

# BLUE STAR

## Power Systems Inc.

### Diesel Product Line

208-600 Volt

MD1600-01

60 Hz / 1800 RPM

1600 kWe / 1450 kWe

Standby / Prime

### Ratings

	208V	240V	480V	600V
<b>Phase</b>	3	3	3	3
<b>PF</b>	0.8	0.8	0.8	0.8
<b>Hz</b>	60	60	60	60
<b>Generator Model</b>	CF	CF	743RSL4052	743RSS4290
<b>Connection</b>	4 LEAD WYE	4 LEAD DELTA	4 LEAD WYE	4 LEAD WYE
<b>Standby</b>				
<b>kWe</b>	1600	1600	1600	1600
<b>AMPS</b>	5558	4817	2408	1927
<b>Temp Rise</b>	CF	CF	130°C / 27°C	130°C / 27°C
<b>Prime</b>				
<b>kWe</b>	1450	1450	1450	1450
<b>AMPS</b>	5037	4365	2183	1746
<b>Temp Rise</b>	CF	CF	105°C / 40°C	105°C / 40°C

### Standard Equipment

- |  |  |   |
|--|--|---|
| <p><b>Engine</b></p> <ul style="list-style-type: none"> <li>▶ Radiator Cooled Unit Mounted (50°C)</li> <li>▶ Blower Fan &amp; Fan Drive</li> <li>▶ Starter &amp; Alternator</li> <li>▶ Oil Pump &amp; Filter</li> <li>▶ Oil Drain Extension w/Valve</li> <li>▶ Governor - Electronic Isochronous</li> <li>▶ 24V Battery System &amp; Cables</li> <li>▶ SAE Flywheel Housing</li> <li>▶ Air Cleaner (Dry Single Stage)</li> <li>▶ Flexible Fuel Connectors</li> <li>▶ EPA Certified - Tier 2</li> </ul> | <p><b>Generator</b></p> <ul style="list-style-type: none"> <li>▶ Brushless Single Bearing</li> <li>▶ Automatic Voltage Regulator</li> <li>▶ ± .25% Voltage Regulation</li> <li>▶ 4 Pole, Rotating Field</li> <li>▶ 130°C Standby Temperature Rise</li> <li>▶ 105°C Prime Temperature Rise</li> <li>▶ 100% of Rated Load - One Step</li> <li>▶ 5% Maximum Harmonic Content</li> <li>▶ NEMA MG 1, IEEE and ANSI standards compliance for temperature rise</li> </ul> | <p><b>Additional</b></p> <ul style="list-style-type: none"> <li>▶ Microprocessor Based Digital Control</li> <li>▶ Base - Structural Steel</li> <li>▶ Main Line Circuit Breaker Mounted &amp; Wired</li> <li>▶ Critical Grade Silencer Loose</li> <li>▶ Exhaust Flex Connector</li> <li>▶ Battery Charger 24V 5 Amp</li> <li>▶ Jacket Water Heater -20°F<br/>2 Qty: 9000W 240V w/Isolation Valves</li> <li>▶ Vibration Isolation Mounts (Pad Type)</li> <li>▶ Radiator Duct Flange (OPU Only)</li> <li>▶ Single Source Supplier</li> <li>▶ 2YR / 2000HR Standby Warranty</li> <li>▶ 1YR / 1500HR Prime Warranty</li> <li>▶ Standard Colors - White / Tan / Gray</li> </ul> |
|--|--|---|

## Application Data

Engine			
Manufacturer:	Mitsubishi	Displacement - Cu. In. (lit):	3,989 (65.4)
Model:	S16R-Y2PTAW-1	Bore - in. (cm) x Stroke - in. (cm):	6.69 (17.0) x 7.09 (18.0)
Type:	4-Cycle	Compression Ratio:	14.5:1
Aspiration:	Turbo Charged, H <sub>2</sub> O/Air Intercooled	Rated RPM:	1800
Cylinder Arrangement:	16 Cylinder Vee	Max HP Stby (kWm):	2,346 (1,750)

Exhaust System	Standby	Prime
Gas Temp. (Stack): °F (°C)	940 (504)	890 (477)
Gas Volume at Stack Temp: CFM (m <sup>3</sup> /min)	15,642 (443)	14,089 (399)
Maximum Allowable Exhaust Restriction: in. H <sub>2</sub> O (kPa)	23.6 (5.9)	23.6 (5.9)

Cooling System	Standby	Prime
Ambient Capacity of Radiator: °F (°C)	122 (50.0)	122 (50.0)
Maximum Allowable Static Pressure on Rad. Exhaust: in. H <sub>2</sub> O (kPa)	0.5 (0.12)	0.5 (0.12)
Water Pump Flow Rate: Gpm (lit/min)	489 (1,851)	489 (1,851)
Heat Rejection to Coolant: BTUM (kW)	36,167 (633)	32,563 (570)
Heat Rejection to Intercooler: BTUM (kW)	36,167 (633)	32,563 (570)
Heat Radiated to Ambient: BTUM (kW)	8,652 (151)	7,841 (137)

Air Requirements	Standby	Prime
Aspirating: CFM (m <sup>3</sup> /min)	5,932 (168)	5,5332 (151)
Air Flow Required for Rad. Cooled Unit: CFM (m <sup>3</sup> /min)	99,909 (2,827)	99,909 (2,827)
Air Flow Required for Heat Exchanger/Rem. Rad. CFM (m <sup>3</sup> /min)	Consult Factory For Remote Cooled Applications	

Fuel Consumption	Standby	Prime
At 100% of Power Rating: gal/hr (lit/hr)	129.2 (487)	115.4 (436)
At 75% of Power Rating: gal/hr (lit/hr)	94.1 (356)	86.8 (325)
At 50% of Power Rating: gal/hr (lit/hr)	64.4 (241)	58.7 (220)

Fluids Capacity	Standby	Prime
Total Oil System: gal (lit)	52.8 (200)	52.8 (200)
Engine Jacket Water Capacity w/Intercooler: gal (lit)	44.9 (170)	44.9 (170)
System Coolant Capacity: gal (lit)	97.0 (367)	97.0 (367)

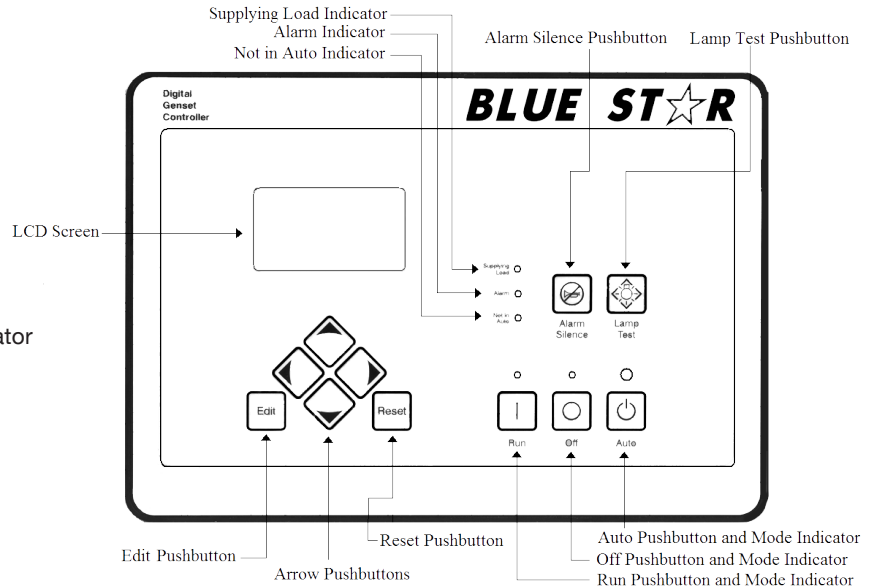
**Deration Factors**

Altitude: Derate 0.5% per 328 ft (100 m) above 3280 ft (1000 m) standby and prime. | Temperature: Derate 1.0% per 18°F (10°C) above 104°F (40°C) standby and prime. Consult factory for site conditions above these parameters.

## DGC-2020 Control Panel

### Standard Features

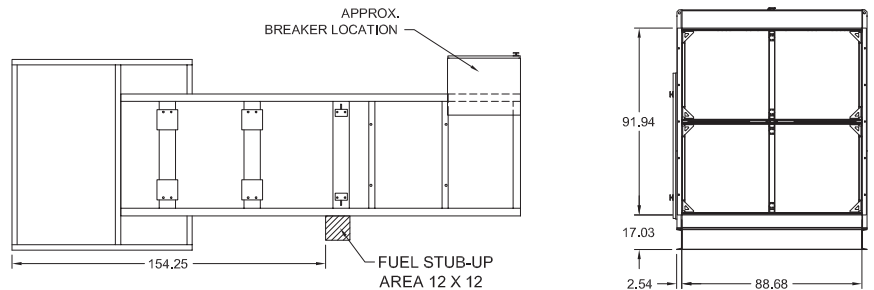
- ▶ Digital Metering
- ▶ Engine Parameters
- ▶ Generator Protection Functions
- ▶ Engine Protection
- ▶ CAN Bus ECU Communications
- ▶ Windows-Based Software
- ▶ Multilingual Capability
- ▶ Remote Communications to RDP-110 Remote Annunciator
- ▶ 16 Programmable Contact Inputs
- ▶ Up to 15 Contact Outputs (7 standard)
- ▶ UL Recognized, CSA Certified, CE Approved
- ▶ Event Recording
- ▶ IP 54 Front Panel Rating with Integrated Gasket
- ▶ NFPA 110 Compatible



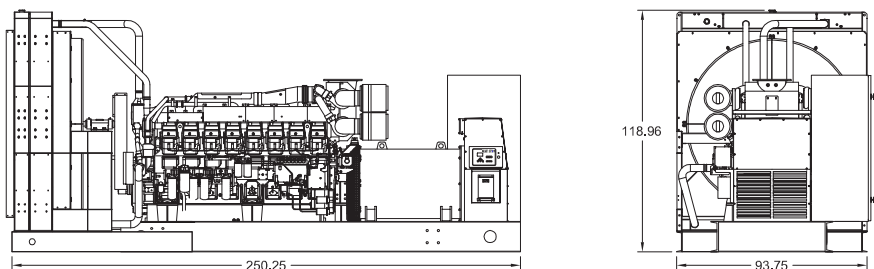
## Weights / Dimensions / Sound Data

	L x W x H	Weight lbs
<b>OPU</b>	250 x 94 x 119 in	30,150
<b>Level 1</b>	265 x 110 x 135 in	35,850
<b>Level 2</b>	N/A	N/A
<b>Level 3</b>	CF	CF

Height measured from bottom of base to top of enclosure.



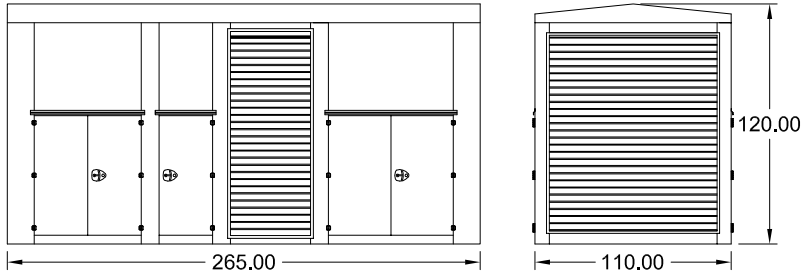
	No Load	Full Load
<b>OPU</b>	90 dBA	92 dBA
<b>Level 1</b>	88 dBA	91 dBA
<b>Level 2</b>	N/A	N/A
<b>Level 3</b>	CF	CF



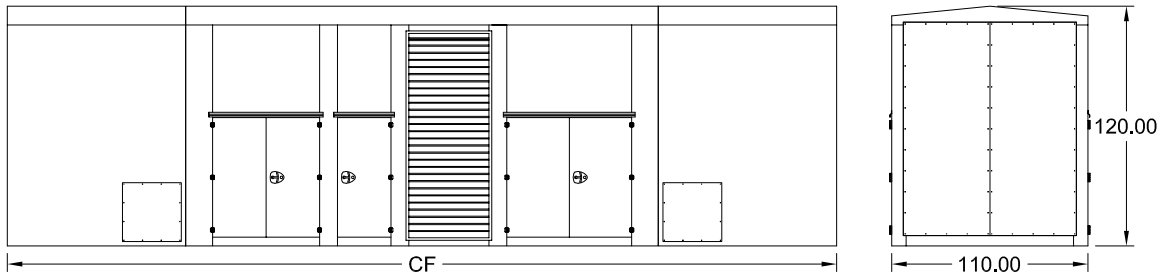
Drawings based on standard open power 480 volt standby generator. Lengths may vary with other voltages. Subject to change without notice. Sound data as measured at 23 feet (7 meters) in accordance with ISO 8528-10 at standby rating.

Optional Enclosures and Fuel Tanks

**Level 1 Enclosure (WPE)**



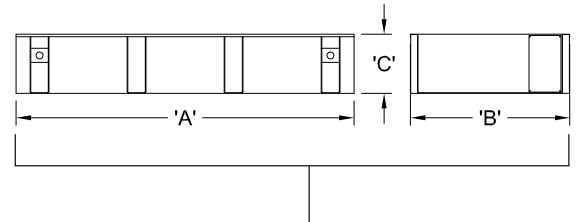
**Level 3 Enclosure (SAE)**



\*Level 1 enclosures are 100 MPH Wind Rated as standard (up to 150 MPH available).

\*\*Level 3 enclosures are 150 MPH Wind Rated as standard.

\*\*\*Enclosure height does not include unit base.



**Double Wall UL Listed 142 Fuel Tanks**

	12 Hour (1925 Gallons)			24 Hour (3850 Gallons)			48 Hour (7700 Gallons)		
	A	B	C	A	B	C	A	B	C
<b>OPU</b>	CF	CF	CF	CF	CF	CF	CF	CF	CF
<b>Level 1</b>	265.00	110.00	22.00	300.00	110.00	36.00	565.00	110.00	36.00
<b>Level 2</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Level 3</b>	CF	CF	CF	CF	CF	CF	CF	CF	CF

\*All specification sheet dimensions are represented in inches.

\*\*All enclosures and fuel tanks are based on the standard standby unit configuration. Any deviation can change dimensions.

\*\*\*Level 1 enclosure not UL listed.

Materials and specifications subject to change without notice.

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