

# Operation of an Airline Filter Regulator

Airline filter regulators are important to the operation of many applications. Clean, dry and regulated compressed air prevents expensive damage downstream of your application. But how does a filter regulator function? How does it prevent contaminants like rust, scale and moisture from causing damage to your equipment? In this air filter regulator PDF, Fluid Controls will walk you through the working principal of filter regulators.

## Filter regulator function

Compressed air is clean, readily available and easy to use. However, it can be a rather costly form of energy. Improper pressure settings can result in increased compressed air demand, which results in increased energy consumption. Excessive pressure can also affect the lifespan of the application and increase equipment wear, both of which result in higher maintenance costs. Filter regulators function to ensure that every tool or process is receiving a clean, lubricated supply of compressed air at the proper pressure to provide peak performance.

## Filter regulator working principle

There are several elements to the filter regulator working principal:

Step 1 - Dirty air enters through directional louvres at the top of the filter regulator, the directional louvres then force the air into a whirling flow pattern in the bowl below.

Step 2 – The liquid particles and heavy solids are thrown against the inside wall of the bowl, the liquid is filtered out down the filter regulator and the air is projected upwards by the centrifugal force in the bowl.

Step 3 - The liquid then collects at the bottom of the bowl and is removed by the automatic drain assemble. As liquid builds up, the float rises, causing the drain to open and the liquid to release.

Step 4 - The air then passes up through the filter element to remove the remaining solid contaminants.

Reliability is one of the main reasons to use compressed air. However, proper filtration is imperative to maximising reliability and longevity. Therefore, these crucial filter regulator functions must be implemented to keep your application running smoothly whilst protecting it from damaging contaminants and reducing energy costs.

For more information about filter regulators please get in touch with Fluid Controls today on 0118 970 2060.

