

# Technical Data

190-600V DIESEL 01-01-2012



<b>Germany MTU</b> Engine: <b>12V4000G23</b> Electronic Governor	<b>Alternator:</b> Leroy-somer LSA50.2VL10	<b>Generator Model:</b>	<b>TMT1640 (Open)</b>
	<b>Optioanl:</b> Stamford PI734D Tide TPA480GS1		<b>TMT1640C (Silent)</b>

<b>50Hz</b> 1500 r.p.m	<b>3 Phase</b> 4 Wires	<b>Power Factor:</b> $\text{Cos } \varphi = 0.8$	<b>Emissions Certification:</b>	N/A
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RATINGS	Prime Power (PRP)		Standby Power (LTP)		Rated Current (A)
	kW	kVA	kW	kVA	Amps
Voltage (V)					
440/254	1312	1640	1443	1804	2152.0
415/240	1312	1640	1443	1804	2281.6
<b>400/230</b>	<b>1312</b>	<b>1640</b>	<b>1443</b>	<b>1804</b>	<b>2367.2</b>
380/220	1312	1640	1443	1804	2491.8

## RATINGS:

All three Phase generator sets are rated at 0.8 power factor. All single-phase generator sets are rated at 0.8 or 1.0 power factor. **TIDE Power** reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

### Prime Power:

Available continuously at variable load in lieu of commercially purchased power for an unlimited number of hours per year in accordance with ISO8528-1, and an overload of 10% permitted for one hour in every twelve hours of operation in accordance with ISO 3046-1.

### Standby Power:

Emergency Standby Power in variable load applications in accordance with ISO8528-1 in the event of a utility power failure. No overload available for this service as relevant alternators are peak continuous rated at 27°C.

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## Standard Features

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- ▲ High efficient water cooled diesel engine
  - ▲ Brushless alternators (Class H, with AVR.)
  - ▲ Heavy duty rubber anti-vibration mountings
  - ▲ 12/24V starter batteries and connecting cables
  - ▲ Separate engine-drive battery charging alternator
  - ▲ Industrial silencer for open type generator sets
  - ▲ Residential silencer for open type generator sets
  - ▲ Auto start / Digital Tide Easycon Control Panel
  - ▲ Wiring with IEC standard
  - ▲ Factory Test Certificate
  - ▲ Operation & Maintenance Manual & Diagrams
  - ▲ Worldwide Product / Technical Support
- ▲ Radiator with cap and drain point.
  - ▲ Fully guarded engine driven fan
  - ▲ No MCCB
  - ▲ Oil filter - Diesel filter - Air filter
  - ▲ Fully welded steel baseframe with lifting and fork-lifting facilities.
  - ▲ Sound proof & Weather protective Containerized enclosures for silent type generator sets.

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## Optional

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- △ Automatic Transfer Switch (ATS)
  - △ Water - fuel separator
  - △ Water heater for severe cold weather
  - △ Lub-oil heater for severe cold weather
  - △ 50°C-60°C Radiator
  - △ Dual wall fuel tank base
  - △ Fuel level sensor
  - △ Maintenance free battery
  - △ Additional CE Features Selection
- △ Extra air filters for time-maintenance
  - △ Extra diesel filters for time-maintenance
  - △ Extra oil filters for time-maintenance
  - △ Separated standing fuel tank
  - △ Low coolant level sensor
  - △ Full range of attachments and options available for alternator
  - △ ACB

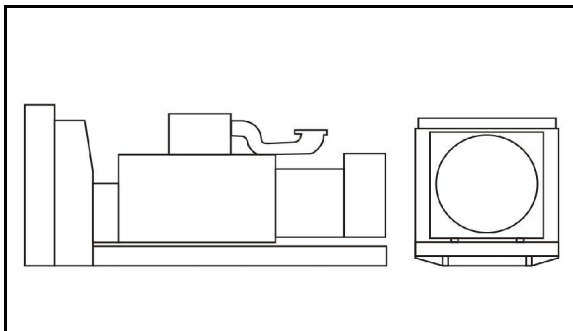
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## Overall Dimensions (mm) & Weight (kg)

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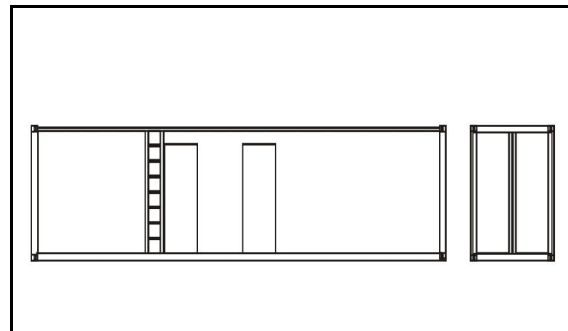
### Open Type

**Length:**  
5765  
**Width:**  
2100  
**Height:**  
2500  
**Weight:**  
12210



### Silent Type

**Length:**  
N/A  
**Width:**  
N/A  
**Height:**  
N/A  
**Weight:**  
N/A



Dimension and design are subject to change without notice.

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## Warranty

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The goods of Tide Power System are under warranty against defects in materials and workmanship for a period of 12 months or 1000 hours whichever come first from the date of delivery to the end user (except the damageable spare parts of genset caused by incorrect man-made operation), and that the aforementioned warranty for the same token is back up by the engine & alternator manufactures and their global distributors.

<b>General Performance</b>	
Manufacture	Germany MTU
Engine Model	12V4000G23
Engine Type	Four stroke, V-90°, 12-cylinder
Engine Speed	1500 r.p.m
Prime Power	1420kW
Standby Power	1575kW
Governor Type	Electronic
Charging method	Exhaust turbo charger and water Charge air Cooling
Displacement	57.2 L
Cylinder Bore * Stroke	170mm × 210mm
NO. of Cylinders	12
Compression Ratio	16.5:1
Combustion Air Flow	1.6 m <sup>3</sup> /s
Mean Piston Speed	10.5 m/s
Brake Mean Effective Pressure	19.9 bar
Control	Electronic engine management system "ADEC"
Air Cleaner Type	Dry

<b>Lubrication System</b>	
Oil Pan Capacity (Min.- Max.)	160-200 Litres
Total Lubrication System Capacity	260 Litres
Lube oil operation temperature before engine	85-90°C
Lube oil operation temperature after engine	95-100°C

<b>Fuel System</b>	
Combustion System	Direct Injection
Fuel Consumption at 100% Standby power	497.3 Litres/hour
Fuel Consumption at 100% Prime power	414.4 Litres/hour
Fuel Consumption at 75% Prime power	331.5 Litres/hour
Fuel Consumption at 50% Prime power	248.6 Litres/hour
Fuel Consumption at 25% Prime power	165.8 Litres/hour
Fuel Tank Capacity	
- Open Type Genset	N/A
- Silent Type Gensets	N/A

<b>Cooling System</b>	
Engine coolant capacity (without cooling equipment)	160Litres
Intercooler coolant capacity	40Litres
Coolant temperature	100 °C
Coolant temperature after engine, alarm	102 °C
Coolant Temperature after Engine, Shutdov	104°C

<b>Exhaust System</b>	
Exhaust Gas Flow	4.0 m <sup>3</sup> /s
Exhaust Gas Temperature	430 °C
Maximum Back Pressure	85 mbar
Exhaust Pipe Size	N/A

<b>Electric System</b>	
Electrical System Voltage	24V
Battery	Maintenance-free
Connecting Cables	Available

<b>Air Intake System</b>	
Recommended intake piping size	N/A
Maximum Intake Air Restriction	50 mbar
- Dirty Element	N/A
- Clean Element	N/A

<b>Thermal</b>	
Charge-air heat dissipation	200-260kW
Heat Rejection to Coolant	540-580kW
Radiation and convection heat, engine	75kW

**Alternator Specification**

<b>General Data</b>		<b>50HZ/1500R.P.M</b>	
Manufacture / Brand	Leroy-somer	Prime Output Power	1312kW/1640kVA
Model	LSA50.2VL10	Standby Output Power	1440kW/1800kVA
AVR Model	R450	Insulation class	H
Coupling / Bearing	Direct / Single Bearing	Voltage regulation	± 0.5 %
Phase	3 Phase	Total harmonic distortion (THD)	<3.5%
Power Factor	Cos ϕ = 0.8	Wave form : NEMA = TIF - (*)	< 50
Winding pitch - Code	2/3	Wave form : I.E.C. = THF - (*)	< 2 %
Drip Proof	IP 23	Altitude	≤ 1000 m
Excitation	AREP or PMG	Overspeed	2250 min -1

**TIDE Power comprehensive Easycon range control panels are compact, versatile and easy to use.**

Easycon 2.0L/H (GU601A / Deepsea DSE3110) panel is a key-start auto control panel, it’s a basic control panel fits for generators up to 100kVA to provide basic operating parameters display and protection.



Easycon 3.0 L/H (GU641B / Deepsea DSE7210) panel is an auto & digital control panel, it’s an entry level control panel which provides full power monitoring and protection facilities. All operating parameters are with LCD display.

(Auto Main Failure Version DSE7220 also Available.)



Easycon 4.0L/H (GU620A / Deepsea DSE7310) panel is an auto & digital & Remote control panel which includes all the features of Easycon 3.0, and plus data communication of full telemetry via the RS232/RS485 interfaces, CANBus is also included.

(Auto Main Failure Version DSE7320 also Available.)



**Specifications**

4 . 0 L / H	3 . 0 L / H	2	Over Speed pre-alarm & shutdown -	Auto Start -
		.	Low Oil Pressure Pre-Alarm & shutdown -	Oil Pressure -
L / H	H	0	High Water Temp. Pre-alarm & shutdown -	Genset Running Hours -
		L	Volts, Current, Frequency, Rpm (Instruments) -	Battery Voltage and Charging -
/	H	H	Fuel Sensor as optional -	
			AMF Module as optional -	
			Digital Control Panel -	Switch Opening as Optional -
			Overcurrent Pre-alarm -	AMF Module as optional -
			Overcurrent Shutdown -	Power Factor -
			Prefix Start, Service Indicate, Fault History for Deepsea Module.-	
			Remote Start (Data communication of full telemetry via the RS232/RS485) -	
			CANBus -	

**Options**

Easycon 5.0H (Deepsea DSE8610) panel fits for Gen-Gen automatic Synchronising and load sharing.

Easycon 6.0H (Deepsea DSE8620) panel fits for Single Gen - Mains automatic Synchronising.

Deepsea DSE7560 Synchronising Controller for Multi gen – Mains Synchronising. This is a separate control unit which enables multiple Easycon 5.0 equipped Gens to be synchronised with the Mains supply.

**(For details specifications of Control Panels, please consult our sale department.)**

## Circuit Breaker

No MCCB (ACB as optional)

The generators are supplied together with a circuit breaker that permits a thermal protection against overloads and magnetic protection against short-circuit.

## Automatic Transfer Switch

A.T.S - 4 Poles

TIDE Power offers not only a changeover switch but also an integrated mains detection and switch system for your 24 Hour Power Protection. The system enables automatic start-up and operation of the generating set in the event of a mains power failure, overvoltage or loss of phase; and also mains automatic re-transfer once it come back.

ATS: Automatically transfer and re-transfer load from main power to gen-power without operator intervention. (Both Automatic and manual operation.)

**Please consult our sales department for specifications.**



## Containerized Enclosure / Canopy

(Sound-attenuated & Weather Protective)

**“Ensure a quieter life with our sound attenuation system.”**

### Features:

#### Robust Container Design

- ▲20ft 40ft (HC also available) ISO footprint
- ▲Container made from steel components with durable paint system
- ▲Full bunded steel floor and steel louvres
- ▲Rugged surface - excellent corrosion & rust protection
- ▲Long service life

#### Excellent Access for Maintenance

- ▲Separate & Standing control cabinet at one side
- ▲Walk around interior with access doors
- ▲Fully bounded steel floor
- ▲Anti-explosive light bulb

#### Transportability

- ▲ISO shipping dimensioned container
- ▲Lifting capability

#### Quiet (Reduce Sound and Vibration)

#### Noise Level:

≤85-88dBA at 1m

#### Security and Safety

- ▲Control panel viewing window in a lockable access door
- ▲Emergency stop button mounted on canopy exterior
- ▲Fuel fill and battery can only be reached via lockable access doors
- ▲Fire extinguisher
- ▲Exhaust silencing system enclosed for operator safety (residential silencer included)
- ▲Excellent cooling system to avoid high water temp., reliable operation under harshest conditions.
- ▲(Ambient temp. upto 40-52°C and altitudes up to 1000M)

#### Optional

- △Sockets
- △Floor Standing MCCB/ACB (>1250Amp)
- △Interior Separate fuel tank volume (100-2000L/depends)
- △Automatic fuel fill-in & cut off system
- △Exterior Separate fuel tank volume (No limitation, shipped by separate container.)

**Please consult actual dimension & weight & freight cost.**