KAESER COMPRESSORS®

Built for a lifetime.

Screw Compressors

CSD Series (60 - 125 hp)

Capacities from: 261 to 693 cfm
Pressures from: 80 to 217 psig

kaeser.com

CSD Series

Built for a lifetime.™

KAESER COMPRESSORS has pushed the boundaries of compressed air efficiency with the 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.

Service-friendly

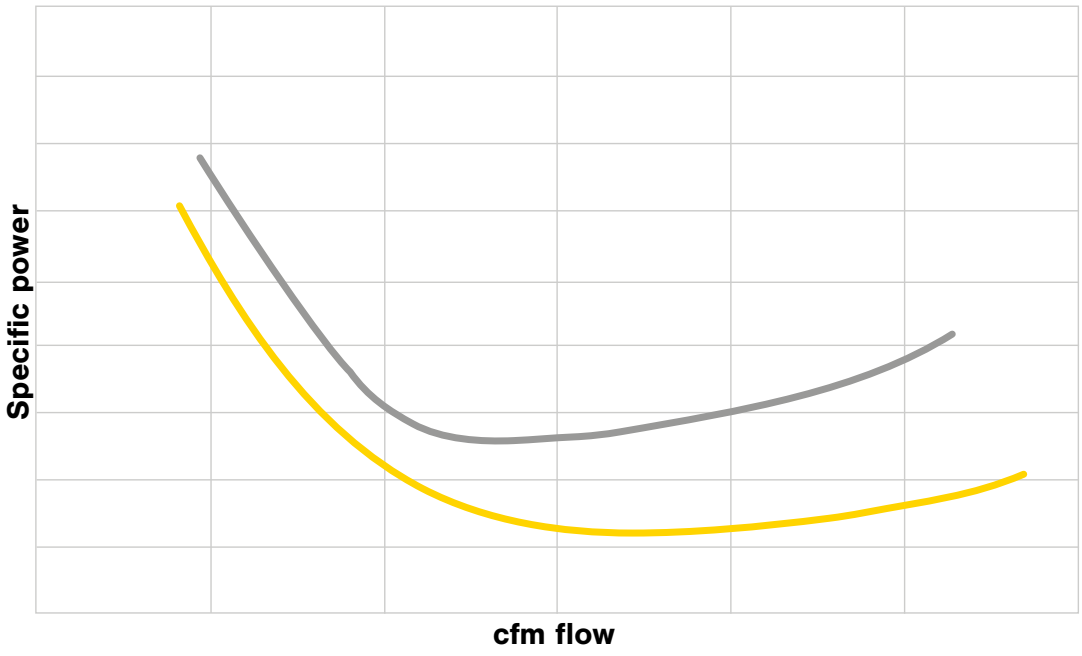
From the ground up, these compressors have been designed with the user in mind. Fewer wearing parts and using premium quality materials ensure reduced maintenance requirements, longer service intervals, and extended service life. A smarter component layout with generously sized maintenance doors simplify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

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.

More air less energy

Each and every component—from inlet filter to discharge flange—has been carefully selected with performance in mind. CSD compressors achieve new heights of energy efficiency, with specific power ratings as low as 15.45 kW/100 cfm.



Optimized CSD airends have superior performance across a wide range of flows


KAESER
CSD 90
SIGMA

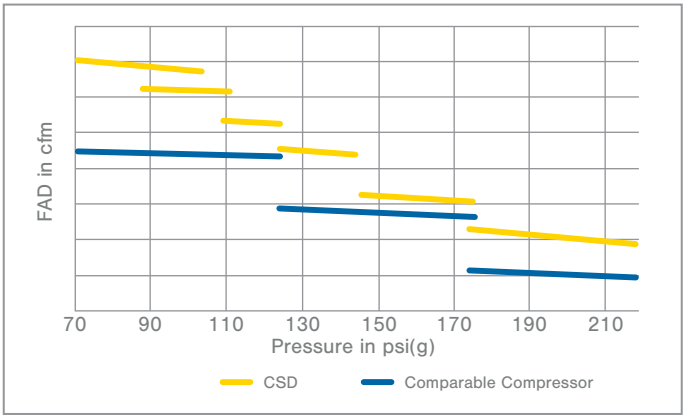
Reliability, Simplicity, and Performance

SIGMA PROFILE® airend

Our single-stage, fluid cooled 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.

Premium efficiency motor

CSD models feature premium efficiency Totally Enclosed Fan Cooled (TEFC) motors with class F insulation for extra protection from heat and contaminants. CSD units operate on 460 or 575 V, 3-phase, 60 Hz. Other voltages are available.



Higher efficiency at all pressures

CSD machines are offered in six different pressure variants. Each is optimized to deliver significantly more air with lower kW than comparable compressors.

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**

Inlet filter

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

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 automatically removes captured moisture without the compressed air losses associated with solenoid valve drains. This saves energy and improves air quality.

Electronic Thermal Management system

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

Fluid separation system

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

Intelligent control and protection

To protect your investment and ensure the most efficient operation possible, we control our 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 has superior external communications capabilities. An Ethernet port and built-in web-server allow easy remote monitoring. EtherNet/IP, Modbus, Profinet®, Profibus®, DeviceNet™, and other industrial communications interfaces are also available as plug-in options for seamless integration into plant control/ monitoring systems.

Condition monitoring and protection

SIGMA CONTROL 2 tracks preventive maintenance intervals, and provides notice when preventive maintenance is due. The controller also monitors more than 20 critical operating parameters such as motor windings, cooling fluid, inlet and discharge temperatures. If the compressor is operating outside design limits, the controller will shut the unit down to prevent damage and signal if immediate service is required.

Maintenance reminders and alerts are plainly visible on the screen and may be sent automatically to you or your service provider if you make use of the external communications capability. Alerts and conditions are stored long term in the built-in SD card. Storing this operating data aids in troubleshooting, as well as analyzing energy consumption.

Service-friendly design

The 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. For installations where space is limited, both the front and back doors of the package fully swing out and each door can also be removed.

- SIGMA CONTROL 2 signals when PM is due
- Easy access inlet air filter requires no special tools for servicing
- Eco-friendly fluid filter element safe for thermal disposal
- Brushless DC fan motor needs no greasing
- Generously sized doors fully swing out or are easily removable
- Double vibration isolation ensures wiring and fluid connections stay tight.

- Coolers are easily cleaned
- Separator design allows fast, complete fluid changes
- Fluid fill port conveniently placed
- Fluid level easy to check

Superior cooling design

Proper cooling is vital to compressor function and longevity. Our design draws ambient air directly across the coolers and motor through two separate zones. This eliminates preheating and results in longer lubricant life and a cooler running motor. The Sigma Control 2 monitors and controls both the ETM and variable speed fan motor to maintain temperatures that avoid overheating and condensate formation in the fluid circuit. It also results in improved 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 removed without any disassembly.

A powerful radial fan pulls air through the coolers and effectively cools the motor even under severe operating conditions. Top exhaust allows for easy heat recovery and reduces the system footprint.

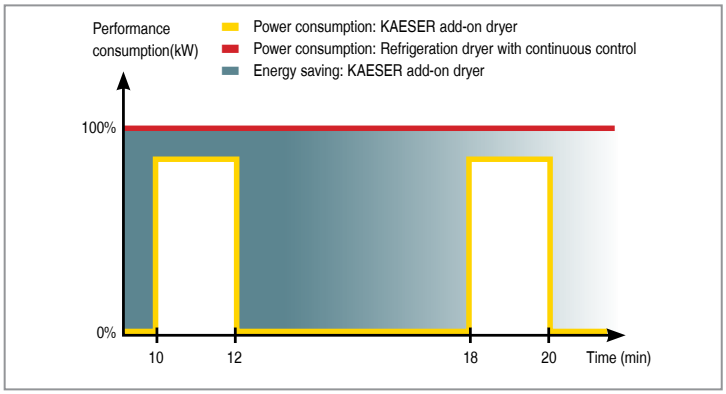
Low sound and vibration

We feature complete metal enclosures with sound proofing liners and heavy-duty vibration isolation. Our airflow design with radial fans and top discharge greatly reduces noise – up to 10 dB(A) quieter than comparable compressors.

Integrated Dryer Option

Superior air quality

All CSD models are available with optional integrated refrigerated dryer to ensure better air quality for your tools and processes. The dryer is located in a separate cabinet so it is not exposed to preheated air or contaminants from the compressor package.

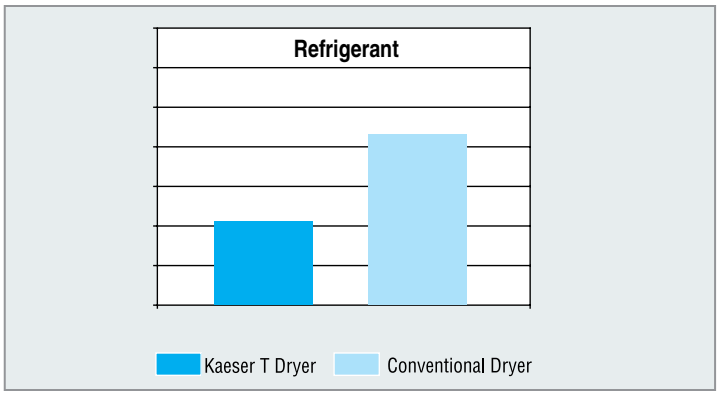


Energy-saving control

Our integrated refrigerated dryers have energy-saving controls so that 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 condensate drain that eliminates the compressed air losses associated with solenoid valve control or low quality float traps. This saves energy and improves air quality.



Climate friendly design

In addition to energy saving controls, our integrated dryers feature the new R-513A refrigerant with 56% lower global warming potential than common dryer refrigerants. Combined with our advanced heat exchanger design, we need far less refrigerant – resulting in the most climate friendly dryer possible.

Heat recovery ready

The next level of energy savings

While the prices for electricity, natural gas, heating oil, and other sources may vary from year to year, energy cost reduction strategies are vital to staying competitive.

Compressing air converts nearly all the electrical energy you pay for into heat. Our CSD 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, up to 96% of input energy is recoverable as heat.

Heat recovery can also be incorporated into water-cooled 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 cent/kW uses over $95,000 per year in energy, the potential savings in putting waste heat to work are significant.

With the optional integrated heat recovery system, an additional plate-type heat exchanger and a second ETM valve are installed. This allows a CSD compressor to provide hot water up to 160°F.

For additional information on heat recovery, see our white paper "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.

Technical Specifications

Model	Pressure Range [1] (psig)	Capacity (acfm) [2]	Rated Motor Power (hp)	Sound Level (dB(A)) [3]	Standard Air-cooled Units [4]		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]
CSD 90	100	337	60	67	70½ x 43¼ x 74¾	2954	86¾ x 43¼ x 74¾	3395
	110	325						
	125	300						
CSD 110	100	404	75	69		3109		3549
	110	392						
	125	376						
	150	332						
	175	305						
	217	261						
CSD 130	100	518	100	72		3968		3748
	110	498						
	125	459						
	150	425						
	175	367						
	217	307						
CSD 145	100	584			82¾ x 50½ x 76¾	4167	98¼ x 50½ x 76¾	4784
	110	562						
	125	542						
	150	472						
	175	445						
CSD 175	100	689	125	76		4475		5093
	110	664						
	125	593						
	150	567						
	175	508						
	217	447						

(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).

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 helps customers to enhance their competitive edge by working in close partnership to reduce lifecycle costs associated with compressed air, blower and vacuum systems. Every KAESER customer benefits from the accumulated knowledge gained from hundreds of thousands of installations worldwide and tens of thousands of 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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