

800 and 900 Series Vent Valves

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WARNING

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion, fire and/or chemical contamination causing property damage and personal injury or death.

Enardo vent valves must be installed, operated and maintained in accordance with federal, state and local codes, rules and regulations and Emerson Process Management Regulator Technologies Tulsa, LLC instructions.

Failure to correct trouble could result in a hazardous condition. Call a qualified service person to service the unit. Installation, operation and maintenance procedures performed by unqualified person may result in improper adjustment and unsafe operation. Either condition may result in equipment damage or personal injury. Only a qualified person shall install or service the vent valves.



Figure 1. Model 900-SO End-of-Line Vent Valve



Figure 2. Model 800-SO In-Line Vent Valve



Figure 3. Model 800-PSO In-Line Vent Valve

Introduction

Scope of the Manual

This Instruction Manual provides instructions for installation, maintenance and parts ordering information for the 800 and 900 Series vent valves.

North America Only

800 and 900 Series

Specifications

The Specifications section on this page provides specifications for 800 and 900 Series vent valves. Specification is stamped on the body of the vent valve.

<p>Available Construction See Table 1</p> <p>Available Sizes 2 through 4 in. / 50 through 100 mm, See Table 1</p> <p>Set Pressure/Vacuum⁽¹⁾ See Table 1</p> <p>Construction Materials See Table 2</p>	<p>Operating Temperature Range⁽¹⁾ -50 to 500°F / -46 to 260°C</p> <p>Approximate Weight 2 in. body: 11 lbs / 5 kg 3 in. body: 16 lbs / 7 kg 4 in. body: 25 lbs / 11 kg</p>
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1. The pressure/temperature limits in this Instruction Manual and any applicable standard or code limitation should not be exceeded.

Table 1. 800 and 900 Series Vent Valves Set Pressure/Vacuum

MODEL	AVAILABLE SIZE	PRESSURE	VACUUM
900-SO	2, 3 and 4 in. / 50, 80 and 100 mm	1.0 to 16.0 oz./sq. in. / 4.3 to 69.0 mbar (0.5 oz./sq. in. or 2.2 mbar increments)	0.4 oz./ sq. in. / 1.7 mbar
800-SO			
800-PSO			N/A

Table 2. Construction Materials

HOUSING	SEAT / PALLET	PALLET SEAL	HARDWARE	WEIGHT	GASKET
Cast Aluminum	Polyphenylene Sulfide (PPS)	Buna-N or Viton®	Zinc-plated Carbon steel	Lead	Buna-N or Viton®

Product Description

Enardo vent valves are designed to provide trouble free operation with a minimum maintenance. The primary functions of these valves are to prevent the loss of vapors in a closed storage system and provide pressure and vacuum relief.

800 and 900 Series vent valves prevent the escape of light ends of crude by maintaining pressure in the storage tank. Models 800-SO and 900-SO have pressure and vacuum relief capabilities. Model 800-PSO is designed the same as the Model 800-SO except the vacuum side of the valve

is eliminated. Model 800-PSO pressure only vent valve is designed to relieve pressure only through the vent line. Omitting the vacuum side of the valve eliminates the possibility of a two way flow. All valves are lined and trimmed with plastic where moving parts or surfaces may become fouled by crude gasses or materials.

The Models 800-SO and 800-PSO in-line vent valves are installed directly into the vent line exhaust and the Model 900-SO end-of-line vent valve is installed directly on the end of the vent line exhaust.

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Principle of Operation

The pressure/vacuum vent valve opens when the system pressure or vacuum exceeds the set pressure of the valve. When over pressure occurs, the weighted pallet lifts, breaking the seal between the seat and pallet, allowing vapors to pass through the valve orifice and relieving the pressure or vacuum buildup. The valve closes once the tank pressure goes below the set point.

Installation



Ensure that the tank is at atmospheric pressure before opening. A pressure build-up inside the tank can cause a spray to be emitted from the vent valve if opened under pressure.

1. Remove the follow-up flange and gasket from the valve by loosening the two bolts and nuts.
2. Place the flange and gasket over the end of the mating pipe. Insert the pipe into the end of the valve until it rests against the pipe stops inside the valve. Push the gasket up on the pipe until it is secured against the valve body.
3. Bring the flange up against the valve body and replace the bolts and nuts. Tighten the bolts and nuts until the valve is securely fastened to the pipe. Repeat this procedure for the opposite end of the valve.

Maintenance

Perform scheduled maintenance every three months or more frequently in corrosive or dusty atmospheres. During normal maintenance, inspect the cap gasket, pressure gasket and vacuum gasket. Under average operating conditions, replace these gaskets once a year.

To ensure efficient operation of all valves, clean the pressure and vacuum gaskets during regular scheduled maintenance and inspect the valve parts to check for accumulated debris. Regular maintenance prevents accumulation of residue that can deteriorate the performance of the valves. Continuous relieving of the valve means that there is a problem; closely inspect the system to determine the cause.

A valve repair kit is available for each valve size that includes all gaskets, pressure and vacuum disks and seats and the pressure weight for standard pressure settings (1 oz./sq. in.).

Note

For parts information, refer to the catalog data sheet on each model.

Gasket Replacement

The pressure and vacuum disks and seats are the working parts of the valve. Under average conditions, only gaskets require maintenance. The gaskets on the pressure and vacuum disks are secured by retainer grooves in the disks. Removal or replacement is performed by stretching the gaskets around the retainers. Pressure disks and seats are constructed of molded Ryton® material, they are impervious to most conditions and should last for many years.

Parts Ordering

When corresponding with your local Sales Office about this equipment, always reference the equipment serial number that can be found etched on the body.

When ordering replacement parts, reference the key number of each needed part as found in the following parts list. Separate kits containing all recommended spare parts are available.

800 and 900 Series

North America Only

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