Oil-free solutions

Made for sensitive applications and process-reliable workflows

Activated-carbon adsorbers and catalytic converters

Better through Responsibility

BEKO

Full process reliability and efficient production workflows

› Catalytic converter
BEKOKAT®

› Activated-carbon adsorber
CLEARPOINT® V

Even the tiniest of oil molecules can have a significant influence on production quality and process reliability. With the oil-free solutions from **BEKO** TECHNOLOGIES you will always have the right compressed air quality.

For every branch and industry

From the automotive and manufacturing industries through the food industry to the chemicals and pharmaceutical industries: compressed air is used in almost all branches as an energy carrier. All companies aim to have safe plants, optimised production processes and cost-efficient operation. **BEKO** TECHNOLOGIES meets these requirements with safe and reliable treatment technology that has been tried and tested the world over.

Top quality

Depending on the application, the compressed air used is subject to different quality requirements. Whether it just has to be dry or absolutely sterile: our range of products offers suitable treatment technology for every requirement and compressed air quality, as well as measurement technology for permanent monitoring – since that is the only way to guarantee constant fulfilment of quality standards.

With optimum solutions

The contamination of compressed air by oil represents a special challenge, because it can not only impair the quality of the compressed air, it is also a risk in terms of overall process reliability. With the catalytic converter BEKOKAT® and the activated-carbon adsorber CLEARPOINT® V, **BEKO** TECHNOLOGIES offers oil-free solutions for sensitive applications and process-reliable workflows.

BEKO TECHNOLOGIES. Better through responsibility

Oil in the compressed gas system: solutions to guarantee long-term quality

As well as in its fluid form, oil can also occur as vapour and aerosol in compressed air. This makes different methods necessary to purge the compressed air accordingly and reliably monitor its oil content. Since the intake air for compressed air production is generally charged with hydrocarbons, it requires an extensive treatment solution even if the compressed air production as such is oil-free.

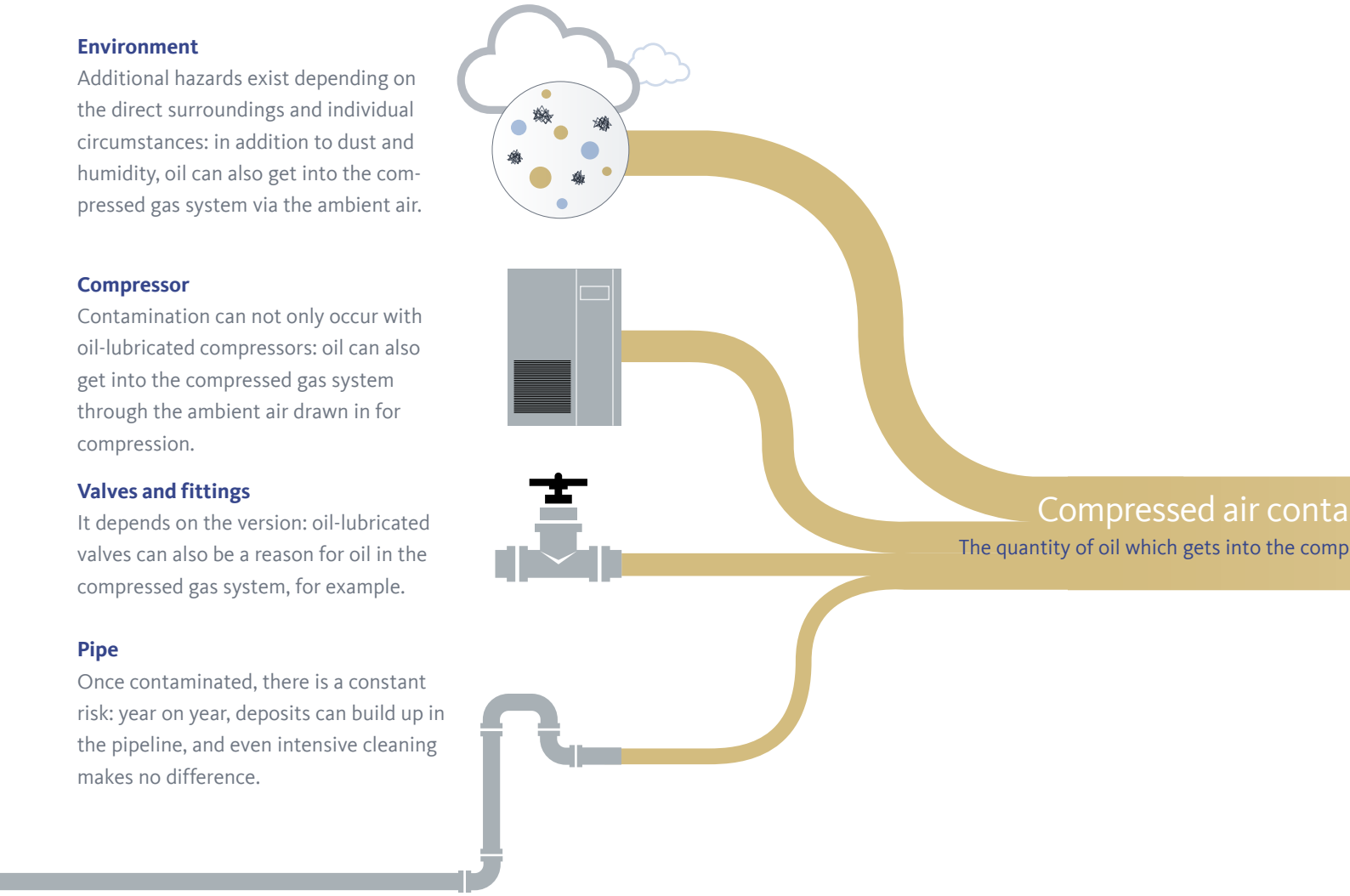
Oil entry in the compressed air: possible sources of contamination

Environment
Additional hazards exist depending on the direct surroundings and individual circumstances: in addition to dust and humidity, oil can also get into the compressed gas system via the ambient air.

Compressor
Contamination can not only occur with oil-lubricated compressors: oil can also get into the compressed gas system through the ambient air drawn in for compression.

Valves and fittings
It depends on the version: oil-lubricated valves can also be a reason for oil in the compressed gas system, for example.

Pipe
Once contaminated, there is a constant risk: year on year, deposits can build up in the pipeline, and even intensive cleaning makes no difference.



Dryers

- Refrigeration dryer
- Adsorption dryer

Filtration

- Water separator
- Coalescence filter

Activated-carbon adsorber

CLEARPOINT® V

Thanks to efficient oil vapour adsorption with special activated carbon, CLEARPOINT® V protects your system against oil entry – with low differential pressure and long service life!

Catalytic converter

BEKOKAT®

You can achieve certified oil- and germ-free compressed air with the BEKOKAT®. The converter oxidises hydrocarbons of all kinds and origins through air oxygen catalysis.

mination through oil and oil vapour
ressed air depends on local circumstances

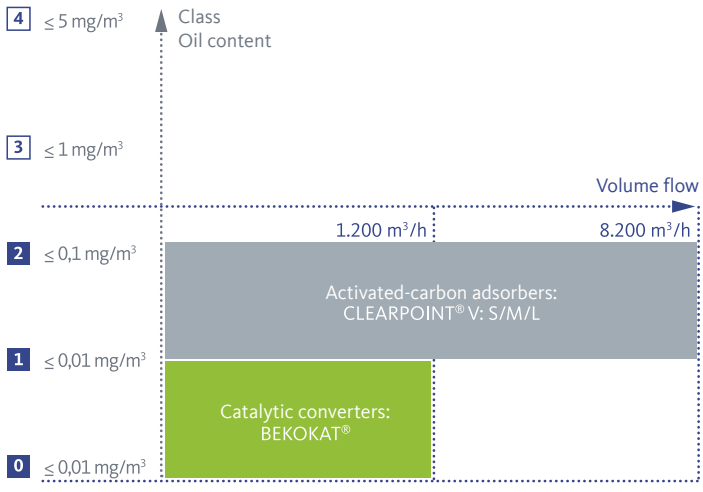
It depends on the interaction: only the perfectly matched interplay between different treatment components guarantees the required compressed air quality. Find out more on page 10.

Catalysis technology for constantly oil-free and germ-free compressed air: BEKOKAT®

Our catalytic converter is the ideal solution wherever constantly oil- and germ-free compressed air is required. It combines economic efficiency with process reliability and is independent of intake conditions. It can easily be retrofitted to existing compressed air stations. The BEKOKAT® stands for high efficiency and constant compressed air quality particularly when used with sensitive products such as food or pharmaceuticals.

Class 1 according to ISO 8573-1 or better

Conventional compressed air processing and treatment has technical and economical limits with highly sensitive applications. BEKOKAT® uses pioneering catalysis technology to convert hydrocarbons into carbon dioxide and water through total oxidation. The procedure achieves constantly oil-free compressed air with a maximum residual oil content of a barely measurable 0.001 milligrams per cubic metre. With this performance, the BEKOKAT® surpasses even the most stringent specifications of ISO 8573-1, Class 1 oil content. A quality that is required in particularly demanding production processes. The incidental condensate from the cooling of the compressed air is also absolutely oil-free and can be channelled into the sewer system without treatment.



BEKOKAT®

Certified safety and reliability thanks to oil-free and germ-free compressed air

The higher the demands on the quality of compressed air, the greater the quality management demands on the devices used and the respective proofs. **BEKO** TECHNOLOGIES has had the performance capability of the BEKOKAT® confirmed and certified by means of elaborate tests conducted by independent institutes. Together with TÜV Nord, proof was brought under real operating conditions to confirm that compressed air which is processed and treated with the BEKOKAT® exceeds the specification according to Class 1 of the ISO 8573-1. In a second series of trials, it was confirmed that compressed air contaminated with bacteria is germ-free following treatment in the BEKOKAT®. No living bacteria could be identified or verified in the compressed air flow after the treatment process.

The efficiency of the BEKOKAT® catalytic converter has been certified by TÜV and validated by neutral institutes.

Innovative technology with practice-oriented details

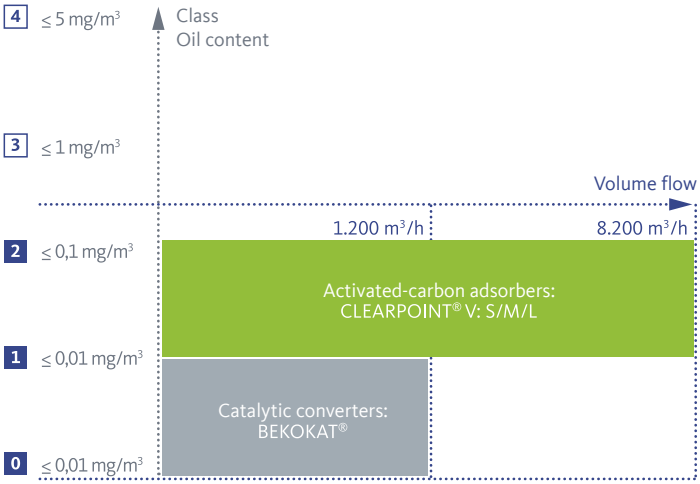
1. Clear control elements indicate the current operating state
2. Stand-by switching for complete safety even after operation has been interrupted
3. Heat recovery ensures high energy efficiency
4. Simple transportation and installation
5. Effective insulation saves energy
6. Extremely durable catalysing material
7. Thermally insulated and corrosion-protected sheathing
8. Service-friendly thanks to easy access

BEKOKAT®

The economic way to achieve oil-free compressed air: Activated-carbon adsorber

The activated-carbon adsorbers of the CLEARPOINT® V series are particularly suitable for large volume flows. They are convincing with a maximum residual oil content of only 0.003 mg/m³ and low differential pressure with extremely low energy costs.

In order to ensure high compressed air quality with compressed air class 1 to 2 in accordance with ISO 8573-1, in particular with regard to the residual oil content, the CLEARPOINT® V activated-carbon adsorber is the effective and reliable technical component in demanding system designs.
The consistent overall concept guarantees compressed air quality with a maximum residual oil content of 0.003 mg/m³ extremely cost-efficiently. Oil vapours and odours are adsorbed on the unusually large active surface of the compression-moulded activated carbon pellets. When selecting our activated carbon, we work together with selected suppliers who guarantee consistent carbon quality – a major advantage for your compressed air quality and process reliability.
Depending on the compressed air volume required, **BEKO** TECHNOLOGIES can offer you the suitable solutions.



Activated carbon filter with cartridge

- For smaller volume flows
- Highly efficient adsorption with residual oil content below 0.003 mg/m³
- Longer service life compared to conventional filter elements
- Service-friendly with easy to exchange cartridge
- Almost abrasion free with integrated particle separation
- Simple to adapt oil inspection indicator

Activated-carbon adsorber

- For larger volume flows
- Perfect compressed air quality with a maximum residual oil content of 0.003 mg/m³
- Low operating costs thanks to low differential pressure and long service lives
- Complete solution with oil-free particle filter

CLEARPOINT® V
Activated-carbon adsorber

CLEARPOINT® V
Activated carbon cartridge

CLEARPOINT® V S/M
Activated carbon cartridges

CLEARPOINT® V activated carbon cartridge for smaller and medium volume flows

Our CLEARPOINT® V S/M offer a clean solution for the oil-free treatment of small and medium volume flows up to 200 m³/h and pressures up to 50 bar [g]. A special activated carbon cartridge has been developed for extremely demanding requirement profiles for small to medium volume flows.

- Adsorption with minimum residual oil content
- Significantly higher service lives than conventional activated carbon filter elements
- Service-friendly with easy to exchange cartridge
- Conventional testing technology can easily be adapted

CLEARPOINT® V L
Activated-carbon adsorber

CLEARPOINT® V L activated-carbon adsorber for large volume flows

The extraordinary range of variants of the CLEARPOINT® V L available offer you the suitable solution for every requirement – for volume flows up to 8,200 m³/h and pressures up to 40 bar [ü]. CLEARPOINT® V is the effective and reliable solution for ensuring high compressed air quality, particularly in terms of residual oil content, and an indispensable component in demanding plant designs. The consistent overall concept for outstanding performance: in addition to our standard versions L 205-295 V and L 1250-8200 V for volume flows from 135 m³/h to 8,200 m³/h, we also offer a suitable option for the pressure range up to 40 bar in the form of our L 1300-5000 V HP (1300 - 5,000 m³/h). If particular care is required in terms of fire protection, we can deliver all models in a VH-version on request, which provides a combustion-resistant solution thanks to special carbon.

Interaction: oil-free thanks to the interplay between many components

Whether oil is involved as a vapour or fluid: the efficiency and durability of a solution to eliminate the oil depends on the interaction between all the components in compressed air processing and treatment. Long-term process reliability and production quality can only be guaranteed when these are perfectly tuned to one another and work together perfectly.

For top quality: the key components for oil-free compressed air

CLEARPOINT® W

Water separators can remove large quantities of water and oil right at the beginning of the processing chain.

Coalescence filters separate drops of oil as well as particles.

Adsorption dryers ensure that the absorption capacity of the activated-carbon adsorber is not blocked by water molecules.

Catalytic converter guarantees compressed air in the highest quality classes.

CLEARPOINT® 3eco

BEKOKAT®

For top rates: water separation

Use of our CLEARPOINT® W water separator– for example directly downstream of the after coolers, achieves maximum separation rates. This makes subsequent treatment significantly easier.

For every requirement: compressed air filtration

By freeing the compressed air of aerosols, solid particles, dust, odours or water, our CLEARPOINT® compressed air filters prevent damage to the production plant and contamination of the product – thus guaranteeing pure compressed air in every quality class.

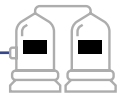
For special requirements: oil-free solutions

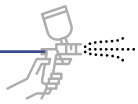
Dry, dust-free and oil-free compressed air plays an often underestimated yet important role for numerous applications. For such cases, **BEKO** TECHNOLOGIES supplies innovative catalytic solutions which provide oil-free and germ-free compressed air in addition to tried-and-trusted activated-carbon adsorbers.

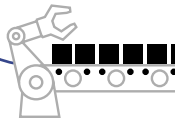
Activated-carbon adsorber
guarantees compressed air in the highest quality classes.

CLEARPOINT® V

METPOINT® OCV compact







CLEARPOINT® 3eco

DRYPOINT® AC

For all applications: compressed air drying

Humidity can also endanger the operating process. Our comprehensive range of refrigeration, diaphragm and adsorption dryers covers a wide scope of degrees of drying and quality classes and can achieve a pressure dew point between +15 and -70 °C for every volume flow.

Knowledge as the basis for correct decisions: Measurement technology

Quality is not just a coincidence, rather the result of controlled processes. Only when all the relevant influencing coefficients for compressed air are identified is it then possible for the quality and energy management to decisively gain transparency, reaction capability and additional safety. The measuring technology from **BEKO** TECHNOLOGIES is an instrument which provides the database for monitoring and evaluating important parameters such as residual vapour content, volume flow, pressure, relative humidity and dew point.

Sensor technology

Pressure dew point measurement
METPOINT® DPM

Pressure monitoring
METPOINT® PRM

Leak detection
METPOINT® FLM

Volume flow measurement
METPOINT® LKD

Residual humidity, pressure, volume flow, leaks: four important parameters for more economic efficiency in production. Sensor technology from **BEKO** TECHNOLOGIES precisely records all the relevant parameters at critical steering points for compressed air – an important fundamental basis for energy-saving and cost-saving decisions.

For precise measuring for all influencing coefficients

- Monitors every critical influencing coefficient in compressed air processing and thereby increases efficiency and safety
- Helps to prevent possible malfunctions and compressed air losses
- Enables clear cost assignment for every individual production process
- Supports economic, effective dimensioning and optimisation of plant components

Monitoring

Compressed air contaminated with oil is a danger for production plants, the environment and even for health – a risk which must not be underestimated especially in sensitive production areas. The METPOINT® OCV monitoring system controls the flowing compressed air permanently and therefore provides support for analysing and controlling compressed air quality.

Oil-free processes, oil-free products

- Continuous monitoring for oil vapour content in the compressed air in a range of thousandths of mg/m³
- For identifying contamination sources
- Certainty at all times for the compressed air purity

METPOINT® OCV compact

Monitoring systems are subjected to mechanical loads and fluctuations in temperature among other things.
This has a negative impact on the measuring precision of the sensor system, for example, the measured results can be distorted and thus also impair production or product quality.

BEKO TECHNOLOGIES supplies a comprehensive range of calibration services for volume flow sensors, pressure dew point transmitters, pressure transducers and analysis devices. All calibration is carried out according to a specified calibration process from **BEKO** TECHNOLOGIES and are a so-called ISO calibration.

Visualising and data logging

One can only see quality – when one can record it. Our data logger translates the process data into easy to view statistics and graphs. You can therefore comprehend the measured values simply and in real time and immediately take action if required. From every location, at all times.

METPOINT® BDL

Making the invisible visible

- Central signal processing unit: complete monitoring with just one device
- Independent solution which can be integrated in existing systems and can be retrofitted and extended at any time
- Completely networked for worldwide and system overarching data transfer

Scan this code to receive the latest information from **BEKO** TECHNOLOGIES

Everything from one source for your success!

When it comes to compressed air, no two applications are exactly the same. Every application creates its own very individual requirements for the compressed air quality. This is generated on the way from the compressed air generator to the application. That is where our solutions come into their own! For more than three decades, we have represented high-performance, worldwide tried and tested compressed air and compressed gas technologies. For products, systems and solutions which ensure the desired quality in the production processes for our customers and make them more efficient. From filtration and drying to condensate technology up to, and including, instruments for quality controlling and verification. From small compressed air plants to sophisticated process technology. We are the only supplier in the market offering all components found along the processing chain. For our products, we use only components that meet our stringent quality standards. And combine these components so perfectly that they work together to produce that certain extra in terms of efficiency!

Measurement technology

Compressed air generator

As soon as the compressed air leaves the compressor, it must be treated very specifically for a wide range of applications.

Reliable long-term: appropriate maintenance

Even high-quality products can only perform accordingly when they are inspected and serviced regularly. The purity of the treated compressed air and e.g. reliable prevention of oil entering the compressed gas system can only be guaranteed through careful maintenance.

Scan this code to find out more about or services

Application

Our solutions create holistic solutions to ensure the required quality for every application.

Drying

Filtration

BEKO TECHNOLOGIES
quality standard

Condensate technology

Oil-free

Almost all industries involve applications where oil-free compressed air is an elementary pre-requisite for optimum production processes, safe plants and cost-efficient operation. On the way from compressed air production to application with safe, reliable and globally tested technology for your compressed air treatment we support you with complete consultation and solutions that will help you avoid rework, plant or even recall campaigns on account of oil-contaminated products.

Why is the whole greater than the sum of its parts?

Our solutions combine not only the expertise of a leading system provider, rather more also the personal motivation of every single member of our staff. Impulse and ideas from practical situations, our demands on ourselves, our high regard for our customers,our partners and the environment, all this is integral for our product development processes. And this is reflected in every single product that leaves our factories.

BEKO TECHNOLOGIES. Better through responsibility

Do you have any questions on the subject of oil-free?

We have the answers! We would be delighted to hear from you to explore solutions for your specific compressed air system.

That is **BEKO** TECHNOLOGIES:

- Established in 1982 by Berthold Koch
- Independent, family-owned company
- Based in Neuss, Germany
- Operates production plants in Germany, the USA, India and China
- Global sales network
- Committed to the highest quality standards
- Certified according to EN ISO 9001:2008

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