

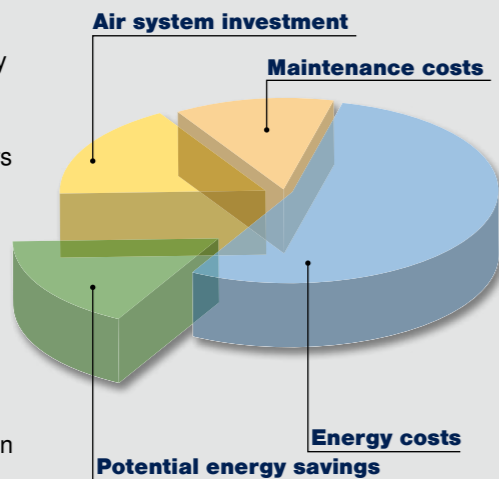
## Complete Systems **SIGMA PET AIR**

FAD to 2772 m<sup>3</sup>/h, Blowing-air to 45 bar



**What do you expect from a compressed air system?**

As a PET container producer, you expect reliability, efficiency and air of the highest quality. That may sound simple, but there are many different factors to consider. Energy costs, for example, taken over the lifetime of a compressor add up to a multiple of investment costs. Efficient energy consumption therefore plays a vital role in the production of compressed air, as does reliability. Continuous operation and desired container production targets can only be achieved with a dependable source of quality oil-free compressed air. Pre-assembled modules, with all components fully piped and wired, ensure maximum reliability and convenience. No complicated installation work is necessary – simply connect the system to the power source & air distribution network and your air supply is ready to go.



**Container solutions**

Turnkey SIGMA PET AIR systems are also available ready-installed in a container if required. This solution significantly reduces both installation and construction costs.



# SIGMA PET AIR

## The new standard in efficiency and convenience

**Innovative, modular design**

SIGMA PET AIR combines the production of high-pressure and control air into a single, turnkey system.

The air-cooled rotary screw compressor produces the control air and also serves as a pre-compressor for the high-pressure blowing air.

The booster providing the high-pressure blowing air, the system controller and all other air treatment components for both compressor systems are installed, ready for operation, on a base frame.



**Low operating costs**

All components are precisely matched to provide maximum energy efficiency. SIGMA PET AIR systems with fluid-cooled rotary screw compressors and single-stage boosters are considerably more efficient than equivalent conventional compressor installations. Furthermore, KAESER systems use air-cooled components, avoiding the need for expensive cooling water and cost-intensive water re-circulating equipment. All systems are supplied fully assembled and factory tested.

# SIGMA PET AIR –

## For all of your compressed air needs

The SIGMA PET AIR system comprises five components:



### 1 Energy saving rotary screw compressor

The energy saving SIGMA PROFILE was developed and optimised by KAESER KOMPRESSOREN and provides the basis for production of control and process air.

### 2 High efficiency booster

Booster compression ratios are kept to a minimum by precisely matching the booster to suit screw compressor performance, which in-turn improves energy efficiency.

### 3 Certified compressed air quality

The quality of the technically oil-free air produced by the SIGMA PET AIR system is tested and certified by TÜV, the German Technical Inspection Authority. The oil and solid particle content is reliably kept below Class 1 limits as per ISO 8573-1.

### 4 Complete air receiver package

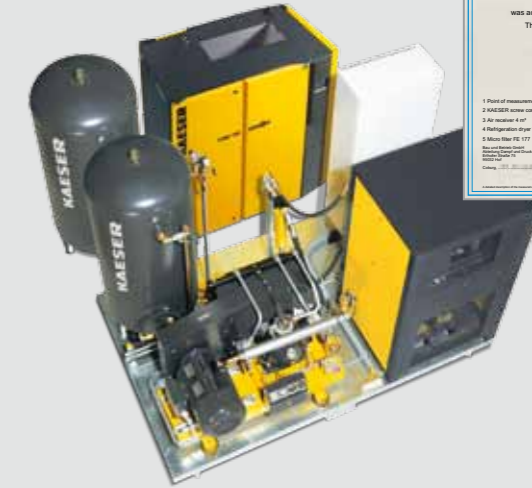
High- and low-pressure air receivers are both equipped with all necessary fittings, including an electronic condensate drain.

### 5 Automatic control

The KAESER Control monitoring and control unit is located in the central switching cabinet, which also contains the booster controller (star-delta) and fuses for all drives.

**TÜV**  
Certificate of Quality

The TÜV Süddeutschland certifies herewith that  
**KAESER KOMPRESSOREN**  
has provided evidence of compressed air quality in conformance with DIN 8573 - 1.  
An oil carry-over in class: 1  
was achieved with the configuration shown below.  
The process value was: 0.0024 mg/m<sup>3</sup>



Model	Blow air at max. working pressure m <sup>3</sup> /h	Installed motor power of all components kW	Min. working pressure
			Blow air bar(g)
230 HP	230	50	36
310 HP	310	69	36
375 HP	375	77	36
405 HP	405	88	36
505 HP	505	108	36
640 HP	640	125	36
740 HP	740	139	36
920 HP	920	203	36
1010 HP	1010	203	36
1290 HP	1290	272	36
1490 HP	1490	280	36
1880 HP	1880	427	36

45 bar versions and differential pressure control are available upon request.

**Boosters** from KAESER KOMPRESSOREN – from the compact N253 G to the large N1400 G – are designed and built in accordance with the most stringent quality standards. Additional features include specially constructed airends with oil pumps and various coolers, which are especially important for pressures up to 45 bar. In addition, design details such as pressurised oil lubrication and intensive cylinder cooling allow up to 100 percent duty cycles. For further details, please refer to brochure P-480 (Boosters).

# SIGMA PET AIR — Eight decisive advantages



## 1 Modular turnkey systems

Modular design enables systems to be precisely tailored to meet the specific needs of a given application and allows fast, cost-effective installation coupled with outstanding energy efficiency.



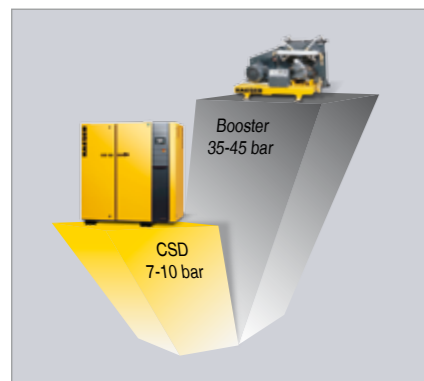
## 2 Certified compressed air quality

The oil and solid particle content is reliably kept below Class 1 limits as per ISO 8573-1. The quality of the blowing- and control-air leaving the air treatment equipment conforms to the requirements for technically oil-free compressed air. The quality of the air produced by the SIGMA PET AIR system is tested and certified by TÜV, the German Technical Inspection Authority.



## 3 Economical and efficient

All components are precisely tailored to work with one another to achieve maximum energy efficiency. SIGMA PET AIR solutions featuring fluid-cooled rotary screw compressors and single-stage boosters are significantly more efficient than conventional systems. Furthermore, the use of air-cooled components eliminates the need for expensive cooling-water and investment in complex cooling systems. SIGMA PET AIR systems are supplied fully assembled and works tested.



## 4 Blowing- and control-air

Blowing-air at 35 to 45 bar and control-air at 7 to 10 bar: SIGMA PET AIR systems produce compressed air in both pressure ranges without the need for additional investment. Energy consumption and investment costs are considerably reduced, as control-air is directly drawn off at the pre-booster stage. In addition, systems are mounted on a base-frame, which makes transportation and installation simple and enables space requirement to be kept to a minimum.

## 5 Energy saving screw compressors

The world renowned SIGMA PROFILE, developed by KAESER, saves up to 15 percent energy compared with conventional rotary screw profiles. The 1:1 direct drive reduces energy consumption still further as it operates without transmission loss. The PC-based SIGMA CONTROL 2 provides fully automatic control and monitoring of the compressor system. Operation is made simple via 'traffic light style' LEDs and the plain text display which is able to show all information in any one of 30 selectable languages. A choice of four control modes is available to allow selection of the most appropriate for a specific application.



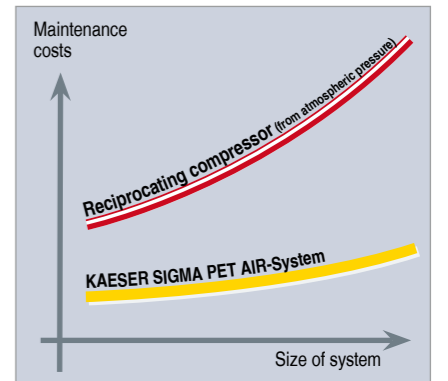
## 6 Cost-effective cooling

The boosters are usually equipped with air-cooled after-coolers. In air-cooled units, a separate cooler and fan motor ensure minimal temperature difference ( $\Delta T$ ) between the intake air and compressed air. If required, larger models can be equipped with a water-cooled after-cooler.



## 7 Low service-costs

As SIGMA PET AIR systems have only two compression stages (screw compressor and booster), users benefit from significant advantages when it comes to servicing and maintenance. Single-stage boosters for SIGMA PET AIR systems require considerably less servicing than multi-stage high-pressure reciprocating compressors. KAESER screw compressors feature directly driven, low-speed airends and are renowned for their low maintenance requirement.



## 8 Single-source systems – For all of your needs

KAESER KOMPRESSOREN provides all necessary components for every SIGMA PET AIR system. Users are therefore assured unrivalled efficiency, reliability and availability in the production of control- and blowing-air for PET container manufacture.



# KAESER – The world is our home

As one of the world's largest manufacturers of rotary screw compressors, KAESER KOMPRESSOREN is represented throughout the world by a comprehensive network of branches, subsidiary companies and authorised partners in over 100 countries.

With innovative products and services, KAESER KOMPRESSOREN's 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. Moreover, the decades of knowledge and expertise from this industry-leading system provider are made available to each and every customer via the Kaeser group's global computer network.

These advantages, coupled with KAESER's worldwide service organisation, ensure that all products operate at the peak of their performance at all times and provide maximum availability.



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