

Spark-ignited generator set 60 – 75 kW standby EPA Emissions



> Specification sheet

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**Power
Generation**

Description

Cummins Power Generation commercial generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary standby and prime power applications. Codes or standards compliance may not be available with all model configurations – consult factory for availability.



This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.



The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins Power Generation products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.



All low voltage models are CSA certified to product class 4215-01.



The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies. The PowerCommand control is Listed to UL 508 - Category NITW7 for U.S. and Canadian usage.

U.S. EPA Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60.

Features

Ford heavy-duty gas engine - Rugged 4-cycle industrial spark-ignited delivers reliable power. The electronic air/fuel ratio control provides optimum engine performance and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control system - The PowerCommand® electronic control is standard equipment and provides total genset system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, AmpSentry™ protection, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard cooling package provides reliable running at up to 40 °C (104 °F) ambient temperature.

Enclosures - Optional weather protective and sound attenuated enclosures are available.

NFPA - The genset accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

Model	Natural gas				Propane				Data sheets	
	Standby rating		Prime rating		Standby rating		Prime rating		60 Hz	50 Hz
	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)		
GGHE	60 (75)				60 (75)				D-3382	
GGHF	70 (87)	55 (69)			75 (94)	60 (75)			D-3383	D-3386

Generator set specifications

Governor regulation class	ISO 8528 Part 1 Class G3
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	Isochronous
Random frequency variation	± 0.6%
Radio frequency emissions compliance	Meets requirements of most industrial and commercial applications

Engine specifications

Design	Naturally aspirated
Bore	90.2 mm (3.55 in)
Stroke	105.9 mm (4.17 in)
Displacement	6.8 L (412.5 in ³)
Cylinder block	Cast iron, V 10 cylinder
Battery capacity	600 amps minimum at ambient temperature of 0 °C (32 °F)
Battery charging alternator	65 amps
Starting voltage	12 volt, negative ground
Lube oil filter type(s)	Single spin-on canister-combination full flow with bypass
Standard cooling system	40 °C (104 °F) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	2/3 pitch
Rotor	Direct coupled, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	150 °C (302 °F) standby
Exciter type	Torque match (shunt)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower
AC waveform total harmonic distortion	< 5% no load to full linear load, < 3% for any single harmonic
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 3

Available voltages

60 Hz				50 Hz			
3-phase			1-phase	3-phase			1-phase
• 120/208	• 120/240	• 127/220	• 120/240	• 110/190	• 110/220	• 115/200	• 110/220
• 139/240	• 240/416	• 254/440		• 115/230	• 120/208	• 120/240	• 120/240
• 277/480	• 347/600			• 127/220	• 220/380	• 230/400	
				• 240/416	• 254/440		

Note: Consult factory for other voltages.

Generator set options and accessories

Engine <ul style="list-style-type: none"> • 120/240 V 1500 W coolant heaters 	Alternator <ul style="list-style-type: none"> • 105 °C (221 °F) rise alternator • 125 °C (257 °F) rise alternator • 150 °C (302 °F) rise alternator • 120/240 V, 100 W anti-condensation heater • 12 lead, broad range, extended stack (full single phase output) • Lower broad range • PMG excitation • Upper broad range • Single phase (4 lead) 	Exhaust system <ul style="list-style-type: none"> • Adapter NPT to slip fit • Mounted residential muffler 	<ul style="list-style-type: none"> • Export box packaging • Main line circuit breaker • Oil drain extension • Remote annunciator panel • UL 2200 Listed • 2 year prime power, 6000 hours, warranty • 2 year standby warranty • 5 year basic power warranty • 5 year comprehensive warranty
Fuel system <ul style="list-style-type: none"> • Natural gas • Natural gas/propane liquid with automatic changeover • Natural gas/propane vapor with automatic changeover • Propane liquid withdrawal • Vapor withdrawal 		Generator set <ul style="list-style-type: none"> • AC entrance box • Battery • Battery charger • Coolant drain extension • Duct adapter • Enclosure: Aluminum, steel, weather protection or sound attenuated 	

Note: Some options may not be available on all models - consult factory for availability.

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Control system

PowerCommand PCC2100 - An integrated generator set control system providing isochronous governing, voltage regulation, engine protection and operator interface functions.

- Includes integral AmpSentry protection, which provides a full range of alternator protection functions that are matched to the alternator provided.
- Control function provides battery monitoring and testing features, and smart starting control system.
- Three phase sensing, full wave rectified voltage regulation system, with a PWM output for stable operation with all load types.
- Standard PCCNet interface.
- Suitable for operation in ambient temperatures from -40 °C to +70 °C (-40 °F to +158 °F) and altitudes to 5000 m (13,000 ft).
- Prototype tested; UL, CSA and CE compliant.
- InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

AmpSentry AC protection

- AmpSentry Protective Relay – UL-listed
- Over current and short-circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse Var shutdown
- Field Overload

Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- High oil temperature warning (optional)
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High and low battery voltage warning
- Weak battery warning
- Dead battery shutdown
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication

Operator interface

- Off/manual/auto mode switch
- Manual run/stop switch
- Panel lamp/test switch
- Emergency stop switch
- Alpha-numeric display with pushbutton access, for viewing engine and alternator data and providing setup, controls and adjustments
- LED lamps indicating genset running, not in auto, common warning, common shutdown
- (5) configurable LED lamps
- LED bargraph AC data display (optional)

Alternator data

- Line-to-line and line-to-neutral AC volts
- Three phase AC current
- Frequency
- Total and individual phase kW and kVA

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Engine Data

- DC voltage
- Lube oil pressure
- Coolant temperature
- Lube oil temperature (optional)

Other data

- Genset model data
- Start attempts, starts, running hours
- KW hours (total and since reset)
- Fault history
- Load profile (hours less than 30% and hours more than 90% load)
- System data display (optional with network and other PowerCommand gensets or transfer switches)

Governing

- Integrated digital electronic isochronous governor
- Temperature dynamic governing
- Smart idle speed mode
- Glow plug control (some models)

Voltage regulation

- Integrated digital electronic voltage regulator
- Three phase line-to-neutral sensing
- Configurable torque matching
- PMG (optional)

Control functions

- Data logging on faults
- Fault simulation (requires InPower)
- Time delay start and cooldown
- Cycle cranking
- (4) configurable customer inputs
- (4) configurable customer outputs

Options

- Analog AC Meter Display
- Thermostatically Controlled Space Heater
- Key-type mode switch
- Ground fault module
- Auxiliary relays (3)
- Echelon LONWORKS interface
- Modlon Gateway to convert to Modbus (loose)
- PowerCommand iWatch web server for remote monitoring and alarm notification (loose)
- PCCNet and Lonworks Digital input and output module(s) and Remote annunciators (loose)



PowerCommand 2100 control operator/display panel

Ratings definitions

Emergency standby power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-time running power (LTP):

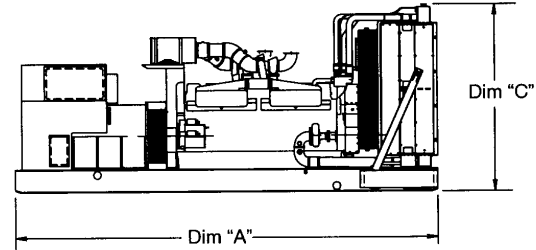
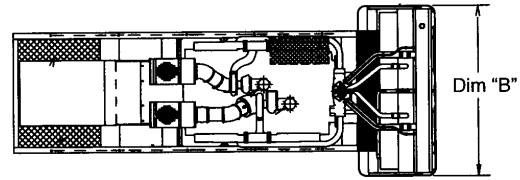
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base load (continuous) power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for installation design

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight* dry kg (lbs)	Set Weight* wet kg (lbs)
GGHE	2103 (82.8)	1016 (40.0)	1265 (49.8)	892 (1966)	929 (2048)
GGHF	2103 (82.8)	1016 (40.0)	1265 (49.8)	945 (2083)	982 (2165)

* Weights represent a set with standard features. See outline drawings for weights of other configurations.

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Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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EPA Emissions

Model: GGHE
KW rating: 60 natural gas standby
 60 propane standby
Frequency: 60
Fuel type: Natural gas/propane

➤ Generator set data sheet



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Exhaust emission data sheet:	EDS-322
Exhaust emission compliance sheet:	
Sound performance data sheet:	MSP-178
Cooling performance data sheet:	
Prototype test summary data sheet:	PTS-144
Standard set-mounted radiator cooling outline:	0500-3447

Fuel consumption	Natural gas				Prime kW (kVA)	Propane				Prime kW (kVA)		
	Standby kW (kVA)					Standby kW (kVA)						
Ratings	60 (75)					60 (75)						
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
scfh	375.6	533.8	692.0	861.0					145.5	208.1	270.6	345.0
m³/hr	10.6	15.1	19.6	24.4					4.1	5.9	7.7	9.8

Engine	Natural gas		Propane	
	Standby rating	Prime rating	Standby rating	Prime rating
Engine model	WSG-1068			
Configuration	Cast iron, V 10 cylinder			
Aspiration	Naturally aspirated			
Gross engine power output, kWm (bhp)	72.7 (97.5)		72.9 (97.7)	
BMEP at rated load, kPa (psi)	723.9 (105.0)		723.9 (105.0)	
Bore, mm (in)	90.2 (3.55)			
Stroke, mm (in)	105.9 (4.17)			
Rated speed, rpm	1800			
Piston speed, m/s (ft/min)	6.4 (1250.0)			
Compression ratio	9.0:1			
Lube oil capacity, L (qt)	6.1 (6.5)			
Overspeed limit, rpm	2250 ± 50			
Regenerative power, kW	16.00			

Fuel flow

Minimum operating pressure, kPa (in H ₂ O)	1.7 (7.0)
Maximum operating pressure, kPa (in H ₂ O)	3.4 (13.6)

Air	Natural gas		Propane	
	Standby rating	Prime rating	Standby rating	Prime rating
Combustion air, m ³ /min (scfm)	4.0 (141.6)		4.0 (141.6)	
Maximum air cleaner restriction, kPa (in H ₂ O)	1.2 (5.0)			
Alternator cooling air, m ³ /min (scfm)	37.0 (1308.0)			

Exhaust

Exhaust flow at rated load, m ³ /min (cfm)	12.5 (441.0)		12.0 (424.0)	
Exhaust temperature, °C (°F)	565.0 (1049.0)		570 (1058)	
Maximum back pressure, kPa (in H ₂ O)	5.0 (20.0)			

Standard set-mounted radiator cooling

Ambient design, °C (°F)	40 (104)			
Fan load, kW (HP)	7.1 (9.5)			
Coolant capacity (with radiator), L (US gal)	32.2 (8.5)			
Coolant system air flow, m ³ /min (scfm)	169.8 (6000.0)			
Total heat rejection, MJ/min (Btu/min)	4.3 (4050.0)		3.8 (3600.0)	
Maximum cooling air flow static restriction, kPa (in H ₂ O)	124.5 (0.5)			

Weights²

Unit dry weight kgs (lbs)	892 (1966)
Unit wet weight kgs (lbs)	929 (2048)

Notes:

¹ For non-standard remote installations contact your local Cummins Power Generation representative.

² Weights represent a set with standard features. See outline drawing for weights of other configurations.

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Alternator data

Natural gas three phase table¹		105 °C	105 °C	105 °C	105 °C	125 °C	125 °C	125 °C	125 °C	150 °C	150 °C	150 °C
Feature code		B418	B415	B268	B304	B417	B414	B267	B303	B416	B413	B419
Alternator data sheet		204	204	207	204	204	204	205	203	204	204	203
Voltage ranges		110/190 thru 120/208 220/380 thru 240/416	120/208 thru 139/240 240/416 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	347/600	110/190 thru 120/208 220/380 thru 240/416	120/208 thru 139/240 240/416 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	347/600	110/190 thru 120/208 220/380 thru 240/416	120/208 thru 139/240 240/416 thru 277/480	347/600
Surge kW		71	71	72	71.7	71	71	71.6	70.4	71	71	70.4
Motor starting kVA (at 90% sustained voltage)	Shunt	231	231	360	231	231	231	260	188	231	231	188
	PMG	272	272	423	272	272	272	306	221	272	272	221
Full load current amps at standby rating		110/190 228	115/200 217	120/208 208	127/220 197	139/240 181	220/380 114	230/400 108	240/416 104	255/440 99	277/480 90	347/600 72

Propane three phase table¹		105 °C	105 °C	105 °C	105 °C	125 °C	125 °C	125 °C	125 °C	150 °C	150 °C	150 °C
Feature code		B418	B415	B268	B304	B417	B414	B267	B303	B416	B413	B419
Alternator data sheet		204	204	207	204	204	204	205	203	204	204	203
Voltage ranges		110/190 thru 120/208 220/380 thru 240/416	120/208 thru 139/240 240/416 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	347/600	110/190 thru 120/208 220/380 thru 240/416	120/208 thru 139/240 240/416 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	347/600	110/190 thru 120/208 220/380 thru 240/416	120/208 thru 139/240 240/416 thru 277/480	347/600
Surge kW		78.5	78.5	79.5	79.1	78.5	78.5	79.1	77.8	78.5	78.5	77.8
Motor starting kVA (at 90% sustained voltage)	Shunt	231	231	360	231	231	231	260	188	231	231	188
	PMG	272	272	423	272	272	272	306	221	272	272	221
Full load current amps at standby rating		110/190 228	115/200 217	120/208 208	127/220 197	139/240 181	220/380 114	230/400 108	240/416 104	255/440 99	277/480 90	347/600 72

Natural gas single phase table		105 °C	105 °C	105 °C	105 °C	125 °C	125 °C	125 °C	125 °C			
Feature code		B418	B415	B274	B268	B417	B414	B273	B267			
Alternator data sheet number		204	204	205	207	204	204	204	205			
Voltage ranges		120/240 ²	120/240 ²	120/240 ³	120/240 ³	120/240 ²	120/240 ²	120/240 ³	120/240 ³			
Surge kW		69.6	69.6	71.1	70.6	69.6	69.6	70.3	69.2			
Motor starting kVA (at 90% sustained voltage)	Shunt	130	130	155	215	130	130	130	155			
	PMG	153	153	183	250	153	153	153	183			
Full load current amps at standby rating		115/230 ² 174	115/230 ³ 261	120/240 ² 167	120/240 ³ 250							

Propane single phase table		105 °C	105 °C	105 °C	105 °C	125 °C	125 °C	125 °C	125 °C			
Feature code		B418	B415	B274	B268	B417	B414	B273	B267			
Alternator data sheet number		204	204	205	207	204	204	204	205			
Voltage ranges		120/240 ²	120/240 ²	120/240 ³	120/240 ³	120/240 ²	120/240 ²	120/240 ³	120/240 ³			
Surge kW		76.9	76.9	78.5	77.9	76.9	76.9	77.7	76.4			
Motor starting kVA (at 90% sustained voltage)	Shunt	130	130	155	215	130	130	130	155			
	PMG	153	153	183	250	153	153	153	183			
Full load current amps at standby rating		115/230 ² 174	115/230 ³ 261	120/240 ² 167	120/240 ³ 250							

Notes:

- Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor. Also see Note 3 below.
- The broad range alternators can supply single phase output up to 2/3 set rated 3-phase kW at 1.0 power factor.
- The extended stack (full single phase output) and 4 lead alternators can supply single phase output up to full set rated 3-phase kW at 1.0 power factor.

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Derating factors

Natural gas	
Standby/prime	Rated power available up to 915 m (3000 ft) at ambient temperatures up to 40 °C (104 °F). Above 915 m (3000 ft) derate at 4% per 305 m (1000 ft), and 2% per 11 °C (1% per 10 °F) above 40 °C (104 °F).
Propane	
Standby/prime	Rated power available up to 1220 m (4000 ft) at ambient temperatures up to 40 °C (104 °F). Above 1220 m (4000 ft) derate at 4% per 305 m (1000 ft), and 2% per 11 °C (1% per 10 °F) above 40 °C (104 °F).

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

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Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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Sound Pressure Level @ 7 meters, dB(A)

See Notes 1-8 listed below

Configuration		Measurement Location Number								Average
		1	2	3	4	5	6	7	8	
Standard - Unhoused	Infinite Exhaust	81.3	83.5	79.4	81.4	77.4	81.1	80.8	83.9	81.5
F182 and F216 -Weather	Infinite Exhaust	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F182 and F216 -Weather	Mounted Muffler	84.6	87.0	84.3	85.6	84.0	86.5	86.7	87.5	86.0
F183-Weather	Infinite Exhaust	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F183 -Weather w/Residential Muffler	Mounted Muffler	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F172 - Quiet Site II First Stage	Mounted Muffler	80.5	81.1	71.6	71.5	67.6	70.1	71.6	80.1	77.0
F173 and F217 - Quiet Site II Second Stage	Mounted Muffler	67.7	69.6	68.4	70.1	66.5	68.4	66.8	68.5	68.4

Sound Power Level, dB(A)

See Notes 2-6, 9, 10 listed below

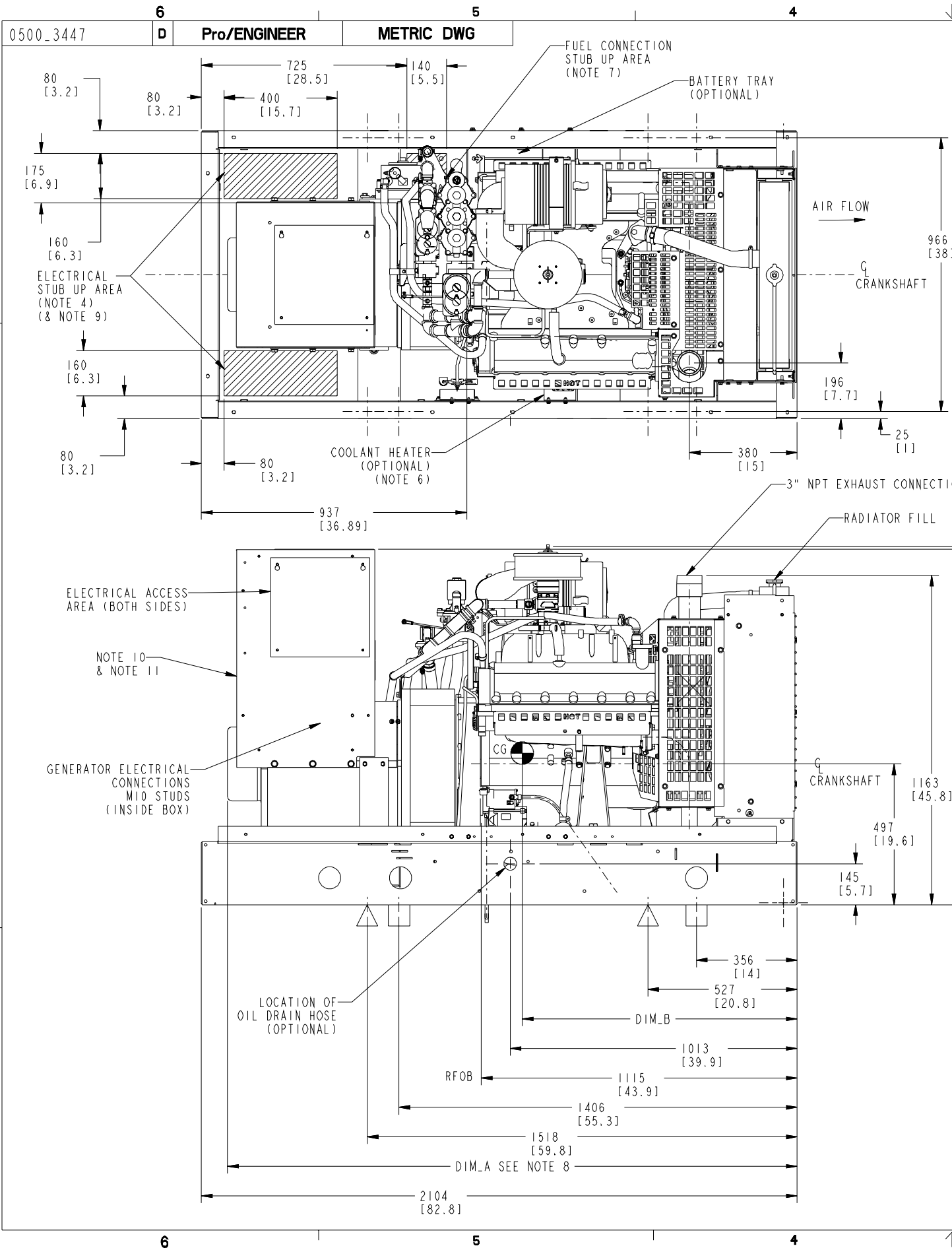
Configuration		Octave Band Center Frequency (Hz)								Overall Sound Power Level
		63	125	250	500	1000	2000	4000	8000	
Standard - Unhoused	Infinite Exhaust	68.5	86.2	95.7	103.4	102.9	101.1	97.3	92.2	108.1
Standard - Unhoused w/Critical Muffler	Mounted Muffler	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F182 and F216 -Weather w/Exhaust Silencer	Mounted Muffler	100.8	101.7	102.8	106.5	105.3	104.0	101.2	100	112.4
F183 -Weather w/Residential Muffler	Mounted Muffler	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F172 - Quiet Site II First Stage	Mounted Muffler	83.3	82.9	89.7	96.8	98.2	96.8	92.4	88.7	103.0
F173 and F217- Quiet Site II Second Stage	Mounted Muffler	83.2	83.1	86.2	86.9	87.0	85.4	83.3	80.1	93.9

Exhaust Sound Pressure Level @ 1 meter, dB(A)

Open Exhaust (No Muffler Rated Load)	Octave Band Center Frequency (Hz)								Sound Pressure Level	
	63	125	250	500	1000	2000	4000	8000		
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note:

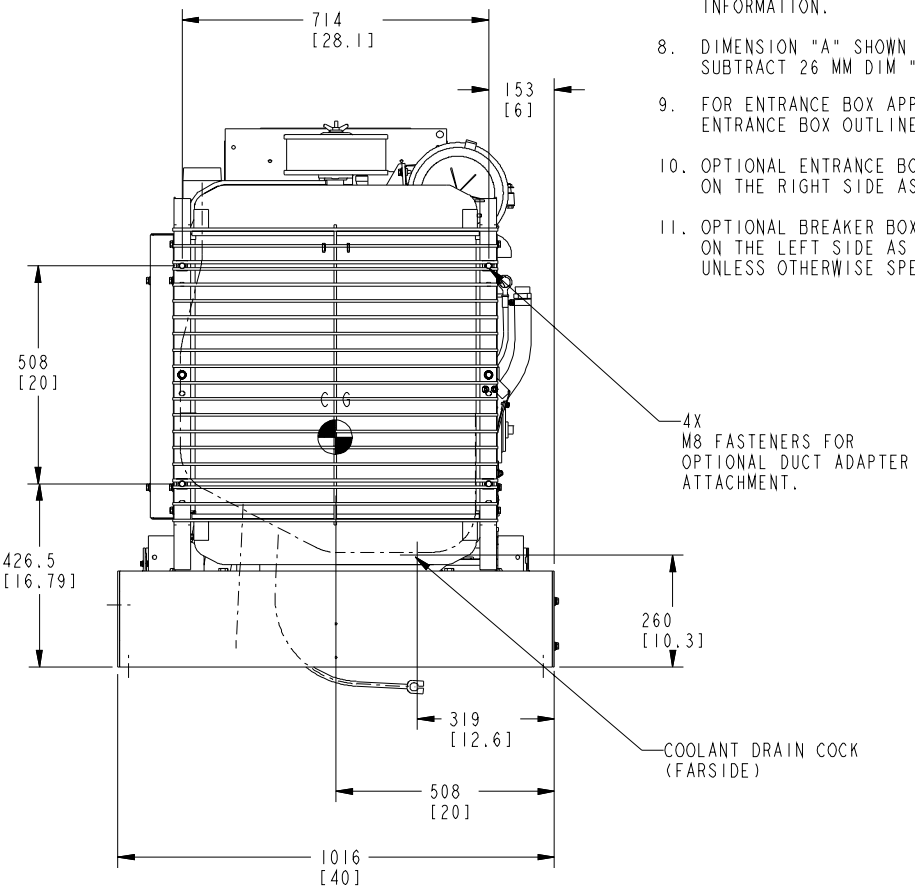
1. Position 1 faces the engine front. The positions proceed around the generator set in a counter-clockwise direction in 45° increments. All positions are at 7m (23 ft) from the surface of the generator set and 1.2m (48") from floor level.
2. Sound levels are subject to instrumentation, measurement, installation and manufacturing variability.
3. Sound data with remote-cooled generator sets are based on rated loads without cooling fan noise.
4. Sound levels for aluminum enclosures are approximately 2 dB(A)s higher than listed sound levels for steel enclosures.
5. Sound data for generator set with infinite exhaust do not include exhaust noise.
6. Data is based on full rated load with standard radiator-cooling fan package
7. Sound Pressure Levels are measured per ANSI S1.13 and ANSI S12.18, as applicable.
8. Reference sound pressure is 20 µPa.
9. Sound Power Levels per ISO 3744 and ISO 8528-10, as applicable.
10. Reference power = 1 pw (10⁻¹² W)
11. Exhaust Sound Pressure Levels are per ISO 6798, as applicable.



TABULATION			
ALTERNATOR DATA SHEET	DIM "A"	DIM "B"	GENERATOR SET WET WEIGHT kg lb
203	1962 [77.2]	1028.6 [40.5]	859 [1893]
204	1962 [77.2]	1043.3 [41.0]	879 [1937]
205	2007 [79.0]	1075.3 [43.3]	929 [2048]
206	1999 [78.7]	1101.8 [43.4]	958 [2112]
207	1999 [78.7]	1117.6 [44.0]	982 [2165]
			EMISSION L999-2 ADD 10 [22]

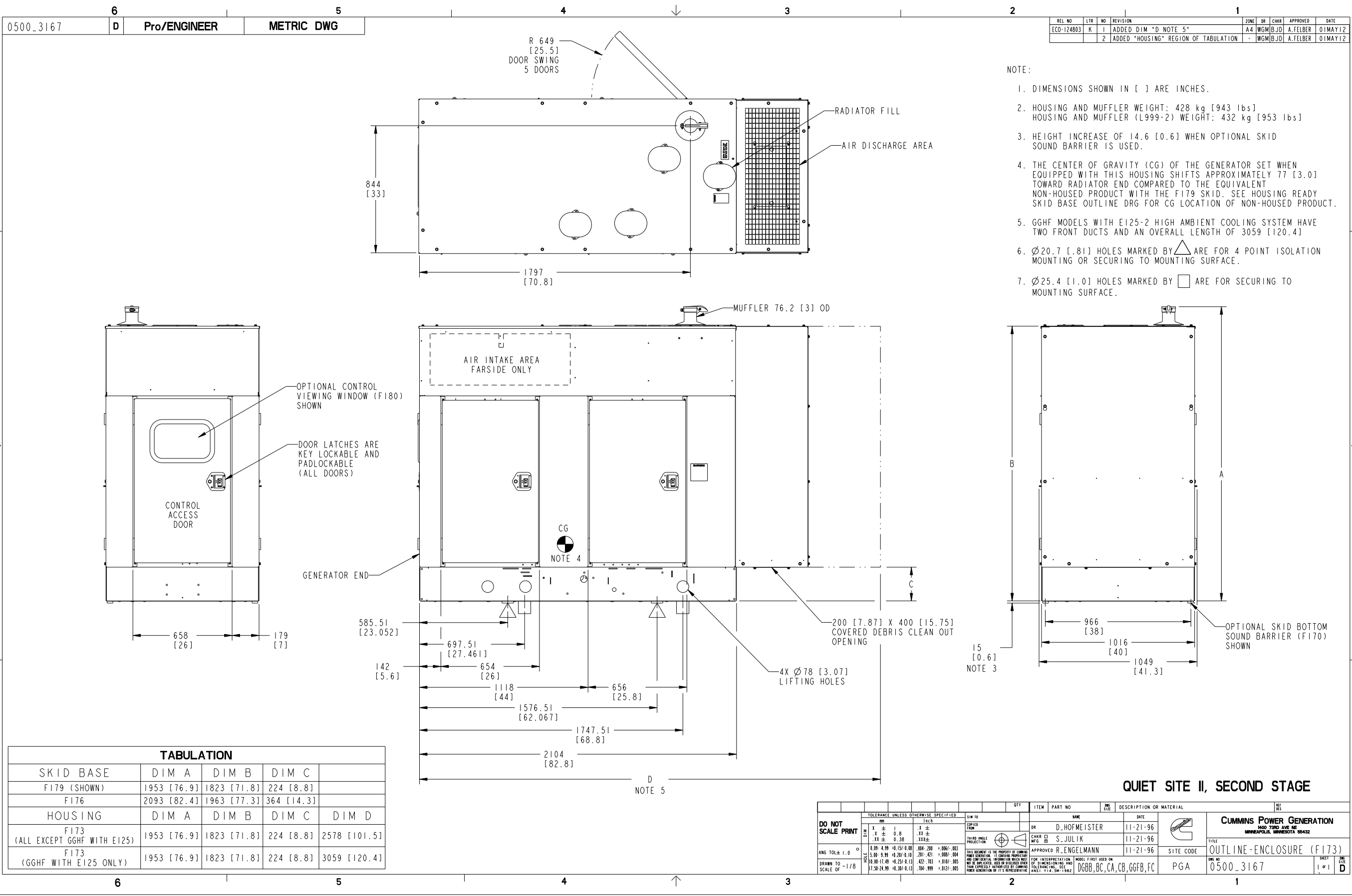
REL NO	LTR	NO	REVISION	ZONE	DR	CHKR	APPROVED	DATE
FRD10950	A	1	PRODUCTION RELEASE	-	TJB	HLS	HLS	02-07-02
FRD12171	B	1	ADDED NOTES 9, 10 & 11	-	MTA	HS	HS	08-07-02
FRD34321	C	1	ADD EMISSION L999-2 ADD 10 [22] TO TABLE	-	DAH	RC	RC	11-06-07

- NOTES:
- DIMENSIONS SHOWN IN [] ARE IN INCHES.
 - $\varnothing 20.7$ [.81] HOLES MARKED BY \triangle ARE FOR 4 POINT ISOLATION MOUNTING OR SECURING TO MOUNTING SURFACE.
 - $\varnothing 25.4$ [1.0] HOLES MARKED WITH \square ARE FOR SECURING TO MOUNTING SURFACE.
 - REFER TO CIRCUIT BREAKER OUTLINE DRAWING FOR ELECTRICAL STUB UP AREA FOR BREAKERS.
 - TABULATED WEIGHT AND CG IS FOR GENERATOR SET WITH NO OPTIONS.
 - REFER TO FEATURES OUTLINE DRAWING FOR HEATER LOCATION AND ELECTRICAL CONNECTIONS.
 - REFER TO FEATURE OUTLINE DRAWING FOR FUEL CONNECTION INFORMATION.
 - DIMENSION "A" SHOWN IS WITH PMG EXCITATION. SUBTRACT 26 MM DIM "A" FOR SHUNT EXCITATION.
 - FOR ENTRANCE BOX APPLICATIONS SEE APPLICABLE ENTRANCE BOX OUTLINE DRAWING.
 - OPTIONAL ENTRANCE BOX (NOT SHOWN) WILL BE MOUNTED ON THE RIGHT SIDE AS VIEWED FROM THE CONTROL.
 - OPTIONAL BREAKER BOX (NOT SHOWN) WILL BE MOUNTED ON THE LEFT SIDE AS VIEWED FROM THE CONTROL UNLESS OTHERWISE SPECIFIED.



**F179
SKID BASE-HOUSING READY
HOUSING NOT INCLUDED**

DO NOT SCALE PRINT		TOLERANCE UNLESS OTHERWISE SPECIFIED		DIM TO		DATE		CUMMINS POWER GENERATION	
mm	in	mm	in	mm	in	12-10-01	12-10-01	1400 79th AVE NE MINNEAPOLIS, MINNESOTA 55432	
0.00	0.00	0.00	0.00	0.00	0.00			TITLE GENSET_OUTLINE	
0.00	0.00	0.00	0.00	0.00	0.00			SITE CODE	
0.00	0.00	0.00	0.00	0.00	0.00			PGA	
0.00	0.00	0.00	0.00	0.00	0.00			0500_3447	
0.00	0.00	0.00	0.00	0.00	0.00			1 of 1	
0.00	0.00	0.00	0.00	0.00	0.00			D	



REL NO	LTR	NO	REVISION	ZONE	DR	CHKR	APPROVED	DATE
ECO-124803	K	1	ADDED DIM "D" NOTE 5"	A4	WGM	BJD	A.FELBER	01MAY12
		2	ADDED "HOUSING" REGION OF TABULATION		WGM	BJD	A.FELBER	01MAY12

- NOTE:
- DIMENSIONS SHOWN IN [] ARE INCHES.
 - HOUSING AND MUFFLER WEIGHT: 428 kg [943 lbs]
HOUSING AND MUFFLER (L999-2) WEIGHT: 432 kg [953 lbs]
 - HEIGHT INCREASE OF 14.6 [0.6] WHEN OPTIONAL SKID SOUND BARRIER IS USED.
 - THE CENTER OF GRAVITY (CG) OF THE GENERATOR SET WHEN EQUIPPED WITH THIS HOUSING SHIFTS APPROXIMATELY 77 [3.0] TOWARD RADIATOR END COMPARED TO THE EQUIVALENT NON-HOUSED PRODUCT WITH THE F179 SKID. SEE HOUSING READY SKID BASE OUTLINE DRG FOR CG LOCATION OF NON-HOUSED PRODUCT.
 - GGHF MODELS WITH E125-2 HIGH AMBIENT COOLING SYSTEM HAVE TWO FRONT DUCTS AND AN OVERALL LENGTH OF 3059 [120.4]
 - Ø20.7 [0.81] HOLES MARKED BY \triangle ARE FOR 4 POINT ISOLATION MOUNTING OR SECURING TO MOUNTING SURFACE.
 - Ø25.4 [1.0] HOLES MARKED BY \square ARE FOR SECURING TO MOUNTING SURFACE.

TABULATION				
SKID BASE	DIM A	DIM B	DIM C	
F179 (SHOWN)	1953 [76.9]	1823 [71.8]	224 [8.8]	
F176	2093 [82.4]	1963 [77.3]	364 [14.3]	
HOUSING	DIM A	DIM B	DIM C	DIM D
F173 (ALL EXCEPT GGHF WITH E125)	1953 [76.9]	1823 [71.8]	224 [8.8]	2578 [101.5]
F173 (GGHF WITH E125 ONLY)	1953 [76.9]	1823 [71.8]	224 [8.8]	3059 [120.4]

TOLERANCE UNLESS OTHERWISE SPECIFIED		DIM TO		ITEM PART NO		DESCRIPTION OR MATERIAL	
DO NOT SCALE PRINT							
ANG TOL ± 1.0							
DRAWN TO -1/8							
SCALE OF							

REL NO	LTR	NO	REVISION	OWN	CAD	APVD	DATE
ECO-136989	G	1	ADD IBC 2012 COLUMN TO REQUIREMENTS... DSFAA TABLE	JPR	RSN	NERAD	12AUG13
		2	ADD IBC 2012 COLUMN TO REQUIREMENTS... GGHE TABLE	JPR	RSN	NERAD	12AUG13
		3	ADD REQUIREMENTS... DGHCC, DGHCB, DGHCA TABLE	JPR	RSN	NERAD	12AUG13
		4	SEE SHEET 2	JPR	RSN	NERAD	12AUG13
		5	SEE SHEET 3	JPR	RSN	NERAD	12AUG13
		6	ADD SHEET 6	JPR	RSN	NERAD	12AUG13

REQUIREMENTS FOR GENSETS
DSFAE, DSFAD, DSFAC, DSFAB, DSFAA

PARAMETERS

IBC 2012	IBC 2009/2006	IBC 2009/2006	IBC 2003/2000	IBC 2003/2000
Sds<=2.28	Sds<=1.93	1.93<Sds<=2.28	Sds<=2.41	Sds<=2.46
Ip<=1.5	Ip<=1.5	Ip<=1.5	Ip<=1.5	Ip<=1.5
ap/Rp<=1.25	ap/Rp<=1.25	ap/Rp<=1.25	ap/Rp<=1.00	ap/Rp<=1.00
z/h<=1.00	z/h<=1.00	z/h<=0.77	z/h<=1.00	z/h<=0.97

REQUIREMENTS FOR GENSETS
DSKCA, DSKBA, DSKAB, DSKAA, GGHE, GGHH, GGHG, GGHF, GGHE

PARAMETERS

IBC 2012	IBC 2009	IBC 2006	IBC 2003	IBC 2000
Sds<=2.48	Sds<=2.28	Sds<=2.28	Sds<=2.46	Sds<=2.46
Ip<=1.5	Ip<=1.5	Ip<=1.5	Ip<=1.5	Ip<=1.5
ap/Rp<=1.25	ap/Rp<=1.25	ap/Rp<=1.25	ap/Rp<=1.00	ap/Rp<=1.00
z/h<=1.00	z/h<=1.00	z/h<=1.00	z/h<=1.00	z/h<=1.00

REQUIREMENTS FOR GENSETS
DSHAD, DSHAC, DSHAB, DGHE, DGHD, DGGD, GGLB, GGLA
GGMC, GGMB, GGMA, GGFE, GGFD, GGPA, GGPB, GGPC

PARAMETERS

IBC 2009	IBC 2006	IBC 2003	IBC 2000
Sds<=2.28	Sds<=2.28	Sds<=2.46	Sds<=2.46
Ip<=1.5	Ip<=1.5	Ip<=1.5	Ip<=1.5
ap/Rp<=1.25	ap/Rp<=1.25	ap/Rp<=1.00	ap/Rp<=1.00
z/h<=1.00	z/h<=1.00	z/h<=1.00	z/h<=1.00

REQUIREMENTS FOR GENSETS
DSGAA, DSGAB, DSGAC, DSGAD, DSGAE

PARAMETERS

IBC 2009/2006	IBC 2009/2006	IBC 2003/2000	IBC 2003/2000
Sds<=1.93	1.93<Sds<=2.28	Sds<=2.41	Sds<=2.46
Ip<=1.5	Ip<=1.5	Ip<=1.5	Ip<=1.5
ap/Rp<=1.25	ap/Rp<=1.25	ap/Rp<=1.00	ap/Rp<=1.00
z/h<=1.00	z/h<=0.77	z/h<=1.00	z/h<=0.97

REQUIREMENTS FOR GENSETS
DGHDA, DGHDB

PARAMETERS

IBC 2000, 2003, 2006, 2009, 2012
Sds<=1.93
Ip<=1.5
ap/Rp<=1.25
z/h<=1.00

REQUIREMENTS FOR GENSETS
DGHCC, DGHCB, DGHCA

PARAMETERS

IBC 2000, 2003, 2006, 2009, 2012
Sds<=2.48
Ip<=1.5
ap/Rp<=1.25
z/h<=1.00

SEISMIC INSTALLATIONS NOTES:

- THE DESIGN OF POST-INSTALLED ANCHORS IN CONCRETE USED FOR THE COMPONENT ANCHORAGE IS PRE-QUALIFIED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH "ACI 355.2" AND DOCUMENTED IN A REPORT BY A REPUTABLE TESTING AGENCY. (EX. THE EVALUATION SERVICE REPORT ISSUED BY THE INTERNATIONAL CODE COUNCIL)
- ANCHORS MUST BE INSTALLED TO AN EMBEDMENT DEPTH AS RECOMMENDED IN THE PER-QUALIFICATION TEST REPORT AS DEFINED IN NOTE 1. FOR "IBC 2000" AND "IBC 2003" APPLICATIONS, THE MINIMUM EMBEDMENT MUST BE 8X THE ANCHOR DIAMETER.
- ANCHORS MUST BE INSTALLED IN MINIMUM 4000 PSI COMPRESSIVE STRENGTH NORMAL WEIGHT CONCRETE. CONCRETE AGGREGATE MUST COMPLY WITH "ASTM C33". INSTALLATION IN STRUCTURAL LIGHTWEIGHT CONCRETE IS NOT PERMITTED UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
- ANCHORS MUST BE INSTALLED TO THE TORQUE SPECIFICATION AS RECOMMENDED BY THE ANCHOR MANUFACTURER TO OBTAIN MAXIMUM LOADING.
- ANCHORS MUST BE INSTALLED IN LOCATIONS SPECIFIED ON THIS INSTALLATION DRAWING.
- WIDE WASHERS MUST BE INSTALLED AT EACH ANCHOR LOCATION BETWEEN THE ANCHOR HEAD AND EQUIPMENT FOR TENSION LOAD DISTRIBUTION. WIDE WASHERS MUST BE SERIES "W" OF AMERICAN NATIONAL STANDARD TYPE "A" PLAIN WASHERS (ANSI B18.22.1-1965, R1975) WITH THE NOMINAL WASHER SIZE SELECTED TO MATCH THE SPECIFIED NOMINAL ANCHOR DIAMETER.
- CONCRETE FLOOR SLAB AND CONCRETE HOUSEKEEPING PADS MUST BE DESIGNED AND REBAR REINFORCED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH "ACI 318". THE DESIGN LOADS SHALL BE TAKEN AS THOSE PUBLISHED ON THIS CUMMINS INSTALLATION DRAWING.
- ALL HOUSEKEEPING PAD THICKNESSES MUST BE DESIGNED IN ACCORDANCE WITH THE PRE-QUALIFICATION TEST REPORT AS DEFINED IN NOTE 1 OR A MINIMUM OF 1.5X THE ANCHOR EMBEDMENT DEPTH, WHICHEVER IS LARGEST.
- ALL HOUSEKEEPING PADS MUST BE DOWELLED OR CAST INTO THE BUILDING STRUCTURAL FLOOR SLAB AND DESIGNED FOR SEISMIC APPLICATION PER "ACI 318" AND AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
- WALL MOUNTED EQUIPMENT MUST BE INSTALLED TO A REBAR REINFORCED STRUCTURAL CONCRETE WALL THAT IS SEISMICALLY DESIGNED AND APPROVED BY THE ENGINEER OF RECORD TO RESIST THE ADDED SEISMIC LOADS FROM COMPONENTS BEING ANCHORED TO THE WALL.
- FLOOR MOUNTED EQUIPMENT (WITH OR WITHOUT A HOUSEKEEPING PAD) MUST BE INSTALLED TO A REBAR REINFORCED STRUCTURAL CONCRETE FLOOR THAT IS SEISMICALLY DESIGNED AND APPROVED BY THE ENGINEER OF RECORD TO RESIST THE ADDED SEISMIC LOADS FROM COMPONENTS BEING ANCHORED TO THE FLOOR.
- WHEN INSTALLING TO A FLOOR OR WALL, REBAR INTERFERENCE MUST BE CONSIDERED.
- ATTACHING SEISMIC CERTIFIED EQUIPMENT TO ANY FLOOR OR WALL OTHER THAN THOSE CONSTRUCTED OF STRUCTURAL CONCRETE AND DESIGNED TO ACCEPT THE SEISMIC LOADS FROM SAID EQUIPMENT IS NOT PERMITTED BY THIS SPECIFICATION AND BEYOND THE SCOPE OF THIS CERTIFICATION.
- ATTACHING SEISMIC CERTIFIED EQUIPMENT TO ANY FLOOR CONSTRUCTED OF LIGHT WEIGHT CONCRETE OVER STEEL DECKING IS NOT PERMITTED BY THIS SPECIFICATION AND BEYOND THE SCOPE OF THIS CERTIFICATION.
- ATTACHING SEISMIC CERTIFIED EQUIPMENT TO ANY CONCRETE BLOCK WALLS OR CINDER BLOCK WALLS IS NOT PERMITTED BY THIS SPECIFICATION AND BEYOND THE SCOPE OF THIS CERTIFICATION.
- INSTALLATION UPON A ROOFTOP STEEL DUNNAGE SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER OF RECORD.
- INSTALLATION UPON ANY ROOFTOP CURB SHALL BE COORDINATED WITH THE CURB MANUFACTURER AND THE STRUCTURAL ENGINEER OF RECORD. ANY CURB OR CONCRETE PAD THAT SUPPORTS THE GENSET UNIT IS BEYOND THE SCOPE OF THIS CERTIFICATION.
- CONNECTIONS TO THE EQUIPMENT, INCLUDING BUT NOT LIMITED TO CONDUIT, WIRING FROM CABLE TRAYS, OTHER ELECTRICAL SERVICES, DUCTING, PIPING SUCH AS EXHAUST, STEAM, WATER, COOLANT, REFRIGERANT, FUEL, OR OTHER CONNECTIONS, ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND BEYOND THE SCOPE OF THIS DOCUMENT. TYPICAL REQUIREMENTS FOR THESE CONNECTIONS ARE STATED IN THE EQUIPMENT INSTALLATION MANUAL. SPECIAL CONSIDERATIONS FOR SEISMIC APPLICATIONS ARE AS FOLLOWS; CONNECTIONS TO NON-ISOLATED COMPONENTS OR EQUIPMENT MAY BE INSTALLED AS TYPICAL FOR THAT PARTICULAR APPLICATION. CONNECTIONS TO ISOLATED COMPONENTS (EX. BREAKER BOX BOLTED DIRECTLY TO AN ISOLATED GENSET) OR ISOLATED EQUIPMENT (EX. AN ENCLOSED GENSET MOUNTED ON EXTERNAL ISOLATORS) MUST BE FLEXIBLY ATTACHED. THE FLEXIBLE ATTACHMENT MUST PROVIDE FOR ENOUGH RELATIVE DISPLACEMENT TO REMAIN CONNECTED TO THE EQUIPMENT AND FUNCTIONAL DURING AND AFTER A SEISMIC EVENT.

-THIS IS A CONTROLLED ITEM-
PER CPG PROCEDURE PRE-1002

TO MAINTAIN COMPLIANCE WITH REQUIREMENTS OF THE CODES, STANDARDS, OR AGENCIES LISTED BELOW

IBC ASCE ACI AISC OTHER _____

CHANGES, REVISIONS, OR SUBSTITUTIONS OF MATERIAL, PROCESS, OR PERFORMANCE FOR THIS ITEM MUST BE APPROVED BY THE FOLLOWING CONTROLLED ITEM APPROVER:

RESPONSIBLE CIA ROLE: SEISMIC

RESPONSIBLE CIA ROLE: _____

RESPONSIBLE CIA ROLE: _____

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

FINISH	FINISH	FINISH
X ± 1	0.00- 4.99 +0.15/-0.08	10.00- 24.99 +0.25/-0.13
.X ± 0.8	5.00- 9.99 +0.20/-0.10	25.00- 49.99 +0.25/-0.13
.XX ± 0.38	10.00- 17.49 +0.25/-0.13	50.00- 99.99 +0.30/-0.13

ANG TOL: ± 1.0° SCALE: 1/1

SHEET NO: _____

DO NOT SCALE PRINT

DATE: 19MAR09

- CONFIDENTIAL -
PROPERTY OF CUMMINS POWER GENERATION GROUP

FOR INTERPRETATION OF DIMENSIONS AND TOLERANCING, SEE ASME Y14.5M-1994

OWN: G. WERNESS
CAD: W. LEHMANN
APVD: W. LEHMANN

CUMMINS POWER GENERATION
INSTALLATION, GENSET SEISMIC REQUIREMENTS

SHEET 1 OF 6
REV G

PGF
A029J530

REL NO	LTR	NO	REVISION	OWN	CAD	APVD	DATE
ECCO-136989	G	5	ADD (REFER TO...ANCHORAGE) TO ROWS 5, 6, 7, 8, 9, 15 & 16	JPR	RSN	NERAD	12AUG13

GRADE MOUNTED GENERATOR SETS


	CUMMINS GENSET MODEL	RANGE	CONFIGURATION	CONCRETE ANCHORS	ANCHOR EMBEDMENT	ANCHOR SPACING	DISTANCE TO THE NEAREST EDGE	CONCRETE SLAB THICKNESS
1	DSHAD, DSHAC, DSHAB	(0<Sds<=2.28)	SKID/TANK/ENCLOSURE	(QTY 4) 3/4" DIA. USP DUC34-500L CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	5" MIN. 127mm MIN.	15" MIN. 381mm MIN.	7.5" MIN. 190.5mm MIN.	7.5" MIN. 190.5mm MIN.
2	DSHAD, DSHAC, DSHAB	(0<Sds<=2.28)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
3	DSGAA, DSGAB, DSGAC	(0<Sds<=1.93)	SKID/TANK/ENCLOSURE	(QTY 4) 3/4" DIA. USP DUC34-500L CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	5" MIN. 127mm MIN.	15" MIN. 381mm MIN.	7.5" MIN. 190.5mm MIN.	7.5" MIN. 190.5mm MIN.
4	DSGAA, DSGAB, DSGAC, DSGAD, DSGAE	(0<Sds<=1.93)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. USP DUC34-500L CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	5" MIN. 127mm MIN.	15" MIN. 381mm MIN.	7.5" MIN. 190.5mm MIN.	7.5" MIN. 190.5mm MIN.
5	DSFAE, DSFAD, DSFAC, DSFAB, DSFAA, DGHE, DGHG, DGGD (REFER TO TABLE ON SHEET 6 FOR 2009/2012 IBC ANCHORAGE)	(0<Sds<=2.28)	SKID/TANK/ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
6	DSFAE, DSFAD, DSFAC, DSFAB, DSFAA, DGHE, DGHG, DGGD (REFER TO TABLE ON SHEET 6 FOR 2009/2012 IBC ANCHORAGE)	(0<Sds<=2.28)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
7	DSKCA, DSKBA, DSKAB, DSKAA (REFER TO TABLE ON SHEET 6 FOR 2009/2012 IBC ANCHORAGE)	(0<Sds<=2.28)	SKID/TANK/ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
8	DSKCA, DSKBA, DSKAB, DSKAA (REFER TO TABLE ON SHEET 6 FOR 2009/2012 IBC ANCHORAGE)	(0<Sds<=2.28)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
9	GGHJ, GGHG, GGGH, GGGH, GGHE (REFER TO TABLE ON SHEET 6 FOR 2009/2012 IBC ANCHORAGE)	(0<Sds<=2.28)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
10	GGFE, GGFD	(0<Sds<=2.28)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
11	GGMC, GGMB, GGMA, GGMD	(0<Sds<=2.28)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 5/8" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-1/8" MIN. 79.38mm MIN.	6-1/4" MIN. 158.75mm MIN.	7" MIN. 177.8mm MIN.	5" MIN. 127mm MIN.
12	GGLB, GGLA	(0<Sds<=2.28)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
13	GGPA, GGPB, GGPC	(0<Sds<=2.27)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 5/8" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-1/8" MIN. 79.38mm MIN.	39" MIN. 990.6mm MIN.	6" MIN. 152.4mm MIN.	6" MIN. 152.4mm MIN.
14	DSGAD, DSGAE	(0<Sds<=1.93)	SKID/TANK/ENCLOSURE	(QTY 6) 3/4" DIA. USP DUC34-500L CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	5" MIN. 127mm MIN.	15" MIN. 381mm MIN.	7.5" MIN. 190.5mm MIN.	7.5" MIN. 190.5mm MIN.
15	DGHDA, DGHDB (REFER TO TABLE ON SHEET 6 FOR 2009/2012 IBC ANCHORAGE)	(0<Sds<=1.93)	SKID/TANK/ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.
16	DGHDA, DGHDB (REFER TO TABLE ON SHEET 6 FOR 2009/2012 IBC ANCHORAGE)	(0<Sds<=1.93)	SKID WITH OR WITHOUT ENCLOSURE	(QTY 4) 3/4" DIA. HILTI KB-TZ CONCRETE ANCHORS THRU THE BASE RAIL MOUNTING HOLES.	3-3/4" MIN. 95.25mm MIN.	7.5" MIN. 190.5mm MIN.	10" MIN. 254mm MIN.	6" MIN. 152.4mm MIN.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		SIX 10	OWN G. WERNESS		CUMMINS POWER GENERATION	
DO NOT SCALE PRINT		APVD W. LEHMANN	INSTALLATION, GENSET		SHEET 3 OF 6	
X ± 1		0.00- 4.99 +0.15/-0.08	CAD W. LEHMANN	SEISMIC REQUIREMENTS		
.X ± 0.8		5.00- 9.99 +0.20/-0.10	DATE 19MAR09	SITE CODE		
.XX ± 0.38		10.00-17.49 +0.25/-0.13	- CONFIDENTIAL -		REV D	
ANG TOL: ± 1.0°		17.50-24.99 +0.30/-0.13	FOR INTERPRETATION OF DIMENSIONS AND TOLERANCING, SEE ASME Y14.5M-1994		PGF	
SCALE: 1/1		ALL	FIRST USED ON POWER GENERATION GROUP		REV G	

REL NO	LTR	NO	REVISION	OWN	CAD	APVD	DATE
ECO-136989	G	6	ADD SHEET 6	JPR	RSNR	NERADI	12AUG13

ANCHORAGE REQUIREMENT PER 2009/2012 IBC CERTIFICATION ONLY

SERIES	CONFIGURATION	GROUND LEVEL	ROOF LEVEL	CONCRETE ANCHORS	MINIMUM ANCHOR EMBEDMENT (IN)	MINIMUM ANCHOR SPACING (IN)	MINIMUM DISTANCE TO THE NEAREST EDGE (IN)	MINIMUM CONCRETE SLAB THICKNESS (IN)	CONCRETE ANCHORS	MINIMUM ANCHOR EMBEDMENT (IN)	MINIMUM ANCHOR SPACING (IN)	MINIMUM DISTANCE TO THE NEAREST EDGE (IN)	MINIMUM CONCRETE SLAB THICKNESS (IN)
GGHJ, GGHH, GGHG GGHF, GGHE	OPEN GENSET	2.48	2.48	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	3 3/4	7.5	8	6	(4) 3/4" DIA. HIT-HY 150 MAX-SD +HAS B7	8 1/2	30	14	14
	ENCLOSED GENSET	2.48	1.75	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	4 3/4	7.5	8	8	(4) 3/4" DIA. HIT-HY 150 MAX-SD +HAS	4 3/4	30	17	12
DSKCA, DSKBA DSKAB, DSKAA	OPEN GENSET	2.48	2.48	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	3 3/4	7.5	6	6	(4) 3/4" DIA. HIT-HY 200 HAS	6 1/4	7.5	8	8
	ENCLOSED GENSET	2.48	2.48	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	3 3/4	7.5	6	6	(4) 3/4" DIA. HIT-HY 200 HAS	11	15	14	14
	ENCLOSED GENSET WITH TANK	2.48	2.0	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	4 3/4	7.5	10	8	(4) 3/4" DIA. HIT-HY 150 +HAS B7	9 1/4	15	14	14
DGHCC, DGHCB DGHCA	OPEN GENSET	2.48	2.48	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	3 3/4	7.5	8	8	(4) 3/4" DIA. HIT-HY 150 MAX-SD +HAS	6 3/4	30	14	14
	ENCLOSED GENSET	2.48	2.48	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	4 3/4	7.5	8	8	(4) 3/4" DIA. HIT-HY 150 MAX-SD +HAS	9	30	17	14
	ENCLOSED GENSET WITH TANK	2.48	1.43	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	9	7.5	12	12	(4) 3/4" DIA. HIT-HY 150 MAX-SD +HAS	9	30	12	12
DGHDB, DGHDA	OPEN GENSET	1.93	1.93	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	3 3/4	7.5	8	8	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	4 3/4	30	8	8
	ENCLOSED GENSET	1.93	1.93	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	4 3/4	7.5	8	8	(4) 3/4" DIA. HIT-HY 200 MAX-SD +HAS	9	30	8	8
	ENCLOSED GENSET WITH TANK	1.93	1.25	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	6 3/4	7.5	14	14	(4) 3/4" DIA. HIT-HY 150 MAX-SD +HAS	9 3/4	30	14	14
DSFAE, DSFAD, DSFAC DSFAB, DSFAA	OPEN GENSET	2.28	2.28	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	3 3/4	7.5	6	6	(4) 3/4" DIA. HIT-HY 200 +HAS	10 3/4	30	14	14
	ENCLOSED GENSET	2.28	1.85	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	3 3/4	7.5	12	8	(4) 3/4" DIA. HIT-HY 150 +HAS	11 1/2	30	14	14
	ENCLOSED GENSET WITH TANK	2.28	1.4	(4) 3/4" DIA. HILTI KWIK BOLT TZ-CS	4 3/4	7.5	12	8	(4) 3/4" DIA. HIT-HY 150 MAX-SD +HAS B7	10	30	14	14

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		SIM 10	OWN G. WERNESS	 CUMMINS POWER GENERATION INSTALLATION, GENSET SEISMIC REQUIREMENTS
DO NOT SCALE PRINT		X ± 1 .X ± 0.8 .XX ± 0.38	0.00- 4.99 +0.15/-0.08 5.00- 9.99 +0.20/-0.10 10.00-17.49 +0.25/-0.13 17.50-24.99 +0.30/-0.13	
ANG TOL: ± 1.0°	SCALE: 1/1	- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP	W. LEHMANN W. LEHMANN 19MAR09	SITE CODE PGF D A029J530
		FOR INTERPRETATION OF DIMENSIONS AND TOLERANCING, SEE ASME Y14.5M-1994	FIRST USED ON ALL	SHEET 6 OF 6 REV G

Part A029J530 G

Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
INSTALLATION,GENSET	A029J530	IBC	Production Only	Production	Public	

Part Specifications :A029J530 G

Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A029J531	DRAWING,ENGINEERING	A029J531