



SAFETY BY SIDENER
CONTROL RELIABLE HYDRAULIC SAFETY VALVES

Safety By Sidener

What is Control Reliable?

“Control Reliability”, essentially states that the safety system be designed, constructed and installed such that the failure of a single component within the device or system should not prevent normal machine stopping action from taking place, but shall prevent a successive machine cycle from being initiated until the failure is corrected. To achieve “Control Reliability”, a device should feature both redundancy and fault detection.

Where is it Used?

Control Reliable Hydraulic Safety Valves are applicable where ever hydraulic safety is a concern. These applications may include:

- Hydraulic Presses
- Coil Slitting Lines
- Paper Processing and Roll Handling
- Rubber Molding
- Actuator Isolation
- Metal Forming (Cutting, Bending, Punching, Forming)

Safety Standards Defined

The EN 954-1 standard (Categories B-4) that has been the staple of safety definition is being phased out and replaced by ISO-13849-1 PL (Performance Level). Below are the brief summaries of requirements for each definition: PLe gives the best reliability and is equivalent to that required at the highest level of risk.

ISO-13849-PLd (Safety Category 3): The safety control system must be designed such that a single fault will not lead to a loss of the safety function. Where practical, the single fault will be detected. This requires redundancy from the safety device through the load control device. Multiple faults may lead to a loss of the safety function.

ISO-13849-PLe (Safety Category 4): The safety control system must be designed such that a single fault will not lead to a loss of the safety function and will be detected at, or before, the next demand on the safety system. If this is not possible, then the accumulation of multiple faults must not lead to the loss of the safety function. This also requires redundancy from the safety device through the load control device. Here multiple faults must not lead to a loss of the safety function.

Sidener's Control Reliable Valves are suitable for ISO-13849 PLd or ISO-13489 PLe applications and are currently pending TUV Certification.



How It Works

Two Types of Control Reliable Valves Available to Cover All Your Safety Application Needs.

Energy Isolation Valve

Sidener's Energy Isolation Valve functions as a two position 3-way hydraulic valve with redundant valving elements and redundant monitoring.

The purpose of the valve is to, when energized, provide a flow path for a flow of hydraulic fluid from its source to the hydraulic system. When de-energized, the valve blocks flow from the hydraulic energy source and vents the hydraulic system to tank.

The hydraulic circuitry features a series flow condition from the inlet of the valve through redundant valving elements to the discharge of the valve. It also features a parallel flow condition from the discharge of the valve through either or both of the valving elements to the tank port. This configuration assures that if a valving element fails to operate as requested, inlet flow will be blocked and fluid from the outlet side of the valve is directed to tank.

Safety Rated Monitoring Switches indicate the movement of the redundant valving elements.

Operation of the Safety Rated Monitoring Switches is typically monitored by a Safety Relay or a Safety PLC supplied by others.

Blocking Valve

Sidener's Blocking Valve functions as a two position 2-way hydraulic valve with redundant valving elements and redundant monitoring.

The purpose of the valve is to block flow in a hydraulic system.

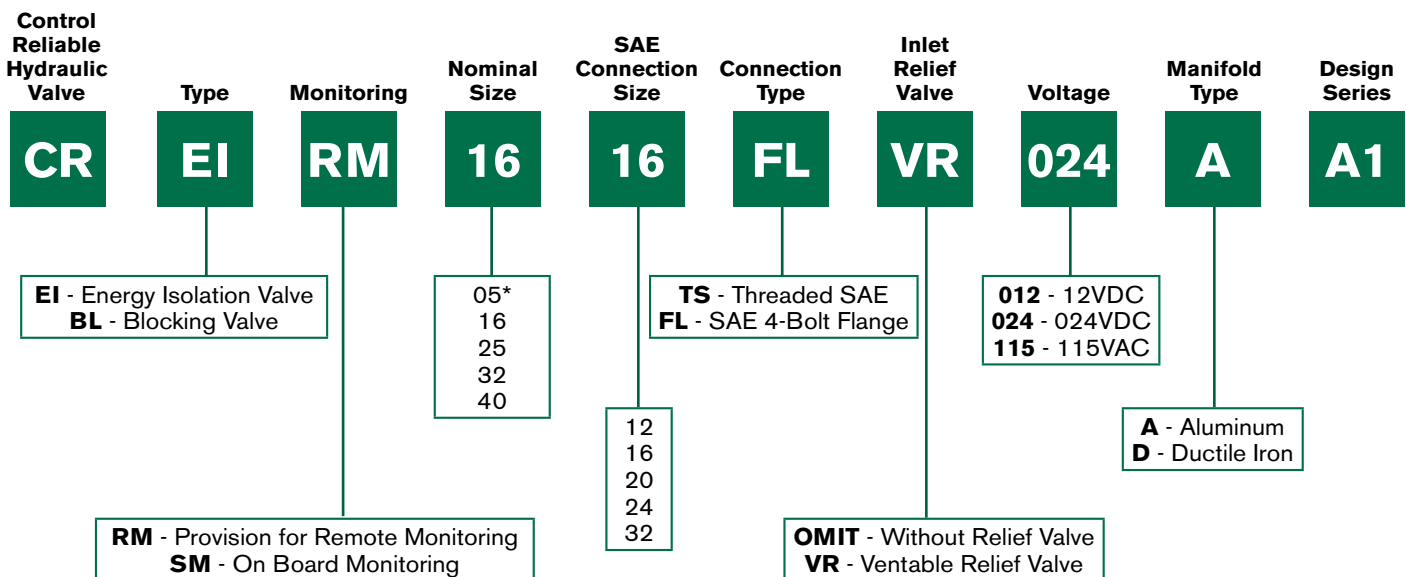
A common application is to block flow in a hydraulic cylinder to inhibit cylinder movement caused by gravity.

Safety Rated Monitoring Switches indicate the movement of the redundant valving elements.

Operation of the Safety Rated Monitoring Switches is typically monitored by a Safety Relay or a Safety PLC supplied by others.

Please contact our Engineering team and let us select the right product for your application.

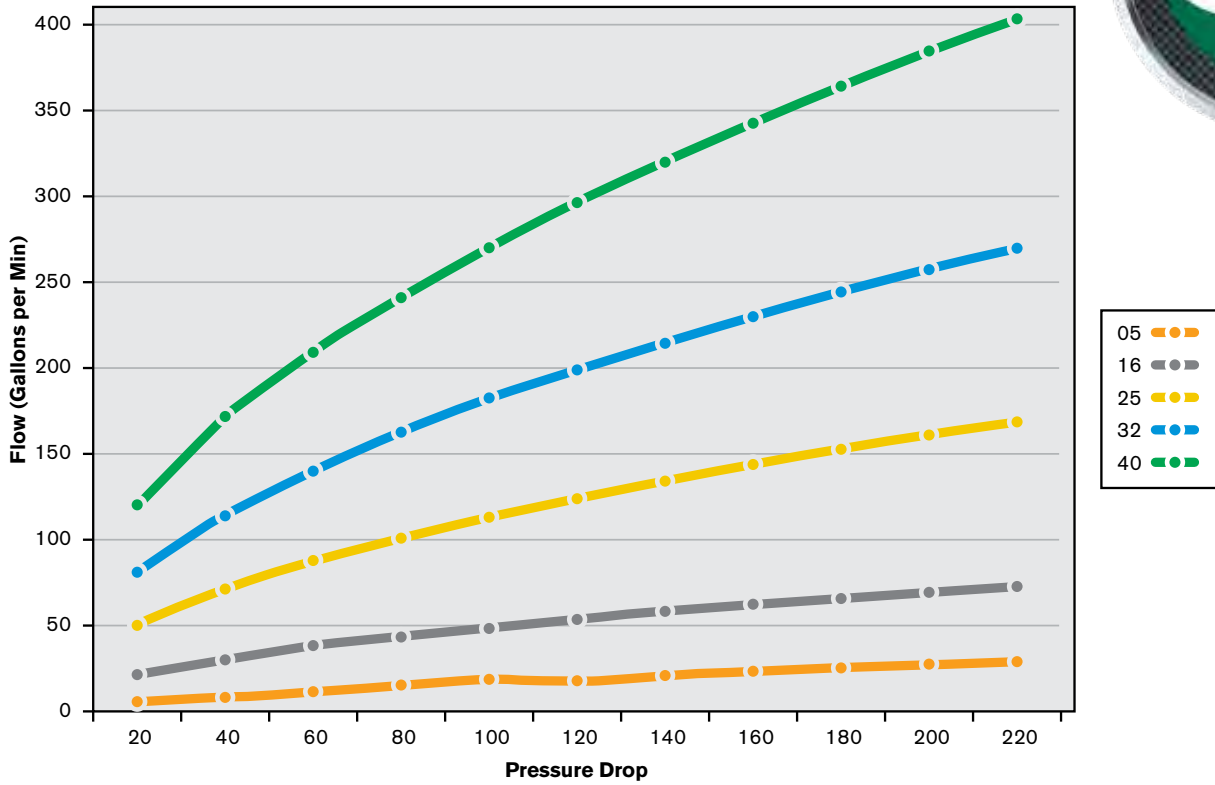
Sizes/Options



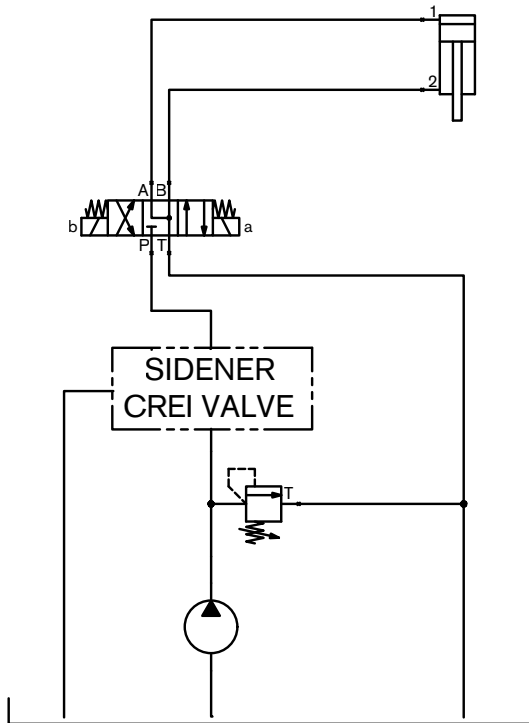
* 12TS Connection Only. Not Available on BL Valve.



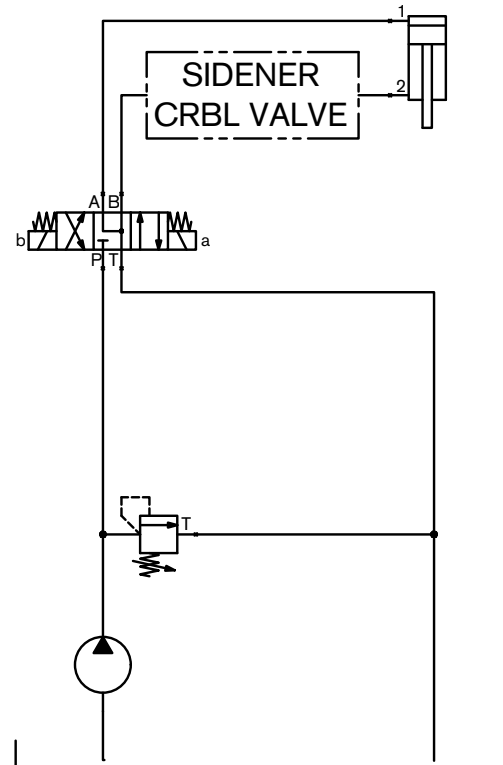
Flow/Performance Curves



Control Reliable Energy Isolation Valve Machine Example



Control Reliable Blocking Valve Machine Example



Additional Safety Products

EUCHNER More than safety.

- Multi-functional Gate Boxes
- Transponder-Coded Safety Switches
- Locking & Non-Locking Electromechanical Safety Switches
- Magnetically Coded Safety Switches
- Safety Relays & Control Systems



- Manual Lock-Out L-O-X Pneumatic Valves
- Pneumatic Control Reliable Energy Isolation Valves
- Pneumatic Return-to-Home Safety Valves
- Explosion Proof Pneumatic Valves
- Air-Fuse Flow Diffusers



- Safety Light Curtains
- Safety Mats
- Ergonomic Palm Buttons
- Safety Interface Modules
- Safety PLC's and Control Systems



- Anti-Fatigue Mats
- Ergonomic Flooring





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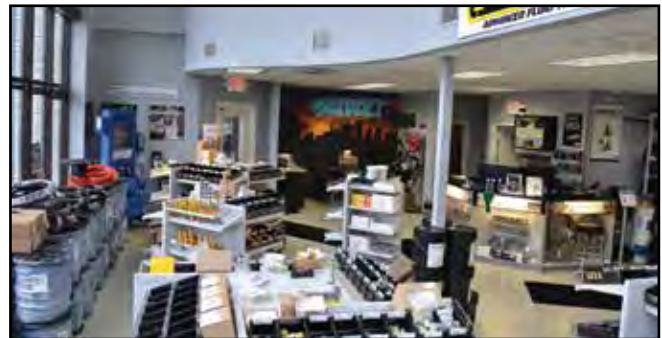
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