In many liquid piping systems, it is vital that line pressure is maintained. This is especially true of the OCV Relief/Back Pressure Series of the OCV control valves. Installed in the main flowline, the standard Model 108-2 acts as a back pressure or sustaining valve. In this configuration, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand.

**SERIES FEATURES**

- **Relief** Maintains a constant inlet pressure by relieving excess high pressure.
- **Pressure Control** Keeps system back pressure constant without performance sacrifice.
- **Surge** Protects system from over pressure from falling demand.
- **Bypass** Valves are serially connected to handle momentarily an increased pressure surges that might occur during start, shut-off, sudden load demands or system-wide power failures.

For maximum efficiency, the OCV control valve is a precision engineered system in which a number of design features come into play. This is a valve where improvements are continually made to meet needs of the changing industrial world. There is a possibility that some features provided here may not be available on all valves, or any valve with a listed stock. It is possible that features not shown in this catalogue should appear on the later model valves to improve their plate systems.

A valve inspection and maintenance procedure should be established and conducted partly by experienced personnel. Control valve Series 108-2 is a product of highly skilled craftsmen.
**TERMO**

1. **Model 68 Basic Control Valve**, a two way- operated, gas or single valve control valve, with a variety of nozzles in adjustable sizes, ranging from 10 psi to 60 psi. This is a common application for a wide range of conditions and is a popular equipment point where suction pressure falls below set point.

2. **Model 1230 Pressure Relief Pilot**, a two-way, normally-closed pilot valve which sets upstream or downstream, and can be adjusted to achieve the desired pressure drop. It provides the proper pressure drop to the diaphragm chamber of the valve, depending on the position of the pressure relief valve.

3. **Model 1330 Pressure Relief Pilot**, a single, high-precision fitting with a fixed orifice in its inlet port. It provides the proper controlling pressure drop for the diaphragm chamber of the valve, depending on the position of the pressure relief valve.

4. **Model 141-3 Flow Control Valve**, a needle-type valve which provides adjustable, restricted flow in the direction, and the flow in the direction opposite to the set point. On the 108-2, the flow control valve is connected to the upstream pressure and the pilot valve is connected to the downstream pressure.

5. **Model 159 Y-Strainer**, a simple “tee” fitting with a fixed orifice in its inlet port. It provides the proper pressure drop to the diaphragm chamber of the valve, depending on the position of the pressure relief valve.

**MODEL 1330/2400 PRESSURE RELIEF VALVE**

**PILOT OUTLET**

**Pilot**

The Model 1330/2400 Pressure Relief Valve is equipped with a single orifice in the pilot outlet. The pressure at the upper chamber of the main valve determines the maximum pilot pressure. The pilot pressure is controlled by adjusting the orifice size to achieve the desired pressure drop and the system pressure drops to the desired set point.

**Pilot Outlet**

The pilot outlet is connected to the upstream pressure and the main valve is connected to the downstream pressure. The pilot outlet is connected to the upstream pressure and the main valve is connected to the downstream pressure.

**Sizing Considerations**

For the most complete valve specifications in Series 108 control valve, it is best to use our ValveMaster software or the guidelines shown here in conjunction with the Performance Charts in the Engineering Section of the OCV catalog.

**Bypass Valve**

Bypass pressure relief valves are used based on maximum flow and pressure drop across the valve. The bypass flow through the valve is the pump flow at the specified pressure and the bypass flow is the pressure drop across the valve. The bypass valve is not to impact the valve at the relief valve specifications. Bypass flow is a constant flow and bypass flow is a variable flow.

**Pressure Sustaining**

Pressure sustaining valves are used to maintain a constant downstream pressure. The valve will close when system pressure drops below the set point.

**Pressure Sense Diaphragm**

Accurate sensing of inlet pressure is provided by the pressure sense diaphragm. The pressure sense diaphragm is a large area diaphragm for quick, precise throttling.

**Sustaining Pilot**

The Model 1330/2400 Pressure Relief Valve is equipped with a single orifice in the pilot outlet. The pressure at the upper chamber of the main valve determines the maximum pilot pressure. The pilot pressure is controlled by adjusting the orifice size to achieve the desired pressure drop and the system pressure drops to the desired set point.

**Cavitation Concerns**

Many valve-related and some pressure control valves are, by their application, subject to cavitation pressures that may influence design. These conditions, mild or severe, may lead to excessive cavitation, leading to excessive cavitation and valve deterioration. The complete cavitation analysis is performed by the installation, which calculates the risk index and cavitation index. The cavitation index is used to predict cavitation performance.
**Valve Operation**

- Close under normal operating pressure. Valve opens when pressure drops too low.
- Valves can have a stock pressure drop of not more than 7 psi.
- All valves are not created equal. OCV Control Valves proves that day in and day out.

**Pressure Relief Valve Series 108**

- Model 1330/2400 Pressure Relief Valve. To find the combination function valve, select the desired features and then the model number.
- This chart shows only a sample of those most often specified valves. Consult the factory for specific data on the model you selected.
- We stand behind our valves and are ready to serve your needs.
- Simply stated, we take pride in all that we do.

**Sizing Considerations**

For the most competitive and reliable solution to your Series 108 control valve, it is best to use our ValveMaster software or the guidelines shown here in conjunction with the Performance Charts in the Engineering Section of the OCV catalog.

**Surge Relief**

Size is determined by the amount of flow through the valve and the pressure at which it is set to open. The pressure drop across the valve can be difficult to determine, as a general guideline. To use the Model 1330 or 1331 valve, the 108 Series valve is capable of constant output pressure control within the limits of the valve body. A pressure drop is capable of maintaining constant output pressure within the limits of the valve body. A pressure drop is capable of maintaining constant output pressure.
The Model 108-2 consists of the following components, arranged as shown on the schematic diagram:

1. Model 50 Basic Control Valve, a hydraulically operated, strain gauge type, globe or single valve design, which controls the valve discharge at the set point.

2. Model 528 Pressure Relief Pilot, a very-low, normally-closed pilot valve which senses upstream pressure changes and adjusts its seat area to maintain a constant pressure level.

3. Model 123 Inline Strainer, (standard on water service valves) or a filter of a similar design, suitable for maintaining the cleanliness of the medium before it enters the main valve.

4. Model 105 Ejector, a device for starting the main valve to increase causing it to open.

5. Model 108-2 Control Valve (with a handwheel or manual operator). The upstream pressure tends to make the pilot open.

6. Model 123 Inline Strainer (standard on water service valves), used for isolating the pilot system for maintenance or troubleshooting.

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**SURGE RELIEF**

Pressure relief valves are sized based on maximum flow and pressure drop across the valve. The maximum flow through the valve is the pump flow at the maximum pressure rise, and the pressure drop is the pressure difference between the upper and lower chambers of the valve. The valve size is not dependent on the valve at the pressure drop. The pressure relief valve size is chosen based on the maximum flow and pressure drop.

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**PRESSURE SUSTAINING**

Sustaining valves are typically main line valves. The upstream pressure is maintained constant, and the downstream pressure fluctuates with changing load conditions. When the downstream pressure decreases, the pilot begins to close, allowing the upstream pressure to increase causing it to open.

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**CAVITATION CONCERNS**

Many valve applications require pressure control valves, but for specific applications, the valve may be damaged by cavitation. Different types of cavitation can occur, and the valve may be damaged by cavitation. This is a complex phenomenon that can result in wear, fatigue, and other damage. The valve may be damaged by cavitation due to a change in upstream pressure.

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**MANUFACTURING**

The Model 108-2 Control Valve is manufactured to exacting specifications. All valves are not created equal. OCV Control Valves proves that day in and day out.

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**CONTACT**

For more information or to order a valve, please contact us at sales@controlvalves.com or call (918) 627.1942.

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**SPECIFICATIONS**

TOLL FREE: 1.888.628.8258 | PHONE: (918) 627.1942 | FAX: (918) 627.8916 | 7400 East 42nd Place, Tulsa, Oklahoma 74145 | sales@controlvalves.com | www.controlvalves.com
In many liquid piping systems, it is vital that line pressure is maintained. This is the principle of the 108 Pressure Relief Valve Series of OCV Control Valves. Installed in the main flow line, the standard Model 108-2 acts as a back pressure or pressure sustaining valve. In this configuration, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When used in a bypass line, the same model will function as a relief valve, protecting the system against potentially damaging surges.

SERIES FEATURES
- Relief maintains a constant line pressure by relieving sudden excessive pressure
- Sustaining: Prevents pressure from dropping below a minimum.
- Manual or pilot operated for a wide range of flow rates
- Instantaneous response that might occur in surging lines
- Quick opening with controlled closing

For maximum efficiency, the OCV control valve Series 108 Pressure Relief Valve is selected to fit the valve function needs for the line system. While valves are acceptable at many points, it is essential to keep in mind that the valve function needs are dependent upon the system configuration, system components, and other valves. Proper selection ensures that no damage will result from even the smallest spillage, or any value with a limited inlet. If possible the valve should be replaced if the line's function changes or if the valves are part of a critical system.

A routine inspection and maintenance program should be established and conducted quarterly by qualified technicians. Contact our factory support for any parts or service.

How to order your valve

When placing your order, please include the following information:
- Valve Series: Valve Manual or pilot operated for a wide range of flow rates
- Valve Identification Number
- Valve Type (Globe, Angle, Check, Gate, Asbestos, Inlet, Adjustable- Right, Inlet Adjustable- Left, Special Valves, Reduced or Extended)
In many liquid piping systems, it is vital that line pressure is maintained. In any number of the OCV Pressure Relief/Back Pressure Series of the OCV control valves. Installed in the most flow line, the standard Model 108-2 acts as a bypass valve, preventing excessive flow. In this configuration, the same model will function as a relief valve, protecting the system against potentially dangerous surges.

Pressure Relief Valve Series 108

**SERIES FEATURES**

- **Relief** Maintains a constant limit pressure by releasing excess pressure when it is set saddle valve to function and operates automatically. Flow is interrupted. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

- **Bypass** Pressure Control

  - **Regulating** Maintains a constant downstream pressure by relieving excess pressure if it is set to fully open or on either side of the valve. Flow is interrupted. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

- **Pressure Sustaining** Prevents pressure from dropping below a minimum. Flow is interrupted. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

- **Surge / Relief** Provides accurate system flow and pressure control even when system demand varies. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

**DIMENSIONS**

- **Globe Flanged Sizes**
- **Angle Flanged Sizes**
- **Globe/Angle Screwed Sizes**

**VALVE FEATURES**

- **Pressure Sustaining** Prevents pressure from dropping below a minimum. Flow is interrupted. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

- **Surge / Relief** Provides accurate system flow and pressure control even when system demand varies. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

- **Bypass** Pressure Control

  - **Regulating** Maintains a constant downstream pressure by relieving excess pressure if it is set to fully open or on either side of the valve. Flow is interrupted. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

- **Pressure Sustaining** Prevents pressure from dropping below a minimum. Flow is interrupted. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

- **Surge / Relief** Provides accurate system flow and pressure control even when system demand varies. When used in a bypass line, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When operated fully open, the valve maintains a constant upstream pressure. It is often used as a relief valve, protecting the system against potentially dangerous surges.

**SPECIFICATIONS**

**INFORMATION**

- **END CONNECTIONS**
- **Screwed/Threaded Sizes**
- **CLASS**
- **STANDARD**

**dT**

**Pressure/Flow Capacity**

- **GLOBE**
- **ANGLE**

**OPTIONS**

- **Trim Material**
- **Adjustment Range**
- **Pilot**

**INSTALLATION**

- **Operating Temperature**
- **Flange Dimensions**

**STOCKING**

- **Valves are Serial Numbered and Registered to Facilitate Replacement Parts and Factory Support.**

**PLANT SUPPORT**

- **Valves are Serial Numbered and Registered to Facilitate Replacement Parts and Factory Support.**

**CONTACTS**

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- **Website:** www.controlvalves.com

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