

**TECHNICAL DESCRIPTION CRANEFRIGOR™ VD**

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**Figure**

**CRANEFRIGOR™ VD**

The CRANEFRIGOR™ VD 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™ VD 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>  |
|-------------------------------|--|--|
| 807 526<br>807 531<br>807 535 | <p><b>Options packages “Operational reliability”</b><br/>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>  |
| 807 541<br>807 547            | <p><b>Options packages “Corrosion protection”</b><br/>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>   |
| 807 553                       | <p><b>Option package “Custom”</b><br/>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:**

| <b>Material order no.</b> | <b>Scope of delivery</b>   | <b>Your benefits!</b>  |
|---------------------------|--|--|
| 807 571                   | <b>Plant packages “Electrical control”</b><br>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><br>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><br>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><br>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><br>Condensation evaporator KV1  | <ul style="list-style-type: none"> <li>• No damage due to dripping condensation</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 VD:

### Performance data

Cooling performance is included customised in the offer

#### Nominal cooling performance:

24.5 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. 400 kg

Dimensions

type, see dimension sheet

### Operating voltage

3 ph / 400 V / 50 Hz

Further operating voltages upon request

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              | 96,8 m <sup>3</sup>  |
| R513A              | 75,2 m <sup>3</sup>  |
| R450A              | 65,2 m <sup>3</sup>  |

ATEL: Exposure limit value for acute toxicity

ODL: Limit value for oxygen deficiency