



Rotary Screw Blowers

CBS, DBS, EBS, FBS, HBS Series

With the world-renowned Sigma Profile[™] Capacities from: 190 to 5650 cfm Pressures from: 4.4 to 15 psig

kaeser.com

CBS, DBS, EBS, FBS, HBS series

Kaeser rotary screw blowers leverage our decades of experience in making the most energy efficient rotary screw compressors with the world-renowned Sigma Profile. Just like their compressor counterparts, Kaeser's rotary screw blowers deliver more compressed air for less energy and are superior performers for low pressure applications with constant or near constant air demands. The use of premiumquality mechanical and electrical components ensures a powerful, energy-efficient, state-of-the-art blower system that is delivered complete and ready to install.

Efficient operation

Kaeser rotary screw blowers consume up to 35 percent less energy than conventional rotary lobe blowers, while energy savings of up to 15% can be achieved in comparison with turbo blowers. The combination of a blower airend featuring energysaving Sigma Profile rotors, flow-optimized components, efficient power transmission and high-efficiency drive motors ensures an exceptional performance, guaranteed by Kaeser in accordance with the stringent tolerances of ISO 1217.

Long-term dependability

Renowned worldwide for the quality of their design, components and manufacture, Kaeser products guarantee long-term reliability. High-quality features include durable rotor bearings, a dependable power transmission, precision-dimensioned drive motors, a torsion-free sound enclosure with a cleverly designed cooling air flow, Sigma Control 2 machine controller for efficient and dependable operation – and many more features.



Air at the push of a button

Kaeser rotary screw blowers are turnkey systems, offering the best possible combination of quality construction, reliable performance, energy efficiency and ease of ownership. Our complete package design eliminates time spent specifying, procuring and assembling blower system components, and Kaeser takes complete responsibility for all of the blower package. All of our screw blowers are complete with noise insulated cabinets, inlet and outlet silencers, motors and drives. The intelligent Sigma Control 2 on each blower optimizes

machine performance via various control modes, and a full suite of sensors provides active condition monitoring to protect the machine.

For both fixed and variable speed units, all electrics are integrated and UL certified. The blowers' compact design facilitates installation and uses minimal floor space. Most models can be placed inches apart with full service access. Kaeser screw blowers arrive on site ready to run. This saves time and labor, and greatly reduces common integration errors.



More air per kilowatt



Pure efficiency with the Sigma Profile

Developed in the early 1970s, Kaeser's Sigma Profile rotor technology revolutionized energy efficiency in rotary screw compressors. Continually refined at Kaeser's Research and Development Centers in Coburg and Gera, this high-efficiency compressor technology is now available for use in blower systems as well.



Blower airend with Sigma Profile

Kaeser's high-efficiency blower airends combine a wide control range with near constant specific package input power. Equipped with energy-efficient Sigma Profile rotors, they ensure maximum air delivery while keeping power consumption to an absolute minimum.



Optimized specific package input power

The near constant specific package input power across a wide control range of the variable speed machine offers significant energy savings across the entire operating curve.



Efficient drive systems

Rotary screw blowers are now equipped with Super Premium Efficiency motors (IE4 and IES2), which stand out for their remarkable energy-saving potential thanks to extremely high levels of efficiency. Saving money has never been so easy!



Guaranteed performance specifications

To ensure that the projected savings are actually achieved during operation, Kaeser quotes effective overall power consumption figures, as well as the usable flow rate, in accordance with the stringent tolerances of ISO 1217, Annex C or E (as applicable).



Rugged and reliable design



Comprehensive sensors

A wide range of sensors and switches for monitoring pressure, temperature, speed, oil level and filters ensures dependable operation of the blower, while allowing remote monitoring and visualization of the operating status.



Continuous system monitoring

Sensors for oil level and temperature monitoring are integrated into the blower airend. The inside of the oil chamber is designed to ensure these continue to function while the machine is operating – even with fluctuating oil levels. A clever cooling design means Kaeser rotary screw blowers require very little oil.



Durable bearings

Four robust cylindrical roller bearings absorb the continuously changing radial forces and are rated to ensure long screw blower airend service life. The rollers are encased in high-tech cages for optimum lubrication at all speeds.



Dependable seals

Field-proven in Kaeser rotary screw compressors, the sliding ring seal for the rotary transmission drive shaft lead-through on the blower airend housing is completely maintenance-free and guarantees a dependable sealing, even in hot or dusty environments.

Intelligent control and protection



To protect your investment and ensure the most reliable operation possible, our screw blowers come standard with our advanced Sigma Control 2[™]. This intelligent controller has multiple preprogrammed control schemes so you can select the one that best fits your application to provide stable pressure at desired flows.

Sigma Control 2 provides maintenance reminders and monitors a wide range of operating parameters. It signals if immediate service is required and, if needed, will stop the blower to prevent damage. The controller also stores the operating history for diagnostics. Simple remote monitoring is easy with the onboard web server. For full integration into your plant wide control systems, choose from a variety of BUS module options (ModBus, Devicenet, Profibus, and EtherNet/IP). With full integration, you can use your preferred plant control scheme to operate and monitor the blowers.



Start control (STC)

Fixed speed models feature integrated wye-delta starters for low-impact, constant speed operation, equipped with a premium contactor, overload protection, and phase loss monitoring.



Sigma Frequency Control (SFC)

Using variable speed control, the SFC frequency converter adjusts blower performance to match application air demand. Everything is ready for immediate operation, since all programming and parameterization is performed at the factory.



Communications protocols

Sigma Control 2 has superior communications capabilities and facilitates integration into the Industrial Internet of Things (IIoT). EtherNet/IP, ModBus, Profinet, Profibus, Devicenet, and other industrial communications interfaces are also available as plugin options for seamless integration into plant control/monitoring systems.



EMC certified complete system

The SFC control cabinet and Sigma Control 2 are tested and certified for electromagnetic compatibility, both as individual components and as complete blower systems, in accordance with EMC Directive EN 55011 for Class A1 industrial power supplies.





Sigma Air Manager 4.0

Advanced energy management



Kaeser's Sigma Air Manager 4.0 (SAM) can control up to 16 blowers and only turns them on when needed to meet air demand. This improves system stability, reduces energy use, and equalizes blower run time.

SAM 4.0's advanced communications capabilities makes connecting with plant SCADA systems easier than ever. Using the desired system flow rate calculated by the SCADA or by station pressure regulation, SAM 4.0 selects the most efficient combination of units to produce the required flow, keeping energy costs as low as possible. SAM 4.0 also provides blower status messages and alarms to help minimize downtime. Using SAM 4.0's built-in Kaeser Connect capabilities, you can remotely monitor operating status, maintenance schedules, and energy usage—on any networked device.

With SAM 4.0's robust data storage hardware and analysis software you can record and review your system's function and energy usage in easy-to-read charts. This continuous system data acquisition helps you analyze plant operations and optimize energy efficiency.



Secure data—secure business

Compact and quiet



Space savings

Comprising a blower airend with drive motor, loss-free power transmission, silencers, sensors, controller and electrical equipment such as frequency converter or star-delta starter, this compact powerhouse features a footprint under 18 ft² for DBS models and only 27 ft² for EBS.



More space savings

CBS, DBS, and EBS models are designed to allow all maintenance work to be carried out from the front of the unit. This means that these compact blowers can be installed side-by-side for even more space savings.



Pulsation dampers

Efficient inlet and discharge side absorption silencers with a wide frequency range to mitigate unwanted process air pulsations, offer excellent damping of fluid-borne noise transmitted through piping.



Even quieter than before

A complete enclosure with sound dampening panels minimizes machine noise. Special absorption silencers further reduce fluid-borne noise transmitted through the piping – a problem commonly associated with speed-controlled blowers.

Installation flexibility

Kaeser offers a variety of options to address your specific installation requirements including space constraints and climate conditions. In some cases, the addition of weatherhoods and heaters offer an affordable solution.

When indoor installation is needed, renovating or building new blower rooms can be time consuming and expensive. Kaeser's *Custom Engineered Solutions* offer a cost effective alternative to onsite construction. We deliver a reliable and energy efficient blower station in a durable, thermostatically controlled, weatherproof enclosure that only needs one electrical and one process connection.



These solutions are built to specification for nearly any climate zone. They include all blowers and controls, with all the interconnecting piping and wiring complete and to code (and inspected). They eliminate space, weather, and accessibility constraints while significantly reducing or eliminating costs and delays associated with engineering, permitting, construction, and installation.

These turnkey solutions are designed, sourced, and delivered faster than renovation or new construction. Kaeser systems are designed for exceptional reliability, simple maintenance, and superior energy efficiency no matter what the installation limitations may be. They are just one more example of how we deliver superior value and innovation to our customers.





Take a tour inside one of our custom engineered solutions.



Technical specifications

Model	Max Pressure Differential (psig)	Max Flow Rate* (cfm)	Max Rated Motor Power (hp)	Pipe Connection (in.)	Dimensions with Control Cabinet W x D x H (in.)	Weight (lbs.)
CBS 121 L SFC	10.2	445	25	- 3	43-5/8 x 53-7/8 x 66-5/8	1371
CBS 121 L STC		441				1376
CBS 121 M SFC	15.9	364	- 30			1374
CBS 121 M STC		360				1442
DBS 221 L SFC	10.2	812	40	4	43-5/8 x 59-1/5 x 66-5/8	1885
DBS 221 L STC		671				1843
DBS 221 M SFC	15.0	777	50			2161
DBS 221 M STC	15.9	636 50	50			2112
EBS 410 CL SFC	10.2	1448	- 50	6	50-5/16 x 75-5/8 x 71-5/8	2762
EBS 410 CL STC		1342				2712
EBS 410 CM SFC	14.5	1059				2762
EBS 410 CM STC		1059				2712
EBS 410 L SFC	10.2	1448	60		57-1/2 x 75-1/8 x 77-1/2	3188
EBS 410 L STC		1413				3172
EBS 410 M SFC	15.9	1413	100			3355
EBS 410 M STC		1413				3527
FBS 660 L SFC	9.5	2366	100	8	87-5/8 x 76-7/16 x 75-11/16	5478
FBS 660 L STC		2330				5302
FBS 660 M SFC	15	2330	150			5919
FBS 660 M STC		2295				5721
HBS 1600 L SFC	9.4	5650	250	12	131-5/8 x 81 x 91-3/8	13,010
HBS 1600 M SFC	15.9	5650	335			13,230

* Performance specifications as per ISO 1217 Annex C for STC version, Annex E for SFC version



Built for a lifetime.

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