

FRIGOLOCK

# FK SERIES

FULL ELECTRIC REFRIGERATION  
FOR TRUCKS



**SUSTAINABLE INNOVATION  
BUILT ON EXPERIENCE**

FULL ELECTRIC REFRIGERATION FOR SMALLEST TO LARGEST VEHICLES.  
40+ YEARS' FRIGOBLOCK EXPERTISE IN FULL ELECTRIC DRIVES.  
EXTENSIVE, HIGHLY TRAINED SERVICE & DEALER NETWORK.



## CONTENTS

TOMORROW'S TECHNOLOGY TODAY	3
FK SERIES: A MODEL FOR EVERY APPLICATION	4
MEETING NEEDS WITH SUSTAINABLE INNOVATION	5
SUSTAINABLE INNOVATION: SIMPLE. POWERFUL. EFFICIENT.	6
SUSTAINABLE INNOVATION: INVERTER TECHNOLOGY TO MAXIMIZE FULL ELECTRIC EFFICIENCY	7
SIMPLE OPERATION	8
CHOICE	9
TECHNICAL INFORMATION	10
DISCOVER THE ELECTRIC RANGE	12

# TOMORROW'S TECHNOLOGY TODAY

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

- economy of operation,
- ability to meet rapidly changing needs,
- environmental sustainability.

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

### **COST REDUCTION**

Switching to the FK series delivers a quick return on investment, thanks to substantial gains in fuel economy and uptime.

### **ASSET UTILIZATION**

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

### **FUTURE READINESS**

No need to be concerned about future environmental regulations; the FK Series leads the market in the reduction of CO<sub>2</sub> and noise emissions.

### **FLEXIBILITY**

Discover the FK Series and you discover the power of choice including compartment configuration and vehicle type.

**WITHIN THE EXTENSIVE FK SERIES YOU WILL FIND A MODEL IDEALLY MATCHED TO YOUR NEEDS. FROM THE SMALLEST TO LARGEST VEHICLES IN THE SMALLEST TO LARGEST FLEETS.**

## FK SERIES

### A MODEL FOR EVERY APPLICATION

#### FOR RIGID TRUCKS

Extremely rapid pulldown and recovery makes the FK Series ideal for multi-drop operations. Zero-intrusion evaporators give you full use of your available load space. Massive capacity of up to 32,000 W at 0°C ensures total protection of the most sensitive loads. The unique hydraulic tilt feature allows ample space to accommodate higher cabs. Low GWP R410A refrigerant has the dual benefit of high performance with future-ready environmental credentials.



FK 13



FK 25



FK 251



URBAN MULTI-DROP

## FK SERIES

### MEETING NEEDS WITH SUSTAINABLE INNOVATION

#### COST REDUCTION

The savings gained when you switch to the FK Series will outweigh the initial premium, giving you an ROI in less than 4 years. An exceptionally efficient design contributes fuel savings of up to 60% while fewer moving parts result in more reliability and less downtime.

#### ASSET UTILIZATION

Thanks to its whisper quiet operation, the FK Series enables you to access noise sensitive areas. 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. Eliminating the need for an internal combustion engine creates a low weight unit with impressively high reliability.

#### FUTURE READINESS

The FK 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 the latest low GWP refrigerant, reducing CO<sub>2</sub> by 60% 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 FK Series sends out a powerful customer message, clearly demonstrating your commitment to sustainable operation.

#### FLEXIBILITY

Whatever your current and future needs, the FK 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.



# SUSTAINABLE INNOVATION

SIMPLE. POWERFUL.  
EFFICIENT.

## HOW IT WORKS

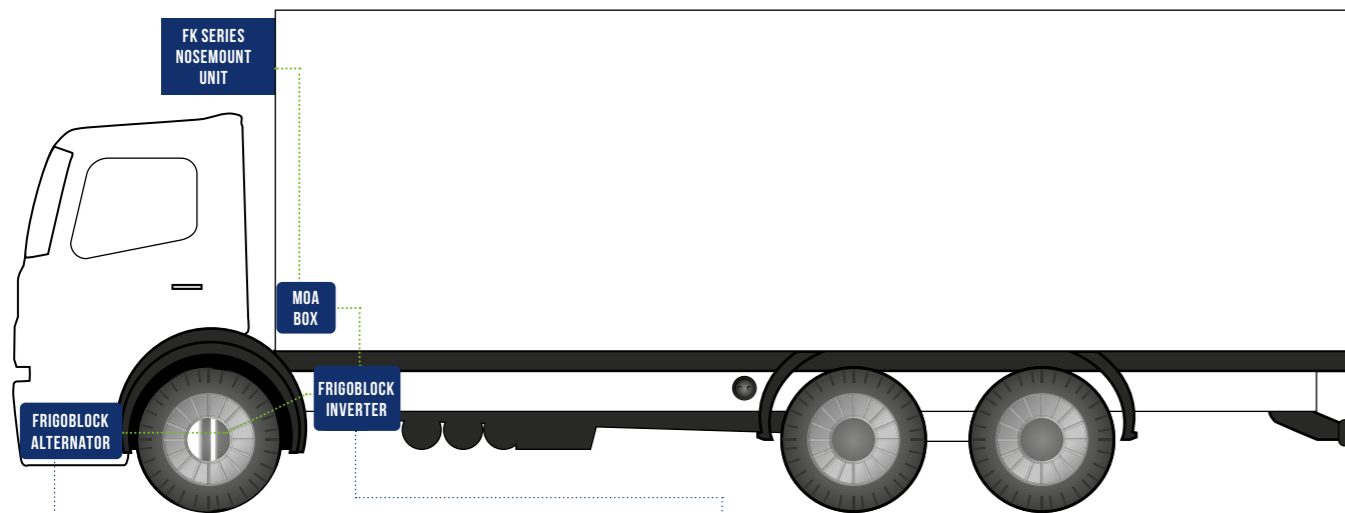
A high-performance alternator is directly driven by the vehicle engine. The alternator supplies electricity with minimal energy transfer losses. In the case of a HV e-truck, the electricity is supplied by the battery pack. The Power generated passes to the full electric unit via an inverter. The inverter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

## 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.



### ALTERNATOR

Transforms electricity from alternator to power the FK refrigeration unit

### 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.

## 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: Lowest noise, lowest energy consumption or highest cooling capacity.



LOWEST NOISE



LOWEST ENERGY CONSUMPTION



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 FK 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 units 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



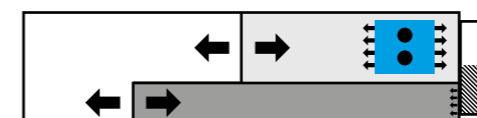
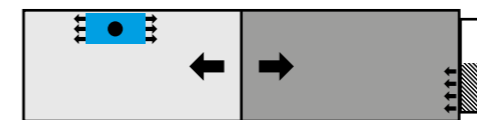
RE 22-2



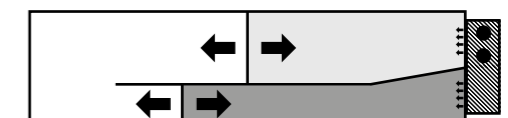
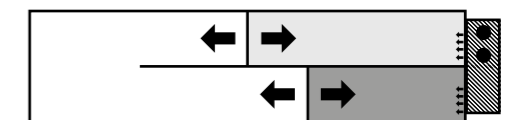
RE 44-2

### MULTIPLE CONFIGURATION OPTIONS

Possible 2 zones configuration FK Series



Possible 2 zones configuration FK 25 i



# TECHNICAL INFORMATION

FK UNITS			FK13L		FK13		FK25L		FK25		FK25I	
Integrated evaporators			1		1		1		1		2	
Return air / ambient temperature		°C	0 / 30	-20 / 30	0 / 30	-20 / 30	0 / 30	-20 / 30	0 / 30	-20 / 30	0 / 30	-20 / 30
Refrigeration Capacity*	50 Hz	W	8,600	4,500	11,500	6,200	12,900	7,500	17,400	9,900	19,000	10,600
	60 Hz	W	Up to 20 % more refrigeration capacity with Inverter-Filter Boost mode									
Defrost Capacity (Hotgas)		W	up to 18,000		up to 24,000		up to 28,000		up to 35,000		up to 40,000	
Heating Capacity (Electric)	50 Hz	W	6,100		6,100		7,300		7,300		---	
	60 Hz	W	6,600		6,600		8,200		8,200		---	
Refrigerant			R 410A		R 410A		R 410A		R 410A		R 410A	
Airflow**	50 Hz	W	2,870		2,870		3,616		3,616		---	
	60 Hz	W	3,400		3,400		4,150		4,150		6,400	
Weight		kg	257		257		324		324		410	
Dimensions (H+W+D; Host Unit)		mm	565*1965*620		565*1965*620		640*2315*660		640*2315*660		576*2180*995	
COMPRESSORS												
Cylinders			2		2		4		4		4	
Displacement		m <sup>3</sup> /h	16.8		24.4		33.3		48.2		58.1	

\* ATP conditions - \*\* DIN EN ISO 5801

ALTERNATORS			G17		G24		AW22.5		AW30	
Capacity			17.32		24.25		22.5/28.0		30.0/37.5	
Voltage			400		400		400/500		400/500	
Frequency			50		50		-		-	
Current			25		35		32		43	
Speed			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			RE42-1		RE11-2		RE22-2		RE44-2	
Airflow volume (ATP Conditions)		m <sup>3</sup> /h	3,444		1,620		3,245		5,589	
Air throw, without ducting		m/sec	6-7		6-7		6-7		6-7	
Fans			2		1		2		4	
Discharge			Single		Dual		Dual		Dual	
Dimensions										
	Height*	mm	140		160		160		140	
	Length	mm	680		1,120		1,120		1,020	
	Width	mm	2,160		720		1,160		2,160	
Weight		kg	52		46		74		92	

\* can be recessed 40mm into the roof



# DISCOVER THE COMPLETE ELECTRIC RANGE

## EK SERIES

For your low-height truck bodies or throughloading trailers, choose a split refrigeration solution with a chassis mounted EK condenser and the RE evaporator.

## DK SERIES

If you require temperature control in large-volume truck-trailer combinations and swap bodies, you can fully integrate the DK refrigeration unit as well as the RE evaporator into the roof of the body.

## HK SERIES

This front wall mounted refrigeration unit keeps your drawbar combinations and semi-trailers at the right temperature. The integrated evaporator lets you use all your precious loading space.

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