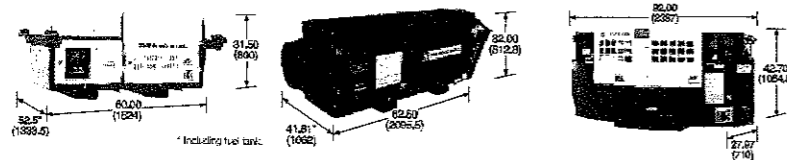


Key features and benefits.

THERMO KING SG 2000 Series Generator Sets

Features	Benefits
Exclusive, high horsepower engine - rugged and dependable with industry leading power.	Provides maximum starting power for 15KW loads. Longer life and fewer engine failures.
Fuel efficient engine	Consumes 10% less fuel than competitive engine. Results in hundreds of dollars in savings per unit each year.
Quiet running engine	50% less noise than competition. Better able to meet noise restrictions in urban settings.
Vacuum and pressure impregnated stator and exciter windings insuring 100% fit factor	Provides excellent resistance to moisture and contamination. Longer alternator life.
Microprocessor Controller - the leading technology in the industry	Restarts automatically to prevent costly nuisance shutdowns. Pre-Run function to verify proper unit operation. Individual test function to reduce diagnosis time.
28 Alarm Codes to cover every eventuality, the most thorough in the industry	Alerts operator to take corrective action. Speeds up diagnosis and repair times. Reduces repair costs.
Single switch operation to start and stop the generator set	One on/off switch. Automatically preheats engine. Protects engine from manual cold-starting.
Control keys five	Very simple to operate.
Delayed Output excitation for 15 sec (or until engine warms to 90°F)	Reduces engine wear. Improves unit starting.
Advanced cooling system with expansion, de-aeration, drawdown and overflow capacity	Provides maximum protection in extreme ambient. Maximum cooling capacity/protection from low coolant conditions.
Corrosion Protection for frame, powerpack, muffler, and components	Long life and dependable performance in the harsh transportation environments.
EMI-3000: Extended Maintenance Interval	Extends engine life and reduces clean-up and disposal costs, environmental impact and maintenance costs.

DIMENSIONS inches (millimeters)



WEIGHT

Weight includes standard dry fuel tank, battery (optional), installation hardware and power receptacle.

Clip-on:	1920 lbs. (873 kg)
Centermount:	1450 lbs. (659 kg)
Sidemount:	1510 lbs. (685 kg)

WARRANTY

Terms of the Thermo King Warranty are available on request from your local Thermo King dealer. Please refer to the TKS0045 for the Thermo King Container unit warranty.

SG 2000 Series Generator Set Specifications

Thermo King clip-on and undermount (centermount and sidemount) generator sets are self-contained, fully-automatic, diesel-

powered units designed to supply 230 or 480 Volt AC electrical power for container refrigeration units. An exclusive, direct injection

diesel engine drives a brushless generator to produce 15 KW of output power at 120°F (49°C) ambient temperature.

STANDARD FEATURES:

- **µP-G solid-state, electronic microprocessor controller** with digital display of:
 - Output voltage
 - Output frequency
 - Engine water temperature (°F or °C)
 - Engine oil pressure
 - Engine RPMs
 - Battery volts
 - Field current
 - Run hours
 - 2 programmable hour meters
- **TK486 direct-injection diesel engine**
- **Exclusive, direct drive brushless generator**
 - 15 KW, 18.75 KVA, 230/480 VAC, 3-phase, 60 Hz
 - Disc type radial fan for cooling
 - Sealed, large diameter rear bearing with special lubrication for long life
 - Exclusive vacuum pressure impregnated rotor and stator
 - Class F synthetic insulation which resists contamination (per NEMA standards)

- **Standard color**
 - Clip-on and Centermount:** Black frame, white panels and doors
 - Sidemount:** Black frame, black panels and doors
- **Manual control switch**
 - On/Off
- **Coolant protection**
 - Check level alarm indicator
 - 50:50 antifreeze
 - Radiator expansion/de-aeration tank
 - Silicone coolant hoses
- **Corrosion-resistant protection**
 - Solid welded, heavy-gauge steel frame with special sea-going finish
 - Non-corrosive fittings
 - Stainless steel external hardware
 - Copper tube, aluminum fin radiator
 - Poly-vinyl coating on the engine and generator
 - Stainless steel muffler

- **Maintenance reduction features**
 - Vibration isolation system
 - Heavy-duty oil bath air cleaner
 - Fuel filter/water separator
 - Full-flow oil filter
 - Battery
- **Protection devices**
 - Engine coolant high temperature cutout
 - Engine low oil pressure cutout
 - Alternator overload cutout

Unit controls include On/Off switch. Five simple buttons to scroll through menu.

Fuel tanks are provided standard as an integral part of each unit. Capacities are:
Clip-on model - 126 gal. (473 liter);
Centermount model - 80 gal. (303 liter);
Sidemount model - 75 gal. (284 liter).



OPTIONAL FEATURES:

- 230 VAC wired unit with receptacle, 60Hz, three-phase operation. Centermount unit can be wired for dual receptacles: 230 VAC and 480 VAC

- Header pin mounting (clip-on only)

For additional information contact:
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An **IR** Ingersoll-Rand business

The smart, reliable way to protect your container perishables when a generator set takes over.



Plug in and let the microprocessor controller take over

Continually raising the standard in Gen-Sets.

- Choice of three models for any application, including clip-on or chassis mounting
- Now features state-of-the-art microprocessor controller as standard
- The new standard in fuel efficient engines, built exclusively for transport refrigeration
- EMI-3000 package extends engine life and reduces maintenance cost
- Worldwide service & parts availability
- Automatic restart feature helps to keep generator running
- Self diagnosis allows for ease in troubleshooting and maintenance

An **IR** Ingersoll-Rand business

Plug into reliability and long life.

Plug into electric power anywhere perishables need to go.



When a container carrying perishables is off-loaded from a cargo ship that cargo is vulnerable to the ambient temperature.

Depending on its final destination, the perishable cargo could be without cooling or heating for extended periods of time. Thermo King's gen-sets provide a reliable source of electric power that can go wherever the container goes — whether by rail, by road or any roll on/off (RoRo) mode of transport.

Three models accommodate different mounting needs and applications. But that's where the Thermo King gen-set story just begins. In an industry and an environment that's not kind to equipment, a gen-set has to withstand a lot of abuse and in the process provide continuous consistent power over the long haul.

Industry's most powerful, reliable diesel engine

The power that drives the generator is the TK 486 engine with improved direct-injection and 34 horsepower. It is the most powerful diesel engine in use today in transport refrigeration. It is a tough, rugged and reliable power plant that has proven itself for years in thousands of installations in all types of weather, under all kinds of conditions.



Maximum power for reliability and dependability

Power to start all refrigeration units (regardless of age and manufacturer) and excess power capacity for starting power over the life of the gen-set.



Reliable 15 KW generator

Thanks to the powerful Thermo King engine, the companion direct drive brushless generator is capable of 15.0 KW (18.75 KVA) of continuous power output at 120V/60 Hz (48V/50 Hz) ambient temperature.

What's more, for added reliability, the generator's alternator windings are pressure impregnated with an epoxy insulation coating. Competitive windings are likely only dip coated, which can result in numerous air pockets that can easily crack, corrode and fail.

Corrosion-resistant frame and components

To resist corrosion from salt air, all framing is marine-treated heavy gauge steel. Radiator fins are aluminum, tubing is copper and the muffler and all external hardware are stainless steel. Other components are marine treated with a special water lacquer coating, and all controls are housed in a weather-tight box.

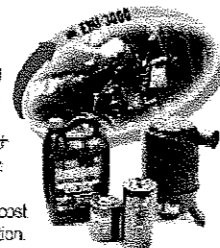
Advanced cooling system

Thermo King's cooling system provides the maximum protection of the engine and ensures the continuous operation in the most extreme ambient conditions. Silicone hoses ensure additional reliability because they are less likely to crack and leak.

Extended Maintenance Interval

Thermo King's EMI-3000 will extend your maintenance interval and reduce your operating cost by:

- Reducing clean-up and disposal cost
- Reducing environmental impact with less spillage and less waste
- Extending engine life with improved, highly efficient filtration
- Reducing maintenance cost up to 45% over competition.



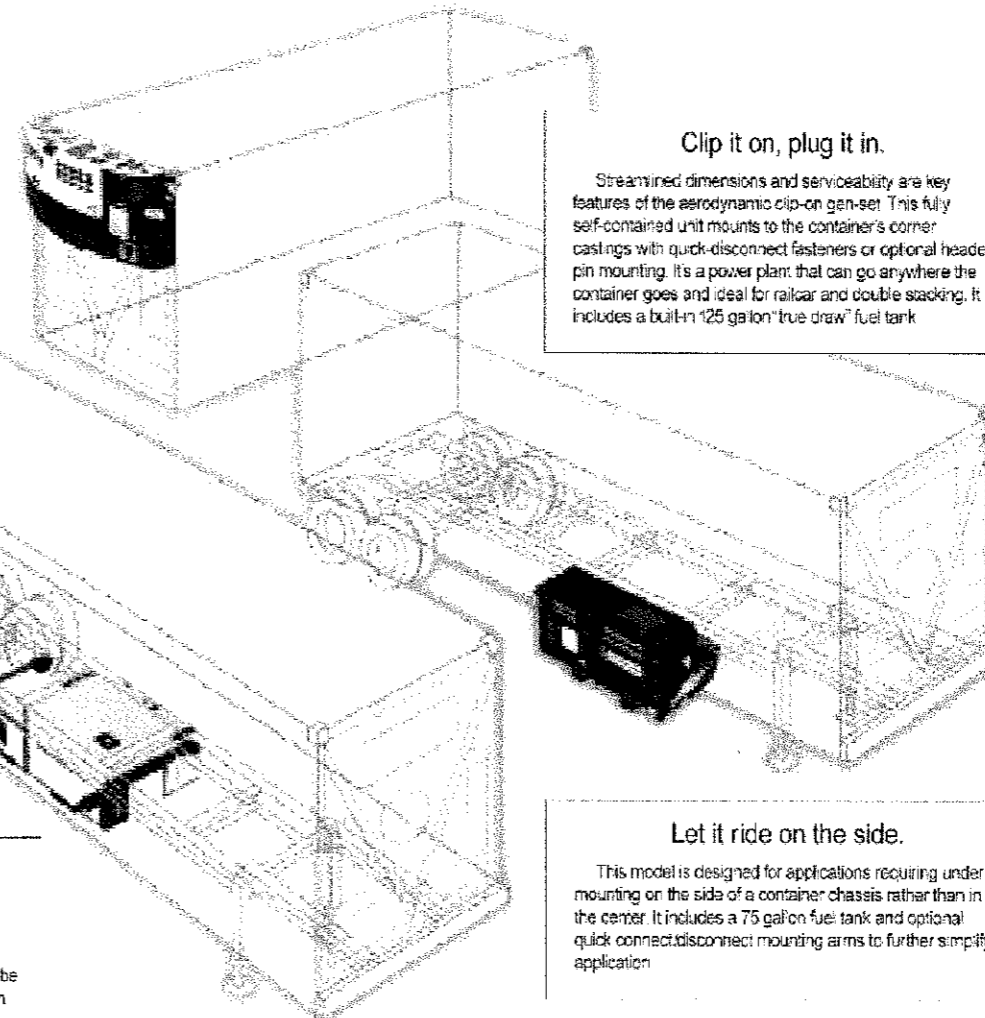
Worldwide service and parts availability

Obtaining needed replacement parts and services for generator sets is no problem for Thermo King customers. We maintain the container industry's most extensive network of service centers, parts distribution centers and warehouses.



Mount it in the middle.

The centermount model mounts under the center of the container chassis between the I-beams to allow for maximum road clearance and even weight distribution. Built-in quick disconnect mounting hardware allows it to be easily mounted and removed. It has an integral 60 gallon fuel tank.



Clip it on, plug it in.

Streamlined dimensions and serviceability are key features of the aerodynamic clip-on gen-set. This fully self-contained unit mounts to the container's corner castings with quick-disconnect fasteners or optional header pin mounting. It's a power plant that can go anywhere the container goes and ideal for railcar and double stacking. It includes a built-in 125 gallon "true draw" fuel tank.

Micro P-G "Smart" gen-set delivers many benefits

Automatic restart feature. If a generator set shut down occurs, the MP-G will initiate an automatic restart. If restarting does not occur, the MP-G will try again after a 20 minute interval. A restart attempt will be initiated every 20 minutes until the generator is successfully restarted or the battery charge is exhausted.

Automatic pre-heat/starting. When the on/off switch is turned on, the MP-G automatically energizes the intake air heater for a variable period of time based on the ambient temperature, pre-heating the engine before automatically starting it.

Numerous built-in trouble-shooting and maintenance reduction features.

- **Self diagnostics pinpoint malfunctions.** When a malfunction occurs, the MP-G senses it and, in turn, records and stores an alarm code in memory. At the same time, it activates an alarm icon on the display screen to indicate an alarm condition has occurred. To locate the problem, a technician need only press the "alarm" key pad. The malfunction code will be displayed, helping lead the technician to the problem area, significantly reducing diagnostic time.

- **Digital display.** The generator sets voltage output, frequency output, oil pressure, coolant temperature, engine RPM, battery volts, generator field current and operating hours can be checked by performing a simple key-pad sequence.

- **Maintenance interval hour meters.** The MP-G also includes two programmable "count down" hour meters that can be set at desired intervals as maintenance reminders.

Let it ride on the side.

This model is designed for applications requiring under mounting on the side of a container chassis rather than in the center. It includes a 75 gallon fuel tank and optional quick connect/disconnect mounting arms to further simplify application.