

KAESER
COMPRESSORS

Built for a lifetime.™



Screw Compressors

ASD, BSD, and CSD Series (25 - 125 hp)

Capacities from: 106 to 576 cfm

Pressures from: 80 to 217 psig

kaeser.com

ASD, BSD, and CSD Series

Built for a lifetime.™

Kaeser Compressors has pushed the boundaries of compressed air efficiency with the ASD, BSD, and CSD series of rotary screw compressors. Not only do these compressors deliver more compressed air for sustainable energy savings, they also combine ease of use with exceptional reliability and simple maintenance.

Innovation you can trust

With a cutting edge research and development team committed to building industry-leading products, Kaeser continues to deliver better solutions to meet our customers' compressed air needs. Kaeser's expertise and world-wide reputation for superior reliability and efficiency offer excellent performance and peace of mind.

Rugged reliability

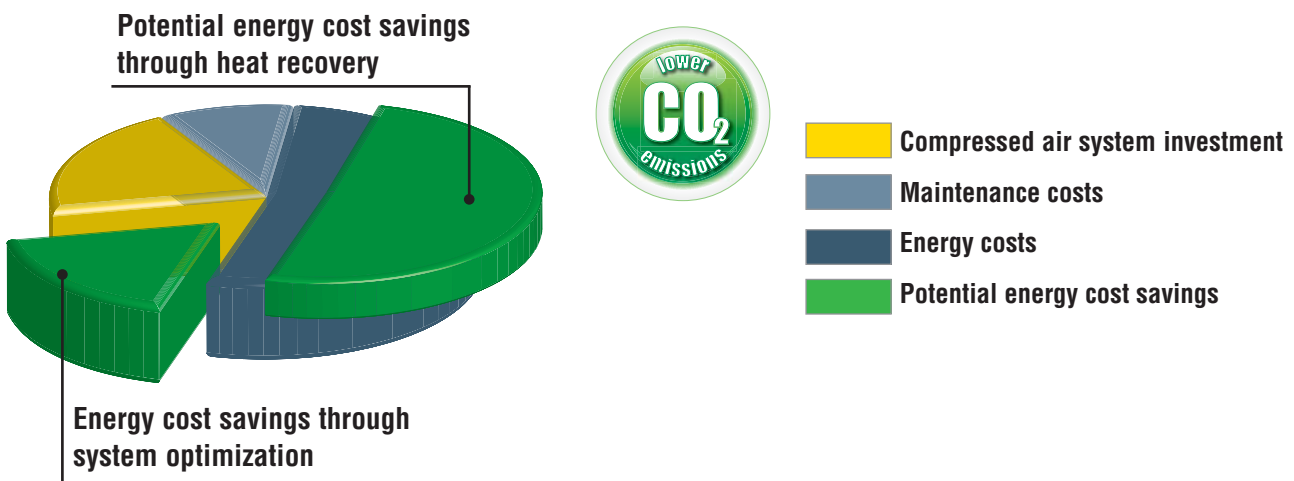
Kaeser's screw compressors meet our rigorous "built for a lifetime" standard. Designed and built with Kaeser's generations of compressed air experience, you can rest assured that these compressors will continue to deliver the air you need with the exceptional reliability you expect from a Kaeser compressor.

Service-friendly

From the ground up, these compressors have been designed with the user in mind. Fewer wearing parts and using premium quality materials ensure reduced maintenance requirements, longer service intervals, and extended service life. A smarter component layout with generously sized maintenance doors simplify service and lower your operating costs.

Guaranteed efficiency

In our comprehensive design approach, Kaeser chooses the components that work together in the most energy efficient way possible. Each and every component—from inlet filter to discharge flange—has been carefully selected with performance in mind. In fact, the ASD, BSD, and CSD series are up to **30% more efficient** than the competition. With Kaeser's superior integrated controls, we guarantee an efficient system with lower operating costs, however small or large your demand may be.



KAESER

CSD 75

SIGMA 

TE4



Reliability, Simplicity, and Performance



Sigma Profile™ airend

Our single-stage, flooded rotary screw airend delivers pressures up to 217 psig and features our power saving Sigma Profile design. Our airends are precision machined and optimized in size and profile to match the airend speeds with their best specific performance. Unlike the competition, Kaeser Compressors makes many different airends so that we can apply them at their optimal speed and performance.



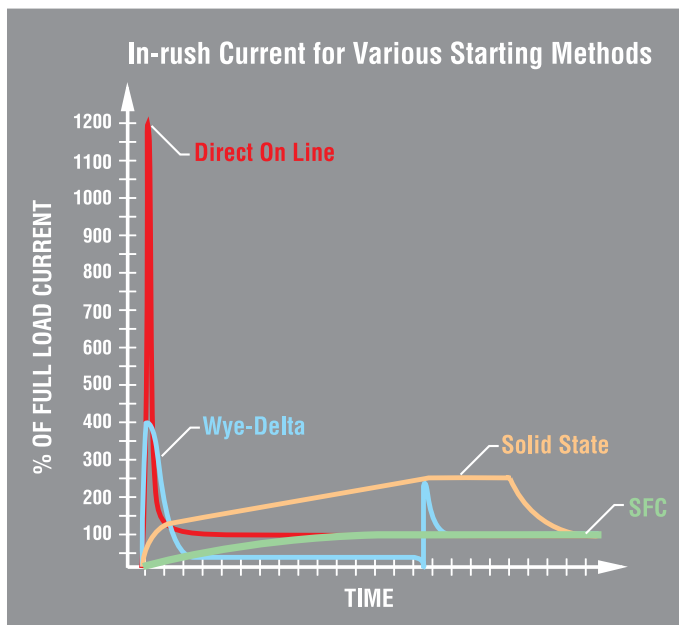
True 1:1 direct drive

In our design, the motor is directly connected to the airend with a one-to-one coupling, providing maximum transmission efficiency. This true direct drive eliminates complex gear drive components, along with heat and power losses. It is also maintenance free, increasing reliability and uptime.



Premium efficiency drive motor

Kaeser uses premium efficiency Totally Enclosed Fan Cooled (TEFC) motors with class F insulation for extra protection from heat and contaminants as standard. The BSD and CSD series feature cabinet-mounted remote grease fittings for simplified maintenance. 460 or 575 V, 3-phase, 60 Hz. Other voltages are available.



Reduced voltage starting

Magnetic wye-delta reduced voltage starting is standard. This energy saving feature ensures low starting current and smooth acceleration.

CAGI Certified Performance

Our compressors' energy efficiency has been tested and confirmed by an independent laboratory as part of the Compressed Air and Gas Institute's **Rotary Screw Compressor Performance Verification Program**. CAGI data sheets for our screw compressor units are available at www.kaeser.com/cagi

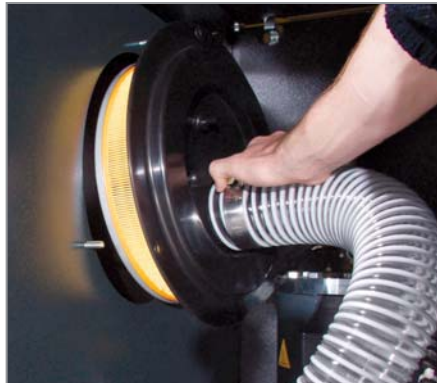




Intelligent control and protection

To protect your investment and ensure the most efficient operation possible, we control these compressors with our Sigma Control 2™. This intelligent controller comes standard with multiple pre-programmed control profiles so you can select the one that best fits your application. Sigma Control 2 monitors more than 20 critical operating parameters, shuts the unit down to prevent damage, and signals if immediate service is required. It also tracks preventive maintenance intervals and provides notice when PMs are due. An RFID sensor provides secure access and simplifies managing maintenance intervals. An SD card slot with included SD card enables fast, easy software updates, storing key operational parameters, and offers long-term data storage for analyzing energy consumption and compressor operation. Sigma Control 2 has superior communications capabilities. An Ethernet port and built-in web-server facilitate integration into the IIoT. ModBus, Profinet, Profibus, Devicenet, and other industrial communications interfaces are also available as plug-in options for seamless integration into plant control/monitoring systems.

See our Sigma Control 2 brochure for more information.



Inlet filter

We protect our compressors with a two-stage, 1 micron air intake filter. This extends airtend life and fluid change intervals. The filter may be cleaned several times before replacement and is easily serviced.



Electronic Thermal Management system

The innovative Electronic Thermal Management system dynamically regulates fluid temperature to avoid internal condensation build up, eliminating a common cause of lubricant degradation. It ensures a lower, stable operating temperature which extends airtend and cooler life and increases energy efficiency. The ETM has an adjustable temperature setting making it perfectly suited for heat recovery applications.



Integral moisture separator

A moisture separator is integrated into the stainless steel discharge piping. Our unique design maximizes separation with minimal pressure loss. A zero loss Eco-Drain is standard to automatically remove the captured moisture.



Fluid separation system

Our 3-stage separation system ensures very low fluid carry-over (1-3 ppm), and extended filter service life. Our no-leak design features rigid steel piping, flexible connections, and vibration isolators. Each pressure vessel is ASME coded (CRN in Canada) and includes wet side/dry side fittings to check differential pressure, an easy to read fluid level indicator, and our unique quick fluid drain system.

Split cooling design

Two separate cooling air inlet zones for the coolers and drive motor ensure optimum cooling. Drawing ambient air directly across the coolers and motor through separate zones eliminates preheating and results in longer lubricant life and a cooler running motor. This also results in much lower approach temperatures, improving moisture separation and air quality.

To increase reliability and reduce maintenance costs, the coolers are conveniently located on the outside of the unit, where dust and dirt build-up are easily seen and can be removed without



dismantling the cooler. A powerful radial fan pulls air through the coolers and creates a vacuum within the cabinet that effectively cools the motor even under severe operating conditions. Top exhaust allows for easy heat recovery and reduces the system footprint.

Extremely low sound and vibration

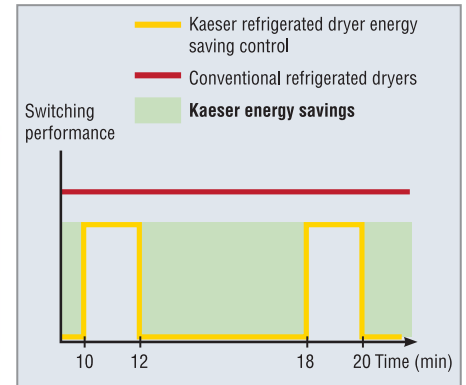
All models come standard with Kaeser's superior cabinet that features complete metal enclosures with sound proofing liners and heavy-duty vibration isolation. Using one-to-one direct drive and our unique cooling airflow design with radial fans greatly reduces internal noise and vibration.

As a result, our compressors are about 10 dB(A) quieter than conventional compressors of equal performance with sound levels as low as 66 dB(A).



Integrated Dryer Option

The ASD-CSD Series are available with an integrated refrigerated dryer. The dryer is located in a separate cabinet so it is not exposed to preheated air or contaminants from the compressor package.



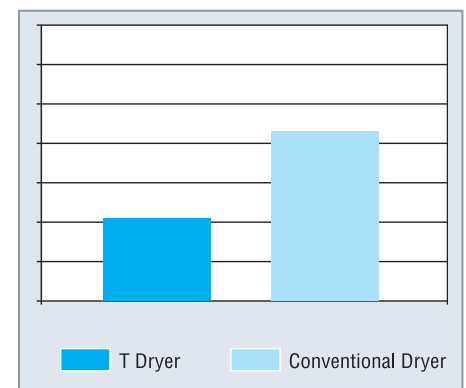
Energy-saving control

The integrated refrigerated dryer in Kaeser units provides high efficiency performance thanks to its energy-saving control. The dryer is active only when compressed air actually needs to be dried: This approach achieves the required compressed air quality with maximum efficiency.



Refrigerated dryer with Eco-Drain

The refrigerated dryer also features a zero loss Eco-Drain which is monitored by the Sigma Control 2. The advanced level-controlled condensate drain eliminates the compressed air losses associated with solenoid valve control. This saves energy and considerably enhances the reliability of the compressed air supply.



Minimal refrigerant required

The integrated refrigerated dryers in Kaeser's ASD-CSD T units require approximately fifty percent less refrigerant than conventional dryers due to an advanced heat exchanger design. This provides cost savings that are also environmentally friendly.

Service-friendly design

The ASD, BSD, and CSD series rotary screw compressors feature an open package layout. All of the major components are easily accessible reducing preventive maintenance time by as much as 50% when compared to other similarly sized units. Additionally, there is no central column that needs to be removed to access the motor or air end.

For installations where space is limited, both the front and back doors of the package fully swing out, making it possible to perform maintenance from the front or back of the package. Each door can also be removed for even more service accessibility options.

When you consider the energy efficiency savings and the maintenance costs savings, it's clear that owning a Built for a lifetime™ Kaeser compressor will save you money, year after year.

Ease of maintenance

Many features make our ASD, BSD, and CSD models easy to service.

Unique fluid separator design allows pressurized oil changes. Wet and dry side quick connect fittings for easily checking pressure differential across the separator

Easy access inlet air filter requires no special tools for servicing

Zero loss Eco-Drain on integral moisture separator to automatically remove moisture (not shown)

Zero maintenance coupling. Drive train not blocked by center column for easy access

Generously sized doors fully swing out or are easily removable

Eco-friendly fluid filter element safe for thermal disposal

Sigma Control 2 with secure RFID access signals when PM is due



Heat recovery ready

The next level of energy savings

The rise in energy prices is an unwelcome reality in today's manufacturing and business environment. While the rate of price increases for natural gas, heating oil, and other sources may vary from year to year, the upward trajectory is clear. Energy cost reduction strategies are vital to staying competitive.

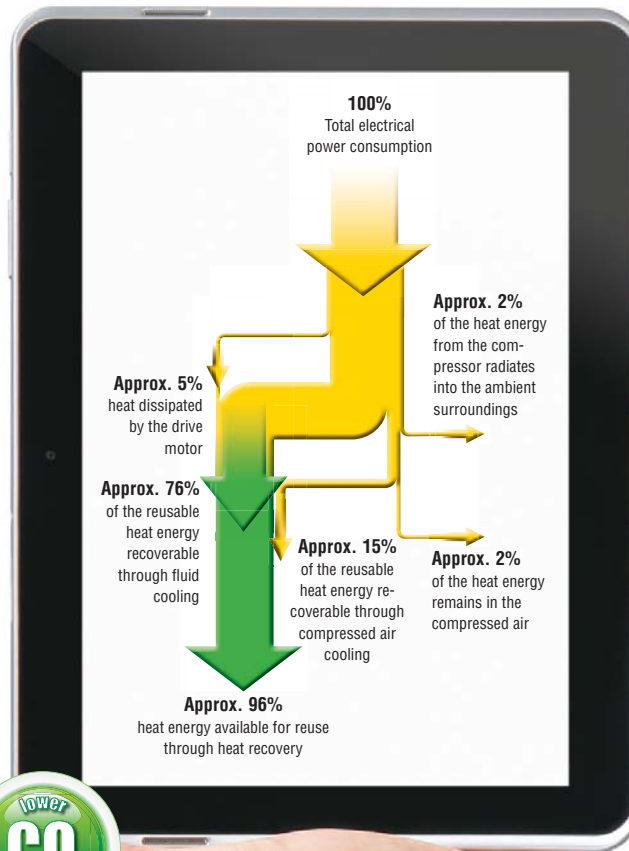
Compressing air converts the electrical energy you pay for into heat. Our compressors are available with a heat recovery option to easily recover up to 76% of this energy. You can harness additional heat recovery by ducting exhaust air. In all, 96% of input energy is recovered as heat.

Heat recovery can also be incorporated into water-cooled rotary screw compressor applications. The recovered heat can be used to warm process water, service water, and other fluids.

When you consider that a 125 hp compressor running full time at 10 cents/kW uses over \$95,000 per year in energy, the potential savings and benefits are significant.

The ASD, BSD, and CSD series can come ready to be connected to an external heat exchanger or with internal stainless steel plate type heat exchangers.

For additional information on heat recovery, see our whitepaper "Turning Air Compressors into an Energy Source."



Air-cooled, fluid-injected screw compressors with internal heat exchangers and controls to tap into the thermal energy of the cooling fluid. The additional ducting removes the hot air that was not rejected by the hot water recovery system.

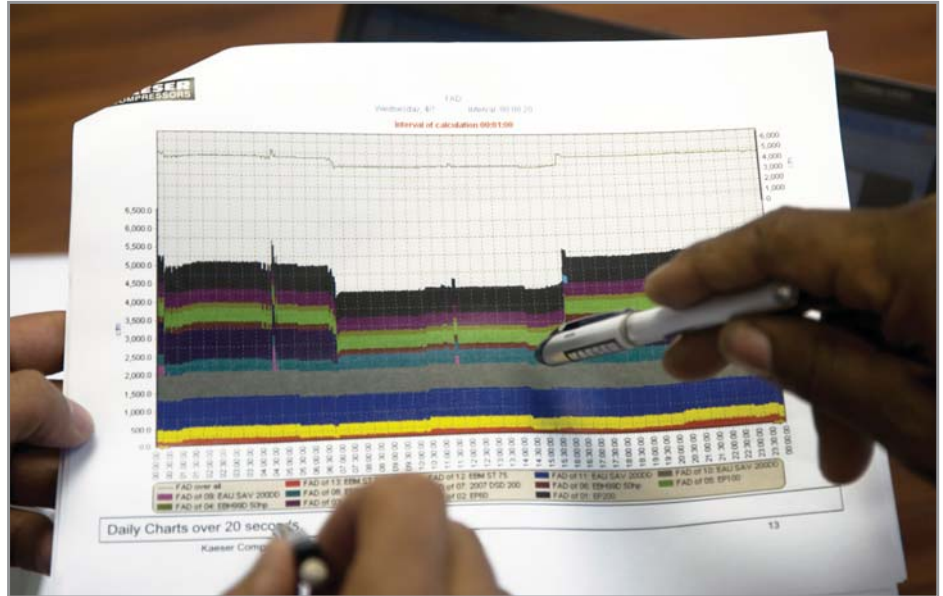
Compressed air system design

Analysis that goes well beyond the basics

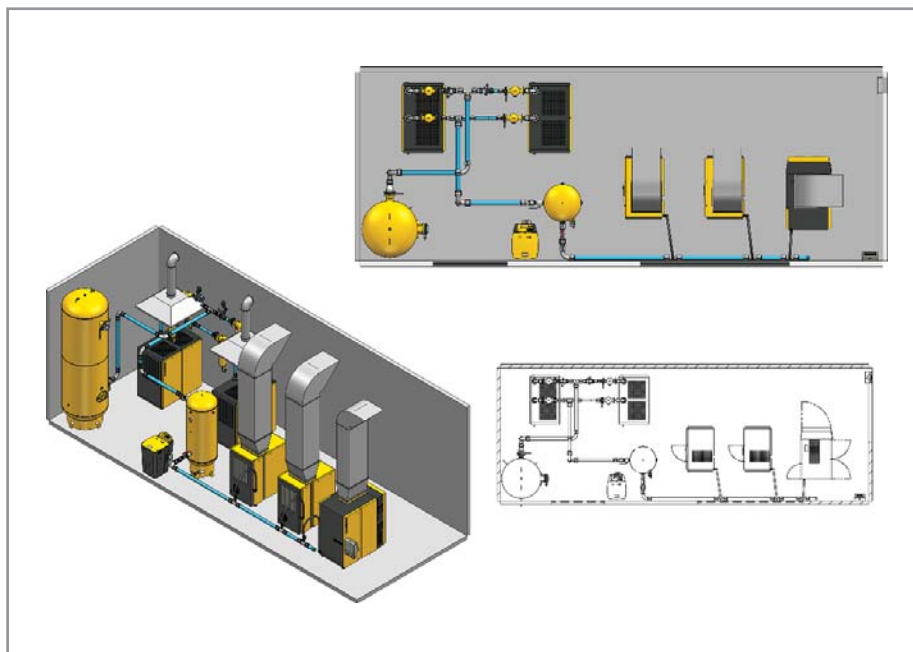
Kaeser's team of engineers are always at your service to help design or optimize your compressed air system.

Using our Air Demand Analysis (ADA) and Kaeser Energy Saving System (KESS) we can evaluate your existing installation and demonstrate how proposed changes will improve your system performance. This helps identify solutions that will achieve the greatest efficiency without compromising pressure/flow requirements or system reliability.

For more information, see our *Energy Management Services brochure*.



Time-stamped data logging enables more thorough analysis.



Accurate system drawings and schematics ensure proper pipe sizing and storage as well as adequate ventilation.

Kaeser can also produce 2D and 3D CAD drawings of the proposed system. This is a huge benefit in project planning. It helps visualize new equipment and how it will fit into the building along with existing equipment, piping, walls, vents, etc. This facilitates installation planning.

From complex installations, to challenging environments, to limited space, Kaeser can design a system to meet your specific requirements for performance and reliability.

Technical Specifications

Model	Pressure Range ⁽¹⁾ (psig)	Capacity (acfm) ⁽²⁾	Rated Motor Power (hp)	Sound Level (dB(A)) ⁽³⁾	Standard Air-cooled ⁽⁴⁾ Units		Air-cooled Units with Integral Dryer				
					Dimensions L x W x H (in.)	Weight (lb.) ⁽⁵⁾	Dimensions L x W x H (in.)	Weight (lb.) ⁽⁵⁾			
ASD 25	125	112	25	66	57½ x 35½ x 60¼	1345	69 ⁵ / ₈ x 35½ x 60¼	1555			
ASD 30	125	132	30	67		1369		1579			
	175	110									
ASD 40S	125	162	40	67		1537		1747			
	175	127									
	217	106									
ASD 40	125	191	40	69		1570		1779			
	175	159									
	217	123									
BSD 40	125	193	40	72		62 ⁵ / ₈ x 40½ x 67		2073	78 ³ / ₈ x 40½ x 67	2359	
	175	161									
BSD 50	125	236	50	72						2172	2458
	175	190									
	217	157									
BSD 60	125	288	60	73	2238		2524				
	175	230									
	217	185									
CSD 60	125	290	60	71	69¼ x 43¾ x 74¾		2668			85 x 43¾ x 74¾	3020
	175	232									
	217	186									
CSD 75	125	345	75	72							2844
	175	283									
	217	226									
CSD 100S	125	417	100	73		2910		3329			
	175	340									
	217	276									
CSD 100	125	494	100	72		83 x 50¾ x 76¾		3836	98¾ x 50¾ x 76¾		4310
	175	410									
	217	332									
CSD 125	125	565	125	73	4255		4729				
	175	480									
	217	399									

(1) Other pressures available from 80 to 217 psig. (2) Performance rated in accordance with CAGI/ISO 1217 test code. (3) Per ISO 2151 using ISO 9614-2.

(4) Dimensional drawings for air-cooled and water-cooled units are available on request from your local authorized Kaeser distributor. (5) Weights may vary slightly depending on airend model.

460 or 575 V, 3 ph, 60 Hz other voltages available.

BSD and CSD compressors are available water-cooled with stainless steel, plate type heat exchangers as standard equipment. Shell and tube heat exchangers are available on request.

Specifications are subject to change without notice.

The world is our home

As one of the world's largest compressed air systems providers and compressor manufacturers, Kaeser Compressors is represented throughout the world by a comprehensive network of branches, subsidiary companies and factory trained partners.

With innovative products and services, Kaeser Compressors' experienced consultants and engineers help customers to enhance their competitive edge by working in close partnership to develop progressive system concepts that continuously push the boundaries of performance and compressed air efficiency. Every Kaeser customer benefits from the decades of knowledge and experience gained from hundreds of thousands of installations worldwide and over ten thousand formal compressed air system audits.

These advantages, coupled with Kaeser's worldwide service organization, ensure that our compressed air products and systems deliver superior performance with maximum uptime.



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