

THERMO KING
SG 2000 Series Generator Sets



GeneratorJoe

4016 Quartz Drive
 Santa Rosa, CA 95405
 Phone: 707 539-9003
 Fax: 707 539-5212
 Email: sales@generatorjoe.NET
 Web www.generatorjoe.NET

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



Generator power for the new millennium

Continually raising the standard in Gen-Sets.

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

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Plug in and let the microprocessor controller take over

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, 230,460 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**
 - Chock 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 water 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 - 125 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:
 Bob Blough (612) 887-3483
 e-mail: rblough@thermoking.com

Specifications subject to change without notice.

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Thermo King Corporation
 Ingersoll-Rand Company
 314 West 90th Street
 Minneapolis, MN 55420-3693

Plug into reliability and long life.

Key features and benefits.



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/roll 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.

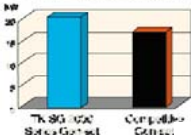
Industry's most powerful, reliable diesel engine

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 120°F (49°C) 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.

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.

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Features	Benefits
Exclusive, high horsepower engine — rugged and durable 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% life span	Provides excellent resistance to moisture and contamination. Longer alternator life.
Microprocessor Controller — the leading technology in the industry	Restarts automatically to prevent costly fuel-waste shutdowns. Pre-trip function to verify proper unit operation. Individual test function to reduce diagnosis time.
26 Alarm Codes to cover every eventuality, the most thorough in the industry	Alerts operator to take corrective action. Speeds up diagnosis and repairs times. Reduces repair costs.
Single switch operation to start and stop the generator set	One on/off switch. Automatically protects engine. Protects engine from manual cold starting.
Control keys live	Very simple to operate.
Delayed Output available for 15 seconds (long no warm to 80°F)	Reduces engine wear. Improves cold starting.
Advanced cooling system with expansion, de-aeration, draw-down and overflow capacity	Provides maximum protection in extreme ambient conditions. Maximum cooling capacity protection from low ambient conditions.
Corrosion Protection for frame, powerpack, muffler, and components	Long life and dependable performance in the harsh transportation environments.

DIMENSIONS inches (millimeters)



* Including fuel tank.

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. (686 kg)

Warranty Summary

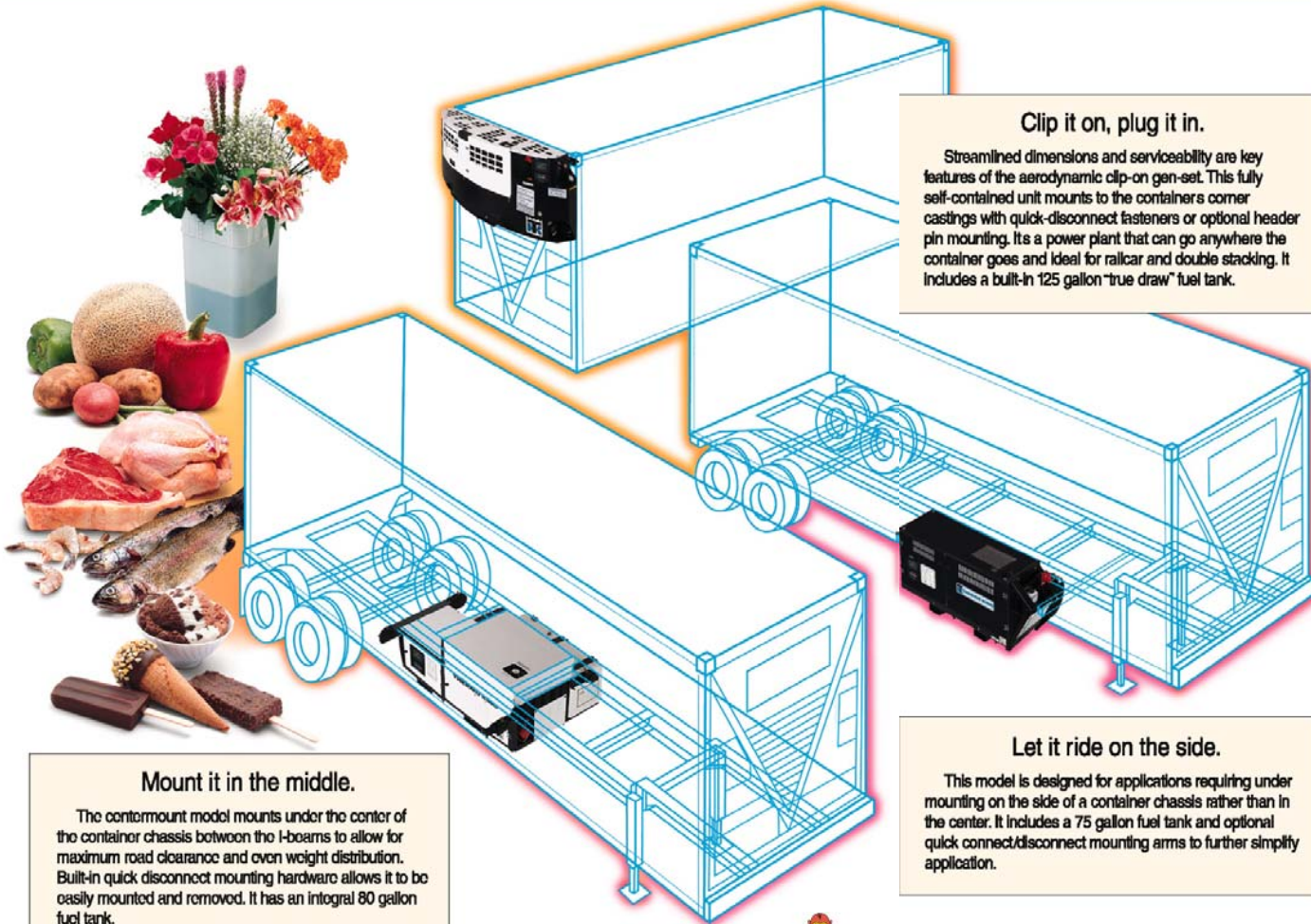
Terms of the Thermo King Express Warranty are available on request. The unit and its components are warranted to be free from defects in material and workmanship from date of installation as follows:
24 months parts and labor — injection pump, engine and internal parts and radiator coil.
24 months parts and labor — basic unit including engine accessories.

Manufacturer is not responsible and will not be held liable in contract or in tort (including strict liability and negligence) for any special, indirect or consequential damages, including, but not limited to, injury or damage caused to container, contents or persons by reason of the installation or use of any Thermo King product or its mechanical failure.

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Plug into electric power anywhere perishables need to go.



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 containers corner castings with quick-disconnect fasteners or optional header pin mounting. Its 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.

Mount it in the middle.

The contormount 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 80 gallon fuel tank.

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.

✓ 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 r.p.m.s, 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.



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