Specification sheet



Spark-ignited generator set

20-40 kW Standby EPA emissions



Description

Cummins[®] generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary Standby applications.

Features

Gas engine - Rugged 4-cycle Cummins QSJ2.4 spark-ignited engine 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® 1.1 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance. **Cooling system** - Standard cooling package provides reliable running at up to 50°C (122°F) ambient temperature.

Enclosures - The aesthetically appealing enclosure incorporates special designs that deliver one of the quietest generators of its kind. Aluminium material plus durable powder coat paint provides the best anti-corrosion performance. The generator set enclosure has been evaluated to withstand 180 MPH wind loads in accordance with ASCE7-10. The intelligent design has removable panels and service doors to provide easy access for service and maintenance.

NFPA - The generator set 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.

	Natur	al gas	Propane Standby 60 Hz		
		ndby Hz			Data sheets
Model	kW	kVA	kW	kVA	60 Hz
C20 N6	20	25	20	25	NAD-5693-EN
C25 N6	25	31	25	31	NAD-5695-EN
C30 N6	30	38	30	38	NAD-5696-EN
C36 N6	36	45	36	45	NAD-5697-EN
C40 N6	40	50	40	50	NAD-5698-EN

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Generator set specifications

Governor regulation class	ISO8528 Part 1 Class G3*
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	Isochronous
Random frequency variation	± 0.25% @ 60 Hz
Radio frequency emissions compliance	Meets requirements of most industrial and commercial applications

* C36 N6 and C40 N6 are Class G2

Engine specifications

Design	Naturally aspirated or turbocharged (varies by generator set model)
Bore	86.5 mm (3.4 in.)
Stroke	100.0 mm (3.94 in.)
Displacement	2.4 L (143.5 in ³)
Cylinder block	Cast iron, in-line 4 cylinder
Battery capacity	550 amps at ambient temperature of 0°F to 32°F (-18°C to 0°C)
Battery charging alternator	50 amps
Starting voltage	12 volt, negative ground
Lube oil filter type(s)	Spin-on with relief valve
Standard cooling system	50 ° C (122 ° F) ambient cooling system
Rated speed	1800 rpm

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	120º C (248° F) Standby
Exciter type	Torque match (shunt) with EBS as option
Alternator cooling	Direct drive centrifugal blower
AC waveform Total Harmonic Distortion (THDV)	< 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

• 120/240	• 120/208	 120/240 delta 	• 277/480	• 347/600	

Generator set options

Fuel system

• Single fuel - natural gas or propane vapor, field selectable

3-phase

- Dual fuel natural gas and propane vapor auto changeover
- Low fuel gas pressure warning

Engine

- Engine air cleaner normal or heavy duty
- Shut down low oil pressure
- Extension oil drain

Alternator

- 120°C (248°F) temperature rise alternator
- 105°C (221°F) temperature rise alternator
- Excitation Boost System (EBS)
- PMG available on 36 kW and 40 kW
- Alternator heater, 120 V

Control

- AC output analog meters (bargraph)
- Stop switch emergency
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)

Electrical

- Single circuit breaker
- Dual circuit breakers
- 80% rated circuit breakers
- 100% rated circuit breakers

Enclosure

- Aluminium enclosure Sound Level 1 or Level 2, with muffler installed, sandstone or green color
- Open set

Cooling system

- Shutdown low coolant level
- Warning low coolant level
- Extension coolant drain
- Cold weather options:
- < 4° C (40° F) cold weather
 < -17° C (0° F) extreme cold weather

Exhaust system

Exhaust connector NPT

Generator set application

- Base barrier elevated generator set
- Battery rack, larger battery
- Radiator outlet duct adapter

Generator set options (continued)

Warranty

- Base warranty 2 year, 1000 hour, Standby
- Standby, 3 year, 1500 hour, parts
- Standby, 5 year, 2500 hour, parts
- Standby, 3 year, 1500 hour, parts and labor
- Standby, 5 year, 2500 hour, parts and labor
- Standby, 3 year, 1500 hour, parts, labor and travel
- Standby, 5 year, 2500 hour, parts, labor and travel

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

Generator set accessories

- Extreme cold weather kit
- · Battery rack, larger battery
- · Battery heater kit
- HMI211RS in-home display, including preconfigured 12-inch harness
- HMI211 remote display, including pre-configured 12-inch harness
- HMI220 remote display
- Auxiliary output relays (2)
- Auxiliary configurable signal
- inputs (8) and relay outputs (8)
- Annunciator RS485
- Remote monitoring device PowerCommand 500

Control system PowerCommand 1.1



PowerCommand control is an integrated generator set control system providing voltage regulation, engine protection, operator interface and isochronous governing (optional). Major features include:

- · Battery monitoring and testing features and smart starting control system.
- · Standard PCCNet interface to devices such as remote annunciator for NFPA 110 applications.
- Control boards potted for environmental protection.
- · Control suitable for operation in ambient temperatures from -40 °C to +70 °C (-40 °F to +158 °F) and altitudes to 5000 meters (13,000 feet).
- Prototype tested; UL, CSA, and CE compliant.
- InPower™ PC-based service tool available for detailed diagnostics.

Operator/display panel

- · Manual off switch
- Alpha-numeric display with pushbutton access for viewing engine and alternator data and providing setup, controls and adjustments (English or international symbols)
- LED lamps indicating generator set running, not in auto, common warning, common shutdown, manual run mode and remote start
- · Suitable for operation in ambient temperatures from -40 ℃ to +70 ℃
- Bargraph display (optional)

- Battery charger stand-alone, 12 V
- Circuit breakers
- Enclosure Sound Level 1 to Sound Level 2 upgrade kit
- Enclosure paint touch up kit
- Base barrier elevated generator set
- Mufflers industrial, residential or critical
- Alternator Excitation Boost System (EBS)
- PMG available on 36 kW and 40 kW
- Alternator heater
- Maintenance and service kit
- Engine lift kit

AC protection

- · Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- · Over excitation (loss of sensing) fault
- Field overload

Engine protection

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

Alternator data

- Line-to-Line and Line-to-Neutral AC volts
- 3-phase AC current
- Frequency
- Total kVa
- Engine data
- DC voltage
- Lube oil pressure
- Coolant temperature
- · Engine speed

Other data

- · Generator set model data
- · Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)

Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 2-phase Line-to-Line sensing
- Configurable torque matching

Control functions

- Time delay start and cooldown
- Cycle cranking
- PCCNet interface
- (2) Configurable inputs
- (2) Configurable outputs
- Remote emergency stop
- Automatic Transfer Switch (ATS) control
- Generator set exercise, field adjustable

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):

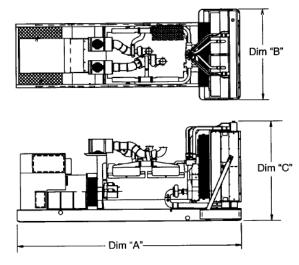
Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

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.

Options

- Auxiliary output relays (2)
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation available on 36 kW and 40 kW
- PowerCommand 500/550 for remote monitoring and alarm notification (accessory)
- Auxiliary, configurable signal inputs (8) and configurable relay outputs (8)
- Digital governing
- AC output analog meters (bargraph)
 - Color-coded graphical display of:
 - 3-phase AC voltage
 - 3-phase current
 - Frequency
 - kVa
- · Remote operator panel



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)			
	Open set							
C20 N6	1669 (65.7)	864 (34)	1123 (44.2)	423 (933)	440 (969)			
C25 N6	1669 (65.7)	864 (34)	1123 (44.2)	441 (972)	457 (1008)			
C30 N6	2225 (87.6)	864 (34)	1123 (44.2)	491 (1083)	508 (1119)			
C36 N6	2225 (87.6)	864 (34)	1123 (44.2)	520 (1146)	536 (1182)			
C40 N6	2225 (87.6)	864 (34)	1123 (44.2)	548 (1208)	564 (1244)			
	S	ound attenuate	d enclosure Level	1				
C20 N6	1829 (72)	864 (34)	1156 (45.5)	469 (1034)	485 (1070)			
C25 N6	1829 (72)	864 (34)	1156 (45.5)	487 (1073)	503 (1109)			
C30 N6	2388 (94)	864 (34)	1156 (45.5)	542 (1195)	558 (1231)			
C36 N6	:36 N6 2388 (94) 864 (34) 1156 (45.5)		571 (1258)	587 (1294)				
C40 N6	2388 (94)	864 (34)	1156 (45.5)	599 (1320)	615 (1356)			
	S	ound attenuate	d enclosure Level	2				
C20 N6	2073 (81.6)	864 (34)	1156 (45.5)	474 (1045)	490 (1081)			
C25 N6	2073 (81.6)	864 (34)	1156 (45.5)	492 (1084)	508 (1120)			
C30 N6	2626 (103.4)	864 (34)	1156 (45.5)	547 (1206)	563 (1242)			
C36 N6	2626 (103.4)	864 (34)	1156 (45.5)	576 (1269)	592 (1305)			
C40 N6	40 N6 2626 (103.4) 864 (34) 1156 (45.5) 604 (1331) 620		620 (1367)					

* Weights based on 1-phase generator set. Weights may vary with a different configuration.

Codes and standards

Codes or standards compliance may not be available with all model configurations - consult factory for availability.

1 <u>SO 9001</u>	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.		The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.
PP	The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.	U.S. EPA	Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60.
	All low voltage models are CSA certified to product class 4215-01.	International Building Code	The generator set is certified to International Building Code (IBC) 2012.

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.

For more information contact your local Cummins distributor or visit power.cummins.com



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Generator set data sheet



Model:	C25 N6
kW rating:	25.0 natural gas Standby
	25.0 propane Standby
Frequency:	60 Hz
Fuel type:	Natural gas/propane
Emissions level:	EPA emissions

	Natural gas			Propane				
	Standby			Standby				
Fuel consumption	kW (kVA)			kW (kVA)				
Ratings	25.0 (31.3)			25.0 (31.3)				
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
scfh	123.8	185.7	247.6	309.5	51.6	75.6	99.6	125.4
m³/hr	3.51	5.26	7.01	8.77	1.46	2.14	2.82	3.55

	Natural gas	Propane
Engine	Standby rating	Standby rating
Engine model	QSJ2.4	
Configuration	Cast iron, in-line 4 cylin	ıder
Aspiration	Naturally aspirated	
Gross engine power output, kW _m (bhp)	30 (40)	32 (43.5)
Bore, mm (in.)	86.5 (3.41)	·
Stroke, mm (in.)	100.0 (3.94)	
Rated speed, rpm	1800	
Compression ratio	9.5:1	
Lube oil capacity, L (qt)	4 (4.54)	
Overspeed limit, rpm	2250	

Fuel supply pressure

	Minimum operating pressure, kPa (in H ₂ O)	1.5 (6.0)	
-	Maximum operating pressure, kPa (in H ₂ O)	3.2 (13.0)	

	Natural gas	Propane
Air	Standby rating	Standby rating
Combustion air, m ³ /min (scfm)	1.5 (51.8)	1.3 (46.5)
Maximum air cleaner restriction, kPa (in H ₂ O)	1.24 (5.0)	
Alternator cooling air, m ³ /min (scfm)	N/A	

Exhaust

Exhaust flow at rated load, m ³ /min (cfm)	5.3 (188.1)	4.6 (165.3)
Exhaust temperature, °C (°F)	618 (1145)	628 (1162)
Exhaust back pressure (maximum allowable at engine), kPa (in H_2O)	5.0 (20)	5.0 (20)
Exhaust back pressure (actual with factory fitted muffler), kPa (in H_2O)	1.75 (7)	

Standard set-mounted radiator cooling

Ambient design, °C (°F)	50 (122)
Fan load, kW (HP)	0.74 (1.0)
Coolant capacity (with radiator), L (US gal)	12 (3.1)
Cooling system air flow, m ³ /min (scfm)	60.2 (2150)
Maximum cooling air flow static restriction, kPa (in H ₂ O)	0.12 (0.5)

Weights²

Teights	
Unit dry weight kgs (lbs)	483 (1067)
Unit wet weight kgs (lbs)	500 (1103)

Notes: ¹For non-standard remote installations contact your local Cummins representative. ²Weights represent a set with 1-phase with sound level 1 enclosure.

Alternator data

Standard alternators		Natural gas/ propane single phase table	Natural gas/propane three phase table						
Maximum temperature ris 40 ℃ ambient	se above	120 ℃	120 ℃	120 ℃					
Feature code		B949-2	B986-2	B946-2	B943-2	B952-2			
Alternator data sheet number		ADS-571	ADS-571	ADS-571	ADS-571	ADS-571			
Voltage ranges		120/240	120/240	20/240 120/208 27		347/600			
Voltage feature code		R104-2	R106-2	R098-2	R002-2	R114-2			
Surge kW		24.4/26.7	24.8/27.1	24.8/27.1	24.8/27.1	24.8/27.1			
Motor starting kVA (at 90% sustained voltage)	Shunt	57	59	59	59	59			
	EBS	93	94	94	94	94			
Full load current amps at Standby rating	104	75	87	38	30				

Optional alternators for ir motor starting capability	nproved	Natural gas/ propane single phase table	Natural gas/propane three phase table					
Maximum temperature ris	se above		105 °C 105 °C 105 °C 105 °					
Feature code			BB94-2	BB93-2	BB95-2	BB92-2		
Alternator data sheet number			ADS-574	ADS-574	ADS-574	ADS-574		
Voltage ranges			120/240	120/208	277/480	347/600		
Voltage feature code			R106-2	R098-2	R002-2	R114-2		
Surge kW			24.9/27.2	24.9/27.2	24.9/27.2	24.9/27.2		
Motor starting kVA (at 90% sustained voltage)	Shunt		71	71	71	71		
	EBS		113	113	113	113		
Full load current amps at Standby rating		75	87	38	30			

Derating factors

Standby	Natural gas: Engine power available up to 0 m (0 ft) at ambient temperatures up to 25 °C (77 °F). Above these elevations derate at 4% per 305 m (1000 ft) and 2% per 10 °C above 25 °C (77 °F).
Standby	<u>Propane</u> : Engine power available up to 114 m (375 ft) at ambient temperatures up to 25 $^{\circ}$ C (77 $^{\circ}$ F). Above these elevations derate at 4% per 305 m (1000 ft) and 2% per 10 $^{\circ}$ C above 25 $^{\circ}$ C (77 $^{\circ}$ F).

Ratings definitions

Emergency Standby	Limited-Time Running	Prime Power (PRP):	Base Load (Continuous)
Power (ESP):	Power (LTP):		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
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Single phase output

kW x 1000	kW x SinglePhaseFactor x 1000
Voltage x 1.73 x 0.8	Voltage

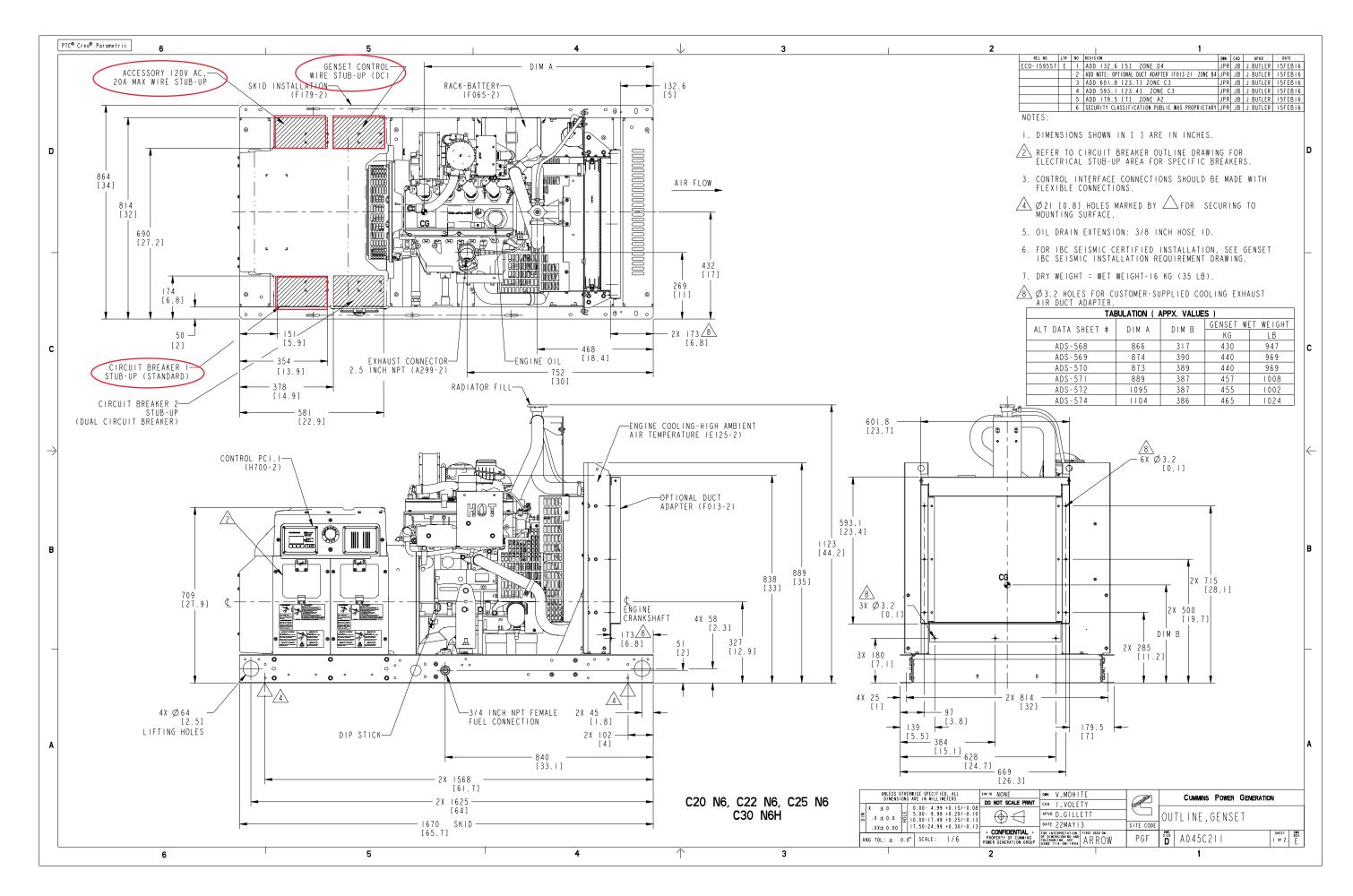
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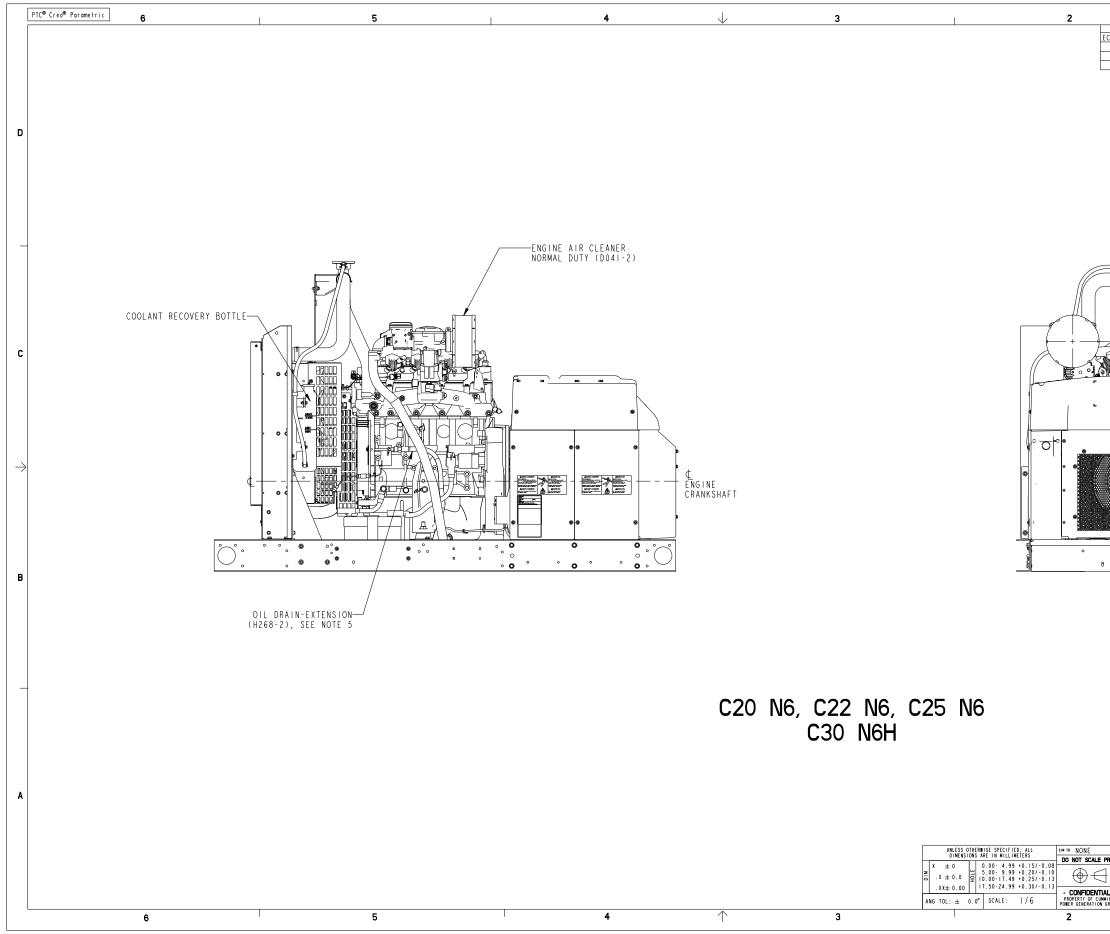
For more information contact your local Cummins distributor or visit power.cummins.com



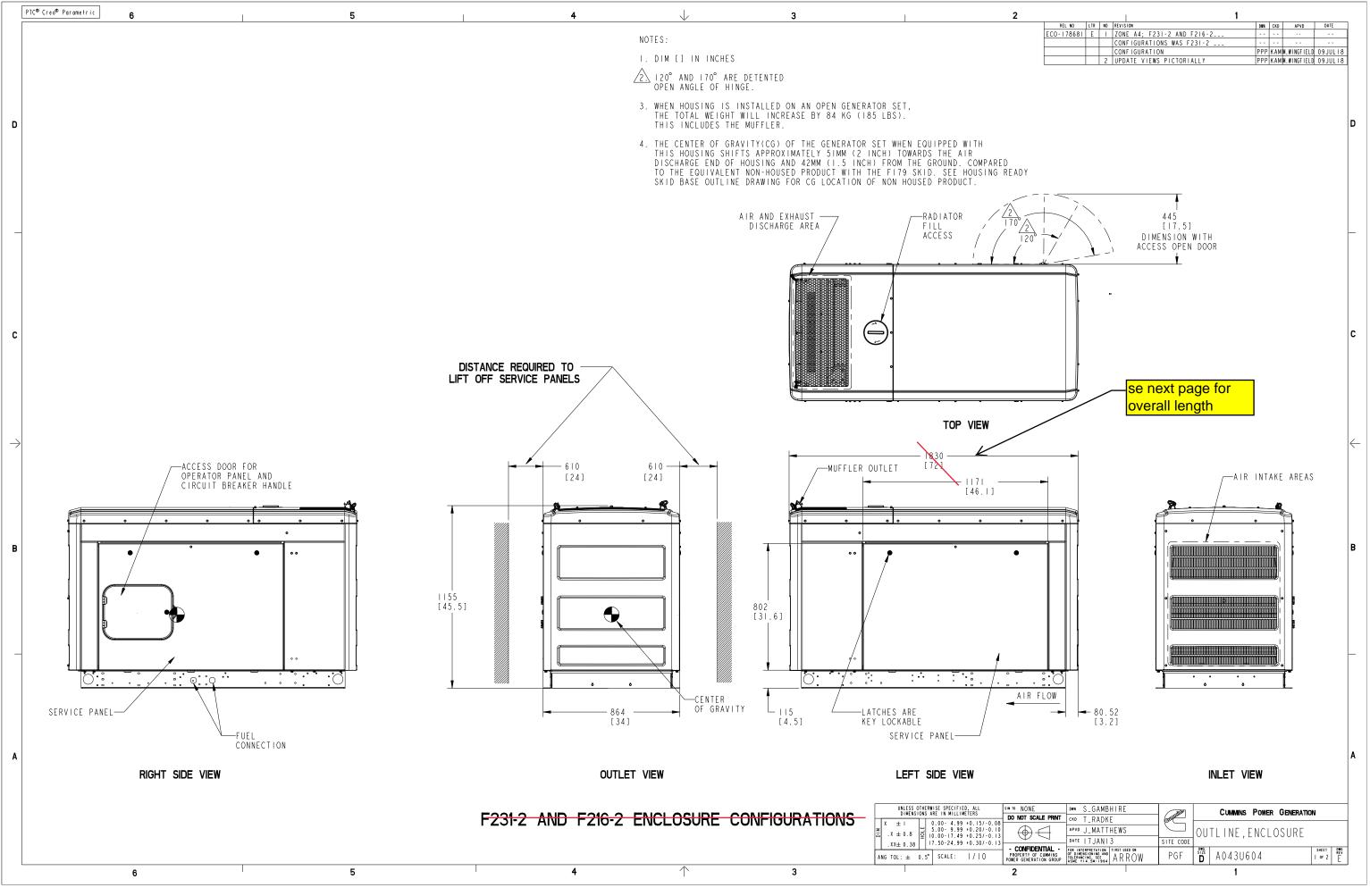
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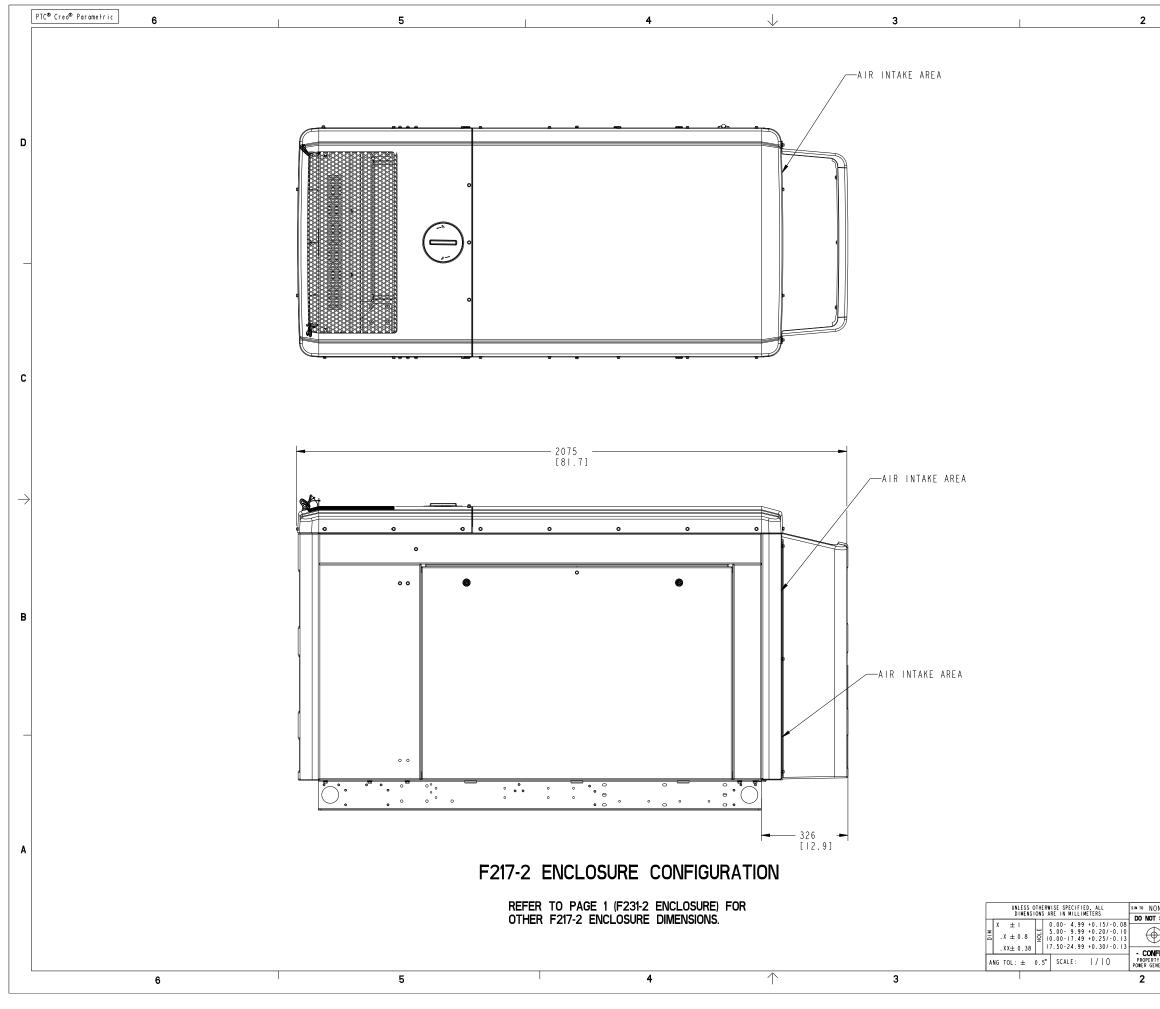




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