



# Rotary Screw Compressors

## ASK Series

With the world-renowned SIGMA PROFILE

Flow rate 0.79 to 4.65 m<sup>3</sup>/min, Pressure 5.5 to 15 bar

ASK series

# ASK – Maximum performance

Discerning users expect maximum compressed air availability and efficiency, even from smaller compressors. It will come as no surprise therefore that KAESER's ASK series rotary screw compressors go far beyond meeting these key expectations. Not only do they deliver more compressed air for less energy, but they also combine ease of use and maintenance with exceptional versatility and environmentally responsible design.

## More air for your money

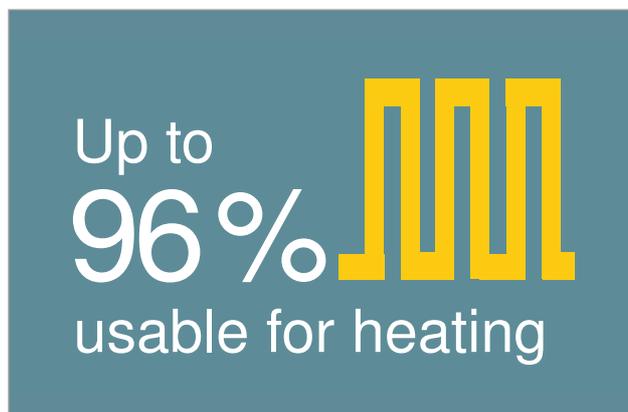
ASK rotary screw compressors are true class leaders when it comes to impressive performance. Thanks to a newly developed airend featuring further optimised SIGMA PROFILE rotors, as well as low speed operation, the latest ASK compressors deliver up to 16% higher flow rates compared to previous models.

## Energy-saving performance

The efficiency of a machine depends on the total costs incurred throughout the equipment's entire service life. 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 doors can be removed in a few simple steps, which 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.



Up to  
**96%**  
usable for heating

## Why choose heat recovery?

The question should in fact be: Why not? Amazingly, up to 100 % of the electrical energy input to a rotary screw compressor is converted into heat. Up to 96 % of this energy can be recovered and reused for heating purposes. This not only reduces primary energy consumption, but also significantly improves the applicable company's total energy balance.

# Powerful and service-friendly



Image: ASK 28



09:26 75°C  
Log-in successful  
Change password: K00000100  
Name: 5  
Level: 02/20XX  
Valid until:

KAESER



SIGMA CONTROL 2

KAESER  
KOMPRESSOREN  
02/20XX

ASK series

# Quality is in the details



## Save energy with the SIGMA PROFILE

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 and performance.



## SIGMA CONTROL 2 controller

The internal SIGMA CONTROL 2 controller ensures efficient compressor control and monitoring at all times. The large display and RFID reader provide easy communication and maximum security. Integration into the SIGMA NETWORK is also available.



## IE3 energy-saving motors

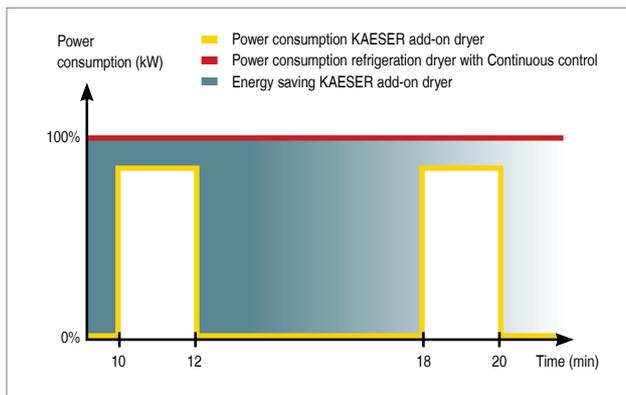
Naturally, every KAESER ASK series rotary screw compressor features an energy-saving, premium efficiency IE3 drive motor.



## Energy-saving radial fan

Driven by an independent motor, the radial fan assures low compressed air discharge temperatures and provides greater cooling performance with lower energy requirement. Needless to say, it also complies with the efficiency requirements of EU-Directive 327/2011.

# With energy-efficient add-on dryer



## Energy-saving control

The add-on refrigeration dryer in ASK-T units provides high-efficiency performance thanks to its energy-saving control. It is active only when compressed air actually needs to be dried. As a result, this approach achieves the required compressed air quality with maximum efficiency.

## Efficient refrigeration dryer

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



## Refrigeration dryer with ECO-DRAIN

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



## 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.

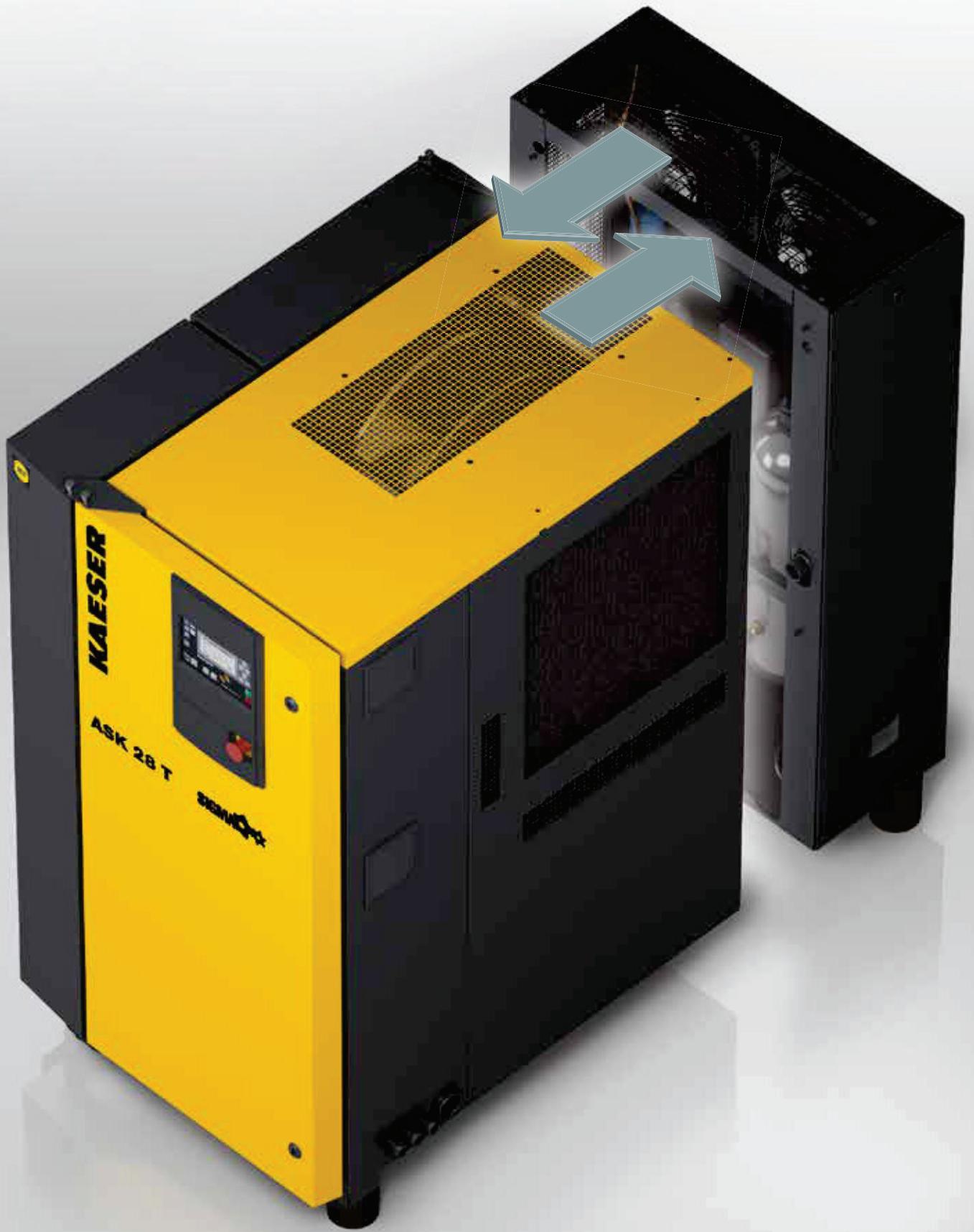
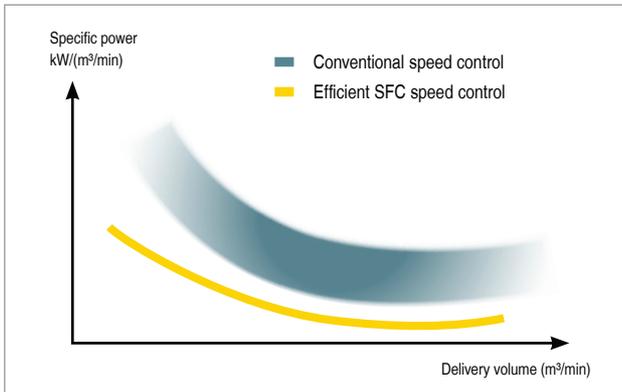


Image: ASK 28 T



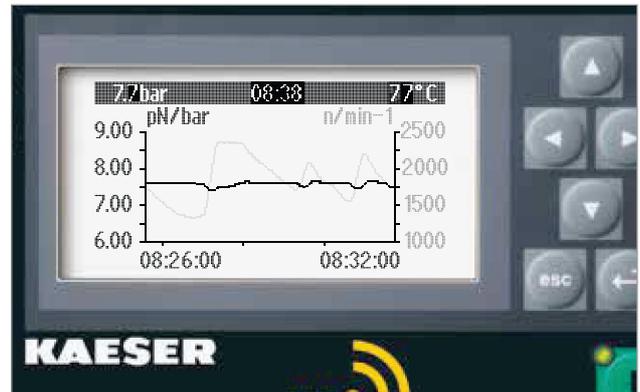
Image: ASK 40 T SFC

# Quality is in the details



## 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.



## Precision pressure control

The 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  $\pm 0.1$  bar. This allows maximum pressure to be reduced which saves both energy and money.



## 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.



## EMC-certified

It goes without saying that like all KAESER products, ASK SFC-series packages are tested and certified for electromagnetic compatibility to the European EMC directive as well as to the German EMC Act, as indicated by the VDE EMC mark.





# 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 damping

Double insulated anti-vibration machine mounts 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 airend cooling.

## Drive

V-belt drive with automatic belt tensioning.

## Electric motor

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

## Electrical components

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

## Fluid and air flow

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

## Cooling

Air-cooled; separate aluminium cooler for compressed air and cooling fluid; radial fan meets the high requirements regarding fan efficiency as demanded by the EU Directive 327/2011.

## Refrigeration dryer

CFC-free, R-134a refrigerant, fully insulated, hermetically sealed refrigerant circuit, scroll refrigerant compressor with energy-saving shut-off feature, hot gas bypass control, electronic level-controlled 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 automatic monitoring and control. Selection of Dual, Quadro, Vario, Dynamic and Continuous control as standard. Ethernet interface for connection to the SIGMA NETWORK; SD card slot for data recording and updates; RFID reader.

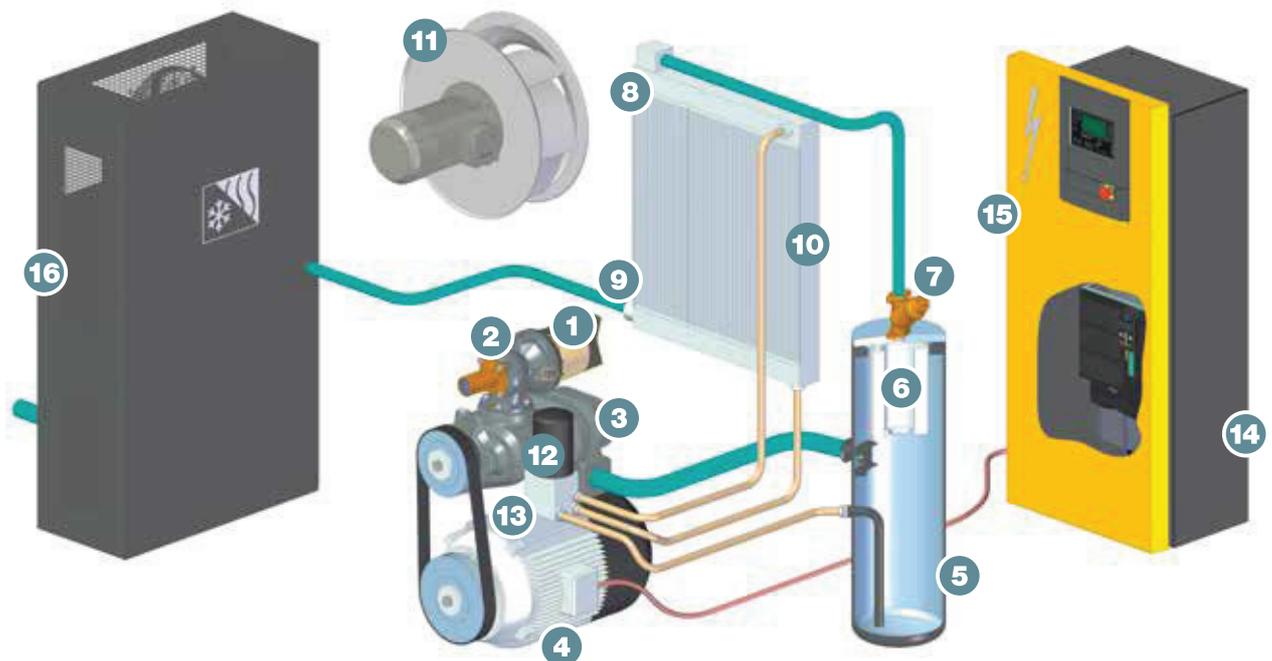
Connection to centralised control systems available via optional communications module for: Profibus DP, Modbus, Profinet and Devicenet, Webserver.

# How it works

The air to be compressed passes through the intake filter (1) and the inlet valve (2) into the SIGMA PROFILE compressor airend (3). The compressor airend (3) is driven by a high efficiency electric motor (4). The cooling oil injected for cooling purposes during the compression process is re-separated from the air in the fluid separator tank (5). The compressed air flows through the 2-stage oil separator cartridge (6) and the minimum pressure check valve (MDRV) (7) into the compressed air aftercooler (8).

The compressed air then leaves the system at the compressed air connection (9). The heat generated during the compression process is removed from the cooling oil via the fluid cooler (10) and dissipated into the environment with a separate fan with fan motor (11). The cooling oil is then cleaned by the fluid filter (12). The thermostatic valve (13) ensures consistent operating temperatures. The control cabinet (14) houses the internal SIGMA CONTROL 2 compressor controller (15) and, depending on the machine version, the star-delta starter or the frequency converter (SFC). Some systems also feature an optional add-on dryer (16) that dries the compressed air.

- (1) Intake filter
- (2) Inlet valve
- (3) Airend
- (4) Drive motor
- (5) Fluid separator tank
- (6) Oil separator cartridge
- (7) Minimum pressure check valve (MDRV)
- (8) Compressed air aftercooler
- (9) Compressed air connection
- (10) Fluid cooler
- (11) Fan with fan motor
- (12) Fluid filter
- (13) Thermostatic valve
- (14) Control cabinet
- (15) SIGMA CONTROL 2
- (16) Add-on dryer



# Technical specifications

## Standard version

Model	Working pressure	Flow rate *) Overall package at operating pressure	Max. operating pressure	Drive motor rated power	Dimensions W x D x H	Compressed air connection	Sound pressure level **)	Mass
	bar	m³/min	bar	kW	mm		dB(A)	
ASK 28	7.5	2.86	8	15	800 x 1110 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 1110 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 1110 x 1530	G 1 ¼	69	525
	10	3.52	11					
	13	2.94	15					



## SFC - Version with variable speed drive

Model	Working pressure	Flow rate *) Overall package at operating pressure	Max. operating pressure	Drive motor rated power	Dimensions W x D x H	Compressed air connection	Sound pressure level **)	Mass
	bar	m³/min	bar	kW	mm		dB(A)	
ASK 34 SFC	7.5	0.94 - 3.60	8	18.5	800 x 1110 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 1110 x 1530	G 1 ¼	70	550
	10	0.80 - 3.71	11					
	13	0.88 - 3.17	15					



\*) Flow rate complete system as per ISO 1217: 2009 Annex C/E: absolute inlet pressure 1 bar (a), cooling and air inlet temperature +20 °C

\*\*) Sound pressure level as per ISO 2151 and basic standard ISO 9614-2, tolerance: ± 3 dB (A)

\*\*\*) Power consumption (kW) at ambient temperature +20 °C and 30 % relative humidity

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

Model	Working pressure	Flow rate <sup>1)</sup> Overall package at operating pressure	Max. operating pressure	Drive motor rated power	Refrigeration dryer power consumption <sup>2)</sup>	Dimensions W x D x H	Compressed air connection	Sound pressure level <sup>3)</sup>	Mass
	bar	m <sup>3</sup> /min	bar	kW		mm		dB(A)	kg
<b>ASK 28 T</b>	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						
<b>ASK 34 T</b>	7.5	3.51	8.0	18.5	0.7	800 x 1460 x 1530	G 1 ¼	67	600
	10	3.00	11						
	13	2.50	15						
<b>ASK 40 T</b>	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						



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

Model	Working pressure	Flow rate <sup>1)</sup> Overall package at operating pressure	Max. operating pressure	Drive motor rated power	Refrigeration dryer power consumption <sup>2)</sup>	Dimensions W x D x H	Compressed air connection	Sound pressure level <sup>3)</sup>	Mass
	bar	m <sup>3</sup> /min	bar	kW		mm		dB(A)	kg
<b>ASK 34 T SFC</b>	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						
<b>ASK 40 T SFC</b>	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						



# The world is our home

As one of the world's largest compressed air system providers and compressor manufacturers, KAESER KOMPRESSOREN is represented throughout the world by a comprehensive network of branches, subsidiary companies and authorised partners in over 100 countries.

With innovative products and services, KAESER KOMPRESSOREN's experienced consultants and engineers help customers to enhance their competitive edge by working in close partnership to develop progressive system concepts that continuously push the boundaries of performance and compressed air efficiency.

Moreover, the decades of knowledge and expertise from this industry-leading system provider are made available to each and every customer via the KAESER group's global computer network.

These advantages, coupled with KAESER's worldwide service organisation, ensure that every product operates at the peak of its performance at all times and provides maximum availability.



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