

**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>APD1688M-6</b>	Frequency / PF	<b>60Hz, 1800 rpm, 0.8pf</b>
Engine Make & Model	<b>Mitsubishi S12R-PTA2</b>	Alternator Make	<b>Stamford</b>
Control Panel Model	<b>DSE 7320</b>	Base Frame / Enclosure	<b>AK98</b>

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

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
S12R-PTA2	PI734B (Wnd-312)	480 / 277V	1688kVA	1535kVA	2030A
	PI734B (Wnd-13)	380 / 222V	1670kVA	1535kVA	2537A
	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-PTA2
Displacement & Cylinders	49.03 L / 12 Cylinders
Engine Speed	1800rpm
Engine Standby Power wo/Fan	1479 Kw
Engine Prime Power wo/Fan	1340 kW
Aspiration	Turbocharged, After Cooler
Compression Ratio	13.5 : 1
Bore / Stroke	170 mm / 180 mm
Break Mean Effective Pressure	290 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	5160 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%)	358 l/h
Prime Power (100%)	325 l/h
Prime Power (75%)	244 l/h
Prime Power (50%)	162 l/h
Prime Power (25%)	82 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	60944 BTU/min
Max Allowable Back Pressure	600 mmH2O
Exhaust Gas Flow	320 m <sup>3</sup> /min

**Air Intake System**

Intake Air Flow	121 m <sup>3</sup> /min
Max Intake Air Restriction (Clean Element)	400 mmH2O
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	TBA

**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**

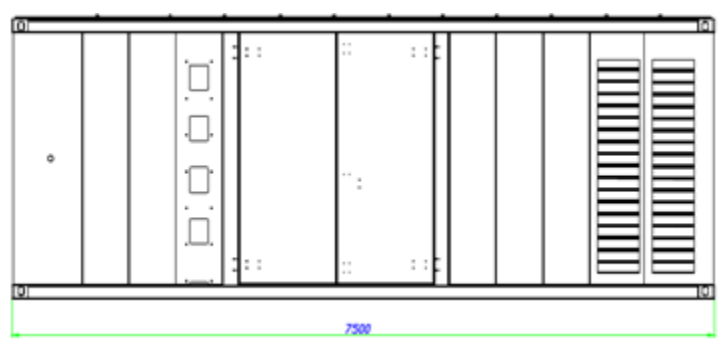
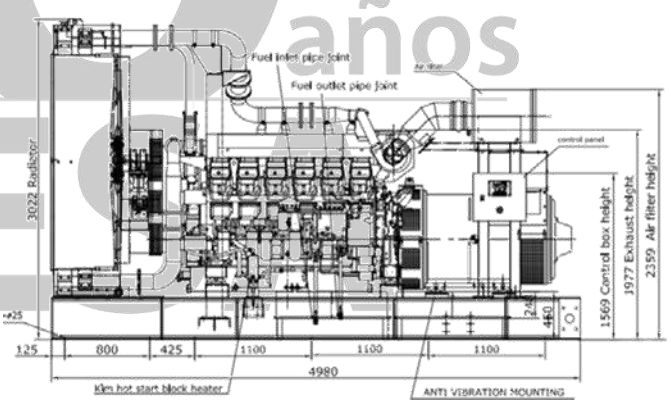
- ✓ Heavy Duty Steel Structure
- ✓ E-Stop on Enclosure
- ✓ Control Panel Eliminated from Engine Vibrations
- ✓ Control Panel Window
- ✓ Plastic Covered Corrosion Resistant Locks & Hinges
- ✓ External Mounted Exhaust System with Rain Cap
- ✓ Coolant Fill Cap
- ✓ Top Lifting Feature
- ✓ Base Fuel Tank
- ✓ Easy Access for Maintenance
- ✓ Sound Absorb High Density Foam

**Open Skid Gen-Set Dimensions**

Length	4445 mm
Width	2040 mm
Height	2220 mm
Dry Weight	9640 kg
Tank Capacity	-

**Enclosed Gen-Set Dimensions**

Length	9000 mm
Width	2270 mm
Height	2550 mm
Dry Weight	16700 kg
Tank Capacity	1900 L
Sound Pressure @ 7 meters	TBA



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**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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**SEDE PRINCIPAL:**

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