

Reciprocating Compressors **AIRBOX / AIRBOX CENTER**

OIL.FREE

Flow rate 0.25 to 0.90 m³/min, Pressure 7 – 10 – 12.5 bar



What do users expect from a reciprocating compressor?

The 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 a multiple of investment costs.

OIL-FREE

Efficient energy consumption therefore plays a vital role in the production of compressed air.

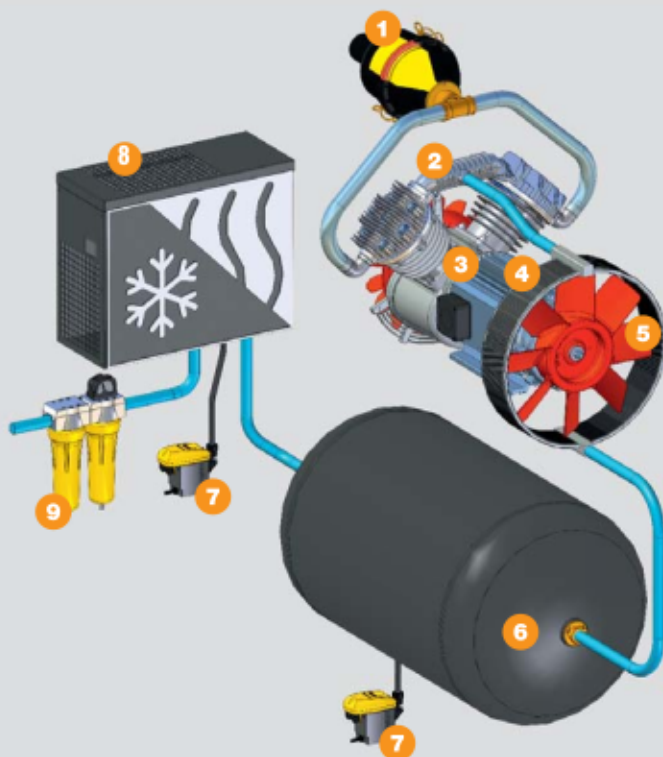
The air system must also deliver the compressed air in the correct volume, at the required quality, and provide exceptional reliability. This is essential to ensure maximum availability of compressed air powered production systems.

Last but not least, a truly efficient compressor is simple to maintain. This is achieved by using high quality components and through logical system design which allows excellent accessibility to all maintenance points.

KAESER reciprocating compressors fulfil all of these needs and provide the basis for highly efficient compressed air production.

Function diagram

(AIRBOX CENTER 400 with optional microfilter combination attached)



AIRBOX / AIRBOX CENTER

Flexible and efficient

The innovative AIRBOX and AIRBOX CENTER

The new AIRBOX and AIRBOX CENTER ranges from KAESER are the first reciprocating compressors to feature the advanced SIGMA CONTROL basic compressor controller.

The AIRBOX and all-in-one AIRBOX CENTER – which features an integrated compressed air receiver, refrigeration dryer and optional filters – are delivered ready for immediate operation and include a switch cabinet.

Energy-efficient compressed air production with IE2 motors.

MADE IN GERMANY

- 1 Intake filter
- 2 Compressor block
- 3 Maintenance-free direct drive
- 4 Energy saving IE2 drive motor
- 5 Fan
- 6 Internally-coated air receiver
- 7 Electronic ECO-DRAIN condensate drain
- 8 Compressed air refrigeration dryer
- 9 Filtration (optional)

AIRBOX/AIRBOX CENTER



AIRBOX – The compressor

The AIRBOX epitomises the concept of 'ready-to-go' compressed air. Each model features a turnkey compressor with advanced SIGMA CONTROL basic controller and star-delta starter integrated within a single enclosure. Furthermore, the soundproofed enclosure enables these versatile units to be installed directly within the working environment without the need for additional sound protection measures.



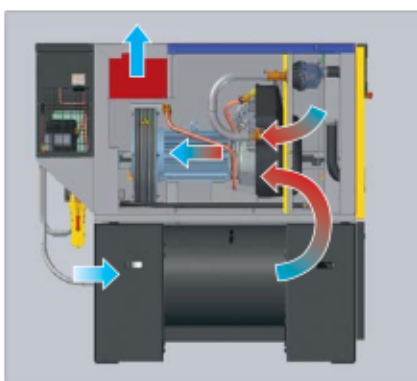
AIRBOX CENTER – The compact solution

Featuring an integrated compressed air dryer and receiver, the AIRBOX CENTER is an all-in-one compressed air supply system. After compression, the air passes into an internally coated air receiver where it gives up much of its condensate and then enters the integrated refrigeration dryer which dries the compressed air to a pressure dew point of +5 °C. Ensuring even greater reliability, a separate enclosure 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.



AIRBOX CENTER – With KAESER FILTER

With an air intake filter, oil-free compression and an integrated refrigeration dryer, the AIRBOX CENTER is ready to deliver exceptional quality compressed air as soon as it is delivered. For applications requiring maximum compressed air quality, all AIRBOX CENTER models can be equipped with optional mounted filters. This enables efficient compressed air delivery at precisely the required quality.



Cool runners

With 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 switch cabinet also features its own ventilation and is connected to the overall cooling air flow to prevent overheating.

Equipment

Complete unit

Ready for 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

Dry-running, 2 cylinder, single or two stage.

Electric motor

German made high efficiency (IE2) electric motor to IP 54 and insulation class F for additional reserve.

Drive

Maintenance- and loss-free 1:1 direct drive.

Cooling

Air-cooled, two 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 BASIC



- Quick and simple operation with clear icons and large display
- Fully automatic Quadro or Dual compressor control
- Monitoring of network pressure, block discharge temperature, drive motor and, if applicable, refrigeration compressor
- Remote ON/OFF

Technical specifications – AIRBOX/AIRBOX CENTER

AIRBOX

Model	Maximum pressure bar	Flow rate at 8 bar *) m ³ /min	Maximum duty cycle **) %	Nominal motor power kW	Sound pressure level ***) dB (A)	Compressed air connection	Dimensions W x D x H (mm)	Mass kg
AIRBOX 400	10	0.25	100	2.2	58	G 1/2	1200 x 730 x 1160	240
AIRBOX 550	10	0.32	100	3.0	61			255
AIRBOX 840	10	0.50	100	4.0	65	G 3/4	1430 x 820 x 1320	325
AIRBOX 1500	7	0.90	100	7.5	66			385
AIRBOX 1000-2	12.5	0.76	100	7.5	66			385

AIRBOX CENTER

Model	Maximum pressure bar	Flow rate at 8 bar *) m ³ /min	Maximum duty cycle **) %	Nominal motor power kW	Sound pressure level ***) dB (A)	Pressure dew point °C	Receiver volume l	Compressed air connection	Dimensions W x D x H (mm)	Mass kg
AIRBOX CENTER 400	10	0.25	100	2.2	59	+5	200	G 1/2	1490 x 730 x 1500	360
AIRBOX CENTER 550	10	0.32	100	3.0	61	+5				370
AIRBOX CENTER 840	10	0.50	100	4.0	65	+5	270	G 3/4	1730 x 820 x 1640	490
AIRBOX CENTER 1500	7	0.90	100	7.5	66	+5				550
AIRBOX CENTER 1000-2	12.5	0.76	100	7.5	66	+5				550

*) Flow rate measured as per ISO 1217

**) Duty cycle: The proportion of time under load over the total duration of a work cycle

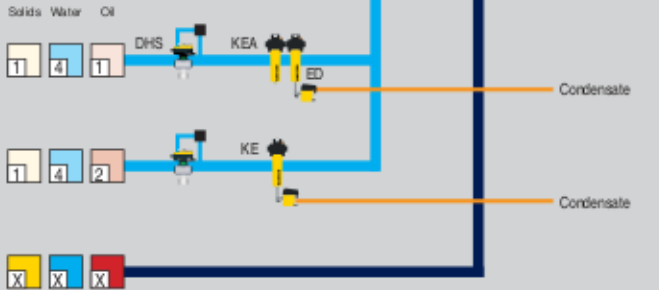
***) Sound pressure level as per ISO 2151 and basic norm ISO 9614-2, operation at maximum operating pressure; tolerance: ± 3 dB (A)

Choose the required grade of treatment according to your field of application:

Application examples: Selection of treatment classes to ISO 8573-1 (2010)

Air treatment with refrigeration dryer

Paint spraying, powder coating, weaving machines, photo labs

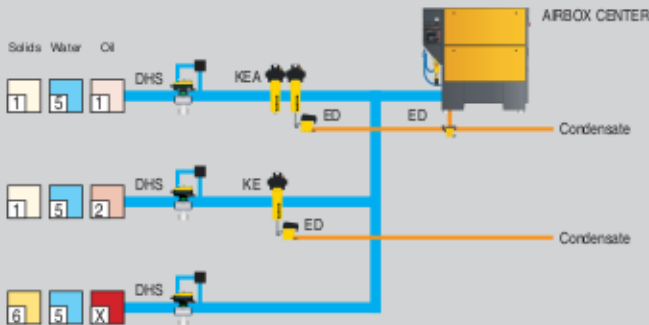


Packaging, control and instrument air

No quality requirements

Compressed air treatment with refrigeration dryer, integrated in the AIRBOX CENTER (pressure dew point + 5 °C) at an ambient temperature of 20 °C, 90% rel. humidity

Paint spraying, powder coating, weaving machines, photo labs



Packaging, control and instrument air

General works air, quality sandblasting

Explanation	
DHS	Air-main charging system
AR	Air receivers
ED	ECO-DRAIN (condensate drain)
FE / FF	Microfilter
FFG	Activated carbon and microfilter combination
RD	Refrigeration dryer

Compressed air quality classes to ISO 8573-1(2010):

Solid particles/dust			
Class	Max. particle count per m ³ of a particle size with d [µm]*		
	0.1 ≤ d ≤ 0.5	0.5 ≤ d ≤ 1.0	1.0 ≤ d ≤ 5.0
0	e.g. Consult KAESER regarding pure air and cleanroom technology		
1	> 20,000	≤ 400	≤ 10
2	≤ 400,000	≤ 6,000	≤ 100
3	Not defined	≤ 90,000	≤ 1,000
4	Not defined	Not defined	≤ 10,000
5	Not defined	Not defined	≤ 100,000
Class	Particle concentration C _p in mg/m ³ *		
6	0 < C _p ≤ 5		
7	5 < C _p ≤ 10		
X	C _p > 10		

Water	
Class	Pressure dew point, in °C
0	e.g. Consult KAESER regarding pure air and cleanroom technology
1	≤ -70 °C
2	≤ -40 °C
3	≤ -20 °C
4	≤ +3 °C
5	≤ +7 °C
6	≤ +10 °C
Class	Concentration of liquid water C _{lv} in g/m ³ *
7	C _{lv} ≤ 0.5
8	0.5 < C _{lv} ≤ 5
9	5 < C _{lv} ≤ 10
X	C _{lv} > 10

Oil	
Class	Total oil concentration (fluid, aerosol + gaseous) [mg/m ³]*
0	e.g. Consult KAESER regarding pure air and cleanroom technology
1	≤ 0.01
2	≤ 0.1
3	≤ 1.0
4	≤ 5.0
X	> 5.0

*) At reference conditions 20 °C, 1 bar(a), 0% humidity



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