

HBC 511

Piston compressor
for industrial heat pumps

Overview

The HBC 511 is a piston compressor for industrial heat pumps. The compressor is based on a proven, heavy-duty design developed in collaboration with the world's largest engine design company, AVL.

The compressor has been engineered to operate at very high internal temperatures and pressures. It's compatible with all common refrigerants of the 3rd and 4th generations (e.g. HFOs). These refrigerants have a global warming potential (GWP) of 10 and less.

The compressor has an efficient integrated synchronous motor (PMM), and reaches a high isentropic and volumetric efficiency over a broad range of operating conditions by utilizing a variable speed operation.

Key features

- Piston compressor for industrial heat pumps
- Robust, proven design that reaches output temperatures up to 160 °C
- Developed in collaboration with AVL, the world's largest engine design company
- Compatible with all 3rd and 4th-generation working fluids (e.g. HFOs)
- Very low internal friction through exclusive use of low-friction bearings
- Internal oil circuit with oil filter and preheater
- Highly efficient permanent magnet synchronous motor for variable speed control
- Water cooled motor for very high temperature applications with integrated thermal monitoring
- Optimized for parallel operation, where several compressors can run in parallel
- Multi-compressor phase synchronization for low vibrations and pulsations, if needed

Technical data

Parameter	Value
Model	HBC 511
Type	Piston compressor (single cylinder)
Displacement	511 cm ³
Speed	500 RPM–1500 RPM
Oil content	7 litres
Weight	250 kg
Max suction pressure	10 bar
Max outlet pressure	30 bar
Max internal temp & max output temp	215 °C & 160 °C
Medium compatibility	HFCs + HFOs
Volumetric flow	Up to 41,5 m ³ /h
Rated electrical power	15,5 kW
Rated voltage (inverter needed)	360V at 300 Hz
Rated current	27 A
Efficiency of electrical motor	> 92%
Oil heater	2 x 1000 W 230V (Harting Han 3a-gg-M20 connector – can be delivered without connector)

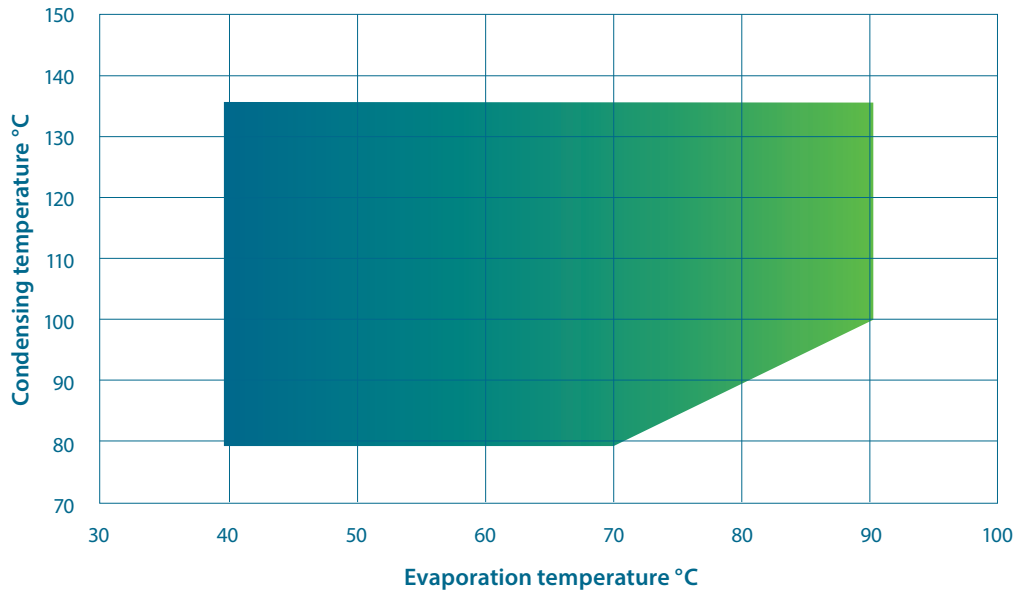
Disclaimer:

The content in this document is subject to change without notice or obligations. Information contained herein should be confirmed before placing orders.

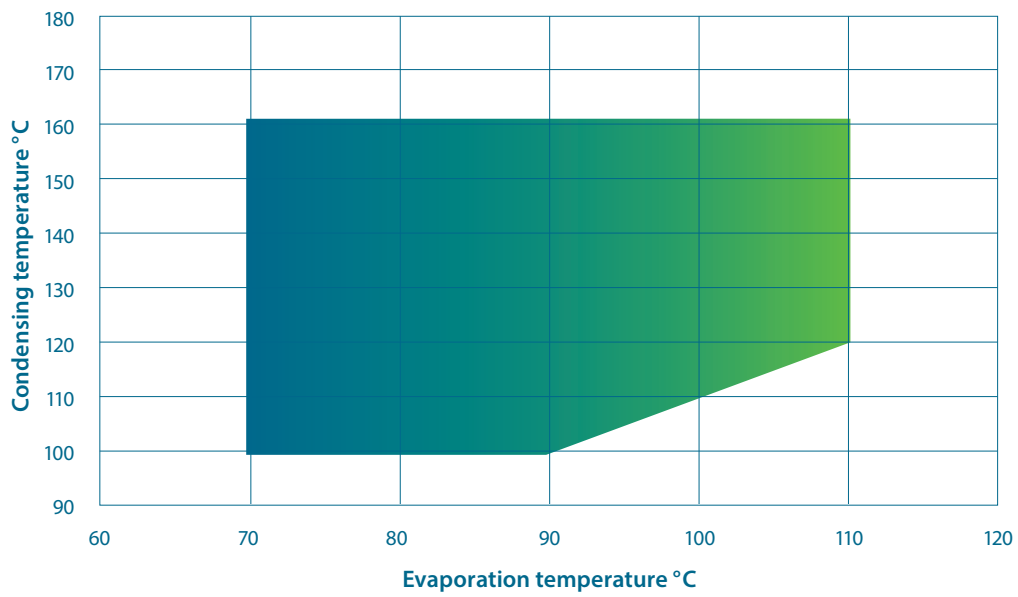
Copyright © 2018 Viking Heat Engines. All Rights Reserved.

Application limits

R245fa

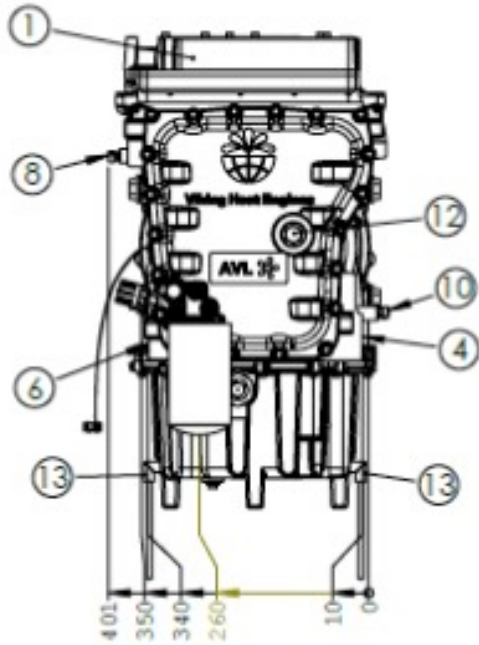


R1336mzz-Z

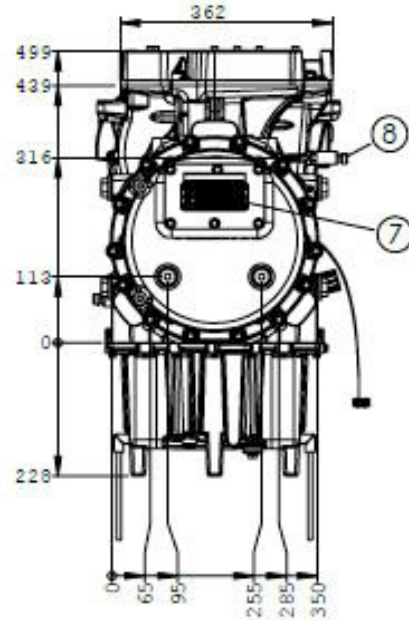


Dimensions

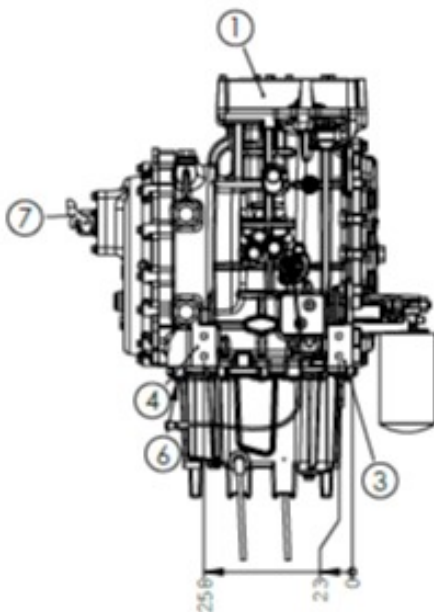
Front (service)



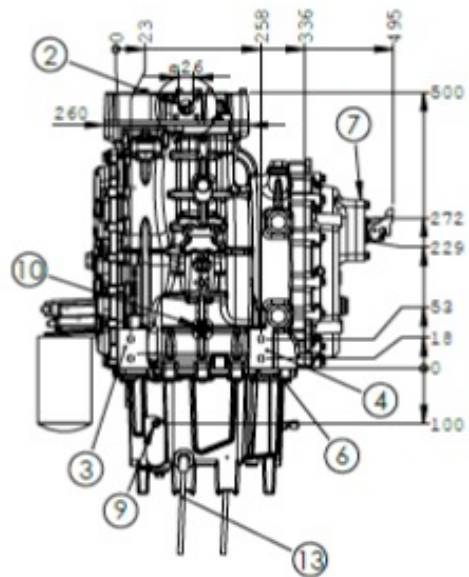
Back



Left

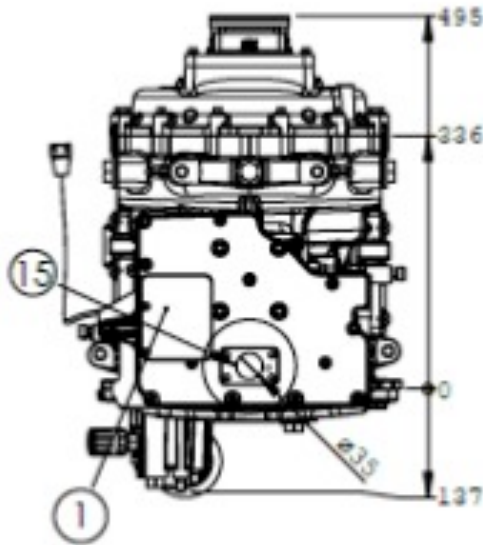


Right

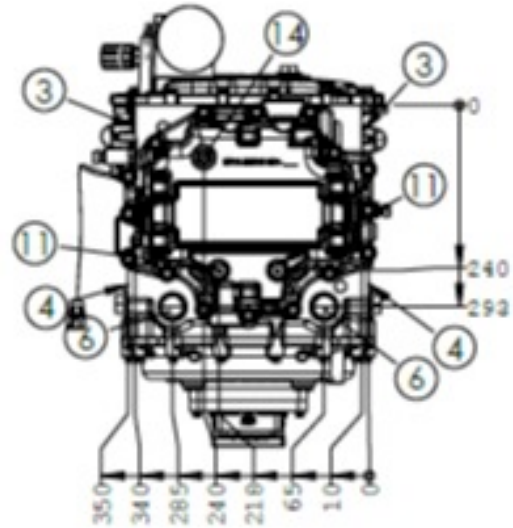


Dimensions

Top

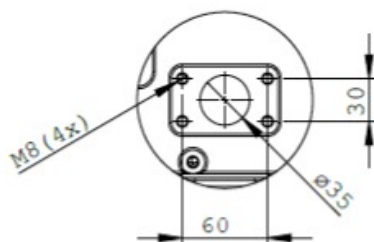


Bottom



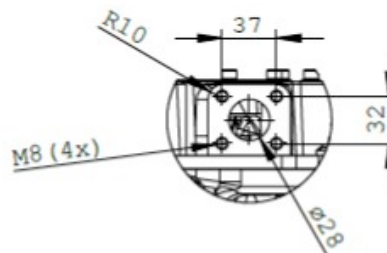
Suction

connection suction port
detail pos. 15
scale 1:5



Discharge

connection discharge port
detail pos. 2
scale 1:5



Explanation:

1. Cylinder head
2. Discharge port
3. Expander mounting front cover side
4. Expander mounting generator side
5. M22x1.5 holes for crankcase pressure compensation
6. M26x1.5 generator water cooling connector
7. Wiring duct generator cable
8. Oil pressure sensor
9. Oil temperature sensor
10. Crankcase pressure sensor
11. M14x1.5 holes for oil level balancing
12. Oil filling screw
13. Oil pan heater cartridge 1000W
14. Oil drain plug
15. Suction port

Contact us for more information:

Viking Heat Engines AS
Østre Strandgate 38
4661 Kristiansand
Norway
Call: +47 38 10 41 00
norway@vikingheatengines.com

Viking Heat Engines Germany GmbH
Walter-Freitag-Str. 1
42899 Remscheid
Deutschland
Call: +49 2191 44895 00
germany@vikingheatengines.com

