



Aquacon® Filter Cartridges

AD Series

Eliminate Diesel Fuel Contamination Problems at the Pump

- Positive shut-off prevents pumping harmful amounts of water
- Removes silt and rust
- Effective protection combined with economical life

DESCRIPTION

AD Series **Aquacon** cartridges were developed in cooperation with a major oil company for diesel fuel applications. Balancing effective water and dirt removal with economical life, AD cartridges have become standard for most diesel users and can also be used with biodiesel.

Nominal filtration efficiency is 25 microns. Effluent water levels are typically below 50 parts per million. The AD design retains the water shut-off feature and the high water holding capacity of similar size AC Series cartridges.


Motor gasoline, hydraulic and lube oils can also be filtered with AD cartridges. Aviation fuels, however, must be filtered with the more efficient series design.



CARTRIDGE INFORMATION:

Model Number	Dimensions (inches)	Max. Diesel Flow Rate per cartridge (GPM)	Use
AD-21025	2 ⁵ / ₈ x 9 ³ / ₄	15	Velcon VF-31E Housing
AD-51225	5 ⁵ / ₈ x 12 ¹ / ₄	50	Velcon VF-61 Housing
AD-60925	6 x 9 ¹³ / ₁₆	35	Velcon VF-609/Facet VFCS-21 Housings
AD-61225	6 x 13 ¹¹ / ₁₆	46	Facet VFCS-22/FBO-14 Housings
AD-61425	6 x 14 ¹ / ₂	50	Velcon Aviation Housings
AD-71825	6 ¹ / ₄ x 18	60	Velcon Industrial Housings

WARNING: Absorbent-type monitor cartridges will not remove water from fuel containing alcohol-blending agents (commonly called gasohol). For removal of solids, please use Velcon particle removal filters specifically made for gasohol. Consult your Velcon representative.



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

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**Liquid Filtration
 and Separation
 Specialists**

Due to Velcon Filters' continuing product improvement, drawings, specifications and pictures are subject to change without notice.



Filter Sizing Information

AC and AD Series Aquacon® Cartridges

CARTRIDGE FLOW RATE (USGPM) VS. VISCOSITY DATA FOR 2 PSI AND 5 PSI INITIAL PRESSURE DROPS

CARTRIDGE	33 SUS			39 SUS		46 SUS		59 SUS		98 SUS		142 SUS		187 SUS	
	2 CS			4 CS		6 CS		10 CS		20 CS		30 CS		40 CS	
	CAP	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI
AC-21005	240	20	20	11	20	7	18	4	11	2	5	1	4	1	3
AC-405SP	150	13	13	6	13	4	11	3	7	1	3	1	2	1	2
AC-409SP	240	20	20	11	20	7	18	4	11	2	5	1	4	1	3
AC-51205	980	50	50	45	50	31	50	18	46	9	23	6	15	5	12
AC-52405	1960	100	100	90	100	62	100	36	92	18	46	12	30	10	24
AC-61405	1270	50	50	50	50	37	50	22	50	11	28	7	18	6	14
AC-718P3	670	50	50	33	50	22	50	13	32	7	17	4	10	3	8
AC-7181/2	670	50	50	36	50	24	50	15	36	7	18	5	12	4	9
AC-71801	1850	50	50	36	50	24	50	15	36	7	18	5	12	4	9
AC-71805	1850	50	50	50	50	50	50	33	50	17	42	11	28	8	21
AD-21025	240	20	20	20	20	14	20	9	20	4	11	3	7	2	5
AD-51225	980	50	50	50	50	50	50	44	50	22	50	15	36	11	28
AD-52425	1960	100	100	100	100	100	100	88	100	44	100	30	72	22	56
AD-61425	1270	50	50	50	50	50	50	50	50	27	50	18	45	14	35
AD-71825	1850	50	50	50	50	50	50	50	50	41	50	27	50	20	50

CARTRIDGE	233 SUS		348 SUS		463 SUS		927 SUS		1390 SUS		1853 SUS		2316 SUS	
	50 CS		75 CS		100 CS		200 CS		300 CS		400 CS		500 CS	
	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI	2 PSI	5 PSI
AC-21005	1	2	-	1	-	1	-	-	-	-	-	-	-	-
AC-405SP	-	1	-	1	-	-	-	-	-	-	-	-	-	-
AC-409SP	1	2	-	1	-	1	-	-	-	-	-	-	-	-
AC-51205	4	9	2	6	2	5	1	2	1	2	-	1	-	1
AC-52405	8	18	4	12	4	10	2	4	2	4	1	2	1	2
AC-61405	5	11	3	7	2	6	1	3	1	2	-	1	-	1
AC-718P3	3	7	2	5	1	3	-	1	-	1	-	-	-	-
AC-7181/2	3	7	2	5	1	4	1	2	-	1	-	1	-	-
AC-71801	3	7	2	5	1	4	1	2	-	1	-	1	-	-
AC-71805	7	17	4	11	3	8	2	4	1	3	1	2	1	2
AD-21025	2	4	1	3	1	2	-	1	-	1	-	-	-	-
AD-51225	9	22	6	15	4	11	2	5	1	4	1	3	1	2
AD-52425	18	44	12	30	8	22	4	10	2	8	2	6	2	4
AD-61425	11	27	7	18	5	13	3	7	2	5	1	3	1	2
AD-71825	16	40	11	27	8	20	4	10	3	7	2	5	2	4

- NOTES:** 1. Figures in table are flow rates (USGPM) that will cause a pressure drop of 2 or 5 psi across the cartridge.
 2. "CAP" is the water holding capacity in milliliters for 33 SUS (2 CS) fuel at the flow rates shown. These flow rates are the generally recommended maximum values for the specific cartridges.

FILTER CARTRIDGE SELECTION TABLE

Product being filtered	Application	Cartridge P/N	Data Sheet	Type	Micron	Flow Rate (GPM)
Jet Fuel & Avgas ⁽¹⁾	Dirt & Free water	ACO-21001L	1681	Aquacon [®] (Absorbent)	0.5	1-15
Motor Gasoline		AC-21005	1582		5	
Gasohol	Dirt	FOG-21005	N/A	Paper filter	5	1-15
Diesel/ Biodiesel ⁽¹⁾	Dirt & Free water	AD-21025	1655	Aquacon [®] (Absorbent)	25	1-15
Oils		AC-21005	1582		5	Varies with oil viscosity ⁽²⁾
		AD-21025	1655		25	
Air/Gas			ACA-210		1689	1
	Dirt	FOS-210PLP5	N/A	Synthetic Filter	0.5	

(1) For Aviation and Diesel Fuel Systems, if system pressure can exceed 25 psi, **always** install pressure gauge or other means of determining differential pressure.

(2) See Data Sheet #1709 for absorbent cartridge (AC, AD) flow rates.

SPECIFICATIONS

Filter Housing VF-31E

- Recommended maximum flow rate: see table below
- Maximum operating pressure: 150 psi
- Material: cast aluminum head, carbon steel bowl with epoxy painted interior and exterior
- Inlet/Outlet Connection: 1" NPT
- Inlet/Outlet face-to-face: 4"
- Mounting holes in head: four 1/4-20 NC
- Seal: Buna-N gasket
- Height: 13.50" without Petcock, 14.50" with Petcock
- Weight: 3 lbs., 15 oz.
- Shipping Weight: 4 lbs., 15 oz.
- Hardware included: 1 ea. Buna-N Lid Gasket, Mounting Brackets, 1 ea. Plug (for fuel and oil applications), and 1 ea. 1/8" Petcock Drain (for air, gas and aviation fuel applications).

RECOMMENDED SPARES

- 1 ea. Model G-0995 Buna-N Lid Gasket
- 4 ea. filter cartridges (Specify from table.)

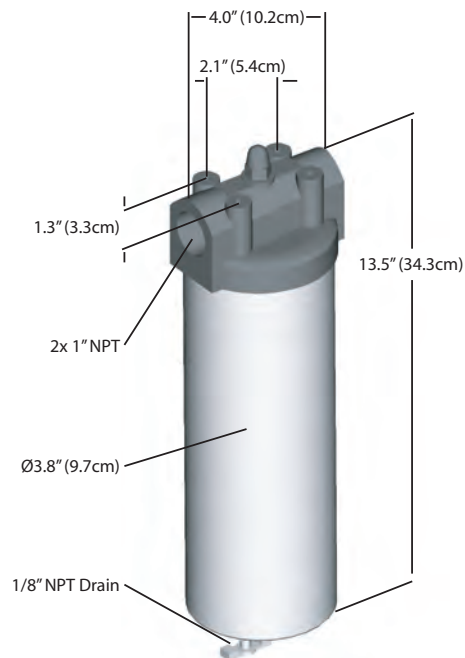
CAUTION

Do not use **Aquacon**[®] absorbent cartridges (AC, ACO or AD Series) with pre-mixed jet fuel containing anti-icing additives, or with gasoline/alcohol blends.


ORDERING INFORMATION

• Model VF-31E Filter Housing

- Supplied without cartridge
- Supplied with 1 ea. Model G-0995 Buna-N Lid Gasket, Mounting Brackets, 1 ea. Plug, and 1 ea. 1/8" Drain Petcock



Dimensions are for estimating purposes only.



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FILTER CARTRIDGE SELECTION TABLE

Housing P/N	Product being filtered	Application	Cartridge P/N	Data Sheet	Type	Micron	Flow Rate (GPM)
VF-31E	Jet Fuel & Avgas ⁽¹⁾	Dirt & Free water	ACO-21001L	1681	Aquacon [®] (Absorbent)	0.5	1-15
	Mo-gas		AC-21005	1582		5	
	Gasohol	Dirt	FOG-21005	N/A	Paper filter	5	1-15
	Diesel ⁽¹⁾	Dirt & Free water	AD-21025	1655	Aquacon [®] (Absorbent)	25	1-15
	Oils		AC-21005	1582		5	Varies with oil viscosity ⁽²⁾
			AD-21025	1655		25	
	Air/Gas		ACA-210	1689		1	100 SCFM @ 100 psig
	Dirt	FOS-210PLP5	N/A	Synthetic Filter	0.5		
VF-61	Jet Fuel & Avgas ⁽¹⁾	Dirt & Free water	ACO-512P3L	1681	Aquacon [®] (Absorbent)	0.3	5-50
			ACO-51201L			0.5	5-50
			OS-51288	1858	Coalescer/ Separator	0.5	Jet: 5-35 Avgas: 5-45
	Mo-gas		AC-51205	1582	Aquacon [®] (Absorbent)	5	5-50
	Diesel ⁽¹⁾		AD-51225	1655		25	15-50
				OS-51286	1858	Coalescer/ Separator	5
	Oils		AC-51205	1582	Aquacon [®] (Absorbent)	5	Varies with oil viscosity ⁽²⁾
			AD-51225	1655		25	
	Solvents		ASL-51201	1692		1	5-50
	ALL	Dirt	FO-512PL1/2	1549	Paper Filter	0.5	Fuels: 5-50 Oils: Varies with oil viscosity ⁽³⁾
			FO-512PL05			5	
			FO-512PL25			25	
			FOS-512PL25	1734	Synthetic Filter	25	
VF-609	Jet Fuel & Avgas ⁽¹⁾	Dirt & Free water	ACO-609P3L	1681	Aquacon [®] (Absorbent)	0.3	15-36
			ACO-60901L			0.5	
			ACO-60905L			5	
			OS-60988	1858	Coalescer/ Separator	0.5	Jet: 5-35 Avgas: 5-45
	Diesel ⁽¹⁾		AD-60925	1655	Aquacon [®] (Absorbent)	25	15-30
			OS-60986	1858	Coalescer/ Separator	5	5-18

NOTES:

(1) For aviation and diesel fuel applications, always install a differential pressure gauge or other means of determining differential pressure.

(2) See Data Sheet #1709 for absorbent cartridge (AC, AD) flow rates.

(3) See Data Sheet # 1532 for paper filter (FO) flow rates, see Data Sheet # 1747 for synthetic filter (FOS) flow rates. For Biodiesel applications, please contact Valcon.

Please consult installation instructions and operating procedures that accompany products for more detailed information.