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Filtration Analysis Services Technology Ltd

How clean is your oil ?



MS2 All Terrain Oil & Diesel Filtration Systems

- Removes Particulate contamination to filter fineness of $1\mu\text{m}$ nom, $3\mu\text{m}$ absolute.
- Removes free & emulsified water from fluids
- Reduces Component wear
- Extends Oil Change Intervals
- Reduces Oil renewal and disposal costs



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MS2 Twin Unit All Terrain Filtration Systems

The MS2 All Terrain Oil & Diesel Filtration Systems are multi-function units able to provide filtration on various fluids, including lubrication oils, diesel fuel, coolants & glycols. The systems can be built in a wide range of configurations allowing these systems great flexibility and able to meet any filtration challenge. From high water counts, heavy particular contamination or need to remove ferrous debris, these units will remove contaminants and return fluids back to working order. The unit is built on a wheeled All Terrain Trolley with an integrated bund fitted with a float switch to prevent spills occurring. This unit was developed to work on large outdoor sites with various fuel and oil storage tanks, the system is suitable to provide filtration on water-based fluids, diesel fuel & light oils to 220 grade viscosity. They're the ideal addition to anybody wanting to increase fluids life, reduce renewal & disposal and protect components against harmful abrasive wear particles. **As standard all filter systems come supplied with 3m suction & return lines and fitted with a standard 1888H filter cartridge ready for use**

Key Features

- Can be supplied in 110v, 240, or Air Driven
- Study built unit able to easily be transported around sites on rough difficult terrain.
- Fitted with twin KU85 Housings allowing the full 88 Range of filters
- Able to provide filtration on fuel & light oils lubrication oils to 220 grade viscosity
- Able to filter water-based fluids such as coolants & glycols when fitted with the 2088PP range of filters
- Suitable for storage tanks/drums up to 1500 Litres
- Can be fitted with Magnetic Filter
- Flow Rates of approx. 1100lph (based on diesel) to approx. 300lph on 220 grade oil
- Suitable for use as a transfer pump
- Can be built in compliance with A-Tex regulations



Selection of FA-ST MS2 All Terrain Filtration Systems

System Configuration

The MS2 All Terrain filtration systems are free standing units built on pneumatic wheeled all terrain trollies with integrated bunds. The unit is for **Offline** filtration of various fluids or used as a transfer pump (just remove your filter cartridge). They are designed for ease of transportation around sites:

Frame: These units are built on a pneumatic wheeled all terrain trollies with integrated bunds H830mm x W630mm x L740mm. The bund is fitted with a safety float switch to prevent any potential leaks spilling on site. These frames allow for the units to be easily transported around large open sites.

Pump & Power Supply: The units come in two main designs either electrically powered or Air Driven.

Electrical Systems: Come fitted with a **Haight 5U Gear Pump** and can be fitted with either a 110v, 240v or 3 Phase motor depending on requirements.

Air Driven: This configuration comes fitted with the Tapflo TX 25 or TX 75 Air diaphragm operated pumps. The pumps are compliant with A-TEX regulations so are the perfect addition should these requirements need meeting.

Housings: The unit is fitted with as standard with a twin 9788/KU85 Filter Housing, A-Tex configuration the 9788UMZ. This housing allows use of the 88 Range of filter cartridges giving great flexibility when filtering or polishing fuels

Additional Filtration Options: These units can be fitted 5" Micro Mag Magnetic Pre-Filter. The Magnetic filter is ideal for removal of magnetic/ferrous particles (strongly recommended for anyone carrying out filtration on diesel fuel)

Safety Features: All configurations of these systems come fitted with Quick Release Couplings allowing for ease when replacing suction and return hoses. Pressure Gauges to monitor and provide for information on filter cartridge change intervals and safety leak detection float switches.

Air Driven Configuration Safety Features: Air driven configurations are also fitted with air control regulators to control air flow to the pump.

Electrical Configuration Safety Features: These units are also fitted with Isolator & On/Off switch with green running light, and also fitted with a pressure relief switch.

Filtration

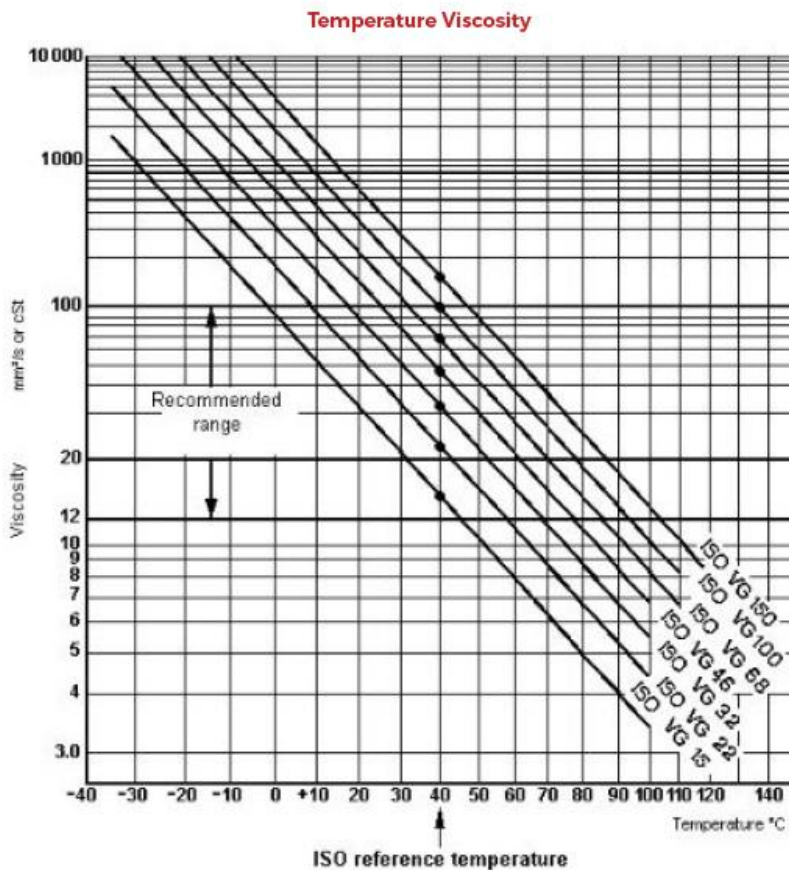
These units are fitted with the 9788/KU85 housings, they are able to fit the 88 Range of filter cartridges. This gives them the filtration capabilities to filter fineness of 1µm nom, 3µm absolute.

Before carrying out any filtration we always recommend having your fluid analysed at our laboratory to ensure that 1. Filtration is required and 2. Your target cleanliness levels are achievable with the selected system.

The MS2 All Terrain units are ideal for providing filtration on various fluids including Lubrication oils up to 220 grade viscosity, diesel fuel & water-based fluids such as coolants & glycols. Being fitted with the 9788-filter housing the systems are suitable for use with the FA-ST 88 Filter Cartridge range allowing for fluids to be both filtered and polished. The table below shows the best filter for each filtration job that the unit can be tasked with:

| Fluid | Filter Cartridge | | Approx. flow rates (litres per hour) |
|--------------------------|------------------|-----------|--------------------------------------|
| | Filtering | Polishing | |
| Lube Oil to 46 cSt | 1888H | 1888SPT | 800-1100lph |
| Lube Oil to 46 – 220 cSt | 1888H | 1888SPT | 300-800lph |
| Diesel Fuel | 1888H | 1888SPT | 1000-1200lph |
| Coolant & Glycol | 2088PP | 2088PP6 | 1000-1200lph |

Important Note When filtering always remember temperature is a very important factor. The colder the temperature the lower the fluids viscosity i.e. at operational temp of 40°C the oil is 32 cSt, however on a cold morning if the temperature were 10°C then the oils viscosity could of increased to near 400 cSt



This chart will provide you with an indication of the approximate changes in an oils viscosity at arrange of temperatures



Biodiesel



Diesel Fuel



Gear Oil

BEFORE

AFTER

Fluids before & after filtration using the MS1 Hand Carry Filtration System

Filter Cartridges

The MS1 Hand Carry Units are able to be fitted with a range of filters to allow for various fluids to be filtered and polished. The filter elements provide fineness of 1µm nom, 3µm absolute. Temperature operating range 0-125°C, +/- 5°C.

Oil & Diesel Filter Cartridges



FA-ST 1888H & 1888SPT Standard Oil & Diesel Filter Elements

The FA-ST oil & diesel filter cartridges are ideal for removing particulate contamination and water from lube oils and diesel fuel. The tightly wound filter media in these cartridges trap particles down to 3 micron in size removing large amounts of contamination that can build up in a system. For use with Engines with Sump Capacity of 18 gal / 90 litres or hydraulic systems with tanks up to 300 gallons/ 1360litres.

1888H: For **filtering** oils up to 220 grade and diesel fuel removing contamination. Made from tightly wound filter media and a 1-micron 2mm base layer and with handles. For light oils and diesel fuels from 2 to 46 viscosity at cold 0°C and ambient 23°C temperature and for warm/hot oils up to 220 viscosity and 125°C

1888SPT: The 1888SPT filter cartridges are ideal for **polishing** and maintaining the condition of oils and fuel preventing contamination build-up. Made from tightly wound filter media in 2 layers separated by a 1-micron 2mm spacer and a 1-micron 2mm base layer and with handles. For light oils and diesel fuels from 2 to 46 viscosity at cold 0°C and ambient 23°C temperature and for warm/hot oils up to 220 viscosity and 125°C

The dirt retention capacity for each filter is up to:

- **Particulate Contamination:** 2.5kg approx.
- **Water Removal:** 1 Litre approx.

| Filter | Application | Filtration of | Buy |
|---------|-------------|---------------------------|-------------------------|
| 1888H | Filtering | Diesel & Oil to 120 grade | Buy Now |
| 1888SPT | Polishing | Diesel & Oil to 120 grade | Buy Now |

High Viscosity Oil Filter Cartridges



FA-ST 1888SH & 2088CPS High Viscosity Oil Filter Elements

The high viscosity oil filter cartridges are especially designed to filter oils of a higher-grade viscosity between 320 – 1000 cSt. The design of these cartridges will allow the higher-grade oils to be pushed through the filter media without creating a build-up of back pressure tripping out the filtration system. They can provide filtration on lower grade oils and diesel however the standard oil & diesel filters are far more cost effective. The high viscosity oil filters come in 2 special designs:

1888SH: For **filtering** high viscosity oils, allow an amount of oil to bypass preventing backpressure build up. This means more passes of the oil through the filter are required to remove the contaminants. Made from tightly wound filter media, a 1-micron 2mm base layer and a cardboard outer sleeve with handles. For light oils and diesel fuels from 2 to 46 viscosity at cold 0°C and ambient 23°C temperature and for warm/hot oils up to 460 viscosity and 125°C

2088CPS: These filters provide much finer filtration than the 1888SH and should be used as a **polishing** filter cartridge. Using these filters for the initial filtration is not cost effective as heavily contaminated oils will block these quickly. Split into halves with a layer made from tightly wound filter media separated by a 1-micron 2mm spacer with a polypropylene layer below and a 1-micron 2mm base layer and with handles For light oils and diesel fuels from 2 to 46 viscosity at cold 0°C and ambient 23°C temperature and for warm/hot oils up to 460 viscosity and 125°C

The dirt retention capacity for each filter is up to:

- **Particulate Contamination:** 2.5kg approx.
- **Water Removal:** 1 Litre approx.

| Filter | Application | Filtration of | Buy |
|---------|-------------|-------------------------------------|-------------------------|
| 1888SH | Filtering | High Viscosity Oil 120 to 220 grade | Buy Now |
| 2088CPS | Polishing | High Viscosity Oil 120 to 220 grade | Buy Now |

Coolant & Glycol Filter Cartridges



FA-ST 2088PP & 2088PP6 Coolant & Glycol Filter Elements

The FA-ST coolant & glycol filter cartridges are ideal for removing particulate contamination from water-based fluids. These cartridges are especially designed to let water pass through the filter while entrapping particles making them ideal for coolants and glycols. These filters can be used with most filtration systems and only require the unit to be flushed of any oil or diesel for the units to be able to provide filtration on water-based fluids. Used for tanks up to 300 gallons/ 1360 litres.

2088PP: For **filtering** water-based fluids and removing particulate without removing water. Made from polypropylene filter media and a 1-micron 2mm base layer and with handles. **For filtration** of coolants, glycols, flame retardant oils or any water-based fluid to remove particulate contamination.

2088PP6: The 2088PP6 filter cartridges are ideal for **polishing** and maintaining the condition of water-based fluids preventing contamination build-up. **For polishing** of coolants, glycols, flame retardant oils or any water-based fluid to remove particulate contamination.

The dirt retention capacity for each filter is up to:

- **Particulate Contamination:** 2.5kg approx.
- **Water Removal:** N/A

| Filter | Application | Filtration of | Buy |
|---------|-------------|------------------------------|-------------------------|
| 2088PP | Filtering | Coolant & Water Based Fluids | Buy Now |
| 2088PP6 | Polishing | Coolant & Water Based Fluids | Buy Now |

MicroMag Magnetic Pre Filters



MM5 MagneticPre Filter

The innovative design of the MicroMag Magnetic Filter Systems offers users the ability to remove large amounts of ferrous debris from cooling & fuel systems, oil reservoirs, or any fluids that magnetic particles can build. By using magnetic filtration harmful ferrous particles even down to a sub-micron in size can quickly be extracted from fluids. This extensive filtration can prevent abrasive wear occurring to components, remove particulates that can allow bugs & bacteria to develop, in turn leading to a fluid's life being greatly increased.

A magnetic filter provides great cost saving benefits as unlike other filters once the element is at capacity the magnet simply needs removing from the housing cleaning down with the tools providing refitting and ready to go again. No replacement parts needed.

For the MS1 Hand Carry filtration system the MM5 magnetic filter would be the filter of choice. Large magnets are too heavy and cumbersome for this unit design as they would create stability issues. The MM5 does still provide the same operational principle as the larger Magnets with great dirt holding capabilities before cleaning is required.

| Part No | Flow Rate ltrs/min | Holding Capacity kgs | Max Operating Pressure - bar | Connection BSP | Temp Range °C | Weight (Kg) |
|---------|-----------------------|-------------------------|---------------------------------|-------------------|---------------|-------------|
| MM5 | 70 | 1 | 12 | 1" | 5-50 | 3.15 |



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 How clean is your oil ?

Oil & Fuel Sampling

With our wide range of sample bottles and containers our customers can take a wide range of samples including oils, diesel fuel, coolants, glycols and a selection of chemicals and other fluids. Supplying our customers with:

- Vacuum Sampling Pumps
- Sample Bottles
- Sample Tubing
- Complete Oil & Fuel Sampling Kits



Oil Analysis

FA-ST provide a comprehensive range of oil testing allowing you to determine the cleanliness, contamination, chemistry and identify wear particles in lubrication oils, diesel fuel, coolants, and greases etc. at our independent oil analysis laboratory.

With the support of the FA-ST oil analysis program you can consistently monitor the quality of the fluids used on your machinery & equipment, detect potential component failure, reduce maintenance costs and help decide the correct oil change intervals.



Oil Filtration

FA-ST have an extensive range of oil filtration equipment especially designed to remove particulate, water and magnetic particles from oils, diesel fuel, coolants & glycols. Working with some of the industries leading businesses we aim to bring you the finest filtration equipment on the market including:

- Oil, Diesel & Glycol Filtration Systems
- Filter Cartridges for a wide range of fluids
- Magnetic Pre-Filters
- Bypass Filter Systems



How Clean is your Oil?

For all your oil sampling, filtration & Analysis needs contact FA-ST:

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