

ASK Series Rotary Screw Compressors

With the world-renowned SIGMA PROFILE 

Free air delivery 0.79 to 4.65 m³/min, Pressure 5.5 to 15 bar



ASK series

ASK – More powerful, more efficient

Today's users expect maximum availability and efficiency from their compressors, regardless of size. ASK series rotary screw compressors meet all of these needs and more. Not only do they deliver more compressed air for less power consumption, but they also combine ease of use and maintenance with exceptional versatility and environmentally responsible design.

More air for your money

ASK rotary screw compressors are true class leaders when it comes to impressive performance. This has been achieved through continued airend development, further optimisation of the SIGMA PROFILE rotors and low speed operation. Compared with previous models, these enhancements have enabled free air delivery to be increased by as much as 16 %.

Low energy consumption

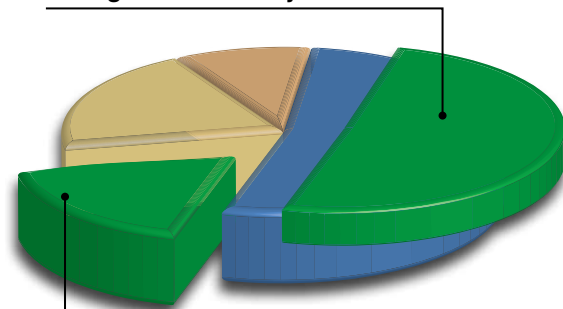
The efficiency of a machine depends on the total costs incurred throughout the equipment's entire service life. With compressors, energy costs account for the lion's share of total expenditure. KAESER therefore designed its ASK series compressors with optimum energy efficiency in mind. Refinements to the airend with its energy-saving SIGMA PROFILE rotors, as well as the use of premium efficiency IE3 motors and the SIGMA CONTROL 2 compressor controller, have significantly contributed to the

increased performance of these versatile compressors. KAESER's unique cooling system has helped to push the boundaries of efficiency even further.

Optimised design

All ASK models share logical and user-friendly design throughout. For example, the enclosure doors can be removed in a few simple steps and allow excellent visibility of the system's intelligently laid out components. Needless to say, the ASK series was designed to enable best possible access to all service points. When closed, the sound-absorbing compressor enclosure keeps operational sound levels to a minimum thereby ensuring a pleasantly quiet work environment. Moreover, with its two intake openings, the enclosure provides separate air flow for high efficiency cooling of the compressor and drive motor. Last, but not least, ASK series compressors are impressively compact, which makes them the perfect choice for applications where space is at a premium.

Potential energy cost savings through heat recovery



Energy cost savings through system optimisation



- Compressed air system investment
- Maintenance costs
- Energy costs
- Potential energy cost savings

Powerful and service-friendly



Image: ASK 28



ASK series

Quality is in the details



SIGMA PROFILE air end

At the heart of every ASK system lies a premium quality air end featuring KAESER's SIGMA PROFILE rotors. Operating at low speed, KAESER's air ends are equipped with flow-optimised rotors for superior efficiency.



Maximum efficiency: IE3 motors

The use of IE3 motors will become mandatory in the EU from the 1st of January, 2015, but users can already enjoy the benefits that these premium efficiency motors have to offer by choosing KAESER ASK series rotary screw compressors.



SIGMA CONTROL 2

The SIGMA CONTROL 2 ensures efficient control and system monitoring. The large display and RFID reader provide effective communication and maximum security. Multiple interfaces offer exceptional flexibility, whilst the SD card slot makes updates quick and a easy.



Energy-saving radial fan

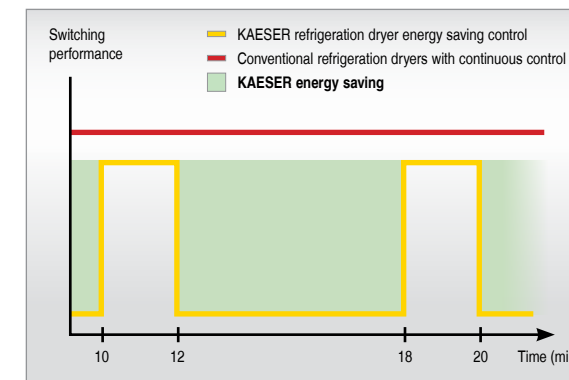
Driven by an independent motor, the radial fan ensures low compressed air discharge temperatures and provides greater cooling performance with lower energy requirement; it also conforms to the efficiency requirements of EC Regulation 327/2011.



Image: ASK 28 T

ASK T series

With energy-efficient integrated dryer



Energy-saving control

The integrated refrigeration dryer in ASK T units provides high-efficiency performance thanks to its energy-saving control. The dryer is therefore active only when compressed air actually needs to be dried. This approach consequently achieves the required compressed air quality with maximum efficiency.



Refrigeration dryer with ECO DRAIN

The refrigeration dryer is equipped with an automatic ECO DRAIN condensate drain. This advanced level-controlled drain eliminates the compressed air losses associated with solenoid valve control, thereby saving energy and considerably enhancing the reliability of the compressed air supply.



Efficient refrigeration dryer

With its efficient rotary compressor and corrosion-resistant aluminium heat exchanger, the integrated refrigeration dryer for ASK packages was designed with absolute energy efficiency in mind.



Exceptional compressed air quality

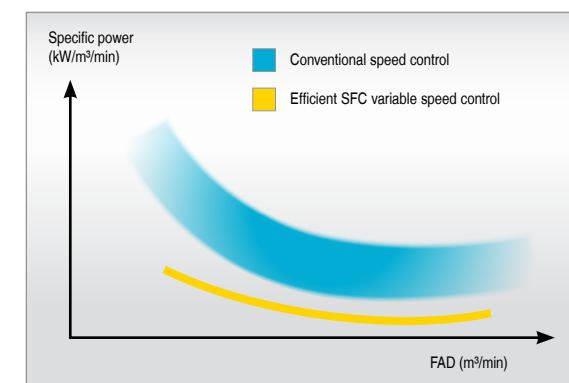
Because the compressor and dryer are thermally shielded from one another, the dryer remains unaffected by heat from the compressor, which means that it can operate at peak performance at all times to provide quality, dry compressed air.

ASK SFC series

Modular design – Dependable performance



Image: ASK 40 T SFC



Optimised specific power

In any compressed air installation, it is the variable speed controlled compressor that operates longer than any other unit within the system. ASK SFC models are therefore designed to provide maximum efficiency without running at extreme speeds. This saves energy, maximises service life and enhances reliability.



Integrated SFC control cabinet

Housed in its own integrated – and insulated – control cabinet, the SFC frequency converter is shielded from heat from the compressor. A separate fan keeps operating temperatures in the optimum range to ensure maximum performance and service life.



Precision pressure control

The volumetric flow rate can be adjusted within the control range according to pressure to suit actual compressed air demand. As a result, operating pressure is precisely maintained to within ± 0.1 bar. This allows maximum pressure to be reduced which saves both energy and money.



EMC-certified

Like all KAESER products, ASK series SFC packages are certified in accordance with the European EMC (Electromagnetic Compatibility) directive and equivalent applicable German legislation, as shown by the VDE (Association for Electrical, Electronic & Information Technologies) EMC symbol seal of quality.



Equipment

Complete unit

Ready-to-run, fully automatic, super-silenced, vibration damped, all panels powder coated. Suitable for use in ambient temperatures up to + 45°C.

Sound insulation

Panels lined with laminated mineral wool.

Vibration dampening

Double insulated anti-vibration mountings using rubber bonded metal elements.

Airend

Genuine KAESER rotary screw, single stage airend with energy-saving SIGMA PROFILE rotors and cooling fluid injection for optimised rotor cooling.

Drive

V-belt drive with automatic belt tensioning.

Electric motor

Premium efficiency IE3 electric motor of quality German manufacture, IP 55, ISO F for additional reserve.

Electrical components

IP 54 control cabinet, control transformer, Siemens frequency converter, floating contacts for ventilation control.

Fluid and air flow

Dry air intake filter, pneumatic inlet and venting valves, fluid reservoir with three-stage separator system, pressure relief valve, minimum pressure check valve, thermostatic valve and microfilter in coolant circuit, all fully piped using flexible couplings.

Cooling

Air-cooled; separate aluminium cooler for compressed air and cooling fluid; radial fan meets efficiency requirements for fans as per EU directive 327/2011.

Refrigeration dryer

CFC-free, R 134a refrigerant, fully insulated, hermetically sealed refrigerant circuit, rotary refrigerant compressor with energy-saving shutdown function, hot-gas bypass control, electronic condensate drain.

Heat recovery (HR)

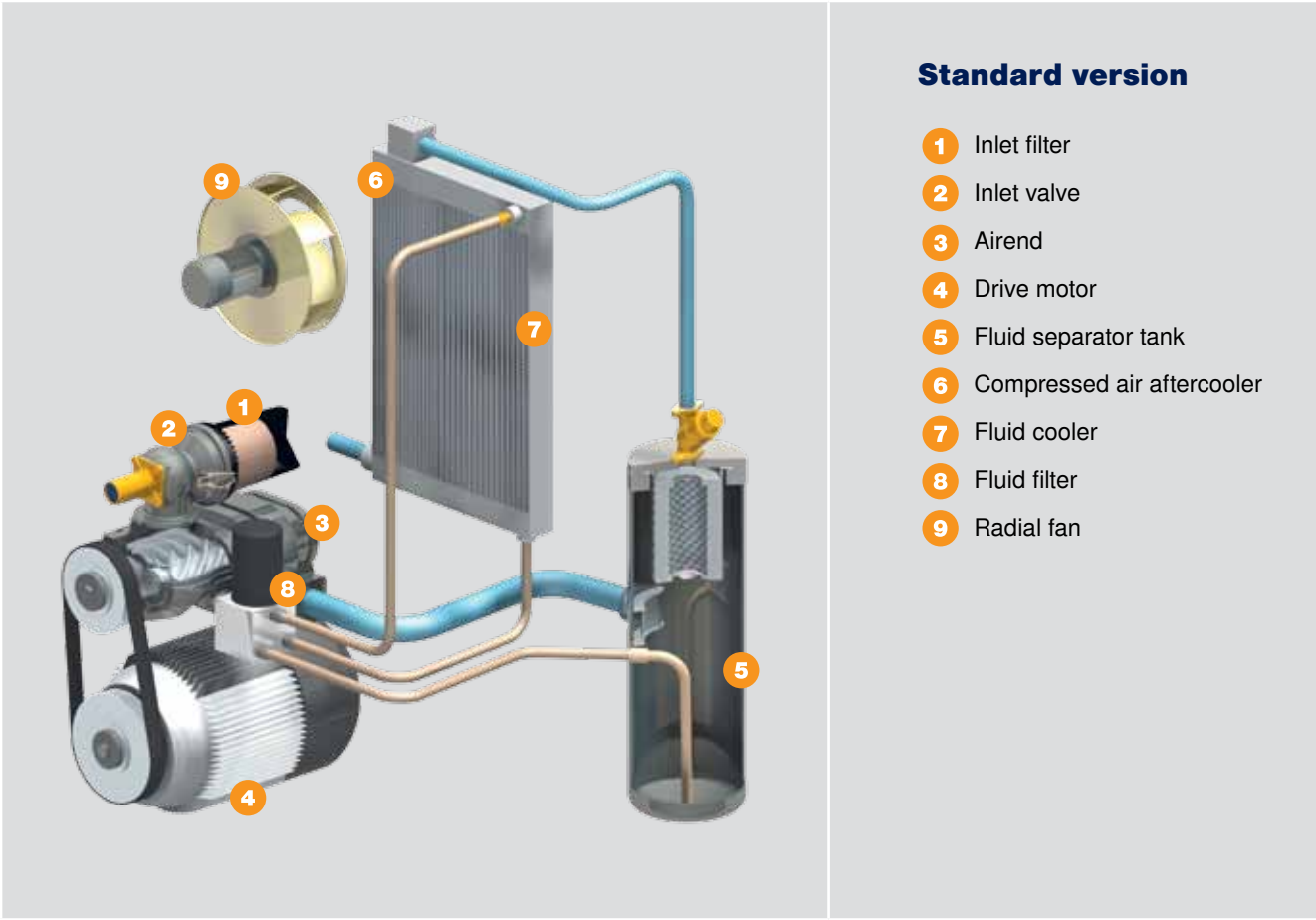
Optionally available with integrated HR system (plate-type heat exchanger).

SIGMA CONTROL 2

“Traffic light” LED indicators show operational status at a glance, plain text display, 30 selectable languages, soft-touch keys with icons, fully automated monitoring and control. Selection of Dual, Quadro, Vario and continuous control as standard. Interfaces: Ethernet; additional optional communication modules for: Profibus DP, Modbus, Profinet and Devicenet. SD-card slot for data-logging and updates; RFID reader, web server.

Also optionally available with the SIGMA CONTROL BASIC controller.

Design



Rotary screw airend with energy-saving SIGMA PROFILE rotors

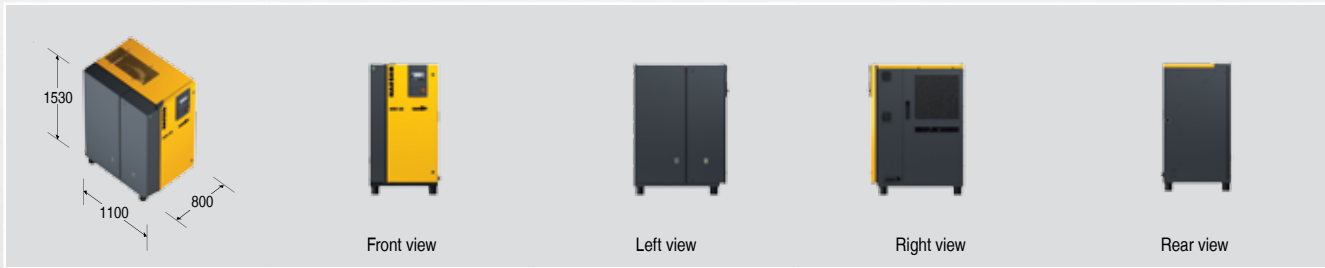


SIGMA CONTROL 2 controller

Technical specifications

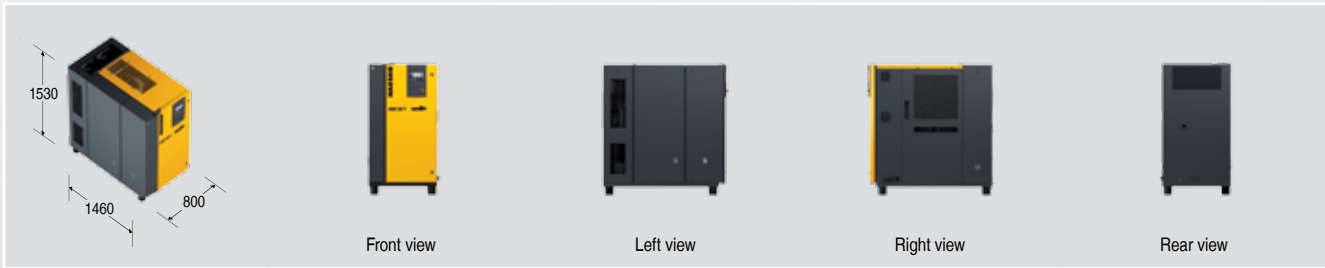
Standard version

| Model | Operating pressure | FAD*) Complete unit at operating pressure | Max. working pressure | Rated motor power | Dimensions W x D x H | Compressed air connection | Sound pressure level **) | Weight |
|--------|--------------------|---|--------------------------|----------------------|-------------------------|------------------------------|--------------------------------|--------|
| | bar | m³/min | bar | kW | mm | | dB(A) | kg |
| ASK 28 | 7.5 | 2.86 | 8 | 15 | 800 x 1100 x 1530 | G 1 ¼ | 65 | 485 |
| | 10 | 2.40 | 11 | | | | | |
| | 13 | 1.93 | 15 | | | | | |
| ASK 34 | 7.5 | 3.51 | 8 | 18.5 | 800 x 1100 x 1530 | G 1 ¼ | 67 | 505 |
| | 10 | 3.00 | 11 | | | | | |
| | 13 | 2.50 | 15 | | | | | |
| ASK 40 | 7.5 | 4.06 | 8 | 22 | 800 x 1100 x 1530 | G 1 ¼ | 69 | 525 |
| | 10 | 3.52 | 11 | | | | | |
| | 13 | 2.94 | 15 | | | | | |



T - Version with integrated refrigeration dryer (R 134a refrigerant)

| Model | Operating pressure | FAD*) Complete unit at operating pressure | Max. working pressure | Rated motor power | Refrigeration dryer power consumption | Dimensions W x D x H | Compressed air connection | Sound pressure level **) | Weight |
|----------|--------------------|---|--------------------------|----------------------|---|-------------------------|------------------------------|--------------------------------|--------|
| | bar | m³/min | bar | kW | kW | mm | | dB(A) | kg |
| ASK 28 T | 7.5 | 2.86 | 8 | 15 | 0.7 | 800 x 1460 x 1530 | G 1 ¼ | 65 | 580 |
| | 10 | 2.40 | 11 | | | | | | |
| | 13 | 1.93 | 15 | | | | | | |
| ASK 34 T | 7.5 | 3.51 | 8 | 18.5 | 0.7 | 800 x 1460 x 1530 | G 1 ¼ | 67 | 600 |
| | 10 | 3.00 | 11 | | | | | | |
| | 13 | 2.50 | 15 | | | | | | |
| ASK 40 T | 7.5 | 4.06 | 8 | 22 | 0.7 | 800 x 1460 x 1530 | G 1 ¼ | 69 | 620 |
| | 10 | 3.52 | 11 | | | | | | |
| | 13 | 2.94 | 15 | | | | | | |



SFC - Version with variable speed drive

| Model | Operating pressure | FAD*) Complete unit at operating pressure | Max. working pressure | Rated motor power | Dimensions W x D x H | Compressed air connection | Sound pressure level **) | Weight |
|------------|--------------------|---|--------------------------|----------------------|-------------------------|------------------------------|--------------------------------|--------|
| | bar | m³/min | bar | kW | mm | | dB(A) | kg |
| ASK 34 SFC | 7.5 | 0.94 - 3.60 | 8 | 18.5 | 800 x 1100 x 1530 | G 1 ¼ | 68 | 530 |
| | 10 | 0.80 - 3.14 | 11 | | | | | |
| | 13 | 0.88 - 2.70 | 15 | | | | | |
| ASK 40 SFC | 7.5 | 0.94 - 4.19 | 8 | 22 | 800 x 1100 x 1530 | G 1 ¼ | 70 | 550 |
| | 10 | 0.80 - 3.71 | 11 | | | | | |
| | 13 | 0.88 - 3.17 | 15 | | | | | |



T SFC - Version with variable speed drive and integrated refrigeration dryer

| Model | Operating pressure | FAD*) Complete unit at operating pressure | Max. working pressure | Rated motor power | Refrigeration dryer power consumption | Dimensions W x D x H | Compressed air connection | Sound pressure level **) | Weight |
|--------------|--------------------|---|--------------------------|----------------------|---|-------------------------|------------------------------|--------------------------------|--------|
| | bar | m³/min | bar | kW | kW | mm | | dB(A) | kg |
| ASK 34 T SFC | 7.5 | 0.94 - 3.60 | 8 | 18.5 | 0.7 | 800 x 1460 x 1530 | G 1 ¼ | 68 | 625 |
| | 10 | 0.80 - 3.14 | 11 | | | | | | |
| | 13 | 0.88 - 2.70 | 15 | | | | | | |
| ASK 40 T SFC | 7.5 | 0.94 - 4.19 | 8 | 22 | 0.7 | 800 x 1460 x 1530 | G 1 ¼ | 70 | 645 |
| | 10 | 0.80 - 3.71 | 11 | | | | | | |
| | 13 | 0.88 - 3.17 | 15 | | | | | | |

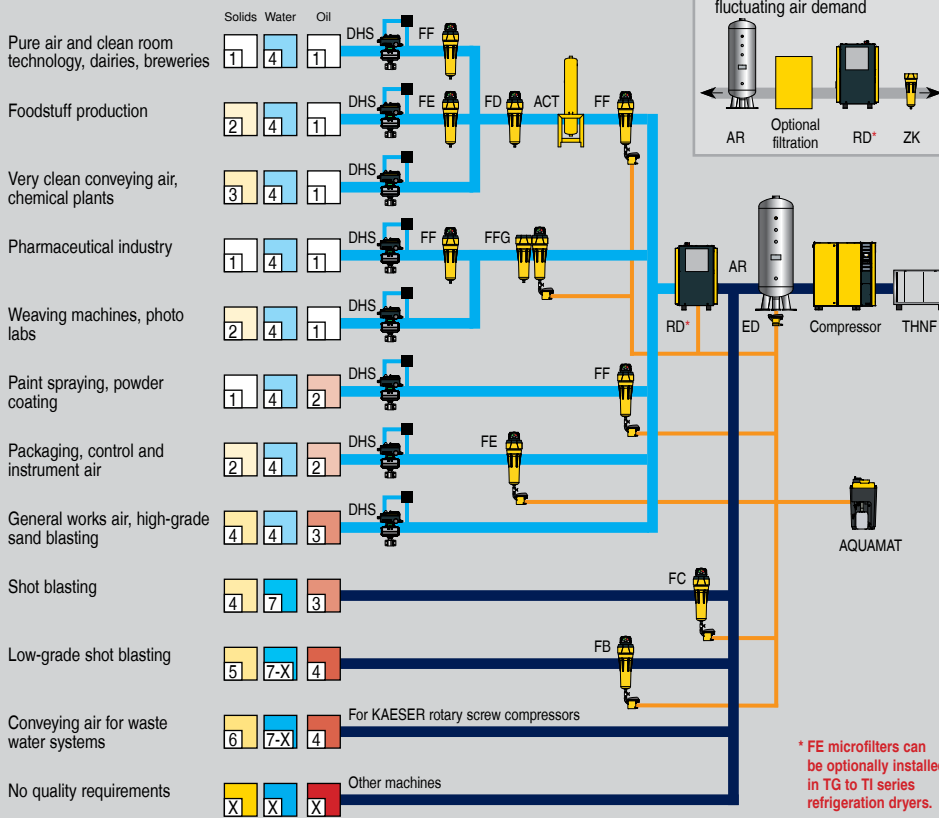


*)FAD in accordance with ISO 1217 : 2009, Annex C: Absolute intake pressure 1 bar (a), cooling and air intake temperature 20 °C
**)Sound pressure level as per ISO 2151 and the basic standard ISO 9614-2, tolerance: ± 3 dB (A)

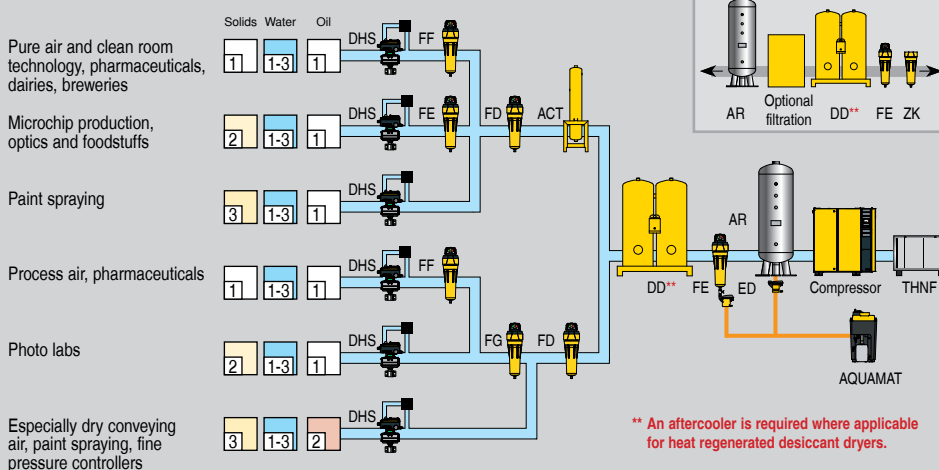
Choose the required grade of treatment according to your field of application:

Air treatment using a refrigeration dryer (pressure dew point +3 °C)

Application examples: Selection of treatment classes to ISO 8573-1 (2010)



For non frost protected air systems: Compressed air treatment with a desiccant dryer (down to -70 °C pressure dew point)



| Explanation | |
|-------------|--|
| ACT | Activated carbon adsorber |
| AQUAMAT | AQUAMAT |
| DD | Desiccant dryer |
| DHS | Air-main charging system |
| AR | Air receiver |
| ED | ECO DRAIN |
| FB / FC | Pre-filter |
| FD | Particulate filter |
| FE / FF | Microfilter |
| FFG | Activated carbon and microfilter combination |
| FFG | Activated carbon filter |
| RD | Refrigeration dryer |
| THNF | Bag filter |
| ZK | Centrifugal separator |

Compressed air quality classes to ISO 8573-1(2010):

Solid particles / dust

| Class | max. particle count per m³ of a particle size with d [µm]* | | |
|-------|---|---------------|---------------|
| | 0.1 ≤ d ≤ 0.5 | 0.5 ≤ d ≤ 1.0 | 1.0 ≤ d ≤ 5.0 |
| 0 | e.g. Consult KAESER regarding pure air and cleanroom technology | | |
| 1 | ≤ 20,000 | ≤ 400 | ≤ 10 |
| 2 | ≤ 400,000 | ≤ 6,000 | ≤ 100 |
| 3 | Not defined | ≤ 90,000 | ≤ 1,000 |
| 4 | Not defined | Not defined | ≤ 10,000 |
| 5 | Not defined | Not defined | ≤ 100,000 |
| Class | Particle concentration C _p in mg/m³ * | | |
| 6 | 0 < C _p ≤ 5 | | |
| 7 | 5 < C _p ≤ 10 | | |
| X | C _p > 10 | | |

Water

| Class | Pressure dew point, in °C |
|-------|---|
| 0 | e.g. Consult KAESER regarding pure air and cleanroom technology |
| 1 | ≤ -70 °C |
| 2 | ≤ -40 °C |
| 3 | ≤ -20 °C |
| 4 | ≤ +3 °C |
| 5 | ≤ +7 °C |
| 6 | ≤ +10 °C |
| Class | Concentration of liquid water C _w in g/m³ * |
| 7 | C _w ≤ 0.5 |
| 8 | 0.5 < C _w ≤ 5 |
| 9 | 5 < C _w ≤ 10 |
| X | C _w > 10 |

Oil

| Class | Total oil concentration (fluid, aerosol + gaseous) [mg/m³]* |
|-------|---|
| 0 | e.g. Consult KAESER regarding pure air and cleanroom technology |
| 1 | ≤ 0.01 |
| 2 | ≤ 0.1 |
| 3 | ≤ 1.0 |
| 4 | ≤ 5.0 |
| X | > 5.0 |

*) At reference conditions 20 °C, 1 bar(a), 0% humidity