

Energy savings with IE4 motors

Even better!

Outstanding performance and reliability with exceptional efficiency and minimal space requirement: these are just some of the advantages that Kaeser Compressor's new CSD and CSDX fluid-cooled rotary screw compressors have to offer. Now equipped with IE4 motors, these future-fit machines are more efficient than ever before.

Kaeser's design for this latest generation of compressors far exceeds current norms, including the use of high efficiency IE4 motors as standard. This not only ensures that compressed air stations will meet future legal efficiency requirements, but also brings an additional energy cost saving of approximately one percent. CSD and CSDX systems therefore provide four-way energy savings: First, the airends feature newly-refined Sigma Profile rotors. Together with additional optimisation measures, such as reduced internal pressure losses, the new machines therefore boast between three and six percent better specific power performance compared with previous models. Second, the use of "Super Premium Efficiency" IE4 motors ensures maximum drive motor efficiency. Third, Kaeser's 1:1 direct drive system eliminates the transmission losses associated with gear or belt drive solutions. Fourth, with five pre-programmed control modes, the Sigma Control 2 industrial PC-based internal controller dynamically adjusts flow rate to match actual compressed air demand thereby assuring further energy savings.

With available motor powers from 45 to 90 kW, the five models of the two series cover flow rates from 8.3 to 16.1 m³/min (at 8.5 bar) and are designed for pressures up to 15 bar.

The Sigma Control 2 also offers further advantages including variable interfaces and - for the first time - plug-in communications modules. These features provide greater flexibility when connecting to computer networks and master compressed air management systems, such as the Sigma Air Manager 4.0, as well as to remote diagnostics and monitoring systems such as Sigma Smart Air. A large, easy-to-read display enables user-friendly on-site communication with the machine, whilst the SD card slot makes machine memory access and software updates via SD memory cards quick and simple. Moreover, an RFID reader enables standardisation of servicing, boosts service quality and assures optimum security. The Sigma Control 2 also provides comprehensive monitoring of the compressor, as well as of any connected refrigeration dryers or frequency converters, for example.

The high-performance cooling system in these new machines allows exceptionally low compressed air discharge temperatures. Over 95 percent of the condensate is removed from the compressed air stream after passing through the condensate

separator, which features an automatically monitored condensate drain. The coolers are placed at the rear of the unit, together with a generously-sized cooling air intake opening. As a result, this clever system and its thermal load relief effect significantly increase the efficiency and dependability of downstream compressed air treatment components.

Moreover, the environmentally-friendly system concept extends to the fluid filter element, which is free from metal and is suitable for thermal disposal without the need for any additional treatment.

In addition to the standard models, versions with an integrated refrigeration dryer module are also available that provide compressed air generation and drying within a single compact unit. With considerably reduced energy requirement and using nearly 50 percent less refrigerant than previous models, the refrigeration dryer is dimensioned for high ambient temperatures and operates with minimal pressure loss. The dryer is housed in a separate enclosure and is therefore not affected by heat from the compressor.

The CSD and CSDX are also available with variable-speed control and, as with the standard machines, these models too are optimised for maximum efficiency, dependability and ease of maintenance.

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Images:



Featuring high efficiency IE4 motors, the CSD and CSDX rotary screw compressor ranges cover compressed air flow rates from 8.3 to 16.1 m³/min. These powerful compressors masterfully combine impressive reliability and efficiency with minimal space and maintenance requirement