



# OIL-X EVOLUTION

Compressed Air Filters



ENGINEERING YOUR SUCCESS.

# OIL-X EVOLUTION

## High Efficiency Compressed Air Filtration

OIL-X EVOLUTION is a range of high efficiency compressed air filters consisting of coalescing filter grades for the removal of water and oil aerosols, solid particulates & micro-organisms, dust filter grades for the removal of dry particulate and micro-organisms and adsorption filters for the removal of oil vapour and odours.

Compressed air purification equipment must deliver uncompromising performance and reliability whilst providing the right balance of air quality with the

lowest cost of operation. Many manufacturers offer products for the filtration and purification of contaminated compressed air, which are often selected only upon their initial purchase cost, with little or no regard for the air quality they provide, the cost of operation throughout their life or indeed their environmental impact. When purchasing purification equipment, delivered air quality, the overall cost of ownership and the equipment's environmental impact must always be considered.

## The Parker domnick hunter Design Philosophy

Parker domnick hunter has been supplying industry with high efficiency filtration and purification products since 1963. Our philosophy 'Designed for Air Quality & Energy Efficiency' ensures products that not only provide the user with clean, high quality compressed air, but also with low lifetime costs and reduced CO<sub>2</sub> emissions.



### Benefits:

- Delivered Air quality in accordance with ISO 8573-1:2001, the international standard for compressed air quality
- Filtration performance independently verified by Lloyds Register
- Coalescing filters performance tested to the stringent requirements of ISO 12500-1
- Dust removal and adsorption filters tested in accordance with the test methods of the ISO 8573 series
- Suitable for all compressed air applications and all compressor types
- Pressure losses start low and stay low to save energy, money and the environment
- Low lifetime costs
- Coalescing and dust removal filters are covered by one year compressed air quality guarantee which is automatically renewed with annual maintenance
- All OIL-X EVOLUTION filter housings are covered by a 10 year housing guarantee
- Helps reduce the release of CO<sub>2</sub> into the environment

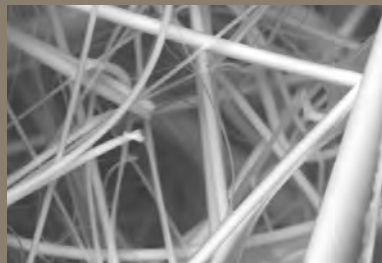


# Air quality

The Parker domnick hunter OIL-X EVOLUTION range of die-cast compressed air filters have been designed from the outset to meet the air quality requirements of ISO 8573-1:2001, when validated in accordance with the requirements of ISO 12500-1.

## Correct selection of filtration media

Coalescing and dust removal filters use a high efficiency borosilicate glass nanofibre material which has a 96% voids volume, providing media with excellent filtration efficiency and a high dirt holding capacity.



## Construction of the filtration media into a filter element

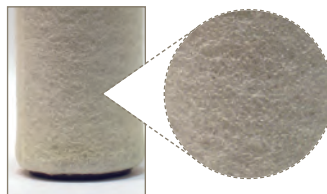
OIL-X EVOLUTION filter media is constructed into a filter element using a unique deep bed pleating technique in place of the more conventional wrapped construction. This provides 450% more filtration surface area when compared to a traditional wrapped filter element and around 200% more surface area compared to a traditional pleated element.

Deep bed pleating also reduces the air flow velocity within the media, which further improves filtration performance.

Additionally, the high efficiency AA and AAR grade elements have a unique graded density media construction which provides even greater filtration performance without adding to pressure loss or energy consumption.



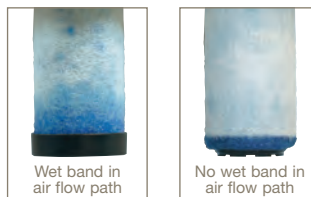
OIL-X EVOLUTION coalescing filters utilise four drainage methods to ensure high performance liquid removal, whilst conventional filters use only one.



### Drainage method 1

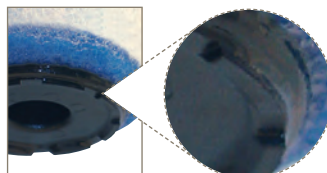
High efficiency drainage layer provides increased liquid drainage, improved chemical compatibility and higher operational temperatures when compared to ordinary materials.

### Typical element OIL-X EVOLUTION



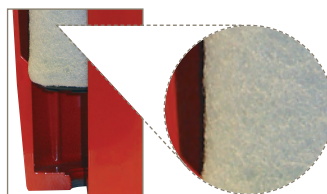
### Drainage method 2

Typical filter elements have a build up of liquid known as a "wet band" where the drainage layer is glued into the lower endcap. The OIL-X EVOLUTION design wraps the drainage layer under the lower endcap to remove coalesced liquid from the air flow path, increasing liquid removal efficiency, and providing more usable filtration surface area.



### Drainage method 3

Surface tension breakers on the lower filter element endcap provide fast and efficient drainage of coalesced liquid.



### Drainage method 4

Drainage ribs cast into the filter bowl compress the lower part of the filter element, allowing bulk liquid to rapidly drain from the filter element through capillary action.

# Energy efficiency

Any restriction to airflow within a filter housing and element will reduce the system pressure. To generate compressed air, large amounts of electrical energy are consumed, therefore any pressure lost within the system can be directly converted into a cost for wasted energy. The higher the pressure loss, the higher the energy costs.

## Providing an optimal flow path for the compressed air through the filter housing and element is key to reducing system operating costs

Pressure loss in a compressed air filter is a combination of fixed pressure losses and incremental pressure losses.

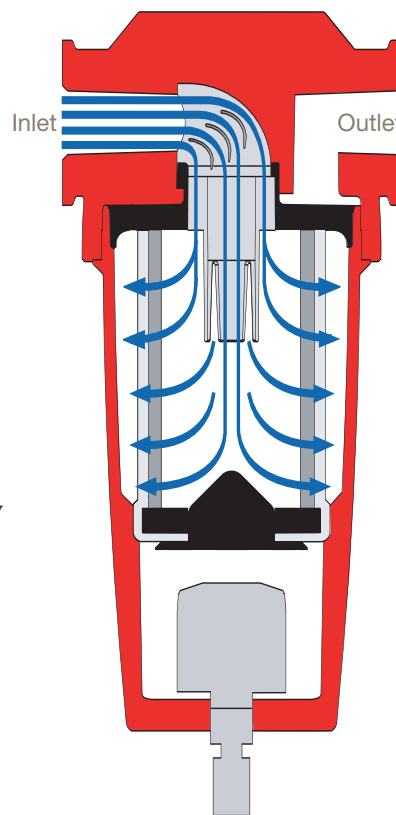
Fixed pressure losses are derived from the filter housing and the interface between the filter housing and filter element.

Incremental pressure losses are directly related to the filter element as it blocks up with contamination.

In most filters, high operational costs can be attributed to a poorly designed airflow path within the filter housing element and poorly selected filtration media.

In addition to this, the high differential pressure “change points” recommended by many filter manufacturers increase operational costs even further.

## OIL-X EVOLUTION die-cast filters optimised flow path from patented Aerospace Flow Management System



“Bell mouth” housing inlet & full flow inlet conduit



Smooth 90° elbow & aerospace turning vanes



Flow distributor



Conical flow diffuser



### Deep bed pleating

Deep bed pleating reduces the air flow velocity within the filtration media. This both improves filtration performance of the filter element and also reduces pressure losses.



### Specialist media treatment

All OIL-X EVOLUTION coalescing and dust removal filter media includes a specialist treatment. This actively repels oil and water to ensure that coalesced liquid does not reduce the voids volume. Maintaining a high voids volume reduces the risk of premature blockage, system pressure losses and high energy consumption.

# Advanced filter housings

OIL-X EVOLUTION die-cast filter housings provide simple installation, and long housing life with reduced maintenance. The unique design of the OIL-X EVOLUTION die-cast filter also provides more port sizes to give greater application flexibility. A 'clean change' element design ensures that service technicians do not have to directly handle contaminated filter elements during maintenance.



## Filter connections

More port sizes are available to match both pipe size and system flow rate giving additional customer choice and reduced installation costs. Standard range suitable for pressures up to 20 bar g (232 psi g).



No corrosion with Alocrom treatment.

Rapid corrosion of untreated aluminium.

## Compact and lightweight

Advanced element design provides a smaller, more compact filter.

## Full corrosion protection

OIL-X EVOLUTION filter housings undergo cleaning, de-greasing and Alocrom treatment before painting. This not only primes the aluminium surface for painting, but also provides corrosion protection. All OIL-X EVOLUTION filter housings are protected with a tough, durable dry powder epoxy coating.



## 'Clean change' filter element

Filter element changes are now easy and do not require the user to directly handle the contaminated element during annual maintenance.

## Minimal service clearance

Space saving design minimises service clearance and allows installation in confined spaces.



Float drain

## Choice of drains

Grade AO and AA coalescing filters are fitted with energy efficient, zero air loss float drains as standard for the removal of coalesced liquids. Grade AR and ARR dust removal filters and grade ACS adsorption filters are fitted with a manual drain.

# OIL-X EVOLUTION for larger flowrates

## 4" Die-Cast Aluminium and Carbon Steel Fabricated Filters

For larger flowrate applications, Parker domnick hunter manufactures cast aluminium 4" ported filters and a range of fabricated carbon steel filters from DN50 to DN300 sized flanges.

These filters are also available in the standard five filtration grades.



### 4" Die-cast aluminium filters

- Cost effective alternative to flanged, fabricated carbon steel vessels
- Standard range up to 20 bar g (290 psi g)
- Alocrom and dry powder epoxy coated for full corrosion protection
- NT Easy fit element location for quick and simple maintenance



### Carbon steel fabricated filters

- Fabricated from carbon steel
- Standard range up to 16 bar g (232 psi g)
- Stainless steel models also available
- Designed to ASME VIII Div 1 (non-U)
- Specialist housings also available
- NT Easy fit element location for quick and simple maintenance
- Higher pressures available
- Filters for other gases available

### NT Easy fit element technology

- Low pressure drop when compared to traditional wrapped filter elements
- Drainage layer is suitable for use up to 100°C and is compatible with all compressor oils



Special endcap design allows for quick and easy maintenance.



No tie-rod to reduce pressure drop and simplify installation.



Pleated element technology for increased filtration area



Lower endcap design eases installation and prevents damage to drainage layer.

High capacity drainage layer ensures that all coalesced liquids are removed.

If you would like more information about these or other ranges of Parker domnick hunter purification products please visit: [www.domnickhunter.com](http://www.domnickhunter.com), Email: [dhindsales@parker.com](mailto:dhindsales@parker.com) or contact your local Parker domnick hunter representative.



**Compressed Air Capabilities**  
17 400 4401



**OIL-X EVOLUTION Filters**  
17 400 4403



**WS Water Separator**  
17 400 4404



**OVR Oil Vapour Removal**  
17 400 4405



**PNEUDRI Compressed Air Dryers**  
17 400 4406



**MAXIGAS Nitrogen Generators**  
17 400 4704

**Other Related Filtration Products:**



**Compressed Air Filter Elements**



**Compressed Air Filters up to 50 bar g (740 psi g)**



**Compressed Air Filter up to 350 bar g (5000 psi g)**



**Sterile Air Filters**



**Stainless Steel Compressed Air Filters**



**Multi-ported Compressed Air Filters**



**Point of use Air Tool Protector**



**Breathing Air Purifiers**



**Medical Vacuum Filters**



**Vacuum Pump Inlet and Exhaust Filters**



**Carbon Dioxide Purifiers**



**Oil / Water Separators**

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