



**KAYDON FILTRATION**  
Filtration Group®

# KAYDON FILTRATION

Product Catalog *1st Edition*

**Making the World Safer, Healthier & More Productive**



Extending Your Energy

# ABOUT KAYDON FILTRATION

Kaydon Filtration is a leader in particulate and water separation systems specifically designed for industrial plant lube oil and transferred/stored diesel fuel. For more than 75 years, Kaydon has set a standard in oil filtration and conditioning that others have tried to duplicate. Our company, however, began its impressive growth more than 120 years ago in Fort Wayne, Indiana with a single solution – the invention of a water pump. Today, we design, engineer, and manufacture some of the industry's most effective oil filtration and purification equipment.

Beginning with the breakthrough performance of the original 832P Gravity Turbine Lube Oil Conditioner system designed in 1939 for large steam turbines used in power generation stations, and moving up to our current state-of-the-art TURBO-TOC® Turbine Oil Conditioning System, Kaydon Filtration continues to respond to specific needs in the marketplace with innovations that are designed to perform – now and for decades to come. Understanding the needs of a world that runs on complex infrastructure and technology, Kaydon Filtration is aware of the demand for meeting oil performance and cleanliness requirements. Our experienced engineering, manufacturing and support personnel deliver customized filtration/coalescing systems that reduce maintenance costs, extend the life of critical equipment and prevent critical machinery failures and downtime. And we are dedicated to improving the environment with filtration and purification technologies that are reliable, efficient, safe and sustainable.

Every day, Kaydon Filtration works to keep your lubricating oils, hydraulic oils and fuels clean. Driven by a deep-rooted commitment to empower a safer, healthier and more efficient world, we have invested in the most inspired people and technology available. We work closely with our customers to design and develop filtration solutions that meet all quality standards and requirements, especially yours. Through responsiveness, quality of product and continuity of supply, we strive to offer a variety of product solutions to meet all your filtration equipment needs and are dedicated to exceeding your expectations. Everything we do is in accordance with applicable environmental laws, and we work to exceed those requirements to further protect the environment and public health.



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# FLUID CONDITIONING SYSTEMS

Kaydon Filtration specializes in designing and manufacturing oil and fuel filtration systems for industrial applications. Kaydon Filtration's TURBO-TOC® KL and KLP Turbine Oil Conditioning Systems continue redefining the world of turbine oil conditioning. The 858, 929, and 989 vacuum dehydration-distillation method systems are used to remove water and particulate safely from lubricating and hydraulic oils. Kaydon Filtration FC fuel/water separation skids and systems help meet the requirements for cleaner fuel for fuel transfer locations or as an off-line fuel tank circulation/purification operating arrangement. Our general purpose KP lube oil and hydraulic oil filtration systems, in either stationary or portable configurations, can continually provide a contamination control solution by circulating and filtering oil in an oil reservoir, relieving the full burden of contamination removal from the primary inline of return line filters.

In addition to the standard product offering, our reliable filtration, coalescing, and distillation dehydration technologies, coupled with Kaydon's engineering product and project teams, provide assurance that Kaydon equipment performs as requested and projects are completed. Kaydon Filtration offers a variety of value-added services. We regularly partner with customers to tackle specialized oil and fuel filtration challenges. Our team of engineers draws on extensive knowledge in the areas of mechanical, electrical, and chemical engineering disciplines to craft engineered oil and fuel conditioning product solutions.

**Kaydon Filtration - Making the World Safer, Healthier & More Productive**



# TURBINE OIL CONDITIONING SYSTEMS

TURBO-TOC® KL series turbine oil conditioning systems are used as off-line systems to condition turbine oil in a turbine oil reservoir. These systems can be utilized on reservoirs on steam turbines, combustion (gas) turbines, and hydroelectric turbines. The smaller and portable KLP turbine oil conditioning system uses the same technology as the larger KL series and is designed for oil conditioning for smaller oil reservoirs.



# TURBO-TOC® KL Series



TURBO-TOC® KL Series can enhance the operation of, and financial returns from, your turbine oil-lubricated equipment.

The TURBO-TOC® turbine oil conditioning systems supports long-term turbine operation and significantly reduces the probability of oil related turbine failures or unscheduled maintenance due to contaminated turbine oil. TURBO-TOC provides continuous fluid conditioning service during equipment uptime, and adds additional benefit during shutdown by quickly preparing the turbine oil for equipment start-up. It is essential equipment for turbine oil dependability and reliability.

### Kaydon TURBO-TOC KL Turbine Oil Conditioning Systems

A major factor in power plant turbine oil reliability is the control and removal of undesired particulate and water. When contamination invades turbine oil, protection of the turbine bearing and journal surfaces are placed at risk and turbine performance is jeopardized. Kaydon Filtration's TURBO-TOC KL series of turbine oil conditioning systems are equipped with a coalescer/separator unit that removes water in the turbine oil, preventing water related component failures and providing filtration and final oil polishing to eliminate the wear and scoring of bearings and journal surfaces.

Each TURBO-TOC KL oil conditioning system includes an automatic water drain and water meter to discharge the water when it accumulates to a preset level which activates a float switch and opens the water drain solenoid valve. They are also equipped with oil Inlet/outlet sample ports, an element differential pressure gauge for element life indication, and inlet/outlet isolation valves to isolate the system during filter changes. The heater package adds supplemental heating to oil in a reservoir during cold oil situations and helps the coalescing process during cold oil periods by raising the oil temperature just before the oil enters the filtration vessels providing easier particle and water removal.

Kaydon TURBO-TOC turbine oil conditioning systems are available in a wide array of additional options. Contact Kaydon Filtration technical support to discuss your specific requirement.

### Applications

Turbine Lube Oil

Steam, combustion, and hydroelectric power plants

### Features

Touch Screen

Pre filter

Kaydon Coalescing Technology

### Benefits

Provides easy to read and operate graphical view of the system operation.

Removes damaging particulate that can destroy bearing surfaces.

Removes harmful water that can potentially damage expensive rotating components



# TURBO-TOC® KL Series



KL10S2



KL30S2



KL60S2



KL100S3-N

## Specifications and Details

|  |   |                                      |                       |                                |
|--|---|--------------------------------------|-----------------------|--------------------------------|
| System Flow (Maximum)  | Model   | gpm                                  | lpm                   |                                |
|  | KL10S2  | 10                                   | 38                    |                                |
|  | KL30S2  | 30                                   | 114                   |                                |
|  | KL60S2  | 60                                   | 228                   |                                |
|  | KL100S3-N   | 100                                  | 379                   |                                |
| Reservoir Sizing   | Model   | Gallons                              | Liters                |                                |
|  | KL10S2  | ≤ 1,200                              | ≤ 4,550               |                                |
|  | KL30S2  | ≤ 3,600                              | ≤ 13,600              |                                |
|  | KL60S2  | ≤ 7,200                              | ≤ 27,200              |                                |
|  | KL100S3-N   | ≤ 12,000                             | ≤ 45,500              |                                |
| Environmental Parameters   | Minimum Temperature: 32° F (0° C)<br>Maximum Temperature: 104° F (40° C)                                    |                                      |                       |                                |
| Operating Voltage<br>(Contact Kaydon for other voltages and frequencies) | Voltage   | Frequency                            | Phase                 |                                |
|  | 460 VAC   | 60 Hz                                | 3-phase               |                                |
| Pump/Motor Assembly  | Model   | Pump                                 | Motor                 |                                |
|  | KL10S2  | Positive Displacement (gear)         | 1.5 HP / 1.1 KW       |                                |
|  | KL30S2  | Positive Displacement (gear)         | 5 HP / 3.7 KW         |                                |
|  | KL60S2  | Positive Displacement (gear)         | 7.5 HP / 5.6 KW       |                                |
|  | KL100S3-N   | Positive Displacement (gear)         | 15 HP / 11.2 KW       |                                |
| Materials of Construction  | Metals: Carbon Steel, Bronze, Stainless Steel<br>Elastomers: Buna-N<br>Paint: Epoxy                         |                                      |                       |                                |
| Pressure Vessel  | Design and Construction in accordance with ASME Section VIII, Division 1                                    |                                      |                       |                                |
| Inlet/Outlet Connections   | Model   | Inlet                                | Outlet                |                                |
|  | KL10S2  | 1.5 inch                             | 1.5 inch              |                                |
|  | KL30S2 / KL60S2   | 2 inch                               | 1.5 inch              |                                |
|  | KL100S3-N   | 3 inch                               | 2 inch                |                                |
|  | Type: ANSI B 16.5 Flanged   |                                      |                       |                                |
| System Pressure (Maximum)  | 100 psig @ 250° F / 10.34 BAR @ 121° C  |                                      |                       |                                |
| Dimensions   | Model   | Inches (L x W x H)                   | mm (L x W x H)        |                                |
|  | KL10S2  | 48 x 46 x 75                         | 1,220 x 1,170 x 1,905 |                                |
|  | KL30S2  | 55 x 54 x 94                         | 1,397 x 1,372 x 2,388 |                                |
|  | KL60S2  | 69 x 65 x 92                         | 1,753 x 1,651 x 2,337 |                                |
|  | KL100S3-N   | 91 x 88 x 102                        | 2,311 x 2,235 x 2,591 |                                |
| Weight (approximate)   | Model   | Dry (lbs. / kg.)                     | Wet (lbs. / kg.)      | Volume Capacity (gal. / liter) |
|  | KL10S2  | 1,636 / 743                          | 2,015 / 914           | 57 / 260                       |
|  | KL30S2  | 2,500 / 1,134                        | 3,254 / 1,476         | 113 / 427                      |
|  | KL60S2  | 3,725 / 1,690                        | 5,110 / 2,318         | 200 / 756                      |
|  | KL100S3-N   | 6,280 / 2,850                        | 8,830 / 4,000         | 330 / 1,250                    |
| Fluid Compatibility  | ISO 32, ISO 46, and ISO 68 mineral base turbine oil   |                                      |                       |                                |
| Performance  | Particulate: ISO Cleanliness Code 15/13/11 <sup>1</sup><br>Water: Removal to less than 100 ppm <sup>2</sup> |                                      |                       |                                |
| Oil Heater   | Model   | KW                                   |                       |                                |
|  | KL10S2  | 7.5                                  |                       |                                |
|  | KL30S2  | 22.5                                 |                       |                                |
|  | KL60S2  | 45                                   |                       |                                |
|  | KL100S3-N   | 75                                   |                       |                                |
| Filter Stages  | 1st Stage   | Pre-filtration: Particulate removal  |                       |                                |
|  | 2nd Stage   | Water removal                        |                       |                                |
|  | 3rd Stage   | Post-filtration: Particulate removal |                       |                                |
|  |   |                                      |                       |                                |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17.

2. Total Water content (free, emulsified and dissolved) as measured by ASTM D6304-04 (Karl Fischer method).

All design specifications are subject to change without notice.



# HYDRAULIC OIL FILTRATION SKID SYSTEMS

The KP10 and KP30 stationary skid systems are supplied with two large filters in a double-stage arrangement, providing an extra level of fluid purity. As an option, a portability kit can be added to the KP10 and KP30 lube oil and hydraulic oil filtration systems.



# KP Series Oil Filtration System



The KP10-2-S-V636 and KP30-001-V636 oil filtration systems support long-term equipment operation by reducing the probability of oil-related failures or unscheduled maintenance due to contaminated oil.

A factor in industrial oil reliability is the control and removal of undesired contamination. When contamination invades oil, protection of the rotating components is placed at risk and equipment performance is jeopardized.

Kaydon Filtration manufactures oil filtration systems to remove harmful contamination from lube oil used at industrial locations, such as steam, combustion, or hydroelectric power plants, steel/aluminum mills, or paper mills. The Kaydon Filtration KP series of oil filtration systems provide continuous and persistent oil filtration service and adds additional benefit during shutdown by quickly preparing the oil for equipment start-up.

The KP10-2-S-V636 and KP30-001-V636 oil filtration systems are available with a wide array of options. Contact Kaydon Filtration technical support to discuss your specific requirements.

## Applications

Lube Oil

Hydraulic Oil

## Features

Sample Port

Air Release Valve

Single-skid Mounting with Forklift Points

On/Off Control Switch for Motor

## Benefits

Allows for oil sampling during system operation for test and analysis

Efficiently remove trapped air in the filter vessels to enable complete use of the element

Conveniently designed on a single skid for accessible system positioning; includes drip containment rim, drain port and mounting tabs

Easily start and stop the system with a simple NEMA 4 switch



# KP Series Oil Filtration System

## Specifications and Details

|                            |   |  |  |
|----------------------------|---|--|--|
| Flow Rate (Maximum)        | Part #  | gpm  | lpm                                    |
|                            | KP10-2-S-V636<br>KP30-001-V636  | 10<br>30   | 38<br>114                              |
| Reservoir Sizing           | Part #  | Gallons  | Liters                                 |
|                            | KP10-2-S-V636<br>KP30-001-V636  | ≤ 600<br>≤ 1,800   | ≤ 2,270<br>≤ 6,810                     |
| Environmental Parameters   | NEMA 4 / IP54<br>Minimum Temperature: 32° F / 0° C<br>Maximum Temperature: 104° F / 40° C |  |  |
| Operating Voltage          | 460 VAC / 3 PH / 60 HZ / 35 AMPS  |  |  |
| Pump/Motor Assembly        | Part #  | Pump   | Motor                                  |
|                            | KP10-2-S-V636<br>KP30-001-V636  | Gear - positive displacement<br>Gear - positive displacement                             | 2 HP / 1.49 KW<br>5 HP / 3.7 KW        |
| Materials of Construction  | Metals: Carbon Steel, Bronze, Stainless Steel<br>Elastomers: Buna-N<br>Paint: Epoxy       |  |  |
| Pressure Vessel            | Carbon Steel<br>Elastomers: Viton<br>Paint: Epoxy   |  |  |
| Inlet/Outlet Connections   | Type  | Inlet  | Outlet                                 |
|                            | NPT   | 2 inch / 51 mm   | 1.5 inch / 38 mm                       |
| Dimensions                 | Part #  | Inches (L x W x H)   | mm (L x W x H)                         |
|                            | KP10-2-S-V636<br>KP30-001-V636  | 48 x 35 x 55<br>54 x 35 x 51   | 1220 x 889 x 1397<br>1372 x 889 x 1303 |
| Weight (approximate)       | 475 lbs / 215 kg  |  |  |
| Maximum Operating Pressure | 100 psig 7 BAR  |  |  |
| Fluid Compatibility        | Mineral base lube oils (maximum viscosity = ISO 460)                                      |  |  |
| Performance                | Part #  | Particulate  |  |
|                            | KP10-2-S-V636<br>KP30-001-V636<br>System pre-installed : 11μ and 7μ filter elements       | ISO Cleanliness Code 18/16/13 <sup>1</sup><br>ISO Cleanliness Code 17/15/13 <sup>1</sup> |  |
| Filter Stages              | 1st Stage   | particulate removal  |  |
|                            | 2nd Stage   | water removal or polishing   |  |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17.  
All design specifications are subject to change without notice.



# FUEL PURIFICATION SKID ASSEMBLIES AND SYSTEMS

The Model FC systems are diesel fuel particulate filtration and water separation systems. The larger FC systems are designed for installation in high flow-rate fuel transfer lines, and the smaller FC systems are designed for fuel purification during fuel transfer operations or for circulation/purification of a diesel fuel tank. The FC systems are ruggedly designed for use in areas such as mining, marine, emergency back-up power, agriculture, construction, or anywhere diesel fuel is transferred and stored.



## Keep Diesel Fuels Clean and Water-Free

### #2 Diesel fuels, including those with additive packages and blended biodiesel up to B20

Kaydon FC Systems offer the capability to handle substantially higher flow rates than traditional fuel/water separators in the same size assembly.

Contamination begins from the moment diesel fuel #2 leaves the refinery and begins its journey to its destination. Dirt, water, and other debris finds its way into the fuel as it is transported and stored. If unchecked, contamination can lead to excessive wear, down-time, or even damage to expensive, diesel powered equipment.

Today's modern diesel engines require clean and dry fuel to run smoothly and reliably. High-pressure injectors and close tolerance components leave little toleration for contaminated fuels. The Kaydon Filtration fuel purification One-Pass™ Fuel Conditioning, (FC), systems give assurance that #2 diesel fuels, including those with additive packages and blended biodiesel up to B20, are clean, water-free, and exceed the latest ASTM D975 Diesel Fuel #2 Specification<sup>1</sup>.

### Kaydon Fuel Conditioning

In industrial applications like mining, construction, marine, power generation, agriculture, combustion turbine fuel forwarding, or anywhere diesel fuel is transferred or stored, the FC Series removes water and particulates from your diesel fuel. Placed in series with your fuel flow line or recirculating a fuel storage tank, the One-Pass FC multi-stage conditioning process removes dirt, debris, and water before the fuel is dispensed into diesel engine fuel tanks. Kaydon One-Pass FC systems offer the capability to handle substantially higher flow rates than traditional fuel/water separators in the same size assembly using Kaydon Filtration CI3510-P (p/n C220052) or CI3520-P (p/n C220049) coalescer elements. Kaydon coalescer elements can be used in diesel fuel #2 and biodiesel blends up to B20. (See CI35XXP series datasheet for full specifications and performance details.)

The Kaydon One-Pass FC systems are available with a wide array of options. Contact Kaydon Filtration technical support to discuss your specific requirements.

### Applications

Diesel Fuel #2

Biodiesel Blends up to B20

### Features

Pre filter

Coalescer / Separator Stage

Single skid mounting with forklift points

### Benefits

Removes damaging particulate and debris from the fuel.

Water removal provides drier fuel to protect internal engine components and prevent water-related fuel issues and final polishing for additional particulate removal

Conveniently designed on a single skid for accessible system positioning; includes drip containment rim, drain port and mounting tabs





FC1



FC2



FC9



FC5

# One-Pass™ Diesel Fuel Purification Systems

## Specifications and Details

|  |  |   |                    |                    |
|--|--|---|--------------------|--------------------|
| System Flow (Maximum)  | Model  | gpm   | lpm                |                    |
|  | FC-1   | 10  | 38                 |                    |
|  | FC-2   | 20  | 75                 |                    |
|  | FC-3   | 60  | 227                |                    |
|  | FC-5   | 100   | 378                |                    |
|  | FC-7   | 200   | 756                |                    |
|  | FC-9   | 320   | 1211               |                    |
| Environmental Parameters   | NEMA 4<br>Minimum Temperature: 32° F / 0° C<br>Maximum Temperature: 104° F / 40° C |   |                    |                    |
| Operating Voltage  | 460 VAC / 3 PH / 60 HZ   |   |                    |                    |
| Pump/Motor Assembly  | Model  | Pump  | Motor              |                    |
|  | FC-1   | Positive Displacement (gear)                        | 1 HP / 0.75 KW     |                    |
|  | FC-2   | Positive Displacement (gear)                        | 2 HP / 1.49 KW     |                    |
|  | FC-3   | Positive Displacement (gear)                        | 5 HP / 3.73 KW     |                    |
|  | FC-5   | Positive Displacement (gear)                        | 15 HP / 11.19 KW   |                    |
|  | FC-7   | Positive Displacement (gear)                        | 20 HP / 14.19 KW   |                    |
|  | FC-9   | Positive Displacement (gear)                        | 30 HP / 22.37 KW   |                    |
| Materials of Construction  | Metals: Carbon Steel, Stainless Steel<br>Seals: Fluoropolymer<br>Paint: Epoxy      |   |                    |                    |
| Inlet/Outlet Connections   | Type   | Type  | Inlet              | Outlet             |
|  | FC-1   | 150# Raised Face ANSI Flange                        | 1.5 inch / 38.1 mm | 1 inch / 25.4 mm   |
|  | FC-2   | 150# Raised Face ANSI Flange                        | 2 inch / 50.8 mm   | 1.5 inch / 38.1 mm |
|  | FC-3   | 150# Raised Face ANSI Flange                        | 2 inch / 50.8 mm   | 2 inch / 50.8 mm   |
|  | FC-5   | 150# Raised Face ANSI Flange                        | 3 inch / 76.2 mm   | 3 inch / 76.2 mm   |
|  | FC-7   | 150# Raised Face ANSI Flange                        | 4 inch / 101.6 mm  | 4 inch / 101.6 mm  |
|  | FC-9   | 150# Raised Face ANSI Flange                        | 6 inch / 152.4 mm  | 6 inch / 152.4 mm  |
| System Pressure (Maximum)  | ≤ 150 psig / 10.34 BAR   |   |                    |                    |
| Fluid Compatibility  | #2 Diesel Fuel, Biodiesel Blends up to B20   |   |                    |                    |
| Performance  | Particulate <sup>2</sup>   | ISO Cleanliness Code 16/14/12 Fluid @ 50° F / 10° C |                    |                    |
|  | Water <sup>2</sup>   | Removal to less than 130 ppm (Total Water) @ 72° F  |                    |                    |
| Dimensions<br>(approximate)<br><small>(*FC-1 and FC-2 - includes pump/motor)</small> | Model  | Inches (L x W x H)                                  | mm (L x W x H)     |                    |
|  | FC-1*  | 36 x 28 x 41  | 120 x 686 x 2032   |                    |
|  | FC-2*  | 40 x 36 x 52  | 1016 x 914 x 1295  |                    |
|  | FC-3   | 74 x 31 x 65  | 1880 x 787 x 1651  |                    |
|  | FC-5   | 98 x 41 x 53  | 2489 x 1041 x 1336 |                    |
|  | FC-7   | 104 x 41 x 75                                       | 2642 x 1041 x 1905 |                    |
|  | FC-9   | 104 x 57 x 88                                       | 2640 x 1448 x 2235 |                    |
| Weight (approximate)   | Model  | lbs.  | kg                 |                    |
|  | FC-1   | 790   | 358                |                    |
|  | FC-2   | 910   | 413                |                    |
|  | FC-3   | 900   | 410                |                    |
|  | FC-5   | 1230  | 560                |                    |
|  | FC-7   | 3190  | 1447               |                    |
|  | FC-9   | 3700  | 1680               |                    |

1. Limit = 0.050 maximum water and sediment, units = % volume (free and emulsified water only) - Test Method ASTM D 2709: Water and Sediment in Middle Distillate Fuels by Centrifuge

2. Influent : Particulate < ISO 22/19/17 and water <5000 ppm. Particulate measured with inline automatic particle monitor calibrated to ISO 11171. Total Water content (free, emulsified and dissolved) as measured by ASTM D6304-04 (Karl Fischer method).

All design specifications are subject to change without notice.

# VACUUM DEHYDRATION SYSTEMS FOR INDUSTRIAL OILS

Model 858, 929, and 989 vacuum dehydration-distillation method systems remove water and particulate from industrial oils. These systems are excellent oil purification solutions for high viscosity oils and poor water shedding oils. These vacuum dehydration-distillation method systems are continuous duty, off-line (kidney-loop) oil purification systems for industrial oil reservoirs used in paper mills, steel mills, mining, refineries, and power generation.



## 858 Series Vacuum Dehydration Oil Conditioning System

### Keep Oils Free From Water and Particulate

Regardless of the industry, oil conditioning provides reliable, effective, long-term equipment protection.

Kaydon Vacuum Dehydration Systems provide superior performance with industrial oils using vacuum distillation technology.

Kaydon 858 series of vacuum dehydration oil conditioning systems keep oils free of water and particulate contamination to achieve long-term, predictable and profitable performance. Separation of water from oil by removing it in the form of water vapor, rather than removing it in the liquid state, is the principle used in Kaydon's distillation technology. In this way, water can be removed from oil without regard to the degree of emulsification. This technology allows for water removal in a number of liquids and applications that cannot be addressed through coalescing. Even the most stubborn, stable oil/water emulsions can be separated.

#### Kaydon Oil Purification Method

The 858 vacuum dehydration systems are different than other dehydration processes as they take water from the liquid state and transforms it into water vapor so it can easily be removed. In the distillation process, as water is vaporized from oil, oily water foam forms and is drawn into the vacuum pump. As the foam is transported through the condenser by the suction of the vacuum pump, the foam coats the inside of the condenser, reducing heat transfer. In addition, the oily foam releases through the system waste water discharge, requiring further wastewater treatment. Unlike other vacuum systems that do not provide effective foam control and must be constantly monitored, Kaydon Filtration prevents the intrusion of the oily water foam with the installation of a foam control device that retards oily water foam from growing. Additionally, the 858 systems continuously and automatically balance incoming and outgoing oil flow eliminating ongoing operator adjustment and involvement. The 858 systems are equipped with an easy to understand full status control panel, a vacuum gauge on the vacuum chamber, and a differential pressure gauge on the pre and polishing elements.

The 858 technology successfully removes damaging water from lubricating oil used in lube systems at power plants, paper mills, steel mills, aluminum mills, and etc. 858 technology provides continuous protection from water contamination in hydraulic oil, therefore safeguarding sensitive hydraulic power unit components. It removes harmful water from transformer oil so the oil provides the needed cooling, insulation and corrosion protection for the transformer.

All 858 systems require customer-supplied water. The 858 vacuum dehydration systems are available in a wide array of configurations and options including explosion proof systems. Contact Kaydon Filtration technical support to discuss your specific requirements.

#### Applications

|                             |  |
|-----------------------------|--|
| 858-600, 858-1200, 858-1800 | removes water and particulate contamination from lube, hydraulic, and transformer oils |
| 858-300 MINI-VAC            | removes water and particulate contamination from lube and hydraulic oils               |
| 858-300-HIVAC               | removes water, particulate and gases from transformer oils and sour seal oils          |
| 858-300-EHC                 | removes water, acids, and particulate from phosphate ester fluids                      |

## Features

Distillation process tower chamber-in-chamber

Pre and Polishing filter

Vacuum chamber port hole

Air release valves

Oil Heater

## Benefits

Internal water condensing utilizing Kaydon disperser elements provides swifter and more efficient water removal than external water condensers

Removes damaging particulate and debris from the oil exits.

Provides visual indication into the interior of the vacuum vessel, oil clarity, and vacuum chamber oil level

Allows for efficient removal of trapped air in the pre-filter and polishing filter vessels to enable complete use of the element surface area

Quickly brings the oil to the optimum temperature for distillation



858-300 MINI-VAC



858-600 / 858-1200



858-1800



# 858 Series Vacuum Dehydration Oil Conditioning System

## Specifications and Details

|  |                                     |                               |  |                                       |      |
|--|-------------------------------------|-------------------------------|--|---------------------------------------|------|
| System Flow (Maximum)                              | Model                               | gpm                           | lpm                                    |                                       |      |
|  | 858-300 Series                      | 5                             | 19                                     |                                       |      |
|  | 858-600                             | 10                            | 38                                     |                                       |      |
|  | 858-1200                            | 20                            | 76                                     |                                       |      |
|  | 858-1800                            | 30                            | 114                                    |                                       |      |
| Reservoir Sizing                                   | Model                               | Gallons                       | Liters                                 |                                       |      |
|  | 858-300 Series                      | 100 - 900                     | 378 - 3,406                            | not for use for reservoirs < 100 gal. |      |
|  | 858-600                             | ≤ 1,800                       | ≤ 6,800                                |                                       |      |
|  | 858-1200                            | ≤ 3,600                       | ≤ 13,600                               |                                       |      |
|  | 858-1800                            | ≤ 5,400                       | ≤ 20,435                               |                                       |      |
| Environmental Parameters                           | Model                               | NEMA                          | IP                                     |                                       |      |
|  | 858-300 Series                      | 4                             | 54                                     |                                       |      |
|  | 858-600 / -1200 / -1800             | 12                            | 54                                     |                                       |      |
|  | Minimum Temperature: 32° F / 0° C   |                               |  |                                       |      |
|  | Maximum Temperature: 130° F / 54° C |                               |  |                                       |      |
| Operating Voltage                                  | Model                               | VAC                           | PH                                     | HZ                                    | AMPS |
|  | 858-300 Series                      | 460                           | 3                                      | 60                                    | 37   |
|  | 858-600                             | 460                           | 3                                      | 60                                    | 70   |
|  | 858-1200                            | 460                           | 3                                      | 60                                    | 110  |
|  | 858-1800                            | 460                           | 3                                      | 60                                    | 130  |
| Vacuum Pump/Motor                                  | Model                               | Pump                          | Motor                                  | Requirement                           |      |
|  | 858-300 MINI-VAC / EHC              | Liquid Ring                   | 1.5 HP / 1.12 KW                       | .5 gpm / 1 lpm water flow             |      |
|  | 858-300 / HIVAC                     | Piston                        | 1.5 HP / 1.12 KW                       |                                       |      |
|  | 858-600                             | Liquid Ring                   | 2.5 HP / 1.87 KW                       | .5 gpm / 1 lpm water flow             |      |
|  | 858-1200 / -1800                    | Liquid Ring                   | 1.5 HP / 1.12 KW                       |                                       |      |
| Discharge Pump/Motor                               | Model                               | Pump                          | Motor                                  |                                       |      |
|  | 858-300 MINI-VAC / HIVAC            | Positive Displacement (screw) | 1 HP / .75 KW                          |                                       |      |
|  | 858-600                             | Positive Displacement (screw) | 2 HP / 1.49 KW                         |                                       |      |
|  | 858-1200 / -1800                    | Positive Displacement (screw) | 5 HP / 3.73 KW                         |                                       |      |
|  | Materials of Construction           | Model                         | Elastomers                             | Paint                                 |      |
| 858-300 MINI-VAC / HIVAC / 858-600 / -1200 / -1800 |                                     | Buna-N                        | Epoxy                                  |                                       |      |
| 858-300 EHC  |                                     | Fluroelastomer                | Compatible with phosphate ester fluids |                                       |      |
| Metals: Carbon Steel, Bronze, Stainless Steel      |                                     |                               |  |                                       |      |
| Inlet/Outlet Connections                           |                                     | Model                         | Inlet                                  | Outlet                                |      |
|  | 858-300 Series                      | 1 inch / 25.4 mm              | 1 inch / 25.4 mm                       |                                       |      |
|  | 858-600                             | 1.5 inch / 38.1 mm            | 1 inch / 25.4 mm                       |                                       |      |
|  | 858-1200 / -1800                    | 2 inch / 50.8 mm              | 1.5 inch / 38.1 mm                     |                                       |      |
|  | Type: NPT                           |                               |  |                                       |      |
| Dimensions   | Model                               | Inches (L x W x H)            | mm (L x W x H)                         |                                       |      |
|  | 858-300 MINI-VAC                    | 48 x 27 x 80                  | 1220 x 686 x 2032                      |                                       |      |
|  | 858-300 EHC                         | 48 x 27 x 72                  | 1220 x 686 x 1830                      |                                       |      |
|  | 858-300 HIVAC                       | 48 x 42 x 76                  | 1220 x 1067 x 1930                     |                                       |      |
|  | 858-600 / -1200 / -1800             | 72 x 48 x 86                  | 1830 x 1220 x 2185                     |                                       |      |
| Weight (approximate)                               | Model                               | lbs.                          | kg                                     |                                       |      |
|  | 858-300 MINI-VAC                    | 1,000                         | 454                                    |                                       |      |
|  | 858-300 EHC                         | 1,100                         | 500                                    |                                       |      |
|  | 858-300 HIVAC                       | 1,200                         | 545                                    |                                       |      |
|  | 858-600                             | 3,850                         | 1,750                                  |                                       |      |
| 858-1200 / -1800                                   | 4,000                               | 1,815                         |  |                                       |      |
| System Pressure (Maximum)                          | 100 psig / 7 BAR                    |                               |  |                                       |      |

|                     |   |   |  |   |
|---------------------|---|---|--|---|
| Fluid Compatibility | Model   | Type  |  |   |
|                     | 858-600 / -1200 / -1800<br>858-300 MINI-VAC / HIVAC<br>858-300 EHC  | Mineral base lube oils<br>Mineral base lube oils (maximum viscosity = ISO 150 @ >100° F)<br>ISO 32, 46, and 68 Phospahte Ester Fluids |  |   |
| Performance         | Model   | Water   | Acid   |   |
|                     | 858-300 MINI-VAC / HIVAC / -600 / -1200 / -1800<br>858-300 EHC<br><br>Particulate: ISO Cleanliness Code 16/14/12 <sup>1</sup> | Removal to less than 25 ppm <sup>2</sup><br><br>Removal to less than 1000 ppm <sup>2</sup>  | Removal to less than .1 mg KOH/g                 |   |
| Filter Stages       | Model   | 1st Stage   | 2nd Stage  | 3rd Stage                                 |
|                     | 858-300 MINI-VAC / HIVAC<br>858-300 EHC<br>858-600 / -1200 / -1800  | Water removal<br>Water removal<br>Pre Filtration  | Post Filtration<br>acid removal<br>Water removal | N/A<br>Post Filtration<br>Post Filtration |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17.

2. Total Water content (free, emulsified and dissolved) as measured by ASTM D6304-04 (Karl Fischer method).

All design specifications are subject to change without notice.



## 929-300 Vacuum Dehydration Oil Conditioning System

Water contamination can result in costly damage to equipment, as well as unplanned downtime that can take equipment offline, reducing efficiency, productivity and profitability. Small quantities of water suspended in oils can lead to loss of lubrication, corrosion, premature wear, and eventually breakdown. The Kaydon 929-300 vacuum dehydration oil conditioning system minimizes down time and maximizes performance by removing water and particulate from industrial oils using water vapor and filtration methods.

Separation of water from oil by removing it in the form of water vapor, rather than removing it in the liquid state, is the principle used in the 929-300 vacuum dehydration system. In this way, water can be removed from oil without regard to the degree of emulsification. The 929 technology allows for water removal in a number of liquids and applications that cannot be addressed through coalescing. Even the most stubborn, stable oil/water emulsions can be separated.

The 929-300 is different than other dehydration processes as it takes water from the liquid state and transforms it into water vapor so it can easily be removed. In the distillation process, as water is vaporized from oil, oily water foam forms and is drawn into the vacuum pump. As the foam is transported through the condenser by the suction of the vacuum pump, the foam coats the inside of the condenser, reducing heat transfer. In addition, the oily foam releases through the system waste water discharge, requiring further wastewater treatment. Unlike other vacuum systems that do not provide effective foam control and must be constantly monitored, Kaydon Filtration prevents the intrusion of the oily water foam with the installation of a foam control device that retards oily water foam from growing. The 929-300 Unit delivers less than 40 ppm water content with an ISO 16/14/12 cleanliness level. The 929-300 Unit delivers less than 40 ppm water content with an ISO 16/14/12 cleanliness level. The 929-300 is equipped with an easy-to-understand full status control panel, a vacuum gauge on the vacuum chamber, and a differential pressure gauge on the polishing element.

The 929-300 removes damaging water from lubricating oil, such as turbine oil, paper machine oil, gear oil, and hydraulic oils. The standard 959 is air-cooled, with other options available, including an external water-cooled system.



## Applications

Lube Oil

Hydraulic Oil

## Features

Vacuum Distillation Process Tower Chamber and Disperser Element

Polishing filter

Vacuum chamber port hole

Electronic point sensors

15 KW Oil Heater

## Benefits

Uses a pleated disperser element to swiftly and efficiently remove water.

Removes damaging particulate and debris before the oil exits the system.

Provides visual indication into the interior of the vacuum vessel, oil clarity, and vacuum chamber oil level

Automatically adjusts and modulates incoming flow to, and outgoing flow from, the vacuum chamber

Quickly brings the oil to the optimum temperature for distillation

## Specifications and Details

|                            |   |  |                                   |                           |
|----------------------------|---|--|-----------------------------------|---------------------------|
| Flow Rate (Maximum)        | 5 gpm / 19 lpm  |  |                                   |                           |
| Reservoir Sizing           | ≤ 900 gallons (maximum viscosity = ISO 150)   |  |                                   |                           |
| Environmental Parameters   | NEMA 4 / IP54<br>Minimum Temperature: 32° F / 0° C<br>Maximum Temperature: 130° F / 54° C |  |                                   |                           |
| Operating Voltage          | 460 VAC / 3 PH / 60 HZ / 35 AMPS  |  |                                   |                           |
| Pump/Motor Assembly        |   | Pump                                       | Motor                             | Notes                     |
|                            | Vacuum Oil Discharge  | Claw Positive Displacement (screw)         | 1.5 HP / 1.12 KW<br>1 HP / .75 KW | Water supply not required |
| Materials of Construction  | Metals: Carbon Steel, Bronze, Stainless Steel<br>Elastomers: Buna-N<br>Paint: Epoxy       |  |                                   |                           |
| Pressure Vessel            | Carbon Steel  |  |                                   |                           |
| Inlet/Outlet Connections   | Type  | Inlet                                      | Outlet                            |                           |
|                            | NPT   | 1.5 inch / 38.1 mm                         | 1 inch / 25.4 mm                  |                           |
| Dimensions                 | 68" L x 32" W x 58" H / 1727.2 mm L x 812.8 mm W x 1473.2 mm H                            |  |                                   |                           |
| Weight (approximate)       | 1,200 lbs / 544 kg  |  |                                   |                           |
| Maximum Operating Pressure | 100 psig 7 BAR  |  |                                   |                           |
| Fluid Compatibility        | Mineral base lube oils (maximum viscosity = ISO 150 @ > 100° F)                           |  |                                   |                           |
| Performance                | Particulate   | ISO Cleanliness Code 16/14/12 <sup>1</sup> |                                   |                           |
|                            | Water   | Removal to less than 40 ppm <sup>2</sup>   |                                   |                           |
| Filter Stages              | 1st Stage   | water removal                              |                                   |                           |
|                            | 2nd Stage   | post filtration                            |                                   |                           |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17.

2. Total Water content (free, emulsified and dissolved) as measured by ASTM D6304-04 (Karl Fischer method).

All design specifications are subject to change without notice.



# VARNISH REMOVAL SYSTEMS FOR TURBINE LUBRICATION

Varnish is the hidden enemy of turbine oil lube systems. A continuous functioning varnish removal system is necessary to dislodge varnish build-up and block future attacks. The Kaydon Filtration Model KPV-10 Varnish Removal system provides varnish stripping to the extent that varnish-related issues such as sticking valves, oil flow restrictions, reduction in heat exchanger efficiency, accelerated rotating component wear, and oil degradation will no longer be a detriment to the turbine lubrication system. The Kaydon Filtration KPV-10 Varnish Removal system provides efficient sub-micron filtration of varnish-forming components. The KPV-10 system provides an efficient clean-out of a turbine lube oil system that has a pre-existing varnish problem, or can be installed in new installations to stop varnish before it starts.





# KPV-10 Varnish Removal System

Oils have the potential to create varnish - an insoluble film that forms inside the lubrication and hydraulic systems. If left unchecked, varnish contamination leads to valve sticking and the formation of deposits on metal surfaces throughout these systems. If these deposits occur on heat exchangers or reservoir walls, the varnish reduces the equipment's ability to transfer heat from the system.

Power generation equipment and hydraulic systems have seen an increase in varnish-related issues due to higher operating temperatures, smaller reservoirs and the creation of electrostatic discharge. Successful removal and elimination of varnish in the turbine lube oil is essential to the operation of efficient, cost-effective systems.

Operating at a maximum flow rate of 10 GPM (38 LPM), the KPV-10 system can provide a clean-out of a turbine lube oil system that has a pre-existing varnish problem, or be installed in new installations where the varnish problem can be blocked. The system uses easy-to-understand and easy-to-operate controls, along with simple installation. The filtration of the varnish producing sub-micron particles is made possible by the Kaydon Filtration technology K1100 prefilter and K4100 polishing element.

## Features

BCA® Technology Process

Inlet/Outlet Isolation Ball Valves

Easy to read control panel and gauges

Particle removal capability

Reduced System Maintenance

Skid Mounted

## Benefits

Varnish free lube system

Isolates the system when filter element needs replacement or maintenance

Easy to read

Ultra clean oil keeps turbine on line

BCA Technology requires annual inspection; Kaydon Filter Technology requires 2-4 change-outs per year

All components installed on one forklift mounted movable skid



# KPV-10 Varnish Removal System

## Specifications and Details

|                           |   |
|---------------------------|---|
| System Flow               | 10 GPM / 38 LPM (maximum flow)  |
| System Pressure           | 100 PSIG / 6.9 BAR (maximum flow)   |
| Environmental Parameters  | NEMA 4 Rated Control Panel<br>Minimum Ambient Temperature: 32° F / 0° C<br>Maximum Ambient Temperature: 200° F / 93° C  |
| Operating Voltage         | 460 VAC / 3 PH / 60 HZ / 10 AMPS  |
| Materials of Construction | Metals: Carbon Steel and Bronze<br>Elastomers: Buna-N<br>Exterior Paint: Epoxy  |
| Pressure Vessels          | Prefilter and Polishing Vessels:<br>Kaydon Filtration Model V-636<br>BCA® Technology Vessel: Designed and Manufactured to ASME code (ASME stamp or inspection not included) |
| Inlet/Outlet Connections  | Type: NPT<br>Inlet: 2 inch / 50.8 mm<br>Outlet: 1 inch / 25.4 mm  |
| Pump/Motor Assembly       | Flow Rate: 10 GPM / 38 LPM<br>Pump Type: Gear - Positive Displacement<br>Motor: 1.5 HP / 1.1 KW   |
| Fluid Compatibility       | Mineral base turbine oil (maximum viscosity = ISO 68)   |
| Filter Stages             | 1st Stage: Model K1100 High Efficiency Particulate Element<br>2nd Stage: BCA Technology (sub micron particle agglomerator)<br>3rd Stage: Model K4100 Polishing Element      |
| Performance               | ISO Cleanliness Level to 15/13/11   |
| Weight (approximate)      | 715 lbs / 324 kg  |
| Dimensions                | 48" L x 35" W x 64" H / 1220 mm L x 890 mm W x 1625 mm H  |

All design specifications are subject to change without notice.



# PARTICULATE AND COALESCING FILTRATION

Kaydon designs and manufactures oil and fuel filtration vessels applicable for almost any low-pressure hydrocarbon filtration application.

The Model 980 and 981 are durable and robust inline pressure or return line (1,200 psig maximum) filter assemblies used for oil and fuel filtration applications. The Model 980/981 vessels are suitable for use with hydraulic systems used in small industrial hydraulic power units, small lube systems, and diesel fuel transfer where larger filtration assemblies are not practical. The Model 980/981 series is a substitute for spin-on type filters where extra protection and a more rugged design are desired.

The Model 111 and Model 112 oil and fuel filtration filter vessels are designed to offer a cost-effective solution for general purpose industrial oil and fuel filtration applications. The vessels are constructed of aluminum, making them lightweight and easy to install, yet rugged and durable to withstand corrosive environments. The Model 111 and Model 112 filtration vessels provide an economical solution for general purpose oil and fuel filtration applications.

The Model V-618 and V-636 oil and fuel filtration filter vessels are engineered to offer a high quality solution for industrial oil and fuel filtration applications. The V Vessels are rugged, heavy-duty, carbon steel constructed. The Model V vessels are designed to provide oil filtration or fuel filtration for a wide range of industrial applications.

The VKS Vessel family of filtration vessels are all carbon steel construction and designed to the latest edition of the ASME pressure vessel code. VKS filtration vessels are designed for in-line flow applications where a heavy-duty design, rugged construction, and long-term durability are required. Operating conditions, such as repeated shock and vibration, do not affect the filtration element or its secure seating.



## Model 980 and 981 Oil and Fuel Filter Housings

Kaydon Model 980 and 981 Oil and Fuel Filter Housings are durable and robust inline pressure or return line (1,200 psig maximum) filter assemblies used for oil and fuel filtration applications. Both the 980 and 981 are suitable for use with hydraulic systems used in mobile equipment, small industrial hydraulic power units, small lube systems, and diesel fuel transfer where larger filtration assemblies are not practical. They can be substituted for spin-on type filters where extra protection and a more rugged design are desired.

The Model 980 is rated for a maximum of 20 gpm and the Model 981 is rated for a maximum of 40 gpm, for oils and diesel fuel (check pressure drop curves to determine initial {clean} pressure drops for your flow and viscosity). The Model 980 uses the KMP 9600 series 4-inch length elements\* and the Model 981 uses the 8-inch length elements\*, with media selection of 1, 3, 6, 12 and 25 microns.

The inlet/outlet connections are 1.5-inch NPTF, reducing flow restriction, plus the internal flow path provides low pressure drop (flow resistance). A color-coded visual differential pressure indicator is provided to signal element replacement. Bowl removal is made easier with a hand grip to help twist the bowl from the filter head. A safety by-pass valve set at 50 psid ensures protection of the element and helps maintain flow before element change-out is required. Mounting is simplified with four mounting holes.

### Applications

Inline Oil Filtration

Return Line Oil Filtration

### Features

Aluminum-constructed housing with anodized bowl

Color-coded mechanical pop-up differential pressure indicator to signal when element replacement is required

### Benefits

Lightweight with anti-corrosive anodization

Easy visual reference to signal element replacement when the color changes from green to red; setting is 44 psid.





## Specifications and Details

|  |  |              |               |
|--|--|--------------|---------------|
| Flow Rate (Maximum)                            | Model #  | gpm          | lpm           |
|  | 980  | 20           | 76            |
|  | 981  | 40           | 152           |
| Environmental Parameters                       | Minimum Temperature: 32° F / 0° C<br>Maximum Temperature: 120° F / 49° C   |              |               |
| Materials of Construction                      | Metals: Die Cast Aluminum, Anodized Die Cast Aluminum<br>Circumferential Bowl Seal: Fluoroelastomer<br>By-Pass Valve: Nylon<br>Filtration Element: Tin coated carbon steel end caps and center tube. Epoxy adhesives and inert micro-fiberglass filtration media |              |               |
| Inlet/Outlet Connections                       | 1 1/2" NPTF  |              |               |
| Maximum Operating Pressure                     | 1,200 PSIG / 83 BAR  |              |               |
| Static Burst Pressure                          | 3,000 PSIG / 206 BAR   |              |               |
| Rated Fatigue Pressure                         | 0—1000—0 psig for 1,000,000 cycles   |              |               |
| Change-Out Differential Pressure (Recommended) | 25 psid / 1.7 BAR  |              |               |
| By-Pass Valve Rating                           | 50 psid / 3.4 BAR  |              |               |
| Maximum Operating Temperature Range            | ≤ 250° F / ≤ 120° C  |              |               |
| Fluid Compatibility                            | Petroleum Based Fluids (maximum viscosity = ISO 320)   |              |               |
| Weight (approximate)                           | Model #  | lbs.         | kgs.          |
|  | 980  | 6.6          | 3             |
|  | 981  | 8.8          | 4             |
| Dimensions                                     | Model #  | Inches L x D | mm L x D      |
|  | 980  | 8.5 x 4.7    | 215.9 x 119.4 |
|  | 981  | 12.1 x 4.7   | 307.4 x 119.4 |

\*Filtration elements are not included with the 980 and 981 filter assemblies and must be ordered separately. Contact Kaydon customer service for ordering information. All design specifications are subject to change without notice.



## Model 111 and 112 Oil and Fuel Filter Vessels

The Model 111 and 112 oil and fuel filtration filter vessels are designed to offer a rugged and durable, yet cost-effective, solution for general purpose industrial oil and fuel filtration applications. The vessels are constructed from heavy-duty aluminum, providing reliability and extended use. They are available with optional wall mount, floor mount and differential pressure gauge.

The Model 111 or 112 filter vessel can be installed in lube oil systems, hydraulic return line circuits, transformer oil purification systems, gearbox lube systems, coolant fluid systems, process systems or diesel fuel transfer equipment.

### Applications

|                                |  |
|--------------------------------|--|
| Power Plants –                 | turbine oil, gear oil, and diesel fuel                                 |
| Pulp and Paper Mills –         | paper machine oil and hydraulic oil                                    |
| Steel and Aluminum Mills –     | rolling mill lube system oil, gear oil, hydraulic oil, and cutting oil |
| Marine –                       | engine oil and diesel fuel   |
| Mining –                       | crusher lube system oil and diesel fuel                                |
| Refinery and Chemical Plants – | compressor and turbine oil   |
| Fueling Terminals –            | diesel fuel  |
| General Industry –             | industrial oils and diesel fuel  |

### Features

Heavy-duty aluminum construction

Straightforward design

Equipment protection for oil and diesel fuel

### Benefits

Lightweight and easy to install, yet rugged, providing reliability over long-term use

User-friendly without complicated instrumentation and hard-to-use filter element sealing methods

Designed to protect components in the oil system and guard against contamination entering the diesel engine



## Specifications and Details

|                                 |  |                  |                  |
|---------------------------------|--|------------------|------------------|
| Flow Rate Range<br>Maximum Flow | Model #  | gpm              | lpm              |
|                                 | 111  | 25               | 95               |
|                                 | 112  | 50               | 190              |
| Environmental Parameters        | Minimum Temperature: 0° F / -17° C<br>Maximum Temperature: 120° F / 49° C  |                  |                  |
| Materials of Construction       | Metals: Aluminum and Bronze<br>Elastomers: Buna-N<br>Exterior Paint: Epoxy |                  |                  |
| Inlet/Outlet Connection         | 1.5 inch NPT   |                  |                  |
| Maximum Operating Pressure      | 200 PSIG / 13.7 BAR  |                  |                  |
| Maximum Operating Temperature   | 250° F / 121° C  |                  |                  |
| Fluid Compatibility             | Mineral Base Oils and Fuels, (Diesel #1 & #2)                              |                  |                  |
| Weight (approximate)            | Model #  | lbs.             | kgs.             |
|                                 | 111  | 23               | 11               |
|                                 | 112  | 33               | 15               |
| Dimensions                      | Model #  | Inches L x W x H | mm L x W x H     |
|                                 | 111  | 9.25 x 9 x 25    | 235 x 228 x 635  |
|                                 | 112  | 9.25 x 9 x 43    | 235 x 228 x 1095 |

All design specifications are subject to change without notice.



# V-618 and V-636 Oil and Fuel Filter Vessels

The Model V oil and fuel filtration filter vessels are designed to offer a high-quality solution for industrial oil and fuel filtration applications. The V Vessels are rugged, heavy-duty, carbon steel constructed. The lid is designed with swing eye-bolts for simple and easy removal so that elements can be changed out quickly. The V vessel element seal design prevents fluid by-pass by providing element alignment in addition to secure sealing. The V style knife-edge seal digs into the element flat gaskets to create a tight, no-bypass seal for the top and bottom of the element.

The Model V vessels are designed to protect components in oil systems and guard against contamination entering diesel engines through the fuel. The Model V vessels can be used to provide oil filtration or fuel filtration for a wide range of industrial applications:

## Applications

|                                |  |
|--------------------------------|--|
| Power Plants –                 | turbine oil, gear oil, and diesel fuel                                 |
| Pulp and Paper Mills –         | paper machine oil and hydraulic oil                                    |
| Steel and Aluminum Mills –     | rolling mill lube system oil, gear oil, hydraulic oil, and cutting oil |
| Marine –                       | engine oil and diesel fuel   |
| Mining –                       | crusher lube system oil and diesel fuel                                |
| Refinery and Chemical Plants – | compressor and turbine oil   |
| Fueling Terminals –            | diesel fuel  |
| General Industry –             | industrial oils and diesel fuel  |

## Features

User-friendly lid with swing eye-bolts designed for quick, simple and easy removal

Simple, secure element alignment and sealing design

## Benefits

Equipment protection in oil or diesel fuel applications

Protects critical components and guards against harmful contamination





## Specifications and Details

|                                 |   |          |           |          |
|---------------------------------|---|----------|-----------|----------|
| System Pressure / Temperature   | 150 PSIG / 10.3 BAR at 250° F / 121° C (maximum)  |          |           |          |
| Environmental Parameters        | Minimum Ambient Temperature: 0° F / -17° C<br>Maximum Ambient Temperature: 120° F / 49° C     |          |           |          |
| Materials of Construction       | Metals: Carbon Steel<br>Elastomers: Viton<br>Exterior Paint: Epoxy<br>Interior Coating: Epoxy |          |           |          |
| Inlet/Outlet Connections        | Type: 2" NPT  |          |           |          |
| Fluid Compatibility             | Mineral base oils and fuels (diesel #1 and #2)  |          |           |          |
| Performance <sup>1</sup>        | Particulate: ISO Cleanliness Codes  |          |           |          |
|                                 | Model   | ISO      | Model     | ISO      |
|                                 | KF60XX-05   | 15/13/11 | KM60XX-02 | 15/13/10 |
|                                 | KF60XX-5  | 18/16/13 | KM60XX-05 | 15/13/11 |
|                                 | KF60XX-10   | 19/17/14 | KM60XX-2  | 16/14/12 |
|                                 | KF60XX-25   | 19/18/15 | KM60XX-3  | 16/15/13 |
|                                 | KQD60XX-5   | 18/16/13 | KM60XX-8  | 18/17/14 |
|                                 |   |          | KM60XX-15 | 19/18/15 |
| Weight (approximate)            | V-618: 85 lbs / V-636: 120 lbs  |          |           |          |
| Dimensions (approximate inches) | V-618: 11 L x 11 W x 28 H<br>V-636: 11 L x 11 W x 46 H  |          |           |          |
| Vessel Lid Seal <sup>2</sup>    | A629015 (Model V-618 and V-636)   |          |           |          |

### Element Selection for Model V-618

| Description                             | Element   |
|---|---|
| General Purpose Oil or Fuel Filtration  | KF6018-05<br>KF6018-5<br>KF6018-10<br>KF6018-25                         |
| Critical Purpose Oil or Fuel Filtration | KM6018-02<br>KM6018-05<br>KM6018-2<br>KM6018-3<br>KM6018-8<br>KM6018-15 |
| Water Absorption from Oils or Fuels     | KQD6018-6NS<br>(max flow for KQD6018-6NS: 15 gpm with ISO 32 oil)       |

### Element Selection for Model V-636

| Description                             | Element   |
|---|---|
| General Purpose Oil or Fuel Filtration  | KF6036-05<br>KF6036-5<br>KF6036-10                                      |
| Critical Purpose Oil or Fuel Filtration | KM6036-02<br>KM6036-05<br>KM6036-2<br>KM6036-3<br>KM6036-8<br>KM6036-15 |
| Water Absorption from Oils or Fuels     | KQD6036-6NS<br>(max flow for KQD6036-6NS: 30 gpm with ISO 32 oil)       |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 19/18/16

2. Required for element changes.

All design specifications are subject to change without notice.

# Model VKS and VKS Duplex Oil and Fuel Filter Vessels

The Model VKS and VKS Duplex oil and fuel filtration filter assemblies are designed to offer a high quality solution for a wide range industrial oil and fuel filtration applications. They are rugged, heavy-duty, carbon steel constructed; designed and built per ASME Code to provide reliable and long-term use in any industrial environment. The VKS vessels work with a variety of Kaydon elements used in general or critical purpose oil or fuel filtration as well as water absorption from oils or fuel. Contact Kaydon technical support for specific element selection, particle performance ratings, and ISO Cleanliness Codes.

## Applications

|                                |  |
|--------------------------------|--|
| Power Plants –                 | turbine oil, gear oil, and diesel fuel                                 |
| Pulp and Paper Mills –         | paper machine oil and hydraulic oil                                    |
| Steel and Aluminum Mills –     | rolling mill lube system oil, gear oil, hydraulic oil, and cutting oil |
| Marine –                       | engine oil and diesel fuel   |
| Mining –                       | crusher lube system oil and diesel fuel                                |
| Refinery and Chemical Plants – | compressor and turbine oil   |
| Fueling Terminals –            | diesel fuel  |
| General Industry –             | industrial oils and diesel fuel  |

## Features

Heavy-duty, carbon steel, ASME Code construction

Straightforward, standpipe design

Single-piece element hold-down tool

Equipment protection for oil and diesel fuel

## Benefits

Provides reliability over long-term use in any industrial environment

Prevents fluid by-pass with proper element alignment

Secure element sealing and allows for quick element replacement

Designed to protect components in the oil system and guard against contamination entering the diesel engine



VKS-1



VKS-2



VKS-6



VKS-10



VKS-1-DP / VKS-2-DP

# Model VKS and VKS Duplex Oil and Fuel Filter Vessels

## Specifications and Details

|                               |  |                    |                   |                   |
|-------------------------------|--|--------------------|-------------------|-------------------|
| Environmental Parameters      | Minimum Temperature: 0° F / -17° C<br>Maximum Temperature: 120° F / 49° C                              |                    |                   |                   |
| Materials of Construction     | Metals: Carbon Steel / Bronze<br>Elastomers: Viton<br>Exterior Paint: Epoxy<br>Interior Coating: Epoxy |                    |                   |                   |
| Inlet/Outlet Connection       | Model #  | Inlet              | Outlet            | Type              |
|                               | VKS-1  | 1.5 inch           | 1.5 inch          | NPT               |
|                               | VKS-2  | 2 inch             | 2 inch            | NPT               |
|                               | VKS-6  | 3 inch             | 3 inch            | 150 lb. RF Flange |
|                               | VKS-10   | 4 inch             | 4 inch            | 150 lb. RF Flange |
|                               | VKS-16   | 6 inch             | 6 inch            | 150 lb. RF Flange |
|                               | VKS-1-DP   | 1.5 inch           | 1.5 inch          | 150 lb. RF Flange |
|                               | VKS-2-DP   | 2 inch             | 2 inch            | 150 lb. RF Flange |
| Maximum Operating Pressure    | 150 psig / 10.3 BAR  |                    |                   |                   |
| Maximum Operating Temperature | 250° F / 121° C  |                    |                   |                   |
| Fluid Compatibility           | Mineral Base Oils and Fuels, (Diesel #1 & #2)  |                    |                   |                   |
| Weight (approximate)          | Model #  | lbs.               | kgs.              |                   |
|                               | VKS-1  | 100                | 46                |                   |
|                               | VKS-2  | 130                | 59                |                   |
|                               | VKS-6  | 450                | 205               |                   |
|                               | VKS-10   | 825                | 375               |                   |
|                               | VKS-16   | 1,125              | 510               |                   |
|                               | VKS-1-DP   | 415                | 190               |                   |
|                               | VKS-2-DP   | 480                | 220               |                   |
| Dimensions                    | Model #  | Inches (L x W x H) | mm (L x W x H)    |                   |
|                               | VKS-1  | 12.25 x 12.25 x 28 | 312 x 312 x 715   |                   |
|                               | VKS-2  | 12.25 x 12.25 x 46 | 312 x 312 x 1170  |                   |
|                               | VKS-6  | 28 x 24 x 55       | 715 x 610 x 1400  |                   |
|                               | VKS-10   | 32 x 28 x 61       | 815 x 715 x 1550  |                   |
|                               | VKS-16   | 36 x 32 x 66       | 915 x 815 x 1680  |                   |
|                               | VKS-1-DP   | 41 x 15 x 36       | 1050 x 385 x 915  |                   |
|                               | VKS-2-DP   | 41 x 15 x 54       | 1050 x 385 x 1380 |                   |

All design specifications are subject to change without notice.





# COALESCER / SEPARATOR VESSELS

Kaydon Filtration 121A and 851E series are diesel fuel/water separation and filtration vessels that employ coalescing technology to separate water from diesel fuel. This fuel-purifying technology protects today's highly sophisticated fuel injection systems, thereby keeping diesel-powered equipment in service. In addition to water removal, the coalescer provides a particulate filtration layer to remove harmful particulates, along with providing protection for the coalescing stage. Kaydon's coalescing technology enables clean fuel delivery and prevents premature replacement of expensive components and revenue loss from equipment downtime resulting from contaminated fuel.



# Model 121A Diesel Fuel #2 / Water Separator

The Model 121A diesel fuel/water separator vessel is an industrial diesel fuel #2 filter vessel that utilizes Kaydon Filtration coalescing technology and particulate removal capabilities. The 121A removes damaging water and captures destructive particulates. Optionally, the 121A can be configured with either wall or floor mounting and a differential pressure gauge.

## Applications

Marine, Bus, and Truck Terminals  
Mining  
Agriculture  
Construction

Power Plants  
Railroad  
Airport Ground Equipment

## Features

Engine Protection

Clean Fuel Delivery

Longer Lasting On-Engine Filters

## Benefits

Protects fuel injection system, keeps diesel powered equipment in service; essential for Tier II, III, and IV engine technologies

Prevents premature replacement of components and revenue loss from equipment downtime resulting from contaminated fuel

Removes burden of contamination control from on-engine filters



## Specifications and Details

|                                 |   |  |
|---------------------------------|---|--|
| Flow Rate Range<br>Maximum Flow | 10 GPM<br>38 LPM  |  |
| Materials of Construction       | Metals: Aluminum<br>Elastomers: Buna-N<br>Exterior Coating: Epoxy |  |
| Inlet/Outlet Connection         | Type: NPT<br>Inlet = 1.5 inch<br>Outlet = 1.5 inch                |  |
| Dimensions                      | 9.25" L x 9" W x 28" H<br>235mm x L x 230mm W x 715mm H           |  |
| Weight (approximate)            | 23 lbs. / 10.5 kgs.   |  |
| Maximum Operating Pressure      | 200 PSIG @ 250° F / 14.0614 kg/cm <sup>2</sup> at 121.11° C       |  |
| Operating Temperature Range     | 32° F - 120° F / 0° C - 49° C                                     |  |
| Fluid Compatibility             | Diesel Fuel #2 at Fuel Temperature > 50° F / 10° C                |  |
| Performance                     | Particulate   | ISO Cleanliness Code 18/16/13 <sup>1</sup>   |
|                                 | Water   | Removal to less than 130 ppm <sup>2</sup><br>(Exceeds ASTM D975 Diesel Fuel Specification <sup>3</sup> ) |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17.

2. Total Water content (free, emulsified and dissolved) as measured by ASTM D6304-04 (Karl Fischer method).

3. Limit= .050 maximum water/sediment, units = % volume (free and emulsified water only). Test method ASTM D2709: Water and Sediment in Middle Distillate Fuels by Centrifuge.

All design specifications are subject to change without notice.





## Model 851E Series Diesel Fuel / Water Separators

The Model 851E series of fuel/water separator vessels are industrial diesel fuel #1 and #2 filter vessels that utilize Kaydon Filtration coalescing technology and particulate removal capabilities. They remove damaging water and capture destructive particulates. The 851E series has a particulate performance rating of ISO Cleanliness Code < 18/16/13<sup>1</sup> and water removal to less than 130 ppm<sup>2</sup>.

The 851E series protects the fuel injection system and removes the burden of contamination control from the on-engine filters. They offer clean fuel delivery, preventing premature replacement of components and revenue loss from equipment downtime resulting from contaminated fuel.

The 851E series of fuel/water separator vessels can be configured with a wide array of options such as an automatic water drain, automatic air release, differential pressure gauge and pressure relief valve. Contact Kaydon technical support for more information on these available options.

### Applications

Mining  
Oil and Gas  
Agriculture  
Construction  
Power Plants

Railroad  
Airport Ground Equipment  
Marine  
Bus  
Truck Terminals

### Features

Engine protection

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Longer lasting on-engine filters

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Water removal efficiency exceeds ASTM D975 Diesel Fuel #2 Specification

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### Benefits

Protects fuel injection system, keeping diesel powered equipment in service; essential for Tier II, III, and IV engine technologies

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Removes burden of contamination control from on-engine filters

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Maximizes uptime for diesel powered equipment

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## Specifications and Details

|   |  |                  |                  |                        |  |
|---|--|------------------|------------------|------------------------|--|
| Maximum Flow with CI-3520P<br>Note: Not applicable for biodiesel blends greater than B20  | Model #  | gpm              | lpm              | Diesel Fuel Type       |  |
|   | 851E-3   | 60               | 230              | Petroleum diesel to B1 |  |
|   | 851E-3   | 54               | 205              | B2 - B9                |  |
|   | 851E-3   | 45               | 170              | B10- B20               |  |
|   | 851E-5   | 100              | 380              | Petroleum diesel to B1 |  |
|   | 851E-5   | 90               | 340              | B2 - B9                |  |
|   | 851E-5   | 75               | 285              | B10- B20               |  |
|   | 851E-10  | 200              | 757              | Petroleum diesel to B1 |  |
|   | 851E-10  | 180              | 680              | B2 - B9                |  |
|   | 851E-10  | 150              | 570              | B10- B20               |  |
| Environmental Parameters  | Minimum Temperature: -20° F / -29° C Note: If below 32° F / 0° C, end user is responsible for insulation or heat tracing for water accumulation area.<br>Maximum Temperature: 120° F / 49° C |                  |                  |                        |  |
|   | Materials of Construction<br>Metals: Carbon Steel, Bronze, Stainless Steel<br>Elastomers: Viton<br>Exterior and Interior Paint: Epoxy  |                  |                  |                        |  |
|   | Inlet/Outlet Connection<br>(150 lb. RF Flange, NPT is available for 851E-3 and 851E-5)   | Model #          | Inlet            | Outlet                 |  |
|   |  | 851E-3 / 851E-5  | 2 inches         | 2 inches               |  |
| 851E-10   |  | 3 inches         | 3 inches         |                        |  |
| 851E-16   | 4 inches   | 4 inches         |                  |                        |  |
| Maximum Operating Pressure  | 150 PSIG / 10.3 BAR  |                  |                  |                        |  |
| Fluid Compatibility   | Diesel Fuel #1 & # 2 and Biodiesel Blends up to B20 at Fuel Temperature > 50° F / 10°C   |                  |                  |                        |  |
| Weight (dry - approximate)<br>Note: Add 30 lbs. (13.6 kgs) for optional automatic water drain   | Model #  | lbs.             | kgs.             |                        |  |
|   | 851E-3   | 210              | 95               |                        |  |
|   | 851E-5   | 330              | 150              |                        |  |
|   | 851E-10  | 440              | 200              |                        |  |
|   | 851E-16  | 550              | 250              |                        |  |
| Dimensions<br>Note: Add 4 inches (101.6 mm) to the 851-3 and -5 length and 6 inches (152 mm) to the 851E-10 and -16 length for optional automatic water drain | Model #  | Inches L x W x H | mm L x W x H     |                        |  |
|   | 851E-3   | 17 x 24 x 42     | 435 x 610 x 1065 |                        |  |
|   | 851E-5   | 20 x 27 x 42     | 510 x 685 x 1065 |                        |  |
|   | 851E-10  | 28 x 26 x 68     | 711 x 660 x 1730 |                        |  |
|   | 851E-16  | 28 x 27 x 68     | 711 x 685 x 1730 |                        |  |

1. As measured with inline automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17 (2) Total Water content (free, emulsified and dissolved) as measured by ASTM D6304-04 (Karl Fischer method)  
 All design specifications are subject to change without notice.

# PARTICULATE FILTER ASSEMBLIES

Duplex filters are installed directly into the hydraulic line and utilize a manual selector valve to reroute the flow of hydraulic fluid between two filter elements making it possible to change hydraulic filter elements without machine shutdown. FG Fluid Solution's patented design of the selector valve allows for single-hand control and smooth operation. The FG duplex selector valve is known throughout the world for its robustness and ease of use. The duplex filter design allows the filter to do its job during scheduled maintenance without interruption to hydraulic flow when a critical operational shutdown is unacceptable.

FG Fluid Solutions Automatic Filters are capable of self-cleaning without interrupting the filtration process, making these units extremely useful in a large number of industries. The filter is cleaned either when a preset differential pressure limit is reached or after a specified cycle time elapses. Cleaning is accomplished by rotating the filter against a spring actuated scraper or exerting a back-flushing pressure onto the filter.



# Duplex Filters

Duplex filters for hydraulic and lubrication systems are designed for use in circulating lube oil systems and hydraulic power units, such as found in pulp and paper mills, steel and aluminum mills, refineries and chemical plants, mining, power generation and other industrial locations. The filter elements can easily be changed during operation with a simple turn of our ergonomically designed handle. A special lever in the handle allows switching and pressure compensation with one hand. Thanks to this patented one-hand switch, the system can continue to run without interruption. When filter elements need to be replaced, a standard maintenance indicator signals the production floor. In continuous running filter systems, the elements can be removed and replaced in one filter housing while the other filter housing takes over. In larger filter systems, the elements can be removed from the top. The systems meet the highest demands in terms of ergonomics and economy.

## Applications

Circulating lube oil systems

Hydraulic power units

## Features

Duplex construction

Patented one-hand switch for changing filters

## Benefits

Enables continuous operation at the highest performance level

Filter elements can be changed without interrupting operation



Available in an assortment of pressures and configurations. For more information contact technical services at 1.800.241.2342.

## Self-Cleaning Automatic Filters

To remain competitive, companies across all industries need production processes that maintain the strictest quality standards and fully utilize their production capacities. The constant ingress of particles during process manufacturing requires an automatic filtration system for continuous particle removal.

Self-cleaning automatic filters from Filtration Group allow high-performance, economical filtration of liquids, pastes, and similar substances, to ensure optimal product quality and keep production running smoothly. The self-cleaning function of FG Fluid Solutions automatic metal-edge filters and backflush filters runs without interrupting the filtration operation.

### Applications

Cooling Tower

Water Treatment

### Features

Optional integrated prefiltration

Optional design available for high temperatures up to 750° F / 400° C

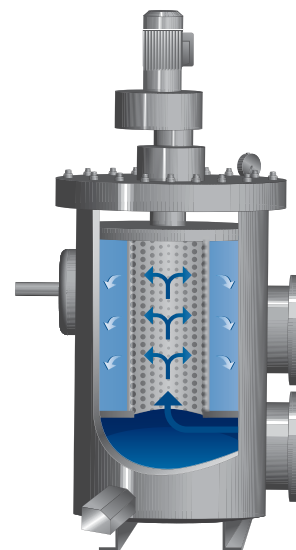
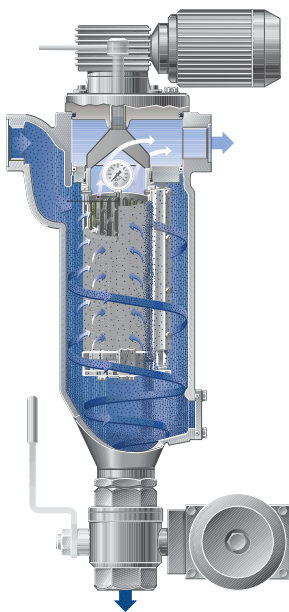
Volume flow rates up to 4,000 gpm / 900 m<sup>3</sup> / h

### Benefits

Removes coarse particles and foreign objects

Ideal for harsh environments

Customizable for your application



Available in an assortment of pressures and configurations. For more information contact technical services at 1.800.241.2342.

## FG Fluid Solutions

FG Fluid Solutions automatic metal-edge filters provide efficient mechanical cleaning of the filter surface. Rugged FG Fluid Solutions metal-edge filter elements made from triangular stainless steel wire on a robust core element are used as filter media. Automatic metal-edge filters are ideally suited for low- to high-viscosity liquids and pastes, and can also be used reliably at higher operating pressures and filter ratings >100 µm.

### FG Fluid Solutions Automatic Backflush Filters

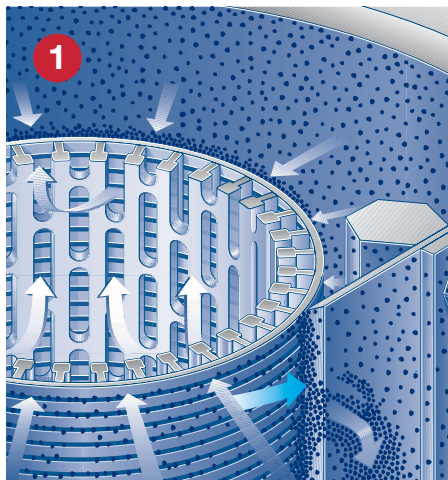
FG Fluid Solutions automatic backflush filters will reliably clean the filter surface by means of temporary or partial reverse flow. The backflush filters provide efficient filter cleaning without interrupting filtration. High-quality, asymmetric filter media made of multilayer stainless steel wire mesh on a robust core element is used for this purpose.





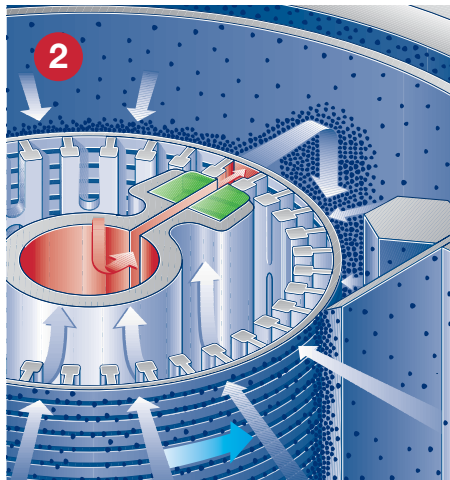
# Self-Cleaning Automatic Filters

## Operating principles of the FG Fluid Solutions Self-Cleaning Automatic Filters



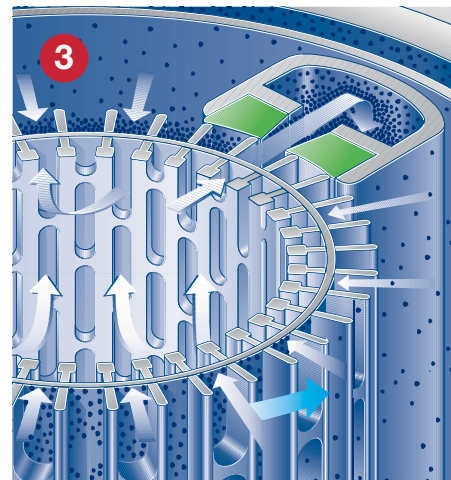
**01 AF 7x automatic metal-edge filter with radial scraper cleaning**  
**AF 9x automatic metal-edge filter with additional integrated prefiltration function**

Continuous cleaning is achieved by rotating of the filter element against a spring-mounted scraper. Particles and agglomerates are lifted off the surface and fall into the collector cone, which is then emptied via the drain valve.



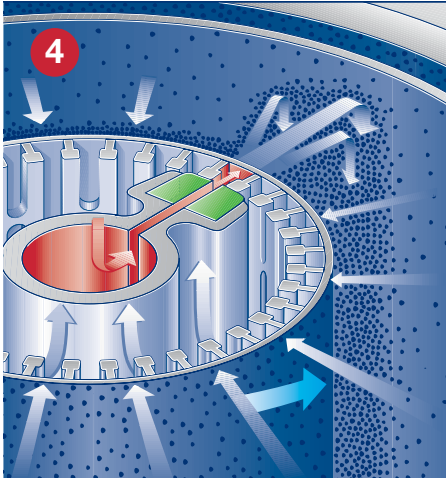
**02 AF 15x automatic metal-edge and backflush filter with radial scraper cleaning and external pressure cleaning**

Continuous cleaning is achieved by rotating the filter element past a spring-mounted scraper and backflushing pressure head. As the filter turns, the backflushing head creates a pressure against the surface. The collected particulate material is lifted off the surface and falls into the collector cone, which is then emptied via the drain valve.



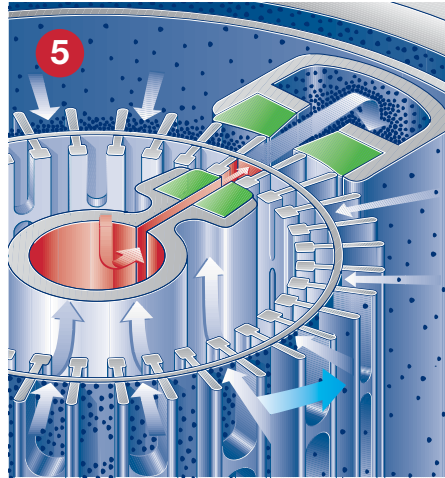
**03 AF 11x automatic backflush filter with internal pressure cleaning and integrated prefiltration function**

Continuous cleaning is achieved by rotating the filter element and backflushing the filter element with the filtrate. For efficient backflushing, there must be an operating overpressure on the outlet side. The collected particulate material is carried off via the scavenging channel. Coarse particles are removed from the collector cone via the drain valve.



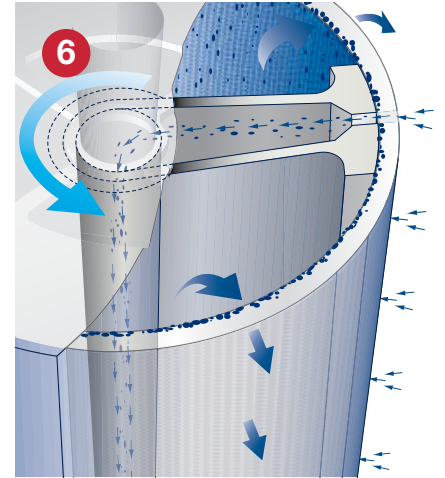
**04 AF 13x automatic backflush filter with external pressure cleaning**

Continuous cleaning is achieved by rotating the filter element while backflushing the element segment-by-segment with externally supplied pressure. The collected particulate material is rinsed from the surface and falls into the collector cone, which is then emptied via the drain valve.



**05 AF 17x automatic filter with external pressure cleaning and integrated prefiltration function**

Continuous cleaning is achieved by rotating the filter element while backflushing the element segment-by-segment with an externally supplied pressure source. The collected particulate material is carried off via the scavenging channel. Coarse particles are removed from the collector cone via the drain valve.



**06 Rx automatic backflush filter with internal pressure cleaning**

Continuous cleaning is achieved by rotating the rinsing nozzle and backflushing the filter element with the filtrate. For efficient backflushing, there must be an operating overpressure on the outlet side. The collected particulate material is carried off via the rinsing nozzle and rinsing valve.

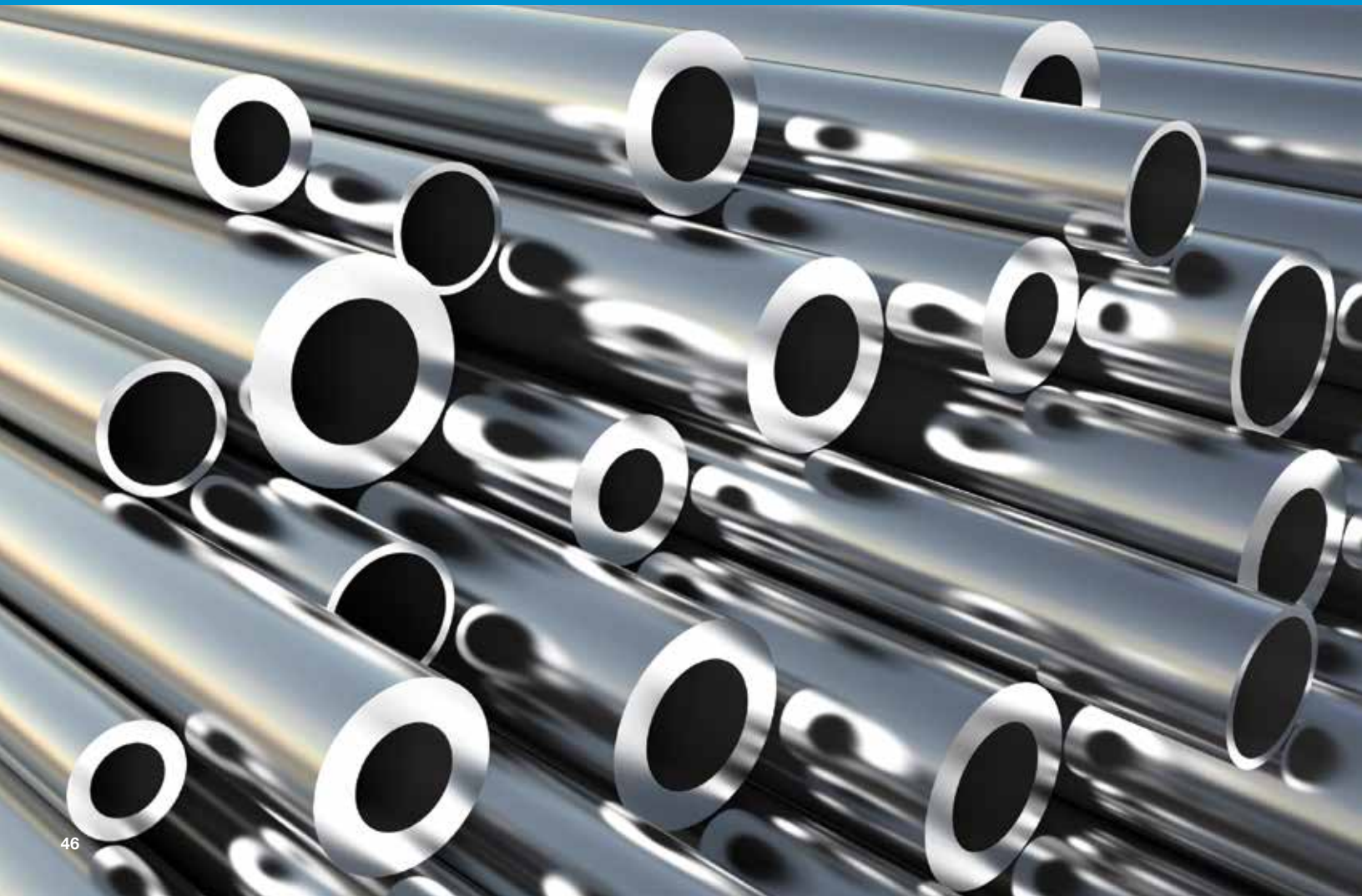


# PORTABLE CART SYSTEMS

Kaydon offers a number of portable systems for turbine oil conditioning and hydraulic oil filtration.

The portable KLP and KP oil filtration systems are rugged, heavy-duty industrial oil filtration systems that provide an easy solution for off-line oil filtration service for contained oil in a lube or hydraulic oil reservoir.

The KLP, KP600 Series, KP-2AL Series, and KHF-FC Series of portable purification carts offer simple filtration solutions for servicing of multiple oil reservoirs.





## Innovative Turbine Oil Conditioning

TURBO-TOC® turbine oil conditioning systems support long-term turbine operation and significantly reduce the probability of failures or unscheduled maintenance due to contaminated turbine oil.

A major factor in turbine oil reliability is the control and removal of undesired particulate and water. When contamination invades turbine oil, protection of the turbine bearing and journal surfaces are placed at risk and turbine performance is jeopardized.

The KLP TURBO-TOC turbine oil conditioning system's portability provides as-needed oil conditioning for a selected oil reservoir during equipment uptime, and adds additional benefit during shutdown by quickly preparing the turbine oil for equipment start-up. After the system has removed the water from the turbine oil, it will accumulate in the coalescer vessel. When it has accumulated to a preset level, the automatic water drain will discharge the water from the system.

The KLP series is equipped with a prefilter vessel containing a pleated, multi-layered micro-fiberglass filter for ultra-fine particle removal and long element life. Particulate filtration is rated at Beta (5.1)=1000 per ISO 16889. An installation kit including one suction hose (10'), discharge hose (10'), and power cable (15') is provided with each KLP system.

The KLP Series uses the same filter media and technology as the proven KL Series TURBO-TOC Turbine Oil Conditioners and is capable of meeting ISO Cleanliness Code 15/13/11. The KLP Series may be installed on a single reservoir or moved between multiple turbine oil reservoirs.

## Applications

Turbine Lube Oil

### Features

Portability

Contributes to dependable turbine operations

Differential Pressure Gauge

Sample port included

Automatic air valve

Sight glass

Automatic water drain

### Benefits

Portability allows the system to be shared between multiple turbine oil reservoirs

Contributes to dependable turbine operations and helps reduce turbine rotating component failures

Differential Pressure Gauge designed to monitor restriction of flow caused by contaminants and indicates remaining coalescer and separator element life

Sample port included to take bottle samples for oil quality analysis

Automatic air valve release allows for removal of trapped air

Sight glass provides visual indication of the accumulated water separated from turbine oil

Automatic water drain removes separated water

# KLP Series Portable TURBO-TOC® Turbine Oil Conditioning Systems



## Specifications and Details

|                           |   |
|---------------------------|---|
| Available Flow Rates      | 3 gpm or 5 gpm  |
| Sizing                    | Up to 600 gallons   |
| System Pressure           | 100 PSIG / 7 BAR (maximum)  |
| Environmental Parameters  | Minimum Ambient Temperature: 32° F / 0° C<br>Maximum Ambient Temperature: 104° F / 40° C  |
| Operating Voltage         | 3 gpm; 120 VAC / 1 PH / 60 Hz / 10 amps<br>3 gpm; 460 VAC / 3 PH / 60 Hz / 1.1 amps<br>5 gpm; 460 VAC / 3 PH / 60 Hz / 2.1 amps |
| Materials of Construction | Metals: Carbon Steel<br>Elastomers: Buna-N<br>Paint: Epoxy (Kaydon Blue)  |
| Pressure Vessel           | Carbon Steel  |
| Inlet/Outlet Connections  | Type: NPT<br>Inlet: 3/4 inch / 19.05 mm<br>Outlet: 1/2 inch / 12.7 mm   |
| Pump/Motor Assembly       | Pump Type: gear - positive displacement<br>3 gpm: 1/2 HP / 5 gpm: 3/4 HP  |
| Fluid Compatibility       | ISO 32, ISO 46, and ISO 68 mineral base turbine oil   |
| Filter Stages             | 1st Stage: 30 mesh pump protection strainer<br>2nd Stage: particulate removal<br>3rd Stage: water removal                       |
| Performance               | Particulate: ISO Cleanliness Code 15/13/11 <sup>1</sup><br>Water: removal to less than 100 ppm <sup>2</sup>                     |
| Weight (approximate)      | 400 lbs   |
| Dimensions (inches)       | 42.5 L x 27 W x 44 H  |



## Additional Options

**Oil Heater** - One of the cornerstones of coalescing technology is to have the oil at the correct temperature for water removal. The addition of an optional oil heater assembly helps the coalescing process at start up by reducing the time to bring up the oil temperature when the oil is less than 100° F. The oil heater also adds supplemental heat to increase the bulk reservoir oil temperature. The oil heater includes a temperature controller and flow switch.

**Water Meter** - measures and records the water removed from the turbine oil

## Available Models\*

| Part Number | Description              |
|-------------|--------------------------|
| KLP-3-120   | 3 gpm; 120V single phase |
| KLP-3-460   | 3 gpm; 460V three phase  |
| KLP-5-460   | 5 gpm; 460V three phase  |

\*Manual Drain Versions, Explosions Proof Versions and other Voltages are available. Contact manufacturer for order details.

## Consumables

| Part Number  | Description                            |
|--------------|--|
| C220270      | Coalescer Element<br>(Qty Req'd = 2)   |
| C220271      | Separator Element<br>(Qty Req'd = 1)   |
| A629018      | Coalescer Vessel Lid Seal <sup>3</sup> |
| KMP9600AKF8B | Prefilter                              |
| 980-SEAL KIT | Prefilter Vessel Seal                  |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17
  2. Total Water content (free, emulsified and dissolved) as measured by ASTM D6304-04 (Karl Fischer method)
  3. Required for element change
- All design specifications are subject to change without notice.



## KHF-FC-3, 5, and 10 Portable Oil Filtration Carts

For use in smaller capacity batch oil filtration processing of turbine oil, hydraulic oil, and gear oil reservoirs, Filtration Group's Kaydon KHF-FC series is an alternative portable filter cart for oil reservoirs ranging from 50 to 300 gallons capacity. The KHF-FC series of portable oil filtration carts are designed to reduce system wear due to contaminated oil, reduce oil disposal costs, improve equipment reliability by reducing oil contamination and extend oil life. When the KHF-FC series are used at regular intervals oil cleanliness levels are maintained.

The ergonomically balanced, two-wheeled portable cart is easily maneuvered and positioned in and out of place by the pull handle. The KHF-FC series is designed to be user friendly with a simple ON/OFF operation switch and color coded gauges for determining remaining filter element life. Weighing approximately 150 pounds, each cart is equipped with two spin-on Kaydon Filtration elements, mounted in series flow and connected to a ten foot clear braided suction hose and ten foot clear braided discharge hose. The KHF-FC carts measure 24" L x 24" W x 48" H allowing for convenient storage when not in use.

The KHF-FC series can be custom configured with 1, 3, 6, 12, or 25 micron elements rated to Beta=200 as well as water absorptive elements.

### Applications

Turbine Oil  
Hydraulic Oil  
Gear Oil Reservoirs

### Features

Oil drip catch basin

Two-stage series filtration

10-foot retractable power cord with 120 VAC plug

### Benefits

Prevents a messy oil clean-up by catching oil spillage during element change-out

Provides cleaner oil with high efficiency two-stage filtration

Easily maneuvered and positioned for use with multiple oil reservoirs



## Specifications and Details

|                                 |  |                    |               |
|---------------------------------|--|--------------------|---------------|
| Flow Rate Range<br>Maximum Flow | Part #   | gpm                | lpm           |
|                                 | KHF-FC-3   | 3                  | 11            |
|                                 | KHF-FC-5   | 5                  | 19            |
|                                 | KHF-FC-10  | 10                 | 36            |
| Environmental Parameters        | Minimum Ambient (outside) Temperature: 32° F / 0° C<br>Maximum Ambient (outside) Temperature: 113° F / 45° C |                    |               |
| Operating Voltage               | 120V / 1PH / 60 HZ / 14 amp  |                    |               |
| Materials of Construction       | Metals: Aluminum<br>Elastomers: Buna-N<br>Exterior Coating: Epoxy  |                    |               |
| Inlet/Outlet Connection         | Part #   | Inlet              | Outlet        |
|                                 | KHF-FC-3   | 1 inch NPTM        | 3/4 inch NPTM |
|                                 | KHF-FC-5   | 1 inch NPTM        | 3/4 inch NPTM |
|                                 | KHF-FC-10  | 1.5 inch NPTM      | 1 inch NPTM   |
| Maximum Operating Pressure      | 50 PSIG  |                    |               |
| Operating Temperature Range     | 32° F - 104° F / 0° C - 40° C  |                    |               |
| Fluid Compatibility             | Part #   | Mineral Based Oils |               |
|                                 | KHF-FC-3   | ≤ ISO 460          |               |
|                                 | KHF-FC-5   | ≤ 220 SSU (ISO 46) |               |
|                                 | KHF-FC-10  | ≤ 220 SSU (ISO 46) |               |
| Weight (approximate)            | 150 lbs. / 68 kgs.   |                    |               |
| Dimensions                      | 24" L x 24" W x 48" H / 610mm L x 610mm W x 1220mm H   |                    |               |

All design specifications are subject to change without notice.



## KP6 Series Portable Oil Filtration Carts

Equipment protection from contaminated oil is a must in every industry. Filtration Group's Kaydon Filtration understands that downtime and equipment failure are the ultimate enemy in any profitable business. Kaydon Filtration has developed application-specific filtration technologies to provide reliable, effective, long-term equipment protection against contaminated oil. Portable filtration systems from Kaydon Filtration are designed rugged and compact while providing versatility and mobility in oil filtration. The KP618-5, KP636-5, and KP636-10 portable oil filtration systems significantly reduce the probability of oil-related mechanical failures, equipment unavailability, and unscheduled maintenance costs due to contaminated oil.

The portable hand-truck style KP6 series offers a high-capacity offline filtration system for use with petroleum-based fluid reservoirs up to 600 gallons. Kaydon Filtration KAYMAX® filtration elements are offered for particulate removal, and if water removal is desired, a KQD KAYDRI® element is available.

The KP6 series is available in a variety of voltage options as well as explosion-proof and customized flow rates.

### Applications

Offline Oil Filtration  
Petroleum Based Fluids

### Features

Two-wheeled portable cart  
NEMA 4 Environmental Rating  
Color-coded differential pressure gauge

### Benefits

Easily maneuvered and positioned for use with multiple oil reservoirs  
Moisture-proof and dust-proof  
Visual indicator shows green for additional element life and red at 25 psid/1.7 bar when the element should be replaced





## Specifications and Details

|                                 |  |                                  |                  |
|---------------------------------|--|----------------------------------|------------------|
| Flow Rate Range<br>Maximum Flow | Part #   | gpm                              | lpm              |
|                                 | KP618-5  | 5                                | 19               |
|                                 | KP636-5  | 5                                | 19               |
|                                 | KP636-10   | 10                               | 38               |
| Environmental Parameters        | Minimum Ambient (outside) Temperature: 32° F / 0° C<br>Maximum Ambient (outside) Temperature: 104° F / 40° C |                                  |                  |
| Operating Voltage               | Part #   | Standard                         |                  |
|                                 | KP618-5  | 120 VAC / 1 PH / 60 HZ / 16 amps |                  |
|                                 | KP636-5  | 120 VAC / 1 PH / 60 HZ / 16 amps |                  |
|                                 | KP636-10   | 120 VAC / 1 PH / 60 HZ / 26 amps |                  |
| Pump/Motor Assembly             | Part #   | Positive Displacement (gear)     |                  |
|                                 | KP618-5  | .75 HP                           |                  |
|                                 | KP636-5  | .75 HP                           |                  |
|                                 | KP636-10   | 2 HP                             |                  |
| Materials of Construction       | Metals: Carbon Steel, Bronze, Stainless Steel<br>Elastomers: Buna-N  |                                  |                  |
| Inlet/Outlet Connection         | Part #   | Inlet                            | Outlet           |
|                                 | KP618-5  | 3/4 inch NPT                     | 3/4 inch NPT     |
|                                 | KP636-5  | 3/4 inch NPT                     | 3/4 inch NPT     |
|                                 | KP636-10   | 3/4 inch NPT                     | 3/4 inch NPT     |
| Dimensions                      | Part #   | Inches (L x W x H)               | mm (L x W x H)   |
|                                 | KP618-5  | 30 x 24 x 36                     | 760 x 610 x 915  |
|                                 | KP636-5  | 30 x 24 x 54                     | 760 x 610 x 1370 |
|                                 | KP636-10   | 30 x 24 x 54                     | 760 x 610 x 1370 |
| Weight (approximate)            | Part #   | lbs.                             | kg               |
|                                 | KP618-5  | 180                              | 82               |
|                                 | KP636-5  | 215                              | 98               |
|                                 | KP636-10   | 215                              | 98               |
| Maximum Operating Pressure      | 100 PSIG / 7 kg/cm <sup>2</sup>  |                                  |                  |
| Fluid Compatibility             | Petroleum Based Fluids (maximum viscosity = ISO 460 @ 100° F)  |                                  |                  |

All design specifications are subject to change without notice.





## KP-2-2AL and KP-5-2AL Series Portable Oil Filtration Carts

The KP-2-2AL and KP-5-2AL oil filtration systems from Filtration Group's Kaydon Filtration provide versatility in oil filtration in a rugged, compact, portable and lightweight cart design. The design of the KP-2-2AL or KP-5-2AL provides equipment protection from contaminated oil to any oil reservoir up to 500 gallons/1,900 liters that needs cleaning by easily moving it to the specific oil reservoir. Kaydon Filtration KAYMAX® technology elements are offered for particulate removal, and if water removal is desired, the KQD KAYDRI® water absorbing element is available.

The KP-2-2AL and KP-5-2AL oil filtration systems maximize uptime and extend component life by supporting long-term equipment operation and significantly reducing the probability of oil related failures or unscheduled maintenance due to contaminated oil. The KP-2-2AL and KP-5-2AL help protect components, increase oil life, reduce mechanical failures, equipment unavailability, and maintenance costs due to contaminated oil.

The KP-2-2AL and KP-5-2AL carts are available as an explosion proof system, as well as in a variety of voltage options.

### Applications

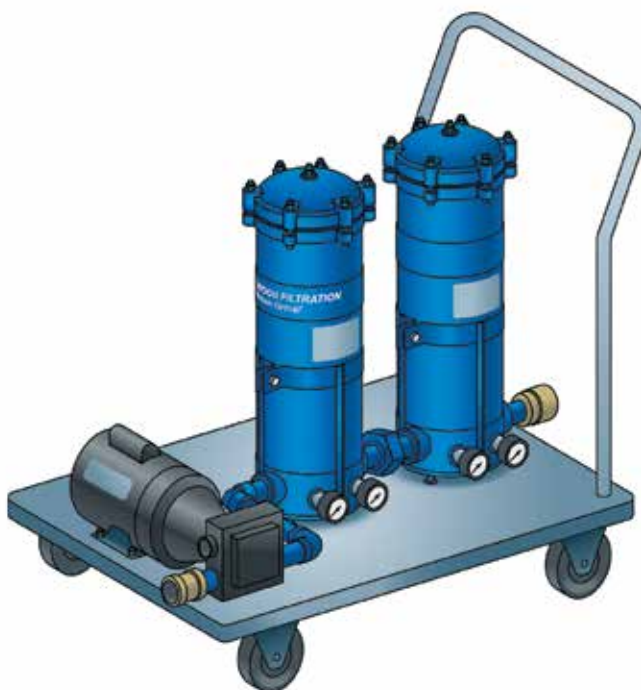
Offline Oil Filtration  
Gear Oil Reservoirs  
Hydraulic Oil

### Features

Two-Stage Filtration  
NEMA 4 Environmental Rating

### Benefits

Series filtration increases oil cleanliness and reduces oil disposal costs  
Moisture-proof and dust-proof to protect components and increase oil life



## Specifications and Details

|                                 |   |  |                          |
|---------------------------------|---|--|--------------------------|
| Flow Rate Range<br>Maximum Flow | Part #  | gpm  | lpm                      |
|                                 | KP-2-2AL<br>KP-5-2AL  | 2<br>5   | 8<br>19                  |
| Environmental Parameters        | NEMA 4 / IP54<br>Minimum Ambient (outside) Temperature: 32° F / 0° C<br>Maximum Ambient (outside) Temperature: 104° F / 40° C |  |                          |
| Operating Voltage               | Part #  | Standard   |                          |
|                                 | KP-2-2AL<br>KP-5-2AL  | 120 VAC / 1 PH / 60 HZ / 7.6 amps<br>120 VAC / 1 PH / 60 HZ / 9.8 amps |                          |
| Pump/Motor Assembly             | Part #  | Positive Displacement (gear)   |                          |
|                                 | KP-2-2AL<br>KP-5-2AL  | .33 HP<br>.50 HP   |                          |
| Materials of Construction       | Metals: Aluminum, Bronze, Stainless Steel<br>Elastomers: Buna-N<br>Paint: Epoxy   |  |                          |
| Pressure Vessels                | Aluminum  |  |                          |
| Inlet/Outlet Connection         | Part #  | Inlet (male)   | Outlet (female)          |
|                                 | KP-2-2AL<br>KP-5-2AL  | 1 inch NPT<br>1 inch NPT   | 1 inch NPT<br>1 inch NPT |
| Maximum Operating Pressure      | 100 PSIG / 7 kg/cm <sup>2</sup>   |  |                          |
| Operating Temperature Range     | 32° F - 104° F / 0° C - 40° C   |  |                          |
| Fluid Compatibility             | Mineral Based Oils (maximum viscosity = ISO 220)  |  |                          |
| Performance                     | Less than 18/16/13 <sup>1</sup> ISO Cleanliness Code<br>Note: Both vessels are pre-installed with an 11 micron filter element |  |                          |
| Weight (approximate)            | 125 lbs / 57 kgs  |  |                          |
| Dimensions                      | 36"L x 24"W x 41"H / 915mm L x 610mm W x 1050mm H   |  |                          |

1. As measured with in-line automatic particle monitor calibrated to ISO 11171 and influent no greater than ISO 22/19/17.  
 All design specifications are subject to change without notice.



# ELEMENTS

For more than 75 years, Kaydon Filtration has been an expert at providing state-of-the-art filtration technology for lube oil, hydraulic oil, diesel fuel, and other hydrocarbon fluids. The multi-layered design of our filter elements delivers exceptional particle retention and extended element life. Our filtration, coalescer, and water-absorbing elements are designed to help meet the expected fuel life while combining performance and cost effectiveness.

Take a look at Kaydon's elements to learn how they can work in your application:

- TURBO-TOC® turbine oil conditioning systems utilize a unique set of filter elements to treat particulate and water contamination.
- KAYMAX® filtration elements use an inert, fixed pore, impregnated fiber matrix media for maximum strength and increased dirt capacity.
- KAYFLO™ (KF) filter elements are used for general purpose and Model KB filter elements are used for basic purpose industrial oil and fuel applications.
- KAYDRI® (KQD) water removal filter elements are designed to remove water, by using absorption, from lube oil, hydraulic oil, and diesel fuel.
- *PulseShield™* Hydraulic Fluid Filters provide increased dirt-holding capacity by as much as 30% in comparison to conventional filter elements.
- The Model KM 7500 filter elements are used for critical industrial oil and fuel applications.
- The Model CI coalescer elements are used with HF-FC series portable oil filtration carts for water separation and filtration of diesel fuels.
- Kaydon Fuel Filter Element Separators are designed and constructed with special hydrophobic materials to provide a barrier to water coalesced with Kaydon Filtration CI coalescer elements.



TURBO-TOC® turbine oil conditioning elements are used exclusively with TURBO-TOC Turbine Oil Conditioning systems. They are designed and constructed to produce exceptionally clean and dry turbine oil. Used with the TURBO-TOC system, the combination of Kaydon's filtration, coalescer, and separator elements provide unmatched particle removal and unsurpassed water removal.

The TURBO-TOC prefilter and postfilter elements' filtration media uses inert fibers that stay joined with special bonding agents that are not affected in lube oil. The fibers of both elements maintain a fixed pore structure throughout its filtration service life and are configured to create a high surface collection area. The TURBO-TOC coalescer element is designed and constructed with a high surface area, multi-layered fiberglass fibers for high-efficiency water removal. The combined separator and post-filtration element provides water separation properties and final particulate filtration.

## Applications

Turbine Oil

## Features

Inert inorganic bonded fixed-pore dual phase fibers

Micro-fiberglass medias with uniform pleating

Cost-effective solution for critical oil and fuel filtration applications

ISO 16889 Tested

## Benefits

TURBO-TOC element's provide exceptional particle removal with efficiencies that meet or surpass stated micron ratings

Higher dirt holding capacity and particle collection

The TURBO-TOC elements deliver high-filtration performance that positively impacts the element life, change-out frequencies, oil cleanliness levels, and equipment reliability

Proven performance using the ISO Multi-Pass test method for Evaluating Hydraulic and Lube Oil Filtration Elements





# TURBO-TOC® Series Elements

## Specifications and Details

|                             |   |            |              |                    |
|-----------------------------|---|------------|--------------|--------------------|
| Terminal Pressure           | Part #  | Type       | psid         | kg/cm <sup>2</sup> |
|                             | K1100   | Filtration | 25           | 1.7                |
|                             | K2100   | Coalescer  | 15           | 1.0                |
|                             | K3100   | Separator  | 15           | 1.0                |
| Collapse Rating             | 75 psid / 5.2 bar   |            |              |                    |
| Materials of Construction   | Metals: Inner and Outer Spiral Steel Jacket, Teflon coated stainless steel<br>Elastomers: Buna-N<br>Filter Media: Dual-Phase Micro and Macro Fiberglass Filter Media<br>Epoxy: Adhesive |            |              |                    |
| Operating Temperature Range | 32° F - 200° F / 0° C - 93° C   |            |              |                    |
| Fluid Compatibility         | Mineral Based Turbine Oils (ISO 32, 46, and 68)   |            |              |                    |
| Weight (approximate)        | Part #  | Type       | lbs.         | kgs.               |
|                             | K1100   | Filtration | 13           | 5.89               |
|                             | K2100   | Coalescer  | 9            | 4.08               |
|                             | K3100   | Separator  | 8            | 3.63               |
| Dimensions                  | Part #  | Type       | Inches D x L | mm D x L           |
|                             | K1100   | Filtration | 6 x 36       | 152 x 914          |
|                             | K2100   | Coalescer  | 6 x 44       | 152 x 1,118        |
|                             | K3100   | Separator  | 6 x 28       | 152 x 711          |

1. Life cycle costing is the true cost associated with the use of a filter element. It takes into account cleanliness of oil, filter life, change-out frequencies, and operator involvement.

The cost of the filter element alone does not give a true evaluation of the overall cost.

2. Element tested per ISO 16889.

All design specifications are subject to change without notice.



KAYMAX fuel and oil filter elements are used for critical industrial oil and fuel applications. KAYMAX elements are designed and constructed with specially formulated, multi-layer micro-fiberglass fibers for exceptional particle retention and extended element life. KAYMAX filter elements maintain pleat integrity under high flow and high viscosity conditions providing exceptional particle removal efficiency that meets or surpasses the stated micron ratings.

Factors such as element life, oil cleanliness levels, equipment reliability, and reduction of oil-related failures all contribute to credible savings and productivity. KAYMAX filter elements provide an effective Life-Cycle Costing<sup>1</sup> that offers an effective solution for fuel and oil filtration applications where high performance is not only desired, but required.

## Applications

Industrial Mineral Base Oil  
Diesel Fuel Filtration

## Features

Inert inorganic bonded fixed-pore dual-phase fibers

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Micro-fiberglass medias with uniform pleating

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Cost-effective solution for critical oil and fuel filtration applications

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ISO 16889 Tested

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## Benefits

KAYMAX elements provide exceptional particulate removal with efficiencies that meet or surpass stated micron ratings

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Higher dirt-holding capacity and particle collection

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The KAYMAX elements deliver high filtration performance that positively impacts the element life, change-out frequencies, oil cleanliness levels, and equipment reliability

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Proven performance using the ISO Multi-Pass test method for Evaluating Hydraulic and Lube Oil Filtration Elements

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# KAYMAX® Series Fuel and Oil Filter Elements

## Specifications and Details

|   |   |              |                            |            |      |
|---|---|--------------|----------------------------|------------|------|
| Pressure Drop<br>(ISO 32 Turbine Oil @<br>100°F / 38°C) | Part #  | gpm          | lpm                        | psid       | BAR  |
|   | KM6018-02   | 50           | 189                        | 9          | 0.62 |
|   | KM6018-05   | 50           | 189                        | 7          | 0.48 |
|   | KM6018-2  | 50           | 189                        | 3          | 0.21 |
|   | KM6018-3  | 50           | 189                        | 3          | 0.21 |
|   | KM6018-8  | 50           | 189                        | 1          | 0.07 |
|   | KM6018-15   | 50           | 189                        | 1          | 0.07 |
|   | KM6036-02   | 100          | 378.5                      | 9          | 0.62 |
|   | KM6036-05   | 100          | 378.5                      | 7          | 0.48 |
|   | KM6036-2  | 100          | 378.5                      | 3          | 0.21 |
|   | KM6036-3  | 100          | 378.5                      | 3          | 0.21 |
|   | KM6036-8  | 100          | 378.5                      | 1          | 0.07 |
|   | KM6036-15   | 100          | 378.5                      | 1          | 0.07 |
| Terminal Pressure                                       | 25 psid / 1.7 kg/cm <sup>2</sup>  |              |                            |            |      |
| Collapse Rating   | 150 psid / 10 BAR   |              |                            |            |      |
| Micro Rating / Efficiency                               | Part #  | Part #       | Micron Rating <sup>2</sup> | Efficiency |      |
|   | KM6018-02   | KM6036-02    | 4.2                        | 99.9%      |      |
|   | KM6018-05   | KM6036-05    | 11.3                       | 99.9%      |      |
|   | KM6018-2  | KM6036-2     | 5.1                        | 99.9%      |      |
|   | KM6018-3  | KM6036-3     | 7.1                        | 99.9%      |      |
|   | KM6018-8  | KM6036-8     | 21.2                       | 99.9%      |      |
|   | KM6018-15   | KM6036-15    | 29.9                       | 99.9%      |      |
| Materials of Construction                               | Metals: Inner and Outer Spiral Steel Jacket<br>Elastomers: Buna-N<br>Filter Media: Inorganic Bonded Fixed-Pore Dual-Phase Fibers<br>Epoxy: Adhesive |              |                            |            |      |
| Operating Temperature Range                             | -20° F - 250° F / -28° C - 121° C   |              |                            |            |      |
| Fluid Compatibility                                     | Hydrocarbon Fluids  |              |                            |            |      |
| Weight (approximate)                                    | Part #  | lbs.         | kgs.                       |            |      |
|   | KM6018  | 7            | 3.2                        |            |      |
|   | KM6036  | 14           | 6.4                        |            |      |
| Dimensions  | Part #  | Inches D x L | mm D x L                   |            |      |
|   | KM6018  | 6 x 18       | 152 x 457                  |            |      |
|   | KM6036  | 6 x 36       | 152 x 914                  |            |      |

1. Life cycle costing is the true cost associated with the use of a filter element. It takes into account cleanliness of oil, filter life, change-out frequencies, and operator involvement.

The cost of the filter element alone does not give a true evaluation of the overall cost.

2. Element tested per ISO 16889.

All design specifications are subject to change without notice.

# KF Series Fuel and Oil Filter Elements

The KAYFLO™ Model KF filter elements are used for general purpose industrial oil and fuel applications. These elements are designed and constructed with specially formulated, resin-impregnated cellulose/synthetic pleated media. The KF elements provide excellent filtration efficiency and long element life. The KF elements offer a capable solution for oil and fuel filtration applications where performance combined with cost effectiveness is desired.

The KF elements utilize a combination of cellulose (paper) and synthetic fibers filter media to create consistent pore sizes and achieve a reliable micron rating, which allows for a more efficient filtration media than the inconsistent and random pore sizes associated with cellulose media alone. Cellulose media elements have larger diameter fibers which correlate to less porosity or space for the media to trap particles. The addition of the fibers to the cellulose media in the KF elements creates more porosity, thus creating more open spaces to hold particles and a higher dirt-holding capacity than cellulose media elements.

## Applications

Industrial Mineral Base Oil  
Diesel Fuel Filtration

## Features

- Consistent pore size

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- More porous media

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- Cost-effective solution for oil and fuel filtration applications

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- ISO 16889 Tested

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## Benefits

- Reliable micron rating and efficient filtration

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- Higher dirt-holding capacity

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- The KF6018-05 and KF6036-05 elements deliver filtration performance equivalent to other 5.1 micron (99.9% efficient) rated elements

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- Proven performance using the ISO Multi-Pass test Method for Evaluating Hydraulic and Lube Oil Filtration Elements

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# KF Series Fuel and Oil Filter Elements

## Specifications and Details

|  |   |                            |            |      |      |
|--|---|----------------------------|------------|------|------|
| Pressure Drop<br>(ISO 32 Turbine Oil @<br>104°F / 40°C; for other<br>flows and viscosities,<br>contact Kaydon<br>Filtration) | Part #  | gpm                        | lpm        | psid | BAR  |
|  | KF6018-05   | 25                         | 95         | 6    | 0.41 |
|  | KF6018-5  | 25                         | 95         | 2    | 0.13 |
|  | KF6018-10   | 25                         | 95         | 1.5  | 0.10 |
|  | KF6018-25   | 25                         | 95         | 1    | 0.07 |
|  | KF6036-05   | 50                         | 189        | 6    | 0.41 |
|  | KF6036-5  | 50                         | 189        | 2    | 0.13 |
| KF6036-10  | 50  | 189                        | 1.5        | 0.10 |      |
| Terminal Pressure  | 25 psid / 1.7 kg/cm <sup>2</sup>  |                            |            |      |      |
| Collapse Rating  | 100 psid / 6.9 BAR  |                            |            |      |      |
| Micro Rating / Efficiency  | Part #  | Micron Rating <sup>1</sup> | Efficiency |      |      |
|  | KF6018-05   | 3                          | 99.5       |      |      |
|  | KF6018-5  | 14                         | 99.5       |      |      |
|  | KF6018-10   | 22                         | 99.5       |      |      |
|  | KF6018-25   | 40                         | 99.5       |      |      |
|  | KF6036-05   | 3                          | 99.5       |      |      |
|  | KF6036-5  | 14                         | 99.5       |      |      |
| KF6036-10  | 22  | 99.5                       |            |      |      |
| Materials of Construction  | Metals: Electrogalvanized Tinplate<br>Elastomers: Buna-N<br>Filter Media: Cellulose/Synthetic Blend |                            |            |      |      |
| Operating Temperature Range  | -20° F - 250° F / -28° C - 121° C   |                            |            |      |      |
| Fluid Compatibility  | Hydrocarbon Fluids  |                            |            |      |      |
| Weight (approximate)   | Part #  | lbs.                       | kgs.       |      |      |
|  | KF6018  | 6                          | 2.7        |      |      |
|  | KF6036  | 12                         | 5.4        |      |      |
| Dimensions   | Part #  | Inches D x L               | mm D x L   |      |      |
|  | KF6018  | 6 x 18                     | 152 x 457  |      |      |
|  | KF6036  | 6 x 36                     | 152 x 914  |      |      |

1. Element tested per ISO 16889.

All design specifications are subject to change without notice.

# KB Series Fuel and Oil Filter Elements



The Model KB filter elements are designed to offer a solution for oil and fuel filtration applications when budget/cost factors are a consideration. They offer a 50% efficiency and are used for general purpose industrial oil and fuel applications. These elements are designed and constructed with specially formulated, resin-impregnated cellulose pleated media. The KB elements provide dependable particle retention and satisfactory element life.

## Applications

Industrial Mineral Base Oil  
Diesel Fuel Filtration

## Features

Reliable particle retention  
25% deeper and more pleats than competition  
Superior construction with a cost-efficient media

## Benefits

50% efficiency at 5 and 15 micron ratings  
Higher dirt-holding capacity  
Same quality element construction as a higher-priced elements, but with a cost efficient-media for general-purpose applications.



# KB Series Fuel and Oil Filter Elements

## Specifications and Details

|  |   |                            |            |      |      |
|--|---|----------------------------|------------|------|------|
| Pressure Drop<br>(ISO 32 Turbine Oil @<br>100°F / 38°C; for other<br>flows and viscosities,<br>contact Kaydon<br>Filtration) | Part #  | gpm                        | lpm        | psid | BAR  |
|  | KB6018-5  | 25                         | 95         | 4    | 0.28 |
|  | KB6018-15   | 25                         | 95         | 3    | 0.21 |
|  | KB6018-15W  | 25                         | 95         | 4    | 0.28 |
| Terminal Pressure  | 25 psid / 1.7 kg/cm <sup>2</sup>  |                            |            |      |      |
| Collapse Rating  | 100 psid / 6.9 BAR  |                            |            |      |      |
| Micro Rating / Efficiency  | Part #  | Micron Rating <sup>1</sup> | Efficiency |      |      |
|  | KB6018-5  | 5                          | 50%        |      |      |
|  | KB6018-15   | 15                         | 50%        |      |      |
|  | KB6018-15W  | 15                         | 50%        |      |      |
| Materials of Construction  | Metals: Electrogalvanized Tinplate<br>Elastomers: Buna-N<br>Filter Media: Cellulose |                            |            |      |      |
| Operating Temperature Range  | -20° F - 250° F / -28° C - 121° C   |                            |            |      |      |
| Fluid Compatibility  | Hydrocarbon Fluids  |                            |            |      |      |
| Weight (approximate)   | Part #  | lbs.                       | kgs.       |      |      |
|  | KB6018-XX   | 6                          | 2.7        |      |      |
| Dimensions   | Part #  | Inches D x L               | mm D x L   |      |      |
|  | KB6018-XX   | 6 x 18                     | 152 x 457  |      |      |

All design specifications are subject to change without notice.



# KAYDRI® Water-Absorbing Fuel and Oil Filter Elements



KAYDRI water removal filter elements are designed with quick-dry water absorptive technology to remove water by using absorption from lube oil, hydraulic oil and diesel fuel. KAYDRI elements offer an effective solution for removing trace amounts of water from industrial oils and diesel fuel, when a coalescing system, vacuum dehydration systems, or centrifugation equipment is not practical.

The KAYDRI elements are designed for a longer element life due to a high water holding capacity where the water is absorbed by the element but not released. The KQD6018-5 holds 0.5 gallons of water and the KQD6036-5 holds one gallon of water. The KAYDRI elements offer consistent water removal efficiency of 80% throughout the life of the element. In addition to water removal, the KAYDRI elements offer 5-micron particulate filtration.

## Applications

Industrial Mineral Base Oil  
Diesel Fuel Filtration

## Features

High water-holding capacity

Quick Dry water absorptive technology

Consistent water removal efficiency of 80% throughout the life of the element

## Benefits

Longer element life; KQD6018-5 holds 0.5 gallons of water and the KQD6036-5 holds one gallon of water

Water is absorbed and not released

Lube systems, hydraulic systems, and fueling systems consistently free of harmful water





# KAYDRI® Water-Absorbing Fuel and Oil Filter Elements

## Specifications and Details

|   |   |                  |                        |                                      |   |
|---|---|------------------|------------------------|--------------------------------------|---|
| Pressure Drop<br>(ISO 32 Turbine Oil @<br>100°F / 38°C for other<br>flows and viscosities,<br>contact Kaydon<br>Filtration) | Part #  | gpm              | lpm                    | psid                                 | BAR   |
|   | KQD6018-5<br>KQD6036-5  | 15<br>30         | 57<br>114              | 5<br>5                               | 0.35<br>0.35                                    |
| Terminal Pressure   | 20 psid / 1.4 kg/cm <sup>2</sup>  |                  |                        |                                      |   |
| Collapse Rating   | 100 psid / 6.9 BAR  |                  |                        |                                      |   |
| Micro Rating / Efficiency   | Part #  | Micron Rating    | Efficiency             | Water Removal<br>Efficiency per pass | Water Holding Capacity                          |
|   | KQD6018-5<br>KQD6036-5  | 5<br>5           | 90%<br>90%             | 80%<br>80%                           | .5 gallon / 1.9 liters<br>1 gallon / 3.8 liters |
| Materials of<br>Construction  | Metals: Electrogalvanized Tinplate<br>Elastomers: Buna-N<br>Filter Media: Water Absorptive Polymer and Fiberglass |                  |                        |                                      |   |
| Operating Temperature<br>Range  | 32°F - 250° F / 0°C - 121° C  |                  |                        |                                      |   |
| Fluid Compatibility   | Hydrocarbon Fluids  |                  |                        |                                      |   |
| Weight (approximate)  | Part #  | lbs.             | kgs.                   |                                      |   |
|   | KQD6018-5<br>KQD6036-5  | 6<br>12          | 2.7<br>5.4             |                                      |   |
| Dimensions  | Part #  | Inches D x L     | mm D x L               |                                      |   |
|   | KQD6018-5<br>KQD6036-5  | 6 x 18<br>6 x 36 | 152 x 457<br>152 x 914 |                                      |   |

All design specifications are subject to change without notice.



# PulseShield™ Hydraulic Fluid Filters



Our new generation of fluid filter elements with **PulseShield** compression sleeves brings together several innovations. The engineered construction combines our Premium Select fiberglass media with the patented **PulseShield** compression sleeve to yield best-in-class filtration results. The Premium Select filter media has been supplied to customers worldwide for many years and offers superior performance.

The **PulseShield** compression sleeve, combined with up to three Premium Select fiberglass layers, increases the dirt-holding capacity by as much as 30% in comparison to conventional filter elements. At the same time, the lower differential pressure results in significantly reduced energy consumption.

## Applications

Turbine Lube Oil  
Coal Pulverizing  
Gear Box

Industrial Hydraulic Systems  
Working Mobile Hydraulic Systems

## Features

Multi-layer filter elements  
Patented compression sleeve technology

## Benefits

30% greater dirt-holding capacity  
Secures the pleated star geometry media, even under negative effects of short-term backflows



# PulseShield™ Hydraulic Fluid Filters

## e-protect

Filter elements with the **PulseShield** compression sleeve are also available with low conductivity and ESD technology. For applications where static discharge has become an issue or where the fluid conductivity is less than 500 pS/m, e.g. for zinc and ash-free oils, this construction is recommended. This unique element design prevents damage in the filter layers caused by static build-up. The **e-protect** design is marked with the suffix “EP” at the end of the element description.

## PulseShield Compression Sleeve Technology

The compression sleeve secures the pleated star media firmly to the inner core and guarantees uniform pleat separation throughout the entire service life of the filter element. This provides ideal filtration results, even through pressure pulsations, triggered by changing volume flows that may occur in the fluid system.

Fluctuations in separation performance ( $\beta$  values) are no longer a concern. The negative effects of short-term backflows are negated by the **PulseShield** compression sleeve.

- 01 Flow rate
- 02 Internal support mesh
- 03 Protective nonwoven
- 04 Fine fiberglass layer
- 05 Medium fiberglass layer
- 06 Coarse fiberglass layer
- 07 External support mesh
- 08 **PulseShield** sleeve



## PulseShield™ Hydraulic Fluid Filters with e-protect Technology



**KAYDON FILTRATION**  
Filtration Group®

The FGC e-protect filter element made by Filtration Group, has been designed for use with low conductive hydraulic and lubricating oils (e.g. turbine lubricating oil in power plant technology). The filter element is distinguished by reliable conductivity, which has been registered for patent approval, as well as an element design that is optimized to suit electrostatic properties. The special element design prevents damage in the filter layers caused by electrostatic discharge.

### Applications

Turbine Lube Oil

Power Plant

### Features

Reduces electrostatic discharge

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Direct compatibility with conventional filter elements

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Reliable filtration

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### Benefits

Reliable filtration in electrostatically critical applications

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No additional maintenance requirements needed

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Increased service life

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# PulseShield™ Hydraulic Fluid Filters with e-protect Technology

## Electrostatically Conductive

Charge separation in fluid systems is a well-known phenomenon in high-performance filters (filter fineness < 10 µm).

Charge separation occurs during perfusion of the filter's fine pores due to the viscous friction between the oil molecules and the surface of the fiber. Electron transfer takes place as a result of the close contact between the friction partners.

The intensity and direction of the electron transfer depends on the material properties of the friction partners (triboelectric series). Depending on the electric properties of the filter material and of the oil, there is a subsequent charge equalization or charge accumulation (after charge separation).

With the fluids that have dominated the market so far, the charge separation is equalized again depending on the so-called relaxation time so that there are no noticeable effects in the fluid components including the filter elements or in the fluids (TRBS 2153).

A significant increase of electrostatic charge within the fluid systems can have many causes:

- Low retention time due to increasingly compact systems with low oil volumes
- Increasing filtration requirements, even in lubrication applications
- Increased application of environmentally friendly zinc and ash-free oils

## Practical Consequences

If these requirements are satisfied, electrostatic charges can occur in the filter element and in the fluid, which are equalized through local discharge with a higher energy. Indicators of intense discharge processes range from audible crackling to detectable damage in the filter layers and components. Effects on oil ageing and the appearance of "varnish" plus the malfunction of electronic components cannot be excluded. However, these depend on additional limiting conditions in the respective system. Filters that prevent electrostatic discharge must be used when high viscosity lubricating oils are utilized with fine filters as well as in the field of power plant technology.

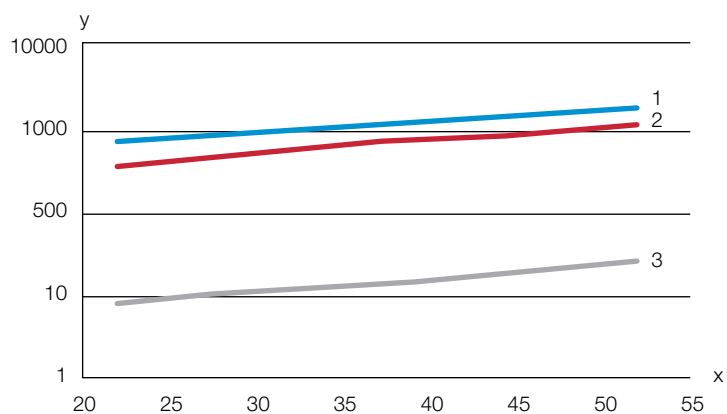
To prevent electrostatic charges, the conductivity of the fluid should be at least 500 pS/m.

With the new zinc and ash-free hydraulic oils however, there are fluids on the market that are far below the minimum conductivity mentioned above, which can lead to increased electrostatic charges.

## Prevention of Damaging Discharge

We generally recommend the application of FGC e-protect filter elements or hydraulic and lubricating oils with conductivity < 500 pS/m (e.g. zinc and ash-free oils) or when electrostatic effects occur in the system (e.g. discharge sounds).

The FGC e-protect design is available as an additional feature with PS, SM-x and MB elements. The e-protect design is marked with the addition "EP" in the element description.



x = Oil temperature °C  
y = Conductivity pS/m

- 1 = High-alloy hydraulic oil, contains Zn
- 2 = Synthetic ester (HEES)
- 3 = Low-alloy hydraulic oil, Zn-free

| Designation examples: |                  |
|-----------------------|------------------|
| Pi 3105 PS 10         | Standard design  |
| Pi 3105 PS 10 EP      | e-protect design |

# KAYMAX® 7500 Series High-Efficiency Filters



Kaydon Filtration knows what it takes to keep your lubrication oils, hydraulic oils, and fuels clean and your critical machinery in service. Pulp and Paper, Power Generation, Mining, Oil and Gas, Heavy Equipment and Military are just a few of the critical markets we have protected.

KAYMAX® High-Efficiency Filters use the same fixed-pore media and manufacturing technology used in the world-renowned TURBO-TOC® family of filter elements. KAYMAX High-Efficiency synthetic media is designed to protect the life of your hydraulics by providing contaminant removal options throughout the hydraulic systems resulting in consistent removal efficiency across the entire operating range. KAYMAX High-Efficiency Filters offer the added benefit of easy change-out and reduced system downtime.

## Applications

Petroleum-based Fluids

## Features

Excellent separation efficiency

Inert fixed-pore media

Easy change-out

ISO 9001:2015 Design, Manufacturing, and QMS; ISO 2942 Fabrication Integrity; ISO 16889 Multi-Pass Performance Efficiency; ISO 2943 Fluid Compatibility; ISO 3724 Flow Fatigue; ISO 2941 Collapse Resistance

## Benefits

Enhances system fluid cleanliness levels above other media types; extends service life

Reliable and consistent performance

Lowers maintenance costs and reduces system downtime

Meets or exceeds OEM requirements



# KAYMAX® 7500 Series High-Efficiency Filters

## Specifications and Details

|  |  |               |            |      |     |
|--|--|---------------|------------|------|-----|
| Pressure Drop<br>(ISO 32 Turbine Oil)                  | Part #   | gpm           | lpm        | psid | BAR |
|  | KMP7500-A-KC-04-X  | 20            | 95         | 10   | .69 |
|  | KMP7500-A-KF-04-X  | 20            | 95         | 7    | .48 |
|  | KMP7500-A-KH-04-X  | 20            | 95         | 5    | .34 |
|  | KMP7500-A-KM-04-X  | 20            | 95         | 4    | .28 |
|  | KMP7500-A-KR-04-X  | 20            | 95         | 3    | .21 |
|  | KMP7500-A-KC-08-X  | 40            | 190        | 10   | .69 |
|  | KMP7500-A-KF-08-X  | 40            | 190        | 7    | .48 |
|  | KMP7500-A-KH-08-X  | 40            | 190        | 5    | .34 |
|  | KMP7500-A-KM-08-X  | 40            | 190        | 4    | .28 |
|  | KMP7500-A-KR-08-X  | 40            | 190        | 3    | .21 |
| Terminal Pressure                                      | 20 psid / 1.4 BAR  |               |            |      |     |
| Collapse Rating  | 100 psid / 6.9 BAR   |               |            |      |     |
| Micron Rating /<br>Efficiency<br>(ISO 4572 Beta = 200) | Part #   | Micron Rating | Efficiency |      |     |
|  | KMP7500-A-KC-XX-X  | 1             | 99.5%      |      |     |
|  | KMP7500-A-KF-XX-X  | 3             | 99.5%      |      |     |
|  | KMP7500-A-KH-XX-X  | 6             | 99.5%      |      |     |
|  | KMP7500-A-KM-XX-X  | 12            | 99.5%      |      |     |
|  | KMP7500-A-KR-XX-X  | 25            | 99.5%      |      |     |
| Materials of Construction                              | Metals: Aluminum<br>Elastomers: Buna-N (standard), Fluorocarbon (optional)<br>Filter Media: Inert Fixed-Pore Media<br>Exterior Coating: Epoxy                  |               |            |      |     |
| Operating Temperature Range<br>(maximum)               | O-Ring Seal  | F             | C          |      |     |
|  | Nitrile (B)  | ≤ 225°        | ≤ 107°     |      |     |
|  | Fluorocarbon (V)   | ≤ 250°        | ≤ 121°     |      |     |
| Fluid Compatibility (ISO 2943)                         | Petroleum oils, water glycols, water-oil emulsions with nitrile seals.<br>Phosphate esters, diesters, and many other synthetic fluids with fluorocarbon seals. |               |            |      |     |
| Dimensions   | Part #   | Inches D x L  | mm D x L   |      |     |
|  | KMP7500-A-XX-04-X  | 5 x 4         | 152 x 457  |      |     |
|  | KMP7500-A-XX-08-X  | 5 x 8         | 152 x 914  |      |     |

All design specifications are subject to change without notice.



# Model CI-3520 and CI-35XXP Series Fuel Coalescer Elements



The Kaydon Filtration CI Series Coalescer Elements are used for water separation and filtration of diesel fuel #1 and #2. The CI coalescer elements, coupled with a Kaydon Filtration separator element, provide a high degree of water removal and particle filtration.

The CI coalescer elements offer a simple and efficient solution for diesel fuel conditioning. The CI-35XXP family of elements are a patented design utilizing multiple types of fiberglass in a pleated construction. Flow rates and efficiencies are increased over traditional fuel coalescers with the CI-3510P, 20P and 40P design.

## Applications

Diesel Fuel #1 & #2

## Features

Prefiltration stage for particle removal

Water removal efficiency exceeds ASTM D975 Diesel Fuel #2 Specification<sup>1</sup>

Extended coalescer life

Advanced technology with the CI-35XXP series

## Benefits

Particulate removal during the prefiltration stage protects the coalescing fibers which extends the service life and helps maintain water removal efficiency

Maximizes uptime for diesel powered equipment

CI coalescer elements are replaced once every four to six months<sup>2</sup> reducing space and stock requirements for extra coalescer elements

Provides customers increased engine durability and protection, reduction of equipment failure rates due to contaminated fuel, and extended on-engine filter life





# Model CI-3520 and CI-35XXP Series Fuel Coalescer Elements

## Specifications and Details

|   |                             |  |                        |   |     |
|---|-----------------------------|--|------------------------|---|-----|
| Pressure Drop (Diesel Fuel #2)                  | Part #                      | gpm  | lpm                    | psid  | BAR |
|   | CI-3520                     | 10   | 38                     | 4   | .28 |
|   | CI-3510P                    | 10   | 38                     | 3   | .34 |
|   | CI-3520P                    | 20   | 76                     | 3   | .34 |
|   | CI-3540P                    | 40   | 152                    | 3   | .34 |
| Water Removal Performance and Filtration Rating | Part #                      | Free Water   | Total Water Content    | Filtration Rating   |     |
|   | CI-3520<br>CI-35XXP Series  | < 100 ppm<br>0 ppm   | < 500 ppm<br>< 130 ppm | $\beta_{15} > 75$ (nominal = 6 $\mu\text{m}$ )<br>$\beta_5 > 1000$ (nominal = 1 $\mu\text{m}$ ) |     |
| Terminal Pressure                               | 15 psid / 5.2 BAR (maximum) |  |                        |   |     |
| Collapse Rating                                 | 75 psid / 5.2 BAR           |  |                        |   |     |
| Operating Fuel Temperature Range                | 50°F - 120°F / 10°C - 49°C  |  |                        |   |     |
| Materials of Construction                       | Part #                      | Metals   | Elastomers             | Filter Media  |     |
|   | CI-3520<br>CI-35XXP Series  | Aluminum<br>Aluminum   | Buna-N<br>Viton        | Treated Cellulose and Fiberglass<br>Micro and Macro Fiberglass                                  |     |
| Fluid Compatibility                             | Part #                      |  |                        |   |     |
|   | CI-3520<br>CI-35XXP Series  | Diesel Fuel #1 & #2<br>Diesel Fuel #1 & #2<br>Diesel Fuel #2 with Additive Packages <sup>3</sup><br>Blends up to B20 |                        |   |     |
| Weight (approximate)                            | Part #                      | lbs.   | kgs.                   |   |     |
|   | CI-3520                     | 2  | .9                     |   |     |
|   | CI-3510P                    | 1  | .45                    |   |     |
|   | CI-3520P                    | 2  | .9                     |   |     |
|   | CI-3540P                    | 3  | 1.4                    |   |     |
| Dimensions                                      | Part #                      | Inches (D x L)   | mm (D x L)             |   |     |
|   | CI-3520                     | 3.5 x 20   | 89 x 508               |   |     |
|   | CI-3510P                    | 3.5 x 10   | 89 x 254               |   |     |
|   | CI-3520P                    | 3.5 x 20   | 89 x 508               |   |     |
|   | CI-3540P                    | 3.5 x 40   | 89 x 1016              |   |     |

- Limit = 0.050 (500 ppm) maximum water and sediment Units = % volume (free and emulsified water only) Test Method ASTM D 2709: Water and Sediment in Middle Distillate Fuels by Centrifuge
  - Fluid cleanliness will affect coalescer life.
  - Does not include additives that are surface active agents.
- All design specifications are subject to change without notice.



# Fuel Filter Element Separators



Kaydon Filtration separator elements are used for critical fuel filtration applications. The separator elements have exceptional water removal efficiency with an inside-out flow and prevent water droplets from passing downstream. Kaydon separator elements are designed and constructed with special hydrophobic materials to provide a barrier to water coalesced with Kaydon Filtration CI coalescer elements. When the Kaydon separator elements are coupled with Kaydon CI coalescer elements, water concentration levels below 130 ppm (total water) is possible in diesel fuel.

Kaydon separator elements provide an effective life-cycle costing that offers a beneficial solution for fuel applications. Factors such as element life, fuel cleanliness levels, equipment reliability, and reduction of fuel-related failures all contribute to credible savings and productivity.

## Applications

Diesel Fuel #1 and #2 Filtration

## Features

Constructed with special hydrophobic materials

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Exceptional Water Removal Efficiency

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Water removal efficiency exceeds ASTM D975 Diesel Fuel #2 specification

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## Benefits

Provides a barrier to water coalesced with Kaydon CI coalescer elements

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Prevents water droplets from passing downstream

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Maximizes uptime for diesel powered equipment

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# Fuel Filter Element Separators

## Specifications and Details

|                             |   |              |            |
|-----------------------------|---|--------------|------------|
| Materials of Construction   | Metals: Aluminum<br>Adhesive: Epoxy<br>Filter Media: Hydrophobic Stainless Steel Screen |              |            |
| Operating Temperature Range | 0° F - 250° F / -17° C - 121° C   |              |            |
| Fluid Compatibility         | #1 / #2 Diesel Fuel and up to B20   |              |            |
| Weight (approximate)        | Part #  | lbs.         | kgs.       |
|                             | A910176   | 1            | .45        |
|                             | 608061  | 2            | .9         |
|                             | A910174   | 4            | 1.8        |
| Dimensions                  | Part #  | Inches D x L | mm D x L   |
|                             | A910176   | 4 x 10       | 102 x 254  |
|                             | 608061  | 4 x 20       | 102 x 508  |
|                             | A910174   | 4 x 40       | 102 x 1016 |

All design specifications are subject to change without notice.



When the Kaydon separator elements are coupled with Kaydon CI coalescer elements, water concentration levels below 130 ppm (total water) is possible in diesel fuel.

# NATURAL GAS ELEMENTS

Natural gas coalescing elements prevent harmful aerosol contaminants from entering the turbine combustion chamber. This maintains a clean burn of the fuel, which keeps turbine combustion chamber components functioning and turbine blades free of corrosion.



# KMG 336-R Ultra-Fine Depth-Style Vapor Phase Coalescing

The KMG 336-R coalescing filter cartridges are high-efficiency, inside-to-outside flow direction elements specifically designed for the removal of liquid and solid contaminants in critical applications. The KMG's are available in either single or double open-end configuration.

KMG 336-R coalescing filter cartridges are available in various grades of absolute rated high-performance micro glass media with hardware that can be customized to suit your application.

## Applications

Power Plants  
Gas Plants

Natural Gas Pipelines  
Chemical Plants

## Features

Inside-to-outside flow direction elements using specialized glass fiber coalescing media in varying scale of fiber diameters

Glass filter media supported with heavy-duty spiral locked steel core with steel end-caps mechanically secured to center core

## Benefits

Provides optimum combination of solid contaminant holding capability and liquid particle coalescing capability

Robust construction provides cartridge strength and will not allow element collapse or bypass when properly applied in natural gas coalescing applications

## Ordering Example

|                       | Series | Size | Flow | Gasket Type | Media Rating |
|-----------------------|--------|------|------|-------------|--------------|
|                       | KMG    | ###  | R    | ####        | ####         |
| Example Configuration | KMG    | 336  |      | B           | A SCW        |





## Specifications and Details

|                               |  |   |            |              |
|-------------------------------|--|---|------------|--------------|
| Media Rating                  | A SCW<br>A<br>M##  | <b>0.3 μ at 99.9% efficiency</b><br>0.5 μ<br>01, 05, 10, 25, and 50 μ   |            |              |
| Recommended Initial DP        | < 0.5 PSID   |   |            |              |
| Recommended Change-Out DP     | 15 PSID  |   |            |              |
| Materials of Construction     | Coalescing Media<br>Drain Layer<br>Core<br>End Caps<br>Supports<br>Gaskets | <b>Micro glass</b><br><b>Needled Polyester</b><br><b>Tinned Steel</b><br><b>Tinned Steel</b><br><b>Tinned Steel</b><br><b>B = Buna</b><br>Also available V=Viton, S=Silicon |            |              |
| Dimensions                    | Model  | O.D. (in.)  | I.D. (in.) | Length (in.) |
|                               | KMG-12   | 3.3   | 2.1        | 12           |
|                               | KMG-24   | 3.3   | 2.1        | 24           |
|                               | KMG-36   | 3.3   | 2.1        | 36           |
|                               | KMG-72   | 3.3   | 2.1        | 72           |
|                               | KMG-312  | 4.5   | 3.1        | 12           |
|                               | KMG-324  | 4.5   | 3.1        | 24           |
|                               | KMG-336  | 4.5   | 3.1        | 36           |
|                               | KMG-372  | 4.5   | 3.1        | 72           |
|                               | KMG-536  | 5.5   | 4.18       | 36           |
| KMG-572                       | 5.5  | 4.18  | 72         |              |
| Burst Pressure                | >75 PSID   |   |            |              |
| Maximum Operating Temperature | 275° F / 135° C  |   |            |              |

Note: Bold text indicates the standard option for a material or dimension.  
 All design specifications are subject to change without notice.



# KFGGF 336-HTO-R Vapor Phase Coalescing

The KFGGF 336-HTO-R filter elements are inside-to-outside flow direction elements designed to remove solid and liquid contaminants from natural gas in high temperature applications. The KFGGF 336-HTO-R filter elements are available in double open-end configuration.

KFGGF's are completely customizable to suit a wide range of industry requirements and applications.

## Applications

Power Plants  
Gas Plants

Natural Gas Pipelines  
Chemical Plants

## Features

Heat-treated Pyrex® fiberglass  
Rated to maximum operating temperature of 500° F

## Benefits

Designed to remove solid contaminate from natural gas  
Suits a wide range of industry requirements in high-temperature applications

## Ordering Example

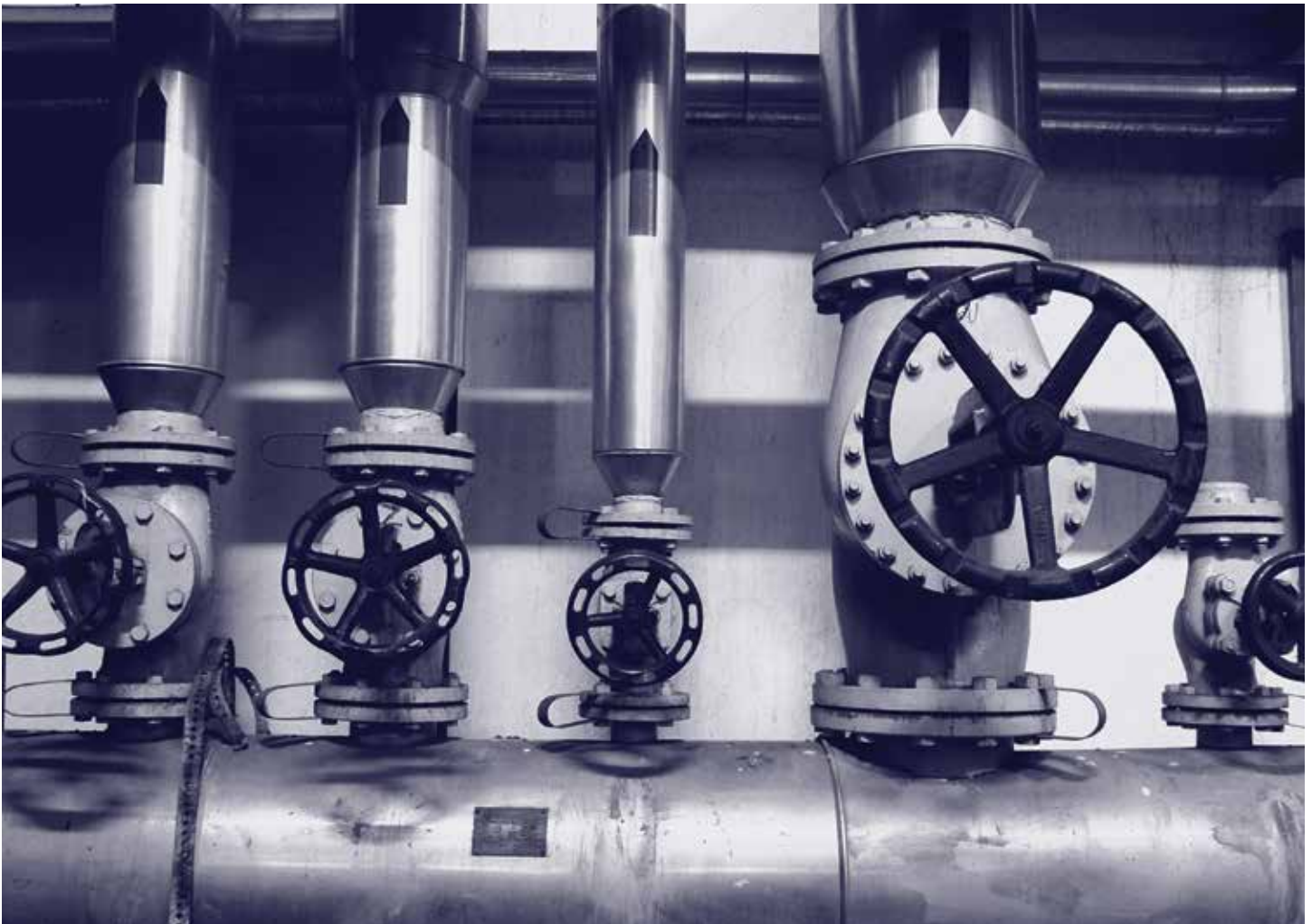
|                       | Series | Size | Media/Media Rating |
|-----------------------|--------|------|--------------------|
|                       | KFGGF  | ###  | ####               |
| Example Configuration | KFGGF  | 336  | HTO                |



## Specifications and Details

|                               |   |   |
|-------------------------------|---|---|
| Media Rating                  | <b>HTO</b>  | <b>1 μ</b>  |
| Recommended Initial DP        | < 0.5 PSID  |   |
| Recommended Change-Out DP     | 15 PSID   |   |
| Materials of Construction     | Coalescing Media Core<br>End Caps<br>Gaskets      | <b>Heat Treated Pyrex® HTO Fiberglass</b><br><b>Tinned Steel</b><br><b>Tinned Steel</b><br><b>Klinger</b> |
| Dimensions                    | Length<br><br>Outside Diameter<br>Inside Diameter | <b>35.8 inches</b><br>Also available 12", 24"<br><b>4.5 inches</b><br><b>3.1 inches</b>                   |
| Collapse Pressure             | 60 PSID   |   |
| Maximum Operating Temperature | 500° F  |   |

Note: Bold text indicates the standard option for a material or dimension.  
Actual product may differ from photo.  
All design specifications are subject to change without notice.



# KPEX 36346-V Conical Style Coalescing Cartridge

The KPEX 36346-V Conical Style Coalescing Cartridges coalesce extremely fine liquid particles from natural gas, such as lubricating oil downstream from a compressor. The flow pattern through the element is from the inside-to-outside, reducing the gas velocity as the droplets are being removed. The filter elements are available in single open end configuration.

KPEX 36346-V coalescing cartridges are used in chemical plants, compressor stations, pipelines and other industrial facilities for the removal of liquid aerosols, amine carryover, entrained water, lube oils, and other liquid contaminants from natural gas. Conical Style Coalescing Cartridges are available in various grades of high-performance micro-fiberglass with hardware to suit specific applications.

### Applications

Power Plants  
Gas Plants

Natural Gas Pipelines  
Chemical Plants

### Features

Conical style with flow pattern through the element from inside-to-outside, reducing gas velocity

Uses high-performance micro-fiberglass and hardware to suit natural gas coalescing applications

### Benefits

Coalesces extremely fine liquid particles from natural gas, such as lubricating oil downstream from a compressor

Removes liquid aerosols, water, oils and other liquid contaminants from natural gas

### Ordering Example

|                       | Series | Size  | Gasket Type |
|-----------------------|--------|-------|-------------|
|                       | KPEX   | ###   | ####        |
| Example Configuration | KPEX   | 36346 | V           |





## Specifications and Details

|                               |  |  |
|-------------------------------|--|--|
| Media Rating                  | 0.3 $\mu$ at 99.98% efficiency   |  |
| Recommended Initial DP        | < 0.5 PSID   |  |
| Recommended Change-Out DP     | 15 PSID  |  |
| Materials of Construction     | Coalescing Media<br>Drain Layer<br>Core<br>End Caps<br><br>Supports<br>Gaskets                 | <b>Pleated Fiberglass</b><br><b>Needled Polyester</b><br><b>Tinned Steel</b><br><b>Zinc-Plated</b><br>Also available Tinned Steel, 304, 316<br><b>Tinned Steel</b><br><b>V=Viton</b><br>Also available B = Buna, S=Silicon |
| Dimensions                    | Length<br>Open End Outside Diameter<br>Open End Inside Diameter<br>Closed End Outside Diameter | 37.2 inches<br>5.5 inches<br>3.5 inches<br>3.6 inches  |
| Burst Pressure                | >50 PSID   |  |
| Maximum Operating Temperature | 275° F   |  |

Note: Bold text indicates the standard option for a material or dimension.  
All design specifications are subject to change without notice.





# KPMG 336-R Pleated Coalescing Filter Cartridge

The KPMG 336-R conical style coalescing filter cartridges are high-efficiency, inside-to-outside flow direction elements specifically designed for the removal of liquid and solid contaminants in critical applications. The KPMG's are available in double open-end configuration.

KPMG 336-R conical style coalescing filter cartridges are available in various grades of absolute-rated high-performance micro glass media with hardware that can be customized to suit your application.

## Applications

Power Plants  
Gas Plants

Natural Gas Pipelines  
Chemical Plants

## Features

High-efficiency natural gas coalescing filter elements with inside-to-outside flow direction

Absolute-rated high-performance micro-glass coalescing media

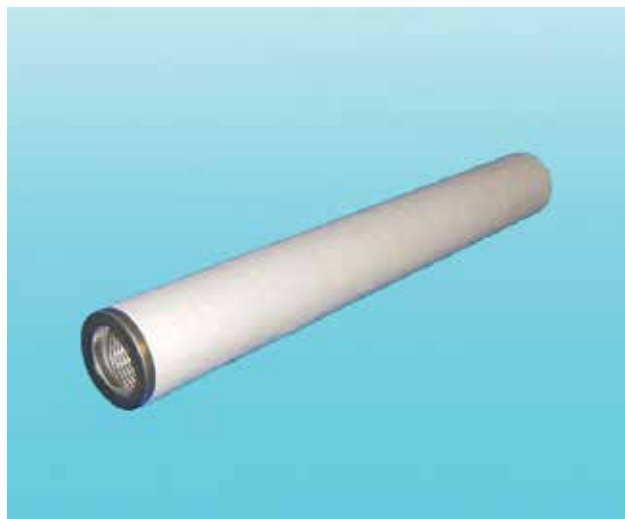
## Benefits

Specifically designed for the removal of liquid and solid contaminant in critical natural gas applications

Removes liquid aerosols, water, oils and other liquid contaminants from natural gas

## Ordering Example

|                       | Series | Size | Flow | Gasket Type | Media Rating |
|-----------------------|--------|------|------|-------------|--------------|
|                       | KPMG   | ###  | R    | ####        | ####         |
| Example Configuration | KPMG   | 336  |      | B           | A SCW        |



## Specifications and Details

|                               |  |   |            |              |
|-------------------------------|--|---|------------|--------------|
| Media Rating                  | A SCW<br>A<br>M##  | <b>0.3 μ at 99.98% efficiency</b><br>0.5 μ<br>01, 05, 10, 25, and 50 μ  |            |              |
| Recommended Initial DP        | < 0.5 PSID   |   |            |              |
| Recommended Change-Out DP     | 15 PSID  |   |            |              |
| Materials of Construction     | Coalescing Media<br>Drain Layer<br>Core<br>End Caps<br>Supports<br>Gaskets | <b>Pleated Micro glass</b><br><b>Polyester</b><br><b>Tinned Steel</b><br><b>Tinned Steel</b><br><b>Tinned Steel</b><br><b>B = Buna</b><br>Also available V=Viton, S=Silicon |            |              |
| Dimensions                    | Model  | O.D. (in.)  | I.D. (in.) | Length (in.) |
|                               | KPMG-12  | 3.3   | 2.1        | 12           |
|                               | KPMG-24  | 3.3   | 2.1        | 24           |
|                               | KPMG-36  | 3.3   | 2.1        | 36           |
|                               | KPMG-72  | 3.3   | 2.1        | 72           |
|                               | KPMG-312   | 4.5   | 3.1        | 12           |
|                               | KPMG-324   | 4.5   | 3.1        | 24           |
|                               | KPMG-336   | 4.5   | 3.1        | 36           |
|                               | KPMG-372   | 4.5   | 3.1        | 72           |
|                               | KPMG-536   | 5.5   | 4.18       | 36           |
| KPMG-572                      | 5.5  | 4.18  | 72         |              |
| Burst Pressure                | >75 PSID   |   |            |              |
| Maximum Operating Temperature | 275° F / 135° C  |   |            |              |

Note: Bold text indicates the standard option for a material or dimension.  
 All design specifications are subject to change without notice.



# COMBUSTION TURBINE AIR INTAKE FILTERS

Drop Safe® air intake filters from Filtration Group keeps air pollutants, both particles and water, from entering the turbine air inlet. As a result of DropSafe, the cleaner air increases turbine output and reliability. Inserting DropSafe also maintains scheduled service periods, preventing a forced outage.



Drop Safe (DS) rigid filters, distributed by Kaydon Filtration, serve as efficient pre- or final filters in air intake systems of gas turbines, in any environmental condition (including offshore, marine) and in any climate (including tropical). They efficiently remove airborne particulate matter as well as snow, mist and fog, acting as a filter and a coalescer in one. DS rigid filters are specially designed for the elimination and drainage of free-water and airborne salt crystals. Where subsequent final filters are placed, they protect them not only from coarse dust but also from running in wet conditions, thus significantly prolonging their life and increasing their operational safety.

The thermally bonded proprietary synthetic media for DS rigid pocket filters is manufactured by Filtrair®, a Filtration Group company. The depth-loading media is of progressive structure for high dust-holding capacity and contains an added hydrophobic treatment and tackifier throughout the medium depth to repel water and retain their operational safety.

The DS filter media is not only for particle separation (e.g. as per EN779 & ASHRAE 52.2) but also for water droplet separation. The latter is relevant when operating DS filters with air-containing free water in droplet form (fog, mist, froth, salt water spray) to avoid dissolved solids penetrating the filter in liquid form.

## Applications

Power Systems

Gas Turbines

## Features

Patented sealed boot pocket design

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Self-supporting, leak-free welded pockets

---

Aerodynamic wedge-shaped, tubular pocket spacers

---

Proprietary, progressive filter media with special hydrophobic treatment

---

## Benefits

Coalesces water inside the pockets and drains it out upstream of the filter

---

Stays rigid when wet and in turbulent air - eliminating shedding

---

Minimum flow resistance and maximum dust holding

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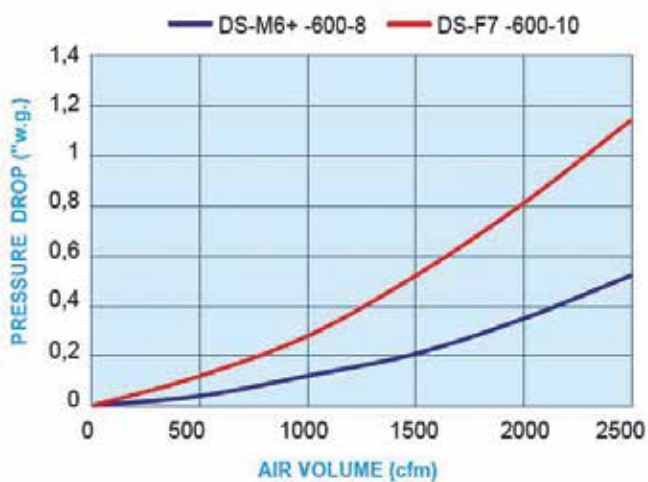
Combined coalescer and particle filter in one unit for extreme environments with high moisture and water mist content, such as offshore and marine

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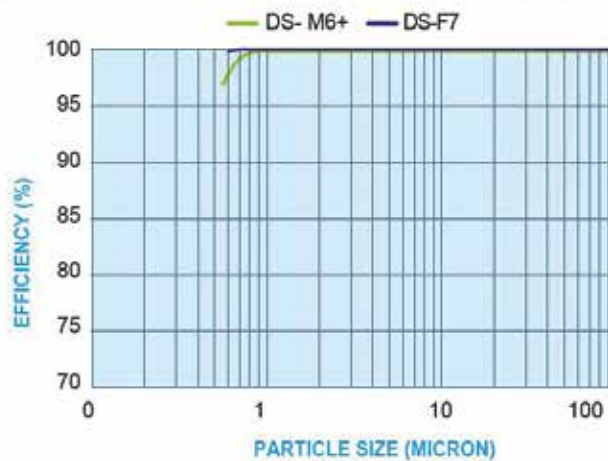
# DS-F7-600 Drop Safe® Filters



**DS-M6+/F7-DP CURVE**



**WATER DROPLET FOG SEPARATION EFFICIENCY**



## Test Conditions and Remarks\*

|   |                        |
|---|------------------------|
| Relative humidity of test air   | ≥ 95%                  |
| Upstream water fog concentration**  | = 27 mg/m <sup>3</sup> |
| Upstream size range of fog  | < 0.5 - 20 μm          |
| Upstream mass median droplet diameter   | = 6.0 μm               |
| Downstream mass median droplet diameter (depending on filter type and efficiency) | approx. 0.6 μm         |
| Measuring range of particle spectrometer  | 0.5 - 42 μm            |

\*Test filters new, conditioned with upstream fog for 140 h





## Technical Data

| Filter Type  | Unit   | DS-F7-600-10  |
|--|--------|---------------|
| Rated air flow (1/1 size)                          | cfm    | 2000          |
| Initial pressure drop at rated air flow (2000 cfm) | "w.g.  | 0.81          |
| Initial pressure drop at rated air flow (2500 cfm) | "w.g.  | 1.21          |
| Recommended final pressure drop                    | "w.g.  | 1.80          |
| MERV* ASHRAE 52.2.2012                             | -      | 15            |
| Average Arrestance                                 | %      | >99           |
| Dust holding capacity (Ashrae dust) 1.5 "w.g.      | g/unit | 352           |
| Water Fog separation test results                  | -      | DS-F7-600-10  |
| Test air flow                                      | cfm    | 2500          |
| Water Fog separation efficiency                    | %      | 99.99999      |
| <b>Product Geometries</b>                          |        |               |
| Filter dimensions                                  | "      | 23, 43*23, 43 |
| Filter length                                      | "      | 24. 4         |
| Filter medium area                                 | sqft   | 75            |
| Nr. of pockets                                     | -      | 10            |
| Filter weight                                      | lb     |               |
| Package - nr of filters per box                    | unit   | 2             |
| Suitable for standard mounting frame               | "      | 24*24         |
| Maximum continuous working temperature             | °F     | ≤160          |
| Admissible relative humidity                       | %      | 100           |
| Maximum final operating pressure drop              | "w.g.  | 2.4           |
| Burst pressure drop                                | "w.g.  | >24           |

\* Minimum Efficiency Reporting Value (MERV) is a standard that rates the overall effectiveness of air filters.

\*\* Representing a typical natural fine fog with a visibility of approx. 300 m, generated by injecting water with pressurised air nozzles into the test air flow and separation of coarse droplets by a demister

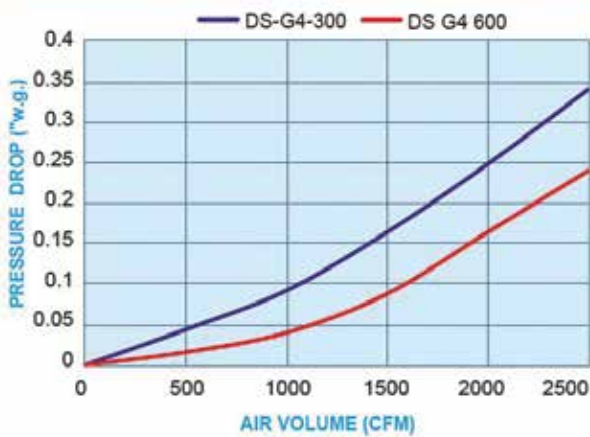
Options available on request: Gasket on downstream, upstream or both sides

All data are average indicative values with usual manufacturing and testing tolerances. All specifications are subject to change without notice.

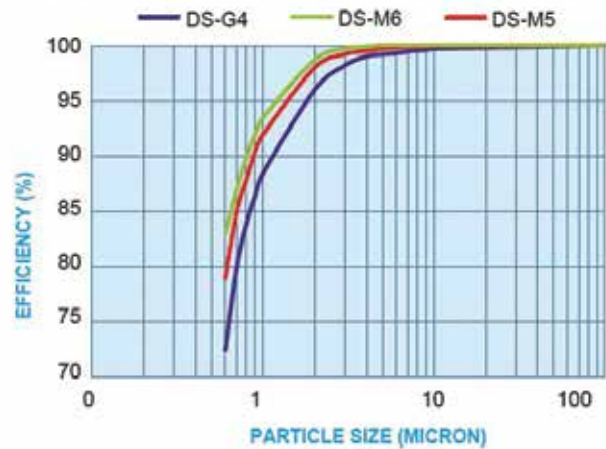
# DS-G4-300 and -600 Drop Safe® Filters



**PRESSURE DROP vs AIR VOLUME**



**WATER DROPLET FOG SEPARATION EFFICIENCY**



## Test Conditions and Remarks\*

|   |                        |
|---|------------------------|
| Relative humidity of test air   | ≥ 95%                  |
| Upstream water fog concentration**  | = 27 mg/m <sup>3</sup> |
| Upstream size range of fog  | < 0.5 - 20 μm          |
| Upstream mass median droplet diameter   | = 6.0 μm               |
| Downstream mass median droplet diameter (depending on filter type and efficiency) | approx. 0.6 μm         |
| Measuring range of particle spectrometer  | 0.5 - 42 μm            |

\*Test filters new, conditioned with upstream fog for 140 h

## Technical Data

| Filter Type  | Unit            | DS-G4-600   | DS-G4-300     |
|--|-----------------|-------------|---------------|
| Rated air flow (1/1 size)                          | cfm             | 2000        | 2000          |
| Initial pressure drop at rated air flow (2000 cfm) | "w.g.           | 0.14        | 0.19          |
| Initial pressure drop at rated air flow (2500 cfm) | "w.g.           | 0.22        | 0.29          |
| Recommended final pressure drop                    | "w.g.           | 1,00        | 1.00          |
| MERV* ASHRAE 52.2.2012                             | -               | 7           | 7             |
| Average Arrestance                                 | %               | 92          | 91            |
| Dust holding capacity (Ashrae dust) 1 "w.g.        | g/unit          | 850         | 591           |
| Water Fog separation test results                  | -               | DS-G4-600   | DS-G4-300     |
| Test air flow                                      | cfm             | 2500        | 1250          |
| Water Fog separation efficiency                    | %               | 99.7        | 99.7          |
| <b>Product Geometries</b>                          |                 |             |               |
| Filter dimensions                                  | "               | 23.43*23.43 | 23, 43*23, 43 |
| Filter length                                      | "               | 24.4        | 12.2          |
| Filter medium area                                 | ft <sup>2</sup> | 41          | 20            |
| Nr. of pockets                                     | -               | 6           | 6             |
| Filter weight                                      | lb              | 5.3         | 4.0           |
| Package - nr of filters per box                    | unit            | 2           | 2             |
| Suitable for standard mounting frame               | "               | 24*24       | 24.24         |
| Maximum continuous working temperature             | °F              | ≤160        | ≤160          |
| Admissible relative humidity                       | %               | 100         | 100           |
| Maximum final operating pressure drop              | "w.g.           | 2.4         | 2.4           |
| Burst pressure drop                                | "w.g.           | >24         | >24           |

\* Minimum Efficiency Reporting Value (MERV) is a standard that rates the overall effectiveness of air filters.

\*\* Representing a typical natural fine fog with a visibility of approx. 300 m, generated by injecting water with pressurised air nozzles into the test air flow and separation of coarse droplets by a demister

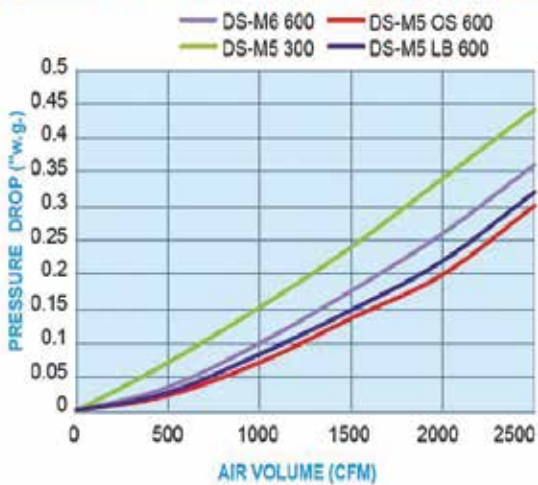
Options available on request: Gasket on downstream, upstream or both sides

All data are average indicative values with usual manufacturing and testing tolerances. All specifications are subject to change without notice.

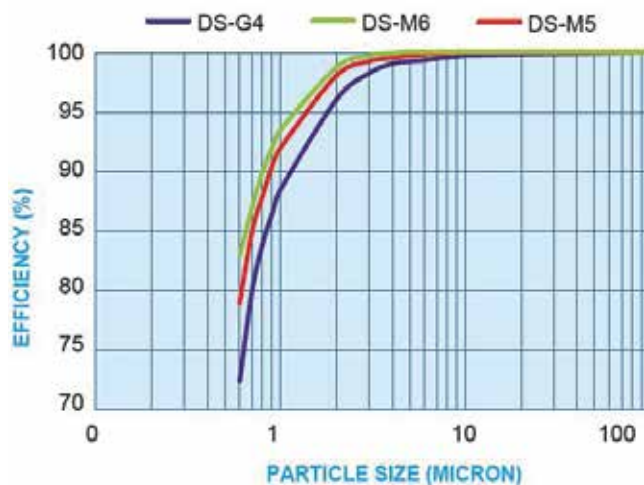
# DS-M5 and DS-M6-600 Drop Safe® Filters



**PRESSURE DROP vs AIR VOLUME**



**WATER DROPLET FOG SEPARATION EFFICIENCY**



## Test Conditions and Remarks\*

|   |                        |
|---|------------------------|
| Relative humidity of test air   | ≥ 95%                  |
| Upstream water fog concentration**  | = 27 mg/m <sup>3</sup> |
| Upstream size range of fog  | < 0.5 - 20 μm          |
| Upstream mass median droplet diameter   | = 6.0 μm               |
| Downstream mass median droplet diameter (depending on filter type and efficiency) | approx. 0.6 μm         |
| Measuring range of particle spectrometer  | 0.5 - 42 μm            |

\*Test filters new, conditioned with upstream fog for 140 h

## Technical Data

| Filter Type  | Unit            | DS-M5-600 LB | DS-M5-600 OS  | DS-M5-300     | DS-M6-600     |
|--|-----------------|--------------|---------------|---------------|---------------|
| Rated air flow (1/1 size)                          | cfm             | 2000         | 2000          | 2000          | 2000          |
| Initial pressure drop at rated air flow (2000 cfm) | "w.g.           | 0.20         | 0.19          | 0.34          | 0.27          |
| Initial pressure drop at rated air flow (2500 cfm) | "w.g.           | 0.30         | 0.29          | 0.44          | 0.34          |
| Recommended final pressure drop                    | "w.g.           | 1.80         | 1.80          | 1,80          | 1.80          |
| MERV* ASHRAE 52.2.2012                             | -               | 8            | 8             | 8             | 9             |
| Average Arrestance                                 | %               | 96           | 98            | 95            | 98            |
| Dust holding capacity (Ashrae dust) 1.5 "w.g.      | g/unit          | 850          | 1331          | 405           | 994           |
| Water Fog separation test results                  | -               | DS-M5-600 LB | DS-M5-600 OS  | DS-M5-300     | DS-M6-600     |
| Test air flow                                      | cfm             | 2500         | 2500          | 2500          | 2500          |
| Water Fog separation efficiency                    | %               | 99.9         | 99.9          | 99.9          | 99.9          |
| <b>Product Geometries</b>                          |                 |              |               |               |               |
| Filter dimensions                                  | "               | 23.43*23.43  | 23, 43*23, 43 | 23, 43*23, 43 | 23, 43*23, 43 |
| Filter length                                      | "               | 24           | 24            | 12            | 24            |
| Filter medium area                                 | ft <sup>2</sup> | 41           | 55            | 20            | 55            |
| Nr. of pockets                                     | -               | 6            | 8             | 6             | 8             |
| Filter weight                                      | lb              | 5.3          | 5.7           | 4.2           | 6.6           |
| Package - nr of filters per box                    | unit            | 2            | 2             | 2             | 2             |
| Suitable for standard mounting frame               | "               | 24*24        | 24.24         | 24*24         | 24*24         |
| Maximum continuous working temperature             | °F              | ≤160         | ≤160          | ≤160          | ≤160          |
| Admissible relative humidity                       | %               | 100          | 100           | 100           | 100           |
| Maximum final operating pressure drop              | "w.g.           | 2.4          | 2.4           | 2.4           | 2.4           |
| Burst pressure drop                                | "w.g.           | >24          | >24           | >24           | >24           |

\* Minimum Efficiency Reporting Value (MERV) is a standard that rates the overall effectiveness of air filters.

\*\* Representing a typical natural fine fog with a visibility of approx. 300 m, generated by injecting water with pressurised air nozzles into the test air flow and separation of coarse droplets by a demister

Options available on request: Gasket on downstream, upstream or both sides

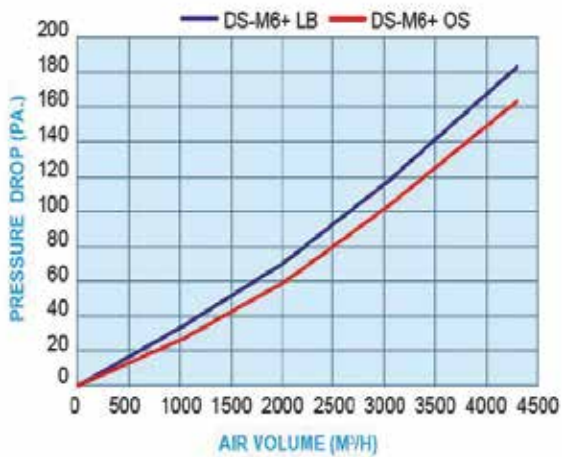
All data are average indicative values with usual manufacturing and testing tolerances. All specifications are subject to change without notice.



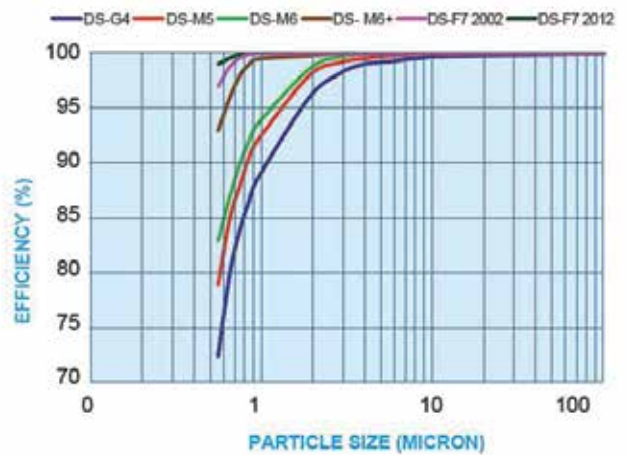
# DS-M6+ -600 Drop Safe® Filters



DS-F7 DP CURVE



WATER DROPLET FOG SEPARATION EFFICIENCY



## Test Conditions and Remarks\*

|   |                |
|---|----------------|
| Relative humidity of test air   | ≥ 95%          |
| Upstream water fog concentration**  | = 27 mg/m³     |
| Upstream size range of fog  | < 0.5 - 20 µm  |
| Upstream mass median droplet diameter   | = 6.0 µm       |
| Downstream mass median droplet diameter (depending on filter type and efficiency) | approx. 0.6 µm |
| Measuring range of particle spectrometer  | 0.5 - 42 µm    |

\*Test filters new, conditioned with upstream fog for 140 h

## Technical Data

| Filter Type  | Unit              | DS-M6+ LB | DS-M6+ OS |
|--|-------------------|-----------|-----------|
| Rated air flow (1/1 size)  | m <sup>3</sup> /h | 3400      | 3400      |
| Initial pressure drop at rated air flow (3400 m <sup>3</sup> /h) | Pa                | 130       | 120       |
| Initial pressure drop at rated air flow (4250 m <sup>3</sup> /h) | Pa                | 170       | 160       |
| Recommended final pressure drop                                  | Pa                | 450       | 450       |
| Filter class per EN779:2012                                      | -                 | M6        | M6        |
| Average Arrestance   | %                 | >99       | >99       |
| Average Efficiency   | %                 | 67        | 73        |
| Dust holding capacity (Ashrae dust) 450 Pa                       | g/unit            | 790       | 1100      |
| Water Fog separation test results                                | -                 | DS-M6+ 8  | DS-M6+ 10 |
| Test air flow  | m <sup>3</sup> /h | 4250      | 4250      |
| Water Fog separation efficiency                                  | %                 | 99.975    | 99.985    |
| <b>Product Geometries</b>  |                   |           |           |
| Filter dimensions  | mm                | 595*595   | 595*595   |
| Filter length  | mm                | 620       | 620       |
| Filter medium area   | m <sup>2</sup>    | 5.0       | 6.3       |
| Nr. of pockets   | -                 | 8         | 10        |
| Filter weight  | kg                | 3.6       | 4.2       |
| Package - nr of filters per box                                  | unit              | 2         | 2         |
| Suitable for standard mounting frame                             | mm                | 610*610   | 610*610   |
| Maximum continuous working temperature                           | °C                | ≤70       | ≤70       |
| Admissible relative humidity                                     | %                 | 100       | 100       |
| Maximum final operating pressure drop                            | Pa                | 600       | 600       |
| Burst pressure drop  | Pa                | >6000     | >6000     |

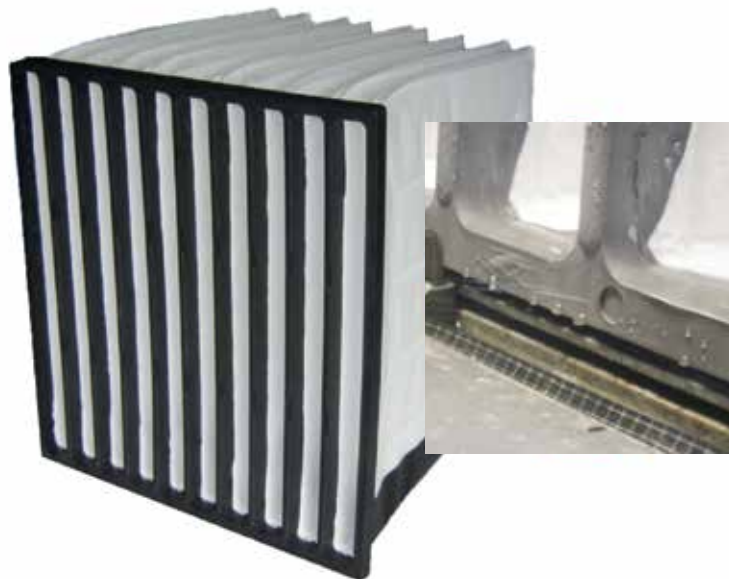
\* Minimum Efficiency Reporting Value (MERV) is a standard that rates the overall effectiveness of air filters.

\*\* Representing a typical natural fine fog with a visibility of approx. 300 m, generated by injecting water with pressurised air nozzles into the test air flow and separation of coarse droplets by a demister

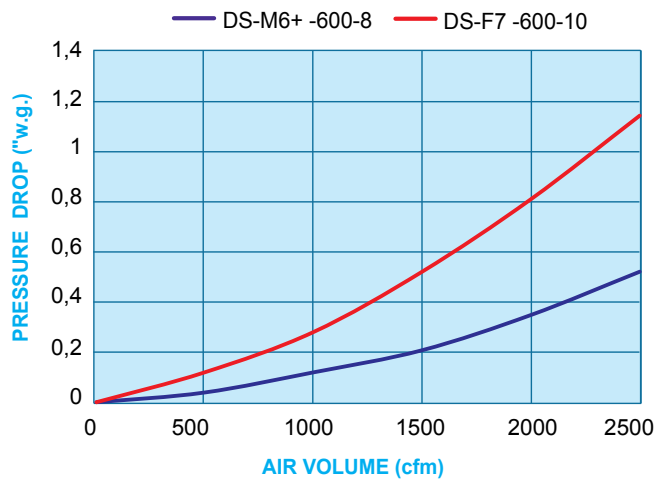
Options available on request: Gasket on downstream, upstream or both sides

All data are average indicative values with usual manufacturing and testing tolerances. All specifications are subject to change without notice.

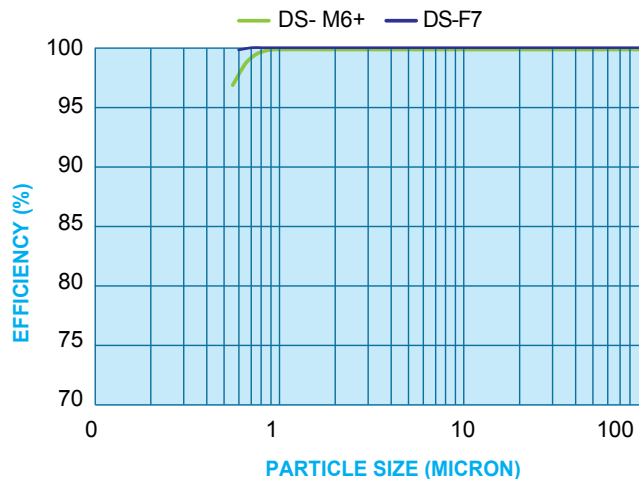
# DS-M6+-600-8 Drop Safe® Filters



**DS-M6+/F7-DP CURVE**



**WATER DROPLET FOG SEPARATION EFFICIENCY**



## Test Conditions and Remarks\*

|   |                        |
|---|------------------------|
| Relative humidity of test air   | ≥ 95%                  |
| Upstream water fog concentration**  | = 27 mg/m <sup>3</sup> |
| Upstream size range of fog  | < 0.5 - 20 μm          |
| Upstream mass median droplet diameter   | = 6.0 μm               |
| Downstream mass median droplet diameter (depending on filter type and efficiency) | approx. 0.6 μm         |
| Measuring range of particle spectrometer  | 0.5 - 42 μm            |

\*Test filters new, conditioned with upstream fog for 140 h



## Technical Data

| Filter Type  | Unit   | DS-M6+-600-8  |
|--|--------|---------------|
| Rated air flow (1/1 size)                          | cfm    | 2000          |
| Initial pressure drop at rated air flow (2000 cfm) | "w.g.  | 0.35          |
| Initial pressure drop at rated air flow (2500 cfm) | "w.g.  | 0.48          |
| Recommended final pressure drop                    | "w.g.  | 1.80          |
| MERV* ASHRAE 52.2.2012                             | -      | 12            |
| Average Arrestance                                 | %      | >99           |
| Dust holding capacity (Ashrae dust) 1,5 "w.g.      | g/unit | 768           |
| Water Fog separation test results                  | -      | DS-M6+-600-8  |
| Test air flow                                      | cfm    | 2500          |
| Water Fog separation efficiency                    | %      | 99.99         |
| <b>Product Geometries</b>                          |        |               |
| Filter dimensions                                  | "      | 23, 43*23, 43 |
| Filter length                                      | "      | 24.4          |
| Filter medium area                                 | sqft   | 55            |
| Nr. of pockets                                     | -      | 8             |
| Filter weight                                      | lb     | 6.6           |
| Package - nr of filters per box                    | unit   | 2             |
| Suitable for standard mounting frame               | "      | 24*24         |
| Maximum continuous working temperature             | °F     | ≤160          |
| Admissible relative humidity                       | %      | 100           |
| Maximum final operating pressure drop              | "w.g.  | 2,4           |
| Burst pressure drop                                | "w.g.  | >24           |

\* Minimum Efficiency Reporting Value (MERV) is a standard that rates the overall effectiveness of air filters.

\*\* Representing a typical natural fine fog with a visibility of approx. 300 m, generated by injecting water with pressurised air nozzles into the test air flow and separation of coarse droplets by a demister

Options available on request: Gasket on downstream, upstream or both sides

All data are average indicative values with usual manufacturing and testing tolerances. All specifications are subject to change without notice.

# FLOW INDICATORS

At Kaydon Filtration, we are committed to bringing exceptional value to our customers, even in the simplest of solutions. Kaydon leads the industry when it comes to ensuring trouble-free operation and protecting our customers' investments. Pressure and gravity oilers offer fundamental control mechanisms to maintain proper lubrication for your equipment – lubrication that reduces friction, minimizing wear and extending the life of your equipment.

The Model 902A Pressure Feed Oiler is a combination of a metering valve and flow indicator used for the distribution and supply of lube oil under pressure to the points of use, such as bearings and gears.

The 4B Gravity Sight Feed Oiler affords a clear view and specific control of lube oil flowing by gravity to a lubrication point. This oiler provides trouble-free service with little or no maintenance required.

Kaydon Model 825 Safety Overflow Sights are installed as an accessory item for off-line (kidney-loop) oil filtration and conditioning systems. They are designed to provide convenient observation of oil flow to the system pump and maintaining a safe level of oil in an oil reservoir.

The TELEFLO® Model 816BC flow switches are simple and rugged flow switches designed for a wide range of oil and water flow applications. For more than 80 years, the TELEFLO® flow indicator and switch has provided equipment protection against the loss of flow, protecting thousands of installations against costly equipment damage due to inadequate lube oil and water flow.





# Model 902A Pressure Oiler Oil Flow Sight Feed Indicator



The Model 902A Pressure Feed Oiler is a combination of a metering valve and flow indicator. It is used for the distribution and supply of oil under pressure to lube points of use, such as bearings and gears. It is particularly useful where several lubrication points are served from the same piping manifold. The 902A oilers can be clustered in easily accessible locations. Oil can then be piped up to remote or less accessible lube points. It is particularly useful where several lubrication points are served from the same piping manifold.

## Applications

Paper Machine Lube Systems  
Gearbox Lube Systems

Roller Mill Lube Systems  
Fan and Compressor Lube Systems

## Features

Ease to use  
Heavy-duty cast iron construction  
Oil flow adjustment during operation

## Benefits

The Model 902A is easy to install, operate and comprehend  
Durable body is designed rugged and robust to withstand the toughest industrial environments and remain reliable  
The design of the Model 902A provides easy adjustment of oil flow during lube system start-up and normal operation



# Model 902A Pressure Oiler Oil Flow Sight Feed Indicator

## Specifications and Details

|   |   |   |  |  |
|---|---|---|--|--|
| Flow Rate Range<br>Scale indicator is labeled in pints per minute (ppm) | Part #<br>34N56<br>27N86<br>27N87<br>27N88<br>27N89   | Model #<br>902A-2<br>902A-4<br>902A-8<br>902A-16<br>902A-32 | Flow Rate Range<br>.5 ppm to 2 ppm<br>1 ppm to 4 ppm<br>2 ppm to 8 ppm<br>4 ppm to 16 ppm<br>8 ppm to 32 ppm | Flow Rate Range<br>.24 lpm to .95 lpm<br>.48 lpm - 1.9 lpm<br>.95 lpm - 3.8 lpm<br>1.9 lpm - 7.6 lpm<br>3.8 lpm - 15.2 lpm |
| Materials of Construction   | Body: Cast Iron<br>Piston: Aluminum with Teflon O-Ring<br>Spring: Carbon Steel Spring Wire<br>Sight Tube: Borosilicate Gage Glass<br>Inlet Protection Screen: 304SS (16 mesh) |   |  |  |
| Inlet/Outlet Connection   | Type: NPT<br>Inlet = 0.75 inch<br>Outlet = 0.5 inch   |   |  |  |
| Dimensions (All Models)   | With adjusting screw full closed:<br>4" L x 2" W x 6" H / 102mm L x 51mm W x 153mm H<br>With adjusting screw full open:<br>4.5" L x 2" W x 6" H / 115mm L x 51mm W x 153mm H  |   |  |  |
| Weight (All Models)   | 1 lbs. / .5 kgs   |   |  |  |
| Maximum Operating Pressure  | 125 PSIG @ 125° F / 8.8 kg/cm2 at 52° C   |   |  |  |
| Operating Temperature Range   | 32° F - 200° F / 0° C - 93° C<br>Designed to be accurate within 5% and is repeatable within an oil temperature range of +/- 30° F from normal operating temperature.          |   |  |  |
| Oil Viscosity Range   | ISO 32 - ISO 460  |   |  |  |

All design specifications are subject to change without notice.



## Model 4B Gravity Sight Feed Oiler



The Model 4B Gravity Sight Feed Oiler offers a clear oil flow view with fine tune-control. The Model 4B allows oil flow by gravity to a lubrication point. The double-window design permits observation of the oil stream from either side. The Model 4B Gravity Sight Feed Oiler offers a clear oil flow view with fine tune-control for gravity circulating oil systems for paper mills, steel mills and aluminum mills.

### Applications

Gravity Circulating Oil Systems

### Features

Body vent

Cast iron body, glass windows, bronze fittings

Flow rate knob

### Benefits

Prevents fogging of windows

Sturdy, rugged design

Simple to adjust flow rate with the turn of one knob



# Model 4B Gravity Sight Feed Oiler

## Installation

The 4B oiler is designed to mount in a vertical position above the lubrication point. To help prevent starvation of oil to a bearing it is recommended 4B oilers are not manifolded together. Inlet connection has optional left and right side ports. One port is used for oil inlet supply, and the other must be plugged with 1/2" NPT plug.

## Operation

After oil flow is started, turn adjusting screw knob to open needle valve. Adjust the adjusting screw knob to produce a fine oil stream. Oil must not collect in bottom of oiler. If oil collection occurs, oil flow is excessive and adjustment is necessary. If oil flow stream reduces to droplets, then a flow adjustment to return flow to fine oil stream is necessary.

## Maintenance

The Model 4B Gravity Sight Feed Oiler, (Part #24N55), provides trouble-free service with little or no maintenance required. However, once per year, the glass window panes should be cleaned to help provide clear viewing of oil stream.

To clean the glass, perform the following procedures when the lube system is off-line or down and oil flow is not required:

1. Close adjusting screw to stop oil flow.
2. Insert a pointed tool into the hole on the oiler body to push O-ring away from the oiler body.
3. After loosening O-ring from oiler body, the O-ring can be withdrawn from oiler body.
4. To remove glass window, attach piece of adhesive tape to glass and pull gently.
5. After glass is removed, clean glass with a soft cloth.
6. Before replacement of glass, inspect O-ring and replace if worn or damaged (Replacement part #300874 (qty = 2)).
7. Reassemble the parts in reverse sequence to ready the system for service.

## Specifications and Details

|                             |  |
|-----------------------------|--|
| Materials of Construction   | Cast Iron Body, Glass Windows, Bronze Fittings, Buna-N O-ring Seals<br>Exterior Paint: Epoxy |
| Inlet/Outlet Connections    | Type: NPT<br>Inlet: 1/2 inch<br>Outlet: 1/2 inch   |
| Dimensions                  | 3.75" L x 2.38" W x 3.75" H<br>95.25mm L x 2.38mm W x 95.25mm H                              |
| Weight (approximate)        | 0.5 lbs.<br>2.27 kg  |
| Maximum Operating Pressure  | 125 psig @ 225° F<br>8.79 kg/cm <sup>2</sup> @ 107.2° C                                      |
| Operating Temperature Range | 32° F to 200° F<br>0° C to 93.3° C   |

All design specifications are subject to change without notice.

# Model 825 Overflow Sight

Kaydon Model 825 Overflow Sights are designed for convenient observation of liquid flow and are extremely practical for maintaining a desired or fixed level of liquid circulating in a system. The metal top has a 1/2" NPT vent connection to connect into the reservoir above the maximum liquid level for vacuum operating systems.

## Applications

Turbine Reservoirs  
Bearing Reservoir

Gear Cases  
Other Equipment

## Features

Simple, straight-forward design

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Clear glass viewing walls

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Metal top and 1/2" NPT connection

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Heavy-duty cast-iron construction

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## Benefits

The Model 825 is easy to install, operate and comprehend

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Convenient observation of liquid flow and removable for cleaning

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The top is easily tightened or removed and designed for vacuum operating installations

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Durable body design is rugged and robust to withstand the toughest industrial environments and remain reliable

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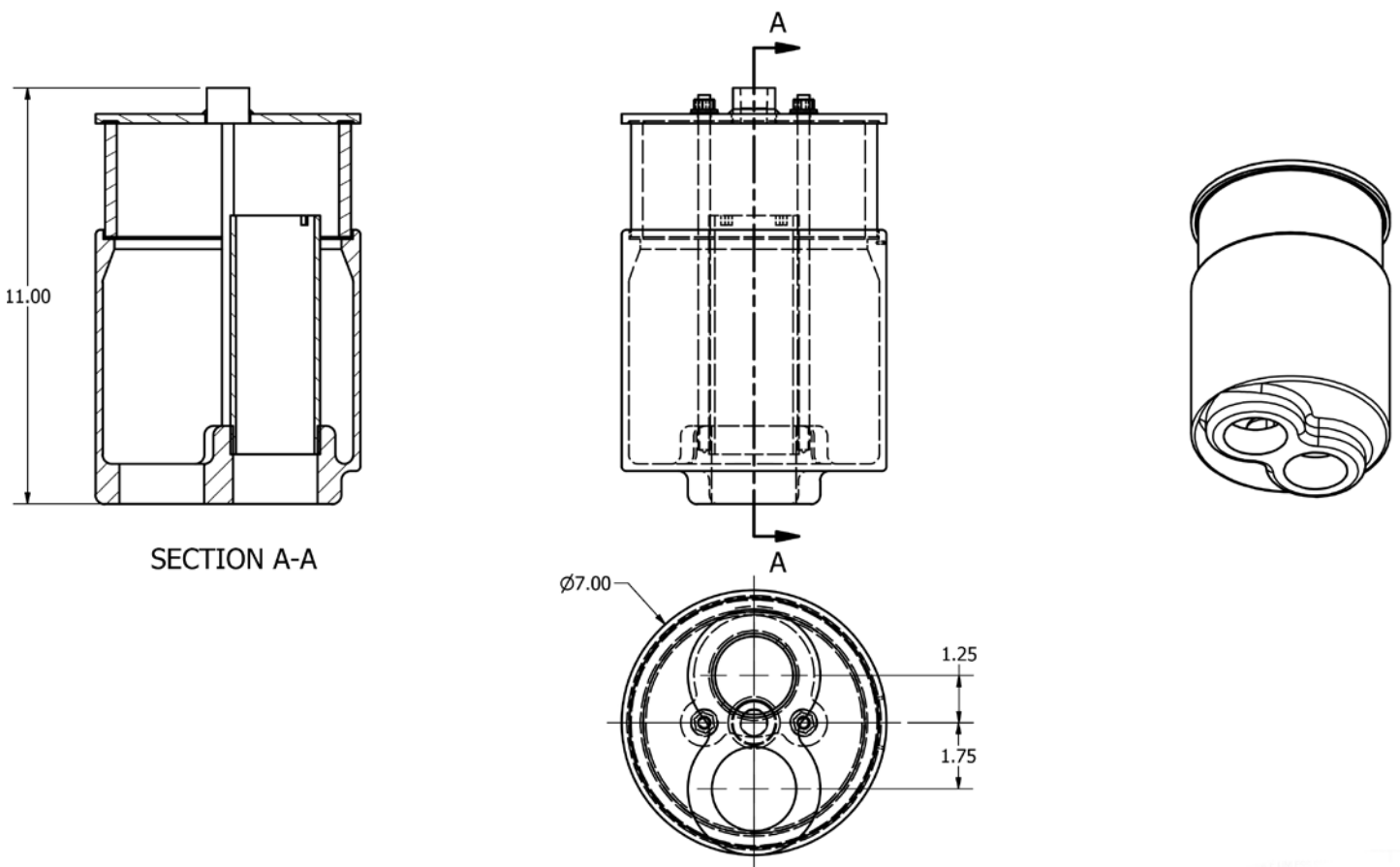


# Model 825 Overflow Sight

## Specifications and Details

|                         |                |                |                          |  |
|-------------------------|----------------|----------------|--------------------------|--|
| Inlet/Outlet Connection | Part #         | Model #        | NPT                      |  |
|                         | 89869<br>50B60 | 825-2<br>825-3 | 2 inch<br>3 inch         |  |
| Dimensions              | Part #         | Model #        | Inches (L x W x H)       | mm (L x W x H)                                 |
|                         | 89869<br>50B60 | 825-2<br>825-3 | 7 x 7 x 11<br>7 x 9 x 11 | 177.8 x 177.8 x 279.4<br>177.8 x 228.6 x 279.4 |

All design specifications are subject to change without notice.



# TELEFLO® Model 816BC Flow Switch



The TELEFLO Model 816BC flow switches design is rugged, yet easy to use for a wide range of oil and water flow applications. For more than 70 years, the TELEFLO flow switch with flow indicator has provided equipment protection against the loss of flow, protecting thousands of critical equipment installations against costly equipment damage due to inadequate liquid flow. The family of TELEFLO Model 816BC flow switches is an easy-to-use, low-cost solution to protect critical costly equipment in the mining, pulp and paper, steel and aluminum mill, and power generation industries. The TELEFLO Model 816BC switches at the factory preset no-flow setpoint. It is designed with a pointer on a numberless dial scale providing a visual confirmation of flow. The switch can be connected to a light or a relay to trigger a low-flow or no-flow alarm. The Model 816BC is not a flow meter and only indicates flow is present.

## Applications

Lube Oil Systems  
Gearbox Lube Oil Circuits  
Cooling Water Lines

Seal Water Lines  
Machine Tool Coolants

## Features

Ease of use

Heavy duty bronze construction

Fluid flow indication

NEMA 4 enclosure

## Benefits

The TELEFLO Model 816BC is easy to install and can be mounted at any angle

Durable body is designed rugged and robust to withstand the toughest industrial environments and remain reliable

Easy to comprehend pointer on a numberless dial scale provides instant visual confirmation of flow

Moisture-proof and dust-proof



# TELEFLO® Model 816BC Flow Switch

## Specifications and Details

|  |  |            |                    |             |                      |             |
|--|--|------------|--------------------|-------------|----------------------|-------------|
| Inlet/Outlet Connection                                  | Part #   | Model #    | NPT                |             |                      |             |
|  | 51B22  | 816BC-1/2  | 1/2 inch           |             |                      |             |
|  | 51B05  | 816BC-3/4  | 3/4 inch           |             |                      |             |
|  | 51B06  | 816BC-1    | 1 inch             |             |                      |             |
|  | 51B08  | 816BC-11/2 | 1.5 inch           |             |                      |             |
|  | 51B09  | 816BC-2    | 2 inch             |             |                      |             |
| Factory Switch Setpoint <sup>1</sup><br>150 SSU (ISO 32) | Part #   | Model #    | Oil (gpm)          | Water (gpm) | Oil (lpm)            | Water (lpm) |
|  | 51B22  | 816BC-1/2  | 2.5                | 6           | 9.5                  | 23          |
|  | 51B05  | 816BC-3/4  | 4.5                | 8           | 17                   | 30          |
|  | 51B06  | 816BC-1    | 7                  | 10          | 27                   | 36          |
|  | 51B08  | 816BC-11/2 | 9                  | 12          | 34                   | 45          |
|  | 51B09  | 816BC-2    | 11                 | 14          | 42                   | 53          |
| Flow Rate Indicating Range <sup>2</sup>                  | Part #   | Model #    | gpm                | lpm         |                      |             |
|  | 51B22  | 816BC-1/2  | 2 to 28            | 8 to 106    |                      |             |
|  | 51B05  | 816BC-3/4  | 4 to 32            | 16 to 121   |                      |             |
|  | 51B06  | 816BC-1    | 6 to 60            | 23 to 227   |                      |             |
|  | 51B08  | 816BC-11/2 | 8 to 70            | 31 to 265   |                      |             |
|  | 51B09  | 816BC-2    | 10 to 75           | 38 to 285   |                      |             |
| Materials of Construction                                | Bronze Housing, Aluminum and Clear Acrylic Plastic<br>Elastomers: Viton and Garlock 7022   |            |                    |             |                      |             |
| Dimensions and Weight                                    | Part #   | Model #    | Inches (L x W x H) | lbs.        | mm (L x W x H)       | kgs         |
|  | 51B22  | 816BC-1/2  | 3.63 x 2.94 x 3.38 | 5           | 92.2 x 74.7 x 85.8   | 2.5         |
|  | 51B05  | 816BC-3/4  | 3.75 x 3.5 x 3.38  | 5           | 95.2 x 82.55 x 85.8  | 2.5         |
|  | 51B06  | 816BC-1    | 3.25 x 3.5 x 3.38  | 8           | 82.5 x 82.55 x 85.8  | 4           |
|  | 51B08  | 816BC-11/2 | 4.75 x 4.25 x 3.38 | 8           | 120.6 x 107.9 x 85.8 | 4           |
|  | 51B09  | 816BC-2    | 6.5 x 5.0 x 4.5    | 13          | 165.1 x 127 x 114.3  | 8           |
| Maximum Operating Pressure                               | 125 psig @ 150° F<br>8.79 kg/cm <sup>2</sup> @ 65° C   |            |                    |             |                      |             |
| Operating Temperature Range                              | -10° F to 200° F<br>-25° C to 93° C  |            |                    |             |                      |             |
| Switch   | Single-pole, double-throw (SPDT) switch<br>Switch Actuation: 2nd graduation mark on scale (approximately)<br>Contact Rating: 15/7 amps at 120/240 VAC<br>Conduit Connection: 1/2 inch NPT female |            |                    |             |                      |             |

1. Flows below this setpoint may not show indication on the scale. It is not recommended to apply the 816BC for flows below the switch setpoint.

2. The flow range is an approximate range based upon 150 SSU (ISO 32) oil at 100o F. The range should be used as guide.

All design specifications are subject to change without notice.

# MAKING THE WORLD SAFER, HEALTHIER AND MORE PRODUCTIVE™

## Filtration Group Corporation

As a part of Filtration Group, Kaydon is a leader in particulate and water separation systems specifically designed for industrial plant lube oil and transferred/stored diesel fuel. The Filtration Group mission is to protect and better what matters. The quality of air we breathe, the water we drink, the buildings we work in and the cars we drive – our filtration solutions are helping to make our world a better place.





**KAYDON FILTRATION**  
Filtration Group®



**Filtration Group®**



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