BOCK Service and Support

°Clever+Cool Experts live

BOCKshop|

BOCK CO_2Tool|

BOCK VAP|

To ensure that you can make the best possible use of the advantages of BOCK compressors, we support you online and personal with four service and support modules. There you will find valuable information: from plant planning and design to implementation and operation to retrofitting or upgrading existing systems.

BOCKtraining courses

Together with Danfoss, BOCK offers special (online) user training courses. For this purpose, a complete transcritical supermarket refrigeration system with the latest CO2 technology is in operation at the BOCK training center – with heat recovery + air conditioning + parallel compression + ejector – in order to make the seminars more practical.

BOCKshop

The online catalog in the **BOCK**shop 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 as well as further information also for printing.
» **bockshop.bock.de**

From experts for experts – our new online formats can be used from any computer, regardless of location: Office, workshop or even at home.

BOCKCO_2T(ool)

The strengths of the **BOCK**CO_2Tool based on Excel: Support for the selection of CO_2 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 CO_2 systems such as booster systems.
» **Usage on request: vap@bock.de**

BOCKVAP

The BOCK compressor selection program (VAP) is the perfect tool, to find suitable compressors or condensing units for your stationary or mobile application: Simply enter cooling capacity and operating conditions and the suitable components will be displayed immediately. In addition, the tool provides you with further information, e.g. application limits, performance data, dimensions and connections, scope of delivery, accessories, 3 D compressor models and much more.

Another advantage: **BOCK**VAP is available to you free of charge as an online and offline version for PC installation.
» **vap.bock.de**

BOCK is one of the world's technology and innovation leaders in the development of environmentally friendly, economical solutions in the field of refrigeration and air-conditioning technology, including heat pumps and heat recovery – with one of the world's largest portfolios of compressors for natural refrigerants such as CO_2 (R744), hydrocarbons and other low-GWP refrigerants.

BOCK

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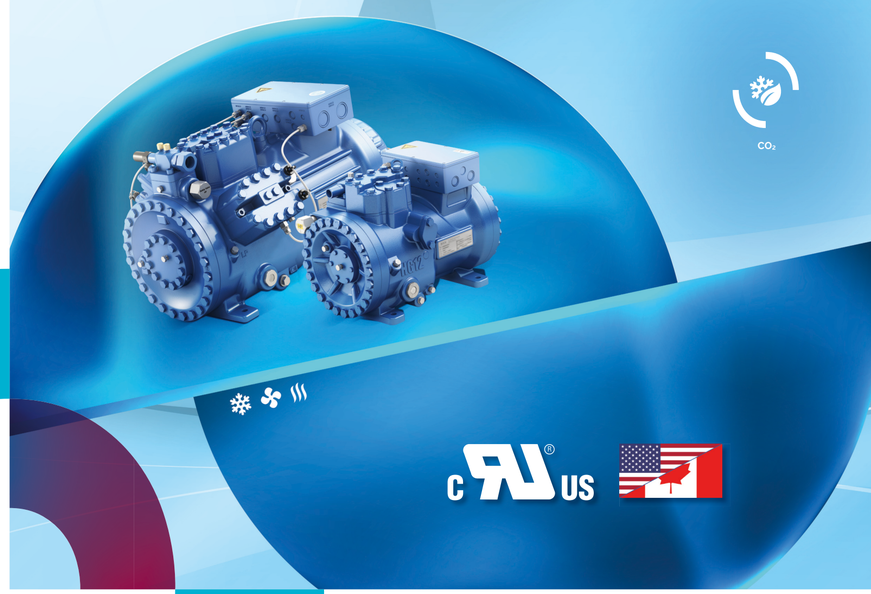


BOCK UL CO_2 compressor program

Transcritical and subcritical
CO_2 compressor ranges
UL recognized

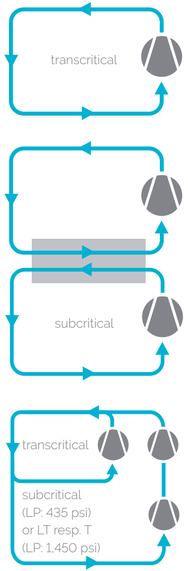
BOCK

colour the world of tomorrow

CO_2 specialists for all capacity ranges

Your plus at BOCK: Every compressor capacity size equipped with all CO_2 relevant features. Approved for US and Canadian saftey standards.

For many years, BOCK compressors have been key components for commercial and industrial applications in the field of air conditioning, refrigeration, heating and heat pumps – with the focus on the use of future-proof natural refrigerants such as CO_2 (R744). They provide planners, investors and operators with clever solutions in which functionality, cost-effectiveness and climate protection go hand in hand. Another plus: Minimized noise, vibrations and pulsations ensure a high degree of user comfort and a high level of plant safety and reliability.

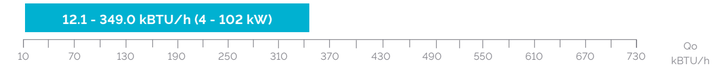


CO_2 driving gear design with proven BOCK technology
Perfect solutions for small and large performance requirements: The semi-hermetic BOCK CO_2 compressor program offers offers wide range of specialists for use in transcritical and subcritical CO_2 systems – stationary and mobile. Your advantage: An optimized driving gear design specifically for operation with the environmentally friendly refrigerant R744 combined with decades of proven BOCK compressor technology – equipped with all CO_2 relevant features. This ensures highest plant efficiency with minimized investment, energy and operating costs as well as maximum operational reliability and runtime.

We call it: The "Clever Art of Cooling and Heating

Transcritical CO_2 compressors

Cooling capacity

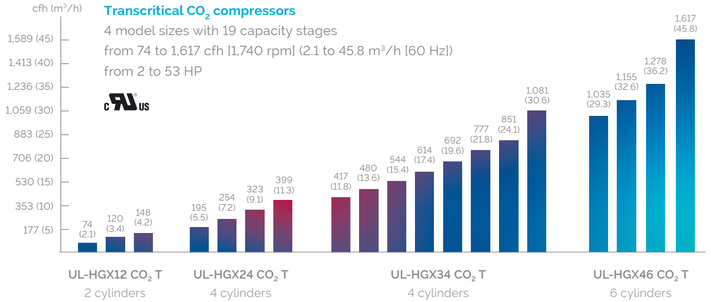


Evaporating temperature at 60 Hz: +14 °F (–10 °C),
Gas cooler outlet temperature: +95° F (+35° C)/1305 psi (90 bar), suction gas superheat: 18 R (10 K)

Heating capacity

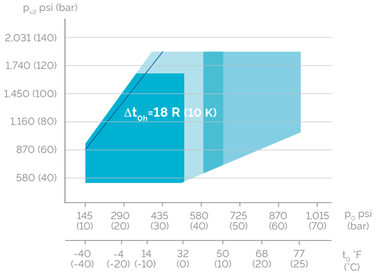
Evaporating temperature at 60 Hz: +41° F (+5° C)
Gas cooler outlet temperature: 77° F (+25° C)/1450 psi (100 bar), suction gas superheat 18° R (10 K)

Transcritical CO_2 compressors
4 model sizes with 19 capacity stages
from 74 to 1,617 cfh [1,740 rpm] (2.1 to 45.8 m³/h [60 Hz])
from 2 to 53 HP



UL-HGX24 CO_2 T, UL-HGX34 CO_2 T and UL-HGX46 CO_2 T available also with high efficient LSPM (line start permanent magent) motors.

Operating limits UL-HG CO_2 T (transcritical)



Max. permissible operating pressure (LP/HP) 1450 psi (100 bar)/2176 psi (150 bar)
● compressor version ML ● compressor version S ● compressor version SH
– compressor ranges UL-HGX12 CO_2 T and UL-HGX24 CO_2 T

BOCK efficiency in competitive comparison (MT Efficiency – EER[1])

[1] EER = Energy Efficiency Ratio
= Refrigeration capacity/power consumption

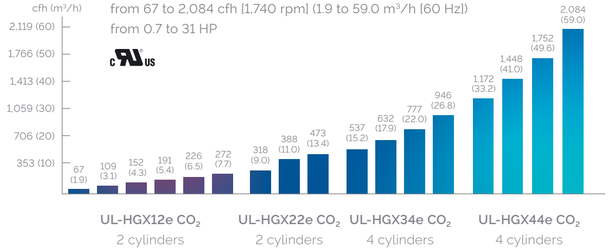
[2] UL-HGX46/345-4 S CO_2 T

Evaporating temperature at 60 Hz: +14 °F (-10 °C),
Gas cooler outlet temperature: +95° F (+35° C)/1305 psi (90 bar),
suction gas superheat: 18 R (10 K)

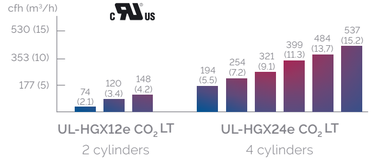
Details and further explanations can be found on the internet via the **BOCK**VAP compressor selection tool **vap.bock.de**.

Subcritical CO_2 compressors and LT compressors

Subcritical CO_2 compressors (LP 435 psi (30 bar))
4 model sizes with 17 capacity stages
from 67 to 2,084 cfh [1,740 rpm] (1.9 to 59.0 m³/h [60 Hz])
from 0.7 to 31 HP



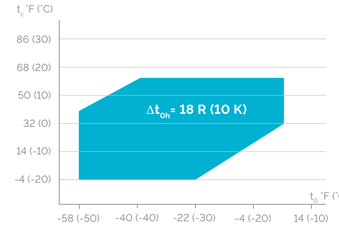
Subcritical CO_2 compressors (LT range – LP 1450 psi (100 bar))
2 model size with 9 capacity stages
from 74 to 537 cfh [1,740 rpm] (2.1 to 15.2 m³/h [60 Hz])
from 0.7 to 9 HP*



Cooling capacity

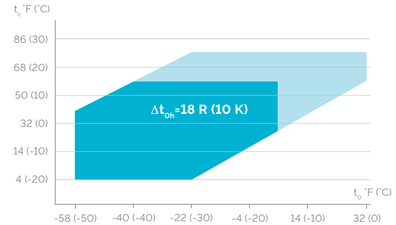
Evaporating temperature at 60 Hz: -31 °F (-35 °C),
Condensing temperature: 23 °F (-5 °C),
suction gas superheat: 18 R (10 K), subcooling: 0 R (0 K)

Operating limits UL-HG CO_2 (subcritical)



Max. permissible operating pressure (LP/HP):
435 psi (30 bar) / 798 psi (55 bar)

Operating limits UL-HG CO_2 LT



Max. permissible operating pressure (LP/HP):
1450 psi (100 bar) / 1450 psi (100 bar)
● compressor version ML ● compressor version S

* For higher capacities in low temperature applications with standstill pressures up to LP 1450 psi (100 bar), the UL-HGX34 CO_2 T and UL-HGX46 CO_2 T are available in the ML version with 12 displacement stages.

UL-HG CO_2 compressor are equipped with 460 V / 60 Hz motors. Further motor valtages on request.