

**AKSA Power Generation** has been producing industrial generator sets with an innovative compact design and excellence in quality for over 30 years. AKSA has been providing reliable power through three main production plants and over 15 branch offices worldwide.



**General Characteristics**

Model Name	<b>AD650-6</b>	Frequency / PF	<b>60Hz, 1800 rpm, 0.8pf</b>
Engine Make & Model	<b>Doosan DP158LD</b>	Alternator Make	<b>Stamford</b>
Control Panel Model	<b>DSE 7320</b>	Base Frame / Enclosure	<b>AKSA MS70 / MS85</b>

**Genset Rating – 60Hz, 1800rpm, 0.8pf**

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
DP158LD	HCI544C (Wnd-311)	480 / 277V	644kVA	565kVA	775A
	HCI544D (Wnd-14)	380 / 222V	650kVA	568kVA	988A
	HCI544D (Wnd-311)	220 / 127V	650kVA	568kVA	1706A
	HCI544E (Wnd-311)	208 / 120V	650kVA	568kVA	1804A

Stand-by Power (Maximum): Power available at variable load in the event of main power network failure. No over load is permitted.  
 Prime Power: Power available at variable load in lieu of a main power network. Overload of 10% is permitted for 1 hour in every 12 hours of operation.  
 The above ratings represent the engine performance capabilities to conditions specified in accordance with ISO 8528/5 & ISO3046.  
**Derating may be required for conditions outside of the test conditions.**

**Codes & Standards**

The Generator set is designed and manufactured in a facility certified to **ISO9001** standards.

The Generator set is designed and manufactured in a facility certified to **ISO14001:2015** standards.

**AKSA Power Generation** provides **single source responsibility** for the generator set & accessories.

The generator set, with its components, are **prototype tested** and **production tested**



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## Engine Data

Manufacturer	Doosan
Model	DP158LD
Displacement & Cylinders	14.618 L / 8 Cylinders
Engine Speed	1800rpm
Engine Standby Power	556 Kw
Engine Prime Power	505 kW
Aspiration	Turbocharged&Intercooled
Compression Ratio	15: 1
Bore / Stroke	128 mm / 142 mm
Break Mean Effective Pressure	2.53 Mpa
Mean Piston Speed	8.5 m/s
Over Speed Limit	1980 rpm
Friction Power	44 kW
Dry Weight – w/fan	1155 kg
Sound Pressure at Rated Power	100.33 dB(A)

## Lubrication System

Oil Capacity, Max	22 L
Oil Capacity, Min	13 L
Max Oil Temp	120 °C
Min Oil Pressure	250 kPa

## Air Intake System

Max Intake Air Restriction	2.16 kPa – Clean Element
Max Intake Air Restriction	6.23 kPa – Dirty Element
Max Static Pressure After Rad	0.125 kPa

## Electric System

Engine Cranking Motor	24V
Engine Battery Charge System	Negative Ground
Battery Qty, Rating, CCA	2 x 120Ah

## Cooling System

Cooling Fan	Blower Type, 7 Blades
Pressure Cap Setting	49 kPa
Coolant Capacity	79 L
Max Water Temperature	103 °C
Thermostat Range	71– 85 °C

## Exhaust System

Max Allowable Back Pressure	5.9 kPa
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## Fuel System

Injector Pump Type	Bosch In-line
Fuel Feed Pump Capacity	315 L/h
Max Fuel Inlet Restriction	10 kPa
Max Fuel Return Restriction	60 kPa

## Fuel Consumption

Standby Power (110%)	139.6 L/h
Prime Power (100%)	127.1 L/h
Prime Power (75%)	92.9 L/h
Prime Power (50%)	62.3 L/h
Prime Power (25%)	35.2 L/h

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## Alternator Data

Manufacturer	Stamford
Standards	BS EN 60034
Control System	Self Excited
A.V.R.	AS440
Voltage Regulation	± 1 %
Insulation System	Class H
Protection	IP23
Rated Power Factor	0.8
Stator Winding	Double Layer Concentric
Winding Pitch	Two Thirds
Winding Leads	12
Telephone Interference	THF < 2 %
Waveform Distortion	No Load < 1.5 %
Maximum Over speed	2250 rev/min

## Controller Data

Manufacturer	DSE
Model	7320
Type	Auto Mains Failure Control

## Controller Features & Benefits

- Microprocessor controlled
- License free PC Software
- IP65 rating offers increased resistance to water ingress
- Modules can be integrated to building management systems
- Real time clock provides accurate event log
- Four line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Support up to three remote display modules
- Configurable timers and alarms

## Battery Charger & Electrical System Data

Manufacturer	AKSA
Model	SmartGen BAC06A
Input Voltage	100V ~ 250V AC
Output Voltage / Current	27,6V DC / 3A

- Multiple date and timer scheduler
- Integral PLC editor
- 'Protections disabled' feature
- kW & kVAr protection
- Reverse power (kW & kVAr) protection
- Power monitoring (kWh, kVAr, kVAh, kVArh)

## Jacket Water Heater Data

Manufacturer	AKSA
Model	HTR3000
Input Voltage	Based on Gen Voltage
Power	3000W

- Load switching (load shedding and dummy load outputs)
- Unbalanced load protection
- Independent Earth Fault trip
- Fully configurable via DSE Configuration Suite PC Software
- SCADA monitoring via DSE Configuration Suite PC Software

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**Enclosure Features**

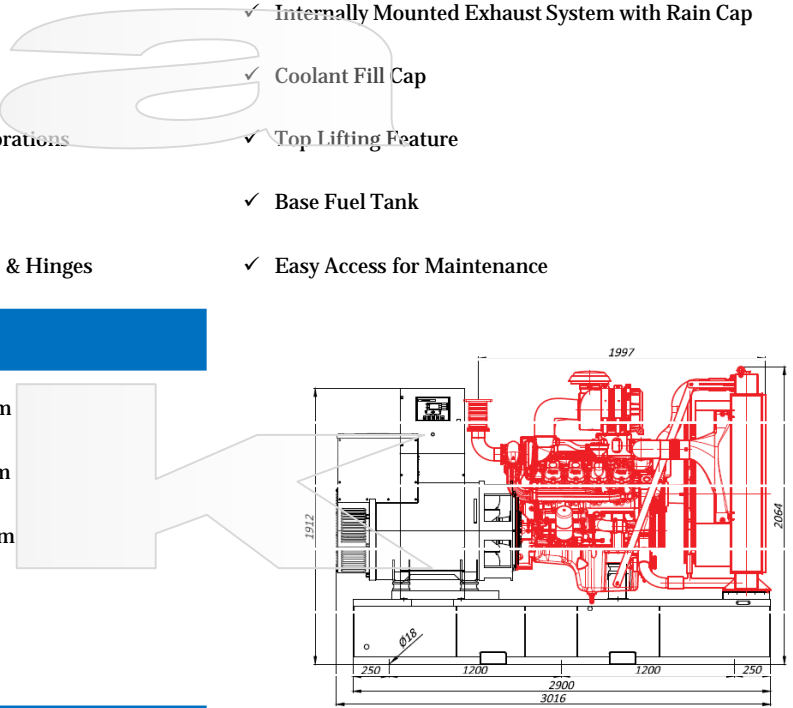
- ✓ Heavy Duty Steel Structure
- ✓ E-Stop on Enclosure
- ✓ Control Panel Eliminated from Engine Vibrations
- ✓ Control Panel Window
- ✓ Plastic Covered Corrosion Resistant Locks & Hinges

**Enclosure Features**

- ✓ Internally Mounted Exhaust System with Rain Cap
- ✓ Coolant Fill Cap
- ✓ Top Lifting Feature
- ✓ Base Fuel Tank
- ✓ Easy Access for Maintenance

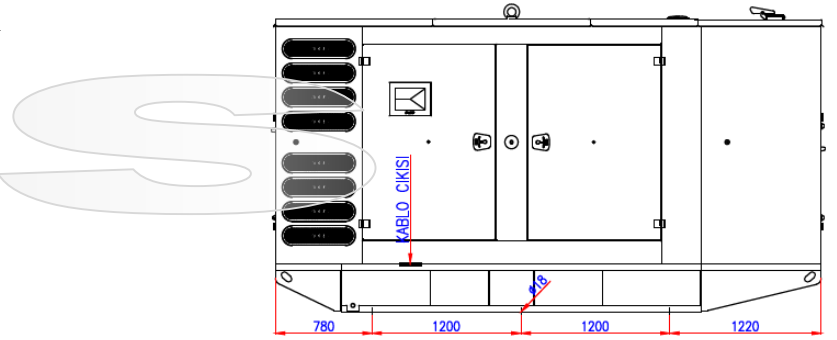
**Open Skid Gen-Set Dimensions**

Length	3016 mm
Width	1550 mm
Height	2064 mm
Dry Weight	3390 kg
Tank Capacity	700 L



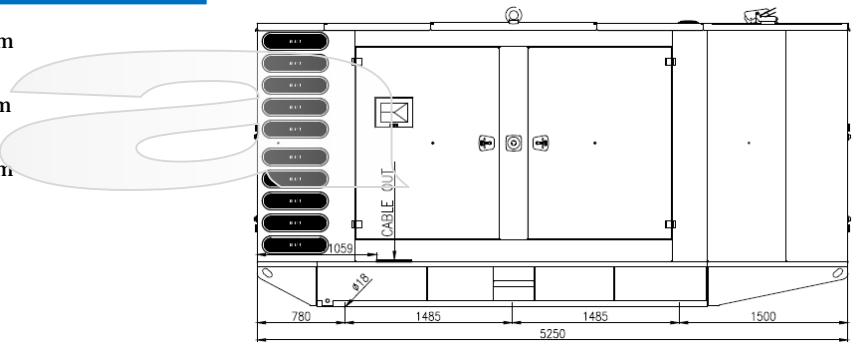
**Enclosed Gen-Set Dimensions @ 480&380V Conf.**

Length	4460 mm
Width	1606 mm
Height	2477 mm
Dry Weight	4240 kg
Tank Capacity	700 L
Sound Pressure @ 7 meters	84 dB(A)



**Enclosed Gen-Set Dimensions @ 208&220V Conf.**

Length	5250 mm
Width	1605 mm
Height	2656 mm
Dry Weight	5540 kg
Tank Capacity	1000 L
Sound Pressure @ 7 meters	TBD



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**Standard Features & Accessories**

- ✓ Heavy Duty Steel Base Frame
- ✓ Integral Fuel Tank
- ✓ Fuel Drain Plug
- ✓ Control Panel Window
- ✓ Engine Jacket Water Heater
- ✓ Battery and Battery Rack
- ✓ Battery Charger
- ✓ Radiator fill cap on enclosure
- ✓ Anti Vibration Pads between Engine/Alternator & Base Frame
- ✓ Residential Grade Silencer Inside Enclosure
- ✓ Industrial Grade Silencer Set for Open Skid Sets
- ✓ Sound Absorb Foam for Enclosure
- ✓ Air Inlet & Outlet Rodent Guards
- ✓ Oil Drain Valve
- ✓ Coolant Drain Valve
- ✓ Flex Fuel Lines
- ✓ Air Filter Restriction Gauge
- ✓ Engine Manifold Cover
- ✓ Turbocharger Cover
- ✓ Protection Covers for Rotating Parts
- ✓ Exhaust Insulation Cover
- ✓ Control Panel Window
- ✓ Operations Manual
- ✓ 24 Months / 2000 hours Limited Standby Warranty

**Optional Accessories**

- Main Line CB (3 / 4 Poles)
- PMG
- Voltage Regulation  $\pm 0.5\%$  w/MX321 AVR
- Anti-condensation Heater
- Double Wall Base Fuel Tank
- Fuel Level Display & Alarm on Controller
- Low / High Fuel Alarms
- Fuel Water Separator Filter
- Auto Fuel Fill Control System
- Oil Temperature Display on Controller
- Manual Speed Adjust Rheostat
- Manual Voltage Adjust Rheostat
- Remote Annunciator Panel
- Remote Control & Monitoring Panel
- Advanced SMS Messaging
- Control Panel Heater
- Battery Disconnect Switch
- Battery Heater
- 10A Battery Charger
- Battery Charge Ammeter
- Tool Kit for Maintenance
- Power Plug Outlet Kit
- Automatic Transfer Panel (ATS) – Contactor Design
- Automatic Transfer Panel (ATS) – Changeover Design

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