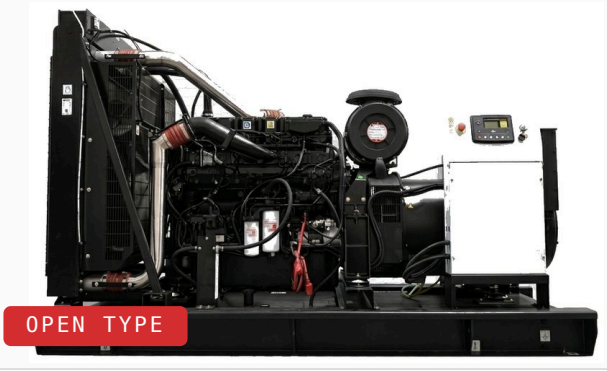
— DIESEL GENERATING SET

TC450T 450 KVA

— POWERED BY CUMMINS QSZ13-G7

INDUSTRIAL STANDBY & PRIME POWER SOLUTION



STANDBY (ESP)	PRIME (PRP)	VOLTAGE // 3Φ	NOISE @ 7M
450	**400**	**400** V	**≤ 85 ± 2**
kVA // 360 kW	kVA // 320 kW	650 A @ 50 Hz	dB(A) // Silent

ELECTRICAL SPECIFICATIONS

01 // ELECTRICAL

Model	**TC450T**
Frequency	**50 Hz**
Phases / Wires	**3 Phase, 4 Wire**
Voltage	**400 / 230 V**
Rated Current	**650 A**
Rated Speed	**1500 r/min**
Power Factor (cos φ)	**0.8**
Fuel Consumption @ 100%	**89.2 L/h**
Engine	**Cummins QSZ13-G7**
Alternator	**Stamford S4L1D-F41**
Control Module	**DSE 7320 MKII**

WEIGHT & DIMENSIONS

02 // PHYSICAL

— OPEN TYPE

L 3455 ×
W 1360 ×
H 2135 mm

4320 KG
Tank: 468 L

— SILENT TYPE

L 5306 ×
W 1566 ×
H 2585 mm

5570 KG
Tank: 632 L

STANDARDS GB/T 2820–2009 // ISO 8528 // CE // CNAS // IAF

— STANDARD

INCLUDED

Engine, alternator, cooling system, base frame (excl. fuel tank), shock absorber, air intake, control box with mains floating charge, plastic fan blades.

— OPTIONAL

ADD-ONS

Base frame with fuel tank, water jacket heater, fuel water separator, fuel heater, level sensors, switch box, auto-fueling system, battery frame, anti-condensation heater.

— ACCESSORIES

BUNDLED

Silencer, bellow, exhaust silencing system accessories (matching engine), battery, starting cord assembly, gen-set documentation, tools matched to engine.

— SECTION 01 // DIESEL ENGINE —

ENG.
MANUFACTURER: CUMMINS // 6-CYLINDER IN-LINE // TURBOCHARGED & AFTER-COOLED

POWER PLANT
4-STROKE DIESEL
419 KW @ 1500 RPM

CUMMINS QSZ13-G7

ENGINE CORE

01 // POWER PLANT

Manufacturer	**CUMMINS**
Model	**QSZ13-G7**
Engine Speed (rated)	**1500 RPM**
Cylinder / Arrangement	**6 / L (Inline)**
Displacement	**13 L**
Bore × Stroke	**130 × 163 mm**
Compression Ratio	**17 : 1**
Max Standby Power @ Rated	**419 kW**
Frequency Regulation	**≤ 1 %**
Governor Type	**Electrical**
Aspiration / Cooling	**Turbocharged & After-Cooled**

FUEL / OIL / AIR

02 // CONSUMABLES

Fuel Consumption @ 100% PRP	**89.2 L / h**
Fuel Consumption @ 75% PRP	**72.0 L / h**
Fuel Consumption @ 50% PRP	**52.9 L / h**
Fuel Consumption @ 25% PRP	**26.0 L / h**
Total Oil Capacity w/ Filters	**75.33 L**
Engine Air Flow	**500 L/s**
Exhaust Gas Flow	**36.9 kg/min**
Exhaust Temperature	**513 °C**
Max Back Pressure	**10 kPa**
Radiator & Engine Capacity	**23.1 L**
Max Water Temperature	**104 °C**

— KEY ENGINE ADVANTAGES

- **Cummins engines:** advanced design, reliable performance and durable continuous operation.
- High combustion efficiency and low fuel consumption, engineered for continuous running.
- Globally available Cummins service parts and authorised service network.
- Alloy-steel block and connecting rods for high durability under load.
- P/T pump injection technology — low cost and complete combustion.
- Proven platform operating across industrial, construction and agricultural applications.

— SECTION 02 // AC ALTERNATOR —

ALT.
MANUFACTURER: CUMMINS GENERATOR TECHNOLOGIES // BRUSHLESS AVR // IP23 CLASS H

3-PHASE AC
BRUSHLESS SHUNT
IP23 / CLASS H

STAMFORD
S4L1D-F41

CORE CONFIGURATION

01 // BUILD

Manufacturer	**STAMFORD**
Type	**S4L1D-F41**
Number of Phases	**3**
Power Factor (cos φ)	**0.8**
Pole Count	**4**
Bearing	**1 (Single)**
Coupling	**Direct**
Exciter Type	**Brushless SHUNT**

ELECTRICAL / PROTECTION

02 // PROTECTION

Insulation Class / Temp Rise	**H / H**
Degree of Protection	**IP 23**
AVR Model	**AS440**
Altitude Rating	**≤ 1000 m**
Winding Pitch	**2/3**
Winding Leads	**6 / 12**
Voltage Regulation	**± 1.0 %**
Overspeed Capability	**2250 r/min (1 min)**

— STAMFORD ALTERNATOR QUALITY PROGRAM

- Utilising wire-wound (random-wound) technology — industry benchmark for all gen-set configurations.
- IP21, IP22, IP23 and IP44 enclosure protection options available.
- Manufactured under ISO 9001 and ISO 14001 certified environments.
- Brushless excitation with AVR — maintenance-free, high-reliability voltage control.
- Ideal for marine/offshore, UPS, telecoms, construction and continuous/standby power.
- Licensed service network across Southeast Asia for parts and warranty support.

STANDARDS GB755 // BS5000 Part 3 // VDE 0530 // NEMA MG1-22 // IEC-34 // CSA C22-100 // AS1359

— SECTION 03 // CONTROL MODULE —

CTRL.
AUTO START & AUTO MAINS FAILURE (AMF) CONTROL MODULE // IP65 // ETHERNET-READY

AMF + AUTO START
GEN-SET CONTROLLER
IP65 / 250-EVENT LOG

DEEPSEA
DSE 7320 MKII

PHYSICAL SPECS

01 // DIMENSIONS

Overall Size	**240 × 181 × 42 mm**
Overall (imperial)	**9.4″ × 7.1″ × 1.6″**
Panel Cutout	**220 × 160 mm**
Panel Cutout (imperial)	**8.7″ × 6.3″**
Weight	**400 g**
Ingress Protection	**IP65 (with gasket)**
Display	**132 × 64 px • 4-line LCD**
Inputs / Outputs	**9 / 8 Configurable**
Event Log	**250 Events**
Operating Temperature	**-30 to +70 °C**

MKII ENHANCEMENTS

02 // UPGRADES

Processing Power	**Upgraded CPU**
USB Host Port	**Type-A (Firmware)**
USB Device Port	**Type-B (PC Config)**
Front Editing	**PIN Protected**
Config Suite	**v2 Compatible**
Tier 4 CAN Support	**Enhanced**
Backward Mounting	**Identical Cutout**
Languages	**Multi-lingual**
DSENet® Expansion	**Supported**
Real-Time Clock	**Battery Backed-up**

— CORE FEATURES

- 4-Line back-lit LCD text display
- Five-key menu navigation
- Front panel editing with PIN protection
- Customisable status screens & power save
- Up to 3 remote display units
- Tier 4 CAN engine support
- CAN & Magnetic Pick-up sensing
- Integral PLC editor

— PROTECTION & MONITORING

- kW & kVAr protection
- Reverse power (kW & kVAr) protection
- Unbalanced load protection
- Independent earth fault trip
- Charge alternator failure alarm
- Fuel usage monitor & low-fuel alarms
- LED and LCD alarm indication
- 3 configurable maintenance alarms

— LOAD & POWER CONTROL

- Automatic load transfer (AMF)
- Load shedding & dummy load outputs
- Power monitoring (kWh, kVAr, kVAh)
- Manual speed control (CAN engines)
- Manual fuel pump control
- Engine exerciser schedule
- Idle control for starting & stopping
- Multiple date/time scheduler

— CONNECTIVITY & SOFTWARE

- USB host + device connectivity
- RS232 & RS485 communications
- Configurable Gencomm pages
- Remote SCADA monitoring via PC software
- Advanced SMS messaging (start/stop via SMS)
- Ethernet via DSE860/865 modules
- Licence-free DSE Config Suite PC software
- DSENet® expansion compatible