

# Industrial filtration

The total solution for air filtration,  
liquid filtration and gas filtration.



A **CLEAR** LINE IN FILTRATION

**EFC**  
FILTRATION

ARUBIX  
Company

# Content

---

EFC Filtration, company profile .....	3
Filtration products .....	8
Industrial filtration the total solution .....	9
Service & Maintenance.....	10
Engineered Solutions .....	12
Research & Analysis.....	15
Rental Fleet.....	16
Remote Filtration .....	18





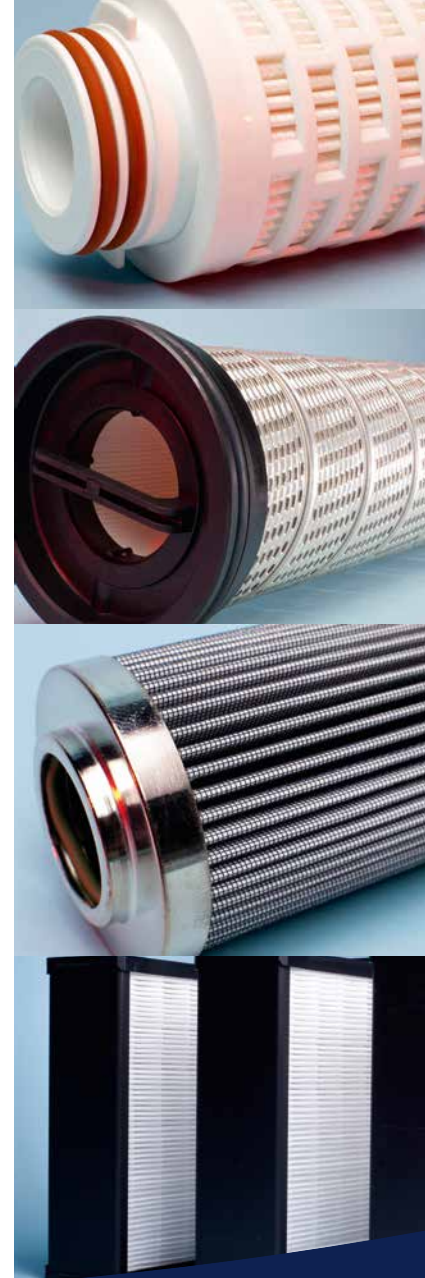
# EFC Filtration

---

Filters remove pollution. But helping industrial clients to improve their processes, the environment and the work area is what it's really all about.

Filtration is in our genes. For decades, we have supplied air, dust, liquid, hydraulic and gas filters. Today, we have grown to become an all-around industrial service provider specialising in filtration. We remove undesired parts from the process and the products of our clients and prevent pollution from entering the environment. We fulfil the total filtration need of our clients so that they can produce smarter and reduce costs.

We are your staff department for filters and can supply any kind of filter, filter casing or filter system you may need at the lowest overall cost. With our knowledge and experience, we can always ensure the best product for your application. We guarantee the availability and the form, fit and function of all our products so that you are sure to have a properly functioning solution. If you need a specific brand or type of filter, we can supply it.



## Rubix Group

We have been part of the Rubix Group since 2019 as the new competence centre for filtration within Rubix Europe. This enables us to provide support to our clients throughout Europe when it comes to the removal of pollution from the process, product and the environment.

Rubix is Europe's largest supplier of industrial maintenance, repair and overhaul products and services. From over 650 locations in 23 countries, 8,000 employees help identify, install and supply a premiere range of industrial products and services to over 220,000 clients. The company generates billions in turnover and is the number one European distributor of filters, bearings, transmissions and automation, hydraulics, machinery, assembly, pneumatics, rigging, tools and safety equipment. For more information about Rubix: <https://www.rubix-group.nl/>

# Food & Beverage

---

Safety and traceability of the product are of vital importance in the food and beverage industry. We can help you with the complete food-grade design of your processes for production, transshipment and storage. This may include the classification of your product, the removal of bacteria and the removal of undesired pollution in your storage tanks and silos.



# Chemical

---

In addition to filtration, protecting the means of production against pollution is also vitally important in the chemical industry. The continuity of the process is crucial and production must always be made more efficient and energy use reduced.

Typical applications include: improving the quality of semi-manufactured products, cleaning the cooling and other liquids, protecting the compressors and turbines. All end products, whether in gas or liquid form, are brought up to meet specifications through the removal of pollution.

# Waste processing

---

EFC supports you throughout the entire process: From the supply of filters for your waste water streams, heating facilities and the protection of your turbines to the replacement of the filters for capturing your (fly) ashes. We also supply filters for your heat exchangers and rolling stock.



# Oil & Gas

---

Thanks to our years of experience in the upstream, midstream and downstream oil and gas industries, EFC is the number one party of choice to provide you advice on how pollution can be removed.

For the upstream industry, we traditionally supply all kinds of filter systems and filter elements of every make and type. The same applies specific applications in the downstream industry, including: filtration in and around turbines and compressors, gas sweetening, glycol, amines, catalyst protection and solvent filtration.



# Generating power

---

Hard, liquid and dissolved pollution in your liquids and gases can cause problems in assets such as your boilers, turbines and transformers. Common applications include varnish removal, reverse osmosis, fuel gas cleaning, lubricating oils and the protection of your gear boxes, low NOx burners and injection nozzles.



# Water treatment

---

Our filters and systems are ideally suited for treating your (waste) water streams. This includes the removal of crude pollution by way of pre-treatment, the application of membranes to enable ultra- or micro-filtration, or applying filters for reverse osmosis.



# Paper and pulp

---

The production level in the paper and pulp industry largely depends on the quality of the various liquids at your company. Our filters are ideally suited for the removal of pollution from bleaching or coating agents, the protection of your production means and the re-use of water.



# Pharmacy

---

For the pharmaceutical industry, our filters must provide a high-quality, effective and affordable result and this without jeopardising safety at any time. In order to support you in this, we supply high-quality validated filters for both micro- and ultra-filtration.



## Air filtration

We supply all kinds of air filters that remove dirt particles and moisture from the air stream. These filters can be applied in the climate technology and the air intake systems of turbines. We provide custom-made filters ranging from filter media to bag filters, active carbonated filters and HEPA filters. All our products meet the latest industry standards, including the ISO16890-1:2016 and the EN1822 norms.



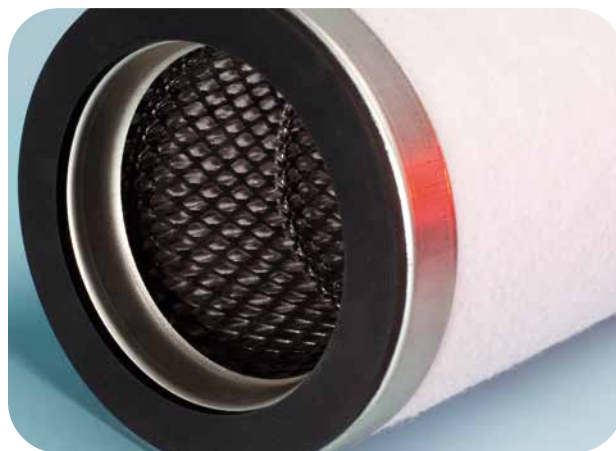
## Dust extraction

Together with our clients, we ensure a safe and healthy work environment (including ATEX) with a minimal burden on the environment and according to the Dutch emission guidelines and the requirements of your permit provider. We offer a complete programme that enables us to carry out any assignment ranging from dust extraction to the cleaning of combustion gases. The programme consists of mechanical separators (cyclones), filtration systems with replacement elements (filter hoses and filter cartridges) and electro-static filters.



## Liquid filtration

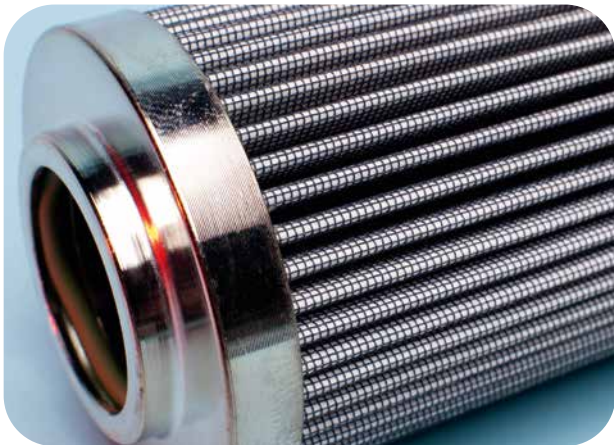
We have every kind of liquid filter available. Thanks to our knowledge and experience, we are able to offer the best solution for any application. We can remove pollution or separate liquids according to specifications. We do this with standard strainers, filter candles and filter bags and also with validated membrane filters and ultra-filters (starting from 0.01 micron) for the pharmaceutical and fine-chemical industries. We supply custom-made filter casings according to PED, EN13445, ASME. We also supply the Shell DEPs.



## Gas filtration

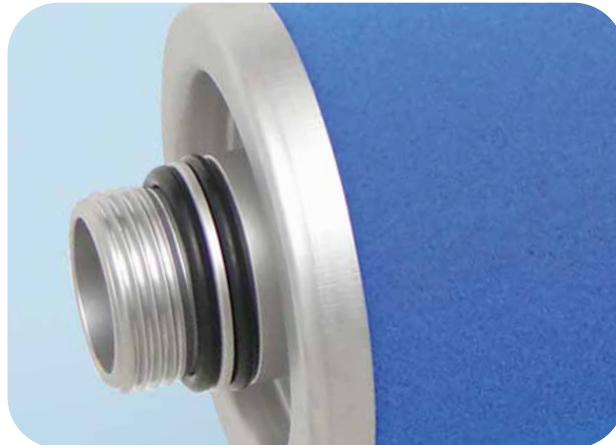
When it comes to natural gas filtration, we have accrued over 20 years of knowledge and experience. We offer an assortment of hardware and filter elements for the removal of dirt particles, mist or the separation of liquids from the gas stream. This includes, for example, coalescers, separators and particle filters.





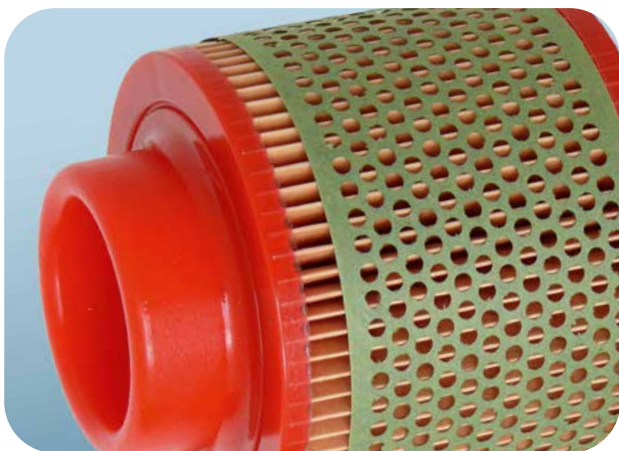
## Hydraulic filtration

We thoroughly understand the need for filtration in your hydraulic system. By removing dirt particles from the oil and water, the system will function better and the lifespan of your components will be extended. For that very reason we offer a wide range of highly efficient hydraulic and lubricating oil filters tested according to the latest developed methods and the most stringent industrial norms, including the ISO16889 and ISO3968. In order to ensure that the right solution is chosen, we use, in addition to our vast knowledge and experience, specialised equipment for sampling, sampling research and particle measurements.



## Compressed air filtration

Our compressed air filters remove dirt particles, water and oil from your compressed air so that your compressed air system will continue to work efficiently. To guarantee the quality of our products, we test the filters in our lab by way of the "mono-dispersed aerosol" and "near forward light scattering" techniques. These enable us to establish whether a filter meets all of the stated requirements. All our filters are independently tested and validated according to the ISO12500 and they all meet the ISO8573-1:2010 norm. We also supply filter casings, of course.



## Automotive

We supply a complete range of automotive filters, including cabin, fuel, water, oil and air filters that are used in engines. We not only supply filters of every make and type, we also provide high-quality equivalents for all major brands.



## Custom-made

If a standard filter does not offer you the best solution, we will make a customised filter for you. We have our own specialised technical department that designs and produces filters.

# Filtration products

## A complete range of products

With our knowledge and experience, we can always ensure the best product for your application. We guarantee the availability and the form, fit and function of all our products so that you are sure to have a properly functioning solution. If you need a specific brand or type of filter, we can supply it.

In fact: we can supply every brand, every type and 100% of the materials you use.



### Brand and type:

AAF	Deltech	Hydac	Rexroth
Altair	Detroit Diesel	Hytrex	RMF
Atlas Copco	Deutz	Indufil	Ronningen Petter
Baldwin	Dollinger	Ingersoll Rand	Sullair
Bea Filtri	Domnick Hunter	Internormen	Triple R
Boll & Kirch	Donaldson	Knecht	United Engine LIF
BWF	Dresser-Rand	Mahle	UFI
Cameron	Facet	Mann	Ultrafilter
Camfil	Fairy Arlon	Millipore	Vee Bee
BWF	Farr	MP Filtri	Velcon
Cameron	Fleetguard	Norgren	Viledon
Camfil	Floline	Pall	Vokes
Can-Flow	Fram	Parker	Waukesha
Clarcor	GE	PECO	Zander
Crosland	GORE	Peerless Plenty	
Cummins	Hankinson	Purolator	
Cuno	Hengst	Racor	



If your brand is not listed here, please contact us.

T: +31 (0) 72 540 54 54

E: [info@efcfiltration.com](mailto:info@efcfiltration.com)



# Industrial filtration

## The total solution



### Total Supplier

EFC supplies filters and filter elements of every make and every type, whether it concerns air, dust, liquid, hydraulic or gas filters.



### Cost reduction

By applying self-cleaning filters, for example, or filters with a lower resistance. Our logistical solutions are also designed to save costs.



### Inventory

We have a wide range of filters in stock, but if desired, we can also maintain a specific inventory just for you.



### Custom-made

If a standard product is not the right solution for you, we can design, produce and install one for you.



### Professional

Thanks to our ongoing training programmes and our close contact with the largest filter manufacturers in the world, we preside over the latest technologies and innovations.



### 24/7 support

Our maintenance and 24/7 breakdown service guarantee the availability of your systems and minimal downtime.

# Service & Maintenance

Process installations must always function properly and the maintenance of filter installations is specialised work. Our Service & Maintenance department ensures the continuity and the efficiency of your process thanks to the ongoing maintenance, research and improvement of the filter systems.

## Maintenance

The filtration systems are part of your process and must always be available and be functioning properly. Depending on your needs, we provide proactive and reactive maintenance for all your filter systems. This not only includes the filter itself, but also the related parts, including the piping, the cleaning system and the valves.

By carrying out periodic maintenance you are always sure to have a properly functioning system. The maintenance is scheduled to take place whenever it suits you best; both in and outside of standard working hours. During this periodic maintenance, the system is thoroughly inspected and the filters and parts are replaced whenever necessary. Your installation will then be ready and 100% available until the next maintenance inspection. We will report to you on the condition of the system and make recommendations on how your systems can be improved to reduce costs.





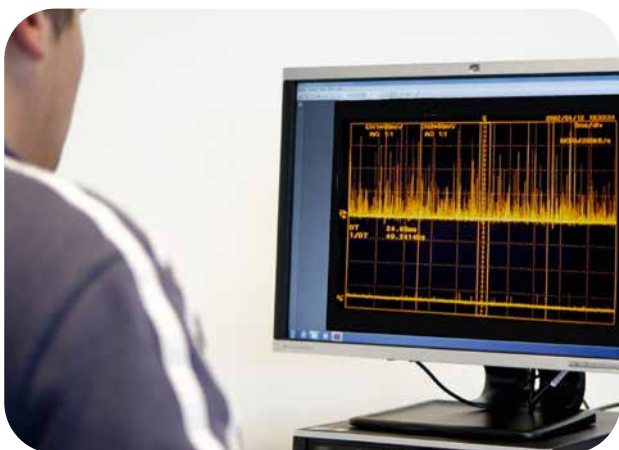


## Emergency service

With our 24/7 availability, you have our guaranteed support whenever you need it. You have immediate access to our maintenance technicians in the event of emergencies. This helps keep downtime to a minimum.

## Optimisation

The optimisation of your filtration systems is a specific activity of our department. Optimisation may be achieved by way of more stringent product or environmental requirements but can also be applied to come to a lower cost price per product. If desired, our engineers at your location or at our lab can carry out the necessary preliminary investigation and make recommendations.



## Research

An improvement process is then carried out based on the specific wishes of the client or as a result of the preliminary investigation. Our engineers carry out on-site climate, liquid, dust and emission measurements in order to determine the process conditions or to verify the quality of the filtration system. When necessary, samples of the used filters or of the liquid/air stream are taken.

# Engineered solutions

We always provide the best filtration solution. If a standard product isn't available, we will create a custom-made solution. This can vary from a basic filter element to a complex turn-key installation. You can come to us with every kind of filtration problem. We will not only consider the cost of investment, but also the environment, waste costs, maintenance and health & safety (ARBO) aspects.

## 1. Define the project

Every project begins with establishing your needs and requirements, the level of pollution, the process conditions and defining the desired end result. The basic starting principle is to find the solution with the lowest Total Cost of Ownership (TCO).

## 2. Research

Missing process information can be sought on location or in our lab. This may involve liquid analysis, measuring the dirt particles and the behaviour of the dirt particles in the carrier medium. X-ray analysis, GCMS analysis, CHNS analysis and SEM-EDX are just some of the available options. If necessary, we can apply "Reverse Engineering" in order to find the right solution.

## 3. Concept design

Based on the research and our knowledge of filtration, our engineers will create a draft design. We translate the collected data into functionality which is geared towards the Total Cost of Ownership (TCO). In this process, we take such applicable norms as ATEX, PED, RTOD (steam device), PD5500, EN13445, EN13480, BS806, ASME into account as well specific client standards like for example, the Shell DEPs.



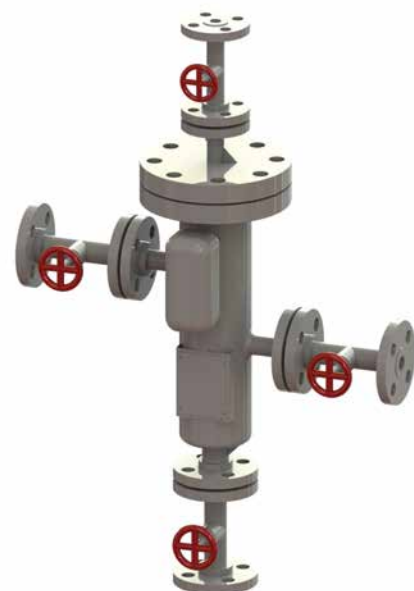


## 4. Basic Engineering

Sizing takes place during this engineering phase and functionality is translated into a concrete product. This is then modelled into a 3D drawing in which we focus on the practical applicability of the product. We provide process guarantees on our designs.

## 5. Detail Engineering

During the detail engineering, strength calculations are carried out in accordance with the required norms. The design is then made more concrete in order to ultimately arrive at the parts list, moulds and production drawings.

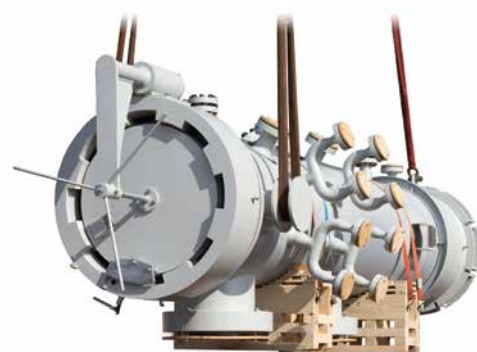
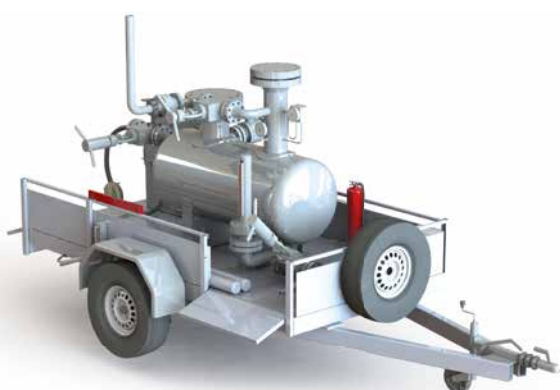


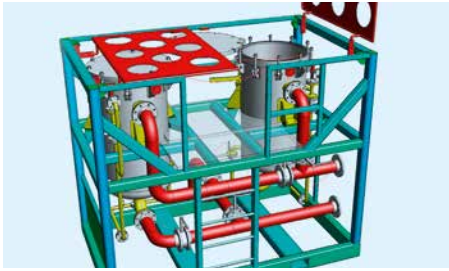
## 6. Fabrication

The product is manufactured at a ISO9001 certified production location and under the strict supervision of our engineers and quality department. Once the FAT and certifications have been carried out, the product is delivered with the accompanying manuals. This documentation details the traceability of all materials used and the work activities.

## 7. Installation

The installation can be installed by our engineers on location and then commissioned. Your employees are trained in the use and maintenance of the system.



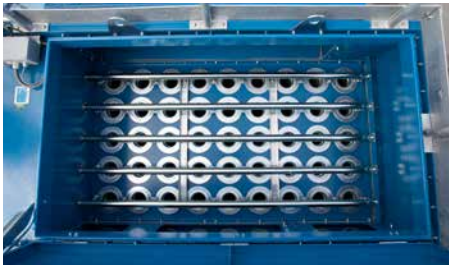
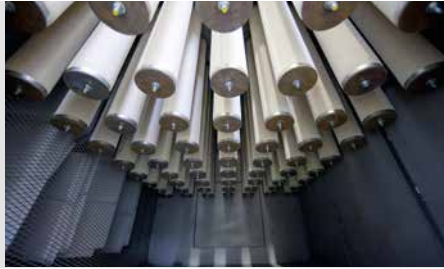


#### Mobile filter skid for cleaning liquids

- Suitable for offshore (DNV 2.7.1. certified)
- Flow rate: 100 m<sup>3</sup>/h
- Operating pressure: 10 bar

#### Demister for the removal of mist droplets from the process air

- Flow rate: 25,000 Nm<sup>3</sup>/h
- Efficiency: 99.5% droplets > 1 micron, 99.9% particles > 1 micron



#### De-dusting installation for cleaning the process air

- Flow rate: 45,000 Nm<sup>3</sup>/h
- Emission: < 5 mg/Nm<sup>3</sup>

#### Filter vessel for the removal of "black dust" (iron sulphide) from glycol

- Flow rate: 1.6 m<sup>3</sup>/h
- Operating pressure: 6.4 BarG
- Special coated; NACE sour service

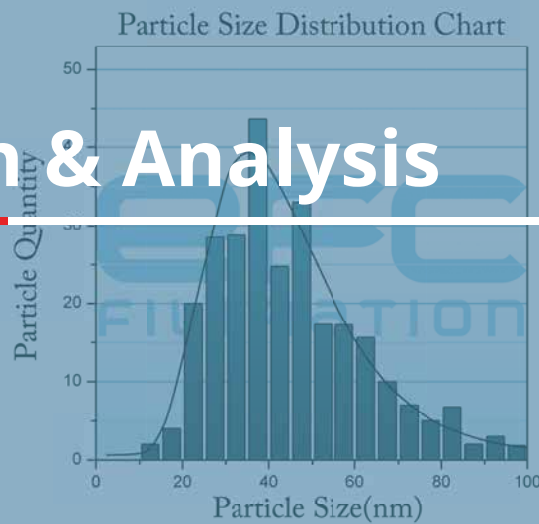


#### Filter vessel for the removal of liquid and dirt particles from nitrogen

- Flow rate: 208,000 Nm<sup>3</sup>/h
- Operating pressure: 160 BarG
- Efficiency: 99.9% of droplets and dirt particles > 1 micron.



# Research & Analysis



## De-bottlenecking

The purpose of de-bottlenecking is the optimisation of the (production) process and reducing the cost per product unit. Our engineers can identify problems at your locations. We will use our lab in to carry out specific research. Based on the collected information, improvements are proposed and implemented after approval.

## A few examples of the analyses we carry out include:

- The size, nature and composition of the dirt particles found in air, liquid and gasses by way of x-ray, SEM photography and spectra analyses
- Analysis of liquid composition
- Research into the materials of used filters
- Measurement of air and gas composition on location
- Bacterial research in order to determine the quality of the air
- Purity analysis of hydraulic and lubricating oils on location or in our lab

**We will provide you with reports on the results of the research, the conclusions and recommendations.**



# Rental Fleet

Our fleet of rental units is at your disposal. We offer units for every application, both manned and unmanned. These units can be deployed immediately. This means you will not be required to make large investments for a system you won't use anymore afterwards. The units can be used for a whole range of purposes.

## Periodic activities

When you have the periodic need for extra filtration capacity in your process or to condition hydraulic and lubricating oils.

## One-time activities

When you need to clean a product, de-dust or condition the oil only once.

## Acute filtration need

Due to peaks in production or a sudden increase of of the pollution, may require extra filtration capacity. filtration capacity.

## Testing filters and filter systems

It is possible that not all the data is available in order to be able to devise the best filter solution. In this case, testing is another available option. We have engineers and filter systems at our disposal to carry out tests in practice.

We would like to refer you to our **rental brochure**.





### Hydraulic trolley

- Application: liquid (hydraulic oil, lubricating oil)
- To be used for: filtering new liquids before these are used
- To be used for: filtering new liquids before these are used, transferring a liquid from vessels/ storage tanks to system reservoirs and the operational conditioning of your system reservoir.

### Cyclone filter

- Application: liquid
- To be used for: the removal of undissolved particles in liquid.



### Self-cleaning filter

- Application: liquid (water, oil)
- Benefits: continuous filtration – no interruption during the cleaning process, reduces labour time, extends the lifespan of the pumps and ensures minimal loss of product during the cleaning process.

### Duplex Duo Skid

- Application: liquid
- Suitable for: filter candles and filter bags
- Available in: 8 filter bags (4 per vessel) and 100 filter candles (50 per vessel).



### Filter bag casing

- Application: liquid
- Available in: single filter casing, 4 bag filter casing 12 bag filter casing.

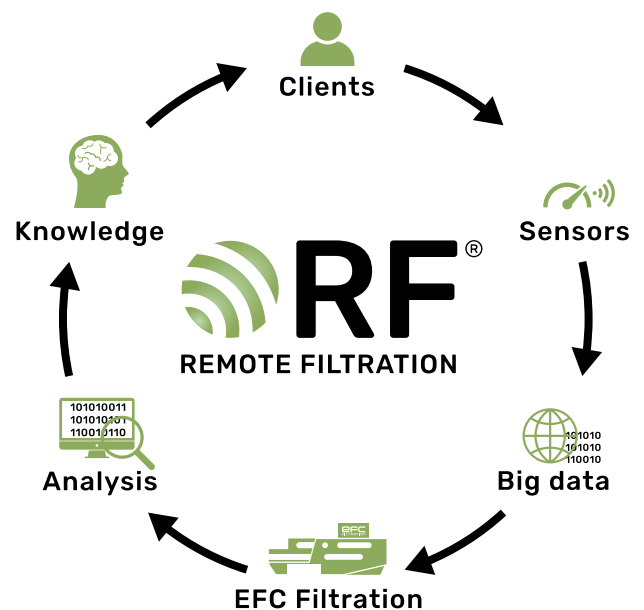


# Remote Filtration

## Asset Management

Production must be safer, faster and more efficient. The management of assets plays a vital role in fulfilling these needs. ISO 55000 defines asset management as the “coordinated activity of an organisation in order to realise value from its assets”. Good asset management leads to a higher utilisation of your machine park, safer working conditions, increased uptime and lower costs in general.

Remote Filtration® is specially designed to guarantee the safety of your employees, your process and the environment. The product is geared towards receiving, storing and processing the data that is important for the proper and efficient functioning of the asset. Measurement data is not sufficient on its own. Thanks to our specialists' years of experience, they are able to interpret measurement data and convert it to practical knowledge. With this knowledge we are able to evaluate the condition of the installation and how the system functions. This enables us to realise the maximum uptime of your asset at minimal cost as well as forecasting the need for maintenance. Remote Filtration® is applicable in all your filter installations. These include de-dusting filters, liquid filters, hydraulic filters and lubricating oil filters. Remote Filtration® is fully brand-independent and fully compatible with your current operating systems.



## How can we be of service?

One of our specialised engineers will visit you on location. After examining your specific filtration process, and listening to your particular needs, they will compile a sensor package together with you. We install the sensors with which your filter systems will be monitored and maintained 24/7. Full service!

## From data to knowledge

The data of the filtration installation is collected and monitored. EFC Filtration B.V. has the specialised expertise to be able to convert that data into knowledge of your filter system. If the information makes it necessary to take action to guarantee the availability of the asset and the proper functioning in future, we will be sure to inform you. You may be able to carry out this action yourself or one of our service technicians can do it for you.

We also ensure the optimal functioning of your filter systems at the lowest cost. We help you achieve this by way of savings on energy use, compressed air use and optimising the service life of your filter elements.

In addition to the proper functioning of the filter installation, the (historical) information also ensures that you will have reports available anytime, anywhere. These can be for internal use, when it concerns costs and the availability of your assets and improvements made. Or for external communication, when it concerns, for example, demonstrating to your permit provider that your filter installations are working properly.

## In summary

- We monitor all your filter systems
- A sensor package is custom-made for every installation
- Asset monitoring by experts
- The system works properly or we will inform you otherwise
- No more uncertainty when it comes to emissions
- Accountability for the functioning of your filter system
- The optimisation of systems by way of, among others, monitoring energy use and compressed air use
- Maintenance can be scheduled at your convenience
- Downtime is avoided
- Fully compatible with your current systems

## Examples of what will be measured:

Sensors	Measurement values
Temperature	°C
Flow rate	m³/hour
Relative humidity	%
Pressure	Pa or Bar (g)
Pressure differential	Pa or Bar (g)
Compressed air pressure	Bar (g)
Cleaning time	Second
Cleaning frequency	Second
Power consumption	Ampere
Pollution before	Weight / time / flow rate
Pollution after	Weight / time / flow rate



# More info about EFC

## Logistics and administration

The administrative and logistical costs largely determine the prices of MRO-materials such as filters and filter elements. That is why we do everything we can to make the purchasing process as convenient and efficient as possible. We do this via our e-business solutions, monthly self-billing and by fully managing all the filters in your warehouse.

## Availability

We can supply every filter you use of any make and type. The filter must be available when you need it. We guarantee this availability. We achieve this by being available 24/7/365. We will keep your filters in stock or place them with you on consignment. With an acute need, we will even stop our production so that we can urgently produce and deliver your filter. This ensures the continuity of your process.

## Specialist

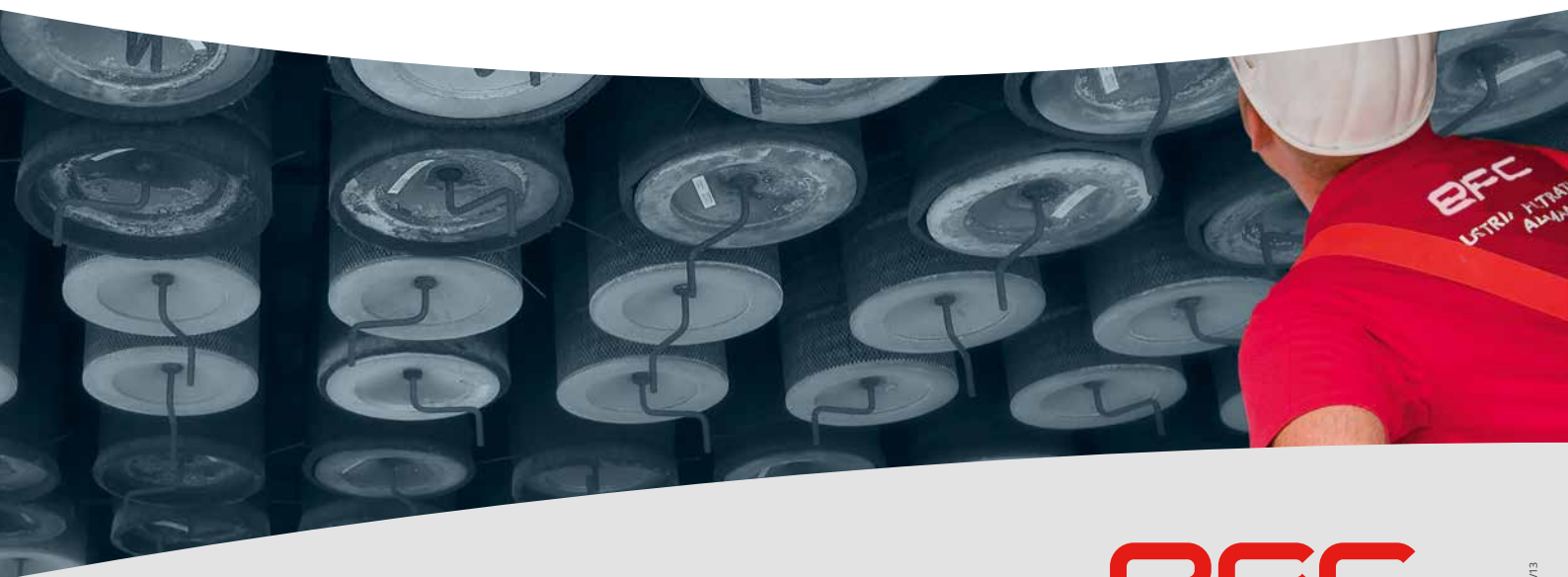
You can order filters anywhere, but filtration is specialised work. We not only ensure the proper delivery of a filter, we also achieve the optimal availability of your process installation, a clean environment, a safe and healthy work environment and a product that meets all the qualitative requirements. We are able to do this thanks to our knowledge and experience in the area of filtration which means we can solve problems quickly, guarantee the availability of products and implement improvements. Supported by well-organised logistics and administration, we provide you with full service and help you save costs. That is why you choose **EFC!**

## Contact

If you have any questions please contact us on +31 (0) 72 540 54 54 or send an e-mail to [info@efcfiltration.com](mailto:info@efcfiltration.com)

For more information, please visit our website:

[www.efcfiltration.com](http://www.efcfiltration.com)



**EFC Filtration B.V.**

Fluorietweg 33

1812 RR Alkmaar

T: +31 (0)72 5405454

E: [info@efcfiltration.com](mailto:info@efcfiltration.com)

**EFC**  
FILTRATION

ARUBIX  
Company