

A NEW ADDITION IN YOUR FLEET

SG-3500

- Our Genset range is now expanded to help you take on your challenge.

 **THERMO KING**



SGCO-3500

A reliable solution for container Clip-On applications



SGUM-3500

A reliable solution for transporting reefers with container chassis

CONFIDENTIAL

Key benefits

- **Reliable power**
- **Sustainability**
- **Low total cost of ownership**
- **Simple controller**
- **Telematics option**

RELIABLE POWER



High performance engine

The SG-3500e Series can power all ISO reefers under any condition thanks to its 24.X hp engine.

2.1L engine producing 18.XkW of power
Proven engine, being used worldwide in Transport refrigeration applications

Proven operation between -40C and +50C (-40F and 122F) and tested up to 3,000m (feet) altitude
Designed for 25,000 hours of operation with normal maintenance

High-capacity alternator

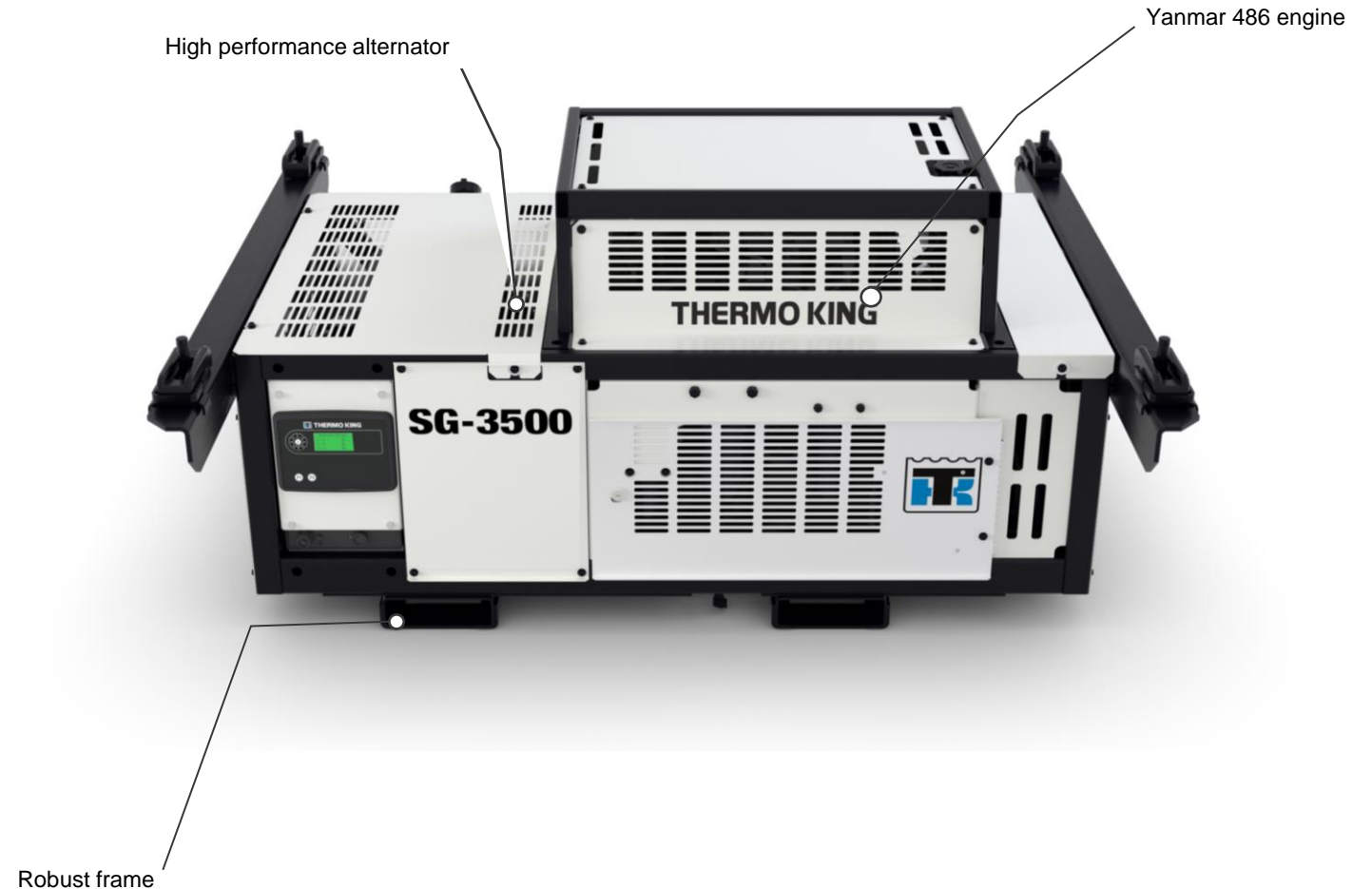
Even larger 190mm alternator

Increased capacity, Reduced duty cycle

Wound-field type alternator supports the high load compressor start, that would stall other gensets

Frame & paint

Designed for tough conditions. The SG-3500e has a robust steel frame designed and tested to operate in the toughest of conditions, both climatic and vibrational, through road and rail operation



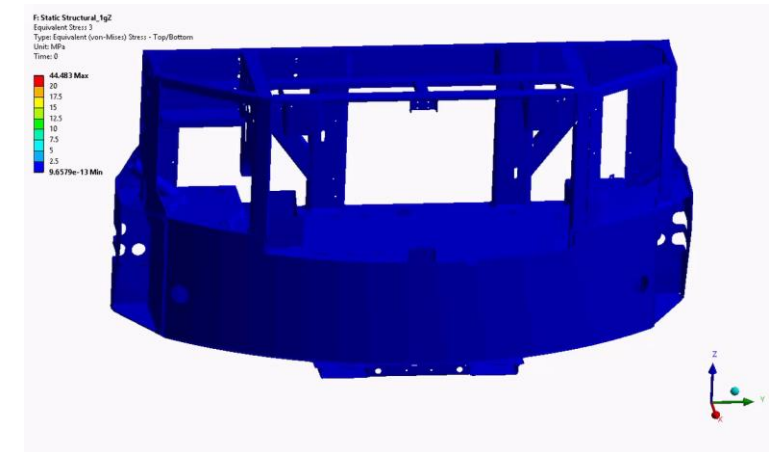
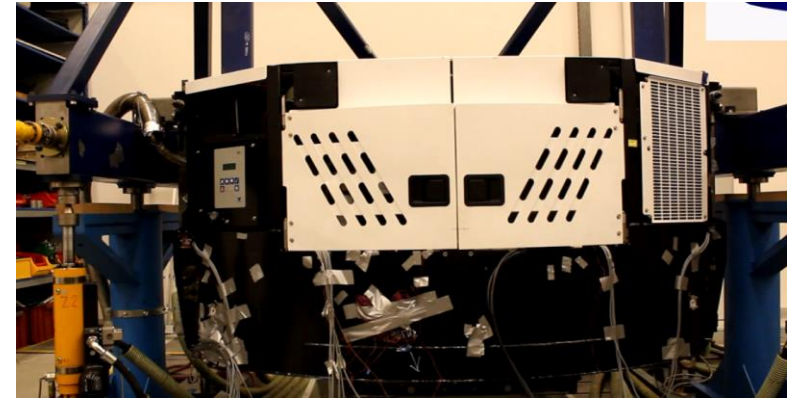
SG3500 improvements



- Engine
 - **Proven reliability**, 6 years in S-600 TRU.
 - **No timing belt**
 - **Direct drive fan** – ZA motor removed
 - **Over 100,000** engines installed on TK trailer reefer units in **all ambient conditions**
- Alternator
 - **190mm** stack length – **14% greater capacity** v SG3000(145mm): **proven reliability and oversized**
- Frame
 - **Fully-automated** robotic welding process & inspection
 - Advanced **solvent pre-treatment** process for greater corrosion resistance.
 - **Weekly audits** on frame corrosion resistance
 - Higher strength low alloy steel compared to all previous SG frames
- Service
 - **Design** for **service** program conducted.
 - Serviceable components all located for **easy access** – wide double doors

SG3500 improvements cont.

- Guaranteed frame integrity through all conditions.
 - Rigorous design simulation & **MAST testing** to 1.9 million miles
- (MAST = Multi Axial Shaking Test – Thermo King unique testing facility in Prague)





EPA Nonroad Compression Ignition
Exhaust Emission Standards

NMHC+Nox max 4.7 g/Kw-hr

PM max 0.03 g/Kw-hr

As per current legislation Carb compliant for 7 years
from date in service

Electronic-governor guarantee lowest fuel
consumption

SIMPLE CONTROLLER

| | |
|----------------------------|---|
| Simple interface | Simple On-Off switch allows the user to turn on the genset Pre-Heat function is automatic, aiding the driver do a cold start during cold weather |
| Simple operating interface | The menu tabs are intuitive for the user to navigate, displaying all key operating parameters |
| Alarms | Alarms can be easily viewed with the keypad for an immediate understanding of genset status |
| Pre-trip functionality | Initiate a pre-trip prior to journey to ensure the genset is ready to power precious cargo |
| Advanced diagnostics | Advanced self check & diagnostics |
| Multi language capable | English and Spanish available as standard Other worldwide languages are available with an updated software package |
| Other features | Telematics enabling Hourmeters Data logging of all events |



TELEMATICS OPTION

Full visibility to your fleet

Location and geofencing

Fuel monitoring

Fuel level is monitored even when the genset is off

Be alerted to any sudden drop in fuel level

Be alerted to a genset leaving a depot with a low level of fuel

Battery Voltage

Continuous monitoring of battery voltage , even when the genset is off

Alarms

Description

Total hours

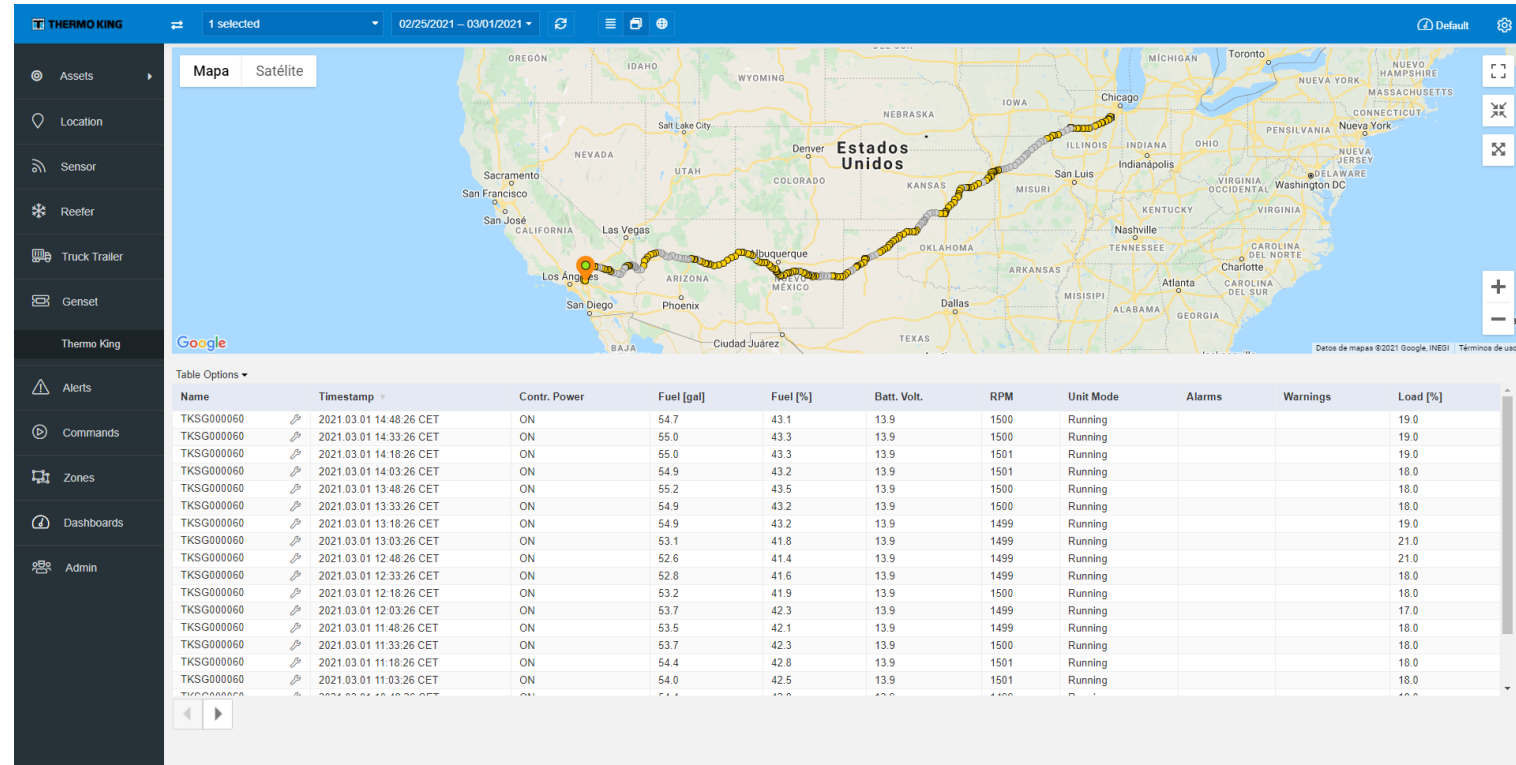
Enable planning of periodic maintenance

Monitor engine load %

Determine if a reefer is connected and operating

Genset parameters

Genset status On / Off
Engine RPM
Output Voltage & Frequency



SG-3500

SG-5000

Yanmar engine
24.1hp

Yanmar engine
29.4hp



High capacity
190mm
alternator

7yr CARB
EPA Tier 4

CARB for life
Beyond EPA Tier 4



Robust long-
life frame

Simple
controller

SG+
controller

Environmental gap

- During 10 years of operation @ 2000 hrs/year SG5000 vs. best EPA approved unit SG3500

| |
|------------------------------|
| <i>Environmental benefit</i> |
| <i>CO2 saving in ton</i> |
| 2,66 |
| <i>NMHC+Nox in Kg</i> |
| 250,00 |
| <i>Particulate in Kg</i> |
| 30,00 |
| <i>CO in Kg</i> |
| 390,00 |

SPECIFICATIONS



CAPACITY

| | |
|---------------------------|--|
| Maximum output | 15kW/18.75kVA (PF 0.8) at 45°C as per ISO1496 |
| Ambient Temperature Range | Structure: -40°C to 50°C (-40°F to 122°F) Starting: -29°C to 50°C (-20°F to 122°F) Running: -40°C to 50°C (-40°F to 122°F) |

CERTIFICATIONS

| | |
|----------------------|---|
| Emissions compliance | EPA Tier IV Final NRMM Stage V CARB (7Year) |
|----------------------|---|

ENGINE

| | |
|----------------|-------------------------|
| Type | Compression ignition |
| Fuel injection | Direct Injection |
| Displacement | 2.1 liter |
| Horsepower | 24.1HP (18kW) @ 1800rpm |
| Torque | 95Nm @ 1800rpm |

GENERATOR

| | |
|--------------|----------------------------|
| Output Power | 15kW/18.75 kVA at 60Hz ISO |
| Power Factor | 0.8 |
| RPM | 1800 |
| Voltage | 460VAC |
| Phases | 3 |
| Frequency | 50/60Hz |



THERMO KING