

# Screw Compressors

## SM SERIES

Capacities from: 19 to 54 cfm  
Pressures from: 80 to 217 psig



# Built for a lifetime

Maximum efficiency and reliability have long been the hallmarks of 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 SM series rotary screw compressor delivers on all accounts.

In every machine Kaeser builds you'll find many features to enhance reliability and simplify maintenance, from the heavy gauge steel frame with double vibration isolation to the quick fluid change feature.

Our airends are built to stand up to many years of tough service. We make TEFC motors standard and use pipe instead of cheap tubing. A well-planned cabinet design and component layout reduce noise and footprint with easier access during preventive maintenance. The list goes on and on. Our customers expect excellence and we make it happen.

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

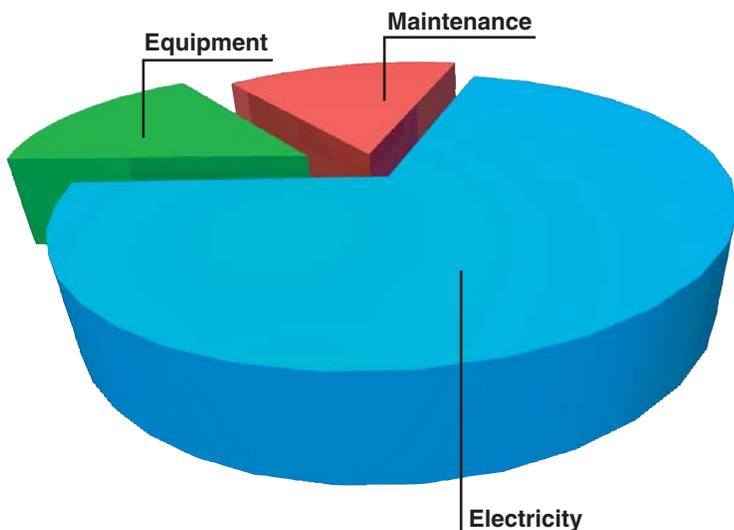
## 70% of Your Long Term Compressor Cost is Electricity

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 cost of the compressor itself. Over a period of ten years, energy may add up to 70% of your overall costs for buying, operating, and maintaining an air system.

That's why it is important to consider energy efficiency when evaluating a new compressor.

Kaeser's proprietary Sigma Profile compresses air very efficiently and delivers more cfm per kW than other airend designs. Combined with high-efficiency motors and lower internal pressure drop, this results in a compressor designed to achieve significant savings.

Every Kaeser product demonstrates our commitment to providing unrivaled quality and performance at the lowest overall cost.



## Sigma Control™ Basic

A simple and reliable interface offers convenient pressure control and system monitoring with status display and maintenance reminders. Displays include discharge pressure and temperature, load and service hours, as well as fault indicators.

## Sigma Profile Airend



Our power-saving, proprietary airend design delivers pressures up to 217 psig. Kaeser uses a newly designed airend for this SM series. It is precision-machined to close tolerances and optimized in size and profile to match the low airend speeds with their best specific performance.

## TEFC Motor with Reduced Voltage Starter

Premium-efficiency, totally enclosed, fan cooled (TEFC) motors with Class F insulation are standard for long life in harsh environments.

Tri-voltage 208-230/460 or 575 V, 3-phase, 60 Hz is standard. Other voltages are available. Magnetic Wye-Delta reduced voltage starters ensure low starting current and smooth acceleration.



# SM

Designed for Reliability, Simplicity and Performance



## Belt Drive with Automatic Tensioning

A ribbed single belt drive efficiently transfers power from motor to airtend. Our unique automatic tensioning device maintains proper tension to maximize energy efficiency, prolong belt life, and simplify routine maintenance. The belt tension can easily be verified through a window in the service panel.



## Efficient Separator System

A three-stage separator (ASME or CRN) combines centrifugal action and a 2-stage coalescing filter to reduce fluid carry over to 2 ppm or less. Quick release fittings, drain and fill ports are arranged for fast and easy fluid changes from sump and cooler without any pumping device. The easy-to-read fluid level indicator can be checked without opening or stopping the compressor through a window in the service panel.



## High-Efficiency Coolers with Filter Mat

Conveniently located on the outside of the unit, our standard high-efficiency coolers provide maximum cooling resulting in approach temperatures as low as 11°F for more moisture separation at the compressor discharge and better air quality. A filter mat simplifies cooler maintenance. Dirt and dust build up on the outside of the filter, where it is easily seen and removed. This extends cooler service intervals and increases thermal reserve for harsher conditions.



## Ease of Maintenance

Many features make our SM models easy to service, including:

- 1 Easy single panel access for routine service
- 2 Maintenance reminders on controller
- 3 Cartridge style 1 micron inlet filter\*
- 4 Spin-on 10 micron fluid filter
- 5 Quick fluid change system with drain hose
- 6 Single piece, multi-ribbed belt with automatic tensioner
- 7 Side panel windows to view fluid level and test the auto drain (on T versions and AirCenters)
- 8 Cleanable filter mat on coolers\*

\*no tools required

## Removable Panel

Single removable service panel provides full access to all components for easy maintenance.

## Double-flow Cooling Fan

Patent-pending double-flow fan design



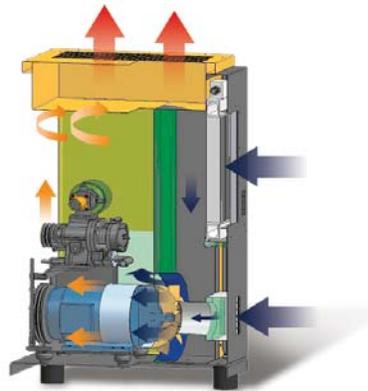
increases air flow through the unit while reducing overall power requirements and sound levels. Sickle-shaped fan blades with

foam-covered air guiding ring.

## Optimized Air Flow Design

Air is drawn into separate cooling zones for the drive motor and coolers. This “split cooling” design eliminates pre-heating, increasing cooling efficiency without increasing power consumption. Cooler temperatures also promote longer lubricant and motor life. Cooling air is exhausted through a single port at the top of the cabinet. Ducting this air enables heat recovery and further reduces noise.

Air for compression enters through a separate grill on the right side of the cabinet. It is then filtered through a two-stage air intake filter. This filter protects the airend and extends fluid change intervals.



➡ Fresh cooling air

➡ Recirculated air

➡ Exhaust air

*The SM unit can be installed in a corner and it will still provide easy access for maintenance while allowing for proper cooling air flow.*

## Enclosure

Our superior cabinet design reduces noise and footprint while offering easy access for service. A heavy-duty metal enclosure with a durable powder-coated finish keeps noise in but dirt and dust out. Thick sound insulation keeps sound levels as low as 66 dB(A), up to 10 dB(A) quieter than comparable units.

Lockable panels provide easy access to all maintenance items. The fluid level indicator is visible through a conveniently placed window in the cover.

Internal and external vibration isolators eliminate stress on piping and wire connections, further increasing reliability.

Electrical components are housed in a spacious, ventilated control cabinet. Wiring is neatly arranged and terminals are clearly identified.

## Fluid Cooling System

All units are filled with Kaeser Premium Fluid to cool, clean, and lubricate the airend. A thermostatically controlled combination valve ensures perfect fluid temperature regulation and incorporates a cooler by-pass and spin-on fluid filter. Main air and fluid lines are made of rigid pipe with flexible pipe connections. A 10 micron spin-on fluid filter is within easy reach of the front cover. This filter extends fluid life and protects the airend. The fluid level is easily checked while the compressor is running.

## Options

### Integral Refrigerated Dryer Option

SM “T” models have integral refrigerated dryers with moisture separators and electronic Eco-Drains.

The dryer features plate-type heat exchangers and moisture separator, with stainless steel construction for long life.



The Eco-Drain has a robust aluminum housing and patented pilot air-controlled valve technology to ensure many years of reliable service even when subjected to harsh condensate. Controlled by reliable capacitance sensors, these energy-saving drains remove condensate — but not valuable compressed air.

We use only CFC-free R134a refrigerant. The dryer is controlled through the compressor controller and requires no additional electrical hook up.



air-controlled valve technology to ensure many years of reliable service even when subjected to harsh condensate.

Controlled by reliable capacitance sensors, these energy-saving drains remove condensate — but not valuable compressed air.

We use only CFC-free R134a refrigerant. The dryer is controlled through the compressor controller and requires no additional electrical hook up.

### 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.

### Other Options

- Five year warranty on aircend, motor, and controller
- AirCenter™ packages with refrigerated dryer, drain, and receiver tank
- 10 hp available with variable speed drive (see our SFC literature for details)



SFC 8 (SM unit with optional Sigma Frequency Control).

## Package Options



Standard Version



T-version with integrated refrigeration dryer



AirCenter with refrigerated dryer, drain, and air receiver tank

# 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.

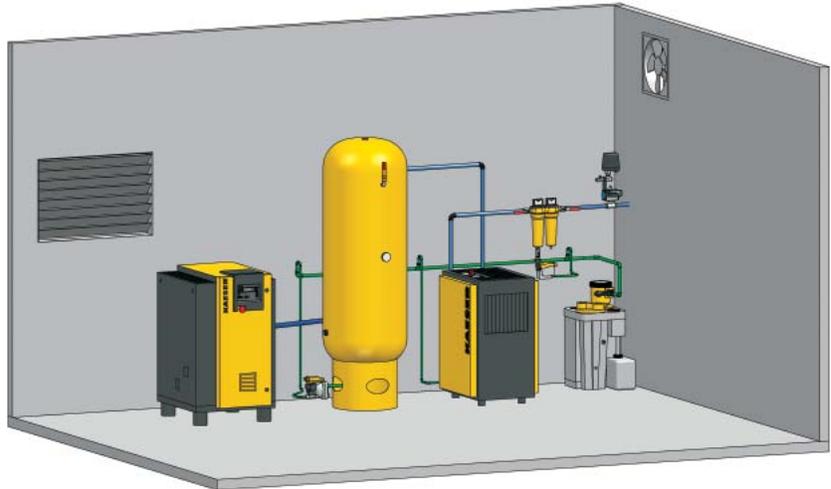
## Technical Specifications for Standard Units

Model	Operating Pressure (psig)	Capacity at Operating Pressure (cfm) <sup>(1)</sup>	Motor (hp)	Dimensions L x W x H (in)	Weight (lb) <sup>(2)</sup>	Sound Level dB(A) <sup>(3)</sup>
<b>SM 7.5</b> <b>SM 7.5 T</b> <b>SM 7.5 AirCenter</b>	125	32	7.5	24 <sup>3</sup> / <sub>4</sub> x 30 x 43 <sup>3</sup> / <sub>8</sub>	440	66
	160	27		24 <sup>3</sup> / <sub>4</sub> x 42 <sup>1</sup> / <sub>4</sub> x 43 <sup>3</sup> / <sub>8</sub>	606	
	217	19		24 <sup>3</sup> / <sub>4</sub> x 47 <sup>1</sup> / <sub>4</sub> x 67 <sup>1</sup> / <sub>2</sub>	886	
<b>SM 10</b> <b>SM 10 T</b> <b>SM 10 AirCenter</b>	125	42	10	24 <sup>3</sup> / <sub>4</sub> x 30 x 43 <sup>3</sup> / <sub>8</sub>	460	67
	160	35		24 <sup>3</sup> / <sub>4</sub> x 42 <sup>1</sup> / <sub>4</sub> x 43 <sup>3</sup> / <sub>8</sub>	628	
	217	27		24 <sup>3</sup> / <sub>4</sub> x 47 <sup>1</sup> / <sub>4</sub> x 67 <sup>1</sup> / <sub>2</sub>	882	
<b>SM 15</b> <b>SM 15 T</b> <b>SM 15 AirCenter</b>	125	53	15	24 <sup>3</sup> / <sub>4</sub> x 30 x 43 <sup>3</sup> / <sub>8</sub>	490	68
	160	44		24 <sup>3</sup> / <sub>4</sub> x 42 <sup>1</sup> / <sub>4</sub> x 43 <sup>3</sup> / <sub>8</sub>	650	
	217	34		24 <sup>3</sup> / <sub>4</sub> x 47 <sup>1</sup> / <sub>4</sub> x 67 <sup>1</sup> / <sub>2</sub>	904	

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

Note: Other pressures available from 80 to 217 psig.

**Specifications are subject to change without notice.**



# KAESER COMPRESSORS

**Built for a lifetime.™**

[www.kaeser.com](http://www.kaeser.com)

**Kaeser Compressors, Inc.**  
511 Sigma Drive  
Fredericksburg, VA 22408 USA  
Telephone: 540-898-5500  
Toll Free: 800-777-7873  
info.usa@kaeser.com

**Kaeser Compressors Canada Inc.**  
3760 La Verendrye Street  
Boisbriand, QC J7H 1R5 CANADA  
Telephone: (450) 971-1414  
Toll free: (800) 477-1416  
info.canada@kaeser.com

**Kaeser Compresores de México S de RL de CV**  
Calle 2 #123  
Parque Industrial Jurídica  
76100 Querétaro, Qro.  
Telephone: 01 (442) 218 64 48  
sales.mexico@kaeser.com

**Kaeser Compresores de Guatemala y Cia. Ltda.**  
Calz. Atanasio Tzul 21-00, zona 12  
El Cortijo II, Bodega 501  
01012-Guatemala City  
Telephone: +502 2412-6000  
info.guatemala@kaeser.com

Certified Management Systems

