KAESER COMPRESSORS®

Reciprocating Compressors

AIRBOX / AIRBOX CENTER Series

OIL.FREE

Flow rate 0.73 to 0.92 m³/min, Pressure 6 to 12.5 bar

www.kaeser.com

OIL.FREE

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What do users expect from a reciprocating compressor?

Answer: They expect maximum efficiency and reliability. This sounds simple, but these advantages are influenced by many different factors. Energy costs, for example, taken over the lifetime of a compressor, add up to many times the original investment costs. This is why efficiency is vital in the production of compressed air. The air system must also deliver the compressed air in the correct volume, at the required quality, and provide exceptional reliability. This is essential to ensure maximum availability of compressed air work processes. Last but not least, a truly efficient compressor is simple to maintain. This is achieved by using high-quality components and a logical system design that allows excellent accessibility to all maintenance points. Reciprocating compressors from KAESER fulfil all of these needs and provide the basis for highly efficient compressed air production.

The innovative AIRBOX and AIRBOX CENTER

The AIRBOX and all-in-one AIRBOX CENTER – which features an integrated compressed air receiver, refrigeration dryer and optional filter equipment – are delivered with a control cabinet ready for immediate operation. The use of energy-saving IE3 motors makes compressed air generation particularly efficient.

SIGMA CONTROL 2

The internal SIGMA CONTROL 2 controller ensures efficient compressor control and monitoring at all times. The large display and RFID reader assure clear communication and maximum security. Variable interfaces enable seamless networking capability, whilst the SD card slot makes updates quick and easy.

KAESER ingenuity for maximum flexibility

The modular design of the AIRBOX and AIRBOX CENTER provides the flexibility to ensure that your exact compressed air needs are met. The AIRBOX can be equipped with a second compressed air aftercooler, and the AIRBOX CENTER is available with an optional KAESER Filter system.
All models are EMC-certified for domestic electrical supplies, which simplifies installation and reduces set-up costs. For companies with growing compressed air demand, multiple systems can be controlled via a compressed air management system.

100% duty cycles

Thanks to innovative compressor block and drive motor cooling design, AIRBOX and AIRBOX CENTER systems can be operated up to an ambient temperature of +30 °C and a maximum pressure of 10 bar with 100% duty cycles.

Made in Germany

Using only premium-grade materials, KAESER manufactures all of its reciprocating compressor blocks in-house. All components are manufactured, inspected and assembled with meticulous care and precision. The result: outstanding performance and unrivalled energy efficiency are assured.

Efficient and flexible!

Image, left to right: AIRBOX 1000-2, AIRBOX CENTER 1500

PREMIUM EFFICIENCY IE3 MOTOR

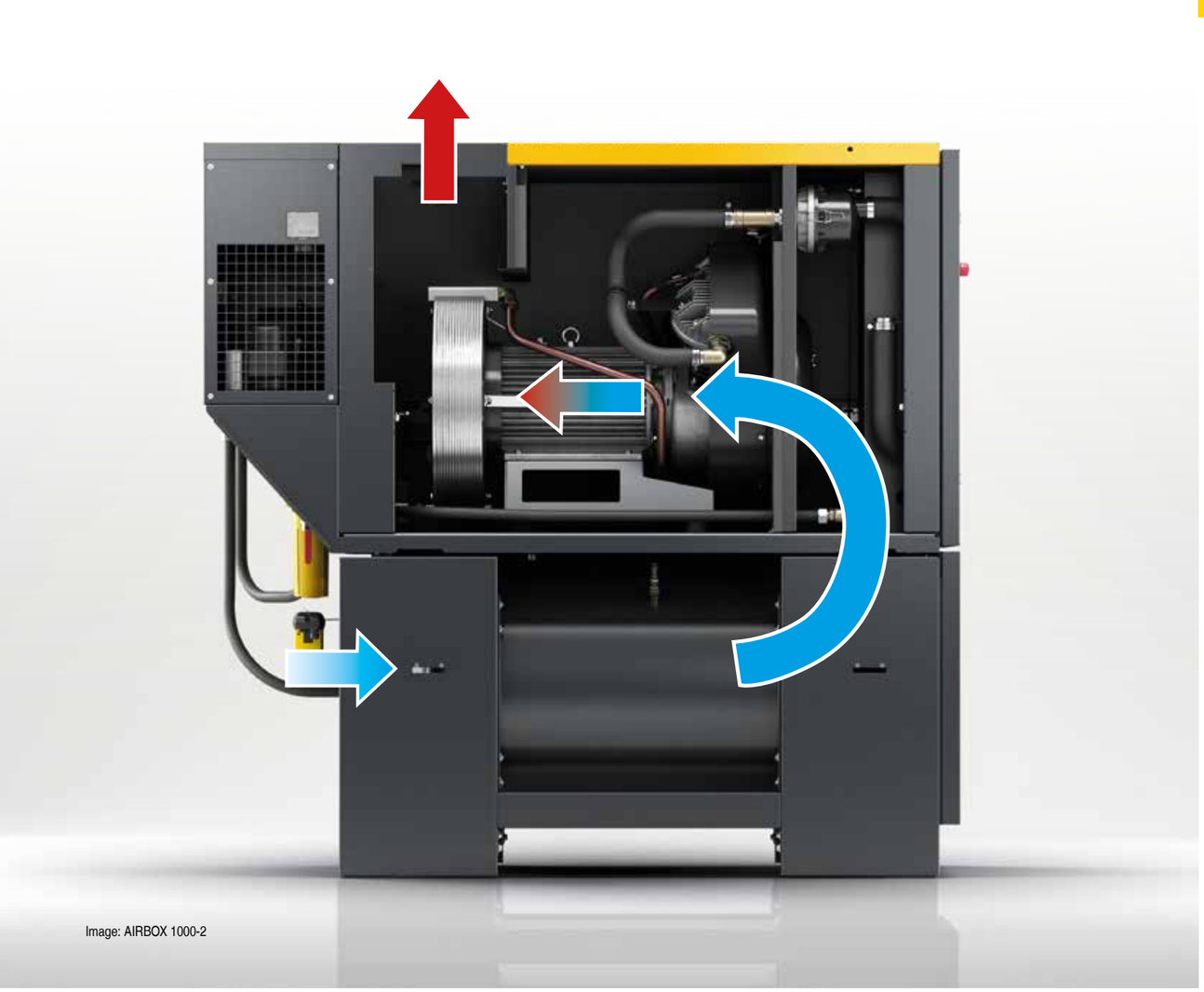


Image: AIRBOX 1000-2

AIRBOX / AIRBOX CENTER series

Oil-free compressed air 24/7

With powerful independent cooling fans for both the drive motor and compressor block, and precisely tailored cooling air ducting, KAESER's unique cooling system allows – unusually for reciprocating compressors – 100% duty cycles and dependable operation in ambient temperatures up to approximately +30 °C. The control cabinet also features its own ventilation and is connected to the overall cooling air flow to prevent overheating.

Oil-free compressed air

This results in the following advantages for special applications: the compressed air quality corresponds to the quality of the intake air. No contamination is caused by the compression process. This enables safe use in the food and beverage industry, as well as in laboratories and paint shops.

Energy-saving motor

Highly efficient, premium-quality IE3 motors reduce energy losses by 40% on average compared to conventional motors. This in turn substantially reduces power consumption. Thanks to this excellent efficiency, the operating temperature also remains considerably lower, thereby enhancing operational safety and reliability.

Impressive sound insulation

With 40mm-thick sound insulation, multi-deflected cooling air flow, acoustically separate compressor block, application-specific intake air ducting and highly effective air intake sound damping, the AIRBOX and AIRBOX CENTER continue the KAESER tradition of super-quiet performance.

SIGMA AIR MANAGER 4.0

The SIGMA CONTROL 2 internal compressor controller and the SIGMA AIR MANAGER 4.0 master controller provide more than just optimised compressed air system efficiency. Thanks to their high level of data integration and multiple interface options, they can be easily integrated into advanced production, building management and energy management systems, as well as Industrie 4.0 environments.

Compressor block

The compressor block offers multiple advantages: The motor and block are directly driven with zero transmission losses. Intelligent cooling air duct design with an integrated aluminium ring cooler and two directly coupled fans ensures efficient compressor block cooling and low compressed air discharge temperature. In addition, all components are equipped with ribbing to increase the cooling surface area.

Comprehensive equipment and options

With application-related equipment and accessories, systems can be individually tailored to meet customers' specific requirements.

Compact and maintenance-friendly

Image: AIRBOX 1000-2

AIRBOX series

Easy setup and installation

The perfect “Plug and Play” solution. Each model features a turnkey compressor with an integrated electronic SIGMA CONTROL 2 or MSCIO controller and a star-delta switch installed within a single control cabinet. Furthermore, the sound-proofed enclosure enables these versatile units to be installed directly within the working environment without the need for additional sound protection measures.

Maintenance-friendly

The less maintenance required, the more cost-effective the system. This is where the AIRBOX and AIRBOX CENTER truly shine: they are oil-free and feature a maintenance- and loss-free 1:1 direct drive system. Air filters are easily accessible and replaceable from both sides following simple removal of the large enclosure access panels.

Control cabinet

Complete electrics and control technology integrated into the control cabinet, IP 54 protection class, automatic cooling for reliable operation, excellent accessibility, high-quality parts and components.

Complete system EMC-certified

It goes without saying that the SFC control cabinet and SIGMA CONTROL 2 controller are tested and certified to EMC directive EN 55011 for Class A1 industrial power supplies, both as individual components and as a complete system.

Bolt-down machine feet

The double bolt-down machine feet ensure secure system placement in special installation locations (e.g. on board ships).

Fully equipped compressed air station

Image: AIRBOX 1000-2

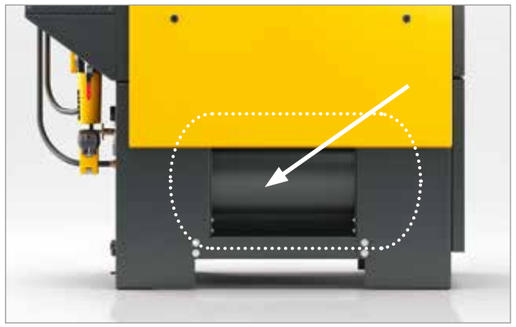
AIRBOX CENTER series

Complete equipment with minimal space requirement

Featuring an integrated compressed air dryer and receiver, the AIRBOX CENTER is an all-in-one compressed air supply system. Following compression, the air passes into an internally coated air receiver, wherein it is relieved of much of its condensate, and then enters the integrated, energy-saving refrigeration dryer, which dries the compressed air to a pressure dew point of +5 °C. Ensuring even greater reliability, a separate housing shields the dryer from compressor exhaust heat. Moreover, the dryer shutdown feature – activated via the compressor controller – is linked to compressor operation and significantly reduces energy consumption when the compressor is at rest.

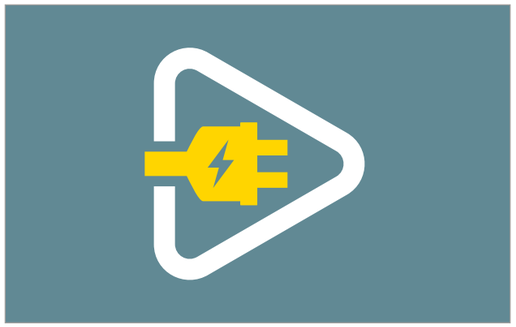
Maintenance-friendly

The less maintenance required, the more cost-effective the system. This is where the AIRBOX and AIRBOX CENTER truly shine: they are oil-free and feature a maintenance- and loss-free 1:1 direct drive system. Air filters are easily accessible and replaceable from both sides following simple removal of the large enclosure access panels.



Air receiver

The integrated, plastic-coated air receiver serves as a pre-separator for the condensate and stores the compressed air in the event of irregular compressed air consumption.



Plug and Play

The systems are completely pre-installed, both electrically and on the compressed air side. As a result, the compressor is ready for immediate connection and operation without the need for any additional effort.

Optionally with KAESER Filter

With an air intake filter, oil-free compression and an integrated refrigeration dryer, the AIRBOX CENTER is ready to supply exceptional-quality compressed air as soon as it is delivered. For applications requiring maximum compressed air quality, all AIRBOX CENTER models can be additionally fitted with optional add-on filters (micro-fine filters).

Equipment

Complete system

Ready for immediate operation, fully automatic, super-silenced, vibration damped, all panels powder coated

Sound insulation

Lined with washable foam, anti-vibration mounts, double vibration damped

Compressor block

Oil-free, two-cylinder, single or two-stage

Electric motor

Quality, German-made, high-efficiency (IE3) electric motor, IP 54, Iso F for additional reserve

Drive

Maintenance- and loss-free 1:1 direct drive

Cooling

Air-cooled, dual fans, compressed air aftercooler

Electrical components

IP 54 control cabinet containing automatic star-delta starter, motor overload protection, control transformer, EMC-certified for domestic electrical supply systems

SIGMA CONTROL 2

“Traffic light” LEDs to indicate operating status; plain-text display with 30 selectable languages; soft-touch pictogram keys; fully automatic monitoring and control; SD card slot for data recording and updates; RFID reader; web server. Furthermore, the system can be integrated into the Sigma Network or operate via Ethernet in a primary-secondary communication setup with another system in the network; clear authorisation via RFID reader, operating data storage, integrated web server.

SIGMA AIR MANAGER 4.0

The further-refined, adaptive 3-D^{advanced} Control predictively calculates and compares the various operating options and selects the most efficient one to suit the specific needs of the application. The SIGMA AIR MANAGER 4.0 constantly adjusts flow rates and compressor energy consumption in response to current compressed air demand. This powerful feature is made possible by the integrated industrial PC with multi-core processor, in combination with the adaptive 3-D^{advanced} Control. Furthermore, the SIGMA NETWORK bus converter (SBU) provides a host of possibilities for enabling the system to be individually tailored to meet specific user requirements. The SBU can be equipped with digital and analogue input and output modules, as well as with SIGMA NETWORK ports, to enable seamless display of pressure, flow rate, pressure dew point, performance or fault message information.

Views

AIRBOX

AIRBOX CENTER

Technical data

AIRBOX

Model	Max. pressure bar	Flow rate at 8 bar *) m³/min	Max. duty cycle **) %	Drive motor nominal power kW	Sound pressure level ***) dB(A)	Compressed air connection	Dimensions W x D x H mm	Weight kg	Controller
AIRBOX 1500	7	0.90 ****)	100	7.5	67	G ¾	1430 x 820 x 1320	385	SIGMA CONTROL 2 MSCIO
AIRBOX 1000-2	12.5	0.77	75	7.5	67			385	

AIRBOX CENTER

Model	Max. pressure bar	Flow rate at 8 bar *) m³/min	Max. duty cycle **) %	Drive motor nominal power kW	Sound pressure level ***) dB(A)	Pressure dew point °C	Air receiver volume l	Compressed air connection	Dimensions W x D x H mm	Weight kg	Controller
AIRBOX CENTER 1500	7	0.90 ****)	100	7.5	67	+5	270	G ¾	1730 x 820 x 1640	550	SIGMA CONTROL 2 MSCIO
AIRBOX CENTER 1000-2	12.5	0.77	75	7.5	67					550	

*) Flow rate, measured as per ISO 1217
**) Duty cycle: The proportion of time under load over the total duration of a work cycle
***) Sound pressure level as per ISO 2151 and basic standard ISO 9614-2, operation at maximum working pressure; tolerance: ± 3 dB(A)
****) Flow rate at 7 bar

Technical data for add-on refrigeration dryer

Model	Dryer power consumption kW	Pressure dew point °C	Refrigerant	Refrigerant charge kg	Global warming potential GWP	CO_2 equivalent t	Hermetic refrigeration circuit
ABT 12	0.27	5	R-513A	0.34	629	0.21	Yes

The refrigeration dryer contains a refrigerant classified as a fluorinated greenhouse gas.

OIL.FREE

More compressed air for less energy

The world is our home

As one of the world's largest manufacturers of compressors, blowers and compressed air systems, KAESER KOMPRESSOREN is represented throughout the world by a comprehensive network of wholly owned subsidiaries and authorised distribution partners in over 140 countries.

By offering innovative, efficient and reliable products and services, KAESER KOMPRESSOREN's experienced consultants and engineers work in close partnership with customers to enhance their competitive edge and to develop progressive system concepts that continuously push the boundaries of performance and technology. Moreover, decades of knowledge and expertise from this industry-leading systems provider are made available to each and every customer via the KAESER group's advanced global IT network.

These advantages, coupled with KAESER's worldwide service organisation, ensure that every product operates at the peak of its performance at all times, providing optimal efficiency and maximum availability.

KAESER COMPRESSORS LTD.
No: B1 Kibhare Center – Mombasa Road – P.O. Box 5018 – 00506 Nairobi – Kenya.
Tel: +254 (0)20 2622535 / 6 / 7 / 8 – Cell: +254 (0)732 622543 / 4 – Fax: +254 (0)20 2622539
Email: info.kenya@kaeser.com – Website: www.kaeser.com

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