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KAESER COMPRESSORS

HPC | Compressed Air Systems

ASK Series
Rotary Screw Compressors

With the world-renowned SIGMA PROFILE

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

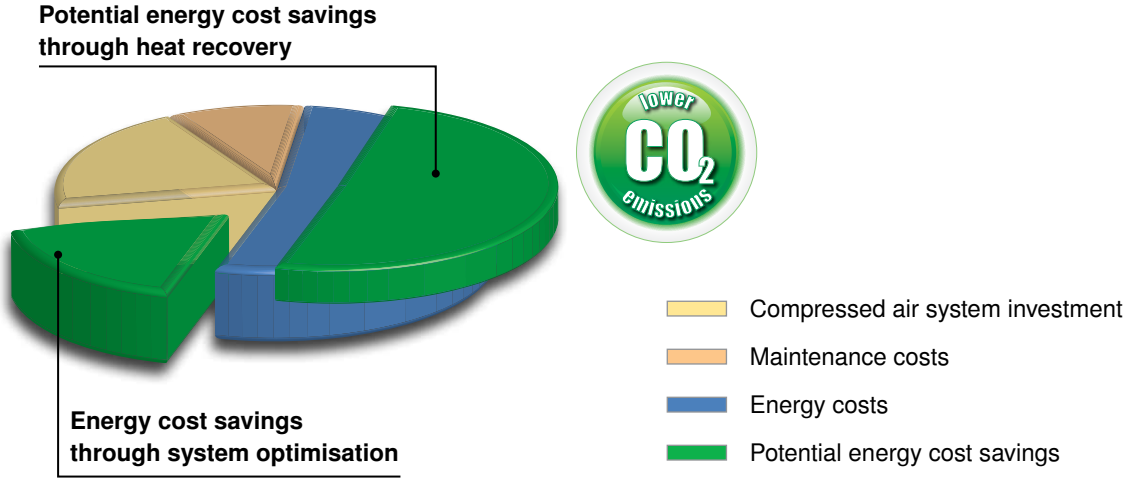
ASK rotary screw compressors are true class leaders when it comes to impressive performance. This has been achieved through continued airend development, further optimisation of the SIGMA PROFILE rotors and low speed operation. Compared with previous models, these enhancements have enabled free air delivery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



KAESER COMPRESSORS

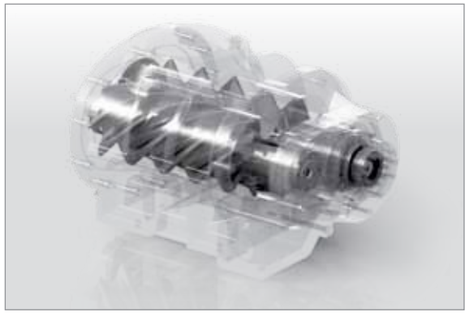
Powerful and service-friendly

MADE IN GERMANY

Image: ASK 28

ASK series

Quality is in the details



SIGMA PROFILE airend

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

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.

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.

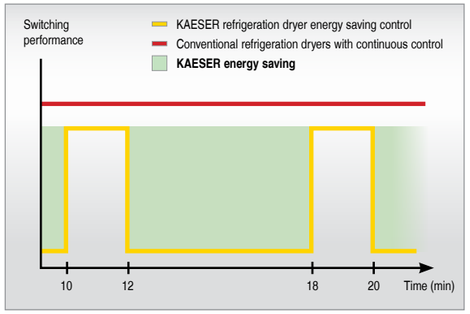
Energy-saving radial fan

Driven by an independent motor, the radial fan ensures low compressed air discharge temperatures and provides greater cooling performance with lower energy requirement. Needless to say, it also conforms to the efficiency requirements of EU directive 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 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.

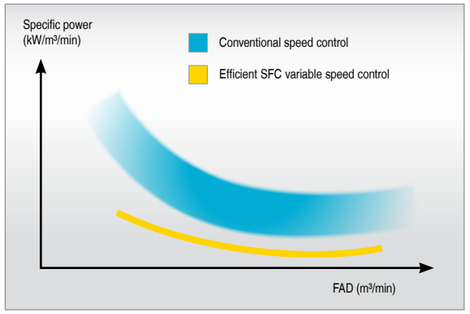
Exceptional compressed air quality

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.

Image: ASK 40 T SFC

ASK SFC series

Modular design –
Dependable performance



Optimised specific power

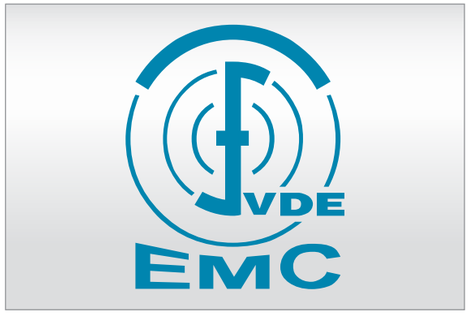
In any compressed air installation, it is the variable speed controlled compressor that operates longer than any other unit within the system. ASK SFC models are therefore designed to provide maximum efficiency without running at extreme speeds. This saves energy, maximises service life and enhances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

It goes without saying that the SFC control cabinet and SIGMA CONTROL 2 are tested and certified as individual components to EMC directive EN 55011, Class B, for mixed-use zones. The compressor system as a whole is also tested and certified accordingly.


KAESER
ASK 28

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.

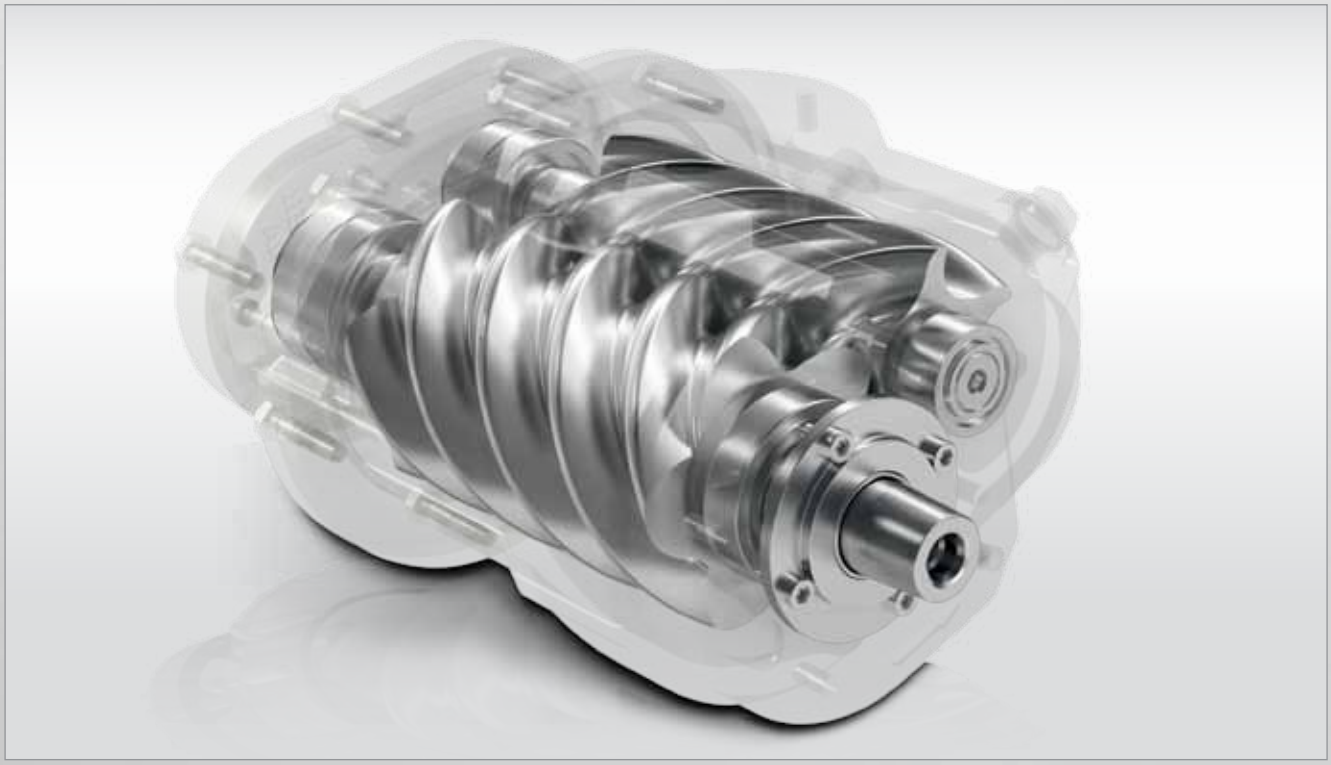
Heat recovery (HR)

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

SIGMA CONTROL 2

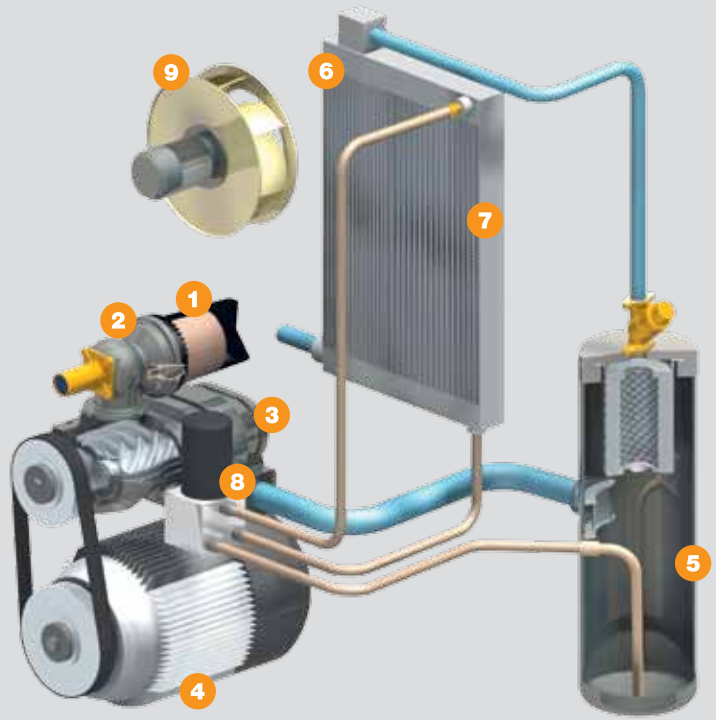
“Traffic light” LED indicators show operational status at a glance, plain text display, 30 selectable languages, soft-touch keys with icons, fully automated monitoring and control. Selection of Dual, Quadro, Vario and continuous control as standard. Interfaces: Ethernet; additional optional communication 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.



Rotary screw airend with energy-saving SIGMA PROFILE rotors

Design



Standard version

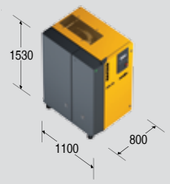
1. Inlet filter
2. Inlet valve
3. Airend
4. Drive motor
5. Fluid separator tank
6. Compressed air aftercooler
7. Fluid cooler
8. Fluid filter
9. Radial fan

SIGMA CONTROL 2 controller

Technical specifications

Standard version

Model	Operating pressure bar	FAD*) Complete unit at operating pressure m³/min	Max. working pressure bar	Rated motor power kW	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Weight 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					




Front view

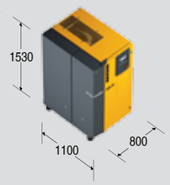

Left view


Right view


Rear view

SFC - Version with variable speed drive

Model	Operating pressure bar	FAD*) Complete unit at operating pressure m³/min	Max. working pressure bar	Rated motor power kW	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Weight 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					




Front view


Left view

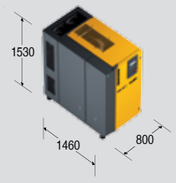

Right view


Rear view

*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)

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

Model	Operating pressure bar	FAD*) Complete unit at operating pressure m³/min	Max. working pressure bar	Rated motor power kW	Refrigeration dryer power consumption kW	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Weight 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						




Front view


Left view


Right view


Rear view

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

Model	Operating pressure bar	FAD*) Complete unit at operating pressure m³/min	Max. working pressure bar	Rated motor power kW	Refrigeration dryer power consumption kW	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Weight 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						


Front view


Left view

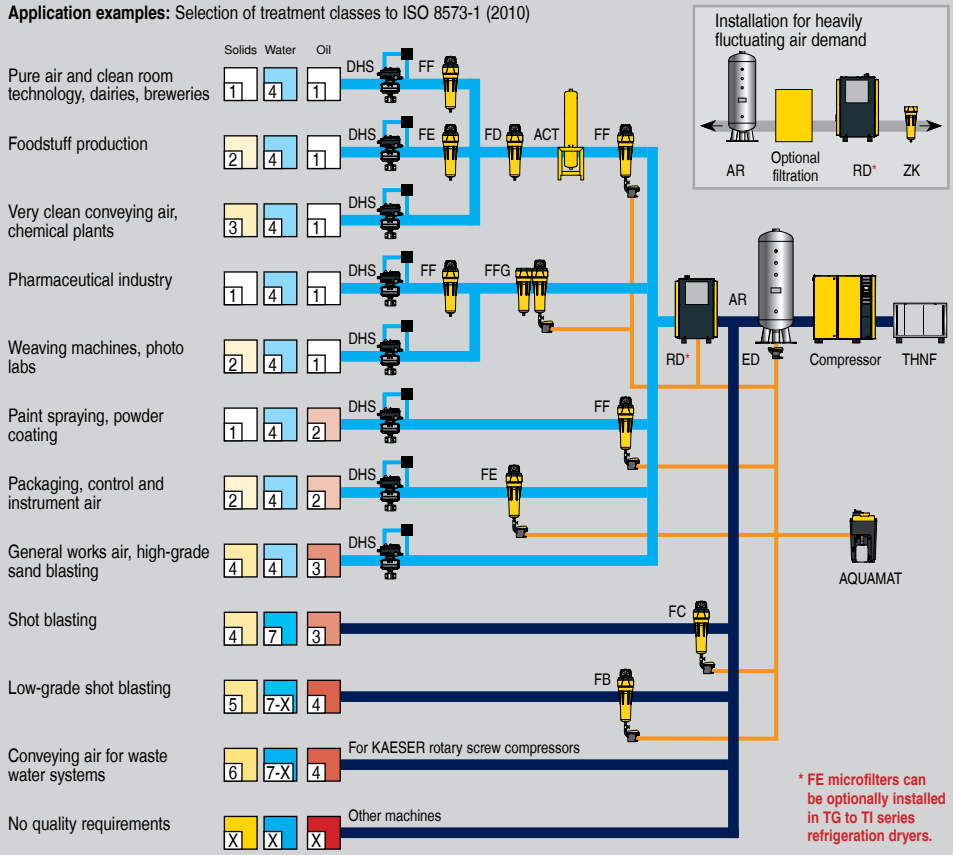

Right view


Rear view

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

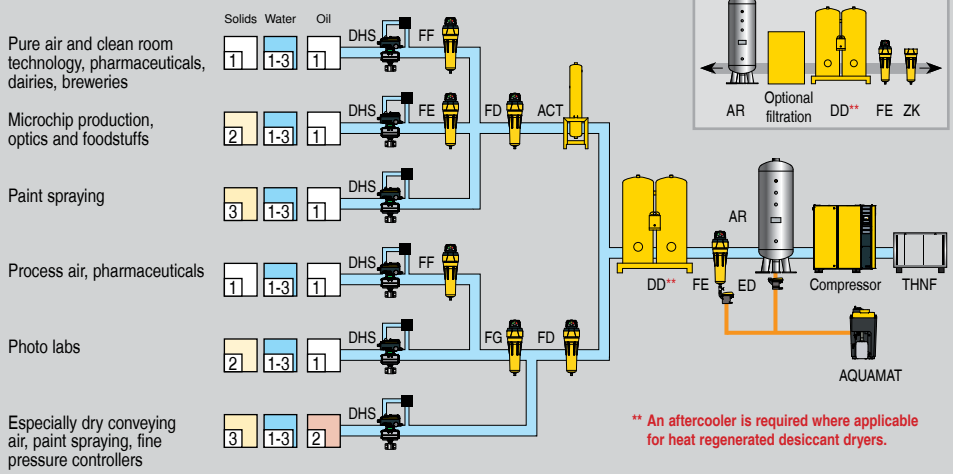
Air treatment using a refrigeration dryer (pressure dew point +3 °C)

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



* FE microfilters can be optionally installed in TG to TI series refrigeration dryers.

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



** An aftercooler is required where applicable for heat regenerated desiccant dryers.

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
FG	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	$0 < C_p \leq 5$		
7	$5 < C_p \leq 10$		
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	$C_W \leq 0.5$
8	$0.5 < C_W \leq 5$
9	$5 < C_W \leq 10$
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

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