



# Rotary Screw Blower Packages

## CBS-HBS Series

Capacities from: 190 to 5650 cfm

Pressures from: 4.4 to 15 psig

**kaeser.com**

# CBS, DBS, EBS, FBS, GBS, 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 screw blowers deliver more air for less energy. Screw blowers have isentropic efficiencies well above lobe and multistage blowers, and due to our excellent specific performance over a wide operating range, our wire-to-air efficiencies meet or exceed turbo blowers in many applications. This makes them ideal for low pressure applications with varying flow demand. Available in both fixed and variable speed, these energy-efficient, state-of-the-art blower systems are delivered complete and ready to operate.*

## Efficient operation

KAESER rotary screw blowers consume up to 35 percent less energy than conventional rotary lobe blowers. The combination of a blower featuring energy-saving 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 enhanced cooling air flow, SIGMA CONTROL<sup>®</sup> 2 machine controller for efficient and dependable operation – and many more features.



## Air at the push of a button

KAESER 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.

Both fixed (STC) and variable speed (SFC) units arrive fully wired and UL certified. The blowers' compact design facilitates installation and uses minimal floor space. KAESER screw blowers arrive on site ready to run. This saves time and labor, and greatly reduces common integration errors.

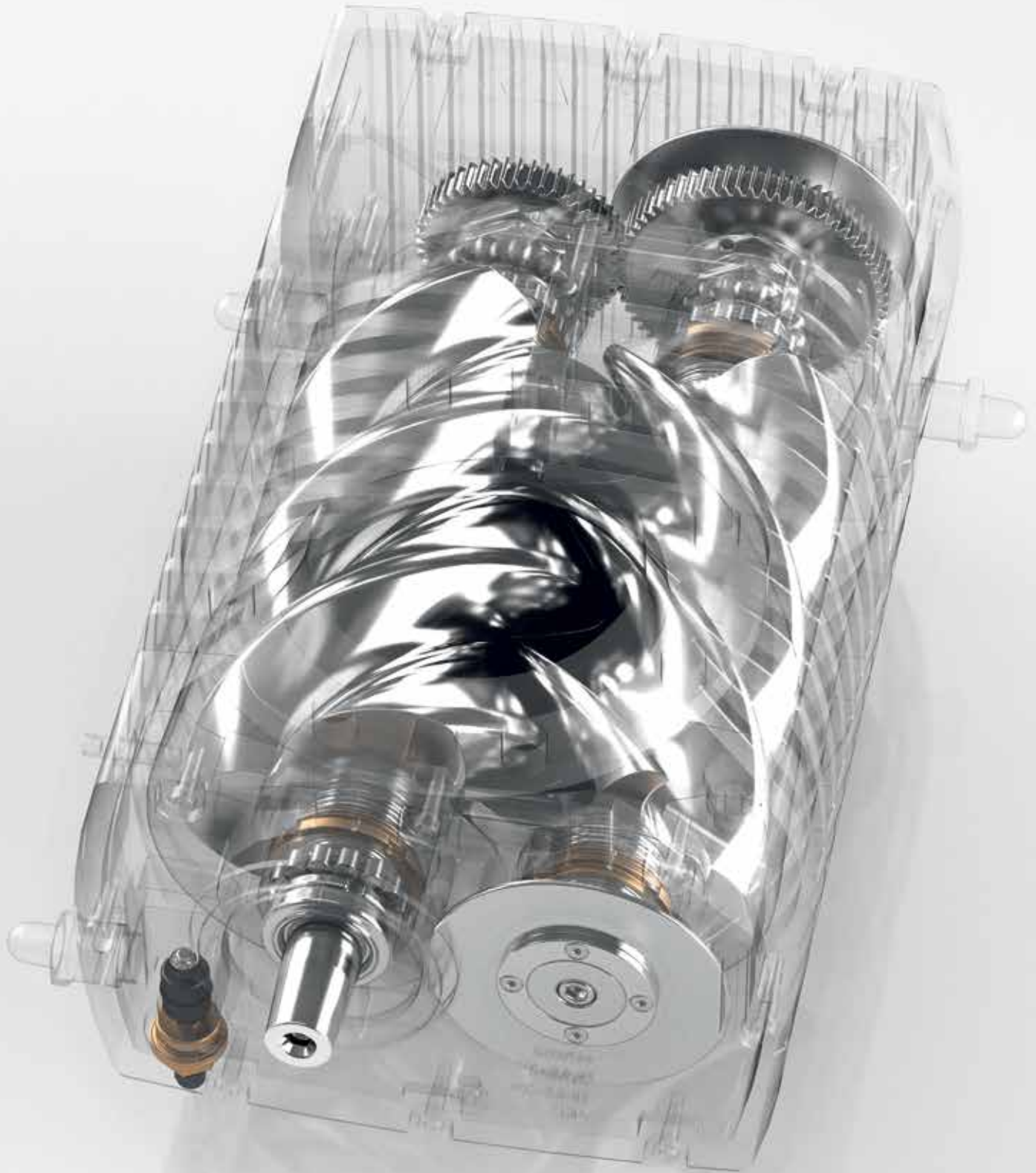


## Guaranteed performance specifications

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).



# **SIGMA PROFILE: Superior Reliability and Performance**





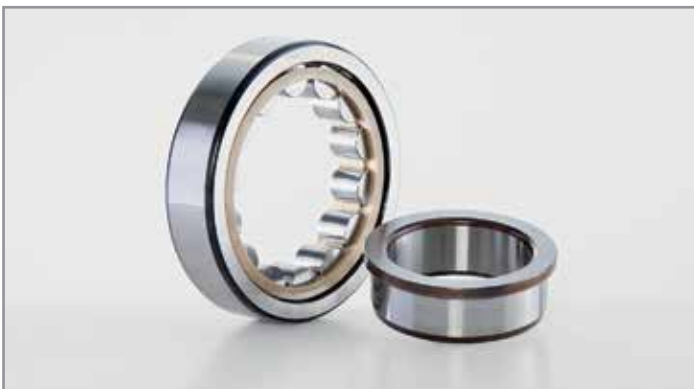
### **Blower with SIGMA PROFILE**

KAESER's high-efficiency blowers deliver 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.



### **Ensured lubrication**

The fluid and cooling air flow design of our blowers reduces the amount of oil needed to effectively lubricate bearings and gears without compromising reliability. Standard oil level and temperature sensors are located so that they always give accurate readings, even as oil levels fluctuate.



### **Durable bearings**

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



### **Dependable seals**

Field-proven in KAESER screw compressors, the sliding ring seal for the rotary transmission input drive shaft on the blower housing is completely maintenance-free and reliable, even in hot or dusty environments.

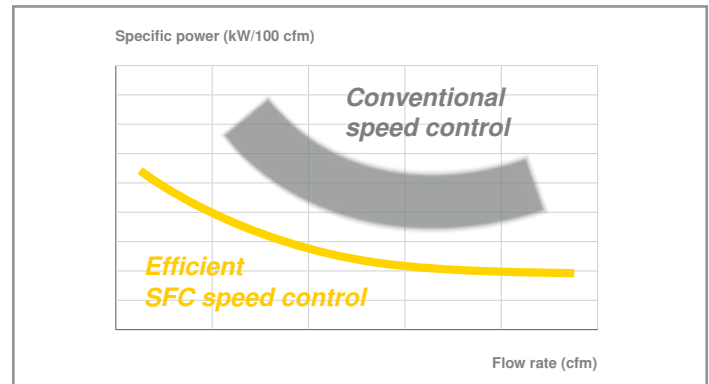


# Superior efficiency across wide load range



## Lower costs with more flow

Synchronous reluctance motors achieve significantly higher efficiency in the partial load range than asynchronous motors. This helps achieve savings of up to 10% compared with conventional variable-speed systems.



## Optimized specific package input power

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



## Efficient drive systems

KAESER screw blowers are 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!



## Fully integrated drive

Using variable speed control, the SFC frequency converter adjusts flow rate to match the actual air demand of the process application. Everything is delivered ready for immediate operation, since all programming and parametrization is carried out at the factory.

# Advance control and protection



## The blower controller

The SIGMA CONTROL 2 ensures efficient blower control and system monitoring at all time. User interface displays machine status in real-time and signals at the analog and digital inputs, lists warning and alarm messages and graphically displays pressure, temperature and speed trends.



## Seamless integration

SIGMA CONTROL 2 has superior communications capabilities and enables plant integration. Access blower controller via the integrated web server. 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

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.



## 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.







# Compact and quiet



## Compact

Our superior design integrates all system components - blower, drive motor, power transmission, silencers, sensors, controller and electrical cabinet - into a space saving package that still provides excellent service access.

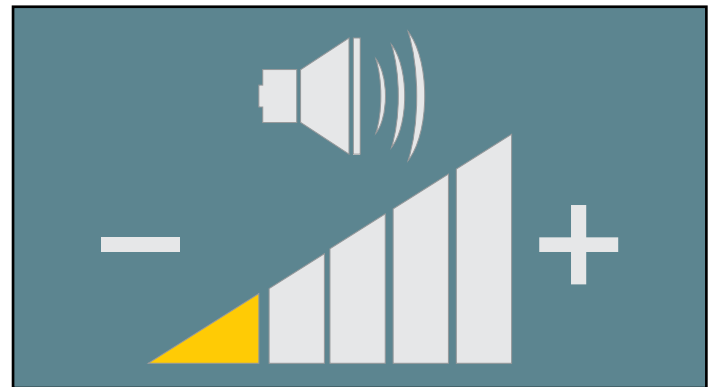
## Side-by-side installation

CBS - FBS models are designed to allow all maintenance work to be carried out from the front of the unit, so these units can be installed side-by-side for even more space savings.



## Pulsation dampers

Efficient inlet and discharge absorption silencers mitigate unwanted process air pulsations, across a wide frequency range to reduce noise in piping. These silencers are flow optimized to reduce pressure losses.



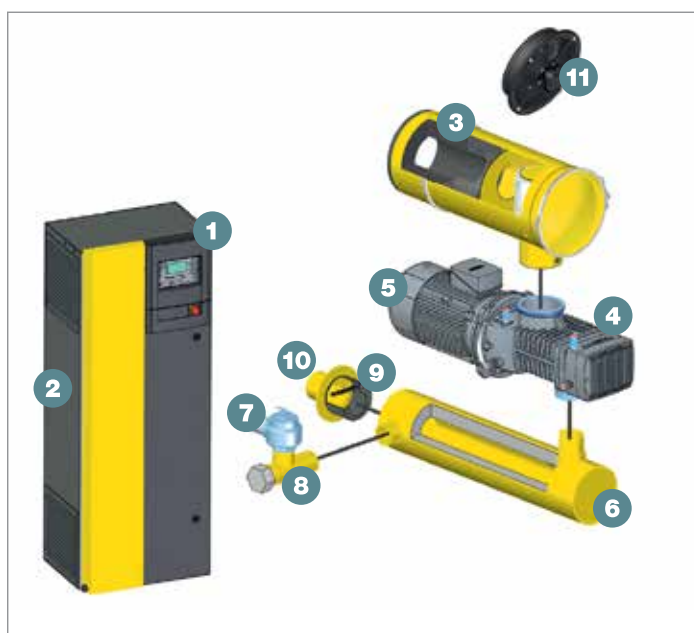
## Low noise - high comfort and safety

A complete enclosure with sound dampening panels minimizes machine noise to 75 dB(A) or below, even on our largest units.

# Views



## Component Schematic



- (01) SIGMA CONTROL 2 controller
- (02) Control cabinet
- (03) Intake silencer with filter
- (04) Blower with SIGMA PROFILE
- (05) IE4/IES2 - Super Premium Efficiency motor
- (06) Discharge Silencer
- (07) Pressure valve
- (08) Unloaded-start valve (optional)
- (09) Check Valve (optional)
- (10) Compensator
- (11) Sound enclosure fan

# Technical specifications

Model	Max. Flow Rate* cfm	Max pressure differential psig	Vacuum in. HgV	Max. rated motor power hp	Pipe Connection in.	Dimensions WxDxH in.	Max. weight lbs.
CBS 121 L SFC	445	10.2	-	25	3" Sleeve	43 x 54 x 66	1653
CBS 121 M SFC	364	15	16.2	30			
CBS 121 L STC	441	10.2	-	25			
CBS 121 M STC	360	15		30			
DBS 221 L SFC	812	10.2	-	40	4" Sleeve	43 x 58 x 66	1873
DBS 221 M SFC	777	15	16.2	50			
DBS 221 L STC	671	10.2	-	30			
DBS 221 M STC	636	15		50			
EBS 410 CL SFC	1448	10.2	-	50	6" Flange	50 x 69 x 72	3086
EBS 410 CM SFC	1059	14.5	16.2			58 x 69 x 78	3351
EBS 410 L SFC	1448	10.2	-	75			
EBS 410 M SFC	1412	15		100		50 x 69 x 72	3086
EBS 410 CL STC	1342	10.2		50			
EBS 410 CM STC	1059	14.5		75		58 x 69 x 78	3351
EBS 410 L STC	1412	10.2		100			
EBS 410 M STC	1412	15					
FBS 720 L SFC	2560	10.2	-	125	8" Flange	58 x 92 x 78	4850
FBS 720 L STC	2525	15	16.2	75			
FBS 720 M SFC		10.2	-	150			
FBS 720 M STC		15		100			
GBS 1050 L SFC	3712	10.2	-	175	10" Flange	74 x 107 x 89	9038
GBS 1050 M SFC	3683	15	16.2	200			
GBS 1050 L STC	3676	10.2	-	175			
GBS 1050 M STC	3648	15		200			
HBS 1600 L SFC	5650	10.2	16.2	275	12" Flange	82 x 147 x 88	13227
HBS 1600 M SFC		15	-	335			

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



**Built for a lifetime.**

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