AFTERSALES

Alternative Products for Other Manufacturer's Devices





KSI manufacturing competence – also for alternative service parts

Since its establishment KSI has been offering alternative products for servicing the equipment of other manufacturers in the compressed air and condensate technology sector. This business has been expanded and perfected continuously over the years. KSI service parts for third party products are manufactured in-house by KSI:

- KSI ECOCLEAN® AFE Filter elements and cartridges for compressed air filters
- KONTREC® AKF Activated carbon filters for oil-water separators
- ECOSERV Service parts for third-party dryers

Taken directly from OEM production:

- ECOCOMP® Filters for compressors and vacuum pumps
- ECOSERV Service parts for third-party dryers

The KSI AFTERSALES Plus-Effects +++

- + fast availability ► KSI takes over the warehousing for the specialist trade; thousands of different products are stored in large quantities at the headquarters in Willich and are on their way to the place of use as quickly as possible
- aftersales competence team assists in the conversion of original numbers of maintenance parts or devices
- identification of original parts based on dimensional sketches or samples
- reproduction of special solutions according to samples or drawings
- + own production and quality assurance

KSI ECOCLEAN® AFE

Alternative Filter Elements for Other Manufacturer's Filter Housings



Filtering compressed air and gases costeffectively and reliably with KSI ECOCLEAN®

In modern compressed air systems the quality of the compressed air is the deciding factor. Compressed air filters ensure that solid particles, oil components, condensate, oil vapour, odours and other contaminants are safely removed from the compressed air system. The core piece of a compressed air system is the filter insert (element) that has to be matched to each application.

KSI produces all of the filter elements for our compressed air filters and all alternative filter elements and cartridges in-house. This ensures complete control for safeguarding our certified KSI industrial equipment quality.





The KSI ECOCLEAN® approach

The combination of operational safety and cost effectiveness perfectly implemented in one product is KSI's starting point for **KSI ECOCLEAN®** high-performance filter elements.

Simply the best alternative!

KSI ECOCLEAN® AFE

Alternative Filter Elements for Other Manufacturer's Filter Housings





Costs

1. Optimum Operational Reliability

Filter Element

- A Special compound adhesive securely fixes the end caps to the stainless steel support cages and the filter
- media.

 The KSI ECOCLEAN® high performance media is securely fixed and supported

between stainless steel support

rial growth.

- cages.
 The plasticizer-free plastic end caps
 prevent corrosion. This means no
 efflorescence and no increased bacte-
- The filter drainage layer made of special fleece stabilizes the filter media and prevents efflorescence and cracking meaning it safely counteracts
- the loss of filtering action.

 The high-performance filter fleece
 has a high chemical, mechanical and
 thermal loading capacity (up to 120°
 C), and it is silicone-free.



2. Optimum Cost Effectiveness

Filter Element

The specially designed interior and exterior KSI ECOCLEAN® support cages achieve up to 45% less differential pressure as compared with conventional support cylinders.

Energy Saving Filter Media

- The KSI high-performance element achieves maximum filter surface area through the specially optimized winding of the filter media. The construction-based surface filtration, in contrast to 2-layer pleated elements, achieves a significantly higher internal surface area (filter depth volume) for maximum depth filtration. Due to this very high depth filtration capacity of KSI ECOCLEAN® filter elements the differential pressure rises very slowly, giving longer life and reduced energy costs.
- The media depth volume ensures the

 c high-est contaminant removal, whilst
 allowing maximum filtration performance.

KSI alternative filter elements for all common housings from other manufacturers on the market.

Get a complete list of the available filter elements on request. Please send an e-mail to: vertrieb@ksi.eu

We produce ourselves!

- · Filter elements for KSI filter housings
- $\cdot \ Filter \ elements \ for \ other \ manufacturers \ housings$





Our filters / filter elements are analyzed and tested in our in-house laboratory.

KONTREC® AKF

Alternative Activated Carbon Filters for Other Manufacturors Of Manufactu **Manufacturers Oil-Water Separators**

The market leader, with the best price-performance ratio

There are about a handful of manufacturers of oil water separators offering a good solution for the treatment of condensate. The basic principle has been tried and tested for decades, with only minor differences in the details. In the end however, it all depends on the quality of the activated carbon, such as **KONTREC®** AKF in the oil/water separators that ensures adherence of the water quality to regulatory requirements.

In fact KONTREC® AKF has been used in most manufacturers oil/water separators for the past 17 years, and for a very good reason. This is because KSI has been producing these important components according to the highest quality criteria in-house since the company's establishment. More than 22,000 KSI activated carbon filters are produced each year and shipped globally. This corresponds to almost 100 tons of highest quality activated carbon.



- + process-induced high performance
 - ► best adsorption
- + highest adsorption capacity
 - ► maximum filter service life
- + maximum cleaning safety
 - ► for waste water discharge conforming with local directives
- + absolute dimensional accuracy due to quality control
 - ► prevents bypass flow
- + 4-layer seam and tear resistant PE sleeve
 - ► filter strength and dimensional stability
- + quick delivery, best quality, good price



KONTREC® AKF – in stock for most oil-water separators

KSI has filter sets available for all common oilwater separators. These filters are available in the exact configuration required on-site. In other words, all pre-filters are included in the package.

KONTREC® AKF

Alternative Activated Carbon Filters for Other Manufacturers Oil-Water Separators

Typical for KSI: High cost savings and reliability through top quality

Due to the nature of the process, compressor condensate is always part of compressed air generation. It consists of all the materials that the compressor draws in. Moisture (water), particles, dust and air components from industry, traffic and private households, e.g. SO² and hydrocarbons. Oil from the compression element of lubricated compressors can always be found in the condensate, depending on the type of compressor and the oil used.

The degree of compression is the determining factor regarding the stability of the oil/water mixture. The higher the pressure, the more stable the mixture. In the end the performance of the activated carbon filter used is the deciding factor. The oil-water separator has to ensure that only pure water reaches the sewer.

| Original Manufacturer | Model | Туре |
|-------------------------|------------------------|---|
| Alup | Aquamat | 120 / 250 / 450 / 900 / 1800 / 3600 / 7200 |
| Atlas Copco | OSW | 5 / 11 / 30 / 55 / 110 / 315 |
| Atlas Copco | OSC 35 - 2400* | 35 / 95 / 145 / 355 / 600 / 825 / 1200 / 2400 |
| Beko | Öwamat | 1/2/3/4/5/5R/6/8/20 |
| Boge | Öwamat | 1 / 2 / 3 / 4 / 5 / 5R / 6 / 8 / 20 |
| Boge | Ökomat | 5 / 10 / 15 / 30 / 60 / 120 / 240 |
| Domnik Hunter | ES | 36 / 90 / 125 / 250 / 500 / 1000 / 2100 / 2150 / 2200 / 2300 / 2400 / 2500 / 2600 |
| Domnik Hunter | H2OIL-X | 2010 / 2015 / 2030 |
| Donaldson (ultrafilter) | ultrasep P | 7,5 / 15 / 30 / 60 / 120 / 240 |
| Donaldson (ultrafilter) | ultrasep SP | 5 / 7,5 / 10 / 15 / 30 / 60 / 120 / 240 |
| Donaldson (ultrafilter) | ultrasep AS-P | 5 / 10 N / 15 N / 30 N / 60 N / 120 N / 240 N |
| Ecoair | TS | 3 / 4 / 15 / 16 / 60 |
| Hankison | HS | 60 - 120 / 140 - 900 / 1800 / 3600 |
| Jorc | Puro | Enviro / Puro Mini / Puro / Puro Midi / Puro Grand / Puro Xtender |
| Kaeser | Aquamat | 1/2/3/4/5/5R/6/8/20 |
| Kaeser | WO | I - II / III / IV |
| Sabroe | Divisor | IE - IIE / IIIE / IVE |
| Sabroe | SAB | 25 / 45 / 90 / 180 / 360 / 720 |
| Schneider | Öwatec | 10 / 40 / 130 / 175 / 250 |
| Schneider | Öwatec (alte Baureihe) | Typ 40 / Typ 50 / Typ 75 / Typ 120 |
| Wortmann | drukomat | 1 / 2 / 15 / 30 / 60 |
| Wortmann | drukosep | 1 / 2 / 3 / 6 / 12 / 25 / 40 |
| Wortmann | WO | I - II / III / IV |
| Zander | ecosep S | 1 / 2 - 15 / 30 / 60 |
| Zander | WT | 1 - 2 / 3 / 4 |
| Zander | ecosep SL | 1 - 5 / 8 / 15 / 30 / 60 |
| | | |

^{*} Adsorption filters that match Atlas Copco OSC are supplied as a static (non-floating) element!

ECOCOMP®

Alternative Filters for Compressors and Vacuum Pumps



Operational Perfection with Convincing Results

ECOCOMP® oil separation cartridges work highly efficient according to the coalescence principle. This process starts at the sub-micron range. A high-performance glass fibre medium retains tiny colloidal oil droplets, and its specific properties ensure that many small oil droplets merge to a few large oil droplets which can then drain off the glass fibre medium and return to the oil circulation as a result of gravity. The result is effective oil separation with minimal oil use for compressor installations and vacuum pumps.

At the same time the introduction of oil into the compressed air network is significantly reduced.

ECOCOMP®: highest quality for the demanding protection requirements of installations and processes

Customer-oriented, KSI Filtertechnik GmbH has been delivering filter and oil separators of OEM quality for compressors since 1998 quickly and reliably. In order to make this a reality, we provide an enormous storage area of 1300 m² just for this product group.

96% of orders are shipped the same day. This reflects KSI's claim regarding continuous improvement. All filter products are designed for optimum performance and continue to be developed for each application.



The ECOCOMP® Plus-Effects +++

- + the process-based best performance
- maximum filter cycle times because of the best filter materials
- + long-life, robust industrial quality
- protects compressors, vacuum pumps and compressed air systems

ECOCOMP®



Alternative Filters for Compressors and Vacuum Pumps

Top quality from OEM production: oil separator cartridges, oil and air filters

Compressed air is established as a safe and economical energy besides electricity. For that reason compressors and vacuum pumps are used in various application areas of construction, electrical engineering, pharmaceutical, foodstuff production and mechanical engineering. High-performance oil separation cartridges as well as oil and air filters of the best quality are the deciding factor to be able to operate these expensive and important installations safely and economically over the long-term.

Time is money – quick delivery is therefore an obligation

Our ability as a supplier extends to over 6000 original references. This means that you can find the required products directly in our price list. If you require a filter or an oil separator cartridge that contrary to expectations cannot be found in the KSI price list, we will cross reference it as quickly as possible, based on the original part number, the compressor or pump type, or on the basis of the dimensions. "Your product" will then enter directly into the price list, which is revised every 2-3 years. Do you have questions? It is our pleasure to advise you. **Test us!**

Steadfast to the end – evolved for use in industry

Oil separator cartridges were developed for tough industrial use. Furthermore they are designed for all common lubricating materials (mineral oil, semi synthetic and fully synthetic oil). The life cycle of the oil separator cartridge is determined by the following factors:

Contamination from the intake-air, metal abrasive debris, particles and oxidation products of the oil affect the performance of the oil separation cartridge over time. Because the cycle time, and therefore the service life, is determined by the amount of contamination, this in turn causes an increasing differential pressure in the filter.

- A timely exchange of the air and oil filter elements usually extends the service life of the oil separator cartridges. The selection of the oil used has the same effect. Oxidationresistant and water-proof oils have proven themselves.
- The operating conditions of the installation are the deciding factor regarding cycle time. This involves as much the external temperature, oil temperature and installation cooling as it does the quality of the surrounding air and its material content that is detrimental to oil.
- ECOCOMP® oil separator cartridges are produced with the greatest of care, and for that reason offer high operational reliability, installation protection and cost effectiveness, which are indispensable for the effective operation of compressed air installations.

Oil separator cartridges, oil filters and air filters

Available for the following manufacturers of compressors and vacuum pumps, or as a substitute for the filters of the following manufacturers

| Abac | Boge | Fini | Maco | Renner |
|-----------------|-----------------|-----------------------|----------------|-------------|
| Aerzen | Bottarini | Flottmann | Mahle | Rotorcomp |
| Alup | Busch | Fluidair | Mann & Hummel | Rietschle |
| Atlas Copco | Champion | Gardner Denver Wittig | Mark / Ceccato | Rotair |
| Axeco | Chinook | Hengst | Mehrer | Schneider |
| Blitz Schneider | Compair / Demag | Hydrovane / Mattei | Parise | Stenhoj |
| Bauer | Ecoair | Ingersoll Rand | Pneumofore | Sullair |
| Becker | Effepizeta | Kaeser | Power System | Tamrock |
| BOC Edwards | Fiac | Leybold | Purolator | Worthington |

ECOSERV



Service Parts for Other Manufacturer's Adsorption Dryers



ECOSERV ► Highest-performance orignal parts and quality fillings

Over the last few years KSI has turned into one of the most competent partners in the area of adsorption drying. For that reason it was reasonable to also develop a product line in the area of replacement parts and service packages for heatless & heat-regenerated adsorption dryers and active carbon adsorbers from our competitors, in order to establish a more intensive bond with the industry and the service operations. By assembling the ECOSERV product line we addressed one of our customers biggest wishes. The result is high-performance original parts, quality fillings and KSI intelligence packages. The "ECOSERV I" KSI service packages facilitate the whole service process, making it simpler and less cumbersome. Not only the 12-24-48 month service parts are included, but also components such as filter elements, mufflers and valves that usually have to be ordered separately. KSI "ECOSERV I" is just more.

The ECOSERV Plus-Effects +++

- + highest-performance original parts
- + Quality desiccant packages from well known German manufacturers
- + KSI intelligence packages facilitate the industry in the assembly of the necessary service components
- + The KSI competence team provides full support for all aspects of the service of other manufacturers adsorption dryers.

ECOSERV





The KSI package comparison using the example of the Zander KEN 200 - KEN 500 series since 05/99

KSI service packages consist of:

| Quantity of items contained in each service package | | | |
|---|-----------|-----------|-----------|
| Description | 12 months | 24 months | 48 months |
| Reset module | 1 | 1 | 1 |
| • NO control valve | 2 | 2 | 2 |
| NC control valve | 2 | 2 | 2 |
| · Magnet coil | | | 2 |
| Inlet valve | | 2 | 2 |
| Expansion valve | | 2 | 2 |
| Check valve | | | 2 |

KSI Full Service Intelligence Packages sonsist of:

| Qu | antity of items co | ntained in each se | rvice package |
|--------------------------------------|--------------------|--------------------|---------------|
| Description | 12 months | 24 months | 48 months |
| Reset module | 1 | 1 | 1 |
| NO control valve | 2 | 2 | 2 |
| NC control valve | 2 | 2 | 2 |
| Magnet coil | | | 2 |
| Inlet valve | | 2 | 2 |
| Expansion valve | | 2 | 2 |
| Check valve | | | 2 |
| + Element Pre/Post | t-filter 2 | 2 | 2 |
| + Muffler | 1 | 1 | 1 |
| + Condensate dr | ain 1 | 1 | 1 |

Servivce packages

KEN 200

| ArtNr. | Service intervall |
|--------------------------|-------------------|
| ES-Z-12-KEN-200-500-5/99 | 12 Monate |
| ES-Z-24-KEN-200-500-5/99 | 24 Monate |
| ES-Z-48-KEN-200-500-5/99 | 48 Monate |
| KEN 200 | |

KEN 300

| ArtNr. | Service intervall |
|--------------------------|-------------------|
| ES-Z-12-KEN-200-500-5/99 | 12 Monate |
| ES-Z-24-KEN-200-500-5/99 | 24 Monate |
| ES-Z-48-KEN-200-500-5/99 | 48 Monate |

KEN 400

| ArtNr. | Service intervall |
|--------------------------|-------------------|
| ES-Z-12-KEN-200-500-5/99 | 12 Monate |
| ES-Z-24-KEN-200-500-5/99 | 24 Monate |
| ES-Z-48-KEN-200-500-5/99 | 48 Monate |

KEN 500

| ArtNr. | Service intervall | |
|--------------------------|-------------------|--|
| ES-Z-12-KEN-200-500-5/99 | 12 Monate | |
| ES-Z-24-KEN-200-500-5/99 | 24 Monate | |
| ES-Z-48-KEN-200-500-5/99 | 48 Monate | |

KSI Full service packages

KEN 200

| ArtNr. | Service intervall |
|---------------------------|-------------------|
| ESI-Z-12-KEN-200-300-5/99 | 12 Monate |
| ESI-Z-24-KEN-200-300-5/99 | 24 Monate |
| ESI-Z-48-KEN-200-300-5/99 | 48 Monate |

KEN 300

| ArtNr. | Service intervall |
|---------------------------|-------------------|
| ESI-Z-12-KEN-200-300-5/99 | 12 Monate |
| ESI-Z-24-KEN-200-300-5/99 | 24 Monate |
| ESI-Z-48-KEN-200-300-5/99 | 48 Monate |

KEN 400

| ArtNr. | Service intervall |
|---------------------------|-------------------|
| ESI-Z-12-KEN-400-500-5/99 | 12 Monate |
| ESI-Z-24-KEN-400-500-5/99 | 24 Monate |
| ESI-Z-48-KEN-400-500-5/99 | 48 Monate |

KEN 500

| ArtNr. | Service intervall |
|---------------------------|-------------------|
| ESI-Z-12-KEN-400-500-5/99 | 12 Monate |
| ESI-Z-24-KEN-400-500-5/99 | 24 Monate |
| ESI-Z-48-KEN-400-500-5/99 | 48 Monate |







ECOSERV

Desiccant Packages for Adsorption Dryers



High performance desiccants guarantee operational reliability

The desiccant fillings for heatless and heat-regenerated adsorption dryers are structured according to adsorber type for all pressure dew points and applications, and are supplied as a substitute filling for the adsorption dryers from other manufacturers. KSI exclusively uses desiccants and adsorbents from well-known German manufacturers, for example BASF.

The highest-quality materials are in this case also the KSI standard, because poor alternatives often do not yield the desired or necessary result. As usual, KSI nonetheless also provides here a good price-performance ratio.



KSI desiccant package comparison using the example of the Zander KEN 200 - KEN 500 series since 05/99

| Item no. | for Zander adsorption dryers | Service intervall |
|---------------|------------------------------|-------------------|
| ES-DPZ-KEN200 | KEN 200 | 48 months |
| ES-DPZ-KEN300 | KEN 300 | 48 months |
| ES-DPZ-KEN400 | KEN 400 | 48 months |
| ES-DPZ-KEN500 | KEN 500 | 48 months |

 $\label{thm:periodic} \textbf{Desiccant packages contain replacement fi llings and dust sieves.}$

KSI Service support

The KSI "Adsorption Dryer Competence Team" fully supports its industrial partners. In case of any questions during a service or repair on an adsorption dryers with heatless or heated regeneration from other manufacturers, KSI associates will be glad to support you at any stage of the service work. We can help to avoid possible errors at the quotation stage for service work.

Use our experience and competence.

Training for service and repair, even for other manufactu-rers adsorption dryers

Besides training on KSI heatless & heat regenerated adsorption dryers, KSI offers training to industry service technicians on other manufacturer's adsorption dryers. Learn new things during training, convince your customers.