

**TECHNICAL DESCRIPTION CRANEFRIGOR™ VC**

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**Figure**

**CRANEFRIGOR™ VC**

The CRANEFRIGOR™ VC liquefier was developed for reliable and long-term operation under extreme ambient conditions as in steel works, paper factories and foundries. Thanks to its robust structure, a reliable operation is ensured even with heavy shocks.

The CRANEFRIGOR™ series of crane air conditioning units ensure a reliable and efficient production process.

The condensing unit CRANEFRIGOR™ VC is only approved for evaporating temperatures  $> -10^{\circ}\text{C}$  and is therefore not covered by Ecodesign Directive 2009/125/EC.

**General description**

<b>Scope of delivery</b>	<b>Your benefits!</b>
<p><b>Compressor</b> (made by Bizer)</p> <ul style="list-style-type: none"> <li>• Semi-hermetically sealed construction</li> <li>• Suction-gas-cooled motor</li> <li>• Self-regulating oil sump heater</li> </ul>	<ul style="list-style-type: none"> <li>• Low maintenance</li> <li>• No risk of overheating</li> <li>• Ensures lubrication during the start</li> <li>• Very good availability of spare parts worldwide</li> </ul>
<p><b>Liquefier</b></p> <ul style="list-style-type: none"> <li>• Cathodic dip coating</li> </ul>	<ul style="list-style-type: none"> <li>• High corrosion resistance</li> <li>• Shorter maintenance intervals due to special adapted spacing between blades even with extreme dust load</li> <li>• Shorter maintenance intervals due to smooth surface</li> </ul>
<p><b>Liquefier fan</b></p> <ul style="list-style-type: none"> <li>• Norm motors in industrial construction with coupled fan wheel</li> </ul>	<ul style="list-style-type: none"> <li>• Powerful</li> <li>• Long runtimes</li> <li>• Very good availability of spare parts worldwide</li> </ul>
<p><b>Casing</b></p> <ul style="list-style-type: none"> <li>• Robust, welded construction</li> <li>• Primed and powder-coated in RAL 3004</li> <li>• Other colours or stainless steel version optional</li> </ul>	<ul style="list-style-type: none"> <li>• Robust, welded construction</li> <li>• Primed and powder-coated in RAL 3004</li> <li>• Other colours or stainless steel version optional</li> </ul>
<p><b>Terminal box</b></p> <ul style="list-style-type: none"> <li>• Completely wired according to VDE</li> <li>• Powder-coated RAL 7035</li> <li>• Optional stainless steel version</li> </ul>	<ul style="list-style-type: none"> <li>• The CRANEFRIGOR™ is wired connection-ready on a terminal strip.</li> <li>• Colour scheme with high corrosion protection</li> </ul>
<p><b>Quality assurance</b></p> <ul style="list-style-type: none"> <li>• Leakage test</li> <li>• Presetting of the safety devices</li> </ul>	<ul style="list-style-type: none"> <li>• Operational reliability</li> <li>• Easy commissioning on site</li> </ul>

**Options packages:**

<b>Material order no.</b>	<b>Scope of delivery</b>	<b>Your benefits!</b>
807 525 807 530 807 534	<p><b>Options packages “Operational reliability”</b> High ambient temperature</p> <p>Low outside temperature</p> <p>Output control</p>	<ul style="list-style-type: none"> <li>Operational reliability during brief increased ambient temperature</li> <li>Cooling during outside temperature &lt;15 °C</li> <li>Increased service life during fluctuating thermal loads</li> </ul>
807 540 807 546	<p><b>Options packages “Corrosion protection”</b> Corrosion protection package 1</p> <p>Corrosion protection package 2</p>	<ul style="list-style-type: none"> <li>Multiple-coated pipes</li> <li>Housing / Plate parts made of high-quality stainless steel 1.4571 / AISI 316Ti</li> <li>Multiple-coated pipes</li> </ul>
807 552	<p><b>Option package “Custom”</b> Customer-specific version</p>	<p>Special requirements of a company can be realised, such as:</p> <ul style="list-style-type: none"> <li>Custom voltages / Network configurations</li> <li>Liquefier version (fully copper, blade spacing and thickness)</li> <li>Conductor identification</li> <li>Special coatings</li> <li>Protection class</li> </ul>

**Plant packages:**

<i>Material order no.</i>	<i>Scope of delivery</i>	<i>Your benefits!</i>
807 571	<b>Plant packages “Electrical control”</b> Constructed as switchboard or control cabinet <ul style="list-style-type: none"> <li>• Completely wired, according to VDE</li> <li>• Operational and fault signal outputs</li> <li>• Powder-coated RAL 7035 (control cabinet)</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustable to individual specifications</li> </ul>
807 572	Optional stainless steel version (Control cabinet)	<ul style="list-style-type: none"> <li>• Increased corrosion protection</li> </ul>
807 565	<b>Plant package “SMART Control”</b> Superordinate controller FrigorTec Smart Control FSC	<ul style="list-style-type: none"> <li>• Cyclic switching over for redundant systems</li> <li>• Digital display of pressures and temperatures</li> <li>• Optional regulation of the room pressure by filter/overpressure unit</li> <li>• Optional display of the relative room humidity</li> </ul>
807 573	<b>Plant packages “Internal unit (Evaporator)”</b> Wall or ceiling version <ul style="list-style-type: none"> <li>• Operation of several internal units on one liquefier possible</li> <li>• Epoxy-coated blades</li> <li>• Housing primed and powder-coated</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustment options as required for the project</li> <li>• Colour scheme with high corrosion protection</li> </ul>
805 573	Optional housing in stainless steel version	<ul style="list-style-type: none"> <li>• Increased corrosion protection</li> </ul>
807 562	<b>Plant packages: “Overpressure / Fresh air”</b> Filter/Overpressure unit FT15	<ul style="list-style-type: none"> <li>• Filtered fresh air supply, adjustable air volume</li> <li>• Creation of overpressure in the room to be cooled; less dust comes in</li> </ul>
807 563	Self-cleaning filter/overpressure unit FS10	<ul style="list-style-type: none"> <li>• Long filter service life due to fully automatic shaking function</li> <li>• Filtered fresh air supply, adjustable air volume</li> <li>• Creation of overpressure in the room to be cooled; less dust comes in</li> </ul>
807 579	<b>Plant package “Condensation evaporator”</b> Condensation evaporator KV1	<ul style="list-style-type: none"> <li>• No damage due to dripping condensation</li> <li>• No additional power supply necessary</li> <li>• Overload protection</li> </ul>
807 575	<b>Plant package “Assembly material”</b> <ul style="list-style-type: none"> <li>• Refrigerant lines made of copper</li> <li>• Solenoid valves, expansion valves, filter drier, sight glasses</li> <li>• Thermostats</li> <li>• Insulation for suction line</li> <li>• Refrigerant</li> <li>• Plumb-line</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustments and planning as required for the project must be made in advance.</li> </ul>

**Technical specifications VC:**

**Performance data**

Cooling performance is included customised in the offer

**Nominal cooling performance:**

12.5 kW

- At 27 °C room temperature, 52 % rel. room air humidity
- 35 °C ambient temperature
- Refrigerant R134a / R513A

**Cooling mode**

- Depending on compressor size
- Depends on the option packages and version of heat exchanger

Temperature range R134a	+15 °C to +70 °C
With option package "low outside temperature"	-25 °C to +70 °C
Temperature range R513A	+15 °C to +70 °C
With option package "low outside temperature"	-25 °C to +70 °C
Temperature range R450A	+15 °C to +70 °C
With option package "low outside temperature"	-25 °C to +85 °C

- More extreme temperatures upon request

**Sizes and weight**

Weight	approx. 250 kg
Dimensions	type, see dimension sheet

**Operating voltage**

Further operating voltages upon request	3 ph / 400 V / 50 Hz
	3 ph / 460 V / 60 Hz

**Protection category**

IP54

**Network type**

TN-S

**Refrigerant**

R134a / R513A / R450A

GWP (global warming potential) 1430 / 631 / 605

Filling quantity / CO2 equivalent depends on the unit version

The performance description is a quality in the sense of sections 434 and/or 633 BGB (German Civil Code).  
Subject to technical change.

According to (EN) 378-3 „Refrigeration units and Heat pumps – safety and environment regulations – Location and protection for persons” detectors needs to installed if concentration exceeds the practical limits (ATEL/ODL- EN 378-1, Appendix C) in a working and staying area.

The table is showing the minimum space dependent from the used Freon, air-conditioner and options.

Detectors are required if the conditioned space is smaller as mentioned in the table below.

Local restrictions and regulations need to be considered first.

<b>Refrigerant</b>	<b>Minimum conditioned space before detector is required</b>
R134a	43,6 m <sup>3</sup>
R513A	33,9 m <sup>3</sup>
R450A	29,3 m <sup>3</sup>

ATEL: Exposure limit value for acute toxicity

ODL: Limit value for oxygen deficiency