

Reciprocating Compressors Industrial Quality

Flow rates from 60 to 1400 l/min – Pressure 7 to 35 bar



Industrial reciprocating compressors

What do you expect from an industrial quality reciprocating compressor?

As a compressed air user, you expect maximum efficiency and reliability from your air system. Therefore, the most efficient reciprocating compressors are dependable, robust, require little maintenance, have a long service life and provide optimum flexibility. KAESER Industrial reciprocating compressors meet all of these criteria to ensure a compressed air supply of the highest quality.

Advantages of KAESER Industrial reciprocating compressors include:

- The knowledge and expertise of nearly 100 years experience in precision engineering and design
- Made in Germany from the highest quality materials, KAESER's compressor blocks are meticulously designed and undergo rigorous inspection to guarantee years of reliable service
- Outstanding performance, dependability, ease of maintenance and long service life
- Energy-saving drive motors
- Exceptional versatility to meet the needs of a wide range of compressed air applications
- Proven oil-lubricated and dry-running compressor variants

Quality: Made in Germany

Made in Germany: These words represent KAESER's continued commitment to producing specifically tailored compressed air solutions that deliver unrivalled customer satisfaction. Each compressor block is carefully assembled and tested to the very highest standards at KAESER's reciprocating compressor production centre in Coburg, Germany. Other components such as pressure switches, solenoid valves and air receivers are chosen only from those specialist manufacturers that meet KAESER's uncompromising quality requirements. The logical, modular design of each system provides maximum flexibility, which not only allows system performance to be precisely matched to requirement, but also ensures optimum efficiency.



KAESER quality compressor block

KAESER compressor blocks are made from materials of the highest quality. Each component is manufactured, inspected and assembled with meticulous care and precision. The result is a highly durable compressor block which combines outstanding performance with unrivalled efficiency.



High quality cylinder

Our special machining process produces a perfect finish on the inside wall of the cylinder, which makes running-in of the compressor unnecessary since no significant wear takes place after the unit is started for the first time.



Stainless steel valves

The valve reeds in the corrosion resistant stainless steel valves are equipped with lift limiters to ensure air-tight valve closure and to prevent build-up of oil carbon. This achieves exceptional service life and dependability.



Precision machining

With almost 100 years of experience in precision engineering and a highly skilled workforce, KAESER uses the most advanced manufacturing processes to deliver products of the very highest quality.

Primary features:

- Compressor blocks Made in Germany
- Modular design
- Optimum quality assured

Rigorous testing

Each compressor system undergoes comprehensive testing prior to delivery. Every component must pass the stringent tests determined by our Quality Management System and all compressors must prove themselves in real-world conditions before we dispatch them to our customers.



High
quality cylinder



Low speed operation ensures maximum reliability and extended service life

Dual systems

- Space-saving design with twin compressor units mounted on a single air receiver
- A reliable source of compressed air at all times, even whilst one unit is being serviced
- Oil-lubricated and dry-running versions
- Ready for immediate use
- Available with sound enclosure (up to KCD 450-100)



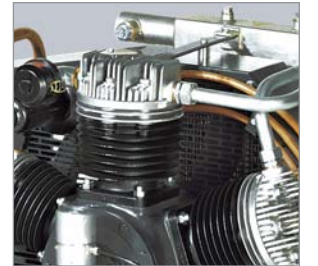
Directly coupled unit
Drive motor directly coupled to the compressor block. Low speed operation of only 1500 strokes/min ensures maximum reliability and extended service life.



Dual pressure switches
Dual pressure switches vent the compressors for unloaded starting. The cut-in and cut-out pressures can also be set separately.

Base-mounted systems up to 35 bar

- Ideal for use as an auxiliary compressor with existing air receivers
- Pressure: 35 bar
- Low speed operation (710 – 1160 strokes per min) ensures maximum reliability and extended service life



Highly effective cooling
Aluminium cylinder heads provide exceptional heat dissipation to ensure extended service life.

Integrated compressors

- Dry-running directly coupled systems with 1:1 drive
- Also available as a base-mounted version



Dual cooling
Optimum cooling with double-stream airflow.

Technical specifications

| | | 10 bar dual systems | | | | | | | 7 bar dual systems (dry-running) | | |
|------------------------------------|----------|---|-------------|-------------|--------------|-------------|-------------|-------------|----------------------------------|----------------------------|--------------|
| | | KCCD 130-100 | KCD 350-100 | KCD 450-100 | KCCD 130-350 | KCD 350-350 | KCD 450-350 | KCD 630-350 | KCD 840-350 | KCTD 230-100 | KCTD 420-100 |
| Displacement | l/min | 2x 130 | 2x 350 | 2x 450 | 2x 130 | 2x 350 | 2x 450 | 2x 630 | 2x 840 | 2x 230 | 2x 420 |
| Effective flow rate ¹⁾ | at 6 bar | 2x 80 | 2x 195 | 2x 280 | 2x 80 | 2x 195 | 2x 280 | 2x 410 | 2x 590 | 2x 152 | 2x 252 |
| | at 8 bar | 2x 73 | 2x 170 | 2x 260 | 2x 73 | 2x 170 | 2x 260 | 2x 375 | 2x 530 | – | – |
| Motor power ²⁾ | kW | 2x 0.75 | 2x 1.7 | 2x 2.4 | 2x 0.75 | 2x 1.7 | 2x 2.4 | 2x 3 | 2x 4 | 2x 1.5 (2.2) ⁴⁾ | 2x 2.2 |
| Number of cylinders | | 2x 1 | 2x 1 | 2x 2 | 2x 1 | | 2x 2 | | 2x 2 | | |
| Air receiver capacity | l | 90 | 90 | 90 | 350 | | 350 | | 90 | | |
| Sound pressure level ³⁾ | dB(A) | 70 | 72 | 73 | 70 | 72 | 73 | 79 | 80 | 70 | 71 |
| Width | mm | 1090 | | 1110 | 1820 | | | | 1210 | | |
| Depth | mm | 430 | 490 | 500 | 600 | | 660 | | 570 | 500 | |
| Height | mm | 780 | 830 | 780 | 1050 | 1120 | 1100 | 1200 | 1220 | 810 | 780 |
| Mass | kg | 85 | 105 | | 150 | 210 | 220 | 230 | 235 | 120 | 150 |
| With sound enclosure | | 60 | 64 | 65 | 60 | 64 | 65 | 72 | 76 | – | – |
| Sound pressure level ³⁾ | dB(A) | | | | | | | | | | |
| Start configuration | | Direct start, unloaded | | | | | | | | | |
| Motor protection | | Overload protection cut-out as standard | | | | | | | | | |
| Anti-vibration mounts | | Standard | | | | | | | | | |

¹⁾ Effective flow rate as per ISO 1217 – ²⁾ Power supply: 400 V, 50 Hz, 3 Ph

³⁾ Sound pressure level as per ISO 2151 and basic norm ISO 9614-2, operation at maximum working pressure; tolerance: ± 3 dB(A) – ⁴⁾ Actual required power (maximum motor power)

Technical specifications

| | | 35 bar, base-mounted | | | | | | | Dry-running, integrated base-mounted compressors | | | | | | | | | |
|------------------------------------|-------------|----------------------|----------------|----------------|----------------|----------------|-----------------|-----------------|--|--|-------------------------|---------|----------|--|---------|---------|---------|------------|
| | | K 175-2 -G/H35 | K 250-2 -G/H35 | K 350-2 -G/H35 | K 500-2 -G/H35 | K 700-2 -G/H35 | K 1000-2 -G/H35 | K 1300-2 -G/H35 | K 1600-2 -G/H35 | KCT 110 | KCT 230 | KCT 420 | KCT 1500 | KCT 180 | KCT 401 | KCT 550 | KCT 840 | KCT 1000-2 |
| Displacement | l/min | 175 | 250 | 350 | 500 | 700 | 1050 | 1300 | 1600 | 110 | 230 | 420 | 1500 | 180 | 400 | 550 | 840 | 1000 |
| Effective flow rate ¹⁾ | at 6 bar | – | | | | | | | 60 | 152 | 252 | 920 | 100 | 275 | 350 | 550 | 780 | |
| | at 12 bar | 136 | 202 | 284 | 407 | 560 | 800 | 1150 | 1400 | – | | | | | | | | |
| Motor power ²⁾ | kW | 2.2 | 3 | 4 | 5.5 | 7.5 | 11 | 15 | 18.5 | 0.75 | 1.5 (2.2) ⁵⁾ | 2.2 | 7.5 | 1.1 | 2.4 | 3 | 4 | 7.5 |
| Max. working pressure | bar | 35 | | | | | | | 7 | | | | | | | | | |
| Number of cylinders | | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 1 | 2 | | 1 | | 2 | | | |
| Block speed | strokes/min | 910 | 710 | 760 | 760 | 810 | 1130 | 960 | 1160 | 1500 | | | 1500 | | | | | |
| Sound pressure level ³⁾ | dB(A) | 75 | 72 | 74 | 76 | 80 | 80 | 83 | 83 | 66 | 73 | 75 | 80 | 73 | 75 | 77 | 80 | 80 |
| Sound power level ⁴⁾ | dB(A) | 89 | 86 | 88 | 91 | 95 | 95 | 99 | 99 | – | – | – | – | – | – | – | – | – |
| Width | mm | 890 | 1280 | 1290 | 1450 | 1470 | 1610 | 1620 | | 510 | 510 | 510 | 860 | 510 | 600 | 670 | 670 | 850 |
| Depth | mm | 480 | 490 | | 590 | | 820 | 860 | 860 | 300 | 480 | 560 | 850 | 310 | 480 | 480 | 680 | 620 |
| Height | mm | 520 | 710 | 690 | 900 | | 910 | 950 | | 480 | 420 | 430 | 670 | 570 | 450 | 510 | 570 | 690 |
| Mass | kg | 60 | 140 | 155 | 230 | 240 | 335 | 435 | 465 | 28 | 38 | 40 | 130 | 39 | 50 | 62 | 76 | 130 |
| Auto. star-delta starter | | Not necessary | | | Optional | Optional | Optional | Optional | Optional | Verify according to installation situation | | | | Verify according to installation situation | | | | |
| Anti-vibration mounts | | Standard | | | | | | | | | | | | | | | | |

¹⁾ Effective flow rate as per ISO 1217 – ²⁾ Power supply: 400 V, 50 Hz, 3 Ph (KCT 110 230V, 1Ph, 50 Hz)

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

⁴⁾ Sound power level as per ISO 2151 and basic standard ISO 9614-2; tolerance: ± 3 dB(A) – ⁵⁾ Actual required power (maximum motor power)

Dry-running compressors Quiet with low-maintenance

Directly coupled systems

- Compact design with direct coupling of drive motor and compressor block
- Teflon-coated pistons and low speed operation (1500 strokes per min) ensure exceptional durability
- Internally-coated air receiver



Dual cooling
Highly effective cooling with double stream airflow. Crank casing internally cooled to enable maximum pressure up to 10 bar (KCT 401 to 840).



Direct drive
Directly coupled units are compact, maintenance-free and eliminate the transmission losses associated with other drive system designs.

Technical specifications

| | 7 bar | | | 10 bar, horizontal | | | | 10 bar, vertical | | |
|--|---------------------|-------------------------|-------------|---------------------------|-------------|-------------|-------------|---------------------------|----------------|----------------|
| | KCT 110-25 | KCT 230-40 | KCT 420-100 | KCT 401-100 | KCT 550-100 | KCT 840-100 | KCT 840-250 | KCT 401-250 St | KCT 550-250 St | KCT 840-250 St |
| Displacement l/min | 110 | 230 | 420 | 400 | 550 | 840 | 840 | 400 | 550 | 840 |
| Effective flow rate ¹⁾ at 6 bar | 59 | 152 | 252 | 274 | 390 | 550 | | 274 | 390 | 550 |
| | at 8 bar | – | – | – | 250 | 350 | 500 | 250 | 350 | 500 |
| Air receiver volume ²⁾ l | 24 | 40 | 90 | 90 | 90 | 90 | 250 | 250 | 250 | 250 |
| Motor power kW | 0.75 | 1.5 (2.2) ³⁾ | 2.2 | 2.4 | 3 | 4 | 4 | 2.4 | 3 | 4 |
| Number of cylinders | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Block speed strokes/min | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Sound pressure level ⁴⁾ dB(A) | 72 | 73 | 75 | 76 | 76 | 78 | 78 | 75 | 76 | 78 |
| Width mm | 640 | 820 | 1080 | 1110 | 1180 | 1160 | 1160 | 720 | 720 | 680 |
| Depth mm | 290 | 475 | 570 | 480 | | 670 | 680 | 650 | 640 | 680 |
| Height mm | 680 | 740 | 840 | 910 | | 1010 | 1160 | 1770 | | 1920 |
| Mass kg | 40 | 57 | 76 | 90 | 100 | 115 | 170 | 135 | 145 | 170 |
| Version with sound enclosure | Enclosure over unit | | | Enclosure over compressor | | | | Enclosure over compressor | | |
| Sound pressure level ⁴⁾ dB(A) | 72 | 65 | 65 | 67 | 68 | 68 | 68 | 65 | 68 | 68 |

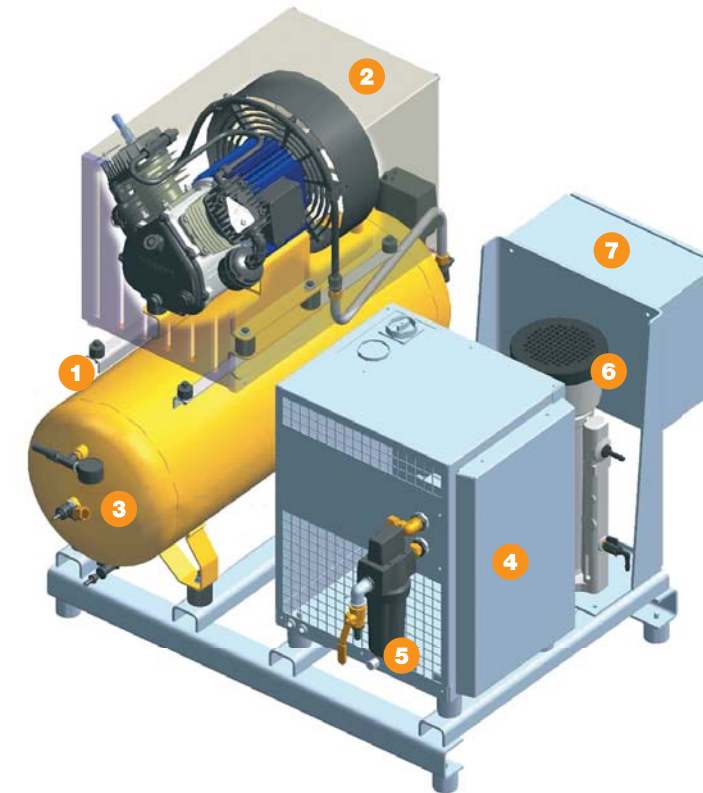
¹⁾ Effective flow rate as per ISO 1217 – ²⁾ Air receiver internally coated – ³⁾ Actual required power (maximum motor power)

⁴⁾ Sound pressure level as per ISO 2151 and basic norm ISO 9614-2, operation at maximum working pressure; tolerance: ± 3 dB (A)

Tailored solutions for every application

With decades of experience in compressed air system design & planning and satisfied customers in every industrial sector, KAESER KOMPRESSOREN is able to provide the perfect compressed air solution to meet your exact needs.

The modular design concept of our wide range of industrial reciprocating compressors allows us to create turnkey compressed air systems to suit any compressed air requirement.



Standard base-frame layout for production of control air for print machinery.

- 1 Reciprocating compressor with direct drive
- 2 Sound enclosure
- 3 Internally-coated air receiver
- 4 Refrigeration dryer
- 5 Microfilter
- 6 Condensate treatment system
- 7 Control unit



Breweries

KAESER industrial reciprocating compressors provide breweries with a dependable supply of clean compressed air e.g. for use in wort aeration.



Research and development

Laboratories require compressed air of the very highest quality, which is never a problem for KAESER compressors and compressed air treatment equipment.



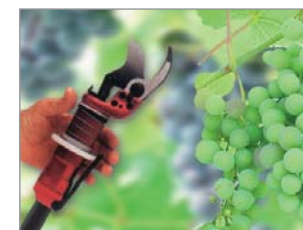
Winter sports

KAESER reciprocating compressors ensure ski pistes are evenly covered with snow and help to significantly extend the winter sport season in lower and mid-level resorts.



Fire protection

KAESER compressors provide the reliability that is so essential for fire protection systems.



Viticulture

The annual winter ritual of pruning the grape vines is made simple thanks to reciprocating compressor systems from KAESER.



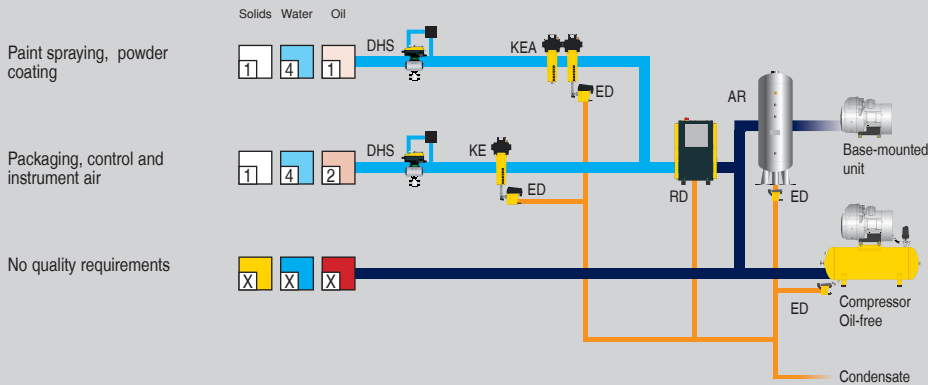
Printing

Printing works throughout the world rely on the dependability and exceptional performance of KAESER compressor systems to keep production costs to an absolute minimum.

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



| Explanation | |
|-------------|------------------------------|
| DHS | Air-main charging system |
| AR | Air receivers |
| ED | ECO-DRAIN (condensate drain) |
| KE | Coalescence filter, Extra |
| KEA | Carbon 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 d in [µm] | | |
| | 0.1 ≤ d ≤ 0.5 | 0.5 ≤ d ≤ 1.0 | 1.0 ≤ d ≤ 5.0 |
| 0 | Please consult KAESER regarding specific requirements | | |
| 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 | Please consult KAESER regarding specific requirements |
| 1 | ≤ -70 °C |
| 2 | ≤ -40 °C |
| 3 | ≤ -20 °C |
| 4 | ≤ +3 °C |
| 5 | ≤ +7 °C |
| 6 | ≤ +10 °C |
| Class | Concentration of liquid water C _w in g/m ³ * |
| 7 | C _w ≤ 0.5 |
| 8 | 0.5 < C _w ≤ 5 |
| 9 | 5 < C _w ≤ 10 |
| X | C _w > 10 |

| Oil | |
|-------|--|
| Class | Total oil concentration (fluid, aerosol + gaseous) [mg/m ³]* |
| 0 | Please consult KAESER regarding specific requirements |
| 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