

Aquacon® Air Filter Cartridge Model ACA-210 Housing Model VF-31E

Water Removal from Compressed Air

FEATURES

- Minimal routine maintenance
- 99.9+% Water-Free Air
- Efficient particulate removal
- Residual oil mist removal

APPLICATIONS

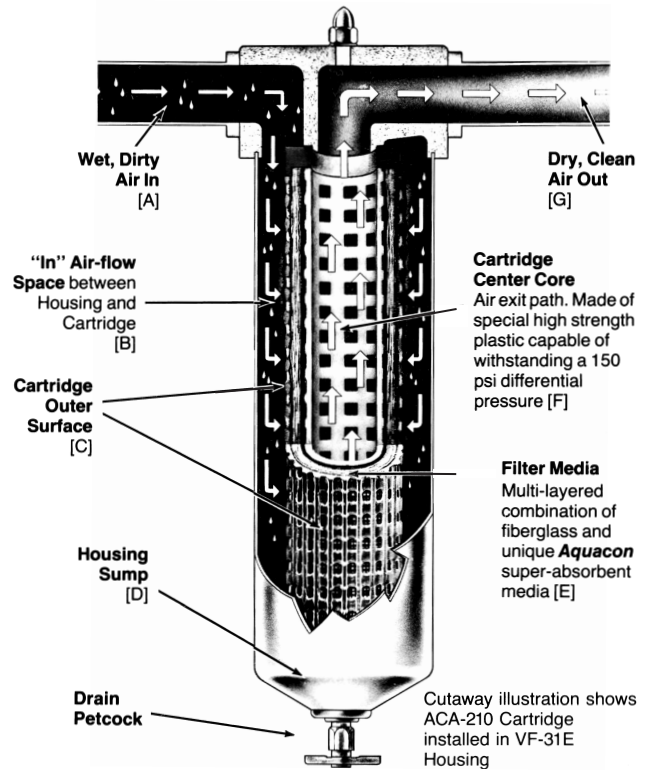
- Spray Painting
- Instrument Air
- Air Bearings
- Fluidic Controls
- Gas Chromatography
- Gas Sampling Equipment
- Machine Tools
- Air Driven Hand Tools
- Etching Tools
- Servo Pneumatic Control Systems
- Sand Blasting Equipment
- Compressed Air Cleaning

GENERAL DESCRIPTION

Aquacon® super-absorbent cartridges remove 99.9+% of liquid water from compressed air. This is considered to be “total” water removal for many industrial and scientific applications. Note that water vapor is not removed.

Filtered water is locked into the super-absorbent media and cannot be squeezed out. When a cartridge reaches its water holding limit, the media expands and restricts the flow of unfiltered air until the cartridge is replaced. Periodic draining of the sump will extend cartridge life by keeping accumulated water away from the super-absorbent media.

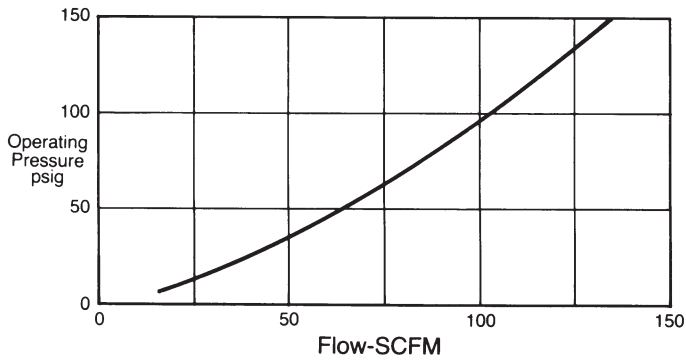
Aquacon® Cartridges are also excellent dirt filters. They are rated at 99.9+% for particles down to 1 micrometer. In addition, the cartridges remove residual oil mist that may have gotten past a primary filter.



HOW IT WORKS

- (1) **Wet, Dirty Air [A]** flows into housing and down into space between housing and cartridge [B].
- (2) **Gross Water** coalesces in large drops on the cartridge's outer surface [C] and drips down into the housing sump [D].
- (3) **Finely Dispersed Water Mist** penetrates into the cartridge's multi-layered filter media [E] where it is absorbed and “locked-in” to the super-absorbent water media layers. When saturated, this media swells up and restricts airflow.
- (4) **Dirt Particles** are filtered by the fiberglass layers of the multi-layered filter media [E]. When fully loaded with dirt, the cartridge plugs up like any conventional filter.
- (5) **Residual Oil Mist** – Oil drops coalesce on the cartridge surface [C] and fall into the vessel sump [D]. Some oil mist penetrates into the cartridge and is trapped in voids in the fiberglass media layers [E]. Oil removal capacity is limited.
- (6) **Dry, Clean Air** passes up through Center Core [F] and out [G].

FLOW CHARACTERISTICS



Note: Assumes 2 psi differential with clean cartridge installed.

APPLICATION NOTES

- Aquacon®** Filters function best at the end of an air line close to the point of use. They should not be installed immediately downstream from a compressor.
- A large “slug” of water in the line may cause **Aquacon®** Filters to completely block the air flow within seconds. If maintaining air flow is critical, a duplex filter arrangement with automatic valves should be considered.

SPECIFICATIONS

VF-31E Filter Housing

Cast aluminum head. Carbon steel shell with corrosion resistant phosphate coated interior and epoxy painted exterior.

| | |
|----------------------------------|------------------|
| Maximum operating pressure: | 150 psi (10 bar) |
| Height: | 14½” (37 cm) |
| Inlet/Outlet Connection: | 1” NPT |
| Inlet/Outlet face-to-face: | 4” (10 cm) |
| Bottom Drain: | ⅛” Petcock |
| Lid Gasket, Buna-N, Model: | G-0995 |
| Cartridge, (one required) Model: | ACA-210 |

ACA-210 Aquacon® Filter Cartridge

| | |
|---------------------------------|--|
| I.D. | 1” (2.5 cm) |
| O.D. | 2” (5.1 cm) |
| Length: | 9¾” (25 cm) |
| Minimum collapse pressure: | 150 psi (10 bar) |
| Maximum operating temperature: | 250°F (121°C) |
| Water removal efficiency: | 99.9 +% of liquid water |
| Particulate removal efficiency: | 99.9 +% of 1 micrometer and larger particles |
| Water holding capacity: | 100 ml |



ORDERING INFORMATION (SPECIFY)

- The VF-31E Housing is shipped without an element installed. Specify cartridge model number ACA-210. Includes Buna-N Lid Gasket, Petcock Drain, and Mounting Brackets.

RECOMMENDED SPARES

- 4 each Model ACA-210 Cartridges
- 1 each Model G-0995 Buna-N Lid Gasket



Velcon products are sold and serviced by a world-wide representative network. To order, contact Headquarters or your LOCAL REPRESENTATIVE:

COMPANY HEADQUARTERS:
 Velcon Filters, LLC
 1210 Garden of the Gods Road
 Colorado Springs, CO 80907-3410
 Phone: 1.800.531.0180 / 1.719.531.5855
 Fax: 719.531.5690
 e-mail: vfsales@velcon.com
 www.velcon.com

MANUFACTURING PLANTS LOCATED AT:
 Colorado Springs, Colorado
 Sylacauga, Alabama
 Henryetta, Oklahoma

OFFICES AND AFFILIATES IN:
 Canada, Germany, Singapore, & Spain



**Liquid Filtration
 and Separation
 Specialists**