

Rotary Screw Compressors ASK Series

With the world-renowned SIGMA PROFILE 

Free air delivery 1.70 to 3.50 m³/min, Pressures 8 – 11 – 15 bar



ASK series

ASK – Reliable and 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 impressive feat has been achieved both through airend optimisation and the minimisation of internal pressure losses.

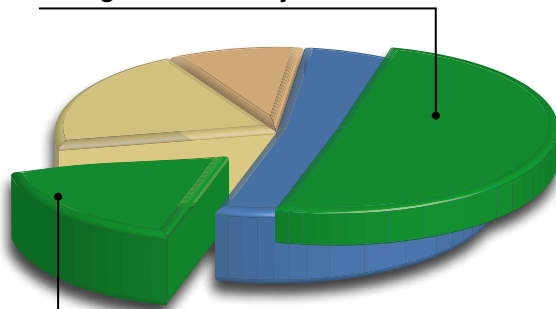
Exceptional efficiency

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 energy-saving Sigma Profile airend rotors and the use of premium efficiency IE3 motors have significantly contributed to the increased performance of these versatile compressors. The addition of the SIGMA CONTROL 2 internal controller and 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 door can be removed in a few simple steps and allows excellent visibility of the system's intelligently laid out components. Needless to say, the ASK series was designed to ensure 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

The powerhouse



Image: ASK 35



ASK series

Quality is in the details



SIGMA PROFILE^{air}end

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.



Maximum efficiency: IE3 motors

Kaeser rotary screw airends are powered by IE3 drive motors for maximum performance and reliability. These motors will become obligatory 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.



Service-friendly savings

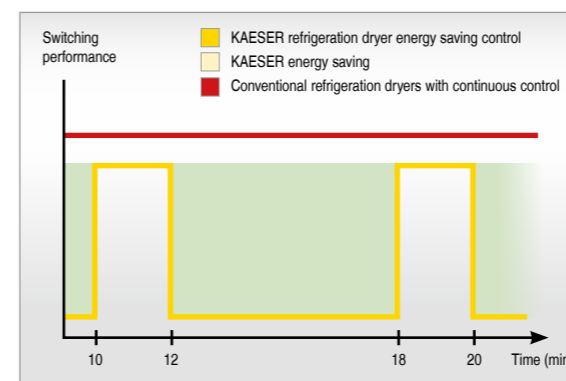
Excellent accessibility to all maintenance and service-relevant components minimises maintenance effort and therefore costs. This helps to increase compressed air availability and minimises operating costs.



Image: ASK 35 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 active only when compressed air actually needs to be dried: This approach therefore achieves the required compressed air quality with maximum efficiency.



Stainless steel condensate separator

KAESER's corrosion-free stainless steel condensate separators provide dependable compressed air drying and ensure reliable condensate separation even at partial load. This is especially important for compressor systems with standby dryers.



Stainless steel plate heat exchanger

The dryer's stainless steel plate heat exchanger is corrosion and contamination-resistant. Even with fluctuating airflow, the separate stainless steel condensate separator reliably removes the accumulating condensate from the air.



Refrigeration dryer with ECO DRAIN

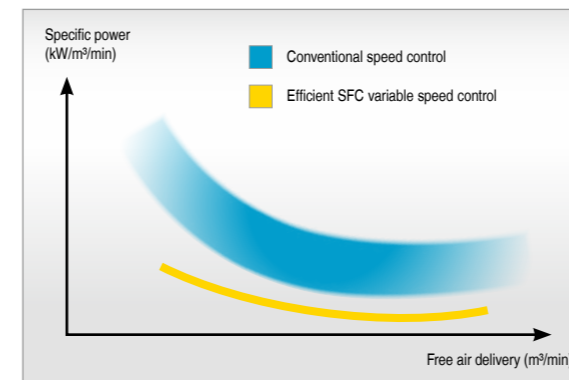
The refrigeration dryer is equipped with an ECO DRAIN automatic condensate drain. The advanced level-controlled condensate drain eliminates the compressed air losses associated with solenoid valve control. This both saves energy and considerably enhances the reliability of the compressed air supply.

ASK SFC series

Modular design – Dependable performance



Image: ASK 32 SFC



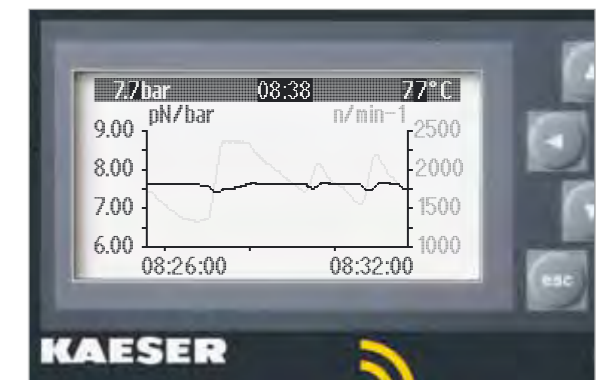
Optimised specific power

In any compressed air installation, it is the variable speed controlled compressor that has the toughest job 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.



Siemens frequency converter

Siemens frequency converters are used in KAESER's variable speed compressors for several reasons: They provide seamless communication between the SFC control cabinet and the compressor controller thereby ensuring maximum efficiency at all times.



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 are tested and certified both as individual components and as a system to EMC directive EN 55011 for Class A1 industrial power supplies.



Equipment

Complete unit

Ready for operation, fully automatic, super silenced, vibration damped, all panels powder coated.

Sound insulation

Panels lined with laminated mineral wool.

Vibration damping

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 coolers for compressed air and fluid; fan.

Refrigeration dryer

CFC-free, R 134a refrigerant, fully insulated, permanently sealed refrigerant circulation, hot-gas bypass control, electronic condensate drain.

SIGMA CONTROL 2

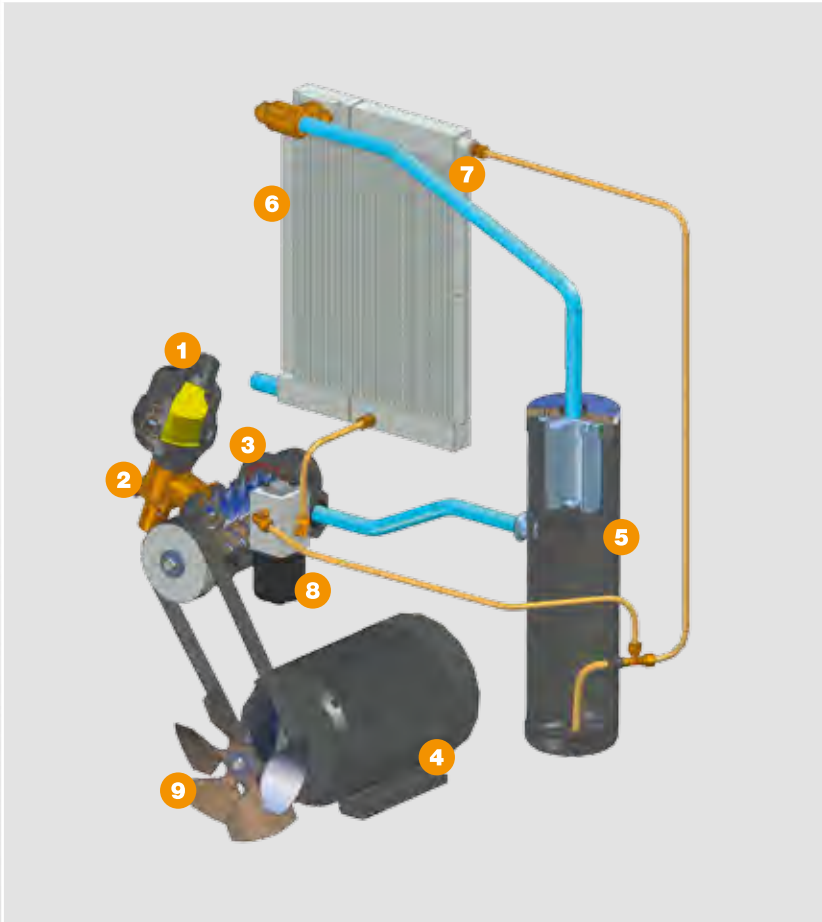
“Traffic light” LED indicators show operational status at a glance, plain text display, 30 selectable languages, soft-touch keys with icons, fully automated monitoring and control. Selection of Dual, Quadro, Vario and continuous control as standard. Interfaces: Ethernet; additional optional communication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

The ASK is also optionally available with the SIGMA CONTROL BASIC controller.



Rotary screw airend with energy-saving SIGMA PROFILE rotors

General design



Standard version

- 1 Intake 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

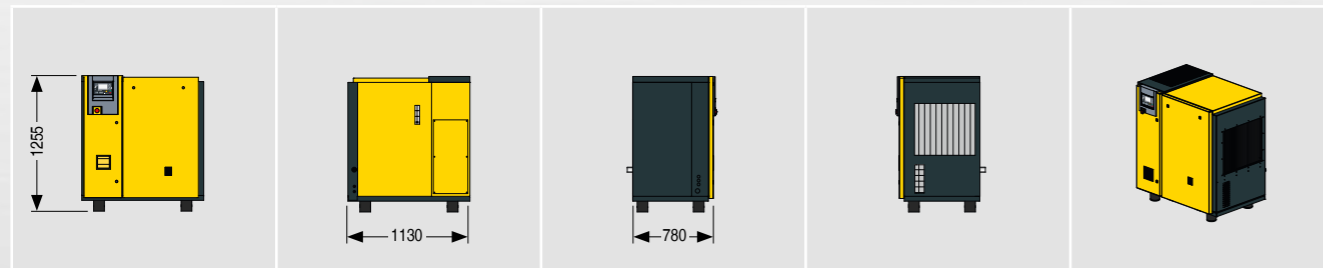


SIGMA CONTROL 2 controller

Technical specifications

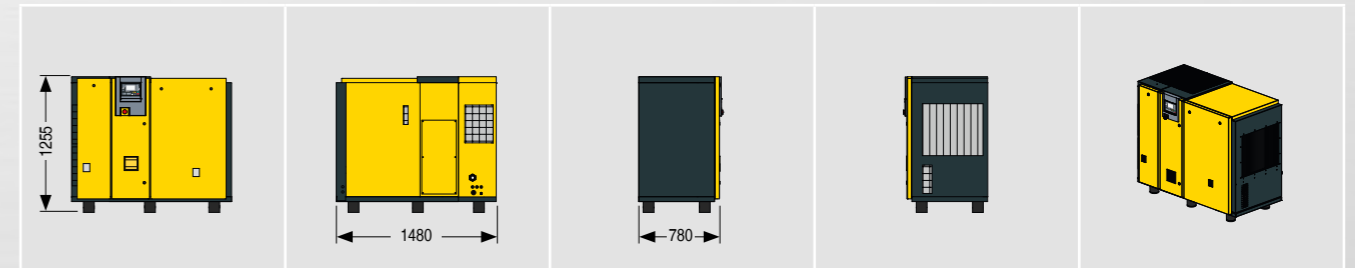
Standard version

Model	Working pressure bar	FAD *) Complete package at working pressure m³/min	Max. operating pressure bar	Rated motor power kW	Dimensions W x D x H mm	Air connection	Sound pressure level **) dB(A)	Weight kg
ASK 27	7.5	2.60	8	15	1130 x 780 x 1255	G 1 1/4	65	390
	10	2.18	11					
	13	1.70	15					
ASK 32	7.5	3.15	8	18.5	1130 x 780 x 1255	G 1 1/4	67	405
	10	2.66	11					
	13	2.05	15					
ASK 36	7.5	3.05	8	22	1130 x 780 x 1255	G 1 1/4	69	420
	10	2.96	11					
	13	2.37	15					



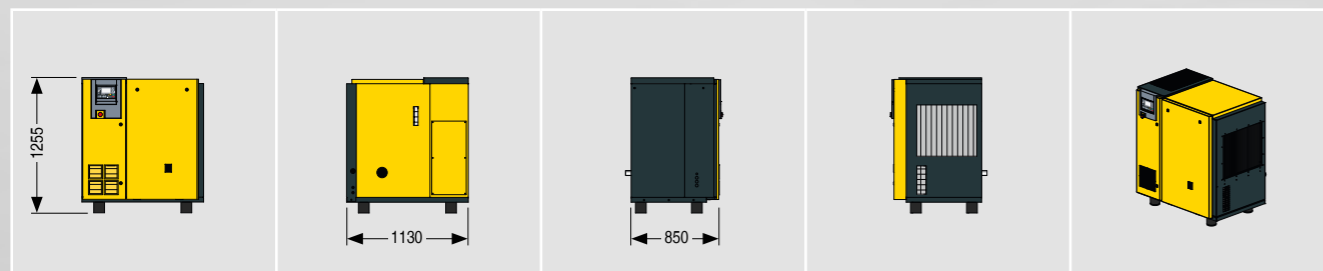
T - Version with integrated refrigeration dryer (R 134a refrigerant)

Model	Working pressure bar	FAD *) Complete package at working pressure m³/min	Max. working pressure bar	Rated motor power kW	Refrigeration dryer power consumption **) kW	Dimensions W x D x H mm	Air connection	Sound pressure level **) dB(A)	Weight kg
ASK 27 T	7.5	2.60	8	15	0.52	1480 x 780 x 1255	G 1 1/4	65	465
	10	2.18	11						
	13	1.70	15						
ASK 32 T	7.5	3.15	8	18.5	0.65	1480 x 780 x 1255	G 1 1/4	67	480
	10	2.66	11						
	13	2.05	15						
ASK 35 T	7.5	3.50	8	22	0.685	1480 x 780 x 1255	G 1 1/4	69	495
	10	2.95	11						
	13	2.37	15						



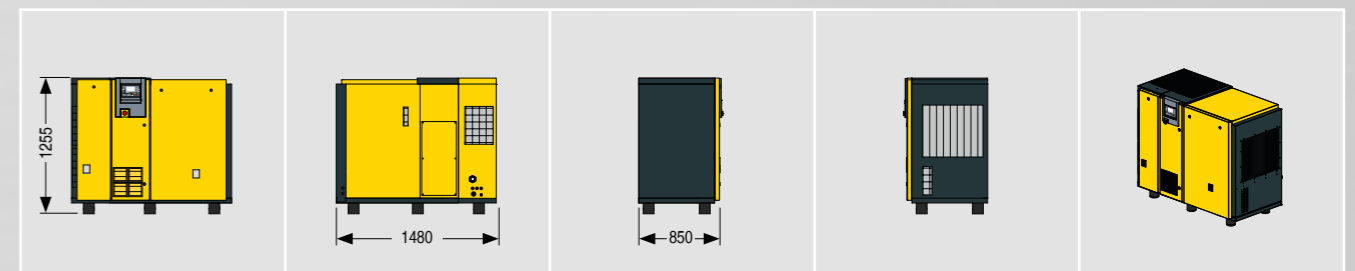
SFC - Version with variable speed drive

Model	Working pressure bar	FAD *) Complete package at working pressure m³/min	Max. operating pressure bar	Rated motor power kW	Dimensions W x D x H mm	Air connection	Sound pressure level **) dB(A)	Weight kg
ASK 32 SFC	7.5	0.78 - 2.91	8	18.5	1130 x 850 x 1255	G 1 1/4	68	425
	10	0.59 - 2.38	11					
	13	0.67 - 1.84	15					



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

Model	Working pressure bar	FAD *) Complete package at working pressure m³/min	Max. working pressure bar	Rated motor power kW	Refrigeration dryer power consumption **) kW	Dimensions W x D x H mm	Air connection	Sound pressure level **) dB(A)	Weight kg
ASK 32 T SFC	7.5	0.78 - 2.91	8	18.8	0.65	1480 x 850 x 1255	G 1 1/4	68	500
	10	0.59 - 2.38	11						
	13	0.67 - 1.84	15						

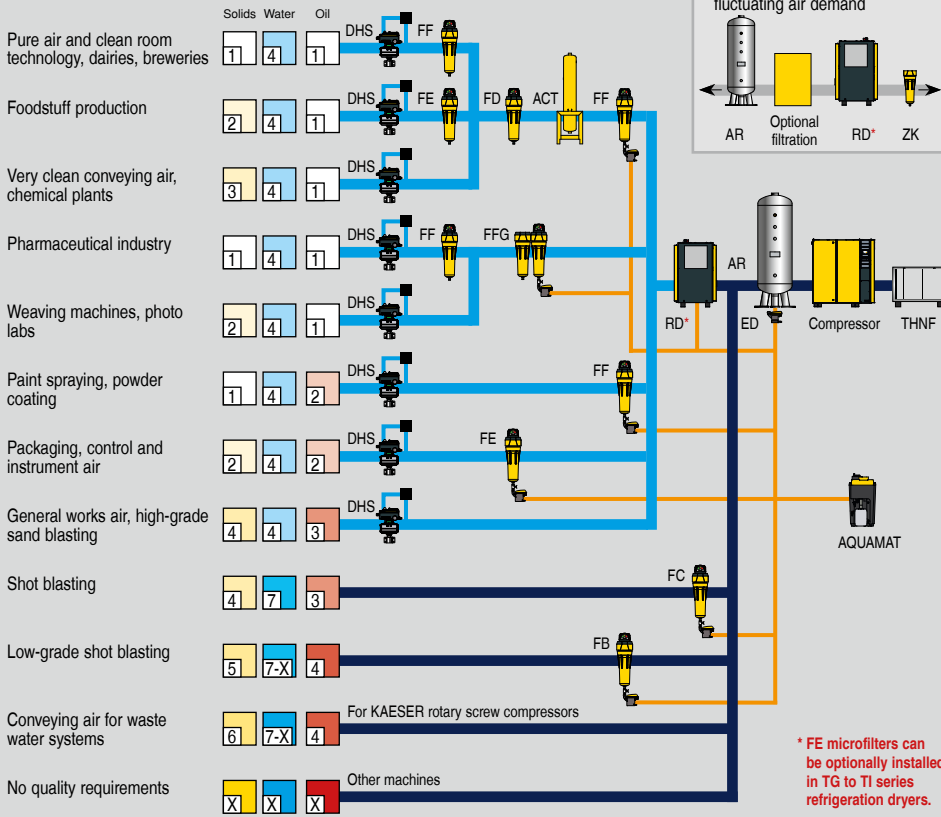


*) FAD in accordance with ISO 1217 : 2009, Annex C: absolute inlet pressure 1 bar (a), cooling and air inlet temperature 20 °C
**) Sound pressure level as per ISO 2151 and the basic standard ISO 9614-2, tolerance: ± 3 dB(A)

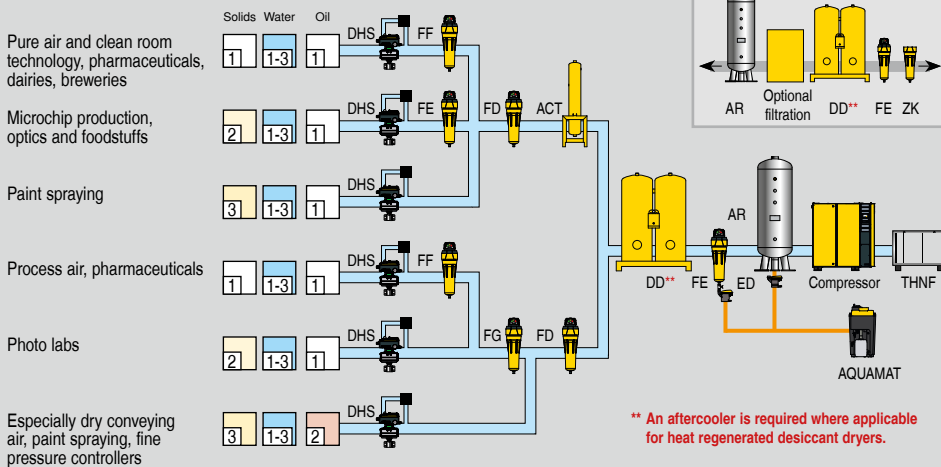
Choose the required grade of treatment according to your field of application:

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
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 m ³ 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/m ³ *		
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/m ³ *
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/m ³]*
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



KAESER COMPRESSORS Australia Pty. Ltd.

Locked Bag 1406 – Dandenong South – Vic. 3164
45 Zenith Road – Dandenong – Vic. 3175

Phone: +61 3 9791 5999 – Fax: +61 3 9791 5733 – E-mail: info.australia@kaeser.com – www.kaeser.com