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Check Relief and Valve Chatter

Customers have occasionally noticed a condition in some check and relief valves that produces audible noise or vibration. This condition is called chatter and can occur in all types of check and relief valves. If left unresolved, chatter can damage the internal components of the valves and cause leakage.

Check and relief valves should ideally be operated in a fully open or fully closed state. Chatter results when the valve is not properly sized, and the maximum flow capacity of the valve does not closely match the system flow rate. Chatter may also result when the valve is operated with an inlet pressure close to its cracking pressure.

To eliminate or reduce chatter in check valves, a check valve with a flow capacity similar to the system flow rate should be used, the pressure drop across the valve should be changed, or a lower cracking pressure spring substituted, if possible. To eliminate chatter in relief valves, a different, typically lighter, spring should be used, to change the opening flow characteristics of the valve. Operating the valve in a more fully open position may reduce chatter. Flow data can be found in the check valve and relief valve product literature.

For additional information contact:

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