

# Technical Data

190-600V DIESEL 01-01-2016



<b>DOOSAN DAEWOO</b> Engine: <b>DP086TA</b> Electrical Governor	<b>Alternator:</b> Leroy-somer LSA 44.3 L10	<b>Generator Model:</b>	<b>TDA150 (Open)</b>
	<b>Optionl:</b> Stamford UCI274F Tide TPA274S5		<b>TDA150C (Silent)</b>

<b>50Hz</b> 1500 r.p.m	<b>3 Phase</b> 4 Wires	<b>Power Factor:</b> Cos $\phi$ = 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	120	150	132	165	196.8	
415/240	120	150	132	165	208.7	
<b>400/230</b>	<b>120</b>	<b>150</b>	<b>132</b>	<b>165</b>	<b>216.5</b>	
380/220	120	150	132	165	227.9	

## 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
  - ▲ 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
  - ▲ Circuit Breaker - 3 pole (MCCB)
  - ▲ Base fuel tank for 8 hours running at 100% load
  - ▲ Oil filter - Diesel filter - Air filter
  - ▲ Fully welded steel baseframe with lifting and fork-lifting facilities.
  - ▲ Sound proof & Weather protective enclosures for silent type generator sets.

## 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
  - △ Residential silencer for open type generator sets

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

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### Open Type

**Length:**

2550

**Width:**

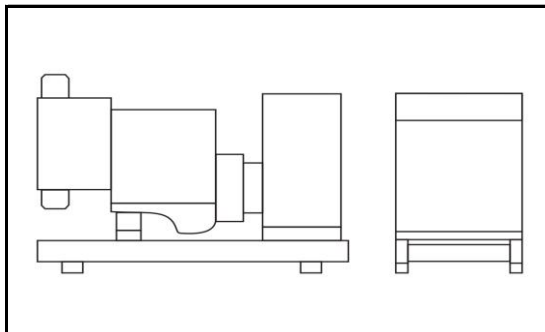
950

**Height:**

1550

**Weight:**

1650



### Silent Type

**Length:**

3700

**Width:**

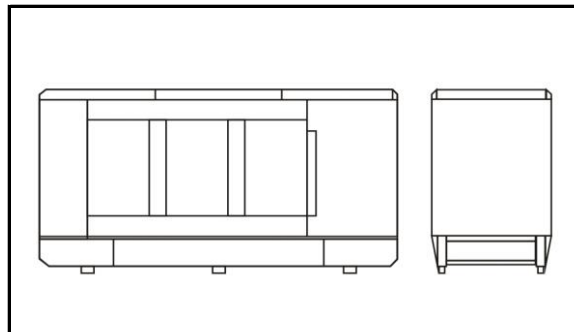
1140

**Height:**

1850

**Weight:**

2450



Dimension and design are subject to change without notice.

## 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	DOOSAN DAEWOO
Engine Model	DP086TA
Engine Type	4 cycle, In-line, 6-cylinder, water cooled
Engine Speed	1500 r.p.m
Base Output Power	137 kW
Standby Power	152 kW
Governor Type	Electronic
Air Intake Way	Turbo Charged
Displacement	8.071 L
Cylinder Bore * Stroke	111mm × 139mm
NO. of Cylinders	6
Compression Ratio	16.7:1
Intake air flow	13.49 m <sup>3</sup> /min
Rotation	Counter clockwise viewed from flywheel
Firing order	1-5-3-6-2-4
Break mean effective pressure	1.36 Mpa
Mean Piston Speed	6.95 m/s

<b>Lubrication System</b>	
Oil Capacity (Max.- Min.)	15.5 - 12 Litres
Lubrication Method	Fully Forced Pressure Feed Type
Oil Pump	Gear type driven by crank-shaft gear
Maximum oil temperature	120°C

<b>Fuel System</b>	
Type Injection System	Direct Injection
Fuel Consumption at 100% Standby power	37.9 Litres/hour
Fuel Consumption at 100% Prime power	33.7 Litres/hour
Fuel Consumption at 75% Prime power	25.5 Litres/hour
Fuel Consumption at 50% Prime power	17.4 Litres/hour
Fuel Consumption at 25% Prime power	9.2 Litres/hour
Fuel Tank Capacity	
- Open Type Genset	8 Hours at Full Load
- Silent Type Gensets	270 Litres

<b>Cooling System</b>	
Coolant Capacity- Engine Only	14 Litres
Coolant Capacity - With Radiator	44 Litres
Standard Thermostat (Modulating) Range	71-85°C
Maximum for Standby and Prime	103°C
Coolant Flow Rate	166 liters / min

<b>Exhaust System</b>	
Exhaust Gas Flow	33.9 m <sup>3</sup> /min
Exhaust Gas Temperature	537-610°C
Maximum Back Pressure	5.9 kPa
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	
. With Clean Filter Element	2.16 kPa
. With Dirty Filter Element	6.23 kPa

<b>Thermal</b>	
Radiated Heat to Ambient	12.0-13.5 kW
Heat Rejection to Coolant	51.6-58.1 kW
Heat Rejection to Exhaust	118.8-133.6 kW

**Alternator Specification**

<b>General Data</b>	
Manufacture / Brand	Meccalte
Model	ECP34-2L/4A
AVR Model	DSR
Coupling / Bearing	Direct / Single Bearing
Phase	3 Phase
Power Factor	Cos φ = 0.8
Winding pitch - Code	2/3 - (N° 6)
Drip Proof	IP 23
Excitation	Shunt

<b>50HZ/1500R.P.M</b>	
Prime Output Power	120kW/150kVA
Standby Output Power	131kW/164kVA
Insulation class	H
Voltage regulation	± 0,5 %
Total harmonic (*) TGH / THD	load < 2.4% -on load < 1.8%
Wave form : NEMA = TIF - (*)	< 40
Wave form : I.E.C. = THF - (*)	< 2 %
Altitude	≤ 1000 m
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 (GU3321 / 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 -
0 L / H	0 L / H	0	High Water Temp. Pre-alarm & shutdown -	Genset Running Hours -
		L	Volts, Current, Frequency, Rpm (Instruments)-	Battery Voltage and Charging -
L / H	H	/	Fuel Sensor as optional -	
		H	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 DSE8620 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.)**

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.**

**Enclosure / Canopy****(Sound-attenuated & Weather Protective)**

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

**Features:****Extremely Rugged &****Highly Corrosion Resistant Construction**

- ▲Body made from 2.0mm sheet steel components with powder coating
- ▲8-12 hours built-in fuel tank integrated into the skid-mount base
- ▲Excellent design and craftsmanship
- ▲Zinc alloy with black powder coated or Bright polished stainless steel hinges tested and proven to withstand corrosive conditions.
- ▲Compact structure and longer service life

**Easy Commissioning and Maintenance**

- ▲Separate & Standing control cabinet at one side, quick fix electrical power connections.
- ▲1ph and 3ph easy accessible electric sockets
- ▲Side doors allowing 180° opening rotation
- ▲Radiator fill access through cover in canopy roof.
- ▲Lube oil drain and radiator drain

**Security and Safety**

- ▲Earth leakage protection
- ▲40-50mm non-inflammable sponge inside
- ▲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
- ▲Exhaust silencing system enclosed for operator safety
- ▲Excellent cooling system to avoid high water temp., reliable operation under harshest conditions.
- ▲(Ambient temp. upto 40-52°C and altitudes up to 1000M)

**Transportability**

- ▲Lifting points on baseframe
- ▲<4L engine drive genset, single hook on top prepared

**Quiet (Reduce Sound and Vibration)****Noice Level:**

72-78dBA at 1m & 64-70dBA at 7m