

BEST PRACTICES 4.0

Protect Machines from Premature Wear with Soft-Start Valves

Optimizing machine productivity can manifest itself in many different forms such as: operating 24/7, running production lines at maximum throughput or minimizing machine downtime. One way to reduce machine downtime is by increasing its overall lifecycle or by extending the interval between regularly scheduled maintenance and repair.

A machine is subject to additional stress and risks to premature wear when it is powered up and pressurized with compressed air after a scheduled shut-down or a safety event because the surge in air pressure will create rapid movements in the actuators and that can cause premature wear or may even escalate into a hazardous situation.

One solution is to slowly and incrementally increase the air pressure into the machine until a preset air pressure threshold is achieved before fully pressurizing the machine's air system to help avoid a harsh start and facilitate a soft-start to all downstream components. The advantages will be that downstream components will move slowly into position allowing opposing air pressure to accumulate in the actuators in order to create enough air volume to meter out and protect from a runaway cylinder.

SMC's soft start-up valve, AV Series, will gradually increase system air pressure until 50% is achieved, then its main valve will open to complete full pressurization.

The installation of the AV Series, soft start-up valve requires for a machine's compressed airline to be free of any large volume leaks because it may not achieve 50% pressurization and as a result not fully open. Also, venturi type vacuum generators that are present downstream from the AV, soft start-up valve, will function like an air leak.

Features:

- Operating pressure: 29 – 145 psi, (0.2 – 1.0 MPa)
- Voltage: 12, 24 VDC, 100, 110~120, 200, 220 VAC
- Flow direction: Left to Right, Right to Left
- Modular assembly with FRL units

Available in:

- Inch Thread: 1/4", 3/8", 1/2", 3/4", 1" NPT
- BSPT (ISO 7) Thread: 1/4", 3/8", 1/2", 3/4", 1" Rc
- BSPP (ISO 228) Thread: 1/4", 3/8", 1/2", 3/4", 1" G

For more information about Soft Start Valves, visit www.smcusa.com