

# LAKOS AutoPurge with Pneumatic Fail-Safe Ball Valve

Separators and Filtration Solutions

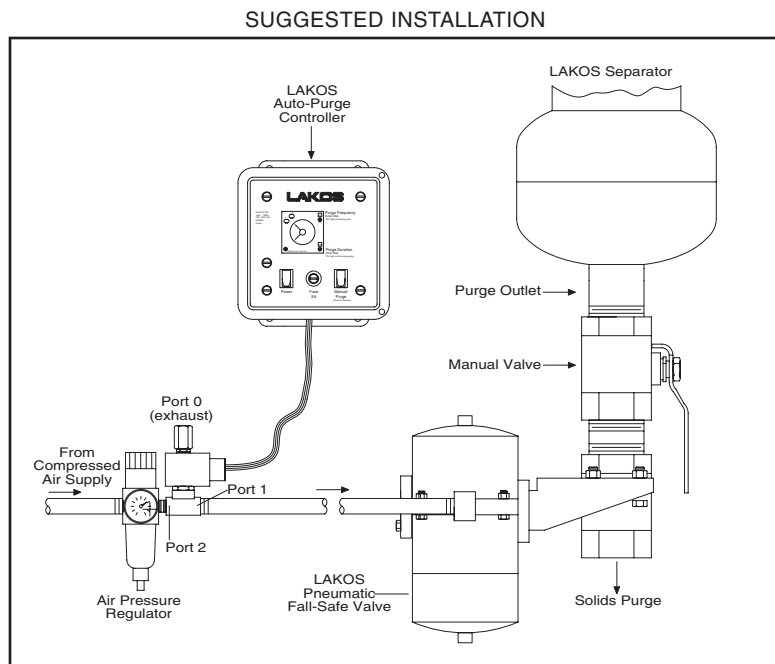
AFS Series

## Fail-Safe Solids Purging Systems to Guard Against Power Failures and Incidental Purging

This air-operated ball valve effectively eliminates routine maintenance and labor scheduling requirements, assuring proper and regular purging. The PTFE-seated stainless steel ball and straight-through flow design make it capable of handling all fine solids, many fibrous materials, mild abrasives and typical solids with a specific gravity of 3.6 or less.

A fail-safe, closed-position valve highlights this series, providing sure protection from power failures, incidental purging and related liquid loss problems.

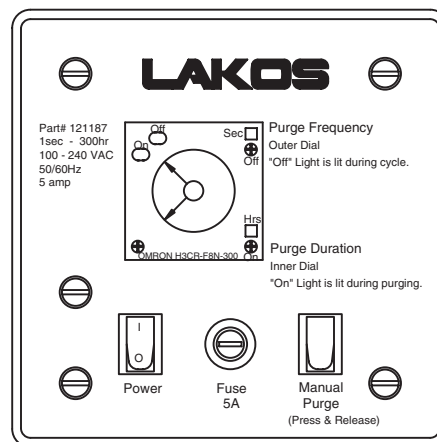
- Rugged, stainless steel rack and pinion design
- Spring-loaded closure
- Thermoplastic, corrosion-resistant body



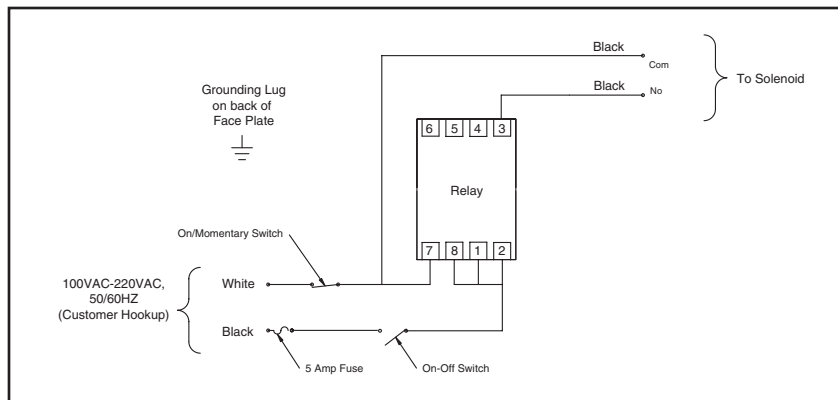
## Controller

- Serves worldwide single-phase voltages, from 100 to 240 VAC, 50/60Hz (5 amp max.) Consult factory for additional voltage options
- Wide range of options for programming purge cycle frequency and duration
- Solid state reliability; no routine maintenance required
- Durable NEMA-4x rated housing; IP 66 equivalent
- Compression molded, fiberglass reinforced polyester housing
- Non-volatile memory - all controller settings are maintained in the event of a loss of power; no programming required

## ILLUSTRATION OF CONTROLLER FACE



## WIRING DIAGRAM



See reverse for additional specifications

## Pneumatic Ball Valve and Solenoid

### Operation

The LAKOS Pneumatic Ball Valve is controlled with a supply of compressed air passing through a solenoid. To open the valve for purging, the LAKOS controller signals the solenoid to open, allowing air to pass into the valve's inner chamber. This drives the shuttling piston, compresses the fail-safe spring, manipulates the rack and pinion gear, turns the valve actuator shaft and swivels the ball valve 90° to open. To close the valve, the LAKOS controller signals the solenoid to close, which discontinues the air supply to the valve. Air from the valve's inner chamber then bleeds off and the valve closes as the fail-safe spring expands to relax. Purging is thereby shut off.

**Fail-Safe:** Should power to the LAKOS controller or air supply ever be interrupted, the valve's spring will automatically close the purge valve. After restoration of power, the controller will reset and immediately begin the programmed purge duration and continue on to its programmed cycle for the next purge. All controller settings are maintained in the event of a power loss; no reprogramming is required.

**Solenoid Installation:** The solenoid controls the air supply to the valve and is activated by the LAKOS controller. Install air supply lines to the proper ports, as noted in the illustration on reverse.

Valve Model	Line Size N.P.T. female	Minimum Pressure to Open Valve		Valve Weight	
		psi	bar	lbs.	kg
AFS-07	3/4 inch	60	4.2	7-1/2	3.4
AFS-15	1-1/2 inch	60	4.2	12-1/2	5.7
AFS-20	2 inch	80	5.6	16-1/2	7.5

## Liquid Loss

When the application allows that purging is the final handling of the separated solids, it may be important to know the volume of fluid which may be lost when purging. This information is subject to variations, based on separator size, flow rate and system pressure. Volumes noted here identify the total volume purged (both liquid and solids).

Purge Size	10 Second Duration*
3/4-inch	3-12 gallons 12-45 liters
1 1/2-inch	12-50 gallons 45-190 liters
2-inch	25-95 gallons 95-360 liters

\* Motorized ball valves require a minimum purge duration of 10 seconds.

## Limited Warranty

LAKOS products are factory tested to meet the highest quality standards in the filtration industry. Please refer to <http://www.lakos.com/warranty> for information about the warranty on this and all other LAKOS products.

Lakos Separators are manufactured and sold under one or more of the following U.S. Patents: 5,320,747; 5,338,341; 5,368,735; 5,425,876; 5,571,416; 5,578,203; 5,622,545; 5,653,874; 5,894,995; 6,090,276; 6,143,175; 6,167,960; 6,202,543; 7,000,782; 7,032,760 and corresponding foreign patents, other U.S. and foreign patents pending.

**LAKOS**  
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