

Diesel Generating Set

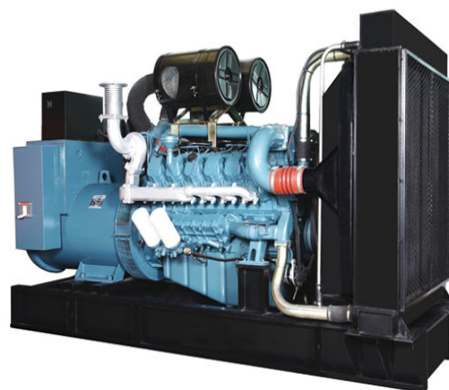
ETDW412-60

MODEL	ETDW412-60
Standby Power (60Hz)	358KW / 448KVA
Prime Power (60Hz)	325KW / 406KVA

Standard Features

General Features:

- Engine (DOOSAN P158LE-1)
- Radiator 40°C max, fans are driven by belt, with safety guard
- 24V charge alternator
- Alternator: single bearing alternator IP23, insulation class H/H
- Absorber
- Dry type air filter, double fuel filter, oil filter, coolant filter
- Main line circuit breaker
- Standard control panel
- Two 12V batteries, rack and cable
- Ripple flex exhaust pipe, exhaust siphon, flange, muffler
- User manual



Generator Ratings

Voltage	HZ	Phase	P.F (COS ϕ)	Standby Amps	Standby Ratings (KW/KVA)	Prime Ratings (KW/KVA)
480/277	60	3	0.8	541	358/448	325/406
460/266	60	3	0.8	573	358/448	325/406
440/254	60	3	0.8	595	358/448	325/406
416/240	60	3	0.8	626	358/448	325/406

Prime Power (PRP): Prime power is available for an unlimited number of annual hours in variable load application, in accordance with GB/T2820-97 (eqv ISO8528) ; A 10% overload capability is available for a period of 1 hour within a 12-hour period of operation.

Standby Power Rating (ESP): The standby power rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload, utility parallel or negotiated outage operation capability is available at this rating.

Sales Promises

Etone Power provides a full line of brand new and high quality products. Each and every unit is strictly factory tested.

Warranty is according to our standard conditions: a, 15 months, counted on the day BAIFA sold to the first buyer; b, One year after installation; c, 1000 running hours (accumulated); subject to the earlier one.

Service and parts are available from Baifa Power or distributors in your location.

ENGINE DATA

Manufacturer / Model:	DOOSAN P158LE-1, 4-cycle
Air Intake System:	Turbo, Air/Air cooling
Fuel System:	BOSCH P type fuel pump
Cylinder Arrangement:	8 in "V"
Displacement:	14.618L
Bore and Stroke:	128×142 (mm)
Compression Ratio:	15.0
Rated RPM:	1800rpm
Max. Standby Power at Rated RPM:	402KW/546HP
Governor Type:	Electronic

Exhaust System

Exhaust Gas Flow:	91.3m ³ /min
Exhaust Temperature:	606℃
Max Back Pressure:	6kPa

Air Intake System

Max Intake Restriction:	6.35kPa
Consumption:	31.1m ³ /min
Air Flow:	1000m ³ /min

Fuel System

100%(Prime Power) Load:	102.5 L/h
75%(Prime Power) Load:	74.7 L/h
50%(Prime Power) Load:	50.6 L/h

Oil System

Total Oil Capacity:	30L
Oil Consumption:	≤0.5% Fuel Consumption
Engine Oil Tank Capacity:	28L

Cooling System

Total Coolant Capacity:	88.5L
Thermostat:	79-94℃
Max Water Temperature:	103℃

ALTERNATOR SPECIFICATION

GENERAL DATA

Compliance with GB755, BS5000, VDE0530, NEMAMG1-22, IED34-1, CSA22.2 and AS1359 standards.

Alternator Data

Number of Phase:	3
Connecting Type:	3 Phase and 4 Wires, "Y" type connecting
Number of Bearing:	1
Power Factor:	0.8
Protection Grade:	IP23
Altitude:	≤1000m
Exciter Type:	Brushless, self-exciting
Insulation Class, Temperature Rise:	H/H
Telephone Influence Factor (TIF):	< 50
THF:	< 2%
Voltage Regulation, Steady State:	±1%
Alternator Capacity:	420KVA
Alternator Efficiencies:	93.5%
Air Cooling Flow:	0.99m ³ /s

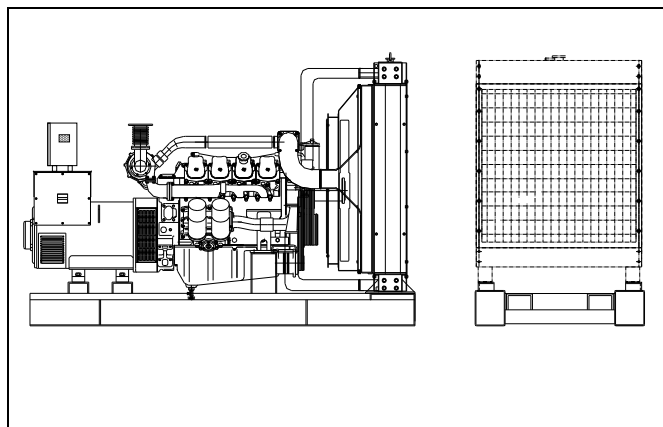
GENERATING SET DATA

Voltage Regulation:	±5%
Voltage Regulation, Stead State:	±1%
Sudden Voltage Warp (100% Sudden Reduce):	+25%
Sudden Voltage Warp (Sudden Increase):	-20%
Voltage Stable Time (100% Sudden Reduce):	≤6S
Voltage Stable Time (Sudden Increase)	≤6S
Frequency Reduce:	≤5% Adjustable
Frequency Waving:	≤0.5%
Sudden Frequency Warp (100% Sudden Reduce):	+12%
Sudden Frequency Warp (Sudden Increase):	-10%
Frequency Recovery Time (100% Sudden Reduce):	≤5S
Frequency Recovery Time (Sudden Increase):	≤5S

Options

Engine	Fuel System	Control System
<ul style="list-style-type: none"> ● Heater 2KW & 4KW ● Battery Charger 3.5A & 7A 	<ul style="list-style-type: none"> ● Daily Fuel Tank ● Water Separator ● Fuel Level Sensor 	<ul style="list-style-type: none"> ● Remote Control Panel ● Auto Transfer Switch (ATS) ● Paralleling System
Alternator	Others	Data
<ul style="list-style-type: none"> ● Anti Condensation Heater ● Permanent Magnet Generator (PMG) ● Drop CT (For Paralleling) 	<ul style="list-style-type: none"> ● Rainproof Type ● Soundproof Type ● Trailer Type 	<ul style="list-style-type: none"> ● Engine Parts Drawing List ● Spare Parts

Dimension & Weight

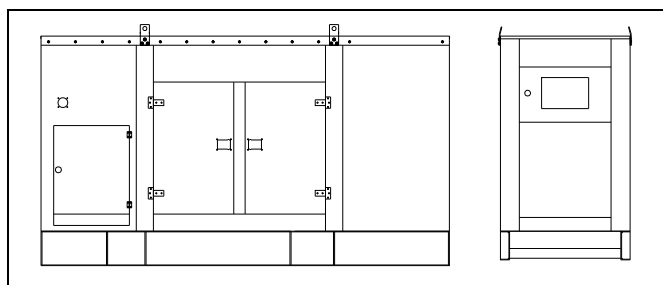


Standard Configuration (Open Type)

Overall Size: 3120 (mm) × 1390 (mm) × 1690 (mm)
Weight: 2885kg

With Base Fuel Tank

Overall Size: 3120 (mm) × 1390 (mm) × 1700 (mm)
Weight: 3000kg



Soundproof Type

Overall Size: 4630 (mm) × 1660 (mm) × 2250 (mm)
Weight: 4400kg

Control Panel Technical Specifications

Control Panel- SMARTGEN 6110/6120

The base mounted control panel in a vibration isolated sheet steel enclosure. The control panel is equipped as follows:

- a) Instruments: Analogue Voltmeter, Hours Run Meter, Water pressure Meter.
- b) Controls: Emergency Stop Pushbutton, Voltmeter Phase Selector Switch.
- c) Control module: Standard collocation is smartgen Auto start with AMF.

Smartgen®

Main Features:

- Δ Automatic mains failure
- Δ Engine control, Generator protection
- Δ Built in alarms and warnings
- Δ Remote Start operation available
- Δ Fuel pump control
- Δ Mains simulation
- Δ Block heater control
- Δ Field adjustable parameters
- Δ Free MS-Windows Remote monitoring
- Δ LED displays
- Δ Configurable analogue inputs
- Δ I/O expansion capability



Protection Circuits

- WARNING
- Battery charge failure
- Low battery voltage
- SHUT DOWNS
- Fail to start
- Emergency stop
- Low oil pressure
- High engine temperature
- Over /Under speed
- Under/over generator frequency
- Failed to reach loading voltage
- Electrical trip
- Generator over current

Instruments

- ENGINE
- Engine speed
- Oil pressure
- Coolant temperature
- Run time
- Battery volts
- TOR
- Voltage (L-N)
- Current (L1-L2-L3)
- Frequency
- Mains
- Voltage (L-L, L-N)