

Filters, DD, DDp, PD, PDp, QD

ATLAS COPCO QUALITY AIR SOLUTIONS

General Description

In almost all applications, contamination of the air supply can cause serious performance decline and increase maintenance costs in terms of actual repairs and lost productivity.

Atlas Copco's innovative filtration solutions are engineered to cost-effectively provide the best quality air while exceeding today's increasing quality demands.

Atlas Copco designs filtration solutions to provide compressed air purity that meets or exceeds levels set forth by the International Standard Organization. (ISO).

Filters are tested in accordance with these standards:

ISO 8573-1: 2010 Filtration Qualification

ISO 8573-2 sampling and measuring OCO

ISO 12500-1: inlet conditions for Oil Aerosol

ISO 12500-3: inlet conditions for Dust

Among its filter ranges, Atlas Copco offers more than 200 filters that span from coalescing filters for general purpose protection to active carbon filters used for removal of oil vapor and hydrocarbon odors,

DD⁺, a coalescing filter type, removes contaminants such as liquid water, oil aerosol up to 0.1ppm and particle size down to 1 micron.

PD⁺, a coalescing filter type, removes contaminants such as liquid water, oil aerosol up to 0.01ppm and particle size down to 0.01 micron.

DDp⁺ particulate filter type, dust protection, particle size down to 1 micron.

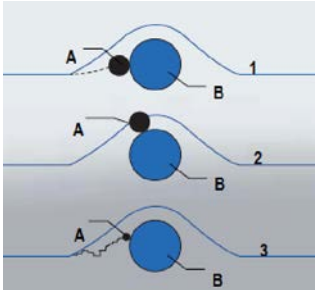
PDp⁺ particulate filter type, dust protection, particle size down to 0.01 micron.

QD⁺, activated carbon filter type, removes oil vapor, hydrocarbon odor contaminants.

Regardless of your quality air and filtration needs, Atlas Copco undoubtedly offers a filter that is perfect for your application.



Working Principle



Particles in the air stream that pass through a filter can be removed in several different ways. If the particles are larger than the openings between the filter material they are separated mechanically (“sieving”). This usually applies for the particles larger than 1mm. The filter efficiency in this regard increases with the tighter filter material, consisting of fine fibers. Particles smaller than 1mm are collected on the fiber material by three physical mechanism: inertial impaction (1), interception (2) and diffusion (3).

Impaction occurs for relative large particles and for high gas velocities. Due to a large inertia of a heavy particle, it does not follow the streamlines but instead travels straight ahead and collides with fiber.

Interception occurs when a particle does follow the streamline, but the radius of the particle is larger than the distance between the streamline and the fiber perimeter.

Particle deposition due to diffusion occurs when a very small particle does not follow the streamlines but moves randomly across the flow due to Brownian motion. It becomes increasingly important with smaller particle size and lower the velocity.

Oil and water in aerosol form behave similar to the other particles and can be separated using a coalescing filter. In the filter, these liquid aerosols coalesce to larger droplets that sink to the bottom due to gravity.

Scope of Supply

- Filter Cartridge
- Frame
- Differential pressure gauge
- Water separator
- Auto drain
- Sight glass

Features & Benefits

Energy Savings

- Large flow capacity
 - Low resistance to the air flow
 - Considerable reduction of air turbulence and pressure drop

Reliable operation

- Proven durable design
 - High performance stainless steel filter cores
 - Internal ribs to protect the element from damage and route oil droplets
 - High performance automatic drain

Easy set-up and use

- Operational ease
 - Sight glass provides for easy monitoring
 - Push on element
 - Audible alarms
 - Anti-re-entrainment barrier is color coded to easily indicate filter grade