Filtration Solutions for Mobile Hydraulics **Internormen** Product Line



Hydraulic & Lubrication Systems
Hydraulic & Lubrication Filters
Condition Monitoring
Hydraulic Filter Accessories





Filtration Solutions for Mobile Hydraulics

Eaton combines sales, engineering, manufacturing, customer service, and technical sales support into one focused business objective: Provide customers with optimum filtration solutions.



Eaton's Filtration business is a leader in manufacturing high quality hydraulic and lubrication systems, hydraulic and lubrication filters, condition monitoring, and hydraulic and lubrication accessories.

Eaton currently offers a selection of more than 4,000 different Internormen filter elements, including corresponding filter housings. Specifically designed for mobile applications, Eaton's Internormen product line includes a wide range of filters that have been the industry standard for many years. They provide customers with a different kind of filtration—from tank-mounted return line filters, to in-line or flange mounted high pressure filters, to manifold side mounted or manifold bottom mounted pressure filters, to air breathers and suction strainers.



Eaton's Internormen product lines include a wide variety of filter-related products including:

- Mobile and stationary off-line filter units
- Sensors for metal particle detection, water contamination, and oil condition
- In-line, on-line, and off-line measuring systems
- Laboratory analysis and measurement systems
- Clogging indicators and sensors: optical, electrical, optical-electrical, and electronic

The Interactive Product
Specifier CD: software for filter
selection and
performance
simulation

Our Advantages:

- Superior dirt holding capacity
- Highest ∆p capability
- Best filtration efficiency
- · Customized solutions

Eaton Filtration Services

- State-of-the-art testing lab facilities
- Equipment rentals
- Field service—inspections, field trials, start-up, repair, replacement, and maintenance
- Extensive network of sales/ service representatives
- Worldwide technical support
- Product specialists dedicated to providing application engineering

Eaton Sustainability Commitment

Eaton is unwavering in our commitment to being sustainable by design—in the way we operate, through the design of our products, and through the energy and climate saving benefits our products deliver. Eaton issues a Sustainability Report as part of its Annual Report, available on www.eaton.com.

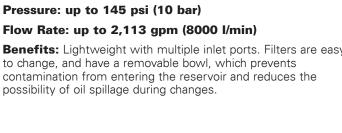
In-tank Filters

TEF Series In-tank Return Line

Applications: Tank-mounted return line filters

Filter Media: Paper, interpor fleece, stainless steel wire mesh

Benefits: Lightweight with multiple inlet ports. Filters are easy to change, and have a removable bowl, which prevents contamination from entering the reservoir and reduces the



TEFB Series In-tank Return Line with Additional Air Breather

Applications: Tank-mounted return line filters, with additional breather filter

Filter Media: Paper, interpor fleece, stainless steel wire mesh

Pressure: up to 145 psi (10 bar)

Flow Rate: up to 79.3 gpm (300 l/min)

Benefits: Lightweight, easy to change element—reducing the possibility of oil spillage. No additional breather port in the tank needed.



Applications: Tank-mounted return line filters with suction connection. For mobile hydraulic applications with a minimum of two independent hydraulic circuits

Filter Media: Paper, interpor fleece, stainless steel wire mesh

Pressure: up to 145 psi (10 bar)

Flow Rate: up to 118.9 gpm (450 l/min)

Benefits: Tank-top-mounted in-line filters supply clean suction flow and prevent cavitation. Custom designs possible.

TRW Series Return Filters Below the Fluid Level

Applications: Horizontal tank-mounted return line filters

Filter Media: Paper, interpor fleece, stainless steel wire mesh

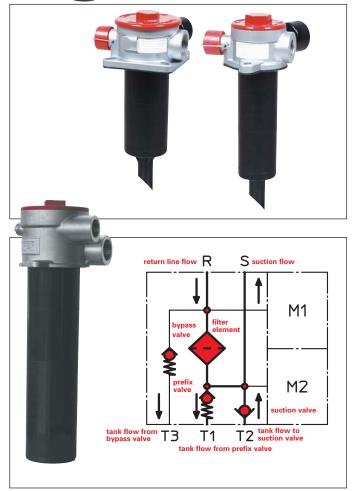
Pressure: up to 145 psi (10 bar)

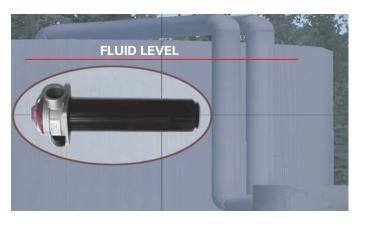
Flow Rate: up to 79.3 gpm (300 l/min)

Benefits: Space-saving mounting below the fluid level.

No additional check valve needed.







Pressure Filters

MNL, ML Series Medium Pressure Filters

Applications: In-line mounted pressure filters

Filter Media: Interpor fleece, stainless steel wire mesh

Pressure: up to 2,321 psi (160 bar) Flow Rate: up to 118.9 gpm (450 l/min)

Benefits: Economical, lightweight (due to partial aluminum construction) filter for low to medium pressure applications. Requires minimal clearance for element change—therefore

saving valuable space.

HP Series High Pressure Filters

Applications: In-line or flange mounted high pressure filters

Filter Media: Interpor fleece, stainless steel wire mesh

Pressure: up to 6,092 psi (420 bar)
Flow Rate: up to 356.6 gpm (1350 l/min)

Benefits: Various port and Δp indicator options available. Possible to accommodate very high flow rates with a single

housing.

MDV, HPV Series Pressure Filters with Cold Start Valves

Applications: In-line pressure filters with differential pressure (cold start) valve

Filter Media: Interpor fleece, stainless steel wire mesh

Pressure: HPV up to 6,092 psi (420 bar),

MDV up to 2,901 psi (200 bar)

Flow Rate: HPV up to 118.9 gpm (450 l/min),

MDV up to 39.6 gpm (150 l/min)

Benefits: Guaranteed permanent supply of clean oil. If the element is clogged, change is forced, this means no damage is possible to the downstream components. Forced (third port) return to the reservoir.

Spin-on Filters

WPL Series Spin-on Filters

Applications: In-line filter series, mounted into pressure and return lines for all hydraulic systems.

Filter Media: Paper, Interpor fleece Pressure: up to 145 psi (10 bar)

Flow Rate: up to 118.9 gpm (450 l/min)

Benefits: Easy maintenance; lightweight die-cast aluminum construction. Can be used as suction or return filter.









Special Filters

RF Series Return In-line Filters

Applications: For connection in return lines

Filter Media: Paper, interpor fleece, stainless steel

wire mesh

Pressure: up to 145 psi (10 bar)

Flow Rate: up to 84.5 gpm (320 l/min)

Benefits: Economical, with lightweight aluminum design. Multiple ports and hose connections available.



AS, TS, TSW Series In-tank Suction Filters

Applications: Suction filters mounted directly to the reservoir vertically (TS-series) or horizontally (TSW-series)

Filter Media: Paper, interpor fleece, stainless steel

wire mesh

Flow Rate: AS up to 166.4 gpm (630 l/min), TS up to 184.9 gpm (700 l/min), TSW up to 31.7 gpm (120 l/min)

Benefits: Can be serviced from the outside of reservoir with no additional check valve needed.





FHP, HPP, HPF Series Manifold Mounted Filters

Applications: Pressure filters, manifold-side-mounted (FHP, HPF) or manifold-bottom-mounted (HPP)

Filter Media: Interpor fleece, stainless steel wire mesh

Pressure: FHP up to 3,626 psi (250 bar), HPP and HPF up to 4,569 psi (315 bar)

Flow Rate: FHP up to 39.6 gpm (150 l/min), HPP and HPF up to 356.6 gpm (1350 l/min)

Benefits: Simplified, space-saving mounting provides filtration directly at the needed point. Prevents dirty fluid from passing downstream during element change.







Accessories

Suction Strainers

Applications: For in-tank use; protects the hydraulic pump from large contaminants

Filter Media: Stainless steel wire mesh with by-pass options Flow Rate: up to 105.7 gpm (400 l/min) (ASF 25 - ASF

275)

Benefits: Protects pump from large particles, ensures long service life, and reduces maintenance and replacement costs. Available in BSPP up to 3".

Filler/Air Breathers

Applications: Prevents contamination from reaching the tank through air exchange or condensation of water in reservoirs

Filter Media:

- NBF Paper, Interpor fleece
- EBF Paper
- TBF Paper
- BF-WP Paper, Interpor fleece
- BFD series Silica gel, Interpor fleece

Flow Rate: up to 924.6 gpm (3500 l/min)

Benefits: Protects system from airborne debris and/or moisture.

Clogging Indicators

Applications: For use on all filter applications to ensure timely element change and maximum service life

Benefits: Wide variety available with differential pressure, electronic, and suction indicators. Prevent system downtime and premature element changes.

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