering Group in Montgomeryville, Pennsylvania or to the nearest MATHESON branch location.

This equipment or any of its parts should not be altered without the prior written approval of MATHESON Equipment Engineering Group. The user of this equipment shall have the sole responsibility for any malfunction, which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than MATHESON or a service facility designated by MATHESON. Further, the ultimate user of the equipment is responsible for the training and safe operation of the equipment by personnel in his/her employ.

IV. SAFETY PRECAUTIONS

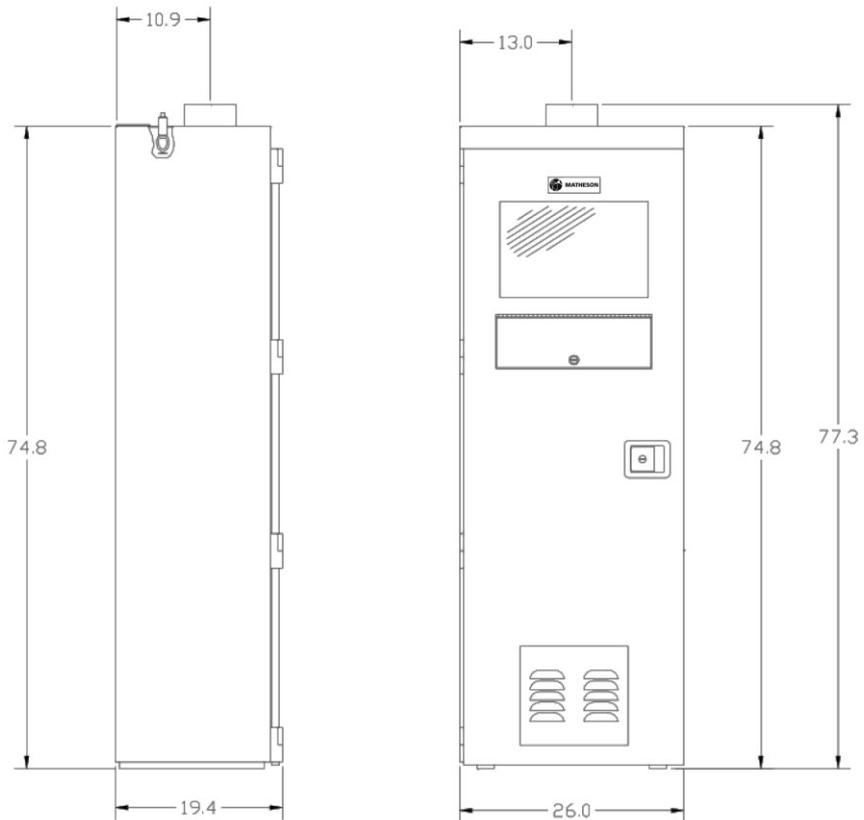
1. Many Specialty Gases are hazardous in nature. It is important that the user of the equipment carefully review the hazards associated with the gas to be used with the equipment. BEFORE INSTALLING THE EQUIPMENT INTO ANY SYSTEM OR ON ANY CYLINDER OF COMPRESSED OR LIQUEFIED GAS, REFER TO THE MSDS THAT WAS SHIPPED WITH THE GAS, OR ON FILE IN YOUR FACILITY, AS TO THE SPECIFIC HAZARDS ASSOCIATED WITH THE GAS TO BE USED. ALSO, REFER TO ALL APPLICABLE INSERTS CONTAINED WITH THE EQUIPMENT FOR ADDITIONAL PRECAUTIONS AND OPERATING INSTRUCTIONS.
2. Before using any equipment on toxic, corrosive, pyrophoric, flammable or other type of hazardous gas, test the leak integrity of the equipment using an inert gas.
3. Make certain that the equipment purchased is suitable for the application intended. Typically equipment supplied by MATHESON has a model number, and pressure limitation labels and/or stampings. If not apparent refer to other sections of this manual or product literature. Carefully review this information to establish the equipment is fit for service in the desired application.
4. Make certain that the equipment purchased or delivered to the ultimate end user conforms to the specifications of the user. The user is responsible for selecting equipment compatible with gases that are to be used, physical parameters of operation and performance and normal material compatibilities. Selection information can be found in MATHESON Catalogs, MATHESON Tech Briefs and in the MATHESON Gas Data Book. In addition, any MATHESON representative would be pleased to aid in the selection of specific equipment.
5. Before installation of the equipment into any system or onto the cylinder of compressed or liquefied gas, carefully inspect the equipment for visible signs of damage or contamination. Close attention should involve visual inspection of all exposed and connecting threads for visible signs of wear and abuse. Also examine the equipment for any loose parts outside of those that must swivel for connection to the gas system, cylinder or outlet lines. Also examine the equipment for signs of contamination with dirt, grease or any other foreign material. Close attention should be given to the external appearance and the view of the equipment from the inlet and the outlet. If any foreign materials are present and cannot be removed from the equipment easily with a cloth, or if the threads on the equipment appear to be abused as indicated above, or any of the components appear to be loose, return the equipment immediately for service.
6. Before connecting a cylinder source of compressed or liquefied gas to the equipment, move the cylinder(s) to the work location and secure the cylinder before removing the cylinder valve cap. Check the cylinder valve as in step 5 for possible

contamination and defective or loose parts. If for any reason the cylinder appears to be faulted as noted here, return the cylinder cap to the top of the cylinder, tighten down and remove the cylinder from the work area and call the supplier of the cylinder for immediate pick-up.

7. When using any hazardous gas, the cylinder of the gas should be placed under an exhaust hood or be placed in a suitable safety enclosure.

V. PHYSICAL DIMENSIONS

This illustration shows an external view of the gas cabinet and the overall dimensions.



VI. INSTALLATION - MECHANICAL

Securing the gas control system to the ground

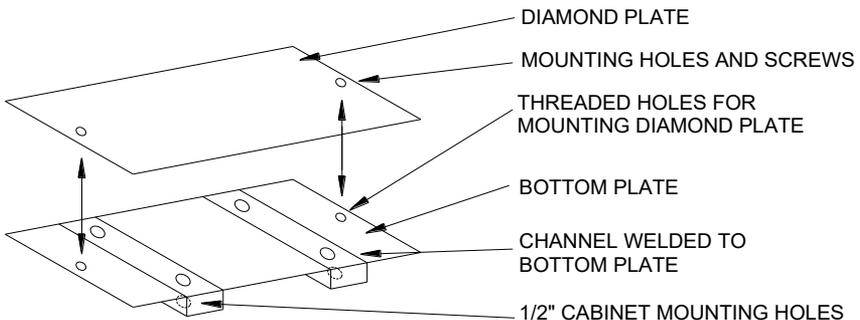
There are two channels welded to the bottom of the cabinet that act as “feet” for the cabinet. The floor of the gas cabinet is protected with a steel diamond plate.

1. Remove the plate to expose the four 1/2” diameter mounting holes in the feet.
2. Secure the gas control system to the floor using at least 3/8” bolts in each hole.
3. After securing the system, replace the diamond plate.

Note: The mounting surface for the cabinet must be level and constructed of a suitable material. It is the user’s responsibility to ensure level and secure mounting.

Note: The type and size of the mounting bolts will be influenced by the type of material (flooring) supporting the gas cabinet. MATHESON recommends securing the services of a qualified professional engineer to determine the proper method of securing the cabinet.

Warning: Some areas of the country require seismic restraints to be employed when mounting gas cabinet enclosures. It is the user’s responsibility to secure the services of a qualified professional engineer to meet all requirements.



Grounding the gas cabinet

General Instructions:

1. Determine a convenient spot on the gas cabinet.
2. Drill a hole for a 1/4" or 3/8" bolt.
3. Remove the paint down to the metal where the bolt will go through the cabinet, and the surrounding area where the washers will touch the cabinet.
4. Either weld the threaded bolt to the cabinet (best method), or install the bolt with flat washer, lock washer, and self locking nut. Double nut with standard nuts.
5. Install the wire into a round lug (not a forked lug which can slip out).
6. Install the lug onto the threaded stud, and tighten with washer, lock washer, and self locking nut. Double nut with standard nuts.
7. Attach the other end of the wire onto a suitable grounded pipe or other approved grounding device.

Warning: All local electrical codes must be followed and supersede these instructions if different. It is the user's responsibility to secure the services of a qualified professional to meet all requirements.

Exhausting the Gas Cabinet:

Article 80 of the Uniform Fire Code (UFC) dictates that the cabinet must sustain *200 fpm* average airflow velocity across the plane of an opening (meaning the access window) and a minimum of 150 fpm at any point within that opening. Our airflow requirements are calculated to meet or exceed these flows. This is with the door shut. During operation, the main cabinet door is not supposed to be opened.

From Semi S6-93, a static pressure of -0.5 to -1 " H₂O is recommended to use with a Hazardous Production Material (HPM) cabinet. This is used as a guideline to set the exhaust flow rate inside the cabinet. The flow also depends on different types of gases that are used, i.e. toxic or pyrophoric, UFC specifies certain face velocities for these gases.

MATHESON's recommended flow rates were established as a guideline to meet or exceed code requirements. As with all safety equipment, it is ultimately the owner / end user's responsibility to ensure the safety of the equipment and conformance to all established codes.



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