



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 | APD-ULM1000 |
| Engine Make | Mitsubishi |
| Engine Model | S12H-Y2PTAW-1 |
| Alternator Make | Stamford |
| Control Panel Make & Model | DSE 7320 |
| Frequency & Speed | 60Hz, 1800rpm |
| Enclosure Make & Model | AKSA AUL 91/92 |



Genset Rating

| Engine | Alternator | Voltage | Standby Power | Power Factor | Standby Current |
|---------------|-------------------|------------|---------------|--------------|-----------------|
| | HCI634J (Wnd-312) | 480 / 277V | 1000kW | 0.8 | 1505A |
| S12H-Y2PTAW-1 | HCI634J (Wnd-312) | 240/120V | 1000kW | 0.8 | 3010A |
| | HCI634J (Wnd-312) | 208 / 120V | 1000kW | 0.8 | 3473A |
| | HCI634J (Wnd-17) | 600 / 347V | 1000kW | 0.8 | 1204A |

*EPA – Certified for Emergency Stationary Applications

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** according to the UL test program.

The generator set meets **NFPA70, 99, 110, 37** Level 1 when equipped with the necessary accessories and installed per NFPA standards.



*Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice.



Engine Data

| | |
|---|----------------------------|
| Manufacturer | Mitsubishi |
| Model | S12H-Y2PTAW-1 |
| Displacement & Cylinders | 37.11 L / 12 Cylinders |
| Engine Speed | 1800rpm |
| Engine Standby Power wo/Fan | 1140 kW |
| Engine Prime Power wo/Fan | 1036 kW |
| Aspiration | Turbo-charged, InterCooler |
| Compression Ratio | 14.5 : 1 |
| Bore / Stroke | 150 mm / 175 mm |
| Break Mean Effective Pressure | 297 psi |
| Mean Piston Speed | 10.5 m/s |
| Allowable Fan Loss Power | 40 kW |
| Max Regenerative Power Absorption Capacity wo Fan | 108kW |
| Steady State Speed Stability | ±0.25 % |
| Max Over Speed Capacity | 2000 rpm |
| Wet Weight – Engine Only | 10055 lb |

Electric System

| | |
|---------------------------|--------------------|
| Battery Charge Alternator | 24V / 30Ah |
| Starting Motor Capacity | 7.5 kW x 2 |
| Battery Qty, Rating, CCA | 4 x 200Ah, 1150CCA |

Cooling System

| | |
|---|----------------|
| Radiator Cooling System Type | Closed Circuit |
| Radiator Ambient Temp | > 50 °C |
| Coolant Capacity, Engine Only (Jacket & Air-Cooler) | 26.4 gal |
| Max Coolant Temp at Engine Outlet | 208 °F |
| Thermostat, Start -- Fully Open | 160– 185 °F |

Exhaust System

| | |
|-----------------------------|-------------------------|
| Exhaust Outlet Size | 202 mm |
| Max Allowable Back Pressure | 600 mmH2O |
| Exhaust Gas Flow | 270 m ³ /min |

Fuel System

| | |
|---------------------------------------|---------------------------------------|
| Fuel Injector | Mitsubishi Electrical Controlled x 12 |
| Max Suction of Feed Pump | 75 mmHg |
| Max Static Head of Return & Leak Pipe | 220 mmHg |

Air Intake System

| | |
|--|-------------------------|
| Intake Air Flow | 102 m ³ /min |
| Max Intake Air Restriction (Clean Element) | 400 mmH2O |
| Air Filter Type | Dry Paper Element |

Fuel Consumption

| | |
|----------------------|------------|
| Standby Power (110%) | 75.0 gal/h |
| Prime Power (100%) | 70.0 gal/h |
| Prime Power (75%) | 54.4 gal/h |
| Prime Power (50%) | 35.9 gal/h |
| Prime Power (25%) | 20.0 gal/h |

Lubrication System

| | |
|-----------------------------|-------------------|
| Total System Capacity | 52.8 gal |
| Sump Capacity Max / Min | 48 gal / 39.6 gal |
| Max Oil Temp | 230 °F |
| Oil Pressure at Rated Speed | 71 – 86 psi |

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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 |

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 | ComAp |
| Model | InteliCharger |
| Input Voltage | 85V ~ 264V AC |
| Output Voltage / Current | 27.2V Float / 2.5A pk |

- Integral PLC editor
- 'Protections disabled' feature
- kW & kVAr protection
- Reverse power (kW & kVAr) protection

Jacket Water Heater Data

| | |
|---------------|--------------|
| Manufacturer | Hotstart |
| Model | CSM10602-000 |
| Input Voltage | 240V |
| Power | 6000W |

- 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

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Enclosure Features

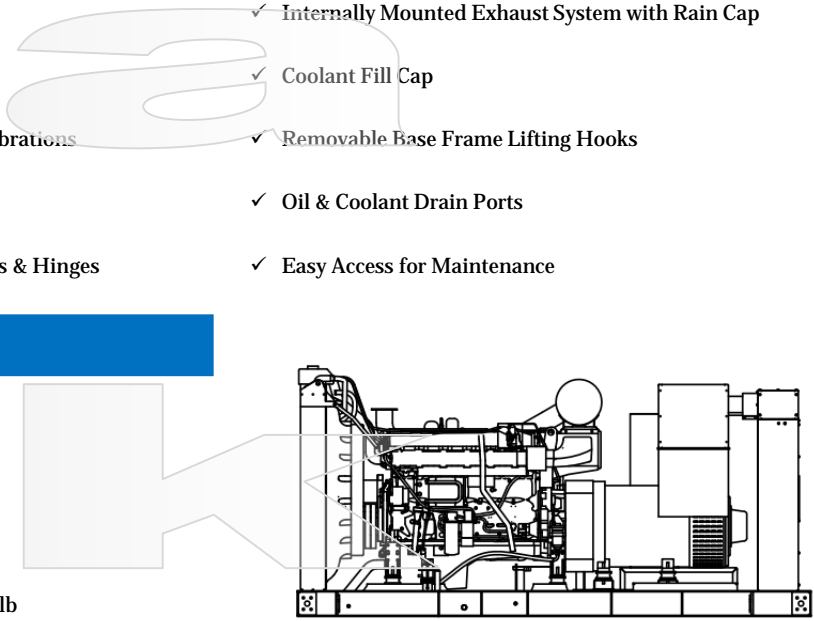
- ✓ Heavy Duty Steel / Aluminum Structure
- ✓ E-Stop on Enclosure
- ✓ Control Panel Eliminated from Engine Vibrations
- ✓ Standard Sound Attenuation Foam
- ✓ Plastic Covered Corrosion Resistant Locks & Hinges

Enclosure Features

- ✓ Internally Mounted Exhaust System with Rain Cap
- ✓ Coolant Fill Cap
- ✓ Removable Base Frame Lifting Hooks
- ✓ Oil & Coolant Drain Ports
- ✓ Easy Access for Maintenance

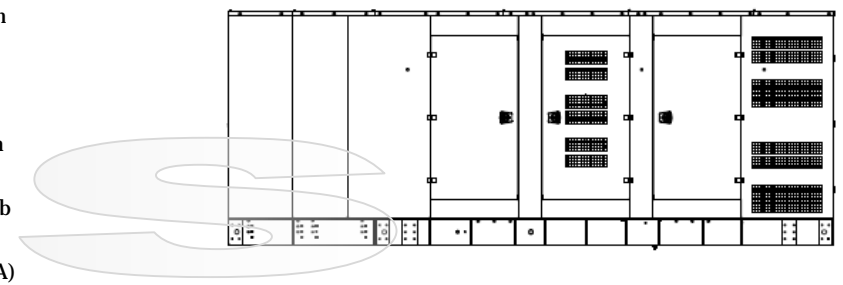
Open Skid Gen-Set Dimensions

| | |
|------------|----------|
| Length | 209 in |
| Width | 89 in |
| Height | 88.7 in |
| Dry Weight | 20000 lb |



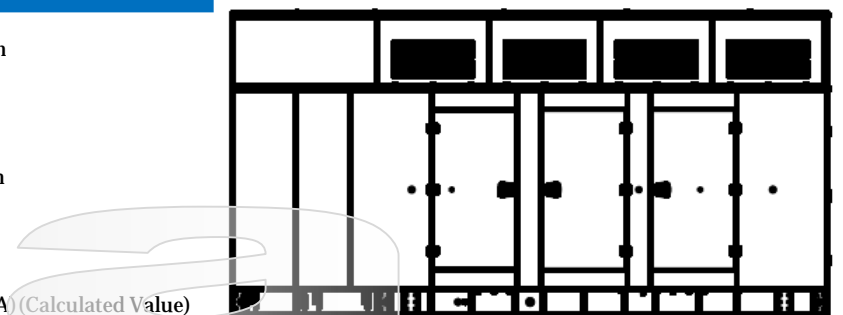
Enclosed Gen-Set Dimensions - Level 1

| | |
|---------------------------|----------|
| Length | 272.2 in |
| Width | 89 in |
| Height | 101.2 in |
| Dry Weight | 25545 lb |
| Sound Pressure @ 7 meters | 83 dB(A) |



Enclosed Gen-Set Dimensions – Level 2

| | |
|---------------------------|-----------------------------|
| Length | 272.2 in |
| Width | 89 in |
| Height | 132.9 in |
| Dry Weight | TBA |
| Sound Pressure @ 7 meters | 80 dB(A) (Calculated Value) |



Fuel Tank - UL142 Listed Base Design

| Size | 24hr (1800gal) | 48hr (3600gal) | 72hr (5400gal) |
|-------------------------|----------------|----------------|----------------|
| Dimensions (L/W/H) (in) | 292 / 89 / 25 | 370 / 89 / 36 | 540 / 89 / 36 |
| Weight (lb) | 5700 | 8550 | 11950 |

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Standard Features & Accessories

- ✓ UL2200 Certification
- ✓ Heavy Duty Steel Base Frame
- ✓ PMG w/MX321 AVR
- ✓ Engine Jacket Water Heater
- ✓ Battery and Battery Rack
- ✓ Battery Charger
- ✓ Anti Vibration Pads between Engine/Alternator & Base Frame
- ✓ Critical Grade Silencer Inside Enclosure
- ✓ Residential Grade Silencer Set for Open Skid Sets
- ✓ Exhaust outlet rain cap and radiator fill cap
- ✓ Sound Absorb Foam Material for Enclosure
- ✓ Emergency Stop Button
- ✓ Oil Drain Valve
- ✓ Coolant Drain Valve
- ✓ Jacket Water Heater Isolation Valves
- ✓ Flex Fuel Lines
- ✓ Air Filter Restriction Gauge
- ✓ Engine Manifold Cover
- ✓ Turbocharger Cover
- ✓ Protection Covers for Rotating Parts
- ✓ Exhaust Insulation Cover
- ✓ Enclosure DC Light
- ✓ Operations Manual
- ✓ 24 Months / 2000 hours Limited Standby Warranty

Optional Accessories

- Main Line CB (3 / 4 Poles – 80% / 100% rated)
- Upsize Alternator
- Digital AVR
- Anti-condensation Heater
- Sub Base Fuel Tank (UL142 / UL2085)
- 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
- Battery Charger 10/20 Amp
- Shunt Trip / Aux Contacts
- Spring Anti-vibration Isolators
- Automatic Transfer Panel (ATS)
- 5 Years / 2000 hours Limited Comprehensive Warranty

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