

ENGINEERING
TOMORROW



Danfoss BOCK® compressors | Mobile compressors

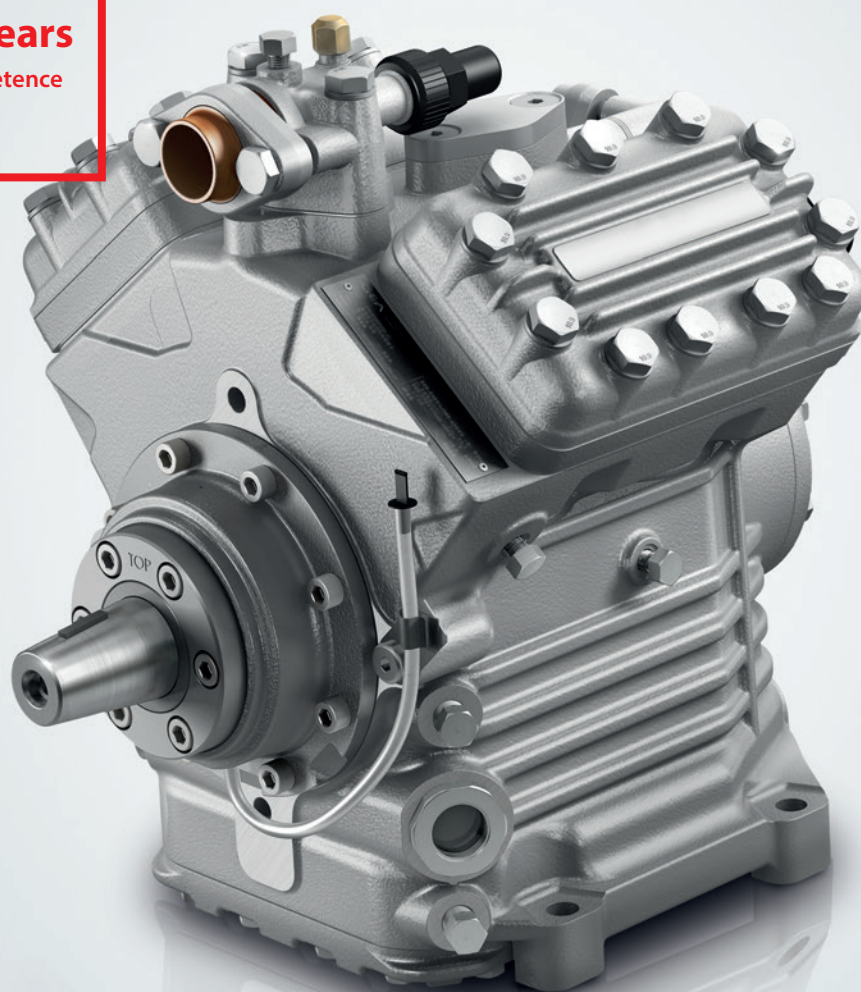
BOCK® FK Compressors

Open type vehicle compressors for bus-, railway air conditioning and transport refrigeration.

Over

50 years

bus AC competence



bock.danfoss.com

BOCK®

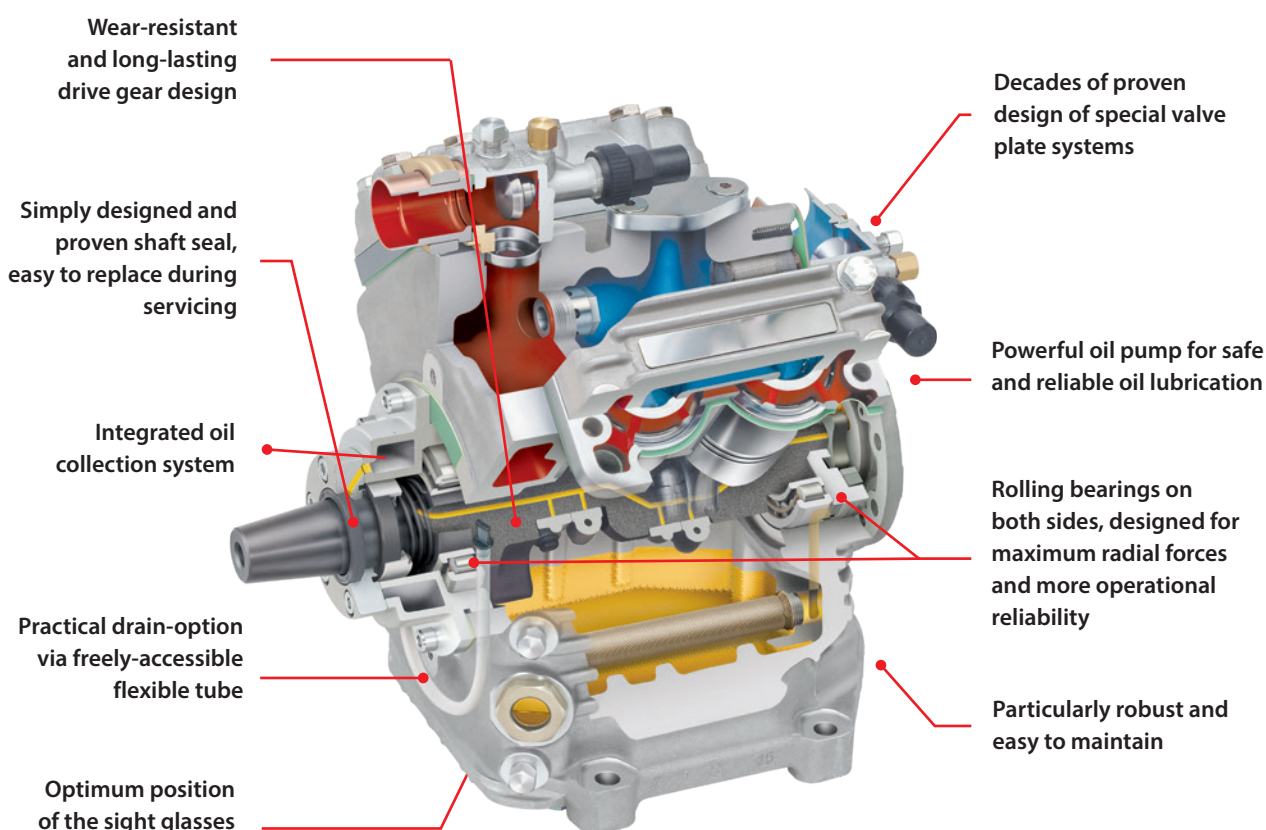
Vehicle compressors

With tradition and innovation

BOCK® vehicle compressors of the FK series are the result of decades of experience and innovation. Designed for use in bus and rail air conditioning as well as transport refrigeration and best in class in the field of vehicle compressors worldwide.

Particularly noteworthy is the BOCK® FK40, which looks back on a long career. Since the beginning of its development, it has met the high quality requirements that are crucial for efficient air conditioning and cooling. The BOCK® FK40 also stands for innovation: over the years, the entire series has been continuously developed and adapted to the requirements of new refrigerants and areas of application.

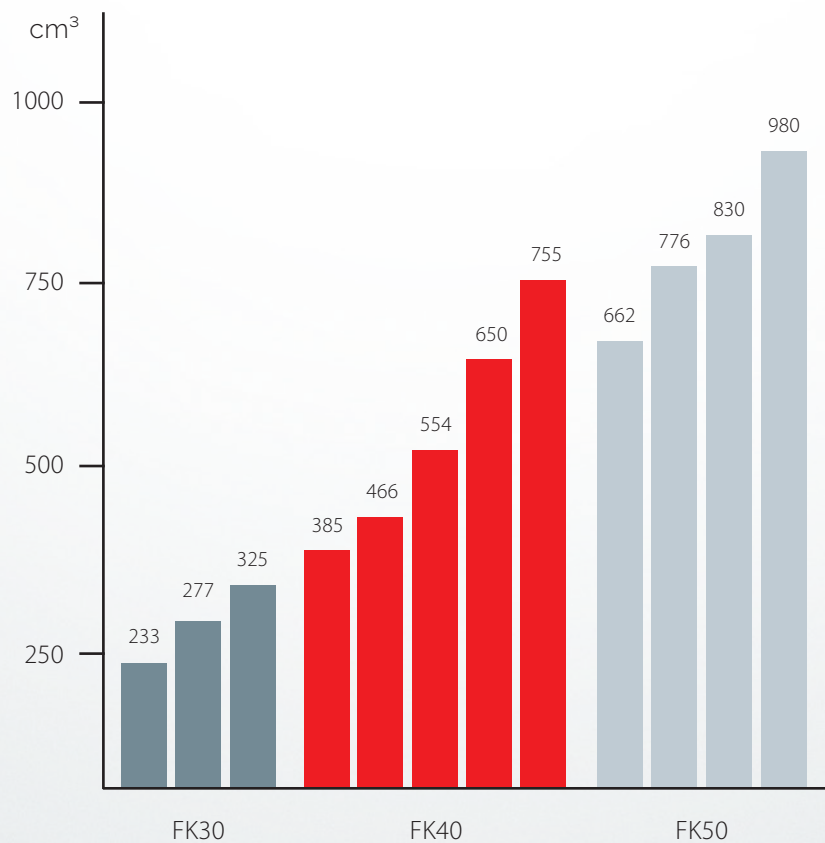
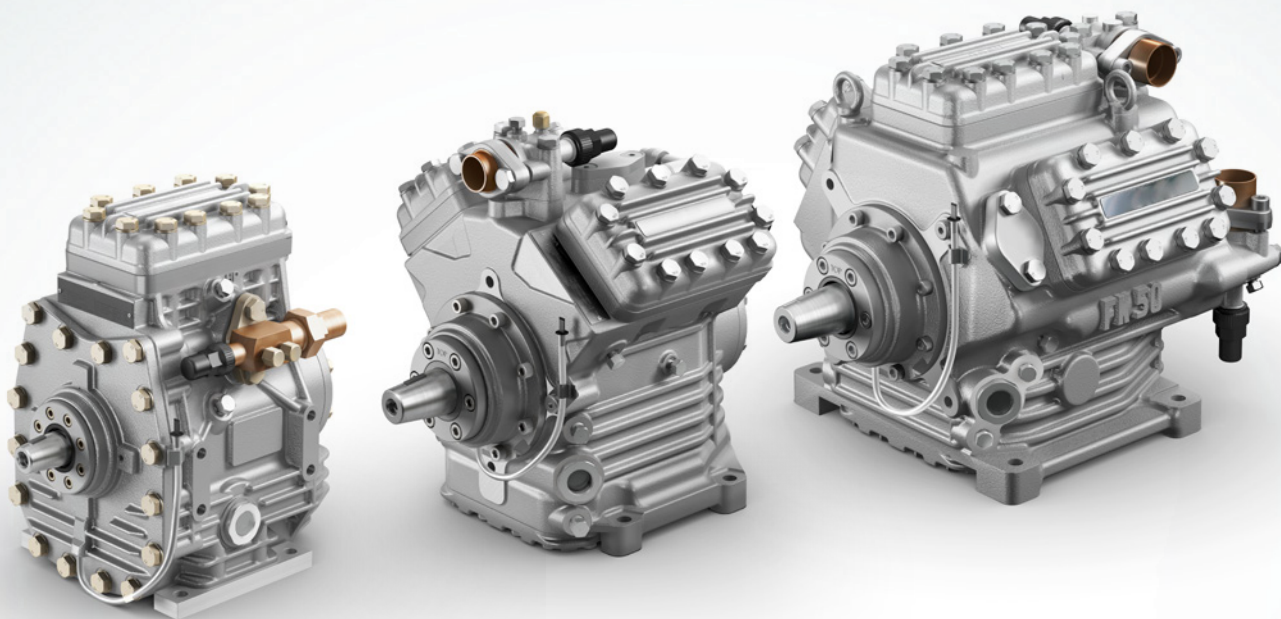
A wide range of options is available for flexible adaptation of the compressors to individual customer requirements.



Optional equipment	Released refrigerants
Capacity regulator	R134a
Intermediate flanges for service valves	R513A
Thermal protection thermostat	R452A
Electromagnetic clutch	R1234yf (on request)

The current program

3 model sizes in 2-, 4- and 6-cylinder version
with 12 capacity stages from 233 to 980 cm³ (1450 rpm)



Optimized valve plates for every application

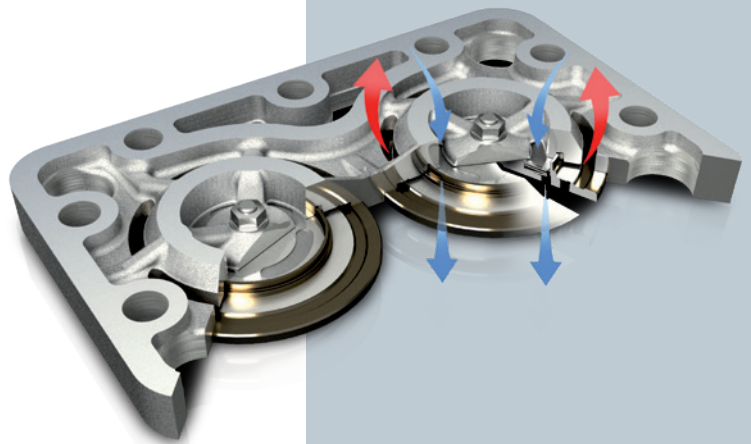
The advantages of the different BOCK® solutions are essentially in the individual valve plate equipment, which is adapted to the respective area of application in terms of operational reliability and efficiency.

The robustness of the K valve plate in the bus application or the highly efficient TK valve plate for transport refrigeration have long been proven and appreciated in the market.

Vehicle compressors with valve plate in K-design

Unique and proven FK valve plate system, specially developed for bus air conditioning

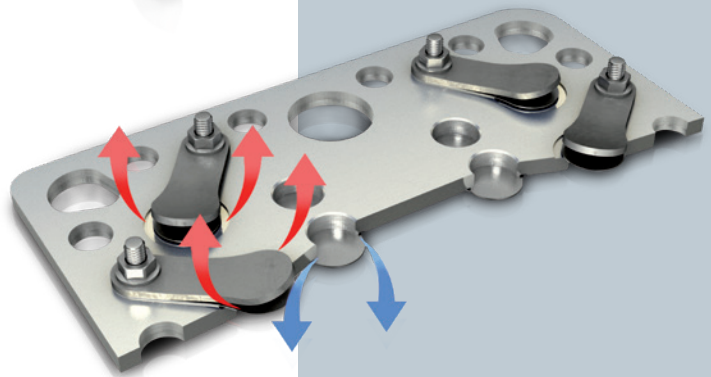
- Extremely robust and reliable in the face of speed and pressure fluctuations as well as exposure to liquids
- Working valves made of high-quality impact-resistant spring steel
- Long service life due to loosely guided annular discs which prevent bending and torsional forces
- Highest operational safety and efficiency



Vehicle compressors with valve plate in N-design

Valve plate system for air conditioning and normal cooling

- Cost-effective and simple alternative to the K design
- For universal use in mobile applications
- Lamellas clamped on one side, which are exposed to bending and torsional forces; therefore limited load-bearing capacity at high speed and exposure to liquids



Vehicle compressors with valve plate in TK-design

Valve plate system for low temperature cooling

- TK valve plate for low evaporating temperatures with special surface hardening and torsionally stiff lamellae
- Piston tops with suction lamella contour grooves, which further for reducing the dead space, leading to increased performance in the deep-freeze area
- Increased efficiency and performance in the deep freeze area



Vehicle compressors **FK40/755** and **FK50/980** – power for the higher performance range and hot climates

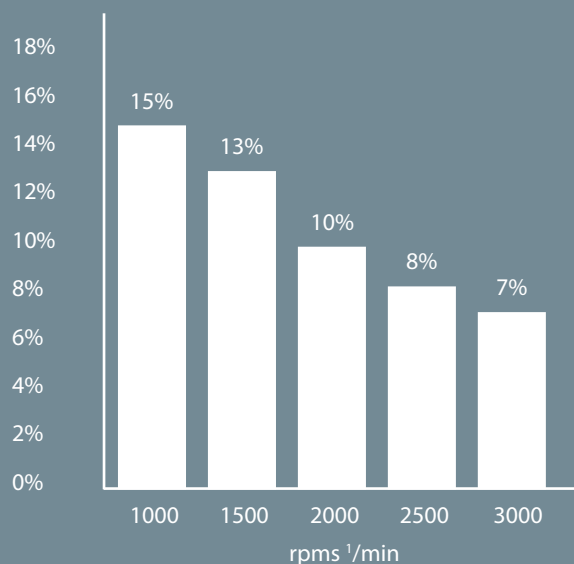
The FK40/755 vehicle compressor is particularly suitable for use in buses with increased cooling capacity requirements, such as city, articulated and intercity buses. These vehicles are operated under difficult climatic conditions or with slow-running drive motors where a favorable transmission ratio to the compressor cannot be realized.

Despite the increased displacement, the dimensions are the same for all FK40 compressors - the FKX40/755 K can therefore be installed identically and still offer up to 15% more power. In the 6-cylinder compressor range, an additional powerful and low-vibration solution is available in the form of the FK50/980.



Cooling capacity increase

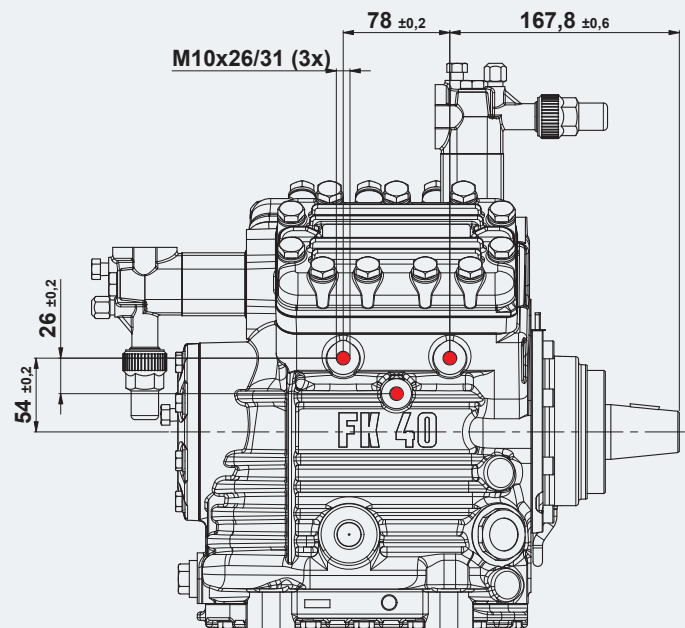
FKX40/755 K
to FKX40/655 K



Applications for EURO 6 – K1 housing for FK40 and FK50

Due to special requirements by customers, there is a demand for additional fastening options on the compressor housing – particularly where there is little installation space available, as is the case in many Euro 6 buses. These were realized by the special housing K1 and lead to higher stability and easier vibration decoupling due to the direct attachment of the compressor to the vehicle engine.

- Optimized housing
- With intermediate flange 46 mm for suction and pressure shut-off valve
- Available models FKX40/470 K1, 560 K1, 655 K1 and 755 K1
- 6-cylinder compressor series FK50 with K1 housing with additional mounting points on request



Economic **capacity regulation** (optional)

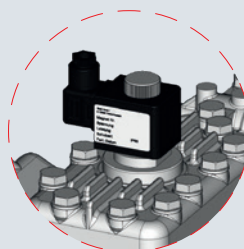
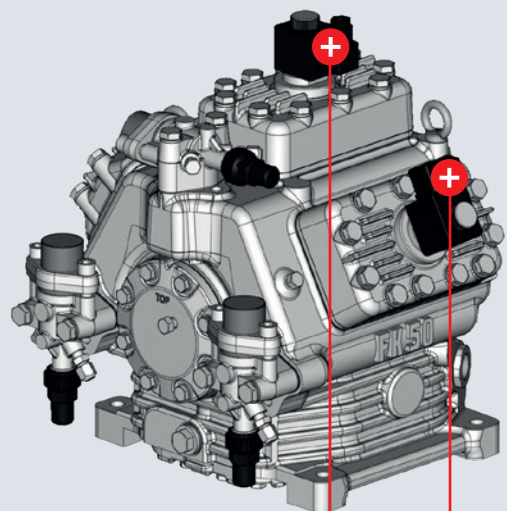
- Outstanding economy and maximum passenger comfort
- Up to 40% reduction in fuel consumption compared to full-load operation
- Can be used for unloaded start

Mechanical capacity regulation

- Residual capacity 4-cylinder 50%, 6-cylinder 33%

Digital capacity regulation

- Further reduction of residual capacity through cycle operation
- Optimized for high switching frequency
- Finely graduated capacity adjustment to all operating conditions
- Continuous control versus on-off control





Danfoss BOCK®

Service and support

Up-to-date information, training and tools about BOCK® mobile compressors, compressors for CO₂ and solutions for other refrigerants. Use our expertise for your daily practice – online and free of charge.



VAP tool

Current information on technical data, performance data, operating limits and much more can be done online via the BOCK® compressor selection program (VAP): vap.bock.de

BOCKCO₂ Tool

The strengths of the BOCKCO₂ Tool based on Excel: Support for the selection of CO₂ compressors, e.g. by displaying the system schematic as RI flow diagram and refrigeration circuit in log-p-h-diagram, as well as selecting compressors in rack systems and for special CO₂ systems such as booster systems.



BOCKshop

The online catalog in the **BOCKshop** is the best choice to find spare parts for your BOCK compressor easily and quickly around the clock. Including all Ex-drawings and parts lists also for printing: bockshop.bock.de



Danfoss training

Learn everything about compressors for mobile applications in our interactive online webinars, both about the open compressors of the FK series and the semi-hermetic HG compressors for synthetic and natural refrigerants.

Our on-site practitioner workshops give you the opportunity to get to know our mobile compressors better. The disassembly and assembly of a compressor in the practical part of the workshop is particularly helpful here.

