PNEUMATIC LIQUID DUMP VALVES

QUICK START GUIDE

CAUTION

Prior to installing, the instructions provided herein should be completely reviewed and understood before operating or repairing this equipment. All CAUTION and WARNING notes must be strictly observed to prevent personal injury or equipment damage.

Description

The low pressure balanced valves are designed for use in liquid dump control applications that require on/off service. The valves have a single port body and a pneumatic spring/diaphragm actuator. The actuator is available in either fail closed or fail open configurations.

The pneumatic operated control valves feature quick-opening trim for on/off service. The valve is balanced, allowing it to function smoothly and close completely regardless of the pressure differential from upstream to downstream.

Installation

Before installing the pneumatic dump valve, inspect it for shipment damage and for foreign material that may have collected during shipment. Inspect the openings in the valve and clean the pipe lines to remove scale, chips and debris.

Normally with actuator in vertical orientation.

1. Remove the plastic cap from the tapped hole and install a 1/4" or 3/8" tubing (fitting not provided).

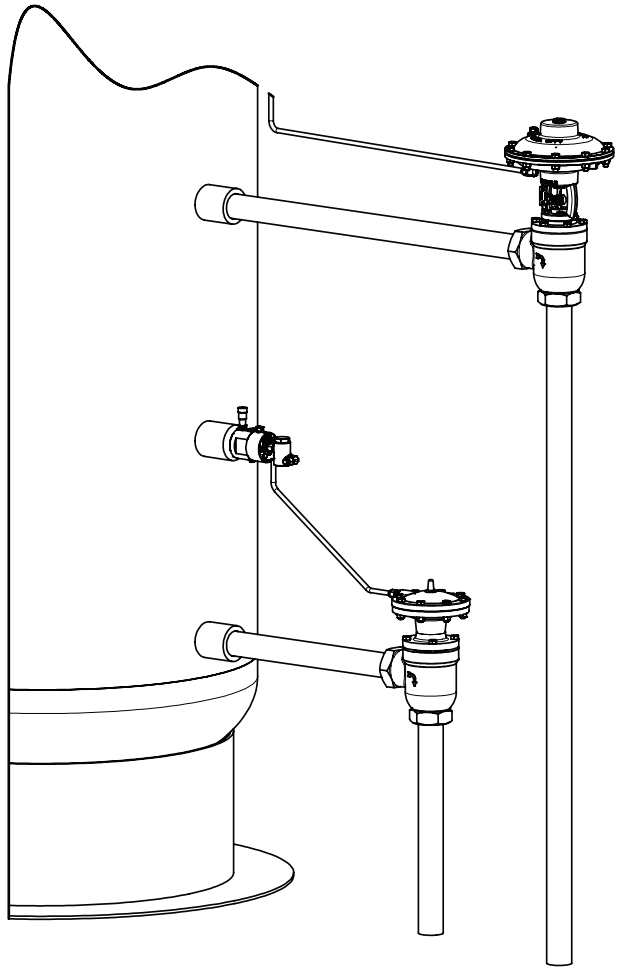
2. Install the valve with the arrow on the body pointing in the direction of flow.
   The arrow signifies that the device will operate properly in the direction of flow indicated and will not necessarily prevent flow in the opposite direction.

3. Install the valve using good piping practices. For flanged bodies use a suitable gasket between the body and the pipeline flanges. For threaded (NPT) bodies, useTFE tape or pipe thread sealant on external pipe threads.

4. The flanged valve bodies are rated ANSI class 150RF. Do not install the valve in a system where the working pressure can exceed ANSI class ratings.

5. Connect instrument gas (usually from a liquid level control pilot) to the actuator connection. The minimum required instrument gas pressure is 10 psig (0.7 bar); up to 35 psig (3.4 bar) is permissable.

6. Verify all pressure connections are tight before pressurizing the system.



CAUTION

When ordered, the pneumatic liquid dump configuration and construction materials were selected to meet specific pressure, temperature, pressure drop and fluid conditions. Since some body/ trim material combinations are limited in their pressure drop and temperature ranges, do not subject the pneumatic liquid dump valves to any other conditions without first contacting the Kimray Inc, sales office or a sales / applications representative

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KIMRAY INC.®

Start-up and Test
With the installation completed and appropriate relief and check valves installed and set, slowly open the upstream and downstream shutoff valves. In order to test the function of the valve, allow only a small amount of upstream pressure to flow through the upstream shutoff valve. Check for proper valve operation by cycling the source of instrument gas several times. Then watch as the vessel fills to be sure the valve is operating properly.

Maintenance
Maintenance should be performed on a regular basis. An initial inspection interval of 12 months is recommended. Depending on the service conditions of the valve, the inspection interval may be decreased or increased.

The valve can be repaired without being removed from the piping.

Only use genuine Kimray replacement parts.

Repair kits and detailed repair instructions are available for each valve.

Visit www.kimray.com or contact your Kimray authorized distributor for additional product information and / or literature.

Inspection Schedule	
*Valve Seat	Inspect every 6 months under normal service and conditions. Under severe service conditions such as sand, corrosion, salt, or high pressure drop, inspect regularly until a predictable pattern can be established.
Seals	Should be replaced as needed. Check for cracks, swelling or if the seals feel hard. Replace as needed.
Body	Under normal conditions, the body will last years. Severe conditions will require inspection more frequently. The body should be inspected every time valve trim is inspected.
* Under severe operating conditions this maintenance schedule will not be adequate and a more frequent time schedule may be required.	

Trouble Shooting		
Problem	**Possible Cause(s)**	**Possible Solution**
Fluid leaking from actuator	Stem packing or the stem itself is worn.	Replace packing and / or stem.
Fluid leaking from body/actuator joint.	Screws attaching actuator to body are loose. Seal between body & actuator is worn/damaged	Tighten screws. Replace seal.
Valve will not cycle when instrument air is applied to actuator.	Diaphragm is ruptured or torn. Valve stem is broken. Diaphragm plate is loose. Actuator vent is plugged.	Check for stem galling and binding. Replace damaged parts. Replace stem guide or cylinder. Clean vent.
Excessive trim leakage with the valve closed.	Debris is interfering with seat contact. Insufficient shut-off force from actuator. Seat surfaces are worn or damaged.	Clean seat. Inspect for interference. Replace seat.
Instrument gas leaks from outer edge of diaphragm housing.	Screws holding the bonnet to the middle housing are loose.	Tighten screws.
Instrument gas leaks from actuator vent.	Diaphragm is torn or ruptured.	Replace diaphragm.
Valve stem movement is sticky or jerks.	Valve stem is bent or misaligned.	Replace stem and stem guide.

WARNING
Before beginning installation:
• Read and follow instructions.
• Make sure the valve cannot operate during installation.

Do not exceed the maximum supply pressure specified on the valve nameplate.

Never tighten any fitting or the main connections to the valve while there is pressure on the line.

WARNING
Before any service, be certain that the valve is fully isolated and that all pressure upstream and downstream has been relieved. Use bypass valves or fully shut off the process.

Be sure that any operating or instrument gas lines have been disconnected.

Never stand directly in front of or over a valve when the system is pressurized. The valve could suddenly open, blowing debris into the person's face and eyes.

WARNING
A leaking valve is an indication that service is required. Failure to take valve out of service immediately may cause a hazardous condition.

NOTE
If conditions indicate the possibility of backward flow you may wish to install check valves.
Never assume that a check valve is fully blocking the downstream line.

For questions or comments, contact your local Kimray authorized distributor, or visit www.kimray.com.

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