KAESER COMPRESSORS

Built for a lifetime.™

Screw Compressors

FSD SERIES

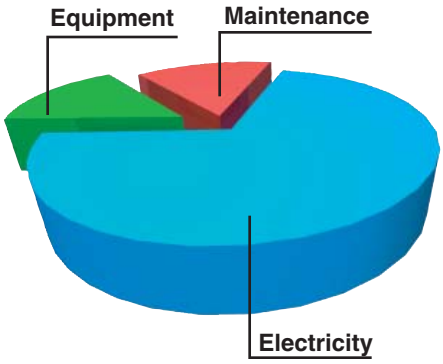
Capacities from: 1250 to 2015 cfm
Pressures from: 80 to 217 psig

Built for a lifetime™

Maximum efficiency and reliability have long been synonymous with Kaeser Compressors. Our commitment to excellence drives us to continually enhance and optimize our compressed air system solutions. With a cutting edge research and development team committed to producing industry leading products, Kaeser constantly strives to offer lasting solutions for our customers' compressed air needs. The FSD series rotary screw compressor delivers on all accounts.

Kaeser's unique Sigma Profile airend and intelligent Sigma Control 2™ system, combined with the latest one-to-one drive technology mean that our FSD compressors can guarantee exceptional energy savings, without compromising on durability or ease of maintenance. Our customers expect excellence and we make it happen.

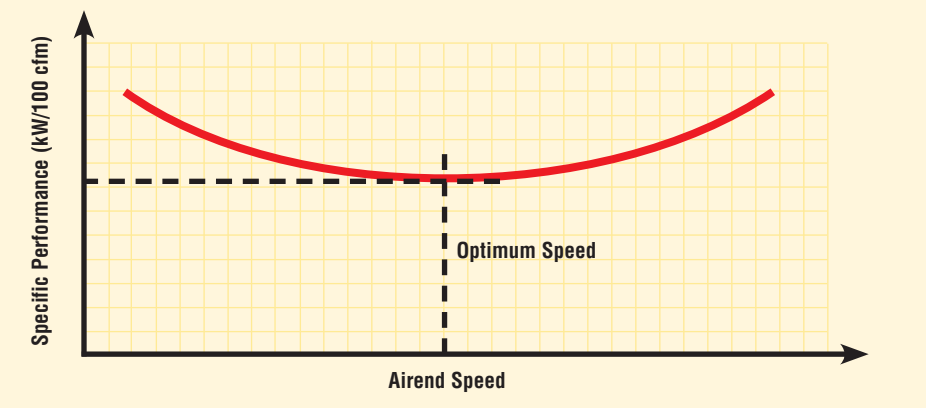
Built to perform. Built to last. Kaeser compressors are built for a lifetime.



70% of Your Long Term Compressor Cost is Electricity

Analyze the total cost of a compressed air system and you'll realize that power cost is significant. In just one year it could exceed the price of the compressor itself. Over a period of ten years, this could consume 70% of your overall air system costs. That's why it is important to investigate energy efficiency when considering a new compressor or designing an air system.

A Perfect Match



Unlike the competition, Kaeser Compressors makes many different airends so that we can apply them at their optimal speed and performance.

1 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 (see *A Perfect Match* curve).

2 True 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 gear drive components, heat and power losses. It is also maintenance free, increasing reliability and uptime. A cast housing is doweled and pinned to assure perfect alignment.

3 Premium Efficiency Drive Motor

Kaeser uses only premium efficiency Totally Enclosed Fan Cooled (TEFC) motors with class

F insulation for extra protection from heat and contaminants. Remote grease fittings make maintenance a breeze. 460 or 575 V, 3-phase, 60 Hz, 1800 rpm. Other voltages are available.

4 Reduced Voltage Starting

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

FSD Series

5 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 may be cleaned several times before replacement and is easily serviced with no tools required.

Fluid Separation System

A combined fluid reservoir and separator tank with 3-stage separation system ensures very low fluid carry-over and pressure drop. Centrifugal action combined with two-stage coalescing doubles filter service life and the net carry over is only 1-3 ppm.

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 for manual check of differential pressure, an easy to read fluid level indicator, and our unique quick drain system.

Unique Air Flow Design Optimizes Cooling

In Kaeser's "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. 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 convenient ducting and reduces the system footprint.

Intelligent Control and Protection

To protect your investment and ensure the most efficient operation possible, we control this compressor 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 maintenance.

Sigma Control 2 has superior communications capabilities. An Ethernet port and built-in web-server enable remote access. ModBus, 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 details.

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 cooing airflow design with radial fans greatly reduces internal noise and vibration.

As a result, the FSD series are about 10 dB(A) quieter than conventional compressors of equal performance with noise emissions as low as 77 dB(A).

Optimized Efficiency

In FSD packages, one-to-one drive reduces the number of components needed compared to a gear drive unit, increasing reliability and service life.

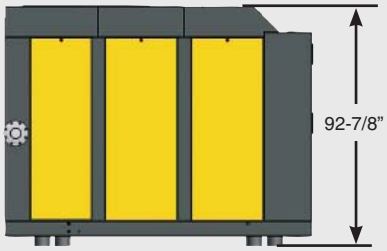
Kaeser has selected oversized airends specifically matched to produce the required output in flow and pressure. Compared to compressors using small, high-speed gear-driven airends, the FSD one-to-one drive provides triple savings: no-loss power transmission, improved power consumption, and reduced maintenance and related downtime costs.

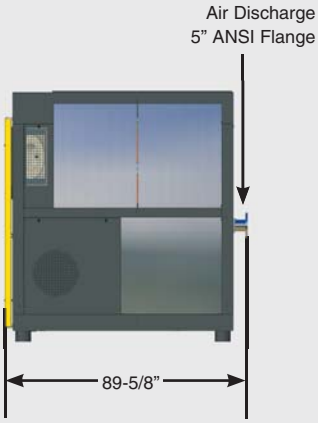
One-to-One Direct Drive

Airend RPM = Motor RPM

Dimensions

Standard or SFC Version





Dimensions are for reference only — please contact Kaeser for dimensional drawings.

Options

Variable frequency control

FSD compressors are available with Sigma Frequency Control (SFC) to provide superior part load efficiency and steady pressure in applications with widely varying air demands. Standard features include EMI filters, line reactors, and galvanic separation contactors for extra electrical system protection. SFC units also feature drive cabinet cooling fans and the latest in Siemens drive technology for reliability and efficiency.

Unit with optional SFC. See SFC literature for more information.

Water-cooled

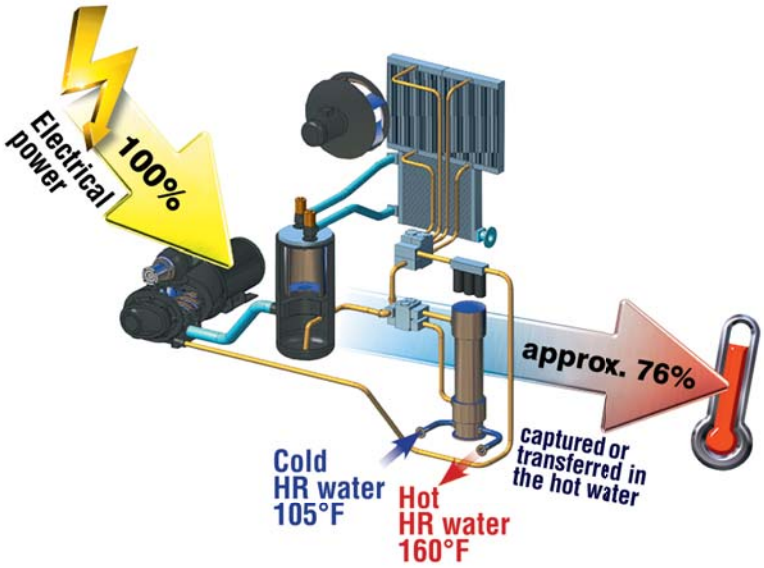
FSD compressors are available water-cooled with stainless steel, plate type heat exchangers as standard equipment.

Heat Recovery

Compressing air converts the electrical energy you buy into heat. FSD compressors are available with a heat recovery option to recover up to 76% of this energy.

They can come ready to be connected to an external heat exchanger or with internal heat exchangers. Options include the plate type, shell and tube, or SWT heat exchangers. The SWT fail-safe heat exchangers provide extra protection from process contamination in sensitive applications such as food, chemical, or pharmaceutical processing.

When you consider that a 450 hp compressor running full time at 7 cents/kW uses over $337,500 per year in energy, the potential savings and benefits are significant.



Technical Specifications for standard units*

Model	Pressure Range (psig)	Capacity (cfm)[1]	Rated Motor Power (hp)	Dimensions	Weight (lb)[2]	Sound Level (dB(A))[3]
FSD 350	110	1529	350	118 1/2 x 89 5/8 x 92 7/8	11,245	83
	125	1522				
	145	1284				
	175	1271				
FSD 400	110	1752	400	118 1/2 x 89 5/8 x 92 7/8	12,410	83
	125	1744				
	145	1730				
FSD 450	100	2002	450	118 1/2 x 89 5/8 x 92 7/8	13,450	83
	110	1998				
	125	1990				
	145	1511				
	175	1497				
	190	1264				
	217	1250				

(1) Performance rated in accordance with CAGI/ISO 1217 test code. (2) Weights may vary slightly depending on airend model. (3) Per ISO 2151 using ISO 9614-2.

NOTE: Other pressures available from 80 to 217 psig
*** For units with SFC, please contact your local authorized Kaeser distributor.**

Specifications are subject to change without notice.

Compressed Air System Design

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.

Kaeser can also produce two-dimensional and three-dimensional 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.

CAGI Data Sheets

The Compressed Air and Gas Institute (CAGI) and a consortium of compressor manufacturers developed compressor performance standards to enable consistent and accurate performance comparisons between competing compressor models. These CAGI data sheets are published by member companies to present their product performance data. Data sheets for Kaeser models are available on our website at www.kaeser.com/cagi. Or you can scan the QR code below to go straight to our data sheets on your Smartphone.

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