

Hydraulic Bypass Filter Units How Clean is your Oil?



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Kleenoil Hydraulic Bypass Filtration Unit

The FA-ST Hydraulic Bypass filter units are ideal for providing additional filtration for systems working between 120psi-3000psi. The oil will be finely recycled, and the particulates and any water removed, as the equipment is operating. As a result of this process, the oil is maintained in a clean useable condition, dramatically changing any oil drain interval. The flow through the filter is controlled to approx, 4ltrs per minute at approx 42psi. A flow rate low enough to have negligible effect on most "system pressures", yet high enough to provide good quality filtration and ensure that oil is being kept in "as new" condition.

The hydraulic bypass unit comes supplied complete with the following:

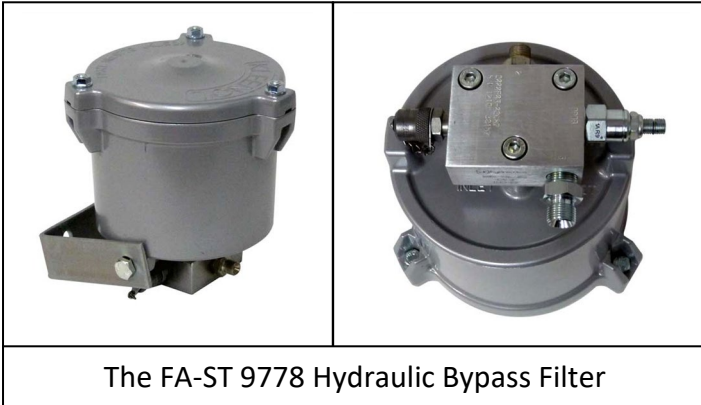
1. Cast aluminium casing, lid, lid sealing ring, lid bolts, nuts, and washers.
2. Supporting bracket complete with four bolts, washers and two nuts.
3. Cartridge already installed in the unit ready for use.
4. Pressure Reducing Valve

The **pressure reducing valve** is mounted to the bottom of the Hydraulic Bypass Filtration System to convert the lower pressure bypass engine oil filter to a high-pressure hydraulic fluid filter. There are three ports on the valve block as listed:

- **Port 1:** Low Pressure output approximately 50 PSI normally is blanked off but may be used to supply another filter housing fitted adaptor -4 (1/4") BSP
- **Port 2:** High pressure input up to 3000 PSI
- **Port 3:** Return to hydraulic reservoir. This port is fitted with adaptor -6 (3/8") BSP and it is important that the return hose is of at least 3/8" bore.



FA-ST 9778H Heavy Duty Bypass Filter Unit



The 9778H Heavy Duty Hydraulic Bypass Filter is the FA-ST low flow bypass hydraulic filter unit. H16.5mm x D14.61mm

The unit is ideal for tanks up to 540 litres and will remove 0.87 litres of water per filter cartridge as well as 1.2Kg of particulate contaminate.

The 9778H housing is for use with all types of plant and equipment and machinery in heavy industry. Suitable for all types of lube oils.

Flow Rate: Output levels are dependent on the viscosity, temperature, and degree of contamination and oil pressure. (Guide for SAE 15W40 oil at 158 degrees F and 60psi, the flow rate would be approx 4 to 7 litres per minute)

Operating Temperatures: Within operating specifications of engine, gear, and hydraulic oils.

Operating Pressures: Maximum rating of 200 bar. Lid torque is 23 lbs/foot

[Replacement Filter Cartridge for 9778](#)

1878 filter cartridges: with dirt retention capacity of approx. max 1.2Kg solid particles and approx max 870 ml water. These cartridges come **supplied as single filters or boxed quantity of 12.**

All boxes and individual cartridges contain spare lid seals for filter housings. Cartridges filter fineness of 1µm nom, 3µm absolute. Temperature operating range 0-135°C, +/- 5°C.

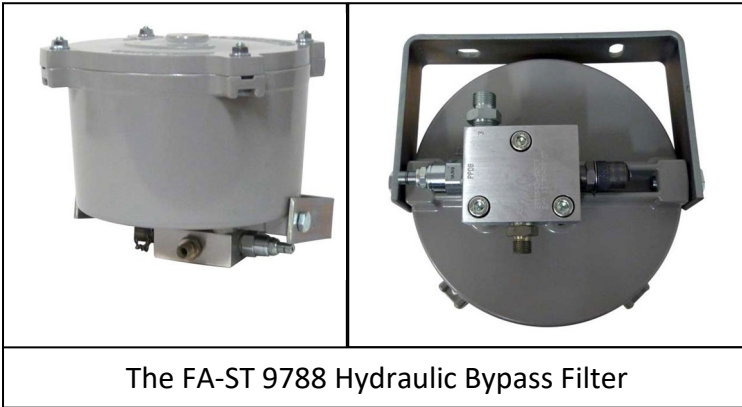
The stated volumes of oil are only relative to installation of single filter housing.

All cartridges are protected by a nylon outer cover with pressed brass ring holder.

On installation the **BRASS RINGS MUST BE FACING UPWARDS**

Filtration Level: Particulate contamination in accordance with BS 5540 part 4: 1981 and ISO/DIS 4406. ISO 14/9 equivalent to NAS 1638 class 6 - hydraulic oil specification.

FA-ST 9788H Super Duty Hydraulic Bypass Filter Unit



The 9788H Super Duty Bypass Filter is FA-ST's larger hydraulic bypass filtration system: H17.15mm x D22.23mm

The unit is ideal for tanks with up to 1360 litres and will remove 0.98 litres of water per filter cartridge as well as 2.5Kg of particulate contaminate.

The 9788H housing is for use with heavy industrial plant & machinery. Suitable for all

types of oils.

Flow Rate: Output levels are dependent on the viscosity, temperature, and degree of contamination and oil pressure. (Guide for SAE 15W40 oil at 158 degrees F and 60psi, the flow rate would be approx 4 to 7 litres per minute)

Operating Temperatures: Within operating specifications of engine, gear, and hydraulic oils.

Operating Pressures: Maximum rating of 200 bar. Lid torque is 23 lbs/foot

Replacement Filter Cartridges for 9788H:

1888H Filter Cartridge: with dirt retention capacity of approx. max 2.5Kg solid particles and approx max 980 ml water. These are the standard FA-ST filter cartridges supplied with all units unless requested otherwise. These cartridges come **supplied as single filters or boxed quantity of 6.**

1888SPT Filter Cartridge: with dirt retention capacity of approx. max 2.5Kg solid particles and approx max 980 ml water. These cartridges are made of two layers of filter media with a 1-micron layer in the middles. These filter cartridges are ideal for polishing light oils and diesel fuels. These cartridges come **supplied as single filters or boxed quantity of 6.**

1888SH Filter Cartridge: with dirt retention capacity of approx. max 2.5Kg solid particles and approx max 980 ml water. These filters are designed for systems using high viscosity oils from 320 to 460 viscosity, as an amount of oil can bypass the filter. This allows for filtration of higher viscosity oils however due to the bypass effect will require more passes to remove contaminates. These cartridges come **supplied as single filters or boxed quantity of 6.**

2088PP Filter Cartridge: For filtering emulsified fluids & water glycol, these filters allow water to pass through however will still entrap dirt in the filter. These filters are made from a 5-micron Polypropylene filter media with a 1-micron filter base layer. This filter cartridge **DOES NOT absorb water** but has a dirt retention capability like the 1888H filter cartridge. These cartridges come **supplied as single filters or boxed quantity of 6.**

2088PP6 Filter Cartridge: For filtering emulsified fluids & water glycol, these filters allow water to pass through however will still entrap dirt in the filter. These filters are made from a 5-micron Polypropylene filter media with 6 x 1-micron filter base layer for increased filtration. This filter cartridge **DOES NOT**

absorb water but has a dirt retention capability like the 1888H filter cartridge. These cartridges come **supplied as single filters or boxed quantity of 6.**

2088CPS Filter Cartridge: These are mainly for high viscosity oils as they are 50% polypropylene on the top, with 50% cellulose on the base this reduces the amount of back pressure on the filter and allows the higher viscosity oils to pass through the dense media.(retention is 50% of 1888H). These cartridges come **supplied as single filters or boxed quantity of 6.**

All boxes and individual cartridges contain spare lid seals for filter housings. Cartridges filter fineness of 1µm nom, 3µm absolute. Temperature operating range 0-135°C, +/- 5°C.

The stated volumes of oil are only relative to installation of single filter housing.

All cartridges are protected by a nylon outer cover with pressed brass ring holder.

On installation the **BRASS RINGS MUST BE FACING UPWARDS**

Filtration Level: Particulate contamination in accordance with BS 5540 part 4: 1981 and ISO/DIS 4406. ISO 14/9 equivalent to NAS 1638 class 6 - hydraulic oil specification.

Benefits of Bypass Filtration for Hydraulic Systems:

- Removes contaminant particles down to 1 micron
- Absorbs water content.
- Prevents corrosion of components
- Reduces component wear (seals, piston rods, pumps etc.)
- Reduces the incidence of sticking & worn valve components
- Extends life of in-line OEM filters and components.
- End to the need to change hydraulic fluids
- All properties of oil being cleaned are maintained
- Filter cartridge can be changed within minutes.
- Can easily be removed and re-installed on replacement equipment
- Simple to install and no moving parts
- Used in all industries world-wide
- UK manufactured
- Can be used with virtually any petroleum/synthetic based oil
- Greatly reduced collection of waste oil by disposal companies

Hydraulic Fluid Facts:

- More than 70% of hydraulic failures are caused by contaminants in the oil.
- Heavily contaminated oil can reduce power by as much as 15-20%, slowing machine response and taking longer to performance operation.
- By following a few basic rules, the life of piston rods, seals, valves, and pumps can be more than doubled.
- By maintaining the hydraulic fluid in 'as-new' condition, the life of the same components can be increased ten-fold.

Particles Breed Particles: An abrasive particle passing through the system scrapes off further particles. Larger ones join the original to create a mass of wear catalysts, smaller ones become silt which builds up on metal surfaces to clog oil flow and cause sticking valve components. In line filters do not remove silt, (particles below 15 micron) and do not remove water.

Filtration Level: Particulate contamination in accordance with BS 5540 Part 4: 1981 and ISO/DIS 4406 14/9, equivalent to NAS 1638 Class 6 (Hydraulic Oil Specification).

Water Retention: To <0.025% NAS GRADE (National Aerospace Standard 1638)

Hydraulic Bypass Unit Installation

1. Select a convenient place for locating the unit on equipment
2. Rigidly install the holding bracket
3. Bolt the unit onto the holding bracket, preferably in a vertical position
4. Select the appropriate oil supply on the hydraulic system
5. Remove the existing plug and replace the adaptor to suit your system
6. Select the appropriate oil return on the hydraulic system
7. Remove the existing plug and replace the adaptor to suit your system
8. Measure both the supply and return lines
9. Manufacture hose assemblies to suit
10. Connect each hose from the bypass unit to the hydraulic system
11. Secure and protect hoses using plastic clips
12. Test run and check for any leaks

Hydraulic Bypass Filtration System Maintenance

1. Take regular oil samples and obtain analysis reports for equipment management
2. Change the Filter Cartridges every 400 – 600 hours or as instructed by your maintenance manager
3. Change oil only when indicated by oil analysis
4. Change standard filters according to OEM specifications
5. Please note that the frequency of cartridge varies according to the operating conditions
6. It is highly likely that you may never change the hydraulic oil again



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Filtration Analysis Services Technology Ltd

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:

Phone +(0)1246268900
Email: sales@fa-st.co.uk
Visit: www.oilsampling.co.uk

