



EMERSON[™]

ANDERSON GREENWOOD SERIES 96A VACUUM BREAKER INSTALLATION AND MAINTENANCE INSTRUCTIONS

Before installation these instructions must be fully read and understood

SAFETY PRECAUTIONS

- *When the safety valve is under pressure never place any part of your body near the outlet of the valve.*
 - *Always wear proper safety gear to protect hands, head, eyes, ears, etc. anytime you are near pressurized valves.*
 - *Never attempt to remove the safety valve from a system that is pressurized.*
 - *Never make adjustments to or perform maintenance on the safety valve while in service unless the valve is isolated from the system pressure. If not properly isolated from the system pressure, the safety valve may inadvertently open resulting in serious injury.*
 - *Remove the safety valve prior to performing any pressure testing of the system.*
 - *The safety of lives and property often depends on the proper operation of the safety valve. The valve must be maintained according to appropriate instructions and must be periodically tested and reconditioned to ensure correct function.*
 - *For further information including adjustment, maintenance, cleaning lapping and detail illustrations obtain the appropriate Operation and Maintenance Manual from the table at Section 6. This manual may be requested from the factory or is available at www.valves.emerson.com*
- valve that is required to operate continuously or as a block valve to isolate portions of the system. It should not be used as a pipe fitting or transition piece in a piping system.*
- *Any installation, maintenance, adjustment, repair or test, performed on the safety valve must be done in accordance with the requirements of all applicable Emerson Procedures and Instructions as well as applicable National and International Codes and Standards.*
 - *The information, specifications and technical data (the "Specifications") contained in this document are subject to change without notice. Emerson does not warrant that the Specifications are current and assumes no responsibility for the use or misuse thereof. The purchaser should verify that there have been no changes to the Specifications prior to use.*

Service technicians are available to assist with your installation or other field problems. Call your nearest Emerson representative.

WARNING

- If a gagging device is provided with the valve it must be removed before the valve is put into service.*
- *Removal of the seal wires in an attempt to adjust and/or repair this product by unauthorized or unqualified persons voids the product warranty and may cause damage to equipment and serious injury or death to persons.*
 - *This product is a safety related component intended for use in critical applications. The improper application, installation or maintenance of the valve or the use of parts or components not manufactured by Emerson may result in a failure of the valve.*
 - *Any obstruction due to polymerization, solidification or solid deposit will affect the safety performance of this valve. Methods to reduce such risk should be taken.*
 - *A vacuum breaker should be used only to protect a system from underpressure during a vacuum upset. It should not be used as a control*

ANDERSON GREENWOOD SERIES 96A VACUUM BREAKER

INSTALLATION AND MAINTENANCE INSTRUCTIONS

1 GENERAL

The intent of these instructions is to acquaint the user with the storage, installation and operation of this product.

This safety valve should only be used in accordance with the applicable operating instructions and within the application specifications of the purchase order.

These valves have been tested and adjusted at the factory. Contact the factory or a Emerson authorized representative before making any changes to the settings.

2 STORAGE AND HANDLING

Because cleanliness is essential to the satisfactory operation and tightness of a safety valve, precautions should be taken during storage to keep out all foreign materials. Inlet and outlet protectors should remain in place until the valve is ready to be installed in the system. Take care to keep the valve connections absolutely clean. It is recommended that the valve be stored indoors in the original shipping container away from dirt and other forms of contamination.

Safety valves must be handled carefully and never subjected to shocks. Rough handling may alter the vacuum setting, deform valve parts and adversely affect seat tightness and valve performance.

When it is necessary to use a hoist, use the lifting eye(s) on the main valve body. If there are no lifting eyes a chain or sling should be placed around the main valve body in a manner that will ensure that the valve is in a vertical position to facilitate installation.

3 INSTALLATION

Many valves are damaged when first placed in service because of failure to clean the connection properly when installed.

Before installation flange faces on both the valve and the vessel and/or line on which the valve is mounted must be thoroughly cleaned of all dirt and foreign material.

Because foreign materials that pass into and through safety valves can damage the valve, the systems on which the valves are tested and finally installed must also be inspected and cleaned. New systems in particular are prone to contain foreign objects that inadvertently get trapped during construction and will destroy the seating surface when the valve opens.

The system should be thoroughly cleaned before the safety valve is installed.

Foam padding is sometimes used to protect the main valve seat during shipping. Check for any foam padding inside the main valve and remove before installation.

The vacuum inlet screen is covered and the pallet is secured to the plastic protective cover with lockwire to prevent damage during shipment. Remove the plastic cover and wire. Install the safety valve. Refer to Figure 1.

The gaskets used must be dimensionally correct for the specific flanges. The inside diameters must fully clear the safety valve vessel or line connection openings so that the gasket does not restrict flow. Make sure that the safety valve is installed with sufficient air flow clearance around the vacuum inlet.

Draw down all connection studs or bolts evenly to avoid possible distortion of the valve body.

The maximum torque for flange bolting for valves with aluminum bodies should not exceed the values shown in the following table.

NPS 4	NPS 6	NPS 8	NPS 12	NPS 16
18 ft-lb	32 ft-lb	32 ft-lb	51 ft-lb	76 ft-lb
24 Nm	43 Nm	43 Nm	69 Nm	103 Nm

Safety valves are intended to open and close within a narrow pressure range.

Valve installations require accurate design as to vessel piping. Refer to International, National and Industry Standards for guidelines.

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4 INLET PIPING

No inlet piping is required. The 96A vacuum breaker is a weighted pallet vent designed to breathe in atmospheric air.

5 DISCHARGE PIPING

Connect this valve as direct and close as possible to the vessel being protected. The valve should be mounted vertically in an upright position either directly on a nozzle from the pressure vessel or on a short connection fitting that provides a direct, unobstructed flow between the vessel and the valve. Refer to Figure 1. Installing a safety valve in other than this recommended position will adversely affect its operation.

The valve should never be installed on a fitting having a smaller inside diameter than the vessel or line connection of the valve. Fittings or pipe having a smaller inside diameter than the valve outlet connections must not be used.

This piping should be designed to carry the weight of the valve and should be properly braced to withstand reactive thrust forces when the valve relieves. The valve should also be supported to withstand any swaying or system vibrations.

After installation, there must be positive differential pressure at this piping to establish a differential force across the moving member and "load" the valve in the closed position. On normal start-up, the vent loads itself without incident as pressure increases.

6 SET VACUUM VERIFICATION TESTING

Set vacuum verification testing should be performed in accordance with instructions in the applicable Operation and Maintenance Manual.

OPERATION AND MAINTENANCE MANUAL

Valve model	Operation and maintenance manual
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Series 96A	VCIOM-06027 (05.9040.084)
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