KAESER COMPRESSORS

Rotary Screw Compressors ASD Series

With the world-renowned SIGMA PROFILE

Free air delivery 2.09 to 5.51 m³/min, Pressure 5.5 – 15 bar

ASD series

ASD – Long-term savings

Today's users expect maximum availability and efficiency from their compressors, regardless of size. ASD 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.

ASD – Quadruple savings

These high performance systems help save energy in four ways: 1. Flow-optimised SIGMA PROFILE rotors improve specific power. 2. The use of IE3 drive motors maximises energy efficiency (these motors will become mandatory in the EU from the 1st of January 2015). 3. Kaeser's 1:1 drive design eliminates the transmission losses associated with gear or V-belt driven systems, as the motor directly drives the airend. 4. The newly developed PC-based "SIGMA CONTROL 2" compressor controller enables compressor performance to be precisely matched to actual air demand thereby allowing additional energy savings.

Ease of maintenance ensures savings

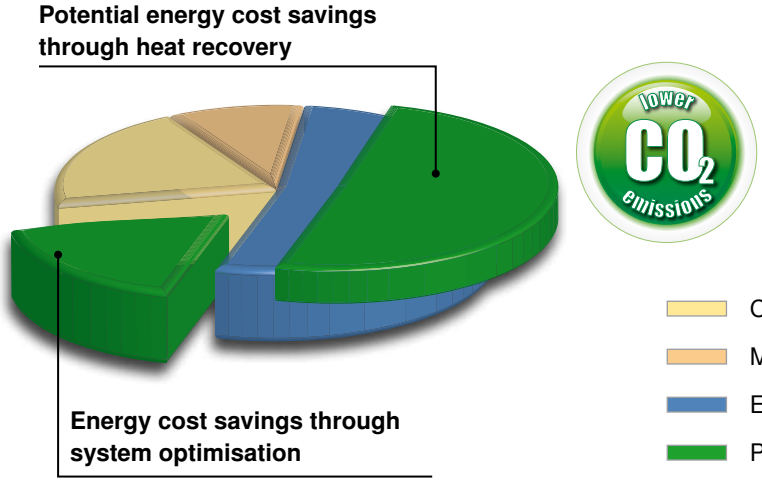
The distinctive and eye-catching design of these systems from the outside is complemented by intelligent component layout on the inside for even greater energy efficiency: All service and maintenance points are within easy reach and directly accessible. This saves both time and money when it comes to servicing.

Perfect partners

ASD series rotary screw compressors are the perfect partners for high-efficiency industrial compressed air stations. The internal SIGMA CONTROL 2 compressor controller offers numerous communication channels, which allows seamless communication with advanced master controllers, such as KAESER's SIGMA AIR MANAGER, and in-house centralised control systems. This enables simple setup and achieves unprecedented levels of efficiency.

Enhanced cooling

KAESER's innovative cooling concept features external coolers to provide significant user advantages: Because the motor cooling air is not "pre-warmed", it provides significantly enhanced cooling performance. Moreover, cooler status can be checked at a glance and cleaning of these compact units couldn't be easier.

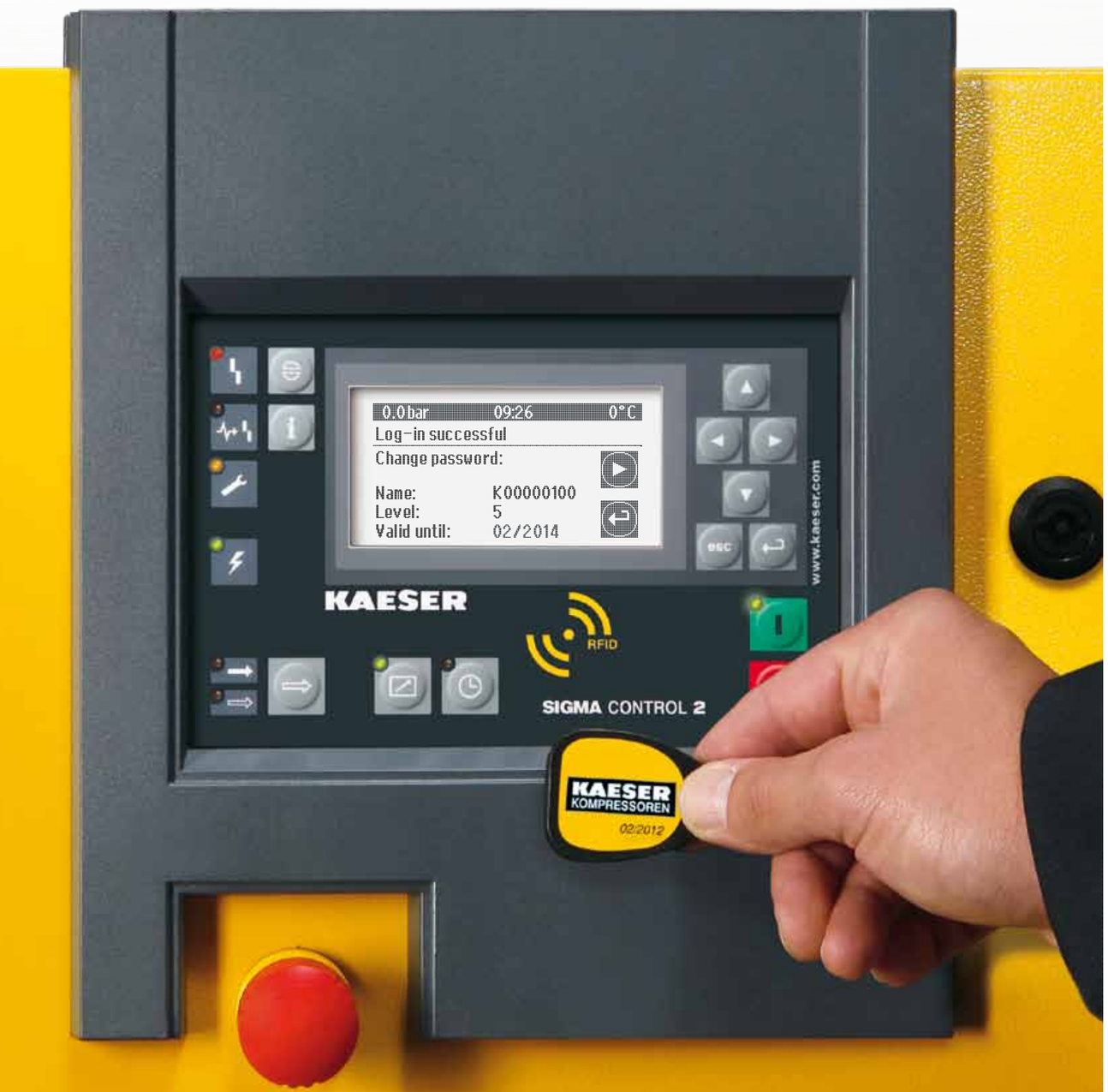


KAESER COMPRESSORS

Compact efficiency

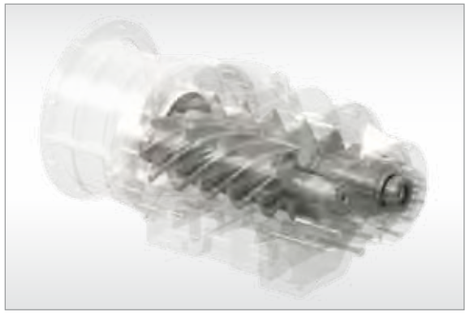
MADE IN GERMANY

Image: ASD 47



ASD series

Uncompromising efficiency



SIGMA PROFILE airend

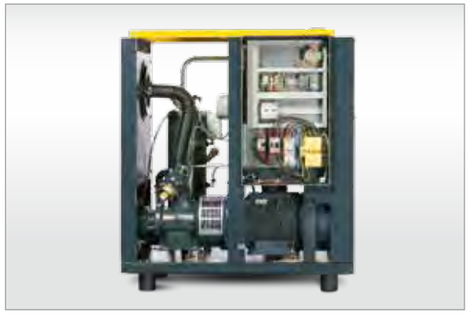
At the heart of every ASD system lies a premium quality airend featuring Kaeser's SIGMA PROFILE rotors. Operating at low speed, KAESER's airends are equipped with flow-optimised rotors for superior efficiency.

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 easy.

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 ASD series rotary screw compressors.



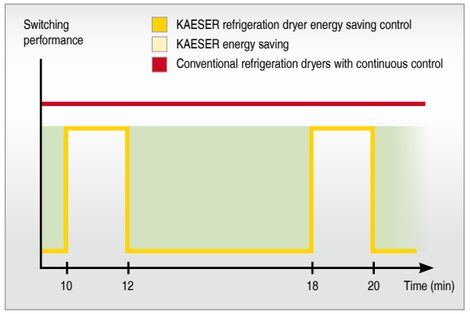
Service-friendly savings

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: ASD 47 T SFC

ASD T series

Premium compressed air quality with an integrated refrigeration dryer



Energy-saving control

The integrated refrigeration dryer in ASD-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.

Dependable centrifugal separator

A centrifugal separator fitted with an electronic ECO DRAIN condensate drain installed upstream from of the refrigeration dryer ensures that condensate is reliably pre-separated and drained, even when ambient temperatures and humidity are high.

Stainless steel plate heat exchanger

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

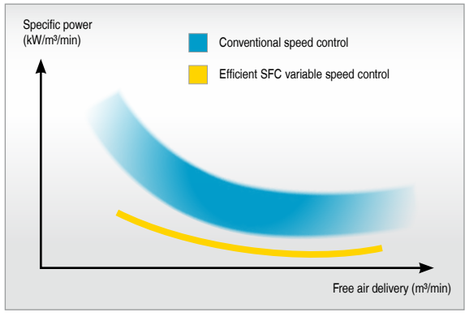
Refrigeration dryer with ECO DRAIN

The refrigeration dryer also features an ECO 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.

Image: ASD 47 T SFC

ASD SFC series

Variable speed control perfected

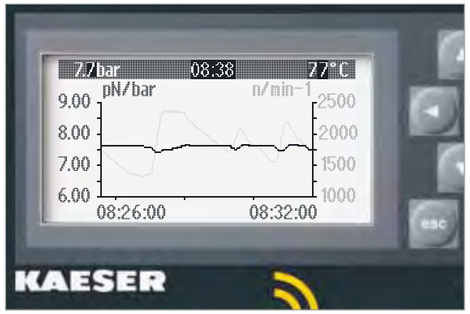


Optimised specific power

The variable speed compressor is the most heavily loaded piece of equipment in every compressor station. ASD-SFC models are therefore designed to provide maximum efficiency without running at extreme speeds. This saves energy, maximises service life and enhances reliability.

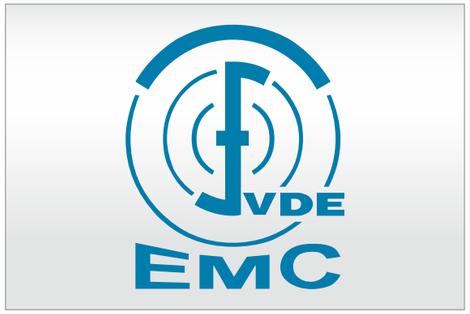
Separate SFC control cabinet

The SFC variable speed drive is housed in its own control cabinet to shield it 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 both as individual components and as a system to EMC directive EN 55011 for Class A1 industrial power supplies.


IE3
KAESER
ASD 47
SIGMA

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. Directly driven.

Drive

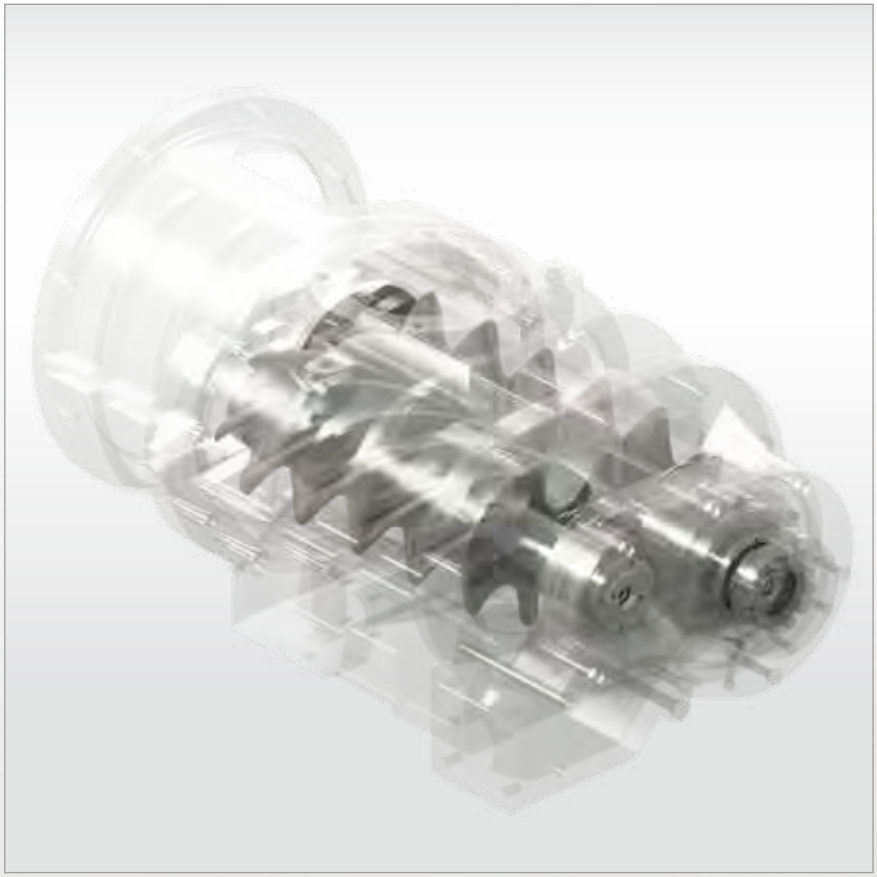
Direct, high-flex coupling, without gearing.

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.



Rotary screw airend with energy-saving SIGMA PROFILE rotors

Fluid and air flow

Dry air filter; pneumatic inlet and venting valve; cooling fluid reservoir with triple separation system; pressure relief valve, minimum pressure check valve, thermostatic valve and micro-filter in coolant circuit, all fully piped using flexible couplings.

Cooling

Air cooled; separate aluminium coolers for compressed air and fluid, radial fan driven by its own motor.

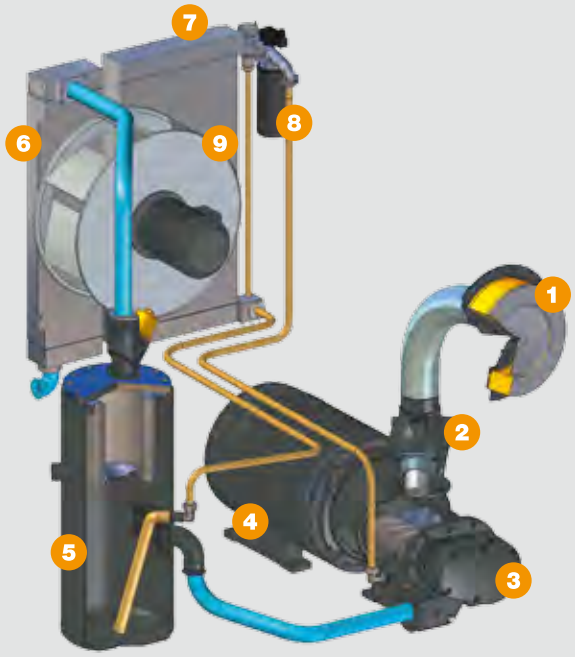
Refrigeration dryer

CFC-free, R134a refrigerant, fully insulated, hermetically sealed refrigerant circuit, hot-gas bypass control, electronic condensate drain and upstream centrifugal separator.

SIGMA CONTROL 2

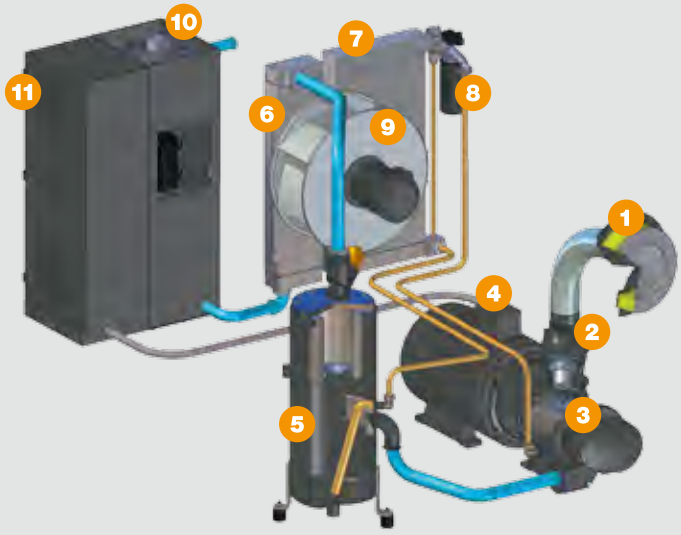
“Traffic light” LED indicators show operational status at a glance, plain text display, 30 selectable languages, soft-touch keys with icons, fully automated monitoring and control. Selection of Dual, Quadro, Vario, Dynamic and continuous control as standard. Interfaces: Ethernet; additional optional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

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



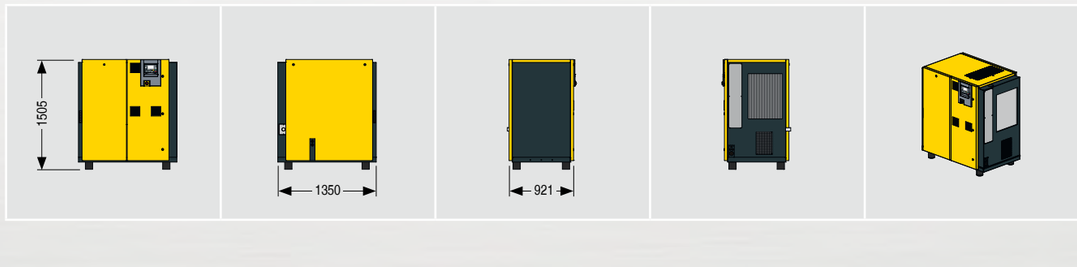
T SFC version

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
10. Integrated refrigeration dryer (T models)
11. SFC frequency converter

Technical specifications

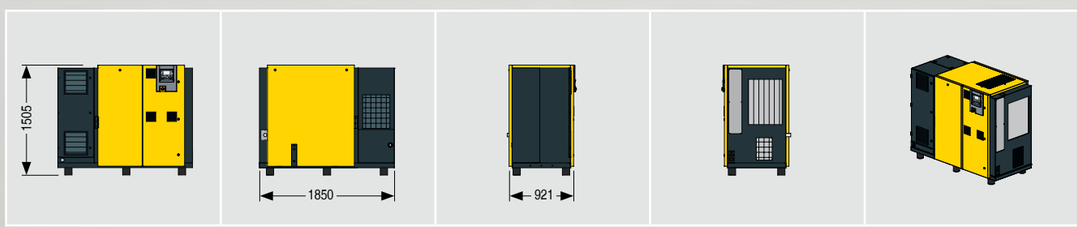
Standard version

Model	Working pressure bar	FAD *) Complete package at working pressure m³/min	Max. working pressure bar	Rated motor power kW	Dimensions W x D x H mm	Air connection	Sound pressure level **) dB(A)	Weight kg
ASD 32	7.5	3.16	8	18.5	1350 x 921 x 1505	G 1¼	65	580
	10	2.72	11					
	13	2.09	15					
ASD 37	7.5	3.90	8	22	1350 x 921 x 1505	G 1¼	66	655
	10	3.12	11					
	13	2.65	15					
ASD 47	7.5	4.57	8	25	1350 x 921 x 1505	G 1¼	66	665
	10	3.84	11					
	13	2.99	15					
ASD 57	7.5	5.51	8	30	1350 x 921 x 1505	G 1¼	69	720
	10	4.44	11					
	13	3.67	15					



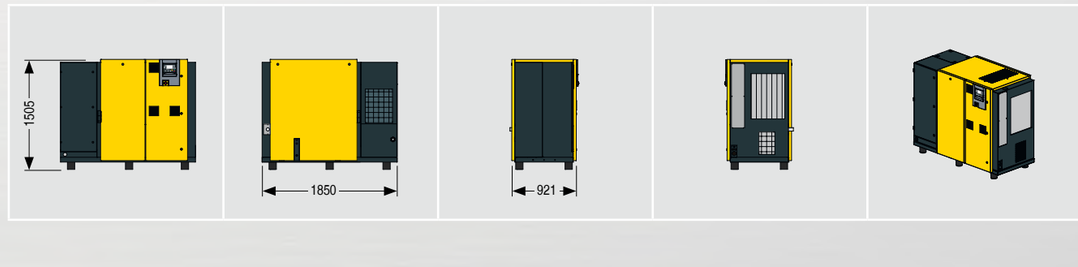
SFC - Version with variable speed drive

Model	Working pressure bar	FAD *) Complete package at working pressure m³/min	Max. working pressure bar	Rated motor power kW	Dimensions W x D x H mm	Air connection	Sound pressure level **) dB(A)	Weight kg
ASD 32 SFC	7.5	0.69 - 3.32	10	18.5	1850 x 921 x 1505	G 1¼	67	715
	10	0.90 - 2.86	10					
ASD 37 SFC	7.5	0.82 - 4.05	8.5	22	1850 x 921 x 1505	G 1¼	68	790
	10	0.61 - 3.58	15					
	13	0.56 - 3.17	15					
ASD 47 SFC	7.5	1.07 - 4.92	8.5	25	1850 x 921 x 1505	G 1¼	68	800
	10	0.79 - 4.12	11					
	13	0.60 - 3.60	15					



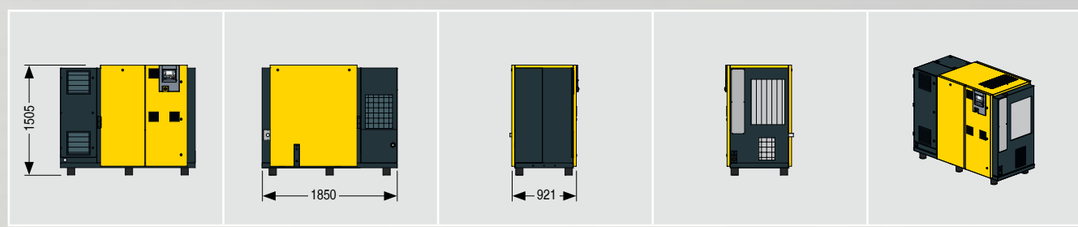
T - Version with integrated refrigeration dryer (R 134a refrigerant)

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
ASD 32 T	7.5	3.16	8	18.5	0.53	1850 x 921 x 1505	G 1¼	65	740
	10	2.72	11						
	13	2.09	15						
ASD 37 T	7.5	3.90	8	22	0.53	1850 x 921 x 1505	G 1¼	66	820
	10	3.12	11						
	13	2.65	15						
ASD 47 T	7.5	4.57	8	25	0.8	1850 x 921 x 1505	G 1¼	66	830
	10	3.84	11						
	13	2.99	15						
ASD 57 T	7.5	5.51	8	30	0.8	1850 x 921 x 1505	G 1¼	69	890
	10	4.44	11						
	13	3.67	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
ASD 32 T SFC	7.5	0.69 - 3.32	10	18.5	0.53	1850 x 921 x 1505	G 1¼	67	825
	10	0.90 - 2.86	10						
ASD 37 T SFC	7.5	0.82 - 4.05	8.5	22	0.53	1850 x 921 x 1505	G 1¼	68	900
	10	0.61 - 3.58	15						
	13	0.56 - 3.17	15						
ASD 47 T SFC	7.5	1.07 - 4.92	8.5	25	0.8	1850 x 921 x 1505	G 1¼	68	910
	10	0.79 - 4.12	11						
	13	0.60 - 3.60	15						

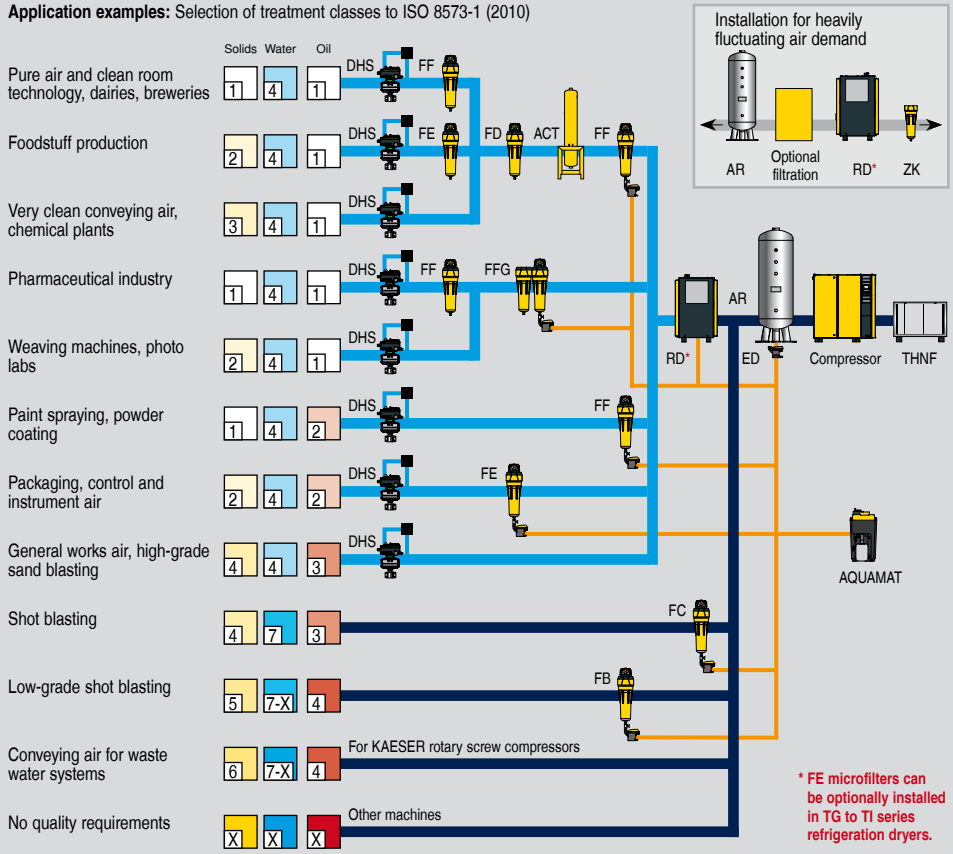


*) FAD in accordance with ISO 1217 : 2009, Annex C: absolute inlet pressure 1 bar (a), cooling and air inlet temperature 20 °C
**) Sound pressure level as per ISO 2151 and the basic standard ISO 9614-2, tolerance: ± 3 dB(A)

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

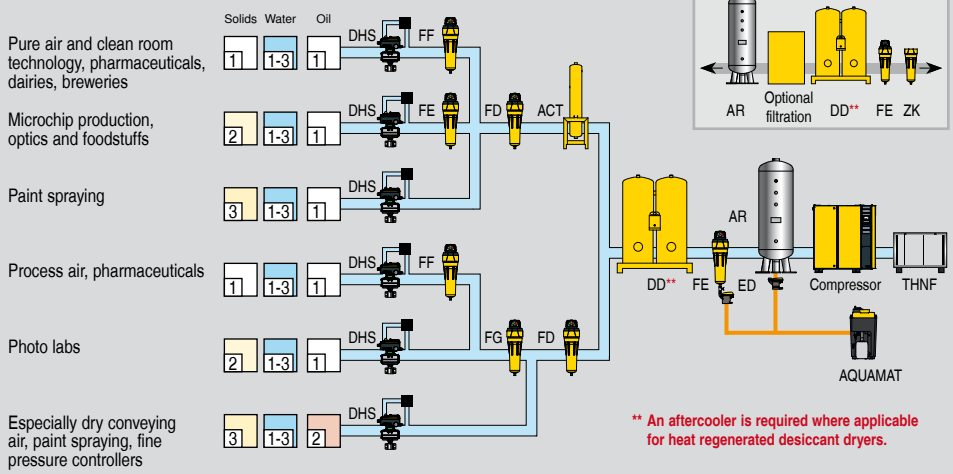
Air treatment using a refrigeration dryer (pressure dew point +3 °C)

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



* 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

LGA InterCert
Certified QM/EM System
ISO 9001:2008 / ISO 14001:2004

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