

Basic Filtration Information

Filters are one of the most important components in a compressed air system.

While a dirty system can usually function adequately, it does so at the expense of downstream components.

Liquid water and contaminants can damage the inside of pipes and other pneumatic components. Also, many pneumatic valves and cylinders contain small orifices that can easily get plugged with contamination.

Because compressed air quality requirements vary considerably by industries, so does the type of filtration needed.

Matching the level of filtration used in the system to the quality of air required is the most cost effective and energy efficient option.

Size compressed air filters 2 x the compressors cfm flow rate will lower the pressure drop in the filters saving energy plus the elements will last 2 x longer. Saving on maintenance expense.

Install piping by-pass for maintenance of filters. For critical applications install duplex filter system with piped by-pass.

Install differential gauge to monitor element life. Change when DP is 10 psig or gauge is in the hi-yellow or red zone.

Use auto drain as contaminants collect on the bottom of the filter housing and must be drain away to prevent re-entrained.

Keep spare filter element kits on hand to prevent down time.

Check drains and DP gauges for proper operations daily.

Compressed Air Line Particulate Filter

Particulate Filter / General Purpose Filter

Remove harmful liquid oil, water condensate, pipe scale, dirt and rust from your compressed air system. This helps prevent contaminants & corrosive damage to compressed air equipment and finished products.

Air flows enter filter media from outside, flow to inside of filter media in standard particulate filters. Micron ratings 3 through 40 microns usually. Watch the arrow on filter for compressed air flow direction.

Air flows enter from inside to outside through filter media in premium quality particulate filters. Micron rating 1 through 3 microns. Watch the arrow on filter for compressed air flow direction.

Contaminants collect on the bottom of the filter housing and must be drained away to prevent re-entrainment. There are manual drains, float drains, timed solenoid drains & electronic level drains all do a good job in the right application.

ISO 8573.1 Air Quality Classes range from class 1 through 6. The maximum solid contaminants particle size in microns, that will pass through the filter element is from (class 1 = 0.1 micron) through (class 5 = 40 microns).

Remember the lower the micron rating number, the more contaminants removed & the higher the air pressure drop through filter.

Typically, particulate filters are installed upstream of coalescing filters / oil removal filters to insure high efficiency and long element life, also as pre-filter for regulators to prevent valve failure. Used in applications as the first filtration treatment the majority of times.

Compressed Air Line Coalescing Filter

Coalescing Filter / Oil Removal Filter

Remove harmful oil aerosols by coalescing action. Coalescing by definition, means " To come together". It is a continuous process by which small aerosols come in contact with the fibers in the filter media, uniting with the collected aerosols and growing to emerge as a droplet on the downstream surface of the media which by its weight is gravitationally drained away.

Air flows enters from inside to outside through the filter media in coalescing filters. Microns rating 0.03 through 0.01 microns. Watch the arrow on filter for flow direction.

Contaminants collect on the bottom of the filter housing and must be drain away to prevent re-entrained. There are manual drains, float drains, timed solenoid drains & electronic level drains all do a good job in the right application.

ISO 8573.1 Air Quality Classes range from class 1 through 6. The maximum oil content remaining in parts per million by weight (class 1 = 0.008 ppm) up to (class 5 = 21ppm) that will pass through the filter element .

Remember the lower the part per million number, the more contaminants removed & the higher the air pressure drop through filter.

Typically, coalescing filters are installed downstream of particulate filters for oil aerosol removal. And to insure high efficiency and long element life when an adsorber / vapor removal filter is installed.

Used in oil free compressed air applications as the second filter.

Compressed air line Adsorber Filters

ADSORBER FILTER / VAPOR REMOVAL FILTER

Remove oil vapors, oily odors and solids particulate specifically for those application that will not tolerate the presence of oil vapors and associated odors. The core consists of multi wrapped layers of impregnated activated charcoal particles to increase its purification qualities.

Air flows enters from inside to outside through the filter media in adsorber filters. Microns rating 0.01. Oil concentration of 0.003 parts per million by weight. Watch the arrow on filter for flow direction.

Contaminants collect on the bottom of the filter housing and must be drain away to prevent re-entrained. There are manual drains, float drains, timed solenoid drains & electronic level drains all do a good job in the right application.

ISO 8573.1 Air Quality Classes range from class 1 through 6. The maximum oil content remaining in parts per million by weight (class 1 = 0.008 ppm) up to (class 5 = 21ppm) that will pass through the filter element.

Remember the lower the part per million number, the more contaminants removed & the higher the air pressure drop through filter.

Typically, adsorber filters are installed downstream of particulate filters and coalescing for oil aerosol and odor removal.

Used in true oil free compressed air applications as the third filter.