

**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.

Alternator (130 °C Rise)	Voltage	Dh	Ph	Df	Pf		f Hz	Stand-by Ratings		Prime Ratings		
		FII	PI	PI HZ	kW/kVA	Amp	kW/kVA	Amp	Toronto.			
	480/277V	3	0.8	60	82/102	123	73/91	110				
·	440/254V	3	0.8	60	82/102	134	73/91	120				
Marathon MP-80-4	240/139V	3	0.8	60	82/102	247	73/91	220				
(362CSL1604)	240/120V	3	0.8	60	82/102	247	73/91	220				
	208/120V	3	0.8	60	82/102	284	73/91	253				
	240/120V	1	1	60	76/76	316	69/69	287				

### **Rating Definition**

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 & Standard Features

**EPA Certified Tier3** – **FLEX** engine powered generator set for Mobile / Prime Applications.

The Generator set is designed and manufactured in a facility certified to **ISO9001:2008** standards.

**Perkins heavy duty** four cycle industrial diesel engine delivers low emission, reliable power, fuel efficiency and fast response to load changes.

Non-proprietary control system provides total gen-set system integrated control, protections, metering, automatic starting/stopping with options of remote control, remote display or remote annunciation.

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

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

**Marathon** industrial generators meet the requirements of BS EN 60034 and the relevant sections of other international standards.

Heavy duty base frame with integral pad vibration isolators eliminates the need for under unit spring vibration isolators.

## POWER YOUR FUTURE



Engine Data		Fuel Consumption (gph)	
Manufacturer	Perkins	110% Load	6.7
Model	1104D-E44TAG1	100% Load	6.2
Cylinders	4, in-line	75% Load	4.9
Max. power @ rated rpm; kWn	n (BHP) 96.8 (129.8)	50% Load	3.6
Brake mean effective pressure	kPa 1467		
Aspiration & Cooling	Turbo charged air to air charge cooled	Exhaust System	
Total displacement; L (in3)	4.4 (268.5)	· ·	
Bore; in. (mm)	4.13 (105)	Exhaust gas flow; (m³/min)	17.9
Stroke; in. (mm)	5.0 (127)	Max. back pressure; (kPa)	15
Compression ratio	16.2:1	Max. exhaust gas temp in manifold; (°C)	
Governor type	ECM, ISO8528-G3	Exhaust outlet size; (mm)	64
Rated rpm	1800		
Rotation A	nti-clockwise viewed on flywheel	Cooling System	
Engine Electrical System		Radiator ambient temp; °C (°F)	50 (122)
· ·		Coolant capacity; L (gal)	17 (4.5)
Charging alternator	12V, Negative Ground	Coolant pump drive	Gear
Alternator rating; (amp)	65	Thermostat operation range; °C	85-95
Starter motor power; (kW)	3.0	Cooling fan type	Pusher
Starter motor rated voltage; (d		Combustion air flow; m <sup>3</sup> /min	7.7
Battery quantity x rating & CC.	A 1 x 60Ah, 640	Engine coolant flow; L/min (gal/min)	169 (44.6)
		Cooling fan air flow; m³/min	224.4
Fuel System		Heat rejection to coolant and oil; kWt	53.6
· ·		Heat rejection to ambient; kWt	15.9
Type of injection	Direct	Max. restriction of radiator; kPa (in H2O)	0.2
Fuel injection pump	Common rail	Air filter	2 stage cyclonic /
Fuel supply connection size	3/8" NPT		paper element
Fuel return connection size	3/8" NPT		
Max. fuel lift; m (ft)	1 (3.28)	Lubulantian Custom	
Fuel prime pump	Manual	<u>Lubrication System</u>	
Max. fuel flow; L/hr (gal/hr)	130 (34.3)	Oil capacity; L (gal)	8 (2.1)
Max. fuel return flow; m <sup>3</sup> /min	0.8	Oil cooler	Water cooled
Fuel filter & water separator	Available	Oil filter	Spin on, replaceable
		Oil temp (continuous operation); °C Oil consumption @ full load	125
		(as a % of fuel consumption)	0.15



### **Alternator Data**

Manufacturer	Marathon
Model	MP-80-4 (362CSL1604)
Design	4 Pole, drip proof rotating field
Exciter type	Brushless, self excited P.M.G. option is available
Stator	2/3 winding pitch
Rotor	Single bearing, flexible disc
Leads	12
Voltage regulator	Solid state, Volts/Hz
Insulation	Class H
Temp. rise @ 40°C ambient	130°C Prime
Alternator Cooling	Direct drive
	centrifugal blower
Max. over-speed; rev/min	2250
Voltage regulator	SE350

### kW Rating at 1800rpm/60Hz

480/277V - 3ph – 0.8pf	105
208/120V - 3ph - 0.8pf	100
240/120V - 1ph – 1pf	78

#### Base-frame & Enclosure

The complete gen-set is mounted entirely on a heavy duty base frame with an integral semi double wall 180gal fuel tank.

Anti vibration isolators are installed between engine/alternator supports and the base frame.

All enclosure parts are designed with module principles without welding.

Enclosure has four doors on each side for easy serviceability and back door for control system.

Exhaust silencer is protected against environmental influences and is internally mounted within enclosure. Exhaust pipe thermally insulated on engine compartment.

All metal enclosure parts are painted by electrostatic polyester powder paint.

Enclosure has lockable fuel filling cap from outside.

Emergency stop switch externally mounted on enclosure.

### Control System

**DSE7320** is an advanced control system, suitable for a wide variety of single, diesel or gas, gen-set applications. Monitoring and an extensive number of engine parameters, the module displays warnings, shutdowns and engine status information on the back lit LCD screen, illuminated LEDs, remote PC and via SMS text alerts (with external modem).

- UL recognized, NFPA110 Level 1 compatible
- LCD text display, key menu navigation and front panel editing
- · Off/Manual/Auto model switch
- Two wire starting/stopping in Auto mode
- Engine exerciser
- IP65 front panel rating with supplied sealing gasket
- Configurable 9 inputs, 8 outputs with expansion capability
- · Real time clock provides accurate event logging
- $\bullet$  Fully configurable via DSE Configuration Suite PC software
- Remote SCADA monitoring and BMS integration features
- License free PC software

#### **Protections**

- Gen. Voltage under/over
- Gen. Frequency under/over
- Engine Speed under/over
- Engine Oil pressure low
- Engine Temp. low/high
- Battery Voltage low/high
- · Weak battery
- Fail to start/stop
- · Charge fail
- Over current & load(kW/kVAr)
- · Unbalanced load
- Independent Earth Fault
- Reverse Power
- Fuel level low/high (optional
- Loss of speed signal

#### Instruments

- Gen. Voltage (L-L/L-N)
- · Gen Frequency
- Engine Speed
- Oil Pressure
- $\bullet \ Water \ Temperature$
- Battery Voltage
- Run time
- Engine maintenance due
- Phase sequence
- Pwr. monitoring(kWh / kVAh / kVArh)
- Power (kW/kVA/kVAr)
- Power factor
- Gen. Current (L1-L2-L3)
- · Earth current



### **Convenience Panel Accessories**

- (2) Two 20A, 120V GFCI receptacles and breakers
- (3) Three 50A, 240V twist lock receptacles and breakers
- 5-15A, 125V inlet receptacles for battery charger and water heater
- Two wire remote start station
- · Generator set voltage adjust rheostat
- (5) 400A rated, stud type quick connect cam-locks

## **Voltage Selector Switch**

- Three positions at 480/277V, 208/120V 3ph & 240/120 1ph
- Product of Salzer or Kraus&Naimer

## Standard Features & Accessories

- Trailer w/spare tire and tool box
- Sound Attenuated Steel Enclosure
- · Heavy Duty Steel Base-frame
- Residential Grade Silencer Inside Enclosure
- Flex Fuel Lines
- Oil Drain Valve & Extension
- Convenience Panel
- Voltage Selector Switch 3 position
- · Emergency Stop Switch
- · Battery, Battery Rack & Cables
- · Battery Charger
- Main Line CB
- Jacket Water Heater
- · Operations Manual
- 1 Years / 2000hours Limited Warranty

### <u>Dimensions & Weight & Sound Level</u>

### Gen-set Without Fuel Tank

Type	Generator Set	Generator Set	
	Only	On Trailer	
L (in.)	122	175	
W (in.)	42	66	
H (in.)	75	89	
Weight (lb)	4200	6200	

Sound Level (dBA@23ft)

75

### **Trailer**

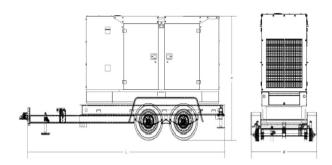
- DOT approved 7000lbs heavy duty dual axle trailer
- Spring axles w/electric brakes
- · Breakaway kit with charger
- · 5000lbs front jack and rear stabilizer jacks
- 7 pin trailer plug
- Tool box and spare tire

## Circuit Breaker

- · 300Amp capacity main line circuit breaker
- Shunt trip controller by generator set control

## Optional Accessories

- Upsized Alternator
- PMG Excitation
- Alternator Anti-condensation Heater
- 4 Position VSS
- Fuel Level Monitoring on Controller & High Fuel Alarm
- Fuel Line Check Valve
- Oil Temperature Gauge
- Oil Heater
- Battery Charger 10Amp
- · Battery Heater Blanket
- Main Line CB (100% rated)
- · Remote Monitoring and Control
- Remote Annunciator



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Aksa Power Generation USA is a member of





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