

## DUMP VALVE IN A HIGH PRESSURE GAS SEPARATOR

The purpose of the dump valve in a two phase separator is to maintain a predetermined high and low level of liquid in the vessel. The operation can be either on/off or continuous flow. Actuation can be either electric or pneumatic.

### HYDROPLEX MINIMAX

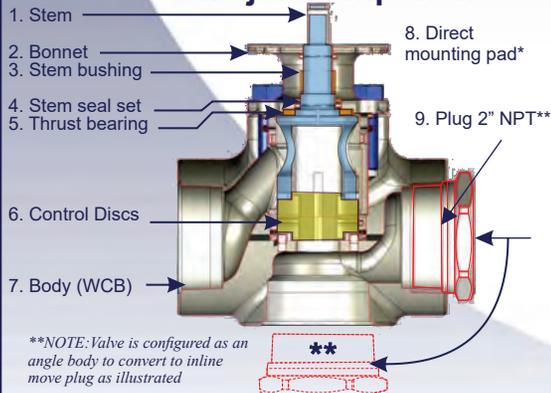


2" MiniMax with electric actuator



Internal Cartridge Assembly

#### Major Components



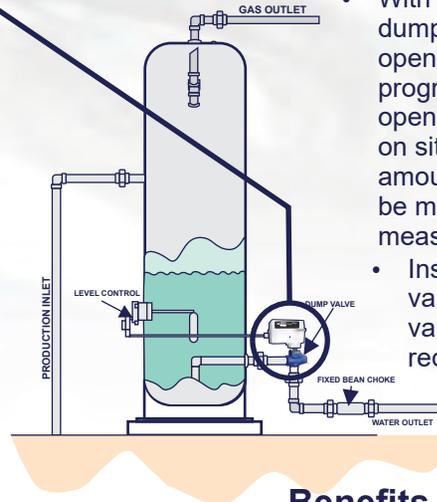
\*\*NOTE: Valve is configured as an angle body to convert to inline move plug as illustrated

### Description of How a Dump Valve Works

The dump valve is operated in conjunction with either an electric or a pneumatic liquid level controller. The controller senses the level of liquid inside the vessel. At a predetermined level, the controller sends a signal to the dump valve actuator. The signal activates the valve in either SNAP or MODULATING mode. The "Snap" mode fully opens the valve allowing the liquid to be dumped downstream. The "Modulating" mode allows the valve and controller to maintain a set operating level in the vessel by throttling the position of the trim. When the liquid level recedes or cannot be maintained the controller will signal the actuator to close the valve.

### Recommendations

- With an installed electric actuator and level control device, the "Span" of the dump cycle can be controlled by programming a delayed response time on the opening and closing signal from the level switch. The recommendation is to program the ability to locally adjust between 3 and 30 seconds delay on both opening and closing segments of the cycle. Changes can be made electronically on site or from a remote location. This method substantially increases the amount of fluid that can be dumped in a single cycle of the valve. The result will be more effective liquid production, fewer dump cycles in 24 hour period, better measurement and extended trim and seal life.
- Install a choke nipple at a minimum of 12" to 18" downstream of the dump valve. The fixed bean will significantly reduce fluid velocity through the dump valve. The result is decreased trim wear, significant noise reduction and reduced potential for cavitation in the dump valve.
- In applications with fluid temperatures greater than 140°F the actuator should be mounted to the valve with a spacer bracket and adapter to diffuse heat transfer into the actuator.



### Benefits of installing a Hydroplex Valve

- **Precise Control** with "Direct Mount" Actuation, no brackets, linkage or adapters
- **Superior Resolution and Accuracy** with 90 Degree Rotary Twin Disc trim
- **High Repeatability Rate** maintains unparalleled control in applications
- **Twin Disc Design** separates control and sealing surfaces for longer useful life
- **Robust Stem and Seal** design integration provides for hundreds thousands of cycles
- **Solid Tungsten Carbide Trim** minimizes seal and control surface wear
- **Longest Mean Time Between Service** with Stainless Steel internals
- **Inline or Angle Body** conversion by moving 2" NPT plug
- Ease of maintenance with the **Internal Cartridge Assembly**