

TECHNICAL DESCRIPTION **CRANEFRIGOR™ TF**

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Figure

CRANEFRIGOR™ TF

The CRANEFRIGOR™ TF cooling unit 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.

General description

Scope of delivery	Your benefits!
Refrigerant <ul style="list-style-type: none"> Ecological refrigerant Low greenhouse warming potential 	<ul style="list-style-type: none"> Long-term safe usage in accordance with legal regulations (EU) no. 517/2014 Sustainable operation
Compressor (made by Bizer) <ul style="list-style-type: none"> Semi-hermetically sealed construction Suction-gas-cooled motor Self-regulating oil sump heater 	<ul style="list-style-type: none"> Low maintenance No risk of overheating Ensures lubrication during the start Very good availability of spare parts worldwide
Liquefier <ul style="list-style-type: none"> Cathodic dip coating 	<ul style="list-style-type: none"> High corrosion resistance Shorter maintenance intervals due to special adapted spacing between blades even with extreme dust load Shorter maintenance intervals due to smooth surface
Liquefier fan <ul style="list-style-type: none"> Norm motors in industrial construction with coupled fan wheel 	<ul style="list-style-type: none"> Powerful Long runtimes Very good availability of spare parts worldwide
Evaporator <ul style="list-style-type: none"> Cathodic dip coating Cleaning opening / Inspection opening 	<ul style="list-style-type: none"> High corrosion resistance Shorter maintenance intervals due to special adapted spacing between blades even with extreme dust load Shorter maintenance interval due to smooth surface. Soiling is easily recognised and simple to clean through the opening
Circulating air fan <ul style="list-style-type: none"> AC radial fan, industrial construction 	<ul style="list-style-type: none"> Powerful Long runtimes
Air filter <ul style="list-style-type: none"> Large-area frame filter Filter class COARSE 80% 	<ul style="list-style-type: none"> Effective filter with long service life Easy to replace and clean
Condensation water separation <ul style="list-style-type: none"> Drip tray made of stainless steel Hose connection for condensation Siphon in condensate line 	<ul style="list-style-type: none"> No corrosion of the tray Defined condensation drainage Avoids the drawing in of contaminated ambient air
Control and power cabinet <ul style="list-style-type: none"> Completely wired, according to VDE Temperature control by thermostat Operational and fault signal outputs Powder-coated RAL 7035 Optional stainless steel version 	<ul style="list-style-type: none"> The CRANEFRIGOR™ is ready for connection; at the site, you only have to connect the power supply Colour scheme with high corrosion protection
Casing <ul style="list-style-type: none"> Robust, welded construction Primed and powder-coated in RAL 3004 Other colours or stainless steel version optional 	<ul style="list-style-type: none"> Long service life Attractive colour scheme with high corrosion protection
Quality assurance <ul style="list-style-type: none"> Leakage test Function test in our plant's test facility 	<ul style="list-style-type: none"> Operational reliability Easy commissioning on site

Options packages:

Material order no.	Scope of delivery	Your benefits!
807 474	Options packages “Comfort” Comfort controller FTC-E (installed in electronics room)	<ul style="list-style-type: none"> • Digital actual and setpoint display at the regulator • Mode selector switch On / Off / Ventilation • Reduction structure-borne noise
807 482	Vibration dampers	
807 487	Option package “Heater” Air heater with temperature monitor	<ul style="list-style-type: none"> • Comfortable room temperature • Frost protection even at standstill or during maintenance work
807 491	Options packages “Operational reliability” High ambient temperature	<ul style="list-style-type: none"> • Operational reliability during brief increased ambient temperature • Cooling during outside temperature <15 °C • Increased service life during fluctuating thermal loads
807 495	Low outside temperature	
807 497	Output control	
807 502	Options packages “Corrosion protection” Corrosion protection package 1	<ul style="list-style-type: none"> • Multiple-coated pipes • Housing / Plate parts made of high-quality stainless steel 1.4571 / AISI 316Ti • Multiple-coated pipes
807 507	Corrosion protection package 2	
807 512	Option package “Custom” Customer-specific version	<p>Special requirements of a company can be realised, such as:</p> <ul style="list-style-type: none"> • Custom voltages / Network configurations • Heat exchanger version (fully copper, blade spacing and thickness) • Control cabinet heater, conductor identification • Special coatings • UL-/CSA-conforming unit version • Protection class
807 517	Options packages “Accessories” Assembly accessories according to specification	<ul style="list-style-type: none"> • Air duct, holding devices, refrigerating accessories • Spare part package
807 523	Spare parts according to specification	

Plant packages:

<i>Material order no.</i>	<i>Scope of delivery</i>	<i>Your benefits!</i>
8807 560	Plant packages “Overpressure / Fresh air” Fresh air supply on the device	<ul style="list-style-type: none"> • Filtered fresh air supply, air volume not adjustable • Filtered fresh air supply, adjustable air volume • Creation of overpressure in the room to be cooled; less dust comes in • Long filter service life due to fully automatic shaking function • Filtered fresh air supply, adjustable air volume • Creation of overpressure in the room to be cooled; less dust comes in
807 562	Filter/Overpressure unit FT15	
807 563	Self-cleaning filter/overpressure unit FS10	
807 565	Plant package “Condensation evaporator” Condensation evaporator KVV	<ul style="list-style-type: none"> • No damage due to dripping condensation • No additional power supply necessary • Overload protection
807 566	Plant package “SMART Control” Superordinate controller FrigorTec Smart Control FSC	<ul style="list-style-type: none"> • Cyclic switching over for redundant systems • Digital display of pressures and temperatures • Optional regulation of the room pressure by filter/overpressure unit • Optional display of the relative room humidity

Technical specifications TF:

Performance data

Cooling performance is included customised in the offer
Heat output is included customised in the offer

Nominal cooling performance: 36.5 kW

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

Nominal cooling performance: 32.9 kW

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

Air flow volume: 4,800 m³/h

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 +85 °C
With option package "low outside temperature" -25 °C to +85 °C

- More extreme temperatures upon request

Heating mode

Temperature range -25 °C to +30 °C

Sizes and weight

Weight approx. 1260 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.

Refrigerant	Minimum conditioned space before detector is required	
	Standard	With option package „Low outside temperature“
R134a	56,8 m ³	89,6 m ³
R513A	44,2 m ³	69,6 m ³
R450A	38,0 m ³	60,3 m ³

ATEL: Exposure limit value for acute toxicity

ODL: Limit value for oxygen deficiency