



MANN+HUMMEL
Filtration solutions
for compressors

Excellent filtration

Your advantages



PROVEN RELIABILITY

Compressed air is one of the most important energy sources in modern manufacturing processes and is generated by compressors. Compressed air should always be available when it is needed. Effective protection for the compressors through the high separation efficiency of our filters is essential to ensure availability. This has a positive effect on service intervals and operating hours. High performance products which are easy to service help to avoid expensive repairs.



SUPERIOR QUALITY

Compressors have to withstand enormous loads. If sub-standard filter elements are used, this will result in above-average wear. With filters from MANN+HUMMEL, even under the highest loads you can rely on maximum performance and a minimum of wear. This is because our products are produced using high quality materials and are subject to extreme performance tests. As a result, with every service you benefit from original equipment quality.



INNOVATIVE TECHNOLOGY

MANN+HUMMEL products are state of the art and are maintained by a continuous improvement process. Digitalization reinforces and extends the benefits of our products. Automated systems monitor and recognize filters, provide support for logistics and warehousing and improve the function of the filtration system. Our experts are available and happy to support you with this step into the future.



MAXIMUM SAFETY

When working with compressed air, safety has the highest priority. We contribute to this through the excellent quality of our products and compliance with high standards. MANN+HUMMEL filtration solutions for compressors ensure longevity and reliability while enabling simple and time-saving service.



ONE STOP SHOP

The comprehensive product range of MANN+HUMMEL covers an extensive range of filters for compressors including air cleaners and oil filters for diesel engines of mobile compressors, separators to ensure the reliable function of the compressor stage, and also panel filters for control cabinet ventilation. This saves time, reduces costs and also ensures a consistent service and quality level.



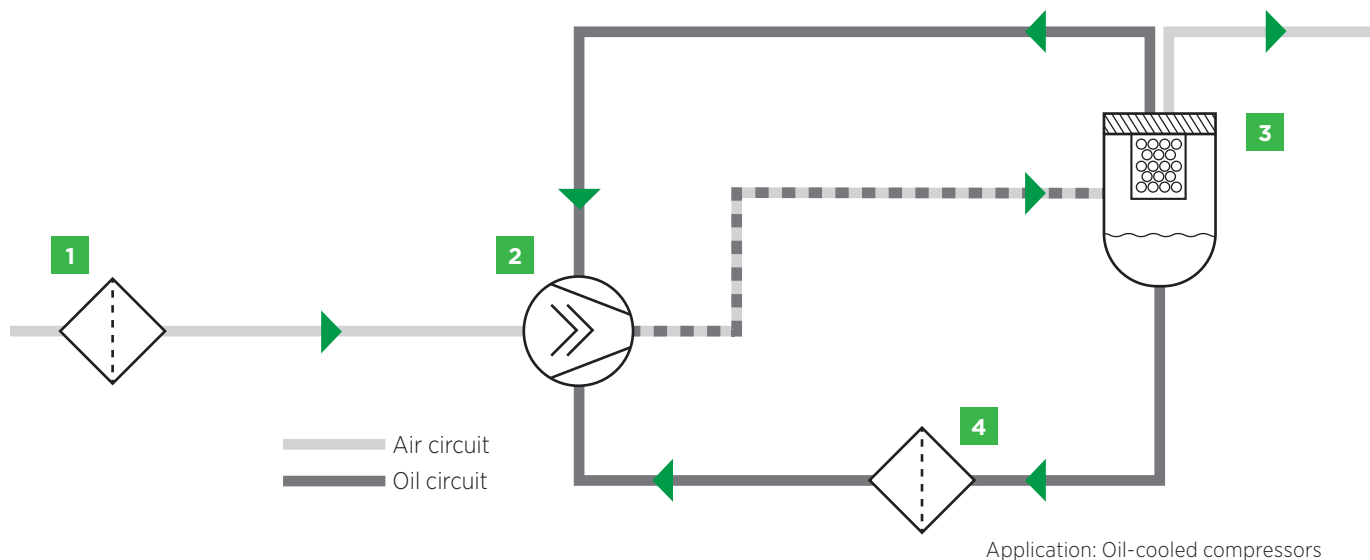
GLOBAL SALES NETWORK

Compressors are in use all over the world and therefore require a comprehensive service structure. The global sales network of MANN+HUMMEL makes sure that the required filters are available anytime at your location. You benefit from our quick and uncomplicated dealer and partner network almost all over the world.



Filtration system of a compressor

Various filters protect the compressor against external contaminants such as dust in the ambient air. Furthermore, the filtration system supports the maintenance of the thermal balance characteristics of the oil circuit and helps prevent the leakage of oil.



1 AIR CLEANER

Modern air cleaner systems from MANN+HUMMEL protect compressor components downstream against the ingress of instances of dust or wear particles. Two-stage air cleaners are used in mobile compressor applications. With these air cleaners a significant part of the dust is separated in a pre-separation process before the air reaches the filter element. This considerably lengthens the service life of the element.

3 AIR/OIL SEPARATOR OR SPIN-ON SEPARATOR

The residual oil contained in the compressed air is almost completely separated by an air/oil separator within the pressure vessel or a spin-on separator outside of the pressure vessel through application of the coalescence effect. The cleaned air is then available for the compressed air network. The separated oil is conveyed through overpressure back to the oil circuit.

2 COMPRESSOR STAGE AND PRESSURE VESSEL

The injection of oil serves to dissipate the heat generated during the compression of gas and the compressed air containing oil is directed to a pressure vessel. When the air reaches the pressure vessel pre-separation is made via a tangential inlet which substantially reduces the oil content of the compressed air. The oil collects at the bottom of the pressure vessel and through the pressure in the vessel is directed via an oil filter and oil cooler back into the compressor stage.

4 OIL FILTER

The oil filter which removes wear particles from the oil is equipped with a bypass valve to prevent the accumulation of excess pressure.

Smart filters – powerful solutions for the future

Filtration and digitalization at MANN+HUMMEL go hand in hand. This is because the future is digital – also in our company. We combine intelligent technology with our expertise in filtration. This enables us to create powerful solutions for the future.

With our intelligent filtration solutions we are pursuing a number of objectives:



In order to push the IoT applications, MANN+HUMMEL has developed typical filter system solutions.

DETECTION OF ORIGINAL PARTS (DOP)

The use of original spare parts is a prerequisite for the perfect functioning of a system. Important material and functional properties can only be guaranteed with original spare parts. A unique number (QR or RFID) on the filter element is read by a sensor and sent via the cloud to a server which checks the authenticity and provides feedback to the user.

PERFORMANCE DATA MONITORING (PDM)

This approach uses the technology of artificial intelligence to carry out big data analysis. In an automated process, the data is searched to identify patterns which occur prior to a specific event (e.g. failure of a component). These patterns can subsequently be used as an indicator in order to predict events which can cause damage and help prevent these through an early planned intervention.

INTELLIGENT PREDICTIVE MAINTENANCE (IPM)

Sensors are used to determine the load status of a filter element. In addition, environmental data is collected (big data). The data flow is used to continually calculate the remaining service life of the filter in the specific application and compared to the increase in the load. A self-learning algorithm enables increasingly accurate predictions as the system uses the difference between the prediction and occurrence to optimize itself.

Filtration solutions for compressors



SPIN-ON SEPARATORS STARBOX²

Our innovative StarBox² range ensures the reliable separation of oil from compressed air and delivers high performance in the area of volume flow and minimum pressure loss. It ensures clean compressed air and at the same time reduces the energy requirement of your systems. StarBox² is therefore one of the most economic separators on the market.



SPIN-ON SEPARATORS STARBOX^{XT}

The new StarBox^{XT} range sets standards in the area of separation efficiency, especially at low flow rates. Carefully selected and processed filter media ensures an efficient and reliable operation of your compressors as well as predictable maintenance intervals. A new type of sealing concept ensures the functionality after the system is closed.



AIR/OIL SEPARATORS AOS^{XT}

Using new technology, the AOS^{XT} air/oil separator from MANN+HUMMEL has a robust function under various operating conditions. The improved separation efficiency considerably reduces oil discharge and therefore reduces the operating costs of the compressor.

Filtration solutions for compressors



MODERN AIR CLEANER SYSTEMS

Modern and robust air cleaner systems from MANN+HUMMEL protect compressor components downstream against the ingress of particles with a high separation efficiency and long service life. This ensures the availability of your compressor. Our air filters convince with a reliable function also when exposed to high levels of dirt.



DIGITAL AIR CLEANER MONITOR SENZIT

Senzit, the intelligent air cleaner monitor, monitors the status of air cleaners in real time and transfers service-relevant information to users via an app. Senzit manages the maintenance of your compressors and enables the efficient planning of required servicing actions. This saves time and considerably increases machine availability.



HIGHLY EFFICIENT OIL FILTER WAVELOCK

The innovative WAVELOCK spin-on filter concept enables easy, quick and clean servicing for compressors. The basis for this innovative solution is a bayonet lock which securely attaches the spin-on filter to the filter head and simultaneously simplifies the service. The improved component cleanliness enables the new system to offer excellent protection against contamination.



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