Turning Ideas Into Engineered Solutions

KAYDON FILTRATION GROUP

Bowser® TECHNOLOGY

FilterDyne® Vacuum Filtration

CFI Clean Fuel Incorporated

Power Plant Oil & Fuel Filtration Systems & Equipment

Contamination Control for the Electric Utility Industry

KAYDON Custom Filtration

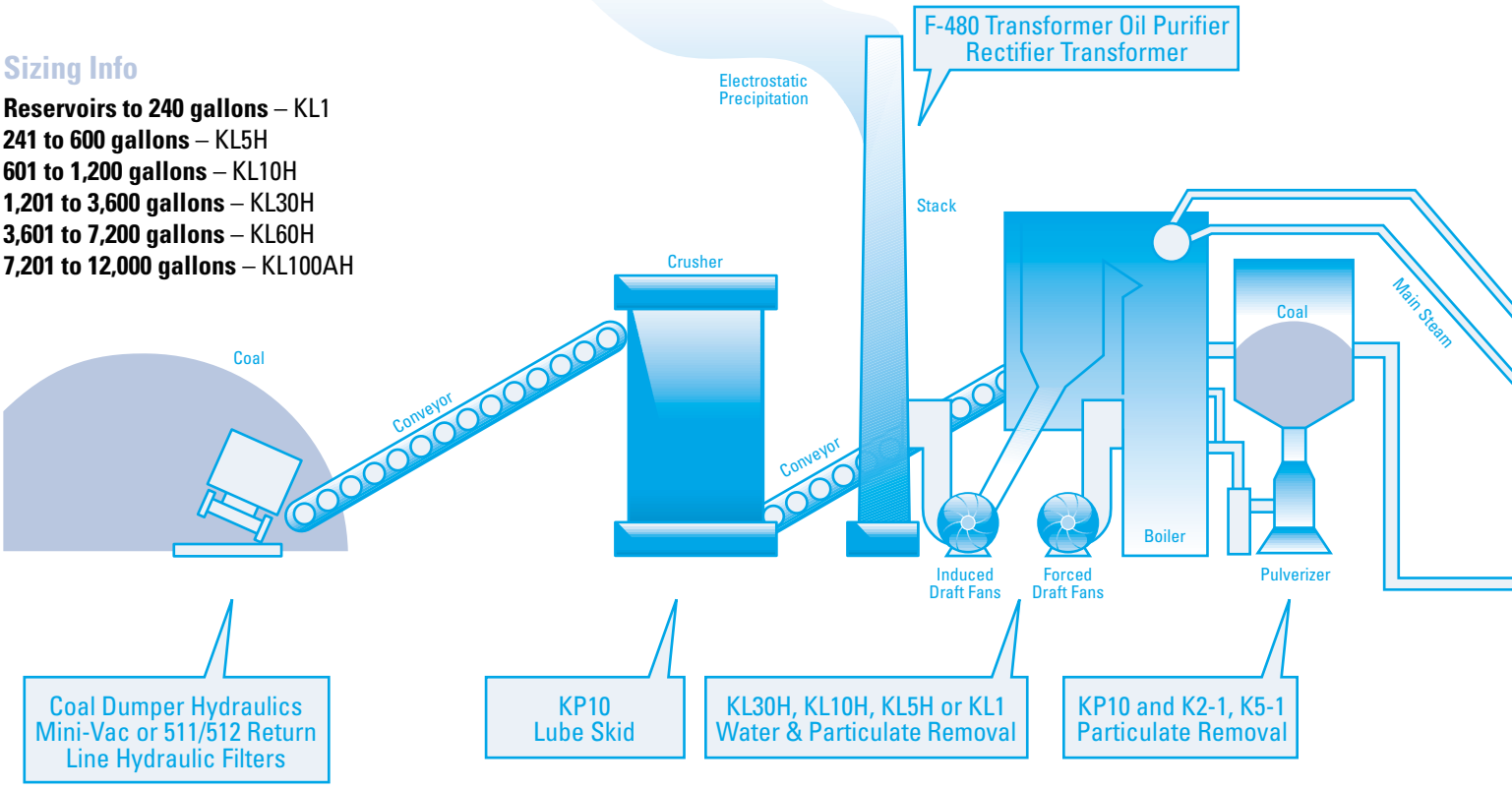
ISO 9001-97 QMI REGISTERED • QUALITY • SYSTEM Certificate # 002232

LaGrange, Georgia

How We Do it Better.

Sizing Info

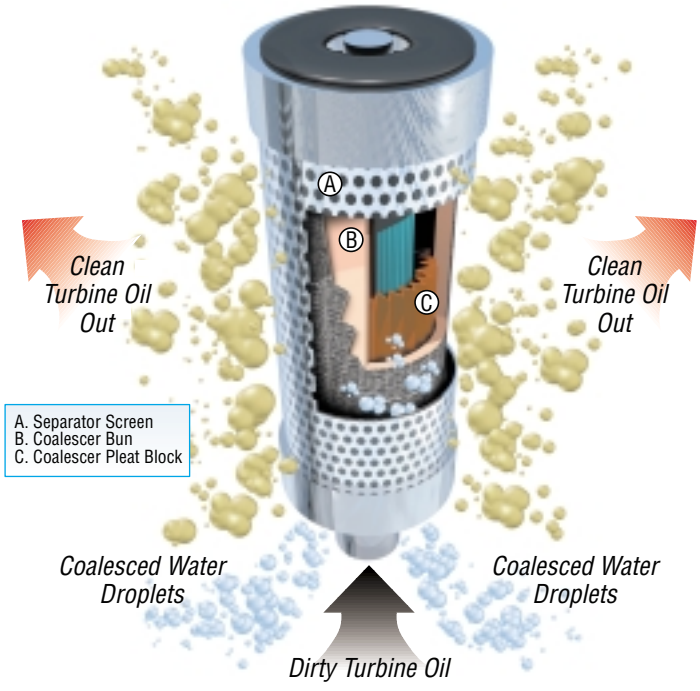
Reservoirs to 240 gallons – KL1
241 to 600 gallons – KL5H
601 to 1,200 gallons – KL10H
1,201 to 3,600 gallons – KL30H
3,601 to 7,200 gallons – KL60H
7,201 to 12,000 gallons – KL100AH

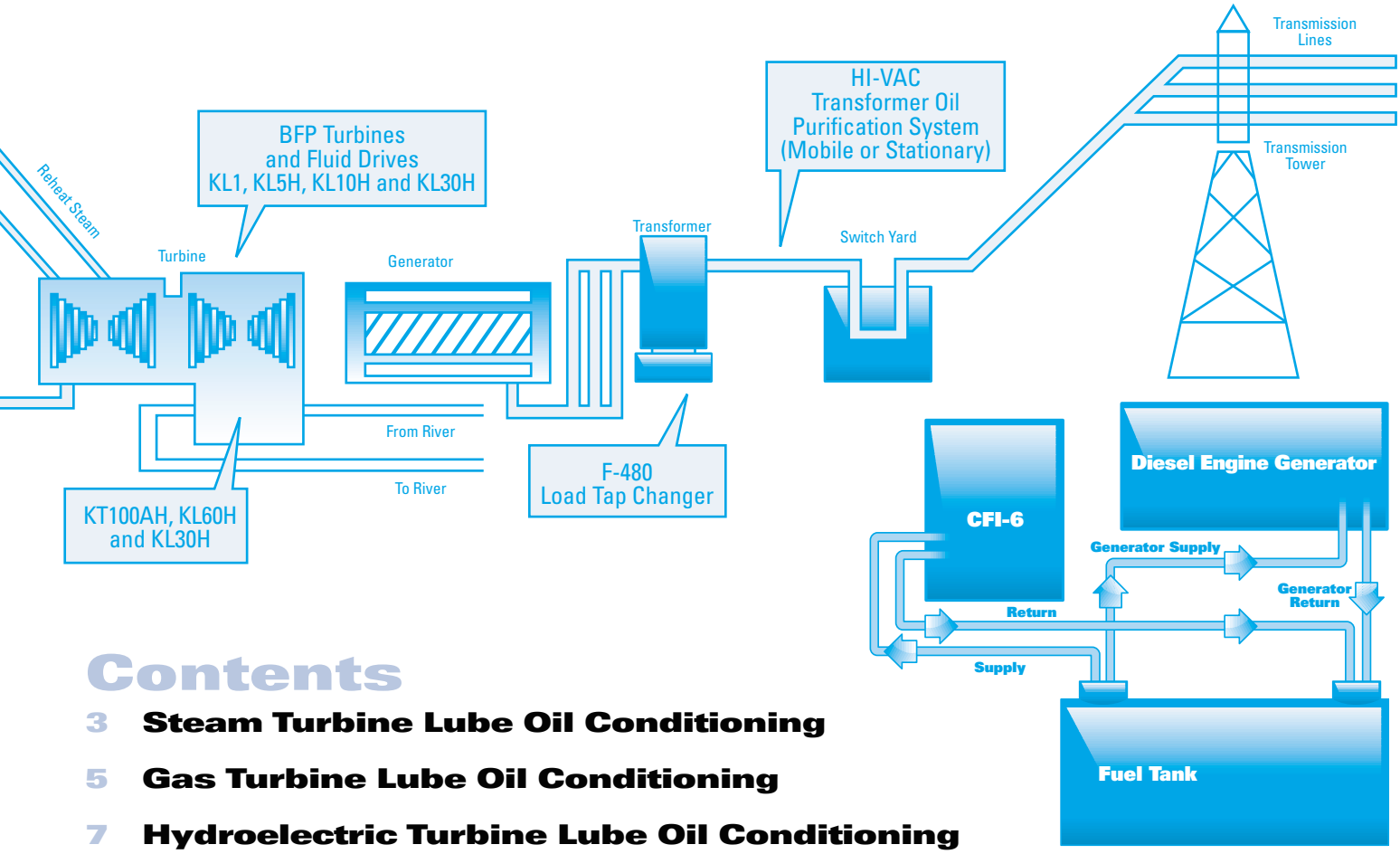


Remove damaging particulates & water from turbine oil and diesel fuel.

Kaydon coalescers are specifically formulated to efficiently separate water from turbine oil and diesel fuel. In the illustration you can see the superior Kaydon coalescer at work. The turbine oil, contaminated with water, flows from the inside out. As the oil and water pass through the special Kaydon coalescer media, the small water droplets coalesce – forming larger water droplets, leaving water at the bottom, while clean oil flows out the top.

You can view a video clip at www.kaydonfiltration.com





Contents

TURBO-TOC®

Lube Oil Conditioning Systems

Model KT100AH TURBO-TOC® Turbine Oil Conditioner

The flagship of the Kaydon Power Generation Product Line, this unit has become the turbine oil conditioning standard by which all others are judged. It combines particulate and water removal in one skid-mounted, completely automatic system with a 100 gpm process rate. Thanks to the patented (patent #4,892,667) water removal technique and high quality particulate filters, guarantees of 150 ppm of total water and an ISO 16/13 particulate level are realistic. Each unit comes with a standard three year warranty and one free day of start-up training.

Model KT100AH

Models KL60H, KL30H, KL10H & KL5H TURBO-TOC® Turbine Oil Conditioners

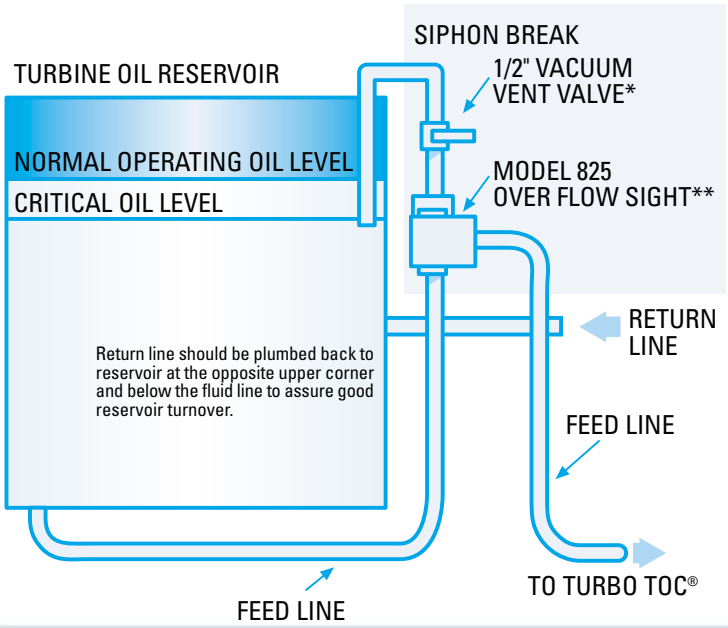
These units are designed similarly to the KT100AH with the same superior performance, but with lower flow rates – 60, 30, 10 and 5. The KL series are ideal for medium and small steam turbines, boiler feed pump turbines, and forced of induced draft fan turbines.

Model KL30H

Sizing Info

Reservoirs to 240 gallons – KL1
241 to 600 gallons – KL5H
601 to 1,200 gallons – KL10H
1,201 to 3,600 gallons – KL30H
3,601 to 7,200 gallons – KL60H
7,201 to 12,000 gallons – KT100AH

Turbine Oil Reservoir



UNIQUE PROCESS TECHNOLOGY

TURBO-TOC®

LUBE OIL CONDITIONING SYSTEMS

- ***Longer Turbine Life***
- ***Reduced Bearing Failures***
- ***Accurate Hydraulic Valve Operation***
- ***Fewer Forced Outages***
- ***Faster Oil Flush Cycles and Transfer***
- ***Less Costly Turbine Rebuilds***

*1/2" Vacuum vent valve is normally open, closed only for draining tank. Vent line inlet must be at critical oil level inside tank.

**Model 825 Over Flow Sight (top of inlet pipe/bottom of glass) must be installed slightly higher than critical oil level. (About 6" above C.O.L. is best)

Guaranteed Performance

1 Contaminant Removal

The key to excellent oil cleanliness levels starts with getting all of the contaminant to the turbine lube oil conditioner.

2 Process Rate

Process rates of 50% of reservoir per hour is recommended. This 50% process rate per hour sets us apart from competitor technologies that utilize a lower process rate of approximately 10%. The faster the oil can be processed, the greater the opportunity to remove contaminants.

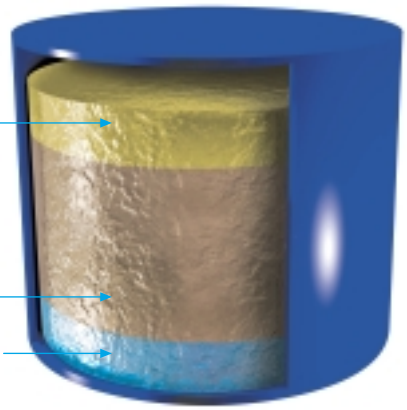
3 Filter Media Performance

Patented and market tested media guarantees performance to particulate contaminant levels of ISO 16/13 (SAE Class 4) or better in the total contents of the reservoir. Water content less than 150 ppm total water or better based on an influent of 5000 ppm water. Filter elements are available to ISO 15/12 (SAE Class 4).

H_2O Water Can Exist in Lube Oil Reservoirs in Three Forms

Dissolved Water

Dissolved water contamination is the least harmful of the three types of water. Dissolved water is a function of the environment; Relative humidity, temperature, and oil type will normally determine what dissolved water content will be. Dissolved water does not affect lubricity.



Emulsified Water

Emulsified water is water that has been mixed, homogenized and/or mechanically emulsified in the lube oil to form extremely strong emulsions. Strong in the sense that gravity or other devices will not work in separating the two phases. Emulsified water is capable of reducing lubricity.

Free Water

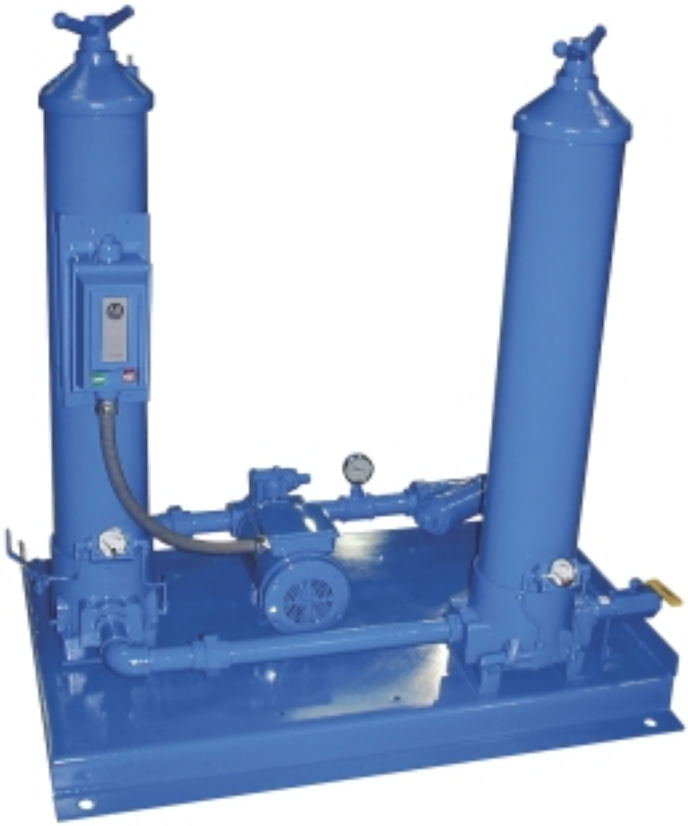
Free water is free to separate and settle to the base of the reservoir. Free water is the most damaging, because it can displace Lube oil and allow metal to metal contact of rotating equipment.

Kaydon's elements and systems can dramatically reduce water contamination levels to give higher quality oil lubricity that will extend the life of all critical mechanical parts being lubricated by your oil.

Model KP30

30gpm Lubrication Oil Conditioner for Gas Turbines

The lube oil system for a gas turbine is one of the most important systems in the turbine operation. The oil quality is critical to the life and functionality of the bearings and auxiliary drives. Gas turbine lube oil serves two functions: lubrication and removal of heat from the bearings. The primary contaminants that are found in mineral base oils used with gas turbines are fine particulate and trace amounts of water. Typically, water in the oil is an uncommon problem, except for the effect of condensation. Kaydon designed the KP30 system to meet the cleanliness requirements of today's gas turbine lube oil. If the oil is not properly maintained, an untimely failure due to contaminated oil may possibly result in a forced plant outage. In fact, a 10-year study conducted by the North American Electric Reliability Council (NERC) recognized turbine bearing and lube system component failures as the leading cause of forced outages for gas turbines.[1]



Description

The KP30, at 30 gpm removes solid contamination via a 2.8 micron absolute (BETA=75) dual phase particulate filter cartridge per ANSI(NFPA) T3.10.8.8RI Multipass test, and removes water with the new Kaydon "Quick-Dry" Element.

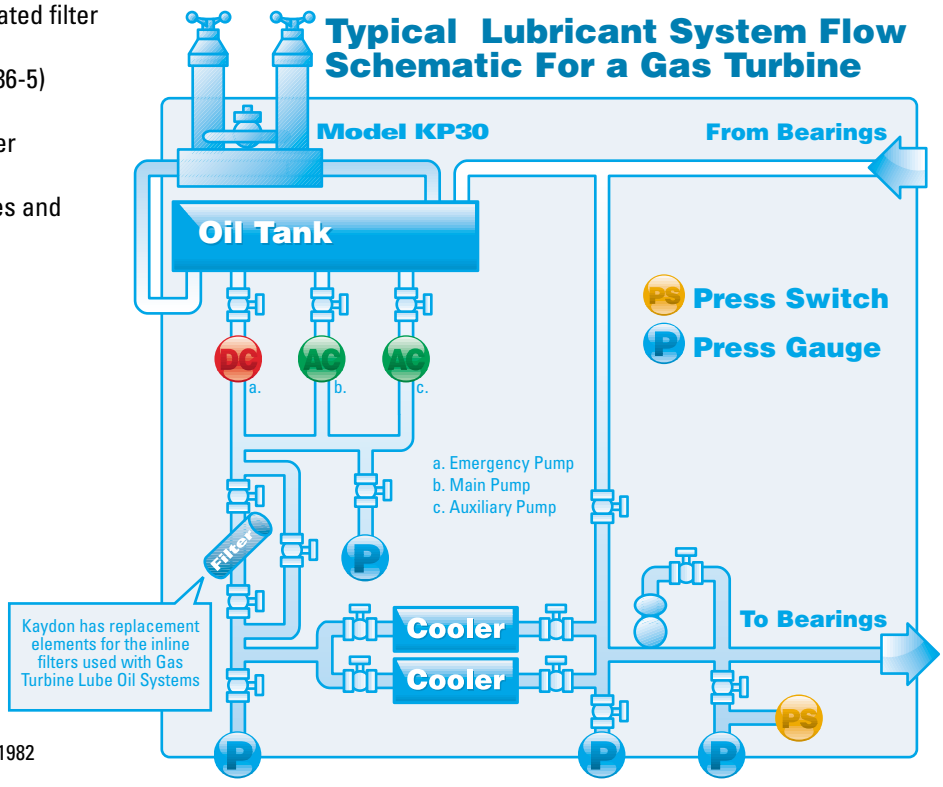
Features

- Removal of particulate smaller than bearing and valve clearances with ANSI(NFPA) 3 micron absolute rated filter elements (KM6036-05)
- Kaydon "Quick-Dry" water removal filter (KQD6036-5)
- Optional heater
- Ideal for phosphate ester oils – no brass or copper
- Viton Seals
- Optional portability kit that includes casters, hoses and extension cord

Benefits

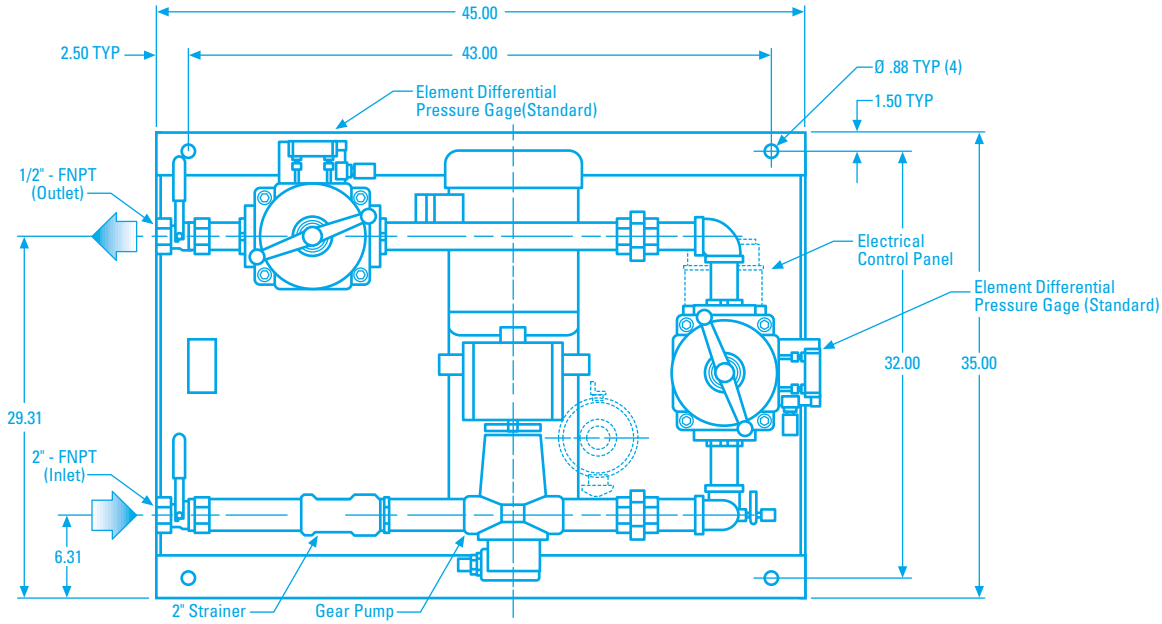
- Longer Oil Life
- Reduced Oil-Related Equipment Failures
- Fewer Shutdowns
- Reduced Sludge and Pipe Scale Formation
- Reduction of Total Acid Number (TAN)
- Less Costly Rebuilds

Typical Lubricant System Flow Schematic For a Gas Turbine



[1]North American Electric Reliability Council (NERC), "Generating Availability Data system", 1973 -1982; Princeton, NJ, 1982

KP30 SPECIFICATIONS



A The KP30 is compact and conveniently skid mounted for ease of installation. In addition, the skid incorporates provisions for lifting the unit by fork lift. Four 0.88" holes are provided for permanent mounting. In the event that it is necessary to disassemble the KP30 in order to fit it in a tight space, it is easily disassembled. Most of the components are bolted to the skid. The skid dimensions are H = 53" W = 48" D = 35". Dry weight = 250lb.

B Inlet connection – 2" NPT with ball valve for isolation. Large inlet to accommodate turbine lube oil at reduced temperatures.

C Suction Strainer – 2" cleanable 30 mesh "Y" type strainer to protect the pump.

D Pump & Motor – 30 gpm gear pump with internal relief valve set at 90 psid. The pump is driven by a 5 hp 460 VAC TEFC electric motor.

E Heater – (optional) The thermostatically regulated 5kW heater increases the temperature of the oil five(5) degrees per pass with a watt density of 16. The heater is sized to raise the oil temperature quickly and to keep the oil flowing during periods of extreme cold.

F Sample Port – The sample port is equipped with a ball valve and pig tail for ease in taking oil samples. Oil samples taken from this port indicate the oil cleanliness in the lube oil reservoir.

G Filter#1 – Particulate filter, equipped with one Kaydon 2.8 micron wire supported dual-phase microfiberglass BETA Absolute particulate removal element. This 6" x 36" filter element is designed for maximum dirt holding capacity with exceptional particulate removal efficiency. The element is protected by an internal bypass valve set at 40 psid. A convenient "Y" top handle is provided for filter element removal and installation. No tools are required to remove the filter element. The filter vessel is equipped with an air vent and ball valve actuated 1/4" NPT oil drain port.

H Differential Pressure Gauges – Pressure gauges are mounted on the filter vessel to indicate when the element needs changing. It is necessary to replace the filter element when the differential pressure reaches 25 psid.

I Control Panel – NEMA 4 rated control panel that contains the on/off switch and 460 VAC. 3-phase, 60 Hz electrical connection.

J Filter#2 – The second filter vessel is a duplicate of the first and uses the Kaydon "Quick-Dry" water removal element.

K Outlet Connection – 1.5" NPT with ball valve for isolation.

Model KL1

Lube Oil Conditioner for Shaft Bearing Turbine Oil Reservoirs

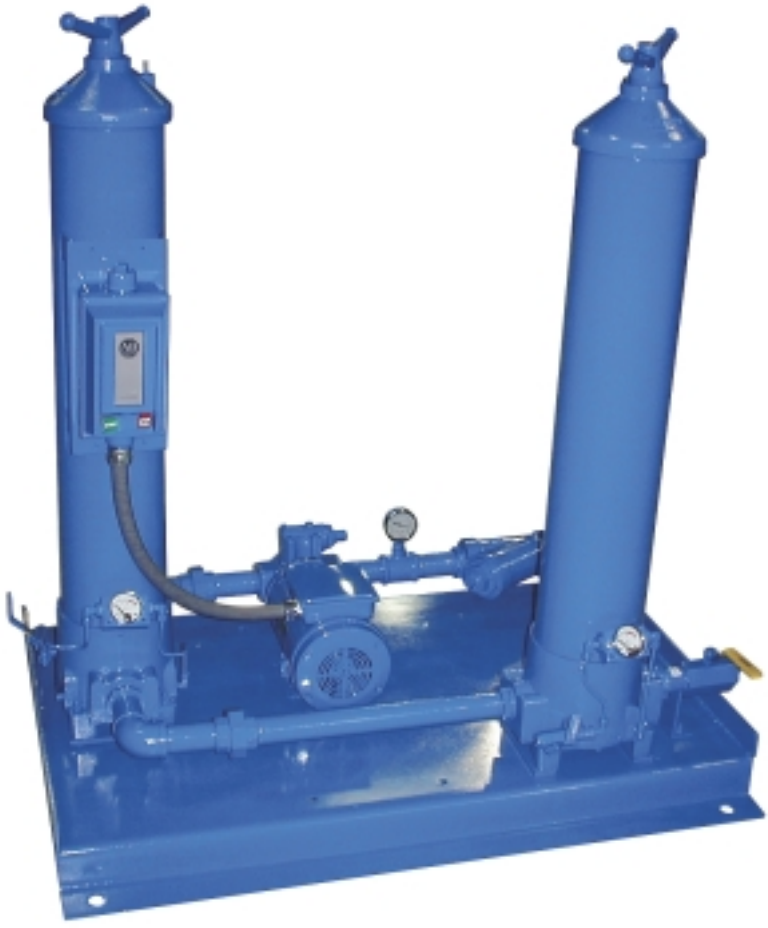
- Solid contamination and water removal in one very compact design (22"L x 12"W x 32"H)
- 1 gpm continuous process rate
- Ideal for hydroelectrical turbine/generation shaft bearing turbine lube oil reservoirs that are 240 gallons and less
- Extremely compact design mounts directly on or adjacent to reservoir
- Removal of particulate smaller than bearing clearances with absolute rated filter elements
- 80% single pass water removal
- Low maintenance, operator not required
- Light weight, less than 65 pounds dry
- Very low operating cost
- Simple installation

Model KL1

Model KP10-2

Governor Lube Oil Conditioner

All hydroelectric turbine/generator sets turn at a constant speed. The speed changes depending upon the type of hydroelectric turbine/generator. In order for the generator to produce a 60-cycle alternating current, the optimum speed for each type of hydroelectric turbine must be determined. A device called a governor, a mechanical-hydraulic device, keeps each unit operating at its optimum speed by operating flow-control gates in the water-passage. Speed control is necessary for the turbine to operate properly, so condition of the oil used with governors is critical. The Kaydon Model KP10-2 Governor Lube Oil Filtration System is designed to keep governor lube oil clean and dry to ensure the proper operation of the governor controls and to eliminate potential failures due to contaminated oil.



Features

- Removal of particulate smaller than bearing & valve clearances with ANSI(NFPA) Absolute rated filter elements (KM6036-05)
- Second filter vessel for additional filtration (KQ06036-5)
- Optional heater
- Optional portability kit that includes casters, hoses and extension cord

Benefits

- Longer Oil Life
- Reduced Oil-Related Equipment Failures
- Fewer Shutdowns
- Reduced Sludge and Pipe Scale Formation
- Less Costly Rebuilds

Dyna-Vac™ & Smart-Vac™

Vacuum Distillation Systems for Water Removal From Lubricating Oil in Hydroelectric Plants

Dyna-Vac 858-600

The most effective systems to remove water from oil.
All 858 Dyna-Vacs use vacuum distillation to distill water out of oil.
858 Dyna-Vacs available in flow rates up to 600 gph. Obtain oil dryness levels of 70 ppm with 858 Dyna-Vacs.

- Removes Solids
  Dyna-Glass II Filter Elements to 3 micron Beta$_{200}$
- Removes Water
  All water... Free, Emulsified & Dissolved to less than 70 ppm
- Removes Gases

Dyna-Vac can be used safely to remove water, gases and particulate matter from:

- Lubricating Oils
- Hydraulic Oils
- Mineral or Synthetic Oils

Smart-Vac 858-1200

The most effective systems to remove water from oil.
All 858 Smart-Vacs use vacuum distillation to distill water out of oil.
858 Smart-Vacs available in flow rates up to 1,200 gph. Obtain oil dryness levels of 70 ppm with 858 Smart-Vacs.

FilterDyne®
Vacuum Filtration

KAYDON Custom Filtration

ISO 9001-97 — Certificate # 002232

LaGrange, Georgia

Turbo-Vac™

Ion Exchange EHC Purification Systems

Vacuum Distillation & EPT Ion Exchange Technology Purifies & Remove Contamination from all Phosphate Ester Fluids Used with Electrohydraulic Control Systems in Power Plants

Filterdyne Vacuum Distillation and EPT Ion Exchange Technology controls acid number (AN), entrained gas buildup, fluid resistivity, water and particulate in phosphate ester fluids used in electrohydraulic control systems (EHC systems).

Elevated acid levels of greater than .1mg KOH are considered to be excessive for phosphate ester fluid and can lead to short fluid life. AN is the most important parameter to use when evaluating the condition of phosphate ester oil. High AN drastically decreases the fluid resistivity value and this can contribute to electro-kinetic wear of servo valves. In addition, chlorine content in excess of 20 ppm, caused by chlorinated solvents, add to the electro-kinetic problem. The fluid resistivity value should be kept at a minimum of 5×10^9 ohm-cm @ 20°C. Fuller's Earth, activated alumina and Selexsorb® are conventional methods used in the past to control and neutralize acid number and maintaining a high fluid resistivity. These methods are effective in reducing your acid number and maintaining a high fluid resistivity, but each one produces its own negative effects. Fuller's Earth, over time, tends to leach out free metals such as calcium, magnesium, and iron. These free metals become dissolved by the acids in the phosphate ester fluid and can create even higher acid levels. Activated Alumina contains oxidized aluminum sodium. This produces harmful salts that can degrade the fluid and create deposits on metal surfaces. Selexsorb® GT is a patented filter media specifically designed to filter phosphate ester Fyrquel® fluids. The disadvantage of Selexsorb® GT is that it cannot be used with old phosphate ester fluid. This causes a "jelling" of the Selexsorb® GT resulting in clogged filters and the requirement to add new oil.

However, with EPT ion exchange technology, resin beads take in acid ions and are replaced with water molecules. This switch adds some water to the system, but when coupled with a Filterdyne vacuum distillation system, the water is removed. Water content in phosphate ester fluids must be kept to 300 ppm or less, to avoid the effect of hydrolysis. The Filterdyne vacuum distillation system is capable of maintaining the oil below 300 ppm. In addition, solid contamination, especially catalytic metal particles like copper, iron and lead increase the rate at which oxidation occurs. A 3-micron filter element, with a filtration rating of $ß_3 = 200$, keeps the contamination level controlled. The Filterdyne Vacuum Distillation system employs this level of filtration.

The advantages of EPT ion exchange are that it has longer life than conventional methods of Fuller's Earth, activated alumina, and Selexsorb®, it does not release unwanted minerals into the system, and does not remove any additive properties in the phosphate ester fluid. It has the highest adsorption capacity of any adsorptive filter and it can remove dissolved metals that were introduced by other adsorbent media.

- Eliminates need for make up oil
- Reduces AN
- Eliminates costly chemical flushing

TURBO-VAC SPECIFICATIONS

Standard Model Includes: 480VAC, 3 Phase, 60HZ, 25Amp

- Dyna-Dry™ – Exclusive vacuum process
- Liquid Ring Vacuum Pump .....15 cfm
- Purification Flow Rate.....300 gph
- Operating Discharge Pressure.....50 psi
- Heater Power .....7.5KW (23 watts/sq. in.)
- Discharge Pump Motor .....1HP, TEFC
- Vacuum Pump Motor .....1 1/2HP, TEFC
- Operating Vacuum.....Up to 28"hg
- Process Operating Temperature.....Up to 150°F
- Weight .....880 lbs.
- Dimensions .....36"L x 27"W x 62"H
- Suction Hose .....10ft. with 1" female cam lock
- Discharge Hose .....10ft. with 1" male cam lock
- Post-Filter Element .....6µ ($ß_6$ = 200)
- Post-Filter Vessel.....carbon steel with ΔP gauge
- Viton Service Package for Phosphate Ester Fluids
- Portable with 6" wheels
- NEMA 12 Control Panel

Model 858-300-875NV00-EHC
300 GPH(5-gpm)

Options

575 VAC, 50Hz • 415VAC, 50Hz • 400VAC, 50Hz • 380VAC, 50Hz
Extra Heater – Adds heater rating to 15KW
Explosion Proof Design – Class I, Div. II, Group C-D
NEMA 4x Service*
Stainless Steel Electrical Enclosure
Cast Iron Motors
Inlet Shut-Off Valve – Solenoid-Operated
Export Packaging

Filter Elements

FE-622-792V Vacuum Chamber Element (disperser)
FE-618-1031V Post-Filter Element {6µ ($ß_6$ = 200)}
EPT401EHC Ion Exchange Element

EPT Part#	Kaydon Part#	Description OEM	Housing	
EPT401EHC	A911300	Element 6x8	GE®	GE 2" Post
	A911300R	Regenerated 6x8	GE®	GE 2" Post
EPT401EHCR	A911301	Element 6x18	GE®	GE 1.5" Post
	A911301R	Regenerated 6x18	GE®	GE 1.5" Post
EPT802EHC	A911302	Element 11x19	Westinghouse®	Nugent
	A911302R	Regenerated 11x19	Westinghouse®	Nugent

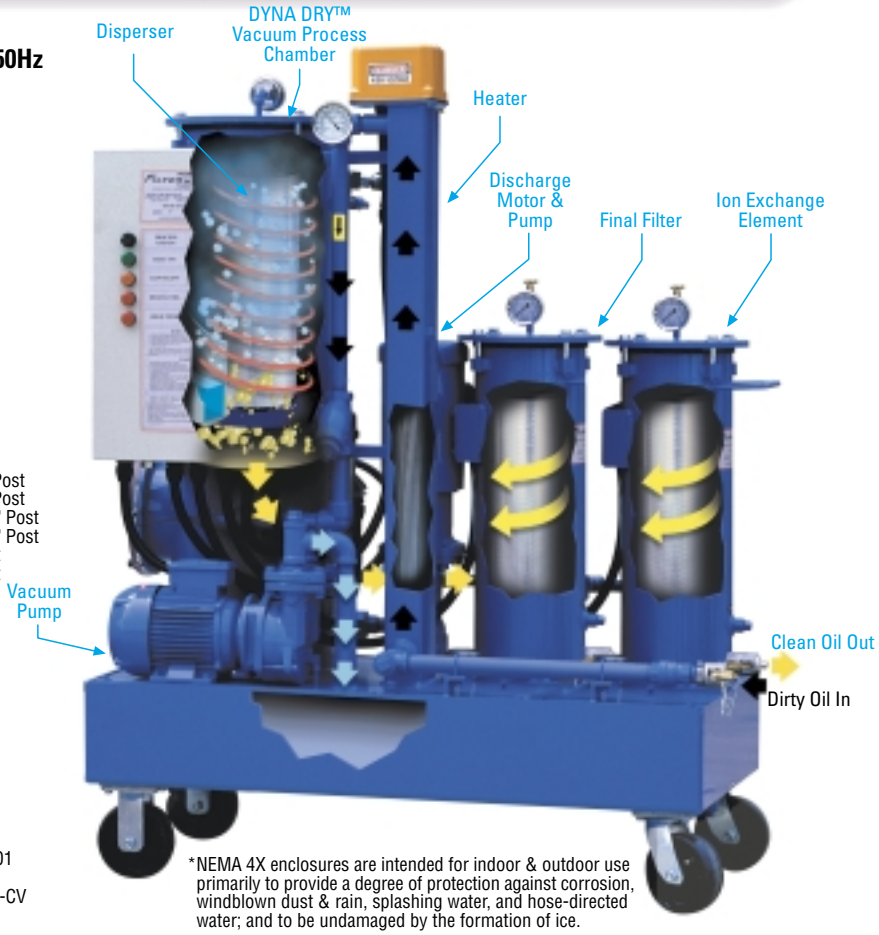
Conversion Kit (GE®)

EPT Part#	Kaydon Part#	Description OEM
EPT4GE	A911303	Elements (4), Flow Meter, Post Filter Upgrade
EPT2GE	A911304	Elements (2), Flow Meter, Post Filter Upgrade
EPT1GE	A911305	Elements (1), Flow Meter, Post Filter Upgrade

Conversion Kit (Westinghouse®)

EPT Part#	Kaydon Part#	Description OEM
EPT1WE	A911306	EPT802 (1), Flow Meter, and Post Filter Upgrade

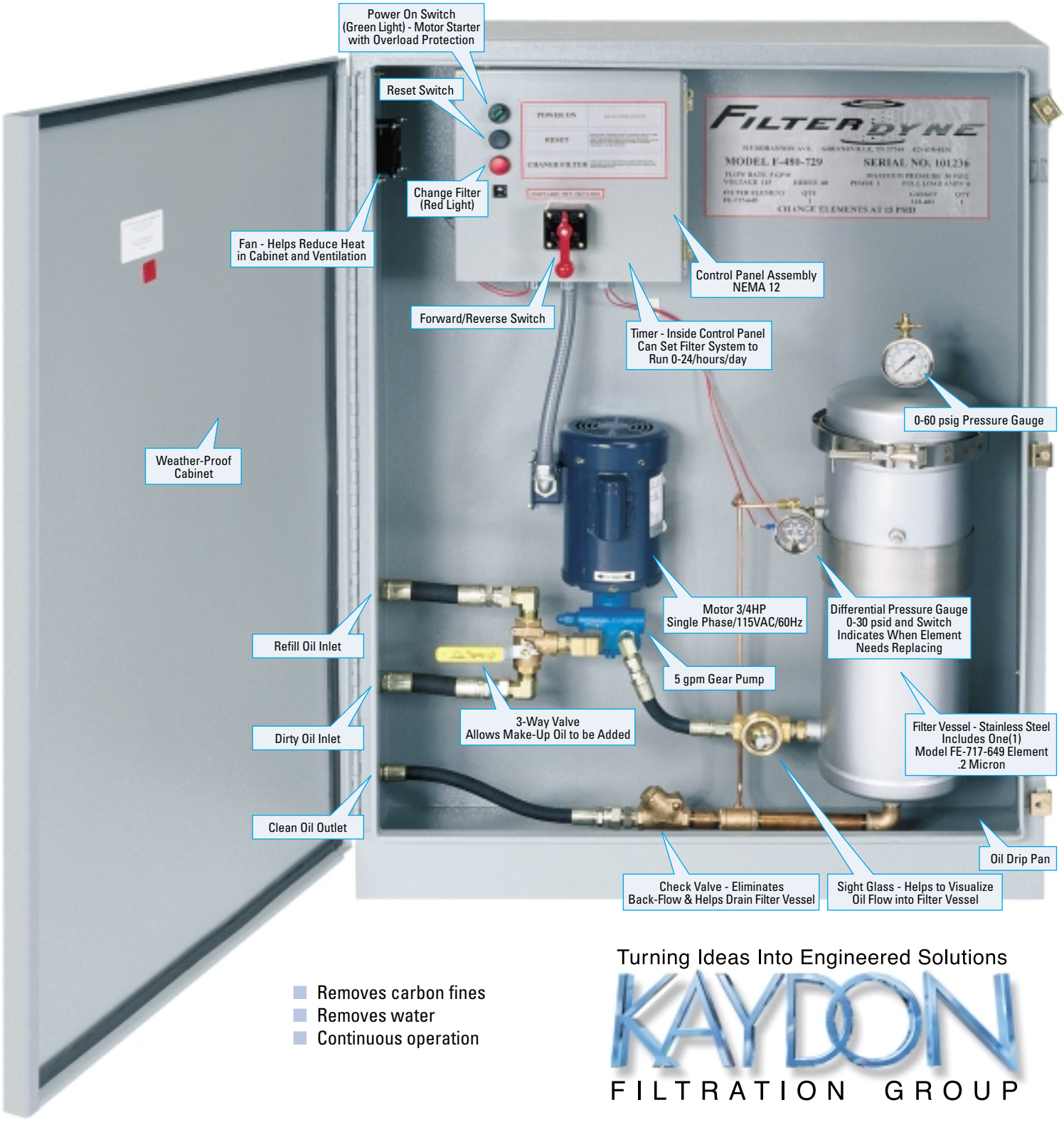
Kaydon Model#	Description OEM	OEM Post Filter
KM6030-EHC	Particulate Element (Post Filter)	Nugent 01-094-006 or 01-094-001 (Westinghouse® Post Filter)
KM3010-EHC	Particulate Element (Post Filter)	HILCO PL310-12-CN or PH30-12-CV (GE® Post Filter)



*NEMA 4X enclosures are intended for indoor & outdoor use primarily to provide a degree of protection against corrosion, windblown dust & rain, splashing water, and hose-directed water; and to be undamaged by the formation of ice.

Model F-480-729

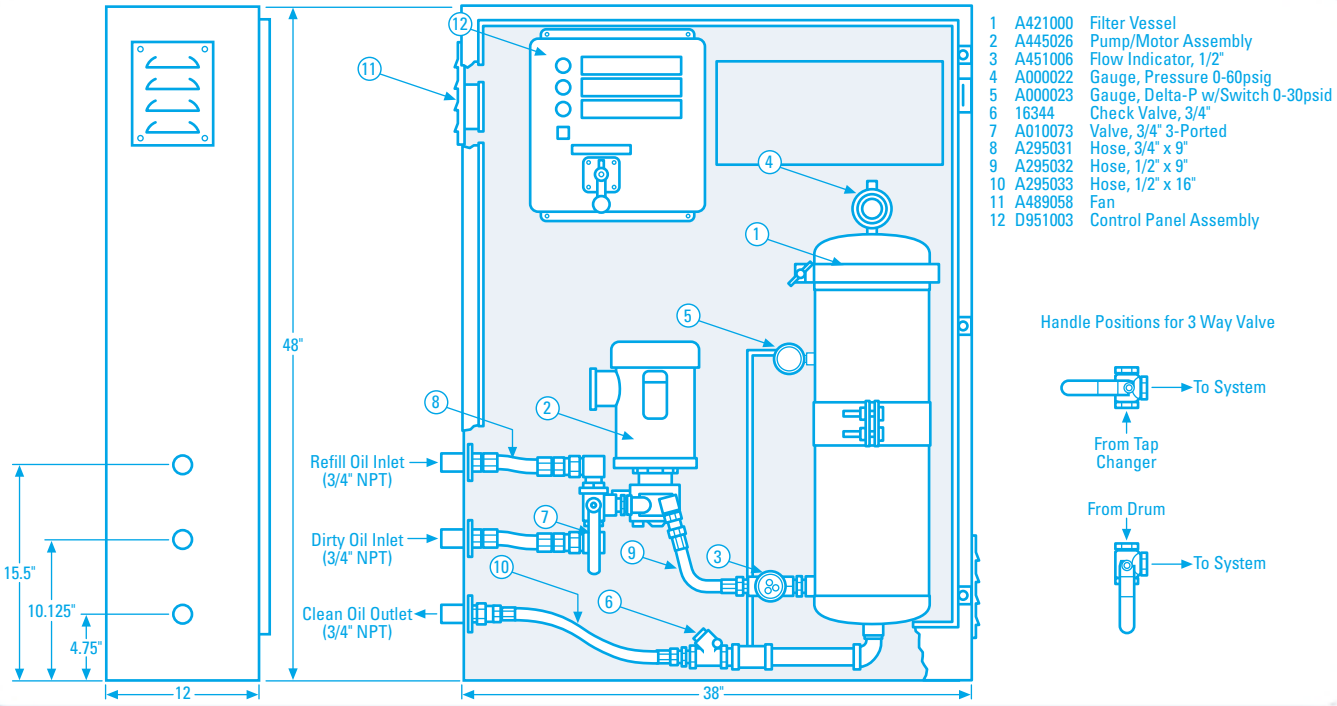
Oil Filtration System For Electrostatic Precipitator Rectifier Transformers and Load Tap Changers



- Removes carbon fines
- Removes water
- Continuous operation

Turning Ideas Into Engineered Solutions
KAYDON FILTRATION GROUP

F-480-729 SPECIFICATIONS



Electrostatic Precipitator Rectifier Transformers

A typical precipitation will take 480 VAC, and with the assistance of a transformer/rectifier, convert the power to operate at a DC voltage. Cooling of the rectifier transformer is performed with oil or an oil/water heat exchanger. The Model F-480 is a perfect fit to keep the oil in the rectifier transformer clean and dry and in the proper condition for the rectifier transformer to operate properly.

Load Tap Changer Transformers

Load Tap Changer transformers supply a constant voltage under varying load conditions. The LTC changes the ratio of the transformer to compensate for voltage drops that occur as the load on the transformer changes. The LTC automatically adjusts the outgoing voltage of the transformer to within the specified limits while the transformer remains in full operation. Full and reliable operation is only possible with clean LTC oil.

Many Transmission and Distribution facilities have evaluated the use of filtration systems to continuously clean the oil within the load tap changer enclosure. The Transmission and Distribution facilities that have installed filters on their LTC transformers have experienced that efficient oil filtration is a contributing factor in extending maintenance intervals for a LTC. The Filterdyne F-480 is designed to provide the required filtration to keep and maintain the LTC oil. A LTC will eventually require maintenance to clean the oil, so it is to your benefit to permanently install a Filterdyne F-480 to provide this maintenance function.

The primary application where LTC transformer oil benefits from filtration are those with high “tap to tap” voltage differences or where the arcing contacts have accelerated erosion rates. In these cases, it is a high probability to see high levels of particulate and carbon, which contribute to degradation of the oil within the LTC compartment. The Kaydon F-480 can efficiently remove the metallic particulate and carbon from the oil with a .2 micron rated element, and prevent premature LTC failure due to oil deterioration.

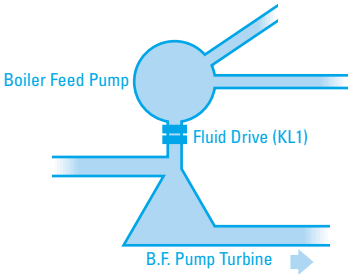
In addition to the standard .2 micron filtration (Model FE-717-649), the F-480 offers other filtration choices:

- ***WaterLock*** – removes free & emulsified water, and some dissolved water. (Model FE-717-536)
- ***Fullers Earth*** – removes soluble contaminants and water that increase the oil’s Acid Number. (Model FE-717-538)
- ***Activated Alumina*** – removes acids & water more efficiently than F.E., produces ultra-dry oil. (Model FE-717-539)

Boiler Feed Pump Turbine Lube Oil

Models KL30H, KL10H, KL5H and KL1 TURBO-TOC® Turbine Oil Conditioners

BFP turbines typically have water ingression problems with the turbine lube oil. The KL Series(depending on lube oil size reservoir) is capable of handling large water ingression problems found with BFP turbines. The smaller KL Series can be sized to your specific lube BFP turbine oil reservoir.



PlantSpec
On CD-ROM & ThomasRegister.com
to download our CAD drawings

Sizing Info

Reservoirs to 240 gallons – KL1
241 to 600 gallons – KL5
601 to 1,200 gallons – KL10H
1,201 to 3,600 gallons – KL30H

Model KL1

Lube Oil Conditioner for Fluid Drive Lube Oil

Fan fluid drives and boiler feed pump fluid drives are critical power plant equipment, so oil cleanliness is essential for power transmission, lubrication, and dissipating of heat. Most Fluid drives have been in operation for several years on continuous service or stop/start service and the oil quality should be considered to maintain a dependable working fluid drive. the most common brans of variable speed Fluid Drives used in power plants are American Blower, American Standard, and Howden Buffalo. One of the most common causes of an unscheduled shutdown of a fluid drive is bearing and oil pump wear due to poor oil quality. the Kaydon Model KL1 is designed to remove solid contamination and water from the lube oil used with Fluid Drives. The KL1 is installed independently of the Fluid Drive, so it will not cause any problems, as in-line filters do, with oil pressure and oil flow. The KL1 operates continually with its own pump/motor assembly at a flow of 1 gpm continuously removing solid contamination and water from the oil in the Fluid Drive.

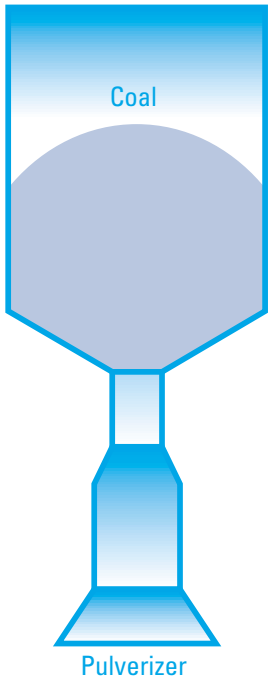
Model KL1

- Solid contamination and water removal in one very compact design (22"L x 12"W x 32"H)
- 1 gpm continuous process rate for fast reservoir turn over and generous reserve for emergencies
- Suitable for reservoir capacities to 240 gallons
- Extremely compact design mounts directly on or adjacent to reservoir
- Removal of particulate smaller than bearing clearances with absolute rated filter elements
- 80% single pass water removal
- Low maintenance, operator not required
- Light weight, less than 65 pounds dry
- Very low operating cost
- Simple installation

K2-1 and K5-1

Stationary Single-Stage Oil Filtration Systems

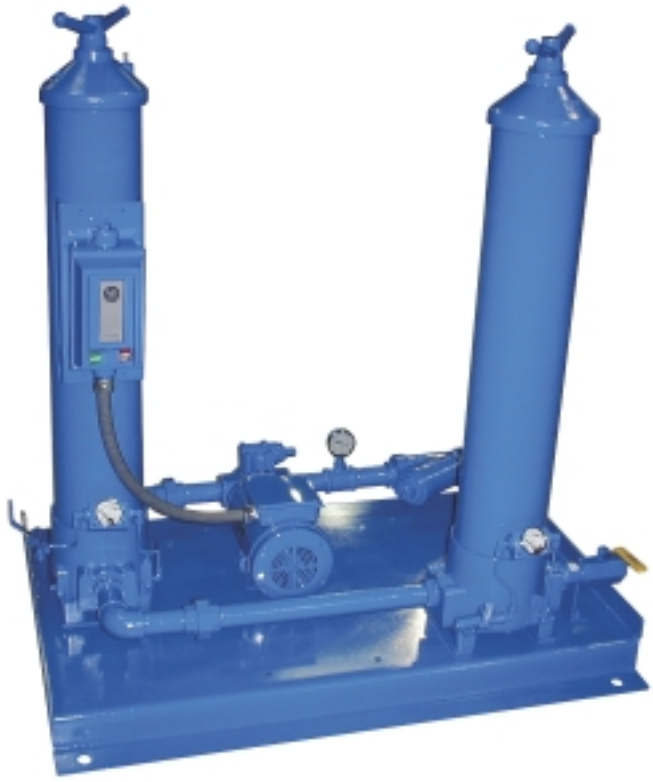
- Designed for ISO 220, 320 & 460 Gear Oil used with coal pulverizers
- Designed for stationary, dedicated service to a single coal pulverizer
- Flow Rates: K2-1 = 2 gpm K5-1 = 5 gpm
- Filter Element: FE-618-1030 Micron Rating: 12 microns
- Operating Voltage: 120V Optional 460V or 575V
- Removes coal dust and associated particulate matter



KP10-2

Portable 2-Stage Oil Filtration System

- Designed for ISO 220, 320 & 460 Gear Oil used with coal pulverizers
- Designed for portability amongst multiple pulverizer units
- Flow Rate: 10 gpm
- Pre-Filter Element: KM6036-8
- Polishing Filter Element: KM6036-3
- Operating Voltage: 460V
- Removes coal dust and associated particulate matter



CFI Fuel Guardian Systems

Self-Contained Diesel Fuel Maintenance Systems

Description

CFI systems are self contained diesel fuel quality maintenance systems. They are specifically designed to dry and filter stored diesel fuel to levels that exceed the recommendations of the major diesel engine manufacturers. When a back up generator is called into service the engine must start! Diesel fuel, when processed through a CFI system, ensures instant starts, optimizing generator availability. Using a CFI system also reduces annual maintenance costs. By insuring the integrity of the diesel fuel, disposal of contaminated fuel and annual reservoir cleaning costs are eliminated. Maintaining clean and dry diesel fuel also discourages the growth of algae and bacteria. This eliminates the need to add expensive chemicals and biocide additives, resulting in additional savings. CFI systems are PLC equipped, fully automated, have remote monitoring capabilities and are capable of servicing multiple reservoirs.

Construction

- 3 Sizes – 6, 12, & 30 gpm units
- Kaydon Element Technology Group designed particulate, coalescing and separating elements
- Visual and Audible Status and Alarms
  - Filter element condition
  - Pump is Activated
  - High water level achieved
- 110 volt electric with PLC
- Multi Tank Manifold
- Automatic Water Drain
- Weatherized Cabinet, rupture basin equipped with a float & kill switch
- TEFC – Continuous Operation Rated Motor

Benefits

- Kaydon/Bowser = 115+ years of filtration experience.
- Kaydon (NYSE-KDN) is registered to ISO 9001, the highest level within ISO standards
- Elements are manufactured to the rigorous standards set by the Kaydon Element Technology Group
- Eliminates annual reservoir cleaning, new diesel purchases and disposal costs
- Virtually eliminates the need to add chemicals & biocide additives
- Unattended operation on multiple fuel reservoirs

Clean Fuel Incorporated

SPECIFICATIONS

- **Electric:** 110VAC single phase 60Hz with Main and Secondary Fuses
- **Control:** PLC
- **Control Panel:** Weatherproof
- **Motors:** TEFC Continuous Operation Rated
- **Pump:** Positive Displacement – Bi-directional with Teflon impregnated bearings
- **Vessel:** 100psi – Carbon Steel, built to ASME code specifications (no stamp)
- **Filtration:** 4 Stage – 90 mesh strainer, 2 micron particulate, coalescer and separator
- **Cabinet:** Weatherized – Steel with Enamel Finish Coat, 24"W x 32"D x 48"H with built in Rupture Basin with Float, Alarm & Kill Switch

Sizing Guidelines

Reservoir Size	Process Speed	Gallons Per Hour	Gallons Per Shift*	Gallons Per Day
10,000	6 gpm	360	2,880	8,640
20,000	12 gpm	720	5,760	17,280
40,000	30 gpm	1,800	14,400	43,200

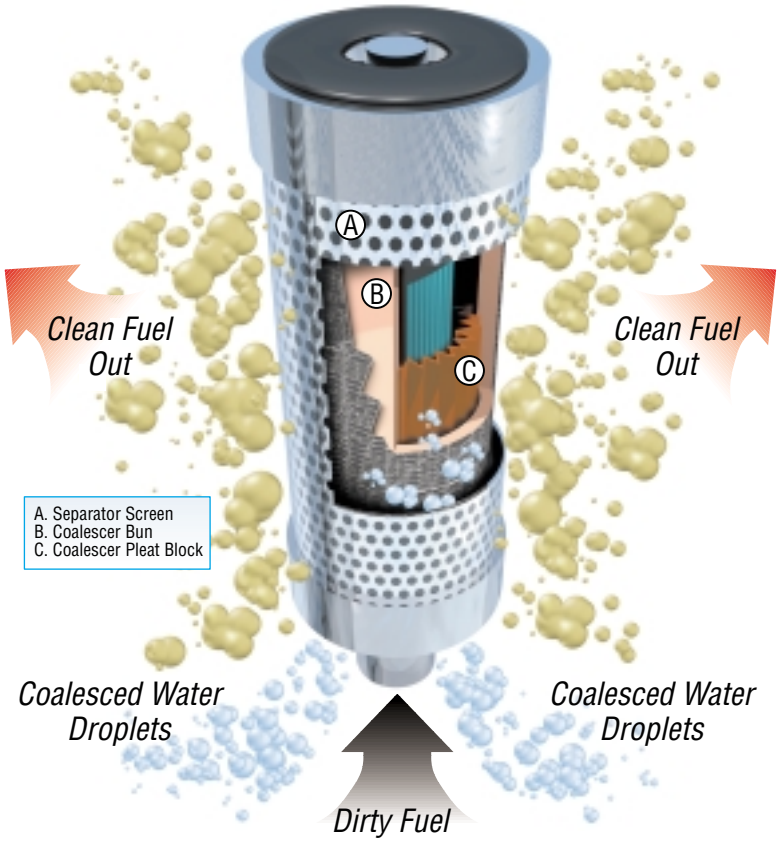
*8 Hours

Performance

Initial filtration is accomplished via a 90 mesh cleanable strainer followed by a single element that combines particulate and moisture removal. The Kaydon Element Technology Group designed element, is capable of particulate filtration to less than 2 microns. Moisture removal is accomplished via coalescing and separation that can reduce influent water content up to 99.9% in a single pass. Overall sediment and moisture content can be maintained at or below .02% by volume. In addition, when used in accordance with CFI instructions diesel fuel purified with a CFI system will exceed the recommended diesel fuel specifications of the major diesel engine manufacturers.

Water Removal – Coalescence

Kaydon coalescers are specifically formulated to efficiently separate water from a variety of fluids like aviation fuel, diesel fuel, turbine oil, etc. Kaydon coalescers can reduce a 5,000 parts per million (ppm) concentration of water to 5ppm during a single pass with many fluids. In the illustration you can see the superior Kaydon coalescer at work. The fuel, contaminated with water, flows from the inside out. As the fuel and water pass through the special Kaydon coalescer media, the small water droplets coalesce – forming larger water droplets, leaving water at the bottom, while clean fuel flows out the top.

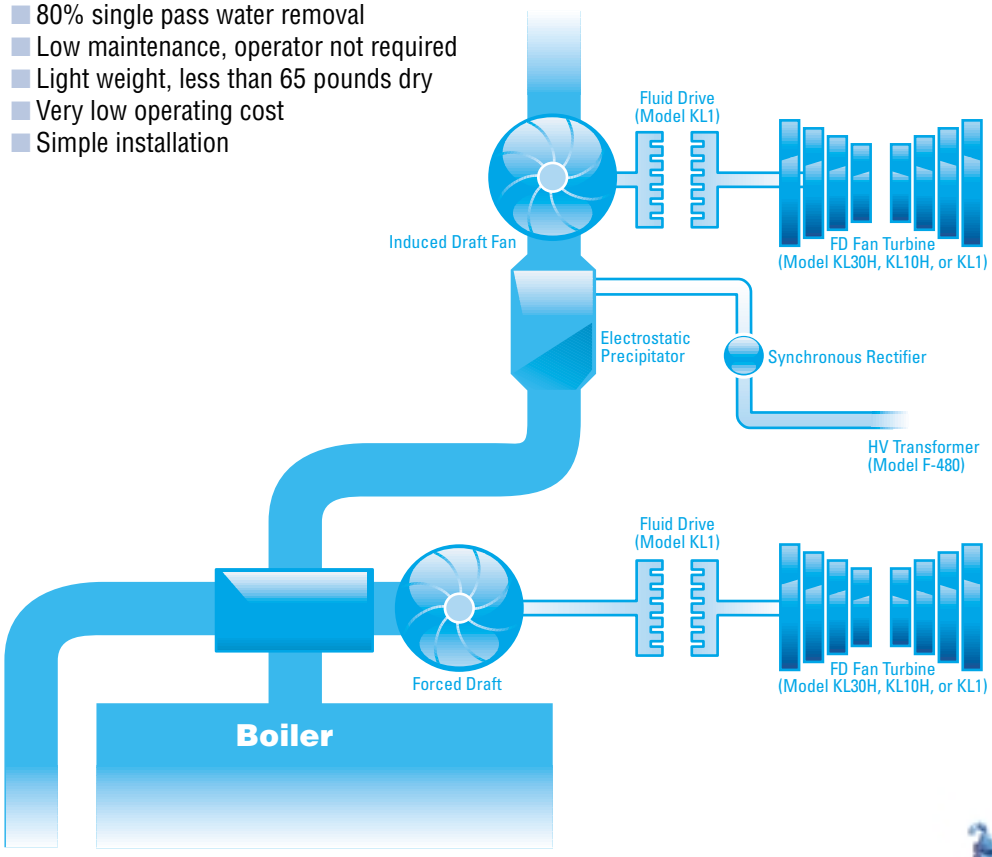


Model KL1

Lube Oil Conditioner for Fans

- Solid contamination and water removal in one very compact design (22"L x 12"W x 32"H)
- 1gpm continuous process rate for fast reservoir turn over and generous reserve for emergencies
- Suitable for reservoir capacities to 120 gallons
- Extremely compact design mounts directly on or adjacent to reservoir
- Removal of particulate smaller than bearing clearances with absolute rated filter elements
- 80% single pass water removal
- Low maintenance, operator not required
- Light weight, less than 65 pounds dry
- Very low operating cost
- Simple installation

Model KL1



Models KL5H, KL10H an KL30H TURBO-TOC® Turbine Oil Conditioners

These units are designed for large forced draft fans and induced draft fans. The KL series are ideal for medium and small steam turbines used for driving fans in large coal fired power plants.

Sizing Info

Reservoirs to 240 gallons – KL1
241 to 600 gallons – KL5H
601 to 1,200 gallons – KL10H
1,201 to 3,600 gallons – KL30H

Model K4100HE High Efficiency Particulate Removal Filter Element

KAYDON
ELEMENT TECHNOLOGY

Problem

Turbine lube oil cleanliness specifications have become stricter and more demanding, thus the filtration requirements for turbine oil have increased.

Solution

Kaydon has designed a turbine oil filter cartridge that brings an extra degree of cleanliness to turbine oil. The K4100HE High Efficiency element form Kaydon delivers the clean oil your turbine oil system requires.

Benefits

The K4100HE High Efficiency filter element reaches cleanliness levels that will exceed those that are currently being met. This extra level of purity will keep the rotating components extra safe and protected, which leads to less particulate contamination problems, and extended oil life. No longer will particulate contamination with turbine oil be an issue.

Justification

The K4100HE High Efficiency filter element is a direct replacement to the K1000 and K4000 Turbo-TOC elements. When the next element change-out is scheduled, and your oil cleanliness requirements has been elevated to an extra level of cleanliness, consider replacing them with a K4100HE High Efficiency element.

Helps The Coalescing Process

The K4100HE eliminates fine particulate matter that clogs the K2000 coalescer element. The K2000 coalescer works best when it is free of particulate matter. The K4100HE ensures longer life and efficiency of the K2000. The K4100HE offers the dual benefit of cleaner oil and enhanced water removal.

KAYDON
ELEMENT TECHNOLOGY

Hydraulic and Lube Oil Filter Cartridges

Features

Many micron rating choices. Choose the micron rating that is required for your application.

In stock – Can ship in 2-3 days

Direct replacements for Pall 8300, 8310, 8314, and 9600 elements.

Applications

- Hydraulic Systems
- Turbine Oil
- Replaces Parker™ PMG528-10B200GE Drawing #363A4377P003

KAYDON ELEMENT TECHNOLOGY

In-Stock 8300, 8310, 8314, & 9600 Replacement Elements

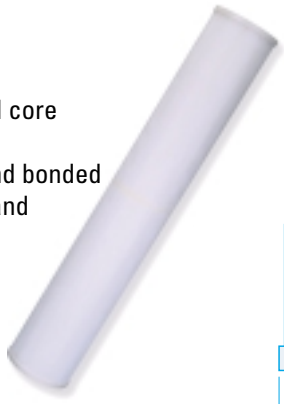
Pall Part #	Kaydon Part #	Description			Pall Part #	Kaydon Part #	Description	
HC8300F*P39H	KM8300-39-3	6" x 39"	ß3µ ≥ 200		HC9600F*P13H	KM9600-13-3	3" x 13"	ß3µ ≥ 200
HC8300F*N39H	KM8300-39-6	6" x 39"	ß6µ ≥ 200		HC9600F*N13H	KM9600-13-6	3" x 13"	ß6µ ≥ 200
HC8300F*S39H	KM8300-39-12	6" x 39"	ß12µ ≥ 200		HC9600F*S13H	KM9600-13-12	3" x 13"	ß12µ ≥ 200
HC8300F*T39H	KM8300-39-25	6" x 39"	ß25µ ≥ 200		HC9600F*T13H	KM9600-13-25	3" x 13"	ß25µ ≥ 200
HC8310F*P39H	KM8310-39-3	6" x 39"	ß3µ ≥ 200	Deep Pleat	HC9600F*P8H	KM9600-8-3	3" x 8"	ß3µ ≥ 200
HC8310F*N39H	KM8310-39-6	6" x 39"	ß6µ ≥ 200	Deep Pleat	HC9600F*N8H	KM9600-8-6	3" x 8"	ß6µ ≥ 200
HC8310F*S39H	KM8310-39-12	6" x 39"	ß12µ ≥ 200	Deep Pleat	HC9600F*S8H	KM9600-8-12	3" x 8"	ß12µ ≥ 200
HC8310F*T39H	KM8310-39-25	6" x 39"	ß25µ ≥ 200	Deep Pleat	HC9600F*T8H	KM9600-8-25	3" x 8"	ß25µ ≥ 200
HC8314F*P39H	KM8314-39-3	6" x 39"	ß3µ ≥ 200	Coreless	HC9600F*P4H	KM9600-4-3	3" x 4"	ß3µ ≥ 200
HC8314F*N39H	KM8314-39-6	6" x 39"	ß6µ ≥ 200	Coreless	HC9600F*N4H	KM9600-4-6	3" x 4"	ß6µ ≥ 200
HC8314F*S39H	KM8314-39-12	6" x 39"	ß12µ ≥ 200	Coreless	HC9600F*S4H	KM9600-4-12	3" x 4"	ß12µ ≥ 200
HC8314F*T39H	KM8314-39-25	6" x 39"	ß25µ ≥ 200	Coreless	HC9600F*T4H	KM9600-4-25	3" x 4"	ß25µ ≥ 200
HC9600F*P16H	KM9600-16-3	3" x 16"	ß3µ ≥ 200					
HC9600F*N16H	KM9600-16-6	3" x 16"	ß6µ ≥ 200					
HC9600F*S16H	KM9600-16-12	3" x 16"	ß12µ ≥ 200					
HC9600F*T16H	KM9600-16-25	3" x 16"	ß25µ ≥ 200					

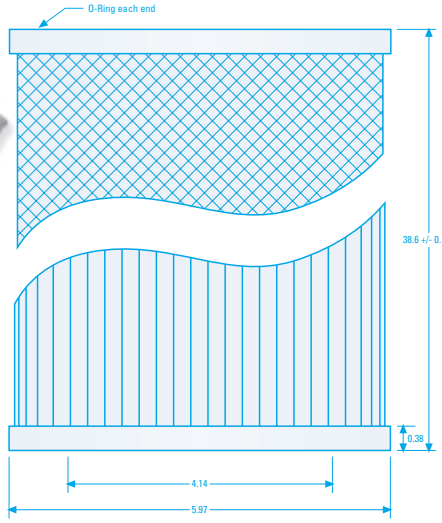
*This letter may be U, D, K or X.

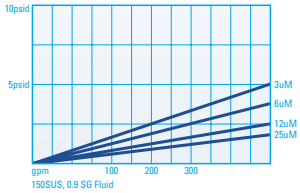
8300-39 High Capacity Filter

Specifications

- **Temperature Range**
  -45°F to +225°F with nitrile seals
  -20°F to +225°F with fluorocarbon seals
- **Hardware Material**
  Corrosion protected metal endcaps and core
- **Filter Medium**
  Inert micro-glass fibers impregnated and bonded with stable resin, supported upstream and downstream with polymer mesh
- **Collapse Rating**
  150 psid per ISO-2941
- **Removal Rating**
  Beta 3, 6, 12, 25>200



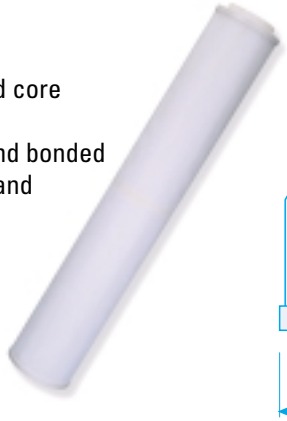


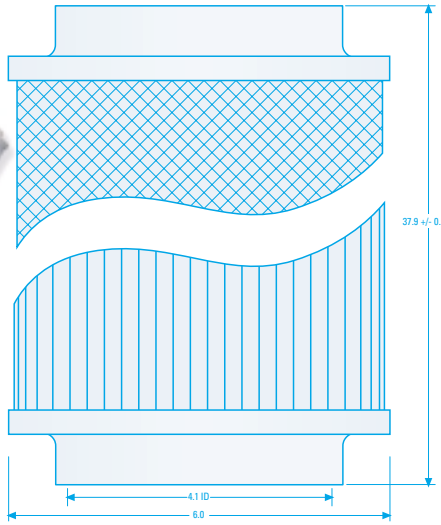


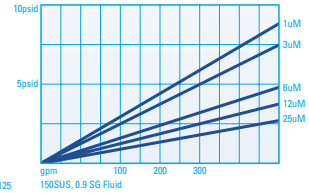
8310-39 High Capacity Filter

Specifications

- **Deep Pleat Element**
- **Temperature Range**
  -45°F to +225°F with nitrile seals
  -20°F to +225°F with fluorocarbon seals
- **Hardware Material**
  Corrosion protected metal endcaps and core
- **Filter Medium**
  Inert micro-glass fibers impregnated and bonded with stable resin, supported upstream and downstream with polymer mesh
- **Collapse Rating**
  150 psid per ISO-2941
- **Removal Rating**
  Beta 3, 6, 12, 25>200
- **Seal**
  "243" O-Ring, DOE



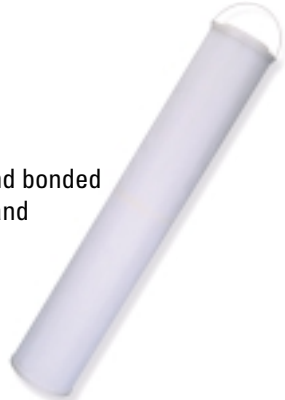


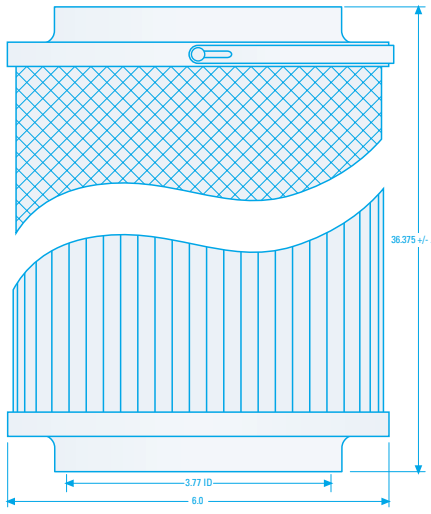


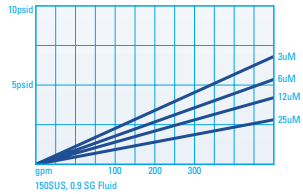
8314-39 High Capacity Filter

Specifications

- **Kaydon Koreless™ Element**
- **Temperature Range**
  -45°F to +225°F with nitrile seals
  -20°F to +225°F with fluorocarbon seals
- **Hardware Material**
  Polymer endcaps
- **Filter Medium**
  Inert micro-glass fibers impregnated and bonded with stable resin, supported upstream and downstream with polymer mesh
- **Collapse Rating**
  150 psid per ISO-2941
- **Removal Rating**
  Beta 3, 6, 12, 25>200







Notes:

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For More Information

www.kaydonfiltration.com
e-mail: filtration@kaydon.com

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Turning Ideas Into Engineered Solutions

KAYDON FILTRATION GROUP

Kaydon Filtration Group designs and builds industrial oil filtration equipment and fuel filtration equipment for markets such as Power Generation, Military Fuel Handling, Pulp & Paper, Steel, Marine, Mining, Fluid Power, Cryogenic and Machine Tool. Kaydon specializes in removing harmful water from lube oil with special expertise in turbine oil conditioning for both small, industrial steam turbines, and large, power generating turbines. Kaydon has an R & D department with engineering experience in designing custom filtration products to meet customer's specific needs. Kaydon also produces a line of flow control devices that indicate and control fluid flow to critical equipment for these same industrial users. The flow control devices indicate the flow of petroleum based or aqueous fluids. Kaydon Filtration Group is an ISO 9001 Registered Company.

Turning Ideas Into Engineered Solutions

KAYDON FILTRATION GROUP

Bowser TECHNOLOGY

KAYDON ELEMENT TECHNOLOGY

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