

Compressed air generation: use energy potentials

AERZEN: from machine to system solution - double-stage compressed air packages with heat recovery

Thanks to open system integration, modular basic components and variable mechanical and electronic interfaces, the oil-free double-stage AERZEN screw compressors of the 2C series offer the highest functional adaptability for different drive and control concepts. In combination with customised systems for heat recovery, the individually designed compressed air packages become real energy savers and are part of a complete system solution.

A large amount of heat energy is generated during the production of compressed air. If this process heat is recovered by means of [heat recovery](#) for further operating processes such as water heating, drying processes or preheating of burner air, considerable energy savings, emission decreases and cost reductions can be achieved. With high-performance compressor technology and customised heat recovery systems, AERZEN offers just the right answer. The result: maximum resource efficiency and cost-effectiveness. One example are the [2C series double-stage screw compressors](#) with heat recovery from the [RKR Gebläse und Verdichter GmbH](#), a 100% subsidiary of AERZEN and the specialist for double-stage compressor solutions within AERZEN Group. These double-stage compressor solutions are turned into an innovative system solution of the customer application by the AERZEN customer consulting and engineering competence of RKR.

From compressor to system solution

While the traditional machine perspective focuses “only” on inlet and outlet conditions, a system solution adds other perspectives and requirements, which is the customer's overall process. In this case, the focus is on the thermal energy contained in the compressed gas and the question of how this energy source can be used outside of the machine technology for the environment or also for process engineering. The challenge here is to create an optimum of functional integration, cost-effectiveness and efficiency while dissipating the greatest possible thermal energy.

Making sensible use of thermal energy

The solution is an intelligent functional interconnection and control of several water coolers integrated in a tailored system technology and control architecture. This means that a large part of the electrical drive energy, which was converted into heat during compressed air generation, can be used, for example, for temperature control in the production process without using any additional energy sources. This enables significant energy savings,

improved cost-effectiveness, increased energy efficiency of the overall system and, thus, an important contribution to the climate and the CO₂ footprint.

Maximum plant performance thanks to customised compressed air solutions

The air- or water-cooled compressors of the 2C series supply oil-free and absorbent-free compressed air in the pressure range from 4 to 11.5 bar (g) and are designed for volume flows from 166 m³/h to 9,300 m³/h. The modular concept guarantees a high degree of functional adaptability for different drive and control concepts and ensures the greatest flexibility in adapting to application-specific requirements and customer-specific process conditions. In addition to functionally tailored solutions, customised versions for particularly sound-reduced applications, outdoor installations or heavy-duty container configurations are also used.

AERZEN at Hanover Fair 2023

Anyone who wants to experience the 2C series double-stage screw compressors with heat recovery live will have the opportunity to do so at Hanover Fair 2023 from 17 to 21 April. You will find AERZEN in hall 4 at stand D41 (main stand) as well as in hall 013 at stand D51/1 (focus on hydrogen compression).

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About AERZEN

Industrial plants all over the world are provided with gaseous media using AERZEN blowers and compressors. The innovative AERZEN machine technology represents experience gained over more than 150 years of company history. The AERZEN product portfolio includes rotary lobe compressors, positive displacement blowers, turbo blowers and screw compressors and, in addition to standard products, also provides customised special solutions. Digital services can be used to increase efficiency, availability and productivity in a sustainable and future-oriented manner. In addition, AERZEN After Sales Service offers the whole range of services - from full maintenance contracts to repairs and modernisations of existing plants.

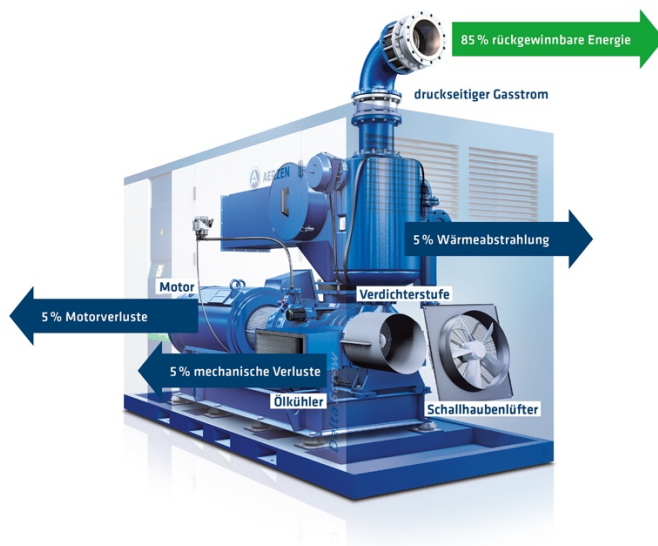
Image overview:



AERZEN double-stage screw compressors

Thanks to optimised design to the operating point, the double-stage AERZEN screw compressors of 2C series achieve high efficiency

Image: AERZEN



AERZEN energy balance screw compressor

Energy balance of a typical dry running single-stage screw compressor

Image: AERZEN

Press information



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