

AIRTOWER

FAD 0.233 to 1.145 m³/min
Pressure 7.5/10/13 bar



What do you expect from a compressor?

Compressed air should always be available in the correct volume and quality to meet your company's requirements. Condensate-free compressed air tailored to the specific application not only ensures maximum reliability, but also significantly reduces maintenance costs.

At least two key components are required to achieve this: A compressor and a compressed air dryer.

However, each unit usually requires its own floor space, which in many cases is at a premium. Even if sufficient room is available, the principle of 'Space is Money' still applies.

Therefore, the ideal solution would be a compact compressed air system that requires minimal floor space.

The AIRTOWER solution

Modular in design, KAESER AIRTOWERS incorporate a powerful rotary screw compressor mounted directly above a high-efficiency refrigeration air dryer, consequently eliminating the need for additional floor space.

KAESER AIRTOWER systems fulfil all of your compressed air needs: they are efficient, quieter than quiet, require minimal maintenance, are extremely reliable, simple to install and deliver the very best in air quality.



AIRTOWER – Maximising Space

Intelligent design

Unlike packaged systems that are crammed into one cabinet, a major design feature of the KAESER AIRTOWER range is that the compressor and dryer are both completely separate, independently functioning units. This means that each can be operated individually making it possible to isolate and service the dryer whilst the compressor is operating. Contained in its own separate cabinet there is sufficient space to allow the dryer components to be generously sized yet easily accessible.

Servicing made easy:

Component accessibility is optimised through simplicity of design, wide opening doors and removable panels that greatly simplify maintenance. The compressor can be accessed through the door 1, hinged lid 2 and removable panel 3.

When panel 4 is removed the dryer unit can be pulled out like a drawer so that all components to be serviced are accessible.

Behind doors 5 and 6 are the separate control cabinets of the compressor and dryer, electrically equipped to EN 60204, protected from dust and splash-proof to IP54.



Minimum space requirement - maximum system flexibility

AIRTOWER versions 3 to 11 have a footprint of only 0.53 m². The compressor and dryer are both designed as completely separate functioning modules. Unlike compact single-cabinet solutions, this means that each can be operated independently of the other, **making it possible to isolate and service the dryer whilst the compressor continues to deliver compressed air.**



AIRTOWER 3 to 11: 0.53 m²

The screw compressor – a separate unit

Intelligent design means that no additional floor space is required for the refrigeration dryer

Compact footprint



Fully piped and ready to use, the standard AIRTOWER version is simply connected to an existing air receiver via ball-valve and hose.



An alternative version allows the receiver to be connected upstream of the dryer. The air receiver is used as a condensate separator and must be fitted with an ECO-DRAIN automatic condensate drain.

Turnkey operation

The compressor, centrifugal separator and refrigeration dryer are delivered fully piped and ready for operation. The electronic condensate drain on the centrifugal separator is supplied already fitted and the dryer is equipped with power cable and plug.

Energy-saving SIGMA PROFILE



Each KAESER rotary screw compressor airend uses SIGMA PROFILE rotors, specially developed by KAESER, that require approximately 15 percent less energy than conventional rotors with the same air delivery capacity.

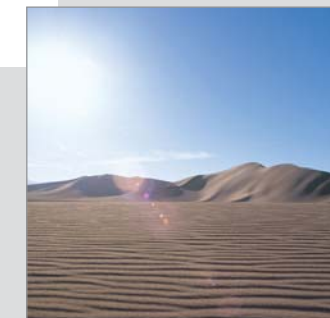
SIGMA CONTROL



The SIGMA CONTROL automatically controls and monitors the compressor package. It is a robust PC-based industrial computer with real-time operating system and update capability. A plain text display and traffic-light style LEDs clearly show the operational state of the machine at a glance. A choice of four control modes is available to allow selection

of the most appropriate for a specific application. Interfaces are provided for modem / printer, a second compressor for base-load sequencing or a data network (Profibus DP) connection that enables system access via KAESER's Teleservice facility. The refrigeration dryer is equipped with an independent control panel and on/off/emergency stop switch.

Dry Air as Standard



The Airtower produces dry air with a pressure dew point of +3 °C reliably and cost-effectively. KAESER AIRTOWER systems have redefined the concept of compact compressor packages by using components of the highest quality. A centrifugal separator equipped with an electronic ECO DRAIN is installed upstream from the dryer to ensure

reliable, efficient air drying. Condensate accumulating in the refrigeration dryer is removed safely and effectively without pressure loss via an electronic ECO DRAIN condensate drain.

Equipment

Complete package: ready for operation, fully automatic: rotary screw compressor, centrifugal separator with electronic condensate drain, refrigeration dryer, powder-coated panels throughout.

Sound insulation: plastic foam with washable surface.

Anti-vibration: dual anti-vibration mountings using rubber bonded metal elements.

Compressor unit: KAESER rotary screw, single-stage airend with cooling fluid injection, V-belt drive with automatic tensioning, energy-efficient quality German electric motor to IP 54 and insulation class F with permanently greased bearings.

Fluid and air flow: changeable filter mats in the cabinet inlet, dry air filter with silencer, pneumatic inlet and venting valve, cooling fluid reservoir tank with triple separation system, pressure relief valve, minimum pressure/check valve, thermostatic valve and microfilter, fixed pipework with flexible connectors, filled with SIGMA FLUID cooling fluid.

Cooling: air-cooled, combined fluid and compressed air cooler (aluminium).

Controller: ergonomic control panel, traffic-light style LEDs (green, yellow, red) show the operational status of the compressor, user-friendly operation via clearly marked icon keys and large display, fully automatic dual control (on-load/off-load/cycling control), monitoring of system pressure, airend discharge temperature, direction of airend rotation, hours counter (on-load/off-load), adjustable service interval, selection of measurement units (pressure: bar, psi, MPa; temperature: °C, °F), individually adjustable system pressure, 'group alarm' volt-free contact, adjustable switching differential, electronic pressure transducer.

Refrigeration dryer: CFC free, R 134a refrigerant, service module, thermally insulated, permanently sealed refrigerant circuit, hot-gas bypass regulation, electronic condensate drain.

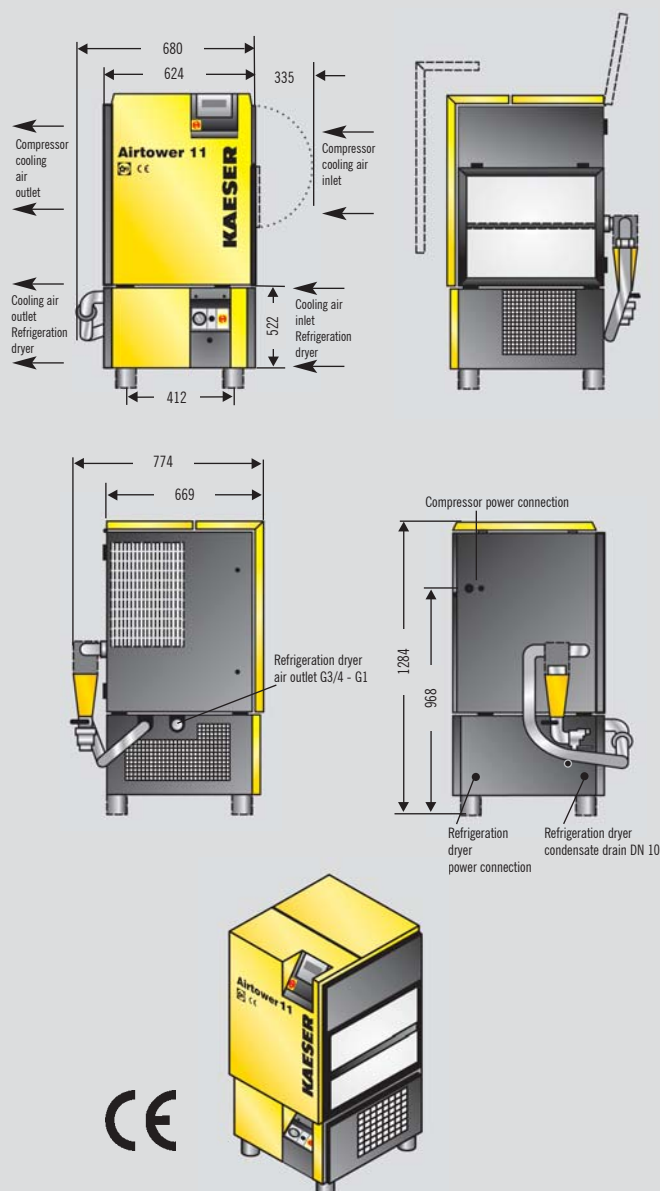
Electrical components: control cabinet to IP 54 containing star-delta starter (except Airtower 3), motor overload protection, control transformer, IP 54 control cabinet for the refrigeration dryer.

Optional equipment: modulating control (partial load control), ambient temperature up to +46 °C.

Special version: without hoses or centrifugal separator.

Dimensions

Dimensions: AIRTOWER 3 to 11



Specifications

Model	Max. working pressure bar	FAD*) overall package at working pressure m³/min	Rated motor power kW	Dryer power consumption kW	Rated motor power kW	Dimensions L x W x H	Sound level** dB(A)	Weight kg
AIRTOWER 3	7.5	0.313						
	10	0.233	2.2	0.34	R 134 a	680 x 774 x 1284	65	230
AIRTOWER 4	7.5	0.424						
	10	0.329	3	0.34	R 134 a	680 x 774 x 1284	66	230
AIRTOWER 6	7.5	0.583						
	10	0.466	4	0.34	R 134 a	680 x 774 x 1284	66	230
AIRTOWER 8	13	0.36						
	7.5	0.816						
AIRTOWER 11	10	0.684	5.5	0.34	R 134 a	680 x 774 x 1284	68	240
	13	0.551						
	7.5	1.145						
	10	0.975	7.5	0.34	R 134 a	680 x 774 x 1284	69	250
	13	0.795						

* Performance data to ISO 1217: 1996, Annex C;

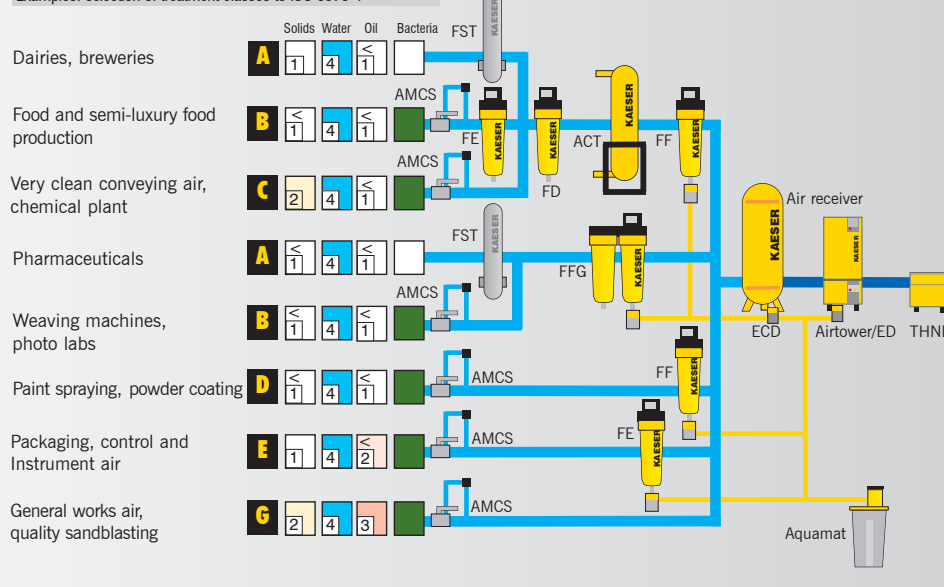
** Sound level to PN8NTC 2.3 at 1m distance, free-field measurement

Different fields of application require different grades of air treatment

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

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

Examples: selection of treatment classes to ISO 8573-1



- A** Aerosol oil $\leq 0.003 \text{ mg/m}^3$, particle retention $> 0.01 \mu\text{m}$, sterile, odourless and tasteless
- B** Aerosol oil $\leq 0.003 \text{ mg/m}^3$, particle retention $> 0.01 \mu\text{m}$
- C** Aerosol oil $\leq 0.003 \text{ mg/m}^3$, particle retention $> 1 \mu\text{m}$
- D** Aerosol oil $\leq 0.001 \text{ mg/m}^3$, particle retention $> 0.01 \mu\text{m}$
- E** Aerosol oil $\leq 0.01 \text{ mg/m}^3$, particle retention $> 0.01 \mu\text{m}$
- G** Aerosol oil $\leq 1 \text{ mg/m}^3$, particle retention $> 1 \mu\text{m}$

Contaminants:

+	solids	-
+	water	-
+	oil	-
+	bacteria	-

Explanation:

THNF = bag filter
cleans dusty and highly contaminated intake air

ZK = centrifugal separator
removes condensate

ED = ECO Drain
electronic level-controlled condensate drain

FD = particulate filter $1 \mu\text{m}$
separates dust particles (attrition) $1 \mu\text{m}$

FE = microfilter 0.01 ppm
separates aerosol oils and solid particles $> 0.01 \mu\text{m}$, oil content $\leq 0.01 \text{ mg/m}^3$

FF = microfilter 0.001 ppm
separates aerosol oils and solid particles $> 0.01 \mu\text{m}$, oil content $\leq 0.001 \text{ mg/m}^3$

FG = activated carbon filter
for adsorption of oil vapours, oil vapour content $\leq 0.003 \text{ mg/m}^3$

FFG = combination filter
comprising FF and FG

Airtower
rotary screw compressor with integrated refrigeration dryer, pressure dew point to $+3 \text{ }^\circ\text{C}$

FST = sterile filter
for bacteria-free air

Aquamat = condensate treatment system

AMCS = air-main charging system

Degree of filtration:

ISO 8573-1		Solid particles				Humidity	Overall oil content
		Max. no. of particles per m ³ with size d (µm)				Pressure dew point (x=liquid water in mg/m ³)	mg/m ³
Class	≤0.1	0.1<d≤0.5	0.5<d≤1.0	1.0<d≤5.0	µm	mg/m ³	
as specified by user							
1	—	100	1	0	—	≤−70 °C	≤0.01
2	—	100000	1000	10	—	≤−40 °C	≤0.1
3	—	—	10000	500	—	≤−20 °C	≤1.0
4	—	—	—	1000	—	≤+3 °C	≤5.0
5	—	—	20000	—	—	≤+7 °C	—
6	—	—	—	≤5	≤5	≤+10 °C	—
7	—	—	—	≤40	≤10	x ≤0.5	—
8	—	—	—	—	—	0.5 < x ≤5.0	—
9	—	—	—	—	—	5.0 < x ≤10.0	—