KAESER COMPRESSORS®

Built for a lifetime.

Screw Compressors

DSD, ESD, and FSD Series (125 - 450 hp)

Capacities from: 544 to 2052 cfm
Pressures from: 80 to 217 psig

kaeser.com

DSD, ESD, and FSD Series

Built for a lifetime.™

Kaeser's DSD, ESD, and FSD compressors are engineered to be the foundation of your demanding industrial application. Not only do these compressors deliver more compressed air with sustainable energy savings, their rugged design combines exceptional reliability and simple maintenance.

Innovation you can trust

With a cutting edge research and development team committed to building industry-leading products, Kaeser continues to deliver better solutions to meet our customers' compressed air needs. Kaeser's expertise and world-wide reputation for superior reliability and efficiency offer great performance and peace of mind.

Service-friendly

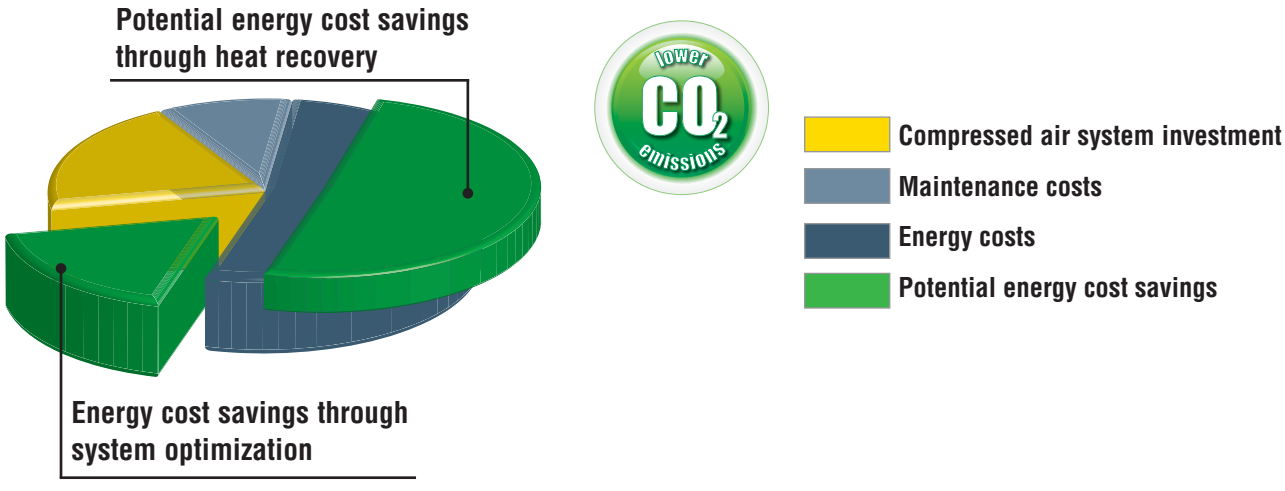
From the ground up, these compressors have been designed with the user in mind. Fewer wearing parts and using premium quality materials ensure reduced maintenance requirements, longer service intervals, and extended service life. A smart component layout with generously sized maintenance doors simplifies service and reduces downtime.

Rugged reliability

Kaeser's screw compressors meet our rigorous "built for a lifetime" standard. Designed and built with Kaeser's generations of manufacturing experience, you can rest assured that these compressors will continue to deliver the air you need with the exceptional reliability you expect from a Kaeser compressor.

Guaranteed efficiency

In our systems design approach, Kaeser chooses the components that work together in the most energy efficient way possible. Each and every component — from inlet filter to discharge flange — has been carefully designed with performance in mind. In fact, the DSD, ESD, and FSD series are up to 30% more efficient than the competition. With Kaeser's superior system controls, we guarantee an effective system with lower operating costs.

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ESD 300
SIGMA


130 PSIG
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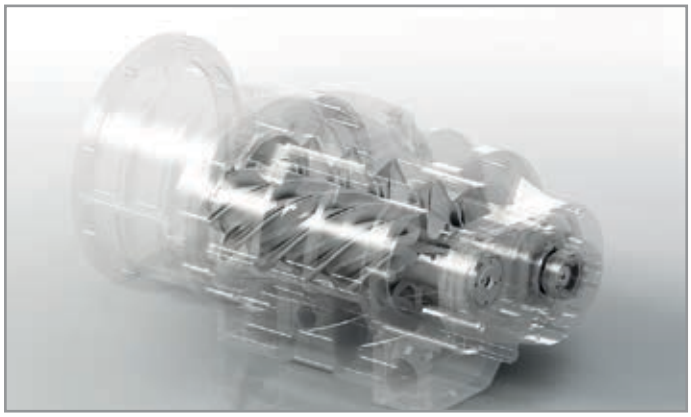
Energy savings in every detail

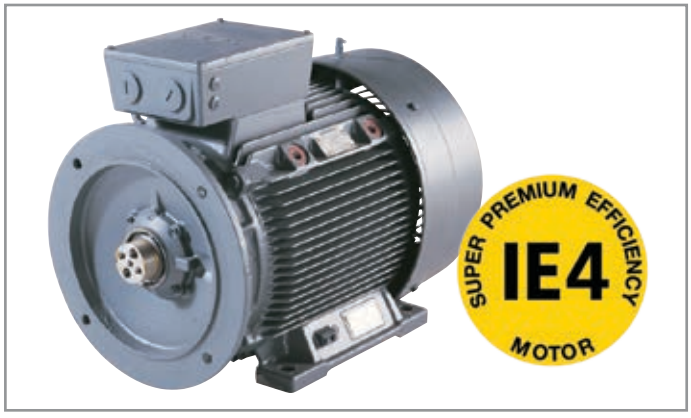


Sigma Profile™ airend

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 geometry to match the airend speeds with their best specific performance. Unlike the competition, Kaeser makes many different airends so that we can apply them at their optimal speed and performance.

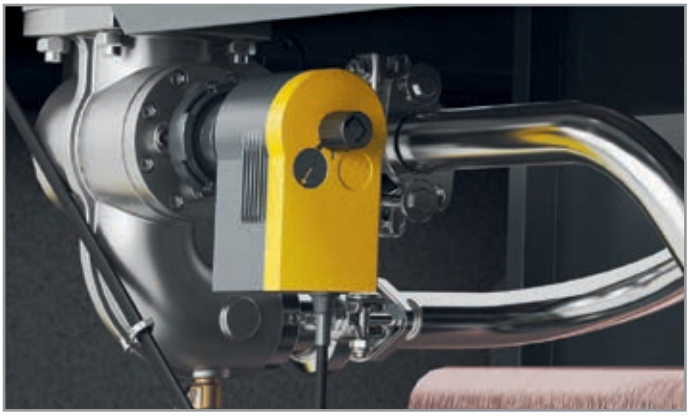
Intelligent control: Sigma Control 2™

This intelligent controller ensures the most energy efficient compressor operation possible. An RFID sensor provides secure access and simplifies managing maintenance intervals while the SD card slot makes software updates quick and easy. An Ethernet port and built-in web-server facilitate IIoT integration. ModBus, EtherNet/IP, Profinet, Profibus, Devicenet, and other industrial communications interfaces are available as plug-in options for seamless integration into plant control/ monitoring systems.



Super premium efficiency drive motor

Kaeser uses super premium efficiency Totally Enclosed Fan Cooled (TEFC) drive motors with class F insulation for extra protection from heat and contaminants. Remote grease fittings make maintenance a breeze. Each of the three motor windings is actively monitored through its own Pt100 temperature sensor. Standard voltages are 460 or 575 V (3-phase, 60 Hz). Other voltages are available.



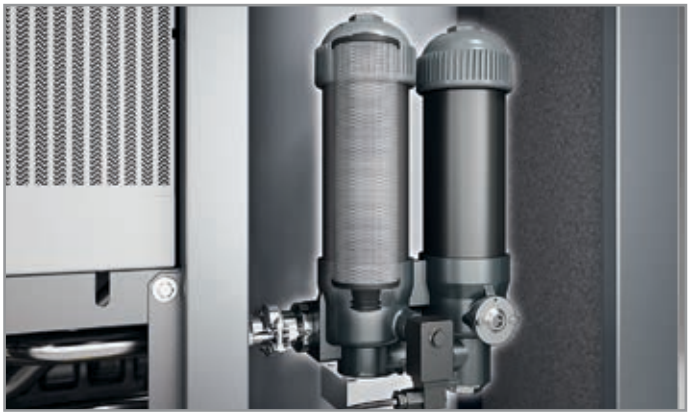
Electronic Thermal Management system

The innovative Electronic Thermal Management (ETM) system dynamically regulates fluid temperature to avoid internal condensation build up, eliminating a common cause of lubricant degradation. It ensures a lower, stable operating temperature which extends airend and cooler life and increases energy efficiency. The ETM has an adjustable temperature setting, making it perfectly suited for heat recovery applications.

Economical in all aspects

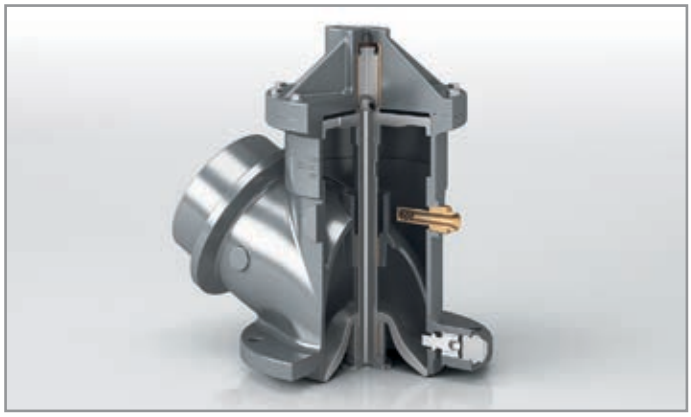
Integral moisture separator

A moisture separator is integrated into the stainless steel discharge piping. Our unique design maximizes separation with minimal pressure loss—even in high ambient temperatures and humidity. A zero loss Eco-Drain is standard to automatically remove the captured moisture.



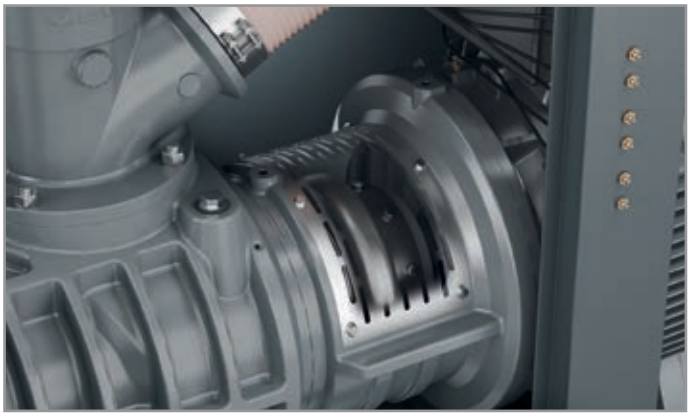
Eco-friendly fluid filter

Our eco-friendly fluid filters feature metal-free filter elements in aluminum housings. At the end of their service life, the elements are safe for thermal disposal.



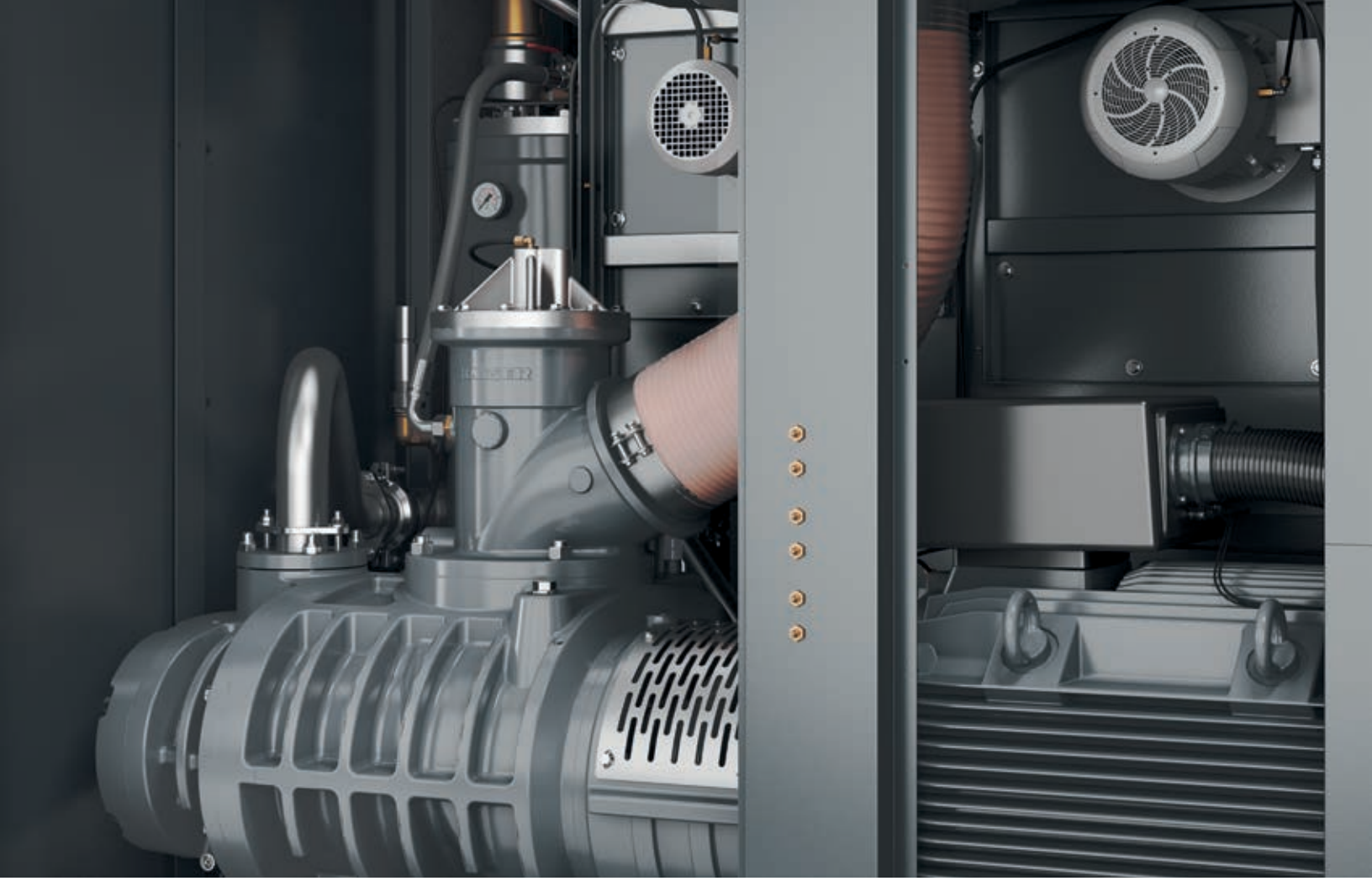
Optimized inlet valve

The new flow-optimized design of the inlet valve results in lower pressure loss and simplified service.



True 1:1 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 complex gear drive components, along with heat and power losses. It is also maintenance free, increasing reliability and uptime.

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SECOTEC TF 340

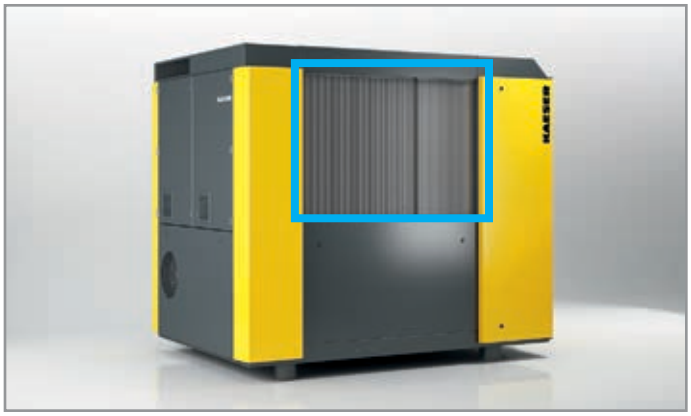
Smart cooling for ultimate savings

Low operating temperature

A VFD-driven fan provides precise thermostatic control. With lower operating temperatures, only the necessary cooling air is generated, reducing the compressor's overall energy requirements.

Low compressed air temperature

Effective aftercooling keeps the discharge temperature low. This, along with the large amount of condensate removed by the integral moisture separator, reduces the load on downstream components.



Easy to clean coolers

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.

Exhaust air with high residual pressure

Powerful radial fans pull air through the coolers, creating a vacuum within the cabinet that effectively cools the motor - even under severe operating conditions. The fan's design eliminates the need for an additional fan to effectively exhaust the air into ductwork. Top exhaust allows for easy heat recovery and reduces the system footprint.

Innovative package design

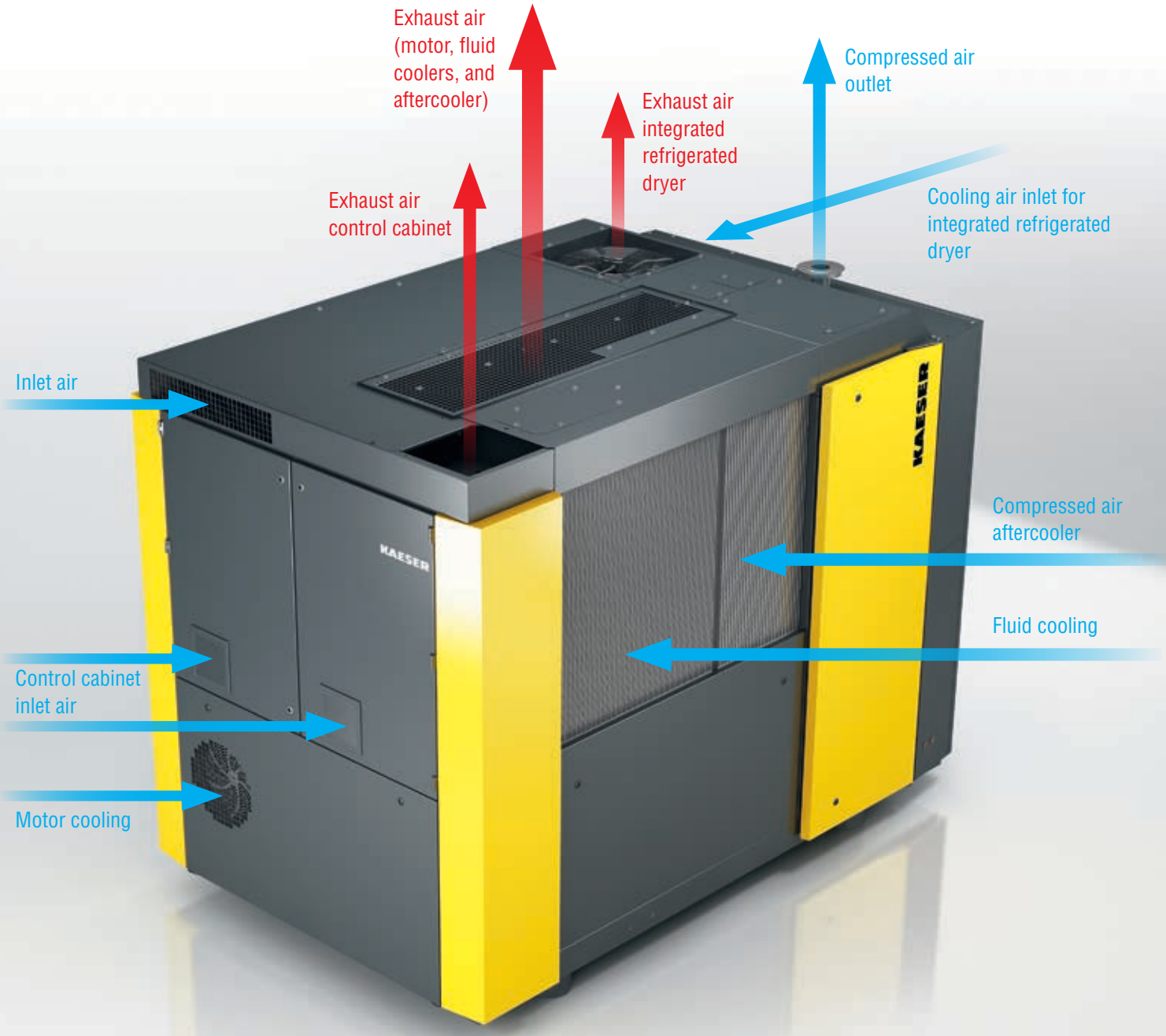
Split cooling zones

Separate cooling air inlet zones for the coolers, drive motor, electrical cabinet, and dryer (on T models) 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.

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

As a result, our compressors are about 10 dB(A) quieter than conventional compressors of equal performance with sound levels as low as 71 dB(A).



Heat recovery ready

The next level of energy savings

The rise in energy prices is an unwelcome reality in today's manufacturing and business environment. Fluctuating prices create uncertainty in operating costs. One certainty is that much of the energy going into compressors is wasted but can be recovered. Energy cost reduction strategies are vital to staying competitive.

Compressing air converts the electrical energy you pay for into heat. Our DSD, ESD, and FSD compressors are available with a heat recovery option to easily recover up to 76% of this energy for heating water or other process fluids. You can harness additional heat recovery by ducting exhaust air. In all, up to 96% of input energy can be recovered as heat.

When you consider that a 300 hp compressor running full time at 10 cents/kWh uses approximately $250,000 per year in energy, the potential savings and benefits are significant.

For additional information on heat recovery, see our whitepaper "Turning Air Compressors into an Energy Source."

Service-friendly

Kaeser's rotary screw compressors feature an open package layout. All of the major components are easily accessible, reducing preventive maintenance time by as much as 50% when compared to other similarly sized units.

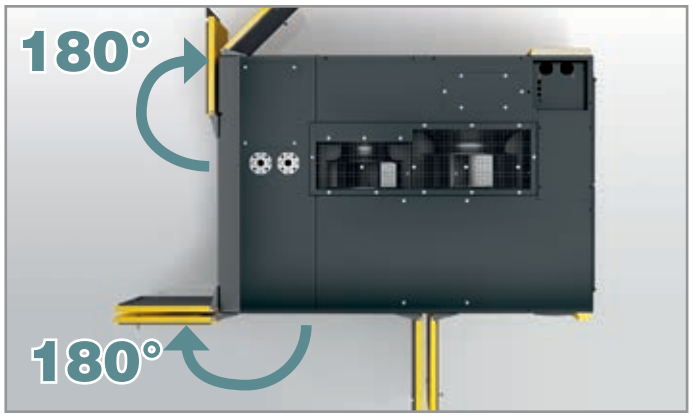
Fluid separation system

Our 3-stage separation system ensures very low fluid carry-over (1-3 ppm), and extended filter service life. Our no-leak design features rigid steel piping, flexible connections, and vibration isolators, as well as a pivoting lid on the separator tank for ease of maintenance. Each pressure vessel is ASME coded (CRN in Canada) and includes wet side/dry side fittings to check differential pressure, an easy to read fluid level indicator, and our unique quick fluid drain system.

External grease fitting lubrication

The fan and drive motors have external grease fittings for safe and easy lubrication while the compressor is running.

When you consider the energy efficiency savings and the maintenance costs savings, it's clear that owning a Built for a lifetime™ Kaeser compressor will save you money, year after year.



Service doors swing out 180°

For installations where space is limited, both the front and back doors of the package swing out a full 180°, making it possible to perform maintenance from the front or back of the package. Each door can also be removed for even more service accessibility options. Increased accessibility simplifies maintenance work, reduces maintenance costs, and increases uptime.

Easy servicing

Our two-stage, 1 micron air intake filter is easy to access and protects the compressor from harmful contaminants. This extends airend life and fluid change intervals. The filter may be cleaned several times before replacement.

Integrated dryer option (T models)

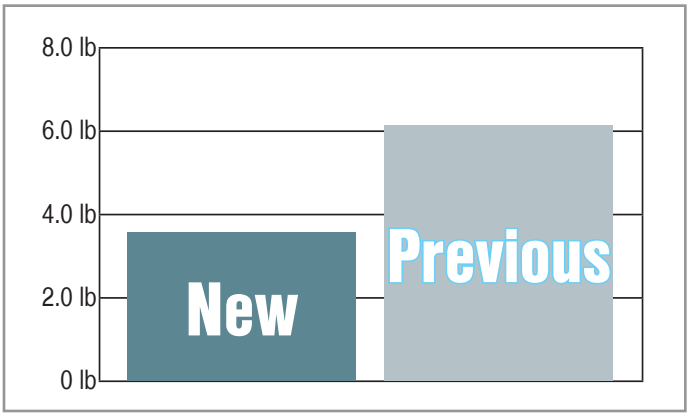
DSD 125 - 175 models are available with an integrated dryer for premium compressed air quality. The dryer is perfectly sized for the full flow of the compressor and located in a separate cabinet so it is not exposed to preheated air or contaminants from the compressor package.

Intelligent cooling air flow

The refrigerated dryer's cooling air is warmed by the integrated exhaust air duct located in the roof of the compressor package. This allows for a significantly reduced depth for the integrated dryer.

Reduced footprint

In keeping with Kaeser's design philosophy, models with integrated dryers are compact without compromising air flow or maintenance access. Compared to previous designs, the package footprint is reduced from 61¾ sq. ft. to 51¼ sq. ft.



Centrifugal separator with Eco-Drain

Before flowing into the refrigerated dryer, the compressed air from the compressor passes through Kaeser's unique centrifugal separator which efficiently removes accumulating condensate. This reduces the load on the dryer as well as energy consumption.

Reduced refrigerant requirement

The refrigerated dryer for DSD T models requires one third less refrigerant than previous designs. This not only saves costs, but is also more environmentally friendly.

Water-cooled compressors

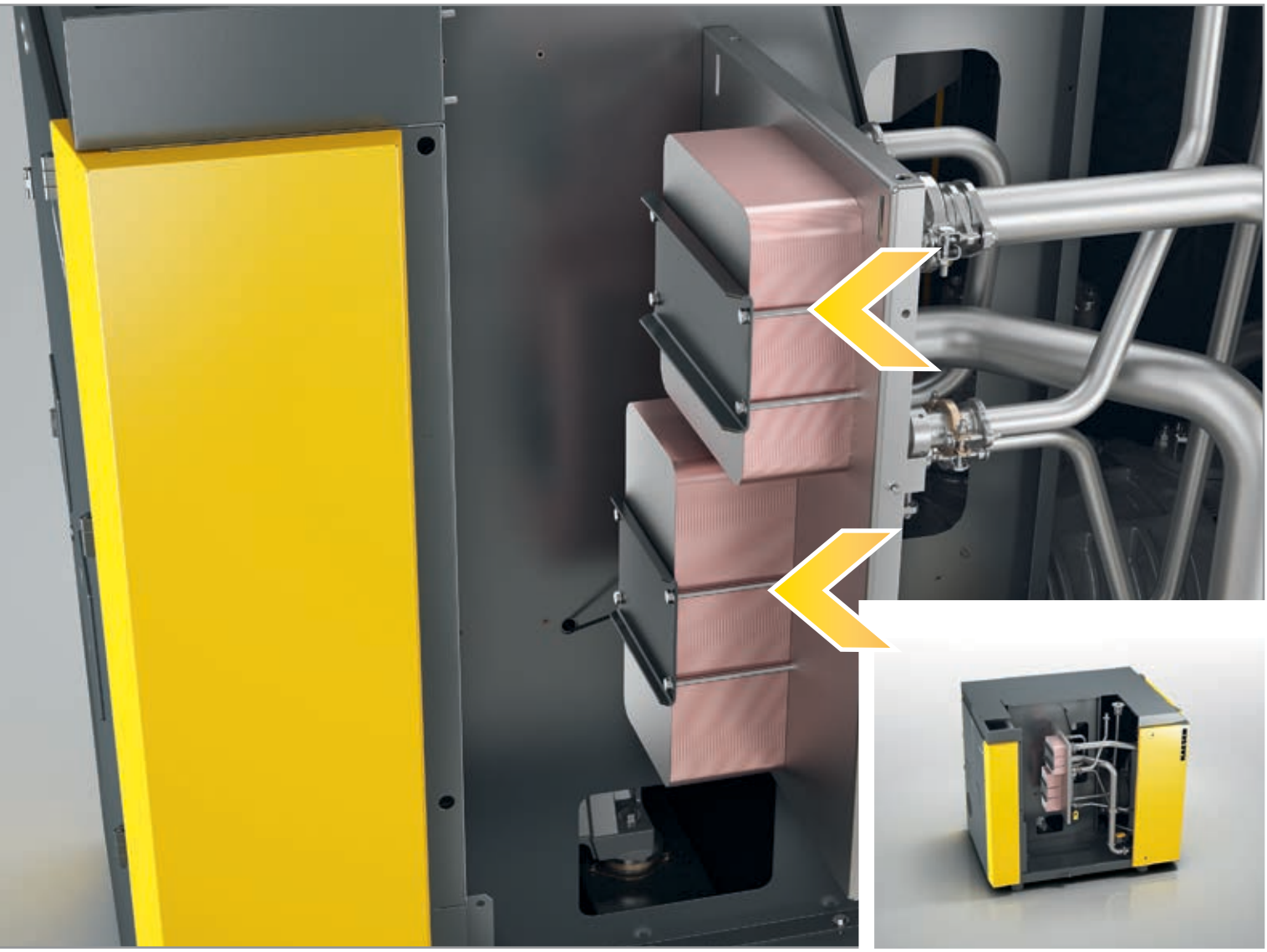
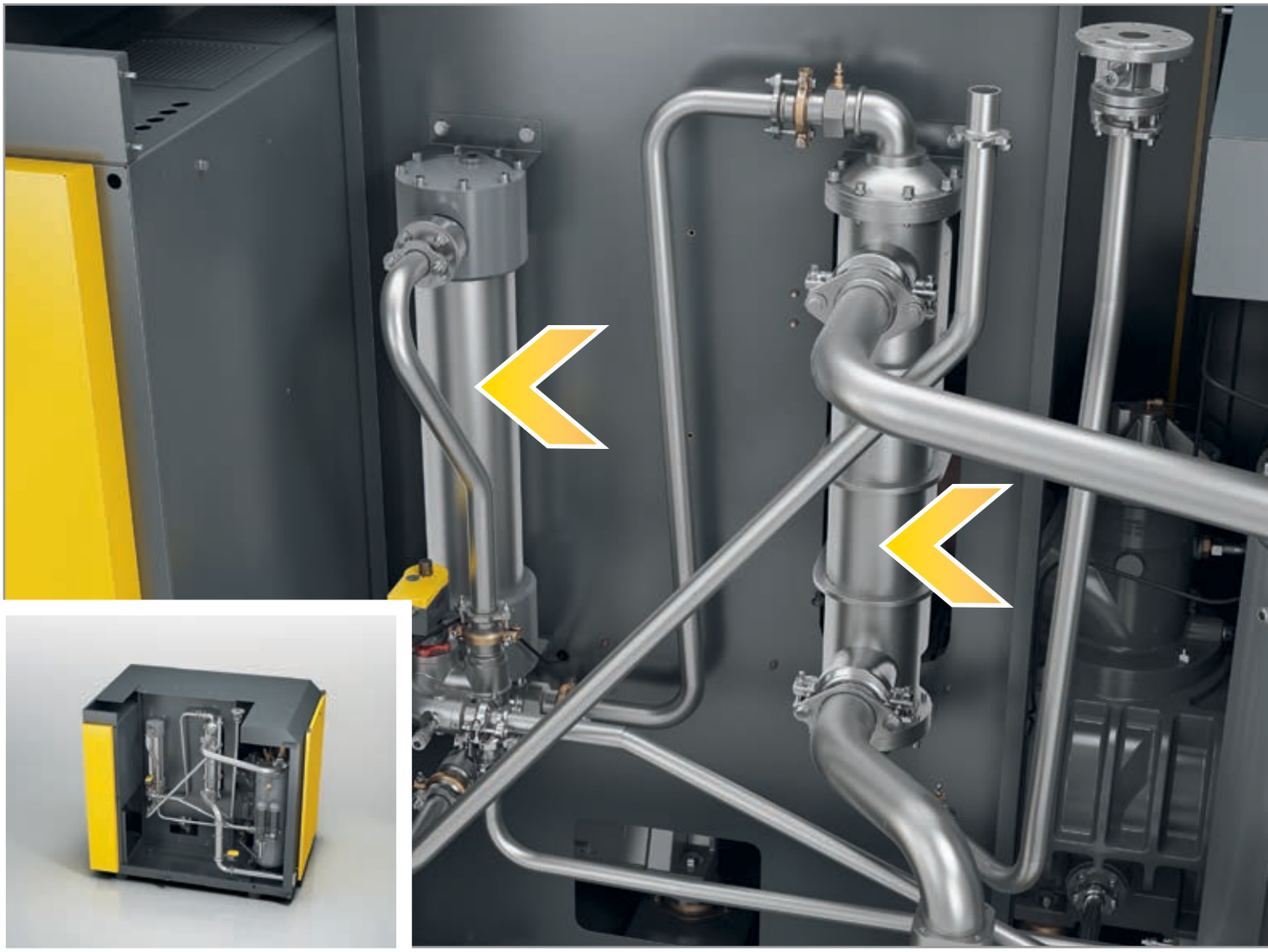


Plate-type heat exchangers

Two stainless steel plate heat exchangers brazed with copper plates ensure excellent heat transfer and are corrosion and contamination-resistant.

Plate-type heat exchangers are the perfect choice for applications with a supply of clean cooling water.



Shell and tube heat exchangers (optional)

Shell and tube heat exchangers with copper nickel (CuNi10Fe) tubes are less susceptible to contamination than plate type heat exchangers and are mechanically cleanable. Additionally, the cooler inserts can be easily exchanged.

Shell and tube heat exchangers are sea water resistant, making them appropriate for marine applications. They also have very low pressure drop.

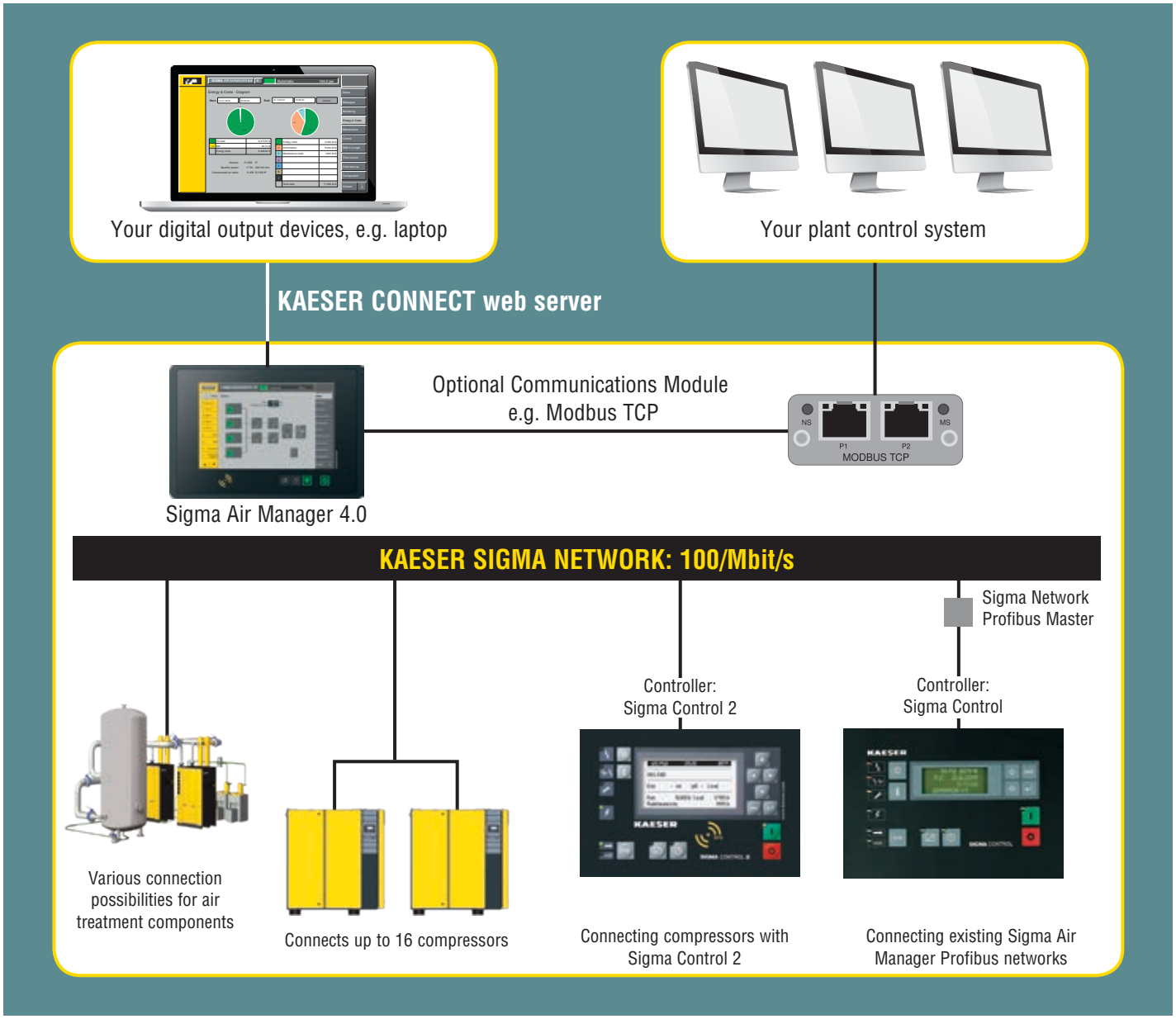
Sigma Air Manager 4.0 and Kaeser Sigma Network

Secure connectivity at the speed of your business

Sigma Air Manager (SAM) 4.0 is a master control system for all compressed air production and treatment components. The unique 3D*advanced* Control continuously analyzes the various parameters (e.g. switching and control efficiency) and calculates the ideal combination of compressors to achieve optimum efficiency.

Based on secure Ethernet technology, the Kaeser Sigma Network is a local network that connects all components within the compressed air system. Together, SAM 4.0 and the Sigma Network create the perfect infrastructure for predictive maintenance and integration into the IIoT.

SAM 4.0 features Kaeser Connect which displays your compressed air system information in real-time on your desktop or laptop computer via a standard internet browser. Simple HTML pages show the compressors' operational state, SAM's operating and system pressure data, as well as service and alarm messages.



Technical Specifications

Model	Pressure Range (psig)	Capacity (cfm) (1)	Rated Motor Power (hp)	Dimensions W x D x H (in.)	Weight (lb.) (2)	Sound Level dB(A)) (3)
DSD 125 **DSD 125T**	125	595	125	96½ x 68⅛ x 84½ 108¼ x 68⅛ x 84½	6812 7408	71
DSD 150 **DSD 150T**	125	717	150	96½ x 68⅛ x 84½ 108¼ x 68⅛ x 84½	6834 7430	73
	175	568				
DSD 175 **DSD 175T**	125	882	175	96½ x 68⅛ x 84½ 108¼ x 68⅛ x 84½	7562 8157	75
	175	695				
	217	544				
DSD 200	125	882	200	105⅞ x 75¼ x 84¼	8735	75
	145	707				
	175	695				
	217	544				
DSD 250	125	1052	250	105⅞ x 75¼ x 84¼	8858	75
	145	871				
	175	854				
	217	678				
ESD 250	125	1278	250	116½ x 79⅞ x 84¼	10,759	76
	145	1054				
	175	1041				
	217	820				
ESD 300	125	1571	300	116½ x 79⅞ x 84¼	11,155	77
	145	1271				
	175	1260				
	217	1007				
FSD 350	125	1596	350	137⅝ x 84½ x 92⅞	13,735	79
	145	1276				
	175	1264				
FSD 450	125	2030	450	137⅝ x 84½ x 92⅞	14,551	80
	145	1585				
	175	1567				
	217	1243				

(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 variable frequency drive (SFC), please contact your local authorized Kaeser distributor.

Specifications are subject to change without notice.

CAGI
Certified Performance

Our compressors' energy efficiency has been tested and confirmed by an independent laboratory as part of the Compressed Air and Gas Institute's ***Rotary Screw Compressor Performance Verification Program***. CAGI data sheets for our screw compressor units can be found at **kaeser.com/cagi**

The world is our home

As one of the world's largest compressed air systems providers and compressor manufacturers, Kaeser Compressors is represented throughout the world by a comprehensive network of branches, subsidiary companies and factory trained partners.

With innovative products and services, Kaeser Compressors' experienced consultants and engineers help customers to enhance their competitive edge by working in close partnership to develop progressive system concepts that continuously push the boundaries of performance and compressed air efficiency. Every Kaeser customer benefits from the decades of knowledge and experience gained from hundreds of thousands of installations worldwide and over ten thousand formal compressed air system audits.

These advantages, coupled with Kaeser's worldwide service organization, ensure that our compressed air products and systems deliver superior performance with maximum uptime.

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