

Monitoring Pressure Drop Across Air Compressor Filters

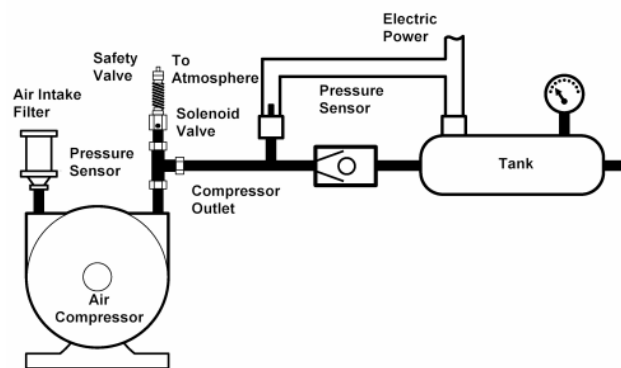
Application Note



BACKGROUND:

There are three basic types of air compressors, reciprocating, rotary, and centrifugal. These general types of compressors may be further divided into the following categories: single or multi (two, three, or four) stage, packaged or non-packaged, air cooled or water cooled, lubricated or non-lubricated. Industrial air compressors range in size from 2 hp to 10,000 hp. They are used to supply air for the operation of pneumatic controls, actuators, spray equipment, power tools, air blow-off operations, etc. They may be stationary or portable. The most common pressure is 125 psi with the amount of air volume ranging from 1 CFM to 15,000 CFM. Pressure and air volume are both factors in determining the type and size of the compressor.

Typical Compressor Configuration



PROBLEM:

Contaminants in the air being drawn through the compressor can greatly reduce the life and efficiency of a compressor. Manufacturers typically design their equipment with separator/filters on the compressor intake to remove dirt, water and oil from the intake air. As contaminants are trapped by the separator/filter, the pressure drop across the filter increases. Manufacturers recommend changing the filter and cleaning the separator when the pressure drop reaches 10 psi. The time this takes may vary widely depending on the environment, volume of air being filtered and total time of operation. Due to the large number of variables, maintenance should be performed based on need, not time of use.

⚠ WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

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SOLUTION:

Monitor the pressure drop across separator/filter with a Honeywell MLH Series pressure sensor. The MLH sensor output may be used to provide feedback to the compressor's control unit. The control can be designed to illuminate a "clean or replace filter" warning light or display a "clean or replace filter" message when a preset threshold pressure is met. It can also be used to shutdown the compressor if a secondary threshold level is met.

ENVIRONMENT:

Compressors are typically found in construction or shop environments. These environments often contain oil, dust, vaporized coolants, etc. and are often subject to relatively large changes in temperature and humidity. The MLH Series sensors are protected from these types of environmental conditions by housings designed to meet IP65 standards.

SUMMARY:

The rugged and highly dependable Honeywell MLH Series pressure sensors are a great choice for this type of application. The thru-wall mounting capability, broad range of pressures, along with a variety of pressure ports and connector styles to choose from make this a very versatile product that can be readily adapted to a variety of applications.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. **The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:

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