

#### 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 Kimray weight operated valve is a zero-emissions product designed as an oil or water valve for emulsion treaters, water knockouts, salt water disposal and gunbarrels.

The valve is balanced by equalizing gas pressure directly from the vessel and actuates based on the hydrostatic pressure generated from the column of liquid in the vessel's discharge piping. The height of water column can be field adjusted by moving the weight in or out on the arm and ranges from 2 ft to 4 feet, with options up to 12 feet.

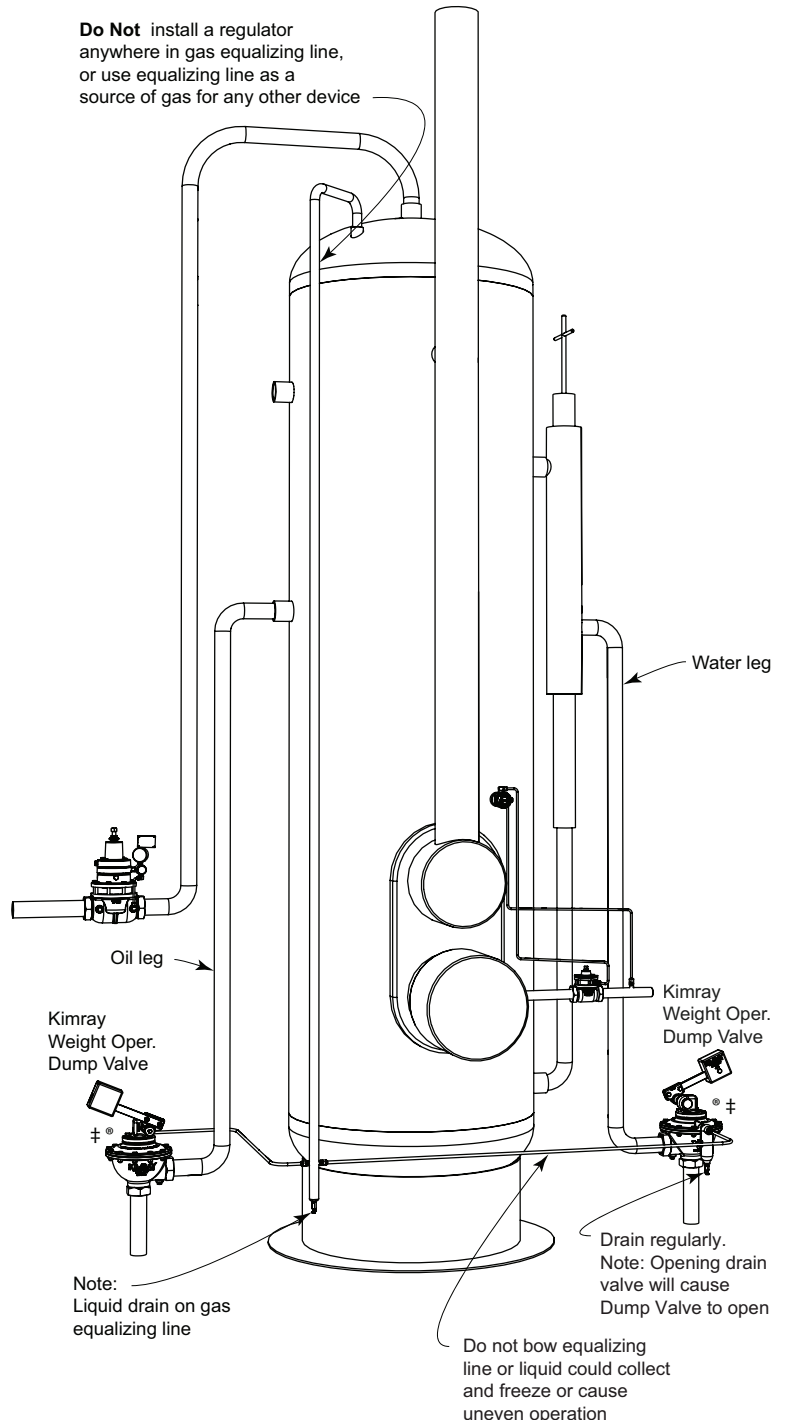
A name tag is attached to the upper bonnet housing on each valve. The name tag lists the serial number, model number, and pressure rating.

#### Installation

Before installing the treater 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. For flanged bodies, remove the masking sticker from the raised face of each end connection.

1. Install the valve with the arrow on the body pointing in the direction of flow. The direction of flow indicated will not necessarily prevent flow in the opposite direction.
2. 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, use TFE tape or pipe thread sealant on external pipe threads.
3. Install gas equalizing line to 1/4" connection of drip pot. Do not share this line with any other equipment. (for more info see note below)
4. Adjust weight on standard 12" lever arm. All the way out towards the end of lever bar will achieve 4 ft. of liquid head. All the way in towards hub assembly will achieve 2 ft. of liquid head. Head can be set up to 12 ft. with optional longer arm and additional weight.
5. Verify all pressure connections are tight before pressurizing the system.

**Do Not** install a regulator anywhere in gas equalizing line, or use equalizing line as a source of gas for any other device



#### Note

Do not connect gas equalizing line to gas vent line, burner manifold, or downstream of mist extractor.

Do not share equalizer lines.

#### CAUTION

When ordered, the Weight Operated Dump Valve 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 treater valve to any other conditions without first contacting the Kimray Inc, sales office or a sales / applications representative.

# WEIGHT OPERATED DUMP VALVES



## INSTALLATION INSTRUCTIONS SG:W001

### 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 fluid to flow through the upstream shutoff valve. Check for proper valve operation by cycling the weight arm several times.

### 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 the body being removed from the piping as long as all pressure has been relieved & blocks in place

Only use genuine Kimray replacement parts.

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

Visit [www.kimray.com](http://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 every time the valve is disassembled. Check for cracks, or if the seals feel hard, replace.
Body	Under normal conditions, the body will last for years. Severe conditions will require inspection more frequently. The body should be inspected every time the removable seat is changed.
Drip Pot	Should be drained daily to prevent liquid overflow into the valve diaphragm.

\* 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 stuffing box	Shaft packing or the shaft itself is worn.	Replace packing. Check for shaft wear.
Valve leaks when closed	Debris is interfering with seat contact. Soft seat worn. Removable seat worn.	Disassemble and clean seat & diaphragm. Replace seat.
Erratic Operation	Soft seat leaking. Diaphragms hardened.	Inspect for deformations or obstructions in seat. Replace seat.
Valve Bounces	Downstream balancing port blocked. Pressure in vessel is not stable. The equalizing line is not balanced with valve.	Inspect downstream for obstructions. Ensure equalizing lines are connected to a static source.
Water on Diaphragm	Diaphragm Assembly loose. Equalizing line is full of water due to improper installation. Infrequent draining of drip pot.	Tighten diaphragm nut.

### 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 name-plate.

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](http://www.kimray.com).

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All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.  
‡ Configuration of the Weight Operated Dump Valve is a trademark of Kimray, Inc.

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