

AIR TREATMENT & CONDENSATE TECHNOLOGY DRYER

Energy-saving Secotec Refrigeration Dryers

from 10.5 to 34 m³/min.



Compact energy-saving refrigeration dryers with impressive latent heat storage

Kaeser's renowned SECOTEC industrial quality refrigeration dryers (TE and TF (*) series shown here) have long been valued for their stable pressure dew point performance, their exceptional reliability and their low total life-cycle costs.

Together with the innovative SECOPACK LS latent heat storage heat exchanger system and the SIGMA CONTROL SMART controller, the next generation of these advanced dryers sets new standards when it comes to energy efficiency, compact design and user-friendliness.

- Exceptional durability due to corrosion-resistant air piping and aluminium heat exchanger (condenser and SECOPACK LS).
- With optional Modbus TCP communication module for integration in the SIGMA NETWORK.

Advantages

Energy savings:

- TE and TF refrigeration dryers require less than 97 W for every m³/min of air to be dried (ISO 7183 A1) Thanks to energy-saving control, in partial-load operation, excess cooling power can be temporarily stored in the thermal mass for later cooling without the need for power consumption. The rapid-response SECOPACK LS heat exchanger system ensures stable pressure dew points at all times.

Intuitive operation:

- The SIGMA CONTROL SMART electronic controller offers straightforward and intuitive operation. Message memory, component-specific operating hours counters and maintenance timers enable efficient monitoring and analysis of operating data. Floating contacts and the optional Modbus TCP communication module provide easy networking with master controllers such as the SIGMA AIR MANAGER 4.0.

Optimised compact design:

- The thermal mass chamber of the innovative SECOPACK LS heat exchanger system is filled with a phase change material. Its significantly higher thermal storage density means that 98 % less storage material is required to achieve the same capacity as conventional storage media. Storage capacity for pressure dew point stability therefore goes hand in hand with hugely reduced space requirements. Optimised flow paths minimise pressure losses and consequently help enhance SECOTEC dryer efficiency.

Equipment

Refrigerant circuit:

- Scroll compressor.
- Aluminium micro-channel condenser with fan.
- Safety pressure switch.
- Thermal mass.
- Filter dryer.
- Thermostatic expansion valve.
- SECOPACK LS aluminium heat exchanger system.
- Temperature and pressure transducer.

SECOPACK LS:

- Air/air and air/refrigerant heat exchanger in aluminium block design.
- Integrated thermal mass chamber with phase change material.
- Condensate separator.
- Heat insulation.

SIGMA CONTROL SMART:

- Electronic control with colour display.
- Language-neutral menu navigation.
- Dew point trend display.
- P&I diagram displaying current operating data and messages.
- Event memory.
- Operating hours counter.
- Maintenance timer.

Floating relay contacts:

- "Fault" and "Refrigerant compressor running" service messages.
- "Maintenance/warning" and "High pressure dew point" warning messages.
- Operating hours counter.
- Maintenance timer.

Condensate drainage:

- ECO-DRAIN 31 Vario electronic condensate drain with tap on condensate inlet, incl. insulation of cold surfaces.

Enclosure:

- Powder-coated housing.
- Removable panel for straightforward electric connection.
- Efficient condenser cleaning.
- Removable side panel serves as main access point to the interior.
- Machine mounts.

Connections:

- Corrosion-resistant compressed air piping.
- Bulkhead pipe fitting for external condensate line connection.
- Cables for mains connection on rear panel (cut-outs in the unit's top metal panel for alternative connection from above).

Electrical equipment:

- Electrical equipment and testing to EN 60204-1 "Safety of machines".
- Control cabinet to protection rating IP 54.

Options and accessories:

- Refrigeration dryers for use in ambient temperatures up to 50 °C.
- Water-cooled refrigeration dryer (TF series).
- Compressed air connections left (TF series).
- Replacement pipework kit TF 173, 203, 251 (pre-assembled) (TF series).
- Adjustable machine mounts.
- Integrated transformer with primary voltage of 200 V – 440 V.
- Integrated transformer with primary voltage of 500 V / 3 Ph / 50 Hz and 575 V / 3 Ph / 60 Hz.

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