KAESER COMPRESSORS®

www.kaeser.com

Reciprocating Compressors Industrial Quality

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

KAESER COMPRESSORS®

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:

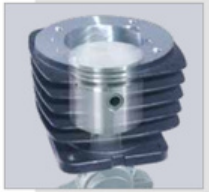
- The knowledge and expertise of nearly 100 years experience in precision engineering and design
- Made in Germany from the highest quality materials, KAESER's compressor blocks are meticulously designed and undergo rigorous inspection to guarantee years of reliable service
- Outstanding performance, 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.

High quality cylinder

CE

MADE IN GERMANY

AIR RECEIVER INTERNALLY COATED

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.

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)	
		KCD 130-100	KCD 350-100	KCD 450-100	KCD 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)	69	75	76	69	73	76	82	83	71	73
Width	mm	1090		1090	1820					1110	1160
Depth	mm	430	490	500	600			660		550	500
Height	mm	780	830	780	1010	1120	1100	1200	1220	820	810
Mass	kg	85	105		150	210	220	230	235	120	150
With sound enclosure Sound pressure level [3]	dB(A)	62	65	67	62	66	67	74	78	–	–
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/H3S	K 250-2 -G/H3S	K 350-2 -G/H3S	K 500-2 -G/H3S	K 700-2 -G/H3S	K 1000-2 -G/H3S	K 1300-2 -G/H3S	K 1600-2 -G/H3S	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	–								59	152	252	920	100	274	390	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				10				
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)	77	77	79	76	77	80	78	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		420	500	500	770	510	580	600	640	770
Depth	mm	480	490		590		820	860	860	270	470	560	850	300	475	475	650	620
Height	mm	520	710	690	900		910	950		320	350	360	640	520	400	400	550	660
Mass	kg	70	140	155	230	240	335	455	465	20	38	40	125	30	47	61	65	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)	68	70	72	77	79	80	80	77	79	80
Width	mm	640	820	1080	1080	1150	1150	1590	700	700	760
Depth	mm	290	480	560	480	480	660	660	640	650	680
Height	mm	690	690	840	900	950	1000	1180	1770	1770	1920
Mass	kg	40	60	75	90	100	110	170	135	145	170
Version with sound enclosure		Enclosure over unit			Enclosure over compressor				Enclosure over compressor		
Sound pressure level [4]	dB(A)	55	58	68	68	70	72	72	67	70	68

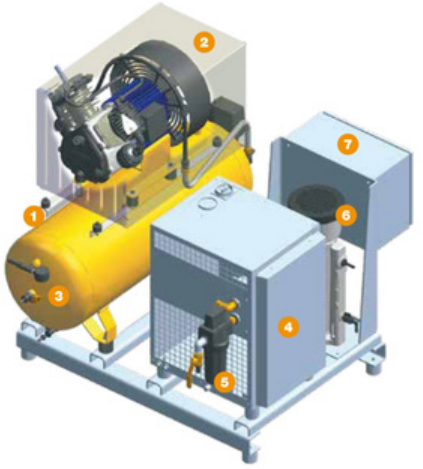
[1] Effective flow rate as per ISO 1217 – [2] Air receiver internally coated – [3] Actual required power (maximum motor power)
[4] Sound pressure level as per ISO 2151 and basic norm ISO 9614-2,operation at maximum working pressure; tolerance: ± 3 dB (A)

KAESER COMPRESSORS®

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.

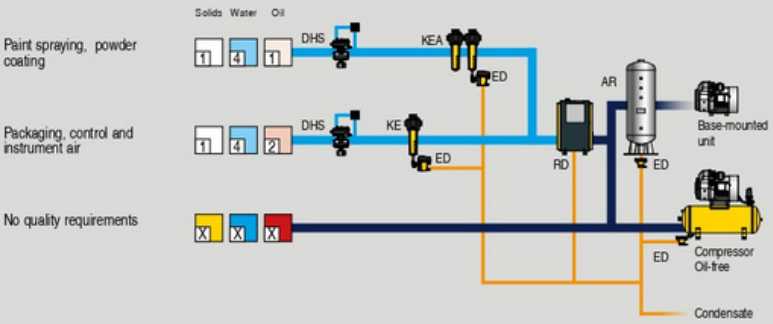
Printing

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 m³ * 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_x in mg/m³ *
6	$0 < C_x \leq 5$
7	$5 < C_x \leq 10$
X	$C_x > 10$

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/m³ *
7	$C_w \leq 0.5$
8	$0.5 < C_w \leq 5$
9	$5 < C_w \leq 10$
X	$C_w > 10$

Oil

Class	Total oil concentration (fluid, aerosol + gaseous) [mg/m³]*
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

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