Automatic Blower Start-Up and Unloading Valves

Positive displacement blowers all share a great feature: As soon as you turn the input shaft, air gets encapsulated by the lobes and thus moved through the machine. This leads to an almost linear performance curve. The faster the rotor speed, the more airflow is achieved. Sometimes this may lead to two key challenges for a project engineer. For one, applications where there is pre-existing header pressure, i.e. water in the main header in a water treatment plant, it may be either impossible to start the main motor without incurring high amperage spikes, or possibly the motor may not ramp up at all. The other key issue is related to regulating airflow or pressure. With a positive displacement blower air flow needs to either regulated by means of altering the input shaft speed, bleeding air through additional valves, or by stopping the blower altogether. The following list focuses on controlling airflow and pressure with our line of Aeromat type valves.

Aeromat

The standard Aeromat valve is the basic start-up unloading valve the project engineer may use to assure an unloaded blower start up. The key feature of Aeromat valves is that they operate self sufficiently without having to use any auxiliary power. The valve is normally open and starts closing once around 2PSI have been attained in the pipe work. With an optional electric solenoid valve the blower airflow may be vented on demand without having to stop the blower.

Aeromat HTP

This Aeromat functions exactly like the standard variety except that its elastomeric components are made from high temperature resistant materials. The Aeromat HTP is rated for up to 356 degrees F and 29 PSIG pressure, which lends itself to be used for e.g. single stage oil free screw compressors.

Aeropress

If it is desirable to maintain a certain discharge pipe pressure whilst being able to start the blower unloaded, the Aeropress valve is the best option for your application. This valve shares the same key characteristics with the Aeromat. Additionally, it comprises a pilot valve that lets the user adjust the maximum discharge pressure. Once the set pressure is exceeded, the valve automatically opens and bleeds air off to maintain the pilot's set pressure. Since it starts operating in the normally open position a minimum header pressure of 2PSIG must be present to assure the proper closing of the valve. The user may choose to install an electric solenoid valve to load and unload the blower.

Aeropress 10S

If a minimum header pressure of 2PSI (i.e. in some pneumatic conveying applications) cannot be attained, we offer the normally closed pilot operated Aeropress 10S valve. This is a normally closed valve that can only be used as a start up unloaded if it is carried out with a two-way solenoid valve; it functions primarily as a maximum pressure holding valve.

Aerovac

The Aerovac is a normally closed vacuum breaker that helps maintain a certain maximum inlet vacuum level the user can adjust with the pilot valve. It also can be equipped with a solenoid valve to control load versus unloaded mode.

No plant air or electrical connection is required for all basic valve versions.