

 **THERMO KING**

# MAGNUM PLUS®

Container refrigeration.

**MAGNUM**  
 **PLUS**

Fresh or frozen: faster is better.

 **Ingersoll Rand®**

# Premium performance. No compromise.

## Premium performance. No compromise.

Thermo King is committed to engineering innovative products and technologies to provide ever-increasing levels of efficiency and performance to customers around the world. The MAGNUM PLUS® is the result of years of consolidated field experience acquired with its predecessors. With better temperature control than ever and a raft of optional functionality, there's no better reefer on land or sea.

### Lowest Temperature

The MAGNUM PLUS® is the only unit on the market capable of reaching and maintaining  $-40^{\circ}\text{C}$  box temperature in  $+50^{\circ}\text{C}$  ambient environment, thereby preserving product quality and further increasing usable box life.

### Fast pull-down

Thanks to its superior cooling capacity, the MAGNUM PLUS® can increase storage life by reaching the set-point faster and more accurately.

### Precise temperature control

The unique MAGNUM PLUS® advanced temperature management control systems deliver extremely tight temperature control up to  $\pm 0.25^{\circ}\text{C}$ .

### Low Energy Consumption

Less energy is required with MAGNUM PLUS® with its MP4000 controller, allowing significant cost savings and setting a new standard in efficiency.

### Proven technology & simple design

With over 100,000 units in service, millions of trips around the world and years of experience, the MAGNUM PLUS® platform has proven itself time and again in rugged circumstances as being extremely reliable. Magnum Plus stands out with its streamlined design (low number of subcomponents and fixation points) and characteristic V-shape frame.

### Global Service

Thermo King's service network provides support you can count on, 24 / 7, around the globe, with dedicated service engineers and a high number of dealers. Service means not only maintenance and repair but performance-enhancing retrofit adaptations to increase the performance of your existing fleet.

The logo for MAGNUM PLUS, featuring the word "MAGNUM" in a bold, white, sans-serif font above the word "PLUS" in a smaller, white, sans-serif font. The "PLUS" is partially enclosed by a green, stylized leaf-like shape.

# Smart choices. Smart containers.

When it comes to fresh or frozen cargo, you need a reliable reefer that adapts to the specific requirements of each load. Thermo King's MAGNUM PLUS® provides the best cold chain capability on the market, easily adaptable for different options such as telematics and remote monitoring capability.



### R-452A Refrigerant

Thermo King was determined to see a new, environmentally sensible and future-compliant refrigerant for transportation applications. The result? Reliable, compliant cold.



### Remote monitoring modem: RMM+

MAGNUM PLUS® integrates a remote monitoring power modem and can interface with advanced wireless remote monitoring systems for one-way and two-way communication. It is the industry benchmark in efficiency, performance, operability and reliability.



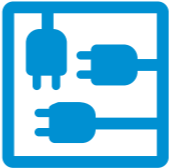
### Smart PTI

Smart Pre-Trip Inspections (PTI) save time, money, with the capability to perform full inspections during normal reefer operation, anytime or anywhere the unit is operating - empty or loaded.



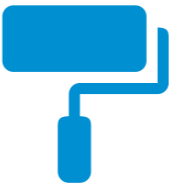
### Fresh air management: AFAM+

AFAM+, Advanced Fresh Air Management, protects fresh produce from detrimental atmosphere conditions. AFAM+ precise fresh air settings take the guesswork out of fresh air exchange. AVL (air vent logging) tracks the opening of the air vent during shipment.



### Valves, cables and plugs

Every component, no matter its size, is important to the overall quality and performance of your unit. Genuine Thermo King valves, cables and plugs are constructed of high quality materials, designed for perfect fit and alignment, and are rigorously pre-tested to insure efficient operation in every Thermo King unit. We offer a wide range of customizations to comply with specific customer demands.



### Logos, decals and color

Proudly display your brand by fully customizing the visual aspects of your Magnum Plus fleet with your own logo, decals, and color.



### Water-cooled condensers

In demanding applications where air cooling capacity is insufficient (below-deck cargo transportation), water cooled condensers offer a reliable alternative to ensure smooth operations.



### Synchronized defrost

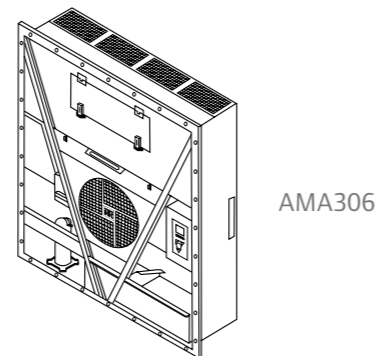
Synchronizing simultaneous defrost cycles for adjoining reefers is critical for optimum cooling performance.

# Specifications.

System Net Cooling Capacity - Full Cool MAGNUM+ Model - Air Cooled Condensing *			
460/230V	460/230V, 3 Phase, 60 Hz Power		
	Net Cooling Capacity		Power Consump
	60 Hz Capacity B/hr	60 Hz Capacity kW	60 Hz Power kW
21.1 °C (70 F)	54,000	16.603	11.55
1.7 °C (35 F)	42,000	11.990	11.0
-17.8 °C (0 F)	25,000	7.300	7.3
-28.9 °C (-20 F)	17,300	5.000	6.6
-35 °C (-31 F)	14,000	4.100	6.0
-40 °C (-40 F)	12,636	3.700	3.7

\* System net cooling capacity with a 38 °C (100 F) ambient air temperature and R-404 A.

Dimensions	
Height	2,235 mm (88 inches)
Width	2,026 mm (79.8 inches)
Depth	420 mm (16.5 inches)
Weight	397 Kg (875 lb)



Evaporator Airflow Specifications System Net Heating Capacity *						
Magnum+	460/230V, 3 Phase, 60 Hz Power			380/190V, 3 Phase, 50 Hz Power		
	Heating Capacity			Heating Capacity		
	Watts	Kcal/hr	BTU/hr	Watts	Kcal/hr	BTU/hr
	5,250	4,515	17914	3,900	3,353	13,300

### Insist on Genuine Thermo King Replacement Parts

Engineered to provide optimal performance and maximum life, Thermo King genuine service parts protect your investment and provide you peace of mind and confidence no matter where your equipment operates. Genuine Thermo King replacement parts are proven time after time to beat the competition in side-by-side testing. Never settle for less.

#### WARRANTY SUMMARY

Thermo King Warranty are available on request from your local Thermo King Dealer. Please refer to document TK50048 for the Thermo King Container unit warranty.

# Maximum performance through efficient design.

## The MP4000: a big leap forward in controller technology

### User-friendly interface

A high resolution VGA graphic display allows clear and efficient visualization of all data needed in every situation. Dynamic soft- and hot-keys in the navigation menus provide immediate access to key functions.

### Advanced communication capability

Interfacing capabilities with advanced telematics systems make the MP-4000 the controller of choice.

### Simple and robust controller design:

- Ruggedised box
- Safety door-locking mechanism
- Simplified keyboard and menu navigation system
- Long-life, solid-state components with patented architecture
- Reduced and simplified cabling connections

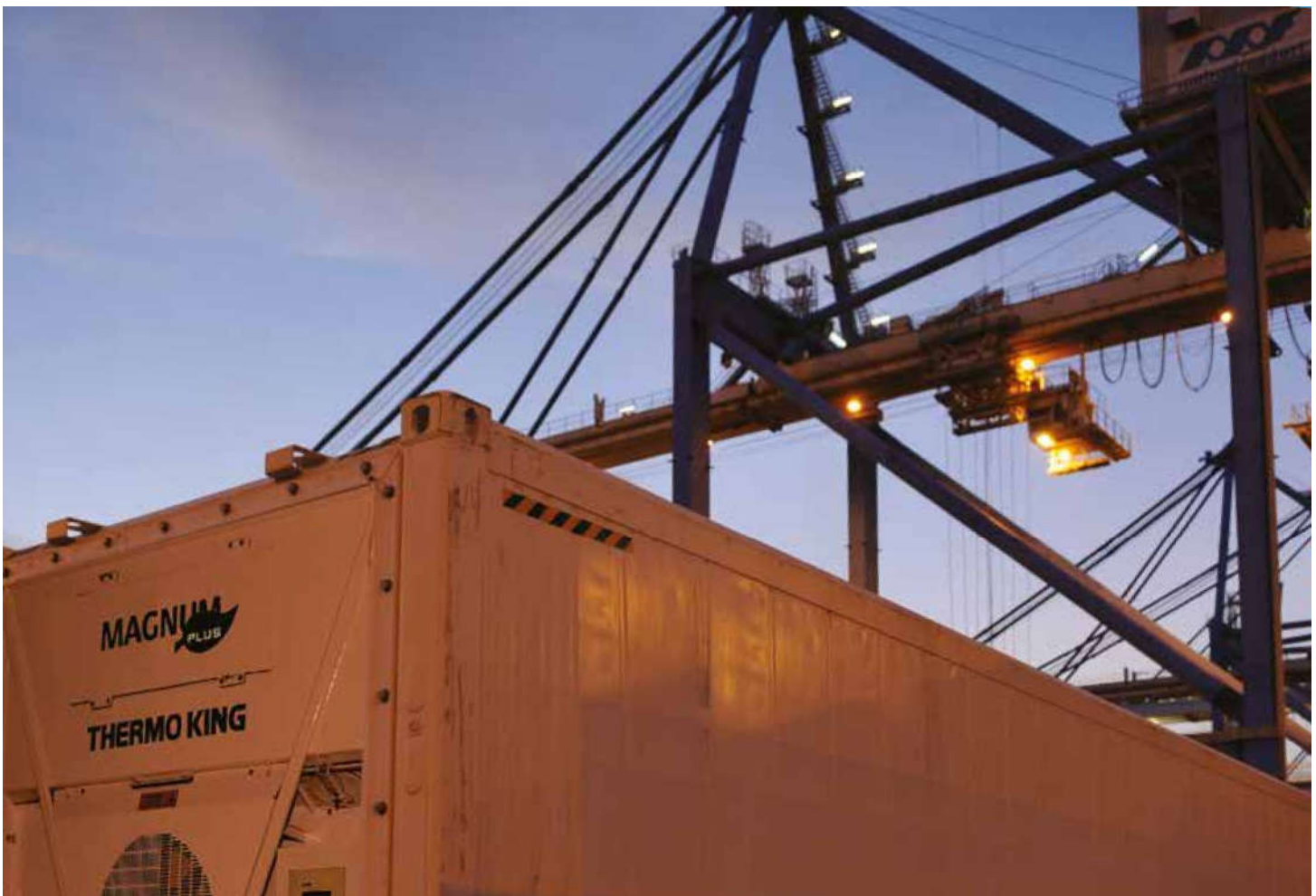
## Standard Features

- R-404A refrigerant
- Scroll Compressor with Digital Control Valve for capacity modulation, economizer circuit, ambient compensated internal overload and high temperature protection
- Proportional-integral differential (PID)
- Refrigeration capacity control system
- Non-corrosive maritime construction, which includes a marine-treated aluminum alloy frame, non-corrosive fittings, stainless steel hardware, condenser coil with epoxy e-coat and polyurethane top coat for UV protection, hydrophilic coating on evaporator coil, and a marine duty protective coating on the compressor
- Condenser and evaporator fan motors, which include stainless steel shafts and internal thermal overload protection
- CFC-free, foamed-in-place insulation

- Wired for 380/460 volt, three-phase, 50/60 Hz power supply with an 18 meter (60 ft) 11/4 power cable with CEE-17 plug
- Bottom air discharge
- Automatic electronic phase correction system 29 Vac control system
- On-demand defrost combined with intelligent timed defrost
- Manual defrost with initiation via MP-4000
- Indicator lights, which include Alarm, Alarm acknowledges, in range, and approaching in range
- Time delay start sequence
- Composite condenser and evaporator fans
- Conforms to ISO classifications and specifications for thermal containers, including: racking and end-loading standards, TIR specifications, ATP refrigeration standards, ARI standards for rating refrigeration capacity, UIC international Union of Railways, Australian Electrical Certification, British Standard 3755 Requirement (TAINT), USDA requirements for "Insect Cold" treatment, and Agrotechnological Research Institute (ATO-DLO) for flower bulb transportation
- Auxiliary battery and charger
- USDA "Cold Treatment" provision

### Options

- AFAM+ Advanced Fresh Air Exchange Management
- Water Cooler Condenser
- Thermo King electronic chart recorder
- Partlow temperature recorder
- Saginomiya Temperature recorder
- Remote monitoring
- Transfresh provision
- 10/4 power cable
- De-humidification control



For further information please contact:



**EF International Ltd.**

TEL: +81-45-264-4540 / FAX: +81-50-3730-6947

E-mail: [info@ef-international.com](mailto:info@ef-international.com)

<http://www.ef-international.com>

Yokohama Aioicho Bldg.8F 6-104 Aioicho,  
Naka-ku, Yokohama, 231-0012, JAPAN



Thermo King is a brand of Ingersoll Rand®. Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands — including Ingersoll Rand®, Thermo King®, Trane® and Club Car® — work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a global business committed to a world of sustainable progress and enduring results.



[ingersollrand.com](http://ingersollrand.com)  
[marine.thermoking.com](http://marine.thermoking.com)

Ingersoll Rand - Lenneke Marelaan 6, B-1932 Sint-Stevens-Woluwe, Belgium.

© 2016 Ingersoll-Rand Company Limited TK 70036 (11-2016)-EN