

# YOUR BEST FILTRATION SOLUTION

for the Oil & Gas, Petroleum Chemical Industry









# Filtrafine Total Filtration Solution

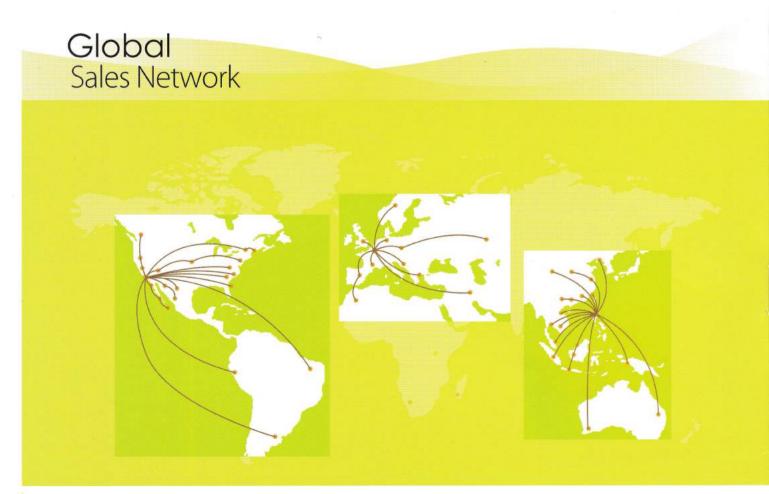


Filtrafine traces its roots back to 1985 and, over time, has developed into a worldwide leader in designing and manufacturing filter cartridges, filter bags and filter housings. Filtrafine has multiple design and manufacturing facilities, backed by an established sales and distribution network spanning over 20 countries. Through investments in world class manufacturing facilities and product research and development attuned to the demands of the customer, Filtrafine has systematically developed a broad range of filtration products that can be found in a diverse range of industries and applications.



# Certified Design and Manufacturing Capability ...ce ped, ASME, NSF, FDA

Filtrafine's main expertise lies in the designing and manufacturing of filter cartridges, bag filters, and filter housings. Our filter housings are tailored for critical operating environments in Oil & Gas Industry. With extensive and solid experience in designing and producing pressure vessels, we specialize in the manufacturing of pressure vessels according to the Pressure Equipment Directive (93/23/EC) and ASME Boiler and Pressure Vessel Code. Our filter cartridge materials are FDA compliant, with more established products bearing NSF and RoHS certifications. All in all, Filtrafine aims beyond being simply a filter provider, but a solutions provider in the field of liquid filtration.



# Filtrafine Solutions for Oil & Gas Production

The Oil and Gas Industry is the cornerstone of current industrial society. They are responsible for the production of key energy resource and its derivative petrochemical products are further developed into finished raw materials that many other industries are dependent on. Oil and Gas exploration and production activities are often conducted in tough and varied environments. Oil field operators have to keep production up, despite changing operating conditions and environmental demands. Downstream in the refineries and processing plants, plant operators have to increase plant availability, and reach economic scale.

# **Exploration & Production**

### Water Injection

Water injection is a key technology for Enhanced Oil Recovery operations, used to maintain reservoir pressure and hydrocarbon recovery. Depending on the nature and characteristics of the source water, water quality can have contaminants ranging from organics to suspended solids which would adversely affect recovery operations. Good particle control is required to reduce clogging of underground formations and ensure smooth and continuous production. Filtrafine offers the MHF (Multipleat High Flow) Series Filter Cartridge for absolute removal efficiency and an inside-out flow profile for complete trapping of contaminants. Together with the ASME certified MHH (Multiple Horizontal High Flow) Series Filter Housing, this product will go a long way to ensure that projects will be conducted on time and incident free.

### **Produced Water Treatment**

Wastewater effluent from Oil and Gas activities typically contain contaminants such as dissolved, free or emulsified hydrocarbons, as well as suspended and dissolved solids. The composition of this wastewater stream is strictly regulated by national and international authorities. Usually, a wide variety of chemical treatment methods are used to complement physical separation of these contaminants from the wastewater stream. Filtrafine has developed the LHF (Large High Flow) Series Filter Cartridge in order to specifically address these issues, with a large diameter filter cartridge capable of accommodating the flow rates associated with this process. Together with the ASME certified LHV (Large High Flow Vertical) Series Filter Housing, this product will help ensure that wastewater streams will meet regulatory standards.

### Amine sweetening / Glycol dehydration

Amine sweetening and Glycol dehydration processes are commonly found in refineries and gas processing plants. Typical issues in this process range from fouling of the process equipment due to an accumulation of corrosion byproducts, to foaming in the absorber column due to particulate matter promoting foam stability. Filtrafine's HIE Series Filter Cartridge allows for absolute removal ratings of these particles down to 1 micron, and its inside-out flow traps contaminants inside the cartridge eliminating downstream contamination during change-out.









MHF Series Filter Cartridges have been especially developed to prioritize operator safety and maintenance efficiency. The inside-out flow profile allows easy cartridge change out and ensures that pollution debris is retained inside the cartridge. Furthermore, its absolute rated filtration efficiency makes it suitable for applications where exact particle control is required. This product is recommended for injection water and boiler feed water for steam injection applications.

- · Very high surface area translates to long service life and reduced change-out frequency
- · Polypropylene filter media material designed for maximum chemical compatibility with process fluid
- · Available in 20", 40" and 60" lengths





Raw Water Feed System



- Water injection into shale formation
- Water injection into disposal well
- Water injection into production well









Guard Filtration Filtrafine Product



MFG (



WATER INJECTION



HYDROCARBON

Micro fibreglass filter media provides stability at elevated temperatures and improved particle retention characteristics



## MHH



- · Swing eye bolt closure structural integrity of the housing, withstand higher operating pressures.
- · Can be designed for multiple cartridge installation.
- · Horizontal configuration eliminates the need for a ladder, platform during change out filter cartridges.



## LHF



PRODUCED WATER TREATMENT

LHF Series Filter Cartridges have been developed especially to meet the stringent demands of the Oil and Gas Industry. Courtesy of having the largest surface area of our High Flow filter cartridge range, the LHF Series Filter Cartridge is recommended for processes with very high flow rate, and its absolute micron rating is ideally suited for treating high contaminant effluent streams, ranging from heavy metals and particulate matter.

- · Highest Dirt Holding Capacity (DHC)
- · For maximum chemical compatibility with process fluid
- · Reinforced fiberglass center core retains its structural integrity at elevated temperatures and pressures
- · Ability to handle flowrate up to 70m³/hr
- · Twist-to-lock mechanism ensures easy & quick installation



## NHF



NHF Series Filter Cartridges are high capacity filter elements designed to withstand high dirt loadings and large volumetric throughput.

- · Nominal removal ratings
- · Chemical compatibility with process fluid
- Ability to handle flowrate up to 70m<sup>3</sup>/hr



### FXI



- · All welded construction No fluid bypass
- Nominal retention ratings from 1 100 microns
- · Silicone oil free
- · Choice of Polypropylene or Stainless Steel ring



# Modular Bag-Housing Skid WATER INJECTION



Filtrafine's skid mounted, modular filter bag-housings provide turnkey solutions for high contaminant filtration applications.







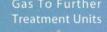
PRODUCED WATER TREATMENT

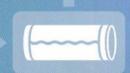
Oil Absorption Series Filter Cartridge Patented, non-swelling organoclay media for removal of dispersed, emulsified or dissolved oil



From Wellhead







3-Phase Separator







Liquid/Liquid Coalescer

Produced Water Treatment





# NHV/LHV



- · Swing eye bolt closure structural integrity of the housing, withstand higher operating
- · Can be designed to hold multiple NHF/LHF
- · Vertical configuration saves space
- · Optional rubber lining installation saline water or brine.



# **MSV**



High built quality ensures reliable operation in most industry applications. Able to carry the ASME Code U Stamp. Designed to be compatible with regular depth or pleated type cartridges.



### **TKF**



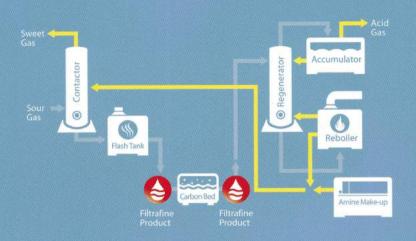


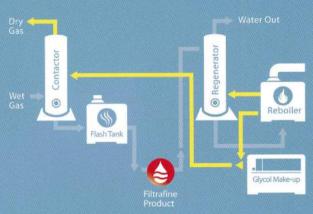
TKF Filter Housing Series is a versatile, multiple cartridge filter housing. It is able to carry the ASME Code UM Stamp.

# Refinery









# **PLTC**





PLTC Series Pleated-Flow Filter Cartridges equipped with continuous length outer cage and center core up to 40" length, delivers high consistent performance and wide chemical compatibility.



# Duo-Bag





The innovative Duo-Bag Series offers a highly elegant design to substantially increase the capacity of the filter bag. Almost 2x the surface area of a conventional size 2 filter bag, which, when coupled with a proprietary support basket ensures Dirt Holding Capacity that is unmatched by any other filter bags.

# HIE/HIEG









FCC SLURRY

HIE/HIEG Series Filter Cartridge contains a high surface area pleated cartridges designed to retrofit bag filters. Available in polypropylene and glass fiber media.

## WF-Glass Fiber



FCC SLURRY OIL FILTRATION

Multi-purpose Glass Fiber Wound-Fine Depth Filter Cartridges that deliver reliable, consistent performance. Proprietary stainless steel helical core makes it ideal for high temperature applications.

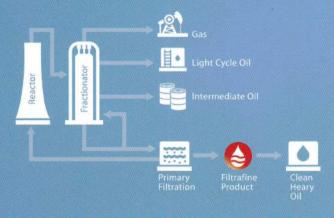


## Metal-Flow



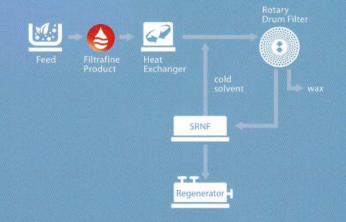
Metal-Flow Series stainless steel cartridges available in sintered SS fiber or sintered fiber mesh media in either SS304/SS316 are cleanable in a variety of applications.





Filtrafine provides WF-Glass Fibre Media filter in MSV housing and/or HIEG glass fiber filter in the MSB/MQB housing after Backwash filter system, to act as a safety filter to prevent downstream catalyst contamination.







# MSB & MFB



AMINE SWEETENING



MSB and MFB Series represents versatile and durable multiple bag filter housings. A variety of lifting mechanisms can be selected for maximum compatibility with operating preference. Able to carry the ASME Code U Stamp. Designed to be compatible with size1 or size2 filter bags.



# MQB



AMINE SWEETENING



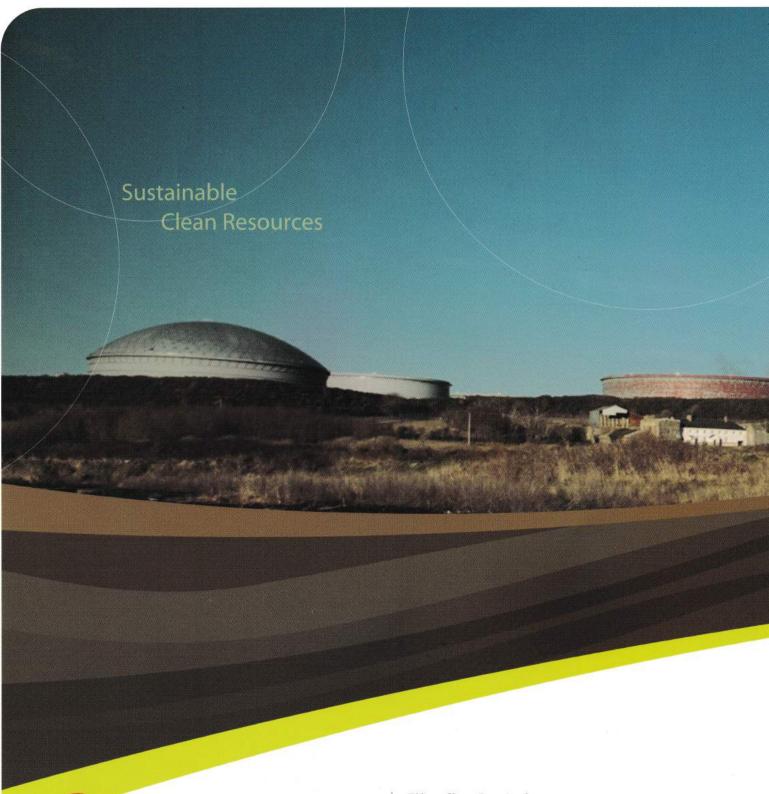
GLYCOL DEHYDRATION

MQB Multi-bag Filter Housing with rapid open closure mechanism and operator friendly spring assisted cover lift, ideal for applications requiring frequent change-out.



## IDV

IDV Series Single Cartridge Stainless Steel Filter Housing designed with flange type closure, capable of withstanding pressures up to 30 bar. Ideal option for low flowrate application which demands high pressure.





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