

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	APD1860M-6	Frequency / PF	60Hz, 1800 rpm, 0.8pf
Engine Make & Model	Mitsubishi S12R-PTAA2	Alternator Make	Stamford
Control Panel Model	DSE 7320	Base Frame / Enclosure	AK99/ISO CONTAINER

Genset Rating – 60Hz, 1800rpm, 0.8pf

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
S12R-PTAA2	PI734C (Wnd-312)	480 / 277V	1860kVA	1690kVA	2237A
	PI734C (Wnd-13)	380 / 222V	1860kVA	1690kVA	2826A
	N.A.	220 / 127V	-	-	-
	N.A.	208 / 120V	-	-	-

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	Mitsubishi
Model	S12R-PTAA2
Displacement & Cylinders	49.03 L / 12 Cylinders
Engine Speed	1800rpm
Engine Standby Power wo/Fan	1633 Kw
Engine Prime Power wo/Fan	1484 kW
Aspiration	Turbocharged, Air to Air Cooler
Compression Ratio	13.5 : 1
Bore / Stroke	170 mm / 180 mm
Break Mean Effective Pressure	321 psi
Mean Piston Speed	10.8 m/s
Allowable Fan Loss Power	50 Kw
Max Regenerative Power Absorption Capacity wo Fan	144 Kw
Steady State Speed Stability	± 0.25 %
Max Over Speed Capacity	2100 rpm
Wet Weight – Engine Only	5276 kg

Fuel System

Fuel Injector	Mitsubishi PS6 Type x 2
Max Suction of Feed Pump	75 mmHg
Max Static Head of Return & Leak Pipe	150 mmHg

Fuel Consumption

Standby Power (110%)	386 l/h
Prime Power (100%)	351 l/h
Prime Power (75%)	273 l/h
Prime Power (50%)	175 l/h
Prime Power (25%)	88 l/h

Electric System

Battery Charge Alternator	24V / 30Ah
Starting Motor Capacity	7.5 kW x 2
Battery Qty, Rating	4 x 200Ah

Cooling System

Radiator Cooling System Type	Closed Circuit
Radiator Ambient Temp	> 50 °C
Coolant Capacity, Engine Only (Jacket & Air Cooler)	327 l
Max Coolant Temp at Engine Outlet	98 °C
Thermostat, Start – Fully Open	71– 85 °C

Exhaust System

Heat Rejection to Exhaust	78731 BTU/min
Max Allowable Back Pressure	600 mmH ₂ O
Exhaust Gas Flow	391 m ³ /min

Air Intake System

Intake Air Flow	148 m ³ /min
Max Intake Air Restriction (Clean Element)	400 mmH ₂ O
Air Filter Type	Dry Paper Element

Lubrication System

Total System Capacity	180 l
Sump Capacity Max / Min	150 l / 108 l
Max Oil Temp	110 °C
Oil Pressure at Rated Speed	71 – 93 psi

Alternator Data

Manufacturer	Stamford
Standards	BS EN 60034
Control System	PMG
A.V.R.	MX321
Voltage Regulation	± 0.5 %
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

Battery Charger & Electrical System Data

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

Jacket Water Heater Data

Manufacturer	AKSA
Model	HTR4000
Input Voltage	Based on Genset Voltage
Power	2 x 4000W

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
- 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)
- 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

Enclosure Features

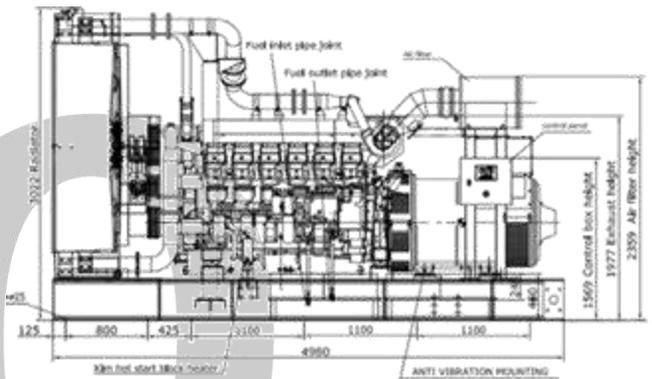
- ✓ Heavy Duty Steel Structure
- ✓ E-Stop on Enclosure
- ✓ Control Panel Eliminated from Engine Vibrations
- ✓ Control Panel Window
- ✓ Plastic Covered Corrosion Resistant Locks & Hinges

Enclosure Features

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

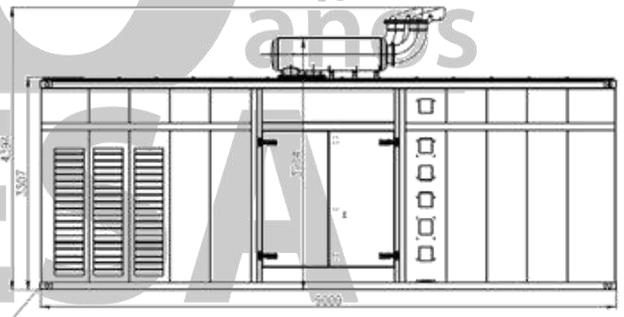
Open Skid Gen-Set Dimensions

Length	5125 mm
Width	2445 mm
Height	3025 mm
Dry Weight	11100 kg
Tank Capacity	-



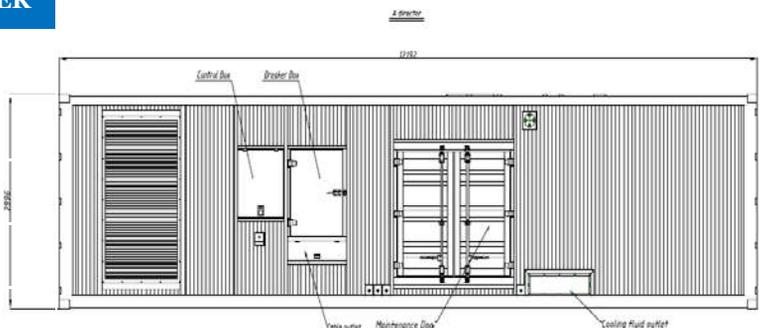
Enclosed Gen-Set Dimensions – AK99 CANOPY

Length	9000 mm
Width	2800 mm
Height	4394 mm
Dry Weight	15450 l
Tank Capacity	2000 L
Sound Pressure @ 7 meters	N.A.



Enclosed Gen-Set Dimensions – ISO CONTAINER

Length	12192 mm
Width	2438 mm
Height	2896 mm
Dry Weight	21500 kg
Tank Capacity	-
Sound Pressure @ 7 meters	82 dB(A)



Standard Features & Accessories

- ✓ Heavy Duty Steel Base Frame
- ✓ Integral Fuel Tank
- ✓ PMG w/MX321 AVR
- ✓ Engine Jacket Water Heater
- ✓ Battery and Battery Rack
- ✓ Battery Charger
- ✓ Battery Restraint
- ✓ 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)
- Anti-condensation Heater
- Stand Alone Bulk 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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