LAKOS Auto Purge with Pneumatic Fail-Safe Ball Valve

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 teflon-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

SUGGESTED INSTALLATION

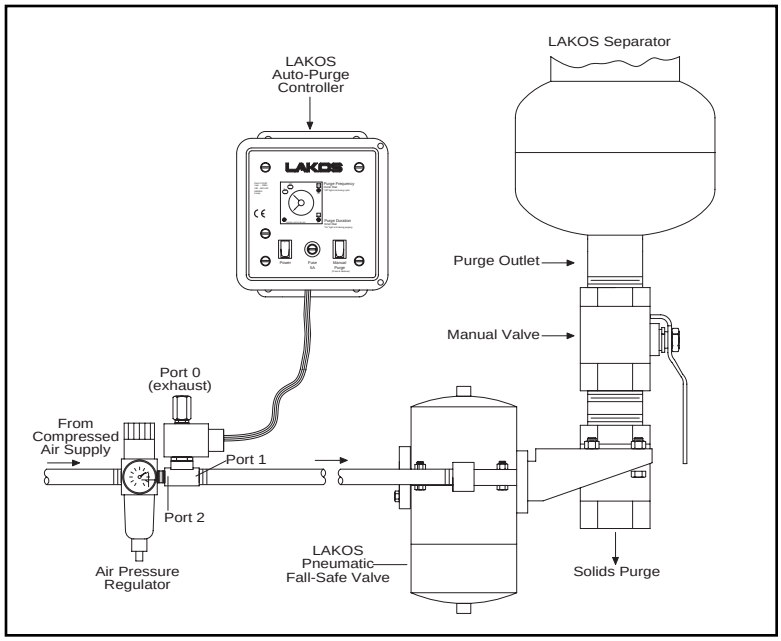
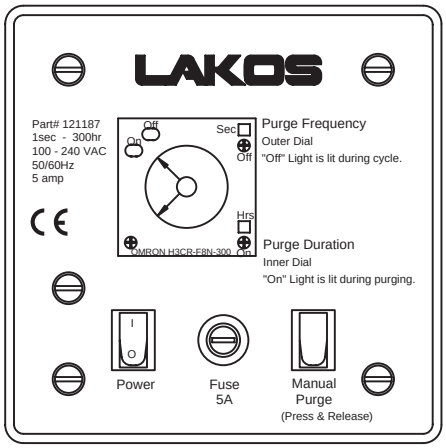


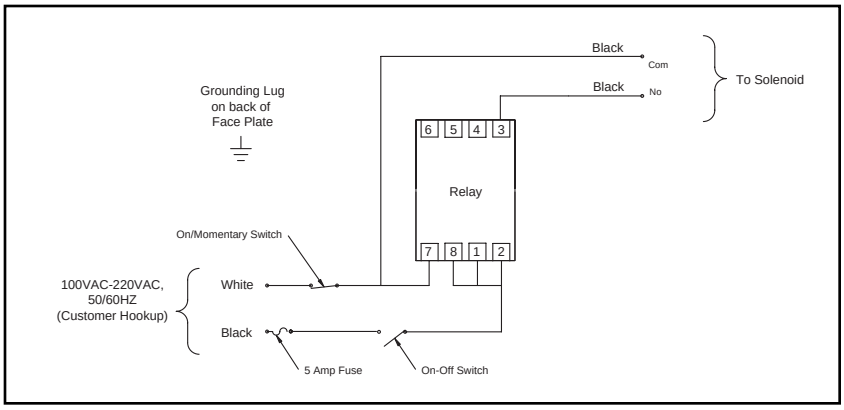
ILLUSTRATION OF CONTROLLER FACE



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
- Meets CSA, UL, and CE requirements
- Non-volatile memory - all controller settings are maintained in the event of a loss of power; no programming required

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	Minimum Pressure to Open Valve		Valve Weight	
	N.P.T. female	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

All products manufactured and marketed by this Corporation are warranted to be free of defects in material or workmanship for a period of one year from date of delivery.

If a fault develops, notify us, giving a complete description of the alleged malfunction. Include the model number(s), date of delivery and operating conditions of subject product(s). We will subsequently review this information and, at our option, supply you with either servicing data or shipping instructions and returned goods authorization. Upon prepaid receipt of subject product(s) at the instructed designation, we will then either replace such product(s) at our option and, if determined to be a warranted defect, we will perform such necessary product repairs or replace such product(s) at our expense.

This limited warranty does not cover any products, damages or injuries resulting from misuse, neglect, accident, normal expected wear, improper installation or operation contrary to factory recommendations. Nor does it cover equipment that has been modified, tampered with or altered without factory authorization.

No other extended liabilities are stated or implied and this warranty in no event covers incidental or consequential damages, injuries or costs resulting from any such defective product(s).

Lakos Separators are manufactured and sold under one or more of the following U.S. Patents: 3,289,608; 3,512,651; 3,568,837; 3,701,425; 3,947,364; 3,963,073; 4,027,481; 4,120,795; 4,123,800; 4,140,638; 4,147,630; 4,148,735; 4,305,825; 4,555,333; 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; Des. 327,693; and corresponding foreign patents, including 600 12 329.4-08 (Germany) and EP 1 198 276 B1 (EU); other U.S. and foreign patents pending.

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