

SPM® SafeEdge™ Automated Relief Valve Control System (ARC)

Regulate over pressure safely, remotely, and intelligently

SPM™ Oil & Gas

A Caterpillar Company



The SPM® SafeEdge™ ARC intelligent valve system from SPM Oil & Gas allows customers to remotely set and control a high-speed pressure relief valve while monitoring treating-line pressure, helping to prevent over-pressuring of treating iron. Through monitoring and autonomous reporting, the intelligent N₂ valve reduces non-productive time. More compact than the previous generation, it comes with a network infrastructure built into a rugged field case that enables the operator to connect to the Datavan via wired or wireless connection, allowing system control through a webpage on any kind of Wi-Fi-capable device. In the case of a pressure-relief event, the system automatically logs high-speed data locally. It also will publish this data to a secure web portal.

Thanks to intelligent control of relief valve, the wellsite can relieve pressure faster than the alternative systems currently available. Those utilizing hydraulic systems to actuate plug valves are slower to react and rely heavily on multiple components all functioning correctly. The design reduces the amount of N₂ consumption and also improves the N₂ valve sealing surface life and performance.

The SPM® SafeEdge™ ARC offers quick resetting—no full shutdown required. The user-friendly interface contains visual and verbal warnings indicating low nitrogen input, lost system pressure, or loss of power, along with other criteria. In instances where manual shutdown becomes necessary, there's an emergency trip switch on the user interface to manually open the relief valve.

Features and Benefits

Capability

- Durable hardware with temperature-compensating E-regulator to eliminate early or late pop-off events
- Adjustable reset/pop-off filter
- Self-diagnostic and remote inspection
- Single-system control of two N₂ valves with two different set pressures
- GPS/satellite/cellular hardware built-in

Data

- Pop-off event will capture high-speed data 30 seconds before and after event
- System creates log files that store data every 12 hours that can be opened in Microsoft Excel
- Data can be saved to removable flash drive or accessed through a remote website
- .cvs stream out capable through TCP/IP
- Ability to record data feature can be turned ON or OFF

Efficiency

- Improved performance and life of N₂ pop-off valve sealing components
- Reduces typical nitrogen consumption

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