

Sigma Frequency Control

SFC Series 75 to 315

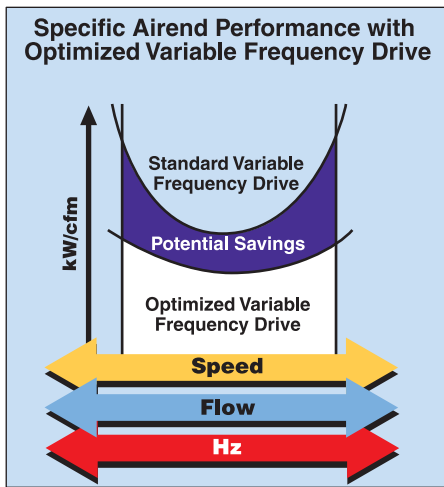
Capacities: from 117 to 2232 cfm

Pressures: from 80 to 217 psig



Variable Speed Technology from Kaeser

Kaeser Sigma Frequency Control (SFC) compressors combine Siemens variable frequency/speed drive technology with our superior Sigma Profile airend to match air output to demand while minimizing energy consumption. Kaeser engineers have optimized our airend design to achieve a wide flow range with unrivaled efficiency. In addition, both the drive motor and airend operate at low speeds resulting in exceptional reliability and long life.



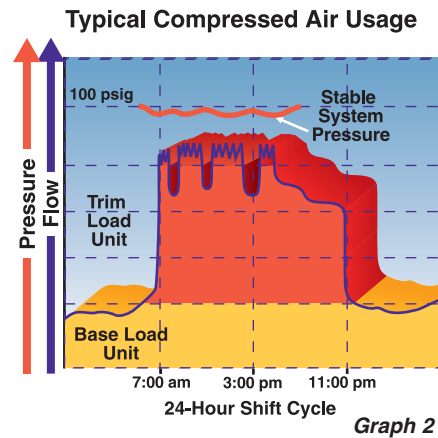
Graph 1

Even though many variable speed drive compressors can operate over a flow range of 20 to 100%, the best efficiencies for these units are between 40 and 85%. Further, true efficiency is not constant over this wide speed range. As Graph 1 illustrates, the Sigma Profile airend has a clear efficiency advantage across a wider flow range than its competition.

Analysis Reveals Potential

SFC compressors have significantly reduced energy consumption for many of our customers, but no two applications are the same. In order to determine whether variable speed/frequency units will benefit you, we strongly recommend that you let us evaluate your system first.

As graph 2 illustrates, air demand in most systems fluctuates, calling for a customized solution based on your demand profile. For detailed system audits, Kaeser uses its exceptional Air Demand Analysis program to develop a picture of your system.



Graph 2

From this we can accurately project what combination of compressors and controls will meet your pressure and flow needs at the lowest energy cost.

1 Sigma Profile Airend

Single-stage, flooded rotary screw airend with the power-saving proprietary Sigma Profile.

Optimized for variable speed operation, Sigma Profile airends provide exceptional efficiency over a wide range of flows. See graph 1.



2 SFC Drive

Drive System Technology from Siemens provides superior reliability and drive



efficiency. Kaeser SFC drive includes EMI filters, contactor for galvanic separation and a line reactor providing superior protection. Drive cabinet cooling fans ensure proper operating temperature.

3 Sigma Control

Kaeser's unique compressor control features an industrial PC with an Intel® microprocessor and real time operating system. Sigma Control monitors critical compressor functions and maintenance items. Event memory aids troubleshooting and record keeping. Plain text display available in 30 languages.



Five different compressor control configurations are available to match compressor performance to air demand to minimize energy use. Sigma Control's open architecture allows remote monitoring and control from any location worldwide.

4 One-to-One Direct Drive

Some compressors claim to have direct drive but actually use gear drives. Our drive connects the motor directly to the airend with a



maintenance-free coupling, providing maximum transmission efficiency. The airend and motor are connected by a casting which is doweled and pinned to assure perfect alignment. This one-to-one drive reduces the number of components. In addition, it has none of the efficiency losses or maintenance requirements associated with gear drives.



5 High Efficiency Drive Motor

Kaeser uses only high efficiency, TEFC drive motors. All meet or exceed EPC standards and feature class F insulation. Each of the three motor windings is actively monitored through its own PT100 temperature sensor (SFC 200/250 use PTC sensors). Standard voltages are 460 or 575 V (3-phase, 60 Hz). Other voltages are available. Remote grease fittings make maintenance a breeze.

$$\text{Airend RPM} = \text{Motor RPM}$$



One-to-One Direct Drive

6 Lowest Inrush Current (see graph 3)

Power companies and customers alike appreciate the unique features of Kaeser SFC. With unlimited motor starts, the lowest inrush current available, and input kW precisely matched to air demand, this unit provides cost savings that directly impact the bottom line. Plus, SFC power factor is very close to one, which eliminates power factor penalties and the need for power factor correction capacitors.

7 Inlet Filter



A two-stage 4 micron air intake filter extends airend life and is easily serviced.

8 Superior Cooling Design

Standard units are air-cooled (water-cooling is an option). Coolers are conveniently located on the outside of the unit. Dust and dirt build-up is easily seen and removed without dismantling the coolers.

Three separate air inlet zones for the coolers, compressor, and drive motor ensure optimum performance. Drawing ambient air directly across the coolers and motor through separate zones avoids pre-heating and results in lower approach temperatures, longer lubricant life, and cooler motor temperatures.

A powerful radial fan provides higher static pressure which facilitates ducting and heat recovery. The fan is extremely quiet and consumes less power than conventional axial fans, providing additional energy savings. The fan creates a vacuum within the cabinet that also helps cool the motor even under unfavorable operating conditions. Like our drive motors, our fan motors are equipped with remote grease fittings.



Other Features:

Efficient Separator System

Our three-stage separation system uses centrifugal force to remove most of the cooling fluid, and any remaining fluid is separated by a 2-stage coalescing filter cartridge. This triple action doubles the cartridge service life and reduces fluid carry over to 2 ppm or less.



The fluid level is easily checked with an easy-to-read level indicator. Wet side and dry side fittings allow quick check of differential pressure across the separator filter cartridge. Quick release fittings on both separator and cooler combined with a large fluid fill port allow complete, fast and easy fluid changes. The separator lid

swings out for easy maintenance on SFC 132-315 models.

Solid Construction

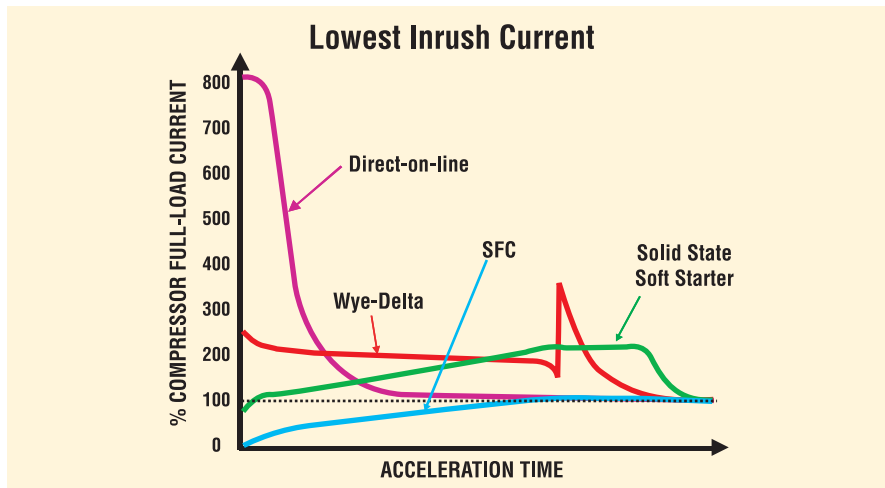
Kaeser compressors are constructed with solid steel base frames and floors. The airend/motor drive module and separator tank are each mounted on large vibration isolation mounts to eliminate all strain on piping and wiring. Separator vessels are ASME or CRN coded.

Extremely Quiet

Kaeser brings several design features to bear to make it extremely quiet. The low-noise radial fan, one-to-one drive and split cooling air-flow design considerably reduce noise generated. The SFC is also soundproofed by its heavily insulated full metal enclosure. With noise levels as low as 67 dB(A), the SFC is nearly 10 dB(A) quieter than comparable compressors.

Optional Integral Dryer

SFC 75 - 132S are available with integral refrigerated dryers, complete with internal filtration and automatic drains.



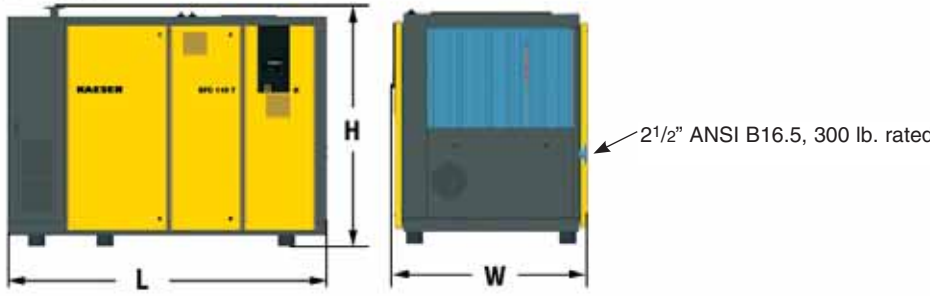
Graph 3

Technical Specifications and Dimensions

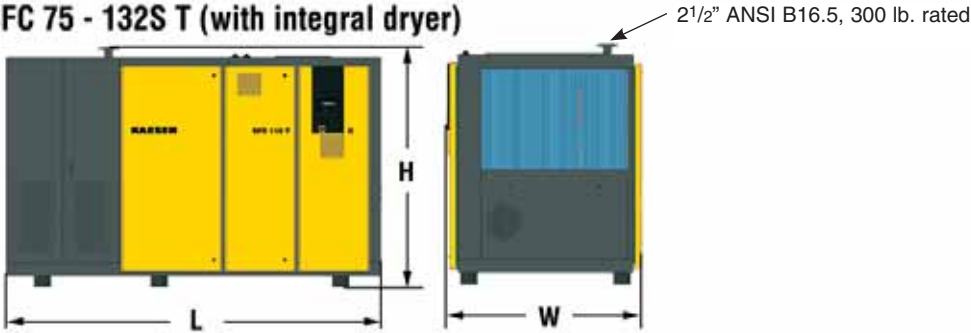
Model	Nominal Motor (hp)	Operating Pressure (1) (psig)	Capacity (2) (cfm)		Dimensions L x W x H (in)	Weight (3) (lbs)	Noise Level (4) (dB(A))
			Min	Max			
SFC 75 (5)	100	110	127	559	117 5/8 x 68 x 80 1/4 130 5/8 x 68 x 80 1/4 (5)	6834	71
		125	126	528			
SFC 90 (5)	125	110	127	627		7121	72
		125	126	595			
		145	125	547			
SFC 110 (5)	150	110	150	735		8223	74
		125	147	692			
		145	141	629			
SFC 132S (5)	175	110	209	830		8532	75
		125	208	780			
		145	279	706			
SFC 132	200	110	209	920		9149	74
		125	208	867			
		145	279	788			
SFC 160	215	110	230	1074	10,141	79	
		125	226	1017			
		145	198	929			
SFC 200	270	110	298	1300	12,790	77	
		125	297	1236			
		145	228	1095			
SFC 250	335	110	360	1430	13,660	79	
		125	357	1338			
		145	300	1285			
SFC 315	450	110	470	2090	15,430	83	
		125	466	1987			
		145	346	1769			

(1) Other pressures available
 (2) Performance rated in accordance with CAGI/PNEUROP PN2CPTC2 test code.
 (3) Weights may vary slightly depending on aircend model
 (4) Measured at 3 feet according to CAGI
 (5) Available with integral refrigerated dryer
 Specifications are subject to change without notice.

SFC 75 - 132S



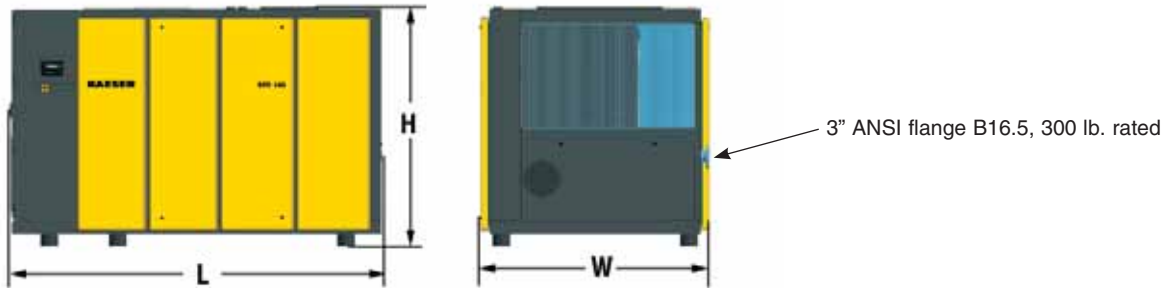
SFC 75 - 132S T (with integral dryer)



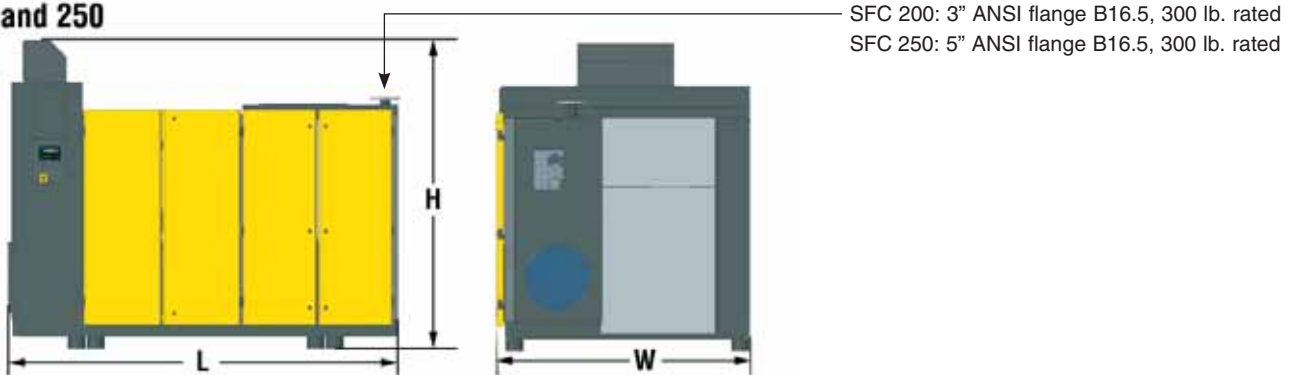
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Dimensions con't

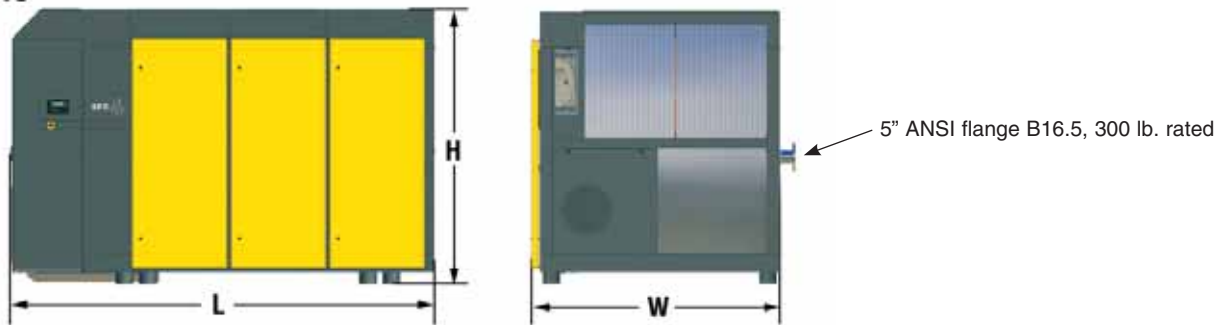
SFC 132 and 160



SFC 200 and 250



SFC 315



**KAESER
COMPRESSORS**

Built for a lifetime.™

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Certified Management Systems



The Air Systems Specialist

With over 85 years of experience, Kaeser is the air systems specialist. Our extensive 100,000 square foot facility allows us to provide unequalled product availability. With service centers nationwide and our 24-hour emergency parts guarantee, Kaeser customers can rely on the best after-sales support in the industry. Kaeser stands committed to providing the highest quality air system for your specific compressed air needs.