

DIESEL & JET FUEL FILTRATION EQUIPMENT

Applications:

- Back-Up Diesel Generators
- Gas Turbines
- Fueling Terminals for Trucks & Buses
- Marine
- Mining
- Railroad
- Agriculture
- Refineries
- Construction



Kaydon Custom Filtration Corporation

Kaydon Technology

Kaydon Custom Filtration specializes in high-performance liquid separation technology for utility, industrial, and non-consumer mobile applications, meeting customer needs through the technical advancement of fuel and oil conditioning products. Our fuel conditioning products represented below come out of this specialty and conform to the strictest manufacturing and performance standards.

As a specialist in liquid/liquid separation technology for over 100 years, Kaydon has provided fuel/water separation systems and elements for diesel and jet fuels. In fact, Kaydon has set the standard for high efficiency fuel/water filtration equipment. Our products are critical to the successful operation of many industries: military, construction, agriculture, mining, power generation and emergency power generation, fuel refining and terminaling, petrochemical, and marine.

Water in fuel is the primary cause of failure. An effective fuel/water separator eliminates the potential for engine failure due to water contamination. Kaydon fuel/water separators can help meet the requirements for cleaner fuel. Whether the application requires in-line fuel filtration during transfer or off-line fuel filtration of a fuel tank, Kaydon has the solution.

Kaydon produces equipment for a wide range of flow rates. ASME Code vessels are available and custom filtration skid packages can be designed. Give Kaydon a call for your fuel filtration application, and we will find a solution to your requirement.

When sized correctly, performance of the Kaydon fuel/water separation products meet the following criteria:

- **Particulate:** ISO 16/14/11
- **Water:** To 50 ppm total water, with an influent of 5000 ppm.

Give Kaydon a call for your fuel filtration applications, and we will find the right solution.

Fuels Coalescer/Separator Design and Technology

Originally designed for the military, Kaydon's fuel coalescers and separators feature a multi-layered media configuration to capture particulate and remove harmful water from diesel and jet fuel. They do this in a single, space-saving envelope with a "nesting" design, whereby the coalescer is nested within the separator. This allows for maximum flow rates to be handled with minimum vessel size and weight.

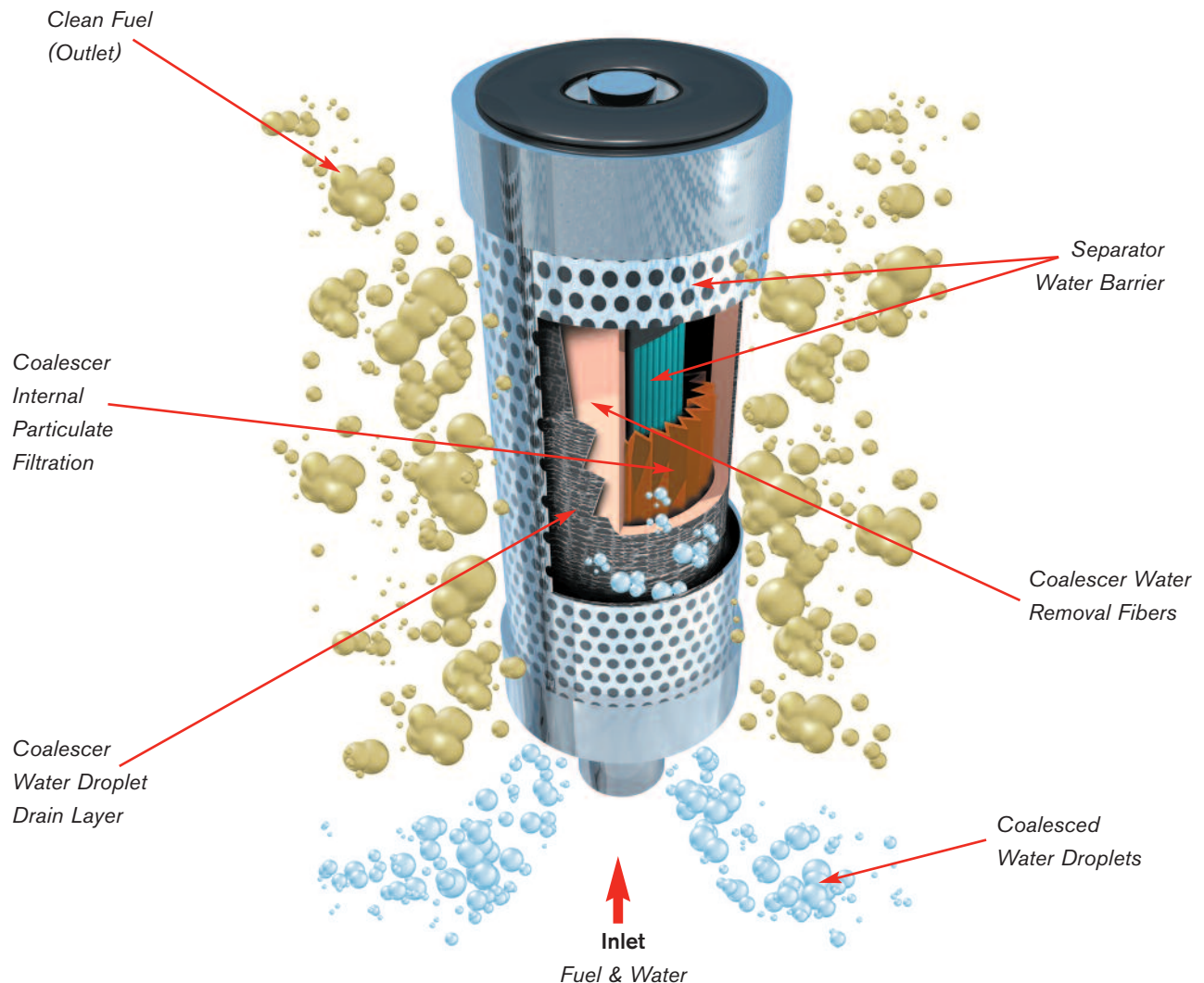
Coalescer

Jet Fuel – Model # CI-3520-02-4

Diesel Fuel – Model # CI-3520-02-5

Separator

Diesel or Jet Fuel: Model # 36W91 or C220092
(depends on model of fuel/water separator)



KFC Diesel Fuel Filtration Skids

Kaydon's new line of fuel conditioners (the KFC and KFF Fuel Filtration Systems) represent over 100 years of application expertise in keeping fuels clean and dry and in optimal condition for use. They contain Kaydon's military-proven coalescing/separating technology designed specifically for diesel and jet fuel applications. Available in a range of flow rates, they contain features suited to worry-free, automatic operation. With water removal to 50 ppm Total Water and particulate removal available as fine as Beta 3.2 (c) = 1000 per ISO 16889, they assure that your fuel is clean and dry.

- Heavy duty carbon steel construction with epoxy interior finish (fuel/water separator)
- Water Accumulation Sight Glass (manual and automatic water drain)
- Automatic Air Release
- Outline Drawing is available upon request

Specifications

Flow Rates	Up to 300 gpm (1135 lpm) – diesel fuel
Maximum Allowable Working Pressure	150 psig @ 250°F (10.5 kg/cm ² @ 121°C)
Inlet/Outlet Connections	KFC-50: 2" (51 mm)
150 lb. (68 kg) RF Flange	KFC-100: 2" (51 mm) KFC-200: 3" (76 mm) KFC-300: 4" (102 mm)
Dimensions	KFC-50: 70" L x 48" W x 47" H (2540 mm L x 914 mm W x 1549 mm H) KFC-100: 70" L x 48" W x 51" H (2540 mm L x 914 mm W x 1549 mm H) KFC-200: 70" L x 48" W x 66" H (2540 mm L x 914 mm W x 1930 mm H) KFC-300: 77" L x 48" W x 66" H (2794 mm L x 1067 mm W x 1930 mm H)
Weight	KFC-50: 1,240 lbs. (562 kg) KFC-100: 1,560 lbs. (707 kg) KFC-200: 1,980 lbs. (898 kg) KFC-300: 2,580 lbs. (1170 kg)
Prefilter Element	KM6036-2 (5 micron { $\beta_5=1,000$ })
Coalescer Element	CI-3520-02-5 (diesel fuel)
Separator Element	A910174 (except KFC-50, which is 36W91)
Number of elements	KFC-50: Prefilter (1), Coalescer (3), Separator (3) KFC-100: Prefilter (1), Coalescer (5), Separator (5) KFC-200: Prefilter (2), Coalescer (10), Separator (5) KFC-300: Prefilter (3), Coalescer (16), Separator (8)



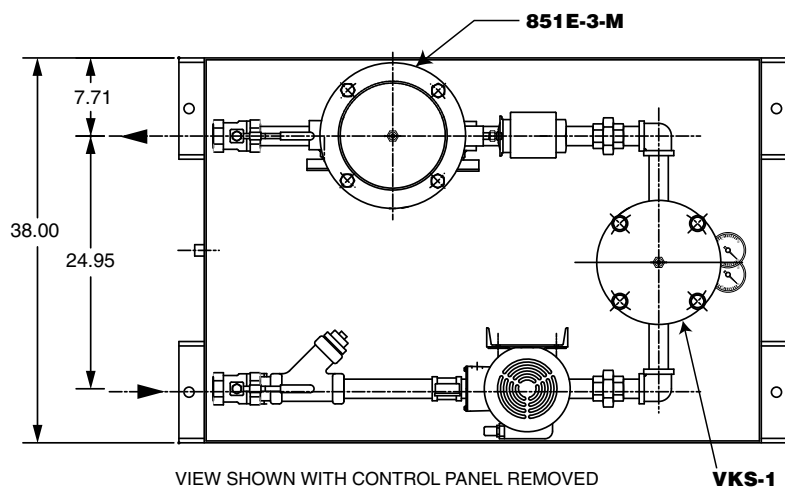
KFF Fuel Filtration Systems

The KFF diesel fuel filtration systems are skid mounted systems with a pump/motor assembly, and utilize a prefilter (Model VKS-1), and a Model 851E-3-M.

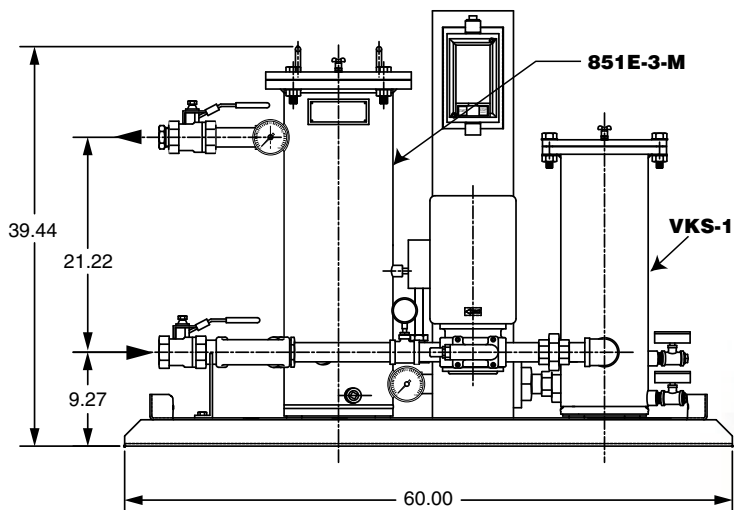
- Model KFF-20-D (20 gpm)
- Model KFF-30-D (30 gpm)
- Skid Mounted
- Each Vessel uses inlet/outlet pressure gauges, On/Off Switch

Specifications

Dimensions	60" L x 38" W x 40" H (1524 mm L x 965 mm W x 1016 mm H)
Weight	540 lbs. (245 kg)
Flow Rate	20 gpm or 30 gpm (76 lpm or 114 lpm)
Operating Voltage	460 VAC / 3 PH / 60 Hz (380 VAC / 3 PH / 50 Hz optional)
Motor	2 HP (1.5 KW)
Pump	Positive Displacement Gear Pump
Prefilter	Model VKS-1 with Model KF6018-5 Element (5 micron)
Filter/Separator	851E-3-M, 30 Mesh Y-Strainer
Pump Suction	
Vacuum Gauge	0-30" Hg (0 – 762 mm Hg)
Inlet/Outlet	
Connections	2" (51 mm) NPT (Isolation Ball Valves)



VIEW SHOWN WITH CONTROL PANEL REMOVED



KFF Options Ordering Code



20 = 20 gpm (76 lpm)
30 = 30 gpm (114 lpm)

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460 = 460 VAC / 60 Hz / 3 PH
380 = 380 VAC / 60 Hz / 3 PH



Clean Fuel Inc. (CFI) Clean Fuel Guardian Systems

CFI Systems represent Kaydon's coalescing and separating technology tailored specifically to maintain the cleanest and driest fuel in diesel fuel storage tanks for back-up generator sets. The CFI systems continually dry and filter stored diesel to levels that exceed recommendations of major diesel engine manufacturers, maintaining the integrity of the fuel, reducing disposal costs, and eliminating annual cleaning of the reservoir. They ensure that any back-up generator called into emergency use has clean, dry fuel for starting, maintaining diesel to 50 PPM total water and 17/15/12 outlet cleanliness. Each system is fully-automated, programmable, and comes with a PLC controller to match your site conditions for operation.

- Automatic Water Drain & Manual Air Release
- Weatherized Cabinet
- Each CFI System uses one coalescer & one separator
- The CFI-30 uses three coalescers & three separators



Specifications

Flow Rates	up to 30 gpm (113 lpm) – diesel fuel
Maximum Allowable Working Pressure	150 psig @ 250°F (10.5 kg/cm ² @ 121°C) CFI-3 = 50 psig at 250°F (3.5 kg/cm ² @ 121°C)
Motor	TEFC 110 VAC / 60 Hz / 1 PH CFI-3: .25 HP (.19 KW) CFI-6: .33 HP (.25 KW) CFI-12: .50 HP (.37 KW) CFI-30: 2 HP (1.5 KW)
Alarms	Dirty filter, excessive pump suction and high level in water collection drum (all systems), leak detection (CFI-6, 12 & 30)
Inlet/Outlet connections (all NPT connections)	CFI-3: 1/2" (12.7 mm) CFI-6: 1" (25.4 mm) – inlet & 3/4" (19 mm) – outlet CFI-12: 1" (25.4 mm) – inlet & 3/4" (19 mm) – outlet CFI-30: 2" (51 mm) – inlet & 1.5" (38 mm) – outlet
Dimensions	CFI-3: (shipped in three components: filter vessel, pump/motor assembly, and control panel) <i>Filter Vessel:</i> 20" L x 15" W x 30" H (508 mm L x 381 mm W x 762 mm H) <i>Pump/Motor:</i> 6" L x 5" W x 12" H (152 mm L x 127 mm W x 305 mm H) <i>Control Panel:</i> 12" L x 9" W x 5" H (305 mm L x 228 mm W x 127 mm H) CFI-6 & 12: 32" L x 24" W x 48" H (813 mm L x 609 mm W x 1219 mm H) CFI-30: (shipped in two cabinets) <i>Each cabinet:</i> 32" L x 24" W x 48" H (813 mm L x 609 mm W x 1219 mm H)
Total Weight	CFI-3: 65 lbs. (29.5 kg) CFI-6 & 12: 350 lbs. (159 kg) CFI-30: Each cabinet, 700 lbs. (317 kg)
Coalescer Element	CFI-3: Part # A910423 CFI-6,12, & 30: Part # A910287
Separator Element	CFI-3: Part # A920423 CFI-6,12, & 30: Part # A920007



Sizing Guidelines

The Clean Fuel System is sized to turn over the contents in the diesel fuel tank twice per week.

System	Tank Size (Gallons)
CFI-3	0 – 15,120 gallons (0 liters – 57235 liters)
CFI-6	15,121 – 30,240 gallons (57236 liters – 114470 liters)
CFI-12	30,241 – 60,480 gallons (114471 liters – 228941 liters)
CFI-30	60,481 – 151,200 gallons (228942 liters – 572352 liters)

A Standard CFI3 includes:

- 1 Filter Vessel (shorter version of Model 121A)
- 2 3-GPM Pump/Motor Assembly
- 3 Control Panel
- 4 Water Collection Drum

CFI3 Options Ordering Code

☐	—	☐	—	☐
0 = 110 Volt 1 = 220 Volt		0 = No Heat Tape 1 = Heat Tape		0 = No Cabinet 1 = Cabinet

A Standard CFI6, CFI12 and CFI30 includes:

- 1 Filter Vessel (Model 121A), Pump/Motor, Sensors (vacuum, DP, float, sensors), and necessary piping, all housed in a cabinet
- 2 Control Panel Mounted to Cabinet
- 3 Weather Stripping around panels of cabinet
- 4 E-Stop
- 5 Drip Pan Float Switch
- 6 55 Gallon Water Drum with Float Switch
- 7 Run Light
- 8 Alarm Light / Horn

CFI6, CFI12 and CFI30 Options Ordering Code

Box 1 • One system can be used with 1, 2 or 3 tanks. If transfer of fuel from one tank to another is required, select the 21 or 31 option.

Box 2 • The Algae-X® helps eliminate bacteria growth.

Box 3 • Heat tape keeps accumulated water from freezing. Recommended for colder climates.

Box 4 • Both 110 VAC and 220 VAC are 1 PH / 60 Hz.

Box 5 • Configured to accept an input from a Veeder-Root® fuel level system (this will automatically adjust the CFI run time, dependent upon level of fuel in tank).

Box 6 • Recommended for below-ground tanks and tanks located over 100 feet from CFI system. Kaydon supplies a 120 VAC input and programming for a remote pump (remote pump must be supplied by customer).

Box 7 • Remote Start/Stop-system to be operational when the diesel engine is not operating, and off when the diesel engine is operational. Kaydon will supply programming to accept the input signal from the diesel engine.

CFI6, CFI12 and CFI30 Options Ordering Code

☐	—	☐	—	☐	—	☐	—	☐	—	☐		
0 = No Manifold 2 = 2-Tank Manifold 21 = Fuel Transfer Option with 2-Tank manifold 3 = 3-Tank Manifold 31 = Fuel Transfer Option with 3-tank manifold		0 = No Algae-x 1 = Algae-X		0 = No Heat Tape 1 = Heat Tape		0 = 110 Volt 1 = 220 Volt		0 = No Veeder-Root 1 = Veeder Root		0 = No Remote Pump/Motor 1 = Remote Pump/Motor		0 = No remote start/stop 1 = Remote start/stop

900-914 Sump Separator Systems

The 900-914 is a custom-engineered sumping system, using Kaydon's coalescing technology, for the refinery and fuel distribution markets. Water is drained automatically while fuel is separated from the water and returned to the storage tank. Each system can drastically reduce operator interface and error from the sumping process, eliminating the potential for fuel spills, thus saving wasted fuel and reducing demand on the fuel recovery system. In the process, the operator is freed from manual sumping and can focus on more more-important, value-driven duties. The 900-914 is suitable to any environment, including colder climates when equipped with a "freeze protection" option.

Benefits:

- Permanently and easily installed to eliminate spills and operator contact with fuel
- Very fast unattended operation (available at 20 gpm process or 60 gpm process rate)
- Returns clean fuel to storage and contaminated water to site collection system
- Suitable for all jet turbine fuels both military and commercial
- Suitable for diesel and gasoline storage sites
- Meets all electrical requirements for Class I, Division II, Group D hazardous area
- Environmental concerns are eliminated with totally sealed system
- Optional devices available to measure water removed and water collection tanks

Model 900-914 tank bottom fuel/water separator is designed to separate water from large fuel storage tanks, including jet fuel, gasoline, and diesel.



Ordering Code

900-914 –



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Flow Rate:

20 = 20 gpm (76 lpm) – Electric

60 = 60 gpm (227 lpm) – Electric

20A = 20 gpm (76 lpm) – Air Operated*

DP = Drip Pan

Blank = No Drip Pan

FP = Freeze Protection**

Blank = No Freeze Protection

MWF = Manual water flush

Blank = No manual water flush

A = Automatic shut-off

M = Manual

*Customer supplies air operated pump

**Not offered with air operated version

Model 121A

Specifications

Dimensions	10" L x 10" W x 28" H (254 mm L x 254 mm W x 711 mm H)
Weight	25 lbs. (11.3 KG)
Flow Rates	20 gpm (jet), 10 gpm (diesel)
Maximum Allowable	200 psig @ 250°F
Working Pressure	(14 kg/cm ² @ 121°C)
Inlet/Outlet Connection	1.5" (38 mm) NPT
Coalescer Element	CI-3520-02-4 (jet fuel) or (qty. = 1) CI-3520-02-5 (diesel fuel)
Separator Element	36W91 (qty. = 1) (used for both jet and diesel)



- Aluminum Construction (Non-Code design)
- Water Accumulation Sight Glass with Manual Water Drain
- Manual Air Release
- Outline Drawing is available upon request

Ordering Code

121A –



D = Diesel Fuel
J = Jet Fuel

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WM = Wall Mount
FM = Floor Mount
Blank = no mount

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IOG = Inlet/Outlet Gauges (0-60 psig)
DPG = Differential pressure Gauge
(0-40 psid)
NG = No Gauges



Model 851E Series



- ASME Code
(carbon steel construction with epoxy interior finish)
- Water Accumulation Sight Glass
(manual or automatic water drain)
- Manual Air Release
- Outline Drawing is available upon request

Specifications

Dimensions **851E-3:** 17" L x 16" W x 34" H
(432 mm L x 406 mm W x 864 mm H)
851E-5: 27" L x 19" W x 34" H
(686 mm L x 482 mm W x 864 mm H)
851E-10: 27" L x 19" W x 61" H
(686 mm L x 482 mm W x 1549 mm H)

Weight **851E-3:** 240 lbs. (109 kg)
851E-5: 360 lbs. (163 kg)
851E-10: 470 lbs. (213 kg)

Flow Rates up to 200 gpm (757 lpm) – jet fuel,
and 100 gpm (378 lpm) – diesel fuel

Maximum Allowable

Working Pressure 150 psig @ 250°F (10.5 kg/cm² @ 121°C)

Inlet/Outlet Connections **851E-3:** 2" (51 mm) NPT
851E-5: 2" (51 mm) NPT or 2" (51 mm) Flange
– 150 lbs. (68 kg) RF
851E-10: 3" (76 mm) Flange – 150 lbs. (68 kg)

Coalescer CI-3520-02-4 (jet fuel) or CI-3520-02-5 (diesel fuel)

Number of Coalescers **851E-3:** 3, **851E-5:** 5, **851E-10:** 10

Separator **851E-3 & 5:** 36W91
(851E-3 uses three and 851E-5 uses five)
851E-10: A910174 (851E-10 uses five)

Ordering Code

851E –



3J = 60 gpm (Jet)
3D = 30 gpm (Diesel)
5J = 100 gpm (Jet)
5D = 50 gpm (Diesel)
10J = 200 gpm (Jet)
10D = 100 gpm (Diesel)



M = Manual Water Drain
MA = Manual & Automatic Water Drain



A = Automatic air release valve
P = Pressure relief valve (set at 120 psig)
AP = Both A and P
N = none



NPT = 2" NPT
851E-10: not available
FL = 851E-5: 2"
851E-10: 3"
851E-3: not available



IOG = Inlet/Outlet Gauges (0-60 psig)
DPG = Differential pressure Gauge (0-40 psid)
NG = No Gauges



E = Coalescer & separator elements pre-installed
NE = Separator elements pre-installed/coalescer elements shipped separately



VKS Particulate Vessels

Sizes and Weights

	Dimensions	Weight
VKS-1	28" L x 13" W x 13" H (330 mm L x 330 mm W x 711 mm H)	100 lbs. (45 kg) Holds 6 gal. (23 L)
VKS-2	48" L x 13" W x 13" H (330 mm L x 330 mm W x 1219 mm H)	130 lbs. (59 kg) Holds 10 gal. (38 L)
VKS-6	28" L x 22" W x 48" H (711 mm L x 559 mm W x 1219 mm H)	450 lbs. (204 kg) Holds 37 gal. (140 L)
VKS-10	32" L x 26" W x 52" H (813 mm L x 660 mm W x 1321 mm H)	825 lbs. (374 kg) Holds 63 gal. (238 L)
VKS-16	36" L x 30" W x 54" H (914 mm L x 762 mm W x 1372 mm H)	1,125 lbs. (510 kg) Holds 95 gal. (360 L)



Element Selection (order separately)

Model VKS-1 (qty. = 1)	Model VKS-2 (qty. = 1)
	6: qty. = 3, 10: qty. = 5, 16: qty. = 8
6" x 18" elements	6" x 36" elements
KF6018-05 (1/2 micron)	KF6036-05 (1/2 micron)
KF6018-5 (5 micron)	KF6036-5 (5 micron)
KF6018-10 (10 micron)	KF6018-10 (10 micron)
KF6018-25 (25 micron)	KF6036-25 (25 micron)
KQD6018-5 (5 micron & water absorbing)	KQD6036-5 (5 micron & water absorbing)

Model VKS Filter Vessels

- ASME Code Filter vessels for particulate filtration of fuels
- Sizes range from 1.5" up to 6". Flow rates up to 800 gpm
- These filters are rated to 150 psig @ 250°F
- Carbon steel construction
- Can be used as a particulate prefilter to the Kaydon coalescers or, with the Kaydon KQD water absorptive filter element
- Can be used as a combination particulate filter and water removal filter.

Ordering Code

VKS –



1 = one 6" x 18" element
2 = one 6" x 36" element
6 = three 6" x 36" elements
10 = five 6" x 36" elements
16 = eight 6" x 36" elements



A = Automatic air release valve
P = Pressure relief valve (set at 120 psig)
AP = Both A and P
N = none



NB = no by-pass valve
25 = 25 psid by-pass valve
40 = 40 psid by-pass valve



IOG = Inlet/Outlet Gauges (0-60 psig)
DPG = Differential pressure Gauge (0-40 psid)
NG = No Gauges

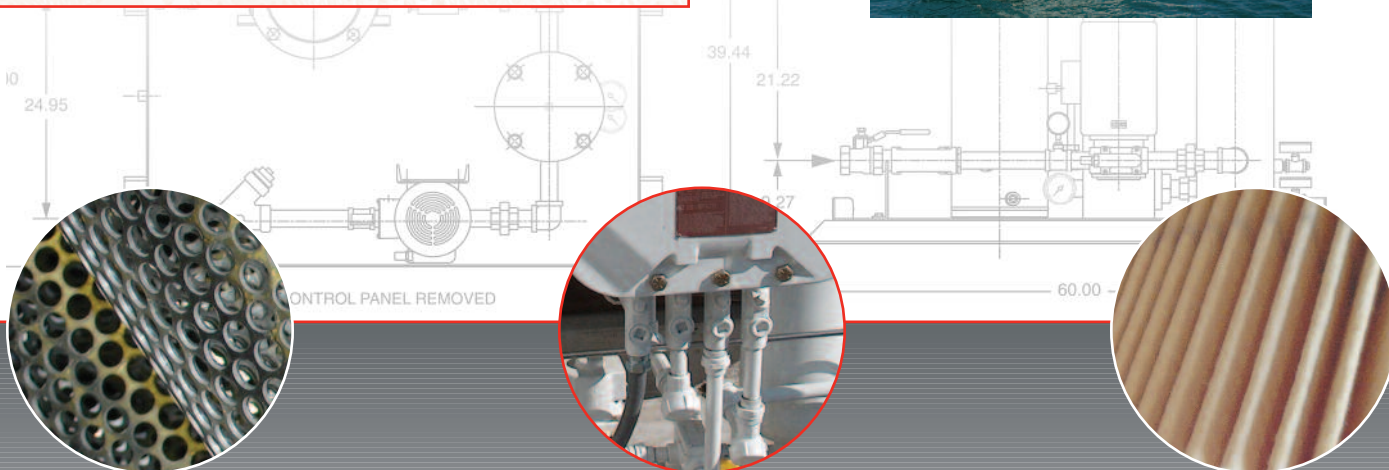


Markets/Industries Served

- Power Generation
- Fuel Distribution
- Back-Up Power
- Marine
- Construction
- Railroad
- Mining
- Agriculture
- Refineries

Warranty

Kaydon warrants the products manufactured by it to be free from defects in material and workmanship. This warranty terminates 18 months from date of invoice or 12 months from date of installation by the original purchaser, whichever comes first. There is no other warranty, expressed or implied in fact or by law.



ISO 9001:2000



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