FRIGOBLOCK

EK SERIES

UNDERMOUNT SPLIT REFRIGERATION UNITS



SUSTAINABLE TRANSPORT COOLING
FLEXIBLE DELIVERY

THERMO KING



- FULL ELECTRIC UNITS WITH 40+ YEARS OF EXPERIENCE
- GREEN AND ENVIRONMENTALLY FRIENDLY SOLUTION TO TRANSPORT YOUR GOODS:
  - NO DIESEL ENGINES IN OUR UNITS
  - NO DIRECT CO_2 PRODUCTION
- MOST EFFICIENT ELECTRICAL UNDERMOUNT UNIT IN THE MARKET
- DIRECT CONNECTIONS TO BATTERY OF ELECTRICAL VEHICLES WITHOUT LOSS OF POWER OR ENERGY THROUGH INTERMEDIATE INTERFACES
- LOWEST CO_2 PRODUCTION
- GREAT SERVICE NETWORK THROUGH OUR THERMO KING DEALER NETWORK
- HIGHLY FLEXIBLE MULTI-TEMP SOLUTIONS TAILORED TO CUSTOMERS' NEEDS
- EXTREMELY COMPACT AND LIGHTWEIGHT REFRIGERATION UNITS THAT FIT EVERY APPLICATION

CONTENTS

TOMORROW'S TECHNOLOGY TODAY	3
A MODEL FOR EVERY APPLICATION	4
MEETING NEEDS WITH SUSTAINABLE INNOVATION	5
SUSTAINABLE INNOVATION: SIMPLE. POWERFUL. EFFICIENT.	7
SIMPLE OPERATION	8
CHOICE	9
TECHNICAL INFORMATION	10
DISCOVER THE ELECTRIC RANGE	12

FRIGOBLOCK

TOMORROW'S TECHNOLOGY TODAY

Operators of refrigerated fleets have always faced significant challenges. From the earliest days of food transportation, they strove to deliver temperature sensitive cargo in prime condition. Today, added to this basic requirement are:

- Quality of transport
- Meeting the latest emission standards
- Flexibility and reliability

Even in our highly competitive and environmentally conscious world, the full electric EK Series dependably exceeds all these demands due to its unique technology:

IMPROVED PERFORMANCE AND RELIABILITY

Major improvements have been made through continuous and exhaustive testing.

IMPACT RESISTANCE

The new EK Series design of the front cover comes with lateral protection certification so there's no need for extra chassis protection.

CARGO AND FOOD QUALITY PROTECTION

Extremely rapid pulldown and recovery combined with high capacity makes the EK Series ideal for multi-drop operations while ensuring food integrity and cargo safety.

INNOVATIVE FUNCTIONALITY AND DESIGN

The EK Series leverage its innovative design features to give all area access, increase load capacity, high reliability and exceptional load protection. Put simply, you gain increased utilization of your assets.

FUTURE READINESS ABOVE AND BEYOND REGULATIONS

With zero direct emissions, the EK Series shows full commitment to reducing both emissions and noise pollution. All units are future vehicle compatible.

DISCOVER THE POWER OF CHOICE INCLUDING COMPARTMENT CONFIGURATION AND VEHICLE TYPE WITHIN THE EXTENSIVE EK SERIES AND MATCH YOUR NEEDS.

EK SERIES

A MODEL FOR EVERY APPLICATION

FOR TRAILERS AND TRUCKS

Trucks with a low body or through-loading trailers can be equipped with a split refrigeration machine where the EK condenser unit is mounted underfloor and the evaporator unit RE is installed in the loading space.

CLEVER DESIGN

The low weight, compact design makes the EK Series the smallest unit available on the market. The flat evaporator is only 100 to 160 mm high so loading space is maximized and the number of trips can be reduced to a minimum. Innovative impact resistant design means there's no need for extra bicycle chassis protection and hard-wearing components make the series low maintenance and easy to service.

AT EASY IN THE CITY

The EK Series is designed for daytime multi-drop operations with a combination of high refrigeration capacity and rapid pulldown, making these models ideal for city distribution.

WHISPER™ PRO Piek

Thanks to its Whisper™ quiet operation, the EK Series enables you to run the unit at night. Frigoblock's inverter technology enables full speed control for low noise and boost run mode, tailoring refrigeration unit operation to customer distribution needs.

The latest addition to the series, the EK Whisper™ Pro dramatically reduces operating noise to permit access to noise sensitive areas. Compliant with Piek requirements, EK Whisper™ Pro automatically switches to low noise mode allowing customers to load the trucks at any time of day and night and deliver their services with less impact on urban communities.

EK Whisper™ Pro brings you added intelligence to Frigoblock's 100% electric refrigeration technology. These units represent our commitment to reducing both carbon emissions and noise pollution, while ensuring food integrity and cargo safety that our customers demand.



EK 13



EK 25
EK WHISPER™ PRO

EK SERIES

MEETING NEEDS WITH SUSTAINABLE INNOVATION

COST REDUCTION

The savings gained when you switch to the EK Series will outweigh the initial premium, giving you a return on your investment (ROI) than can be lower than 3 years. Cutting-edge envirodrive technology with exceptional high efficiency contributes fuel savings of up to 50% while fewer moving parts result in more reliability and less downtime.

ASSET UTILIZATION

Industry leading cooling capacity provides the pulldown and recovery performance you need for the toughest multi-drop operations. Our low intrusion evaporators increase the available load space while giving the hightest cooling capacity. Eliminating the need for an internal combustion engine creates a low weight unit with impressively high reliability.

FUTURE READINESS

The EK Series is simply the most sustainable system on the market, exceeding all current environmental regulation by a comfortable margin. The secret is in the concept: having no engine to provide emissions, using low GWP refrigerant, reducing CO_2 by up to 50% and meeting all LEZ requirements are welcome achievements.

On top of these, you will be investing in a unit which adapts to all leading vehicle designs and has future vehicle compatibility, whether the power source is LNG, CNG or electric. Most importantly, a fleet equipped with the EK Series sends out a powerful customer message, clearly demonstrating your commitment to sustainable operation.

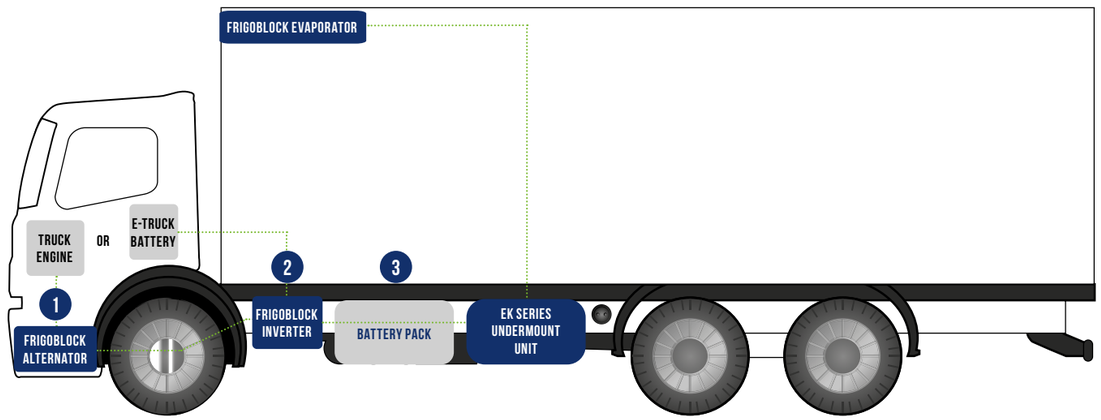
FLEXIBILITY

Whatever your current and future needs, the EK Series has the flexibility to satisfy them. Choose single or multi-temp, pick the evaporators you want from our wide range and be confident that whatever your performance needs, we have a unit with the appropriate cooling capacity. Importantly, our adaptable solutions have been approved by the major vehicle OEMs and we enjoy strong links with those companies for cooperation during their product development.



HOW IT WORKS

A high-performance alternator is directly driven by the vehicle engine. The alternator supplies electricity with minimal energy transfer losses. In the case of a HV e-truck or hold-over battery pack, the electricity is supplied by the battery pack. The power generated passes to the full electric unit via an inverter. The inverter modulates the current so that the electric motors for compressor and fans can operate with optimum control and efficiency.



1 ALTERNATOR
Transforms electricity from alternator to power the EK refrigeration unit.

2 INVERTER
Delivers constant voltage and frequency to the unit regardless of vehicle engine speed. Guarantees rapid start-up of the unit with low mechanical stress. Provides optimum load temperature control with minimum power consumption.

3 BATTERY
Power is stored in the battery pack so the unit can operate even when the truck engine is not generating power.

SUSTAINABLE INNOVATION

SIMPLE. POWERFUL. EFFICIENT.

WHAT IT DELIVERS

Our innovative alternator drive is compact, light-weight, low noise, low emission and highly reliable with very few moving parts. In addition, you benefit from extremely low operating costs thanks to a market-leading operating efficiency of 96%.

HOW IT COMPARES

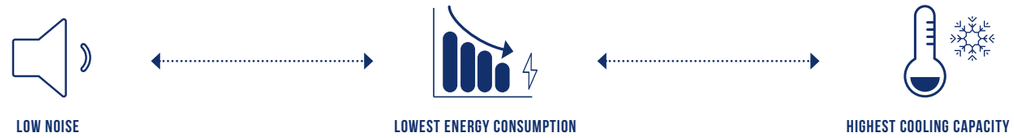
Our electric refrigeration solution offers the best for you and for the planet.

OUR PROVEN INVERTER TECHNOLOGY

Advanced design means you can enjoy a choice of operating profiles, while also benefiting from reduced energy consumption and increased service life. Inverter technology allows cooling capacity and temperature control to be optimized regardless of vehicle engine speed, while also making rapid unit start-up a useful bonus.

FLEXIBILITY AND CHOICE

Choose the operating profile that best suits your cargo, your customer and your location: Low noise, lowest energy consumption or highest cooling capacity.



BENEFITS

Innovative use of our inverter system means reduced energy requirements, improved load quality and longer component life.

BUILT ON EXPERIENCE

With over 10,000 full electric units in service, no other manufacturer has more experience, a wider product portfolio or a more extensive service network. Our highly trained and certified technicians will provide preventative maintenance, parts supply and emergency support. In fact, everything you need to keep your fleet in peak condition and your operation running to full capacity.

SIMPLE OPERATION

CONTROL AND MONITORING TO ELIMINATE ERRORS

The Frigoblock in-cab controller displays vital information and enables simple but effective control of temperatures, set-points and defrosting.

CHOOSE

FITS WHERE YOU WANT IT:
RADIO SLOT, DASHBOARD, LOADING AREA

ACT

ONE KEY PRESS TO
CHANGE SET-POINT

INFORM

INTEGRATED HOUR METER

CONNECT

CAN-BUS NETWORK FOR MONITORING,
PROGRAMMING AND UPDATES

CONTROL

INITIATE AND MONITOR DEFROST

MONITOR

VIEW ALL COMPARTMENTS



CHOICE

TO MEET YOUR PRECISE NEEDS

Choice means being able to pair your Frigoblock EK unit with the evaporators **you** need for **your** operation. Our ultra-slim evaporators can be used in split combinations but also when you need additional temperature control in your multi-compartment trucks. Thanks to their compact design, a multitude of multi-compartment solutions are possible with optimum load space.

SINGLE DISCHARGE



RE 42-1

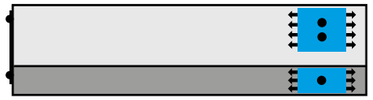
DUAL DISCHARGE



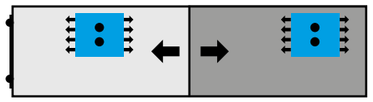
RE 11-2 RE 22-2 RE 44-2

MULTIPLE CONFIGURATION OPTIONS

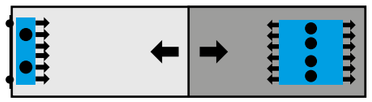
Possible 2 zones configurations EK Series



EK13-EK25 + RE22-2 + RE11-2

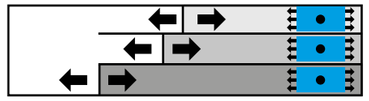


EK13-EK25 + 2X RE22-2

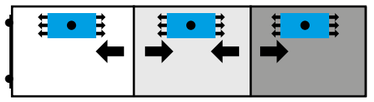


EK25 + RE42-1 + RE44-2

Possible 3 zones configurations EK Series



EK25 + 3X RE11-2



EK25 + 3X RE11-2

TECHNICAL INFORMATION

EK UNITS			EK 13L + RE 22-2		EK 13 + RE 22-2	
Return air / ambient temperature		°C	0 / 30	-20 / 30	0 / 30	-20 / 30
Refrigeration Capacity	Standby	W	8.190	4.260	11.405	6.185
	Road	W	Up to 20 % more refrigeration capacity with Inverter-Filter Boost mode			
Defrost Capacity (Hotgas)		W	up to 18.000		up to 24.000	
Heating Capacity (Electric)		W	7.900		7.900	
Refrigerant			R 410A		R 410A	
Condenser Weight		kg	158		158	
Condenser Dimensions (H x W x D)		mm	475 x 930 x 550			
Compressors						
Cylinders			2		2	
Displacement		m^3/h	16,8		24,4	

EK UNITS			EK 25 L + RE 44-2		EK 25 + RE 44-2	
Return air / ambient temperature		°C	0 / 30	-20 / 30	0 / 30	-20 / 30
Refrigeration Capacity	Standby	W	13.045	7.750	18.130	9.975
	Road	W	Up to 20 % more refrigeration capacity with Inverter-Filter Boost mode			
Defrost Capacity (Hotgas)		W	up to 28.000		up to 35.000	
Heating Capacity (Electric)		W	6.800		6.800	
Refrigerant			R 410A		R 410A	
Condenser Weight		kg	207		207	
Condenser Dimensions (H x W x D)		mm	525 x 1095 x 645			
Compressors						
Cylinders			4		4	
Displacement		m^3/h	33,4		48,5	

ALTERNATORS		G17	G24	AW22.5	AW30
Power	kVA	17,3	24,2	22,5	30
Voltage	V	400	400	400	400
Current	A	25	35	32	43
Speed	RPM	3.000	3.000	3.000	3.000
Dimensions					
Length	mm	460	560	336	411
Height	mm	214	214	187	187
Width	mm	245	245	187	187
Shaft	mm	43	43	30	30
Weight	kg	76	98	49	60

Subject to technical changes without prior notice.

REMOTE EVAPORATORS		RE11-2	RE22-2	RE42-1	RE44-2
Airflow	m^3/h	1.900	3.800	4.000	6.500
Evaporator Fans		1	2	2	4
Discharge		Dual	Dual	Single	Dual
Dimensions					
Height*	mm	160	160	140	140
Length	mm	1.120	1.120	680	1.020
Width	mm	720	1.160	2.160	2.160
Weight	kg	46	74	52	92

* Can be recessed 40mm into the roof



DISCOVER THE COMPLETE ELECTRIC RANGE

DISCOVER OUR FULL PRODUCT RANGE,
ALL TECHNICAL SPECIFICATIONS AND OUR
EXTENSIVE '24/7/365' SERVICE NETWORK
AT WWW.FRIGOBLOCK.COM



FRIGOBLOCK GmbH is a brand of Thermo King®. Thermo King – by Trane Technologies (NYSE: TT), a global climate innovator – is a worldwide leader in sustainable transport temperature control solutions. Thermo King has been providing transport temperature control solutions for a variety of applications, including trailers, truck bodies, buses, air,shipboard containers and railway cars since 1938.

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