

**PREPURCHASED GENERATOR
EQUIPMENT SUBMITTAL
ROLLS ROYCE MTU 200kW**



Diesel Generator Set

mtu 6R0120 DS200

200 kWe/60 Hz/Standby/208 - 600V

Reference **mtu 6R0120 DS200** (180 kWe) for Prime Rating Technical Data

System ratings

Voltage (L-L)	240V †	240V †	208V †	240V †	380V †	480V †	600V
Phase	1	1	3	3	3	3	3
PF	1	1	0.8	0.8	0.8	0.8	0.8
Hz	60	60	60	60	60	60	60
kW	200	200	200	200	200	200	200
kVA	200	200	250	250	250	250	250
Amps	833	833	694	601	380	301	241
skVA@30% voltage dip	268	366	433	433	373	577	512
Generator model	432CSL6210	432PSL6228	431CSL6206	431CSL6206	431CSL6208	431CSL6206	431PSL6243
Temp rise	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C
Connection	12 LEAD DOUBLE DELTA	4 LEAD	12 LEAD WYE	12 LEAD DELTA	12 LEAD WYE	12 LEAD WYE	4 LEAD WYE

† UL 2200 offered

Certifications and standards

- Emissions
 - EPA Tier 3 certified
 - South Coast Air Quality Management District (SCAQMD)
- Generator set is designed and manufactured in facilities certified to standards ISO 9001:2008 and ISO 14001:2004
- Seismic certification – optional
 - 2021 IBC certification
 - HCAI pre-approval
- Power rating
 - Accepts rated load in one step per NFPA 110
- UL 2200 – optional (refer to System ratings for availability)
- CSA – optional
 - CSA C22.2 No. 100
 - CSA C22.2 No. 14
- CE marking provided
- Performance Assurance Certification (PAC)
 - Generator set tested to ISO 8528-5 for transient response
 - Verified product design, quality and performance integrity
 - All engine systems are prototype and factory tested

Standard features*

- Single source supplier
- Global product support
- Two (2) Year/3,000 Hour Basic Limited Warranty
- OM926LA diesel engine
 - 7.2 liter displacement
 - 4-cycle
- Engine-generator resilient mounted
- Complete range of accessories
- Cooling system
 - Integral set-mounted
 - Engine-driven fan
- Generator
 - Brushless, rotating field generator
 - 2/3 pitch windings
 - 300% short circuit capability with optional Permanent Magnet Generator (PMG)
- Digital control panel(s)
 - UL recognized, CSA certified, NFPA 110
 - Complete system metering
 - LCD display

Standard equipment*

Engine

- Air cleaners
- Oil pump
- Oil drain extension and shut-off valve
- Full flow oil filter
- Fuel filter with water separator
- Jacket water pump
- Thermostat
- Blower fan and fan drive
- Radiator - unit mounted
- Electric starting motor - 12V
- Governor - electronic isochronous
- Base - formed steel
- SAE flywheel and bell housing
- Charging alternator - 12V
- Battery box and cables
- Flexible fuel connectors
- Flexible exhaust connection
- EPA certified engine

Generator

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting
- Self-ventilated and drip-proof
- Superior voltage waveform
- Solid state, volts-per-hertz regulator
- $\pm 1\%$ voltage regulation no load to full load
- Brushless alternator with brushless pilot exciter
- 4 pole, rotating field
- 130 °C maximum standby temperature rise
- 1-bearing, sealed
- Flexible coupling
- Full amortisseur windings
- 125% rotor balancing
- 3-phase voltage sensing
- 100% of rated load - one step
- 5% maximum total harmonic distortion

Digital control panel(s)

- Digital metering
- Engine parameters
- Generator protection functions
- Engine protection
- SAE J1939 Engine ECU Communications
- Windows®-based software
- Multilingual capability
- Communications to remote annunciator
- Programmable input and output contacts
- UL recognized, CSA certified, CE approved
- Event recording
- IP 54 front panel rating with integrated gasket
- NFPA 110 compatible

Application data

Engine

Manufacturer	Mercedes-Benz
Model	OM926LA
Type	4-cycle
Arrangement	6-inline
Displacement: L (in ³)	7.2 (439)
Bore: cm (in)	10.6 (4.17)
Stroke: cm (in)	13.6 (5.35)
Compression ratio	17.5:1
Rated rpm	1,800
Engine governor	MR2 / CPC4-ECAN
Maximum power: kWm (bhp)	247 (331)
Steady state frequency band	± 0.25%
Air cleaner	dry

Liquid capacity

Total oil system: L (gal)	29 (7.7)
Engine jacket water capacity: L (gal)	10 (2.6)
System coolant capacity: L (gal)	24.1 (6.4)

Electrical

Electric volts DC	12
Cold cranking amps under -17.8 °C (0 °F)	950
Batteries: group size	31
Batteries: quantity	1

Fuel system

Fuel supply connection size	-6 JIC
Fuel supply hose size	3/8" ID
Fuel return connection size	-6 JIC
Fuel return hose size	3/8" ID
Maximum fuel lift: m (ft)	2.6 (8.5)
Recommended fuel	diesel #2
Total fuel flow: L/hr (gal/hr)	330.5 (87.3)

Fuel consumption*

At 100% of power rating: L/hr (gal/hr)	55.3 (14.6)
At 75% of power rating: L/hr (gal/hr)	40.5 (10.7)
At 50% of power rating: L/hr (gal/hr)	26.5 (7)

* Based on 431CSL6206 480 volt generator set

Cooling - radiator system

Ambient capacity of radiator: °C (°F)	50 (122)
Maximum restriction of cooling air:	
intake and discharge side of radiator: kPa (in. H ₂ O)	0.12 (0.5)
Water pump capacity: L/min (gpm)	143 (37)
Heat rejection to coolant: kW (BTUM)	95.5 (5,431)
Heat rejection to air to air: kW (BTUM)	55.3 (3,145)
Heat radiated to ambient: kW (BTUM)	40.8 (2,322)
Fan power: kW (hp)	15.6 (22.1)

Air requirements

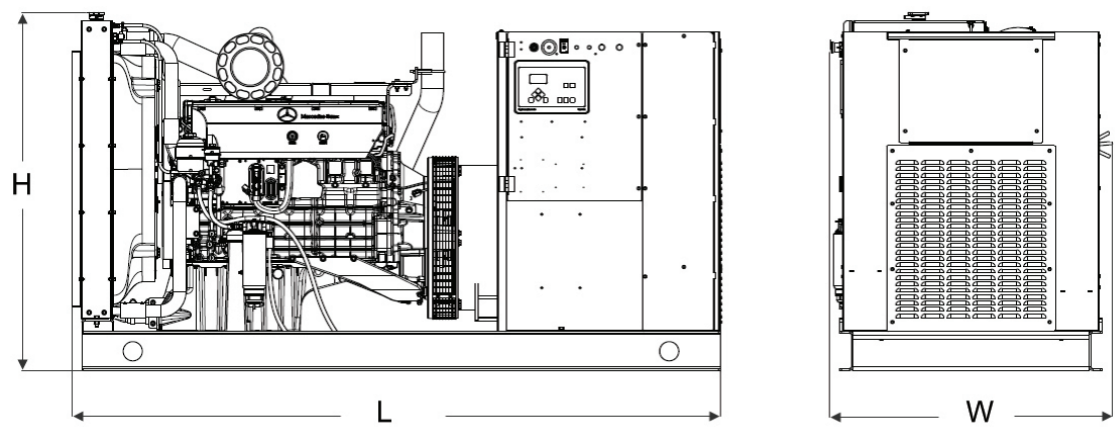
Aspirating: *m ³ /min (SCFM)	14.8 (523)
Air flow required for radiator	
cooled unit: *m ³ /min (SCFM)	408 (14,408)
Remote cooled applications; air flow required for	
dissipation of radiated generator set heat for a	
maximum of 25 °F rise: *m ³ /min (SCFM)	149.2 (5,269)

* Air density = 1.184 kg/m³ (0.0739 lbm/ft³)

Exhaust system

Gas temperature (stack): °C (°F)	520 (968)
Gas volume at stack temperature: m ³ /min (CFM)	44.8 (1,582)
Maximum allowable back pressure at	
outlet of engine, before piping: kPa (in. H ₂ O)	10.5 (42)

Weights and dimensions



Drawing above for illustration purposes only, based on standard open power 480 volt generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

8.46' X 3.675'X 4.66'

System	Dimensions (L x W x H)	Weight
Open Power Unit (OPU)	2,580 x 1,121 x 1,422 mm (101.6 x 44.1 x 56 in)	1,632-2,120 kg (3,598-4,674 lb)

Weights and dimensions are based on open power units and are estimates only. Consult the factory for accurate weights and dimensions for your specific generator set.

Sound data

Unit type	Standby full load
Level 0 (OPU): dB(A)	88.9

Sound data is provided at 7 m (23 ft). Generator set tested in accordance with ISO 8528-10 and with infinite exhaust.

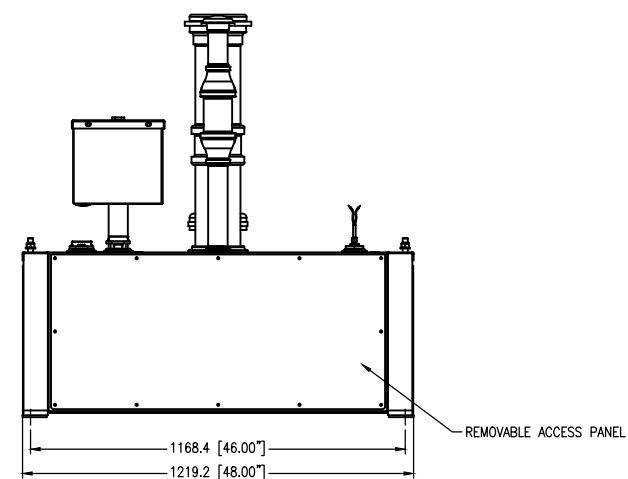
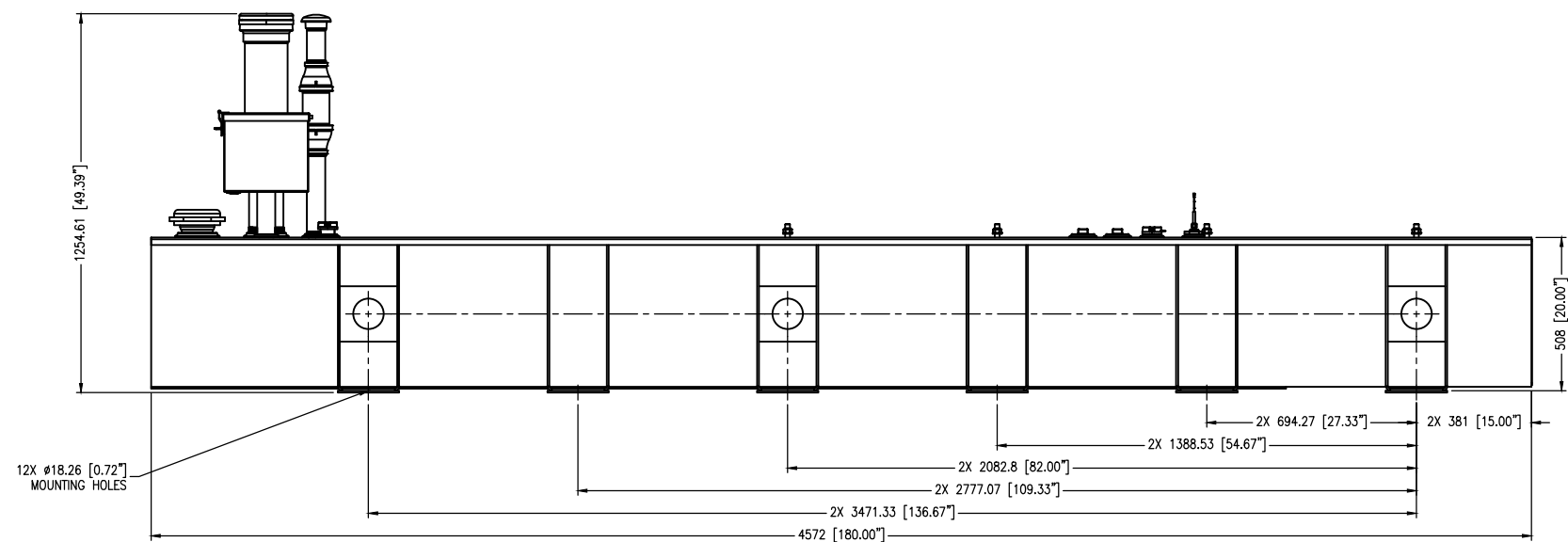
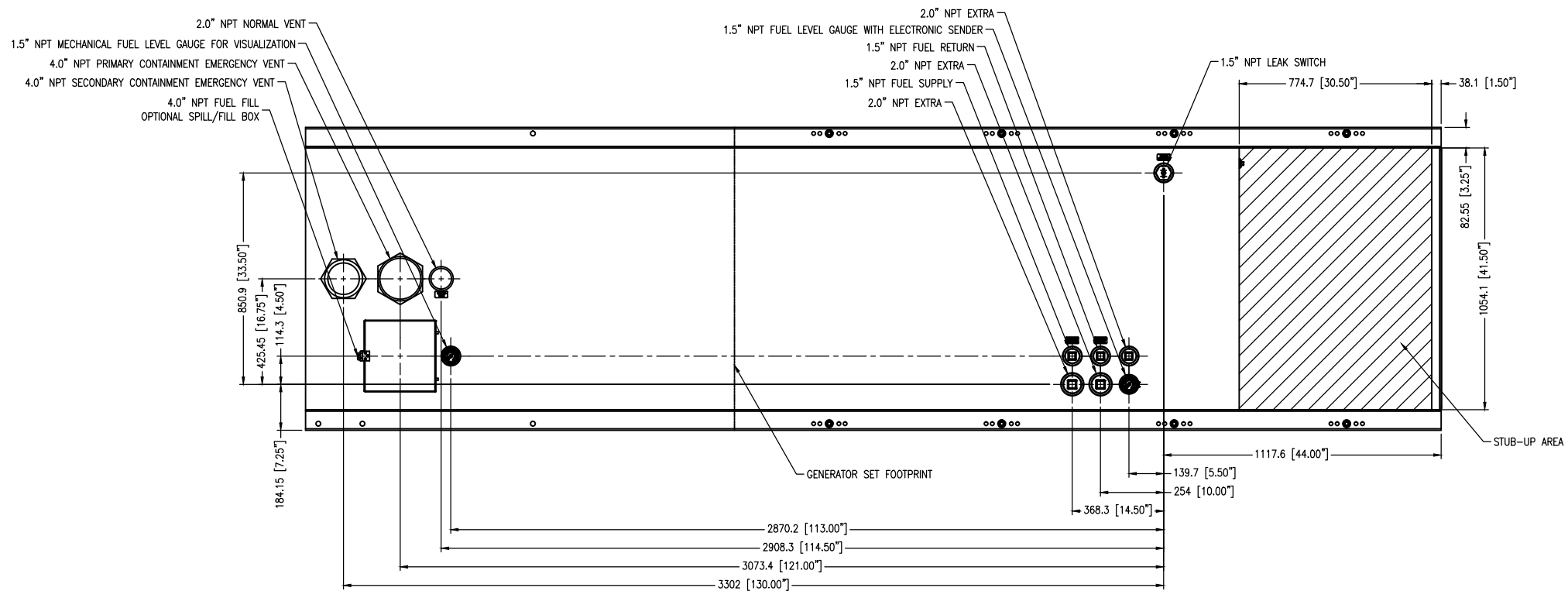
Emissions data

NO _x + NMHC	CO	PM
3.93	1.2	0.06

— All units are in g/hp-hr and shown at 100% load (not comparable to EPA weighted cycle values). Emission levels of the engine may vary with ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data was obtained in compliance with US EPA regulations. The weighted cycle value (not shown) from each engine is guaranteed to be within the US EPA standards.

Rating definitions and conditions

- Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO 3046-1, BS 5514, and AS 2789. Average loadfactor: ≤ 85%.
- Nominal ratings at standard conditions: 25 °C and 300 meters (77 °F and 1,000 feet).
- Deration factor:
 - Consult your local **mtu** Distributor for altitude derations.
 - Consult your local **mtu** Distributor for temperature derations.



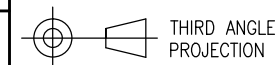
B	2020-04-03	UPDATE TITLE BLOCK
A	2019-08-28	MOUNTING HOLE WIDTH CHANGED FROM 45" TO 46"
REVISION	DATE	DESCRIPTION



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APPLICABLE MODELS:

MTU 6R0120 DS150
 MTU 6R0120 DS180
 MTU 6R0120 DS200



DRAWN TO SCALE
 DIMENSIONS: MM [INCH]

DATE CREATED:
 2018-02-08

DIMENSIONAL LAYOUT

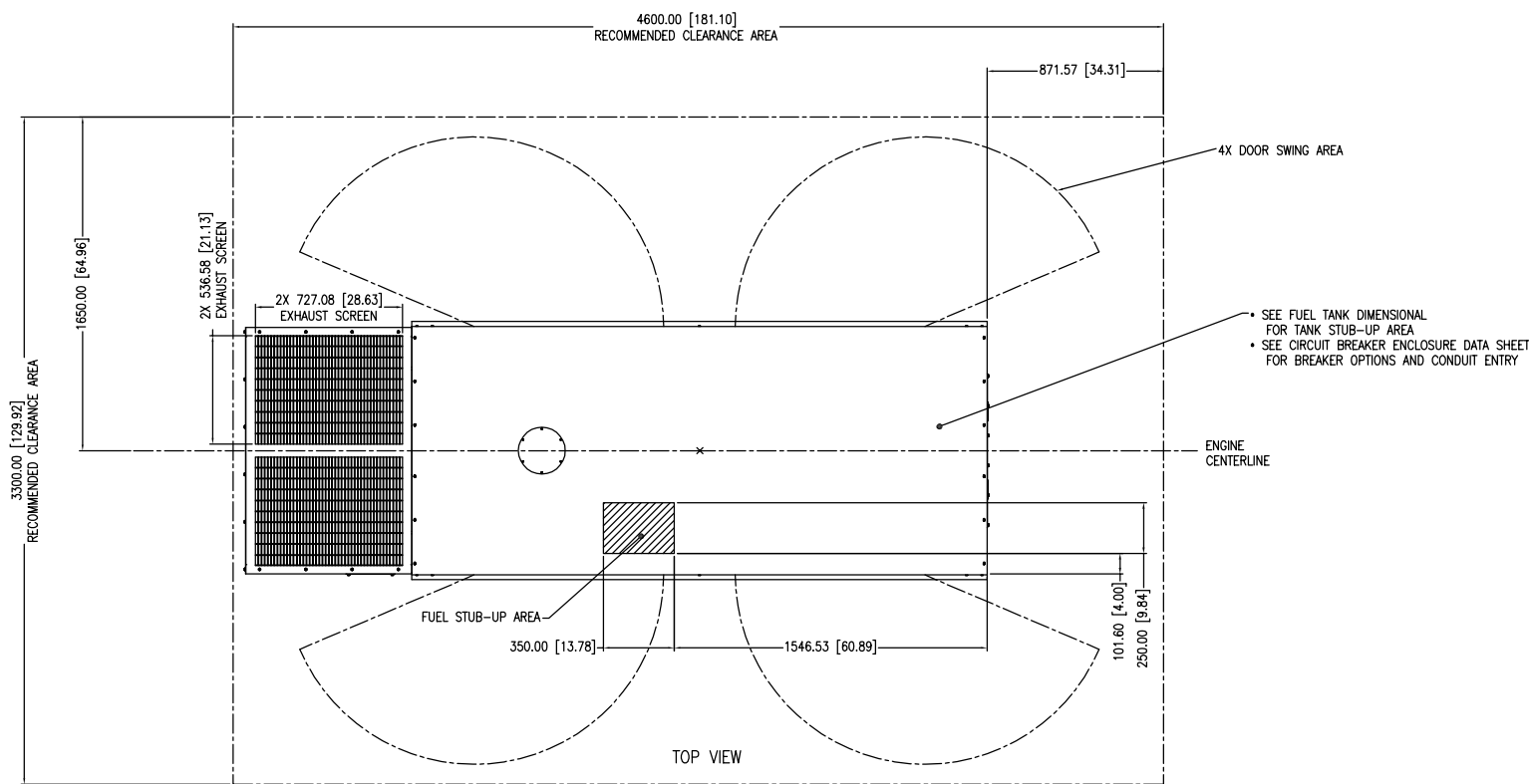
DESCRIPTION:
 150-200kW 24Hr 400Gal IBC Extended Tank

ENGINE:
 Mercedes, OM926

DRAWING NUMBER:
 XZG2100100047

WEIGHT (MIN-MAX):
 952 KG
 2099 LB

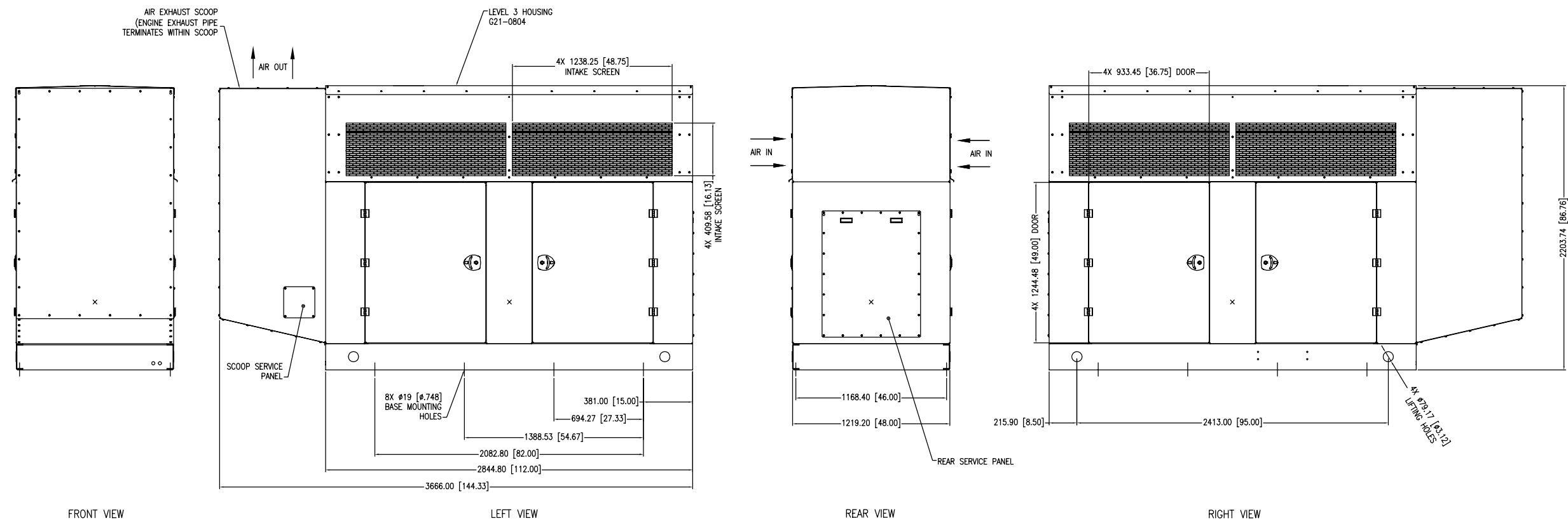
SHEET:
 9 of 11



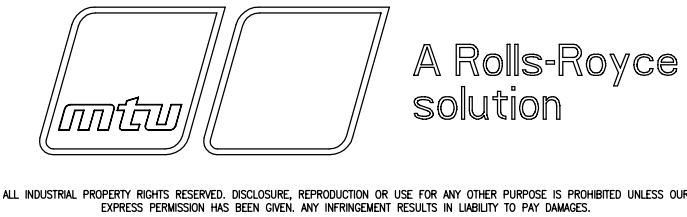
DRAWING OPTIONS 150–200 kW OM926		
Group	Drawing Code	Description
Housing Options, Exterior	G21–0803	Level 1 & 2 Housing
	G21–0804	Level 3 Housing w/ Exhaust Scoop
	G21–0806	Air Exhaust Gravity Louver
Housing Options, Interior	G21–0902	Air Intake Motorized Louver
	G21–0903	Interior Housing Lights

Reference the Drawing Options table and within the Layer Properties turn on/off the Drawing Codes that may or may not apply to your configuration.

Note: Some options may not be referenced. Only options which visibly change the drawing are selectable



REVISION	DATE	DESCRIPTION
C	2020-04-03	UPDATED TITLE BLOCK
B	2019-03-27	ADDED INTAKE SCREEN, EXHAUST SCREEN, & DOOR DIMENSIONS
A	2018-12-27	CHANGED WEIGHT TO BE CUMULATIVE GENSSET W/ HOUSING



APPLICABLE MODELS:		THIRD ANGLE PROJECTION		DIMENSIONAL LAYOUT	
MTU 6R0120 DS150 MTU 6R0120 DS180 MTU 6R0120 DS200		DRAWN TO SCALE DIMENSIONS: MM [INCH]		DESCRIPTION: 150–200 kW Genset, Housing	
DATE CREATED: 2015-10-13		DRAWING NUMBER: XZG2100100040		ENGINE: Mercedes, OM926	WEIGHT (MIN-MAX): 1496–2935 KG 3298–6469 LB
				SHEET: 1 of 1	

NOTICE TO CUSTOMERS: MSHS is not a small business as a result of an acquisition in Feb. 2021. For any inquiries, please contact Andrew.Blumstein@mshs.com.

Bill To: C200078
 CITY OF CAMAS
 616 NE 4th Ave
 Camas WA 98607-2165
 USA

Sold To: JUSTIN MONSRUD
 CAMAS CITY HALL GENERATOR
 1620 SE 8th Ave
 Camas WA 98607-2285
 USA

Invoice Number: 514513
Date of Issue: 3/24/2025
Service Order: SR00104697
Customer PO: 00024089
Prepared By: smogel@pacificpowergroup.com
Payment Terms: NET 30 DAYS
Delivery/Inco Terms:
Installation Name:
Currency Code: USD US Dollar
From: Pacific Power Group, LLC
 7215 S. 228th St
 Kent WA 98032

SRO	Customer PO	Ship Via	Terms
SR00104697	00024089	Best Choice	NET 30 DAYS

Line: 1	Serial Number:	N/A	
	Item: MTOMTU6R0120DS200	Qty: 1.00	
	CI:	UM: EA	
	Description: MTU DIESEL GENERATOR		
Oper: 42	Description: DG06RN120A3N, SN 95130502746		
1			82,713.14
Line: 2	Serial Number:	N/A	
	Item: TATS Automatic Transfer Switch	Qty: 1.00	
	CI:	UM: EA	
	Description: Dual Purpose Docking Station		
Oper: 42	Description: 800A, DSNA241200006307		
2			61,611.76

Invoice Sales Amount: 144,324.90
Net Amount: 144,324.90
Misc Charges: 0.00
Freight: 0.00
Sales Tax: 12,267.62
Prepaid Amount: 0.00
Invoice Total: 156,592.52

Beneficiary: City National Bank of Florida, Pacific
 Power Group
 5900 N ANDREWS AVE STE 850
 FT LAUDERDALE FL 33131

Checks To: Pacific Power Group, LLC
 c/o City National Bank of Florida
 PO Box 526904
 Miami FL 33152-6904

Bank Transit Number: 066004367
Account Number: 30000483535
SWIFT Code: CNBFUS3M

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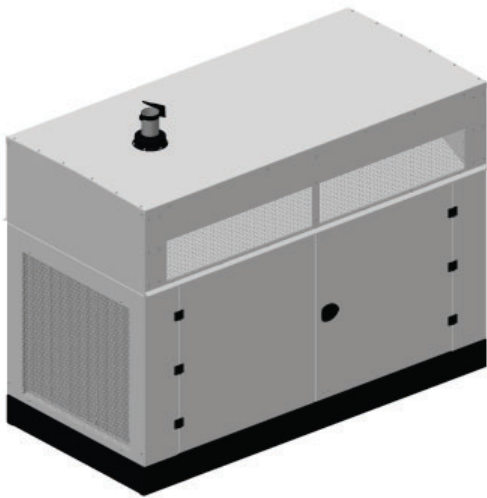
Terms and Conditions of Sales and Service

This transaction is governed by and subject to seller's Terms and Conditions of Sale and Service (the 'Terms and Conditions') of Pacific Power Group, LLC - Company ('Seller') that are in effect as of the date of this invoice. The Terms and Conditions are available online at www.pacificpowergroup.com/terms, and they are incorporated in full by this reference and made a part of this transaction. Customer acknowledges that Customer has read the Terms and Conditions. By purchasing goods and/or services from Seller, Customer agrees to be bound by the Terms and Conditions that are set forth on Seller's website; Customer's payment for and acceptance of the products and/or services described in this invoice will confirm Customer's acceptance of the Terms and Conditions. Upon Customer's request, Seller will provide Customer with a hard copy of the Terms and Conditions.

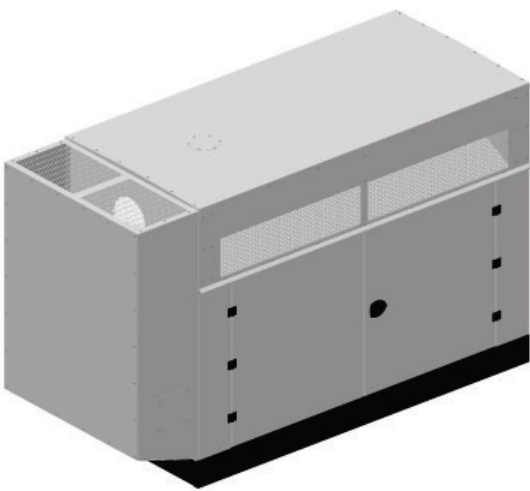


Enclosure and Sound Data Sheet - Diesel, Open Field

60 Hz: 80-200 kW Standby / 72-180 kW Prime



Level 1 Enclosure (pictured)*



Level 3 Enclosure (pictured)*

Enclosure Level Identification

Level 1	Skid-mounted weather-protective enclosure constructed of heavy gauge steel or aluminum with fixed stormproof panels designed for 195 mph wind load rating. Enclosure consists of a bolted and welded construction with unit-mounted internal silencer. Hinged, lockable double-door access on both sides of the enclosure.
Level 2	Level 1 enclosure with UL 94 HF-1 compliant, 1.5" thick sound attenuated foam insulation installed inside enclosure walls.
Level 3	Level 2 enclosure with air exhaust scoop. UL 94 HF-1 compliant, 1.5" thick sound attenuated foam insulation installed in scoop.

CERTIFICATIONS AND STANDARDS

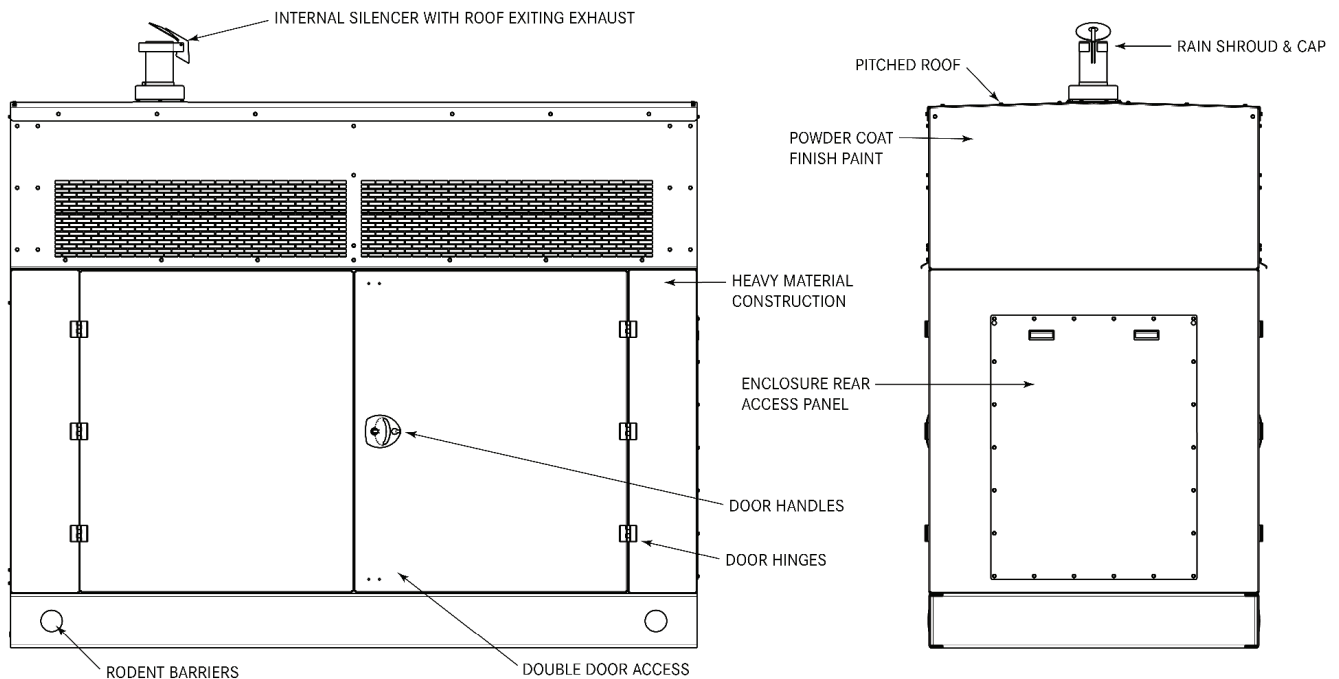
- UL 2200
- CE Marking Provided
- CSA C22.2 No. 100
- CSA C22.2 No. 14
- High Velocity Hurricane Zone (HVHZ)
 - Miami Dade NOA
- Florida Building Code
- IBC Wind

Enclosure and Sound Data Sheet - Diesel, Open Field

60 Hz: 80-200 kW Standby / 72-180 kW Prime

STANDARD FEATURES FOR ALL LEVELS

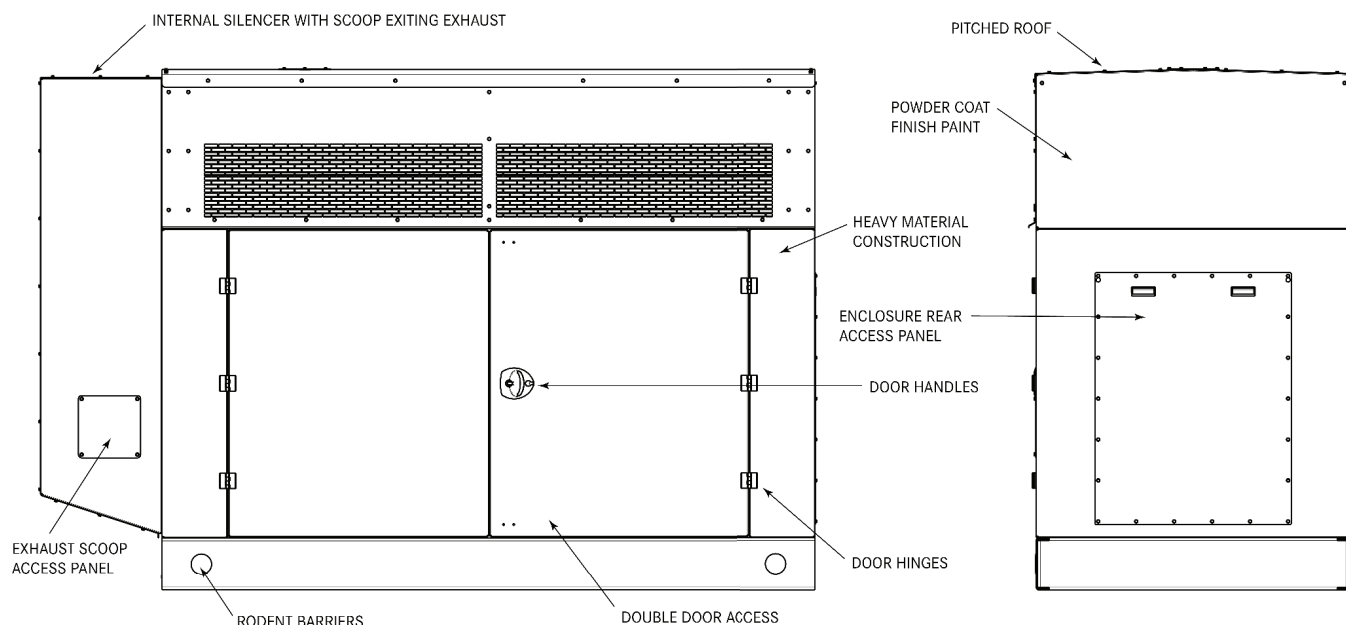
- Heavy material construction
 - Steel enclosure: 1.9 mm (0.075 in) - 14 gauge or greater thickness
 - Aluminum enclosure: 2.3 mm (0.09 in) or greater thickness
- 195 mph wind rating
- Service access
 - Double door access gives ease of service to all components
- Pitched roof
- Rain shroud
- Rain cap (Level 1 and 2 only)
- Rodent barriers
- Exhaust scoop access panel and drain
- Hardware
 - Powder coated hinges with stainless steel pins
 - Key-lockable and pad-lockable powder coated door handles
- Powder coat finish paint: RAL 7001 Silver Grey standard
 - Custom colors available upon request
- Internal silencer (Hospital Grade)
 - Insulated silencer
 - Stainless steel flexible exhaust connections (where applicable)



Level 1 Enclosure (pictured)*

Enclosure and Sound Data Sheet - Diesel, Open Field

60 Hz: 80-200 kW Standby / 72-180 kW Prime



Level 3 Enclosure (pictured)*

OPTIONAL FEATURES

- Door restraints
- LED light package
- Enclosure space heater
- Motorized intake louvers
- Distribution panel
- Gravity exhaust louvers
- For other custom options, please consult factory.

OPTIONAL HIGH VELOCITY HURRICANE ZONE (HVHZ) ENCLOSURE

- TAS 201-94 (impact test procedures)
 - Level E = 9 lbs at 80 ft/sec
- TAS 202-94 (static air pressure)
 - Static testing up to 153 pounds per square foot (psf)
- TAS 203-94 (cyclic pressure loading)
 - Cyclical tests up to ± 126 psf over 671 cycles
- ASTM E72-15 (racking strength test)
- Simulated 195 mph wind at Exposure D
- Meets Florida Building Code (FBC) Section 1626 requirements

Enclosure and Sound Data Sheet - Diesel, Open Field

60 Hz: 80-200 kW Standby / 72-180 kW Prime

ENGINE EXHAUST SOUND RATINGS dB(A) AT 1 METER

OPU SOUND RATINGS dB(A) AT 1 METER

ENCLOSURE SOUND RATINGS dB(A) AT 7 METERS

Application	Model	Power Node	1 Meter		7 Meters		
			Engine Exhaust ⁽¹⁾	OPU ⁽²⁾	Level 1	Level 2	Level 3
60 Hz Standby	<i>mtu</i> 4R0120 DS80	80 kW	105.2	93.6	82.2	81.5	73.7
	<i>mtu</i> 4R0120 DS100	100 kW	108.3	93.6	82.2	81.3	74.4
	<i>mtu</i> 4R0120 DS125	125 kW	112.4	93.8	82.2	81.8	74.5
	<i>mtu</i> 6R0120 DS150	150 kW	109.1	99.6	91.2	88.4	72.8
	<i>mtu</i> 6R0120 DS180	180 kW	110.8	99.6	91.2	88.7	73
	<i>mtu</i> 6R0120 DS200	200 kW	111.5	99.7	91.2	88.7	73.1
Application	Model	Power Node	Engine Exhaust ⁽¹⁾	OPU ⁽²⁾	Level 1	Level 2	Level 3
60 Hz Prime	<i>mtu</i> 4R0120 DS80	72 kW	104.4	93.9	82	81.7	73.6
	<i>mtu</i> 4R0120 DS100	90 kW	106.7	94.2	82.1	81.8	74.1
	<i>mtu</i> 4R0120 DS125	111 kW	110.0	94.2	82.7	81.8	74.4
	<i>mtu</i> 6R0120 DS150	135 kW	108.8	99.5	91.1	88.7	72.5
	<i>mtu</i> 6R0120 DS180	163 kW	109.7	99.6	91.1	88.7	72.7
	<i>mtu</i> 6R0120 DS200	180 kW	110.8	99.6	91.1	88.7	73

⁽¹⁾ Undampened engine exhaust noise

⁽²⁾ Measurement with infinite exhaust connection

NOTE:

- Measurements include exhaust noise.
- Aluminum enclosure sound levels are approximately 2 dB(A) higher than listed sound levels for steel enclosures.
- For installation within 50 miles of the coast, aluminum enclosures are recommended to prevent accelerated corrosion.
- Sound pressure levels subject to environment, instrumentation, measurement, installation, and generator set variability.
- Generator set is tested on level ground without spring isolators installed.
- Sound power levels per ISO 8528-10 and ANSI S1.13-2005
- Sound data measured with:
 - Full-rated load
 - Standard radiator package

* Note: Visual appearance may differ between power nodes.