

Rotary Screw Compressors With Fluid Cooling

With Dual Compressor

HSD SERIES

Flow rate 8 to 87.33 m³/min, Pressure 5.5 to 15 bar



With the power of two airends

Every new water-cooled HSD series rotary screw compressors comprises two compressor units, each of which operates and is controlled independently from the other. System availability is also optimised, which means that performance can be precisely adjusted to suit requirement and costly idling can be kept to an absolute minimum. KAESER's meticulous attention to detail – such as large double doors to allow excellent component accessibility, air intake from the outside via openings in the roof hood and the use of two large internal fans for optimised cooling performance – ensures user-friendly operation and unrivaled ease of maintenance.

Integrated energy savings

The impressive energy efficiency results from the improved specific performance of the further refined SIGMA PROFILE screw airend rotors. In addition, high efficiency IE4 motors provide loss-free 1:1 direct power transmission to the compressor airend. The SIGMA CONTROL 2 compressor controller's master-slave function also allows compressor performance to be efficiently adjusted according to actual compressed air demand. Therefore, with selectable control options and through minimised (costly) idling periods, for example, it is possible to save even more energy.

Perfect team player

HSD series rotary screw compressor are perfect for high-efficiency industrial compressed air stations. Various interfaces of both internal SIGMA CONTROL 2 compressor controllers enable easy, secure and efficient networking in the KAESER SIGMA NETWORK with the Industry 4.0-capable SIGMA AIR MANAGER 4.0 management system and/or other centralised control systems.

Service-friendly = Efficient

Successful package design goes far beyond external appearance: it's what's on the inside that truly counts, especially when it comes improving efficiency. For example, the fluid separator cartridges can be easily replaced from the top of the package once the roof hood on the outside left-hand side is lifted up. This not only saves time (and money), but also increases compressor availability

Stay cool with ETM

Powered via an electric motor, the sensor-controlled temperature control valve integrated into the cooling circuit is the heart of the innovative Electronic Thermal Management (ETM) system. The SIGMA CONTROL 2 monitors intake and compressor temperatures in order to safely prevent condensate formation, even under conditions with higher air humidity. The ETM dynamically controls the fluid temperature – and low fluid temperature enhances energy efficiency. If heat recovery is used, this can be adjusted to meet the customer's requirements even better thanks to two ETMs.

More volume flow on less space

For our HSD series, we integrated two compressors in a single enclosure. Both units are fully equipped with 1:1 direct drive, SIGMA CONTROL controller and cooling system. This series offers these technical data:

- Pressure: 8.5, 12 or 15 bar
- Flow rate: 10.1 – 89 m³/min

You can order HSD systems with or without speed-controlled drive. Due to the high flow rates, they are very well suited for demand-intensive applications in the automotive sector or steel industry.

Advantages

Versatility with minimal space requirements:

- Two small compressors in a single enclosure save much space when compared to a single compressor unit with corresponding output capacity. This system optimally adapts to different demand situations, minimising idle times and increasing efficiency.

Double dependability:

- Each compressor unit can be operated completely independently. In the event of a unit failure, you still have 50 % of your flow rate.

Exceptional efficiency:

- Furthermore, we already use IE4 motors in HSD models and therefore provide you with even further energy savings.

Complete package

1. Ready for operation.
2. Fully automatic.
3. Super silenced.
4. Vibration-damped.
5. All panels powder-coated.
6. For ambient temperatures up to +45 °C.
7. Service-friendly design: Motor bearing lubrication from the outside.

Cooling fluid and air circuit

1. Dry air intake filter with pre-filtration.
2. Inlet silencer.
3. Inlet and vent valves, pneumatic.
4. Cooling fluid separation tank with three-stage separation system.
5. Safety valve.
6. Minimum pressure check valve.
7. Thermostatic valve and eco fluid filter in coolant circuit.
8. Fluid and compressed air cooler (air-cooled as standard).
9. Package water-cooled as standard: Fluid and compressed air aftercooler implemented as plate or optionally available tube-type heat exchanger..
10. Kaeser centrifugal separator with electronically-controlled condensate drain for energy savings without pressure loss.
11. Piping and centrifugal separator made of stainless steel.

Heat recovery (Option)

1. Optionally available with integrated fluid/water plate-type heat exchanger and additional fluid thermostatic valve.
2. External connections.

Cooling

1. Water-cooling as standard.
2. Soldered plate heat exchanger.
3. Machine interior ventilation via two independently controllable fans.

Airend

1. Single stage with cooling fluid injection for optimal rotor cooling.
2. Genuine KAESER screw compressor airend with energy-saving SIGMA Profile.
3. 1:1 drive.

Electrical components

1. Super Premium-Efficiency IE4 drive motor with three Pt100 windings temperature sensors for motor monitoring.
2. Control cabinet to IP 54.
3. Control cabinet ventilation.
4. Automatic star-delta starter.
5. Overload relays.
6. Control transformer.