

# JAHH-65B-R3B



8-port sector antenna, 2x 698–787, 2x 824-894 and 4x 1695–2360 MHz, 65° HPBW, 3x RET and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB(Port 5).

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Color</b>	Light gray
<b>Effective Projective Area (EPA), frontal</b>	0.28 m <sup>2</sup>   3.014 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.24 m <sup>2</sup>   2.583 ft <sup>2</sup>
<b>Grounding Type</b>	RF connector body grounded to reflector and mounting bracket
<b>Performance Note</b>	Outdoor usage   Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
<b>Radome Material</b>	Fiberglass, UV resistant
<b>Radiator Material</b>	Aluminum   Low loss circuit board
<b>Reflector Material</b>	Aluminum
<b>RF Connector Interface</b>	4.3-10 Female
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, high band</b>	4
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	8

## Remote Electrical Tilt (RET) Information, General

<b>RET Interface</b>	8-pin DIN Female   8-pin DIN Male
<b>RET Interface, quantity</b>	2 female   2 male

## Dimensions

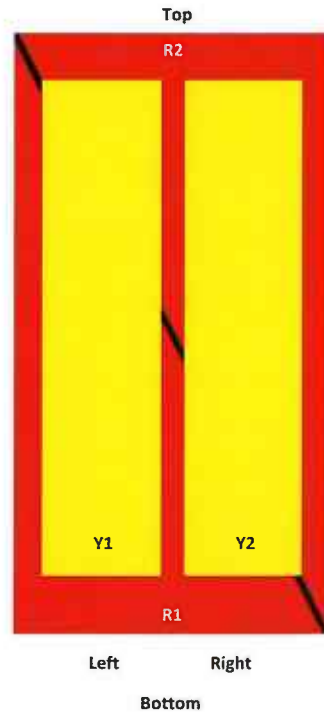
<b>Width</b>	350 mm   13.78 in
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# JAHH-65B-R3B

**Length** 1828 mm | 71.969 in  
**Depth** 208 mm | 8.189 in

## Array Layout

JAHH-65A-R3B JAHH-65B-R3B JAHH-65C-R3B



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-788	1-2	1	ANXXXXXXXXXXXXX1
R2	824-894	3-4	2	ANXXXXXXXXXXXXX2
Y1	1695-2360	5-6	3	ANXXXXXXXXXXXXX3
Y2	1695-2360	7-8		

View from the front of the antenna  
 (Sizes of colored boxes are not true depictions of array sizes)

## Electrical Specifications

**Impedance** 50 ohm  
**Operating Frequency Band** 1695 – 2360 MHz | 698 – 787 MHz | 824 – 894 MHz  
**Polarization** ±45°

## Remote Electrical Tilt (RET) Information, Electrical

**Protocol** 3GPP/AISG 2.0 (Single RET)  
**Power Consumption, idle state, maximum** 2 W

# JAHH-65B-R3B

Power Consumption, normal conditions, maximum	13 W
Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1   Port 5
Internal RET	High band (1)   Low band (2)

## Electrical Specifications

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	15.8	18	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	30	30	30	30
VSWR   Return loss, dB	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50° C, maximum, watts	200	200	300	300	300	250

## Electrical Specifications, BASTA

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0.5	±0.6
Gain by Beam Tilt, average, dBi	2°   14.3 8°   14.3 14°   14.3	2°   15.0 8°   14.9 14°   15.4	0°   17.2 5°   17.6 10°   17.6	0°   17.6 5°   18.2 10°   18.2	0°   17.7 5°   18.3 10°   18.3	0°   17.9 5°   18.7 10°   18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24

# JAHH-65B-R3B

CPR at Sector, dB                      11                      12                      11                      11                      11                      8

## Mechanical Specifications

<b>Wind Loading at Velocity, frontal</b>	301.0 N @ 150 km/h   67.7 lbf @ 150 km/h
<b>Wind Loading at Velocity, lateral</b>	254.0 N @ 150 km/h   57.1 lbf @ 150 km/h
<b>Wind Loading at Velocity, maximum</b>	143.4 lbf @ 150 km/h   638.0 N @ 150 km/h
<b>Wind Speed, maximum</b>	241 km/h   149.75 mph

## Packaging and Weights

<b>Width, packed</b>	456 mm   17.953 in
<b>Depth, packed</b>	357 mm   14.055 in
<b>Length, packed</b>	1975 mm   77.756 in
<b>Net Weight, without mounting kit</b>	29.2 kg   64.375 lb
<b>Weight, gross</b>	42.5 kg   93.696 lb

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CHINA-ROHS	Above maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant/Exempted



## Included Products

BSAMNT-3 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

## \* Footnotes

**Performance Note**                      Severe environmental conditions may degrade optimum performance

# C-band 64T64R

## Gen 2

Gen 2 : Higher conducted power radio with reduced size/volume/weight vs Gen 1 and also SOC embedded for flexibility to support new features



※ Preliminary Design: External appearance and mechanical design can be subject to change

Gen 2. 64T64R C-band MMU Dimensions	
Size (WxHxD)	400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)
Weight	26kg (57.3 lb)

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 – 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	20(HW ready)/40/60/80/100 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80.5 dBm @320W (55 dBm + 25.5 dBi)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @(1Rx, 18.36MHz with 30kHz,51RBs)
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (WHD)	<b>400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)</b>
Volume	<b>41.1L</b>
Weight	<b>26kg (57.3 lb)</b>
Operating Temperature	-40°C - 55°C (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 38.104
	FCC 47 CFR 27.53 : < -13dBm/MHz
	< -40 dBm/MHz @ above 4 GHz < -50 dBm /MHz @ 4,040 ~ 4,050 MHz, < -60 dBm /MHz @ above 4,050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI



# AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER  
FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code RF4439d-25A



Homepage  
[samsungnetworks.com](http://samsungnetworks.com)

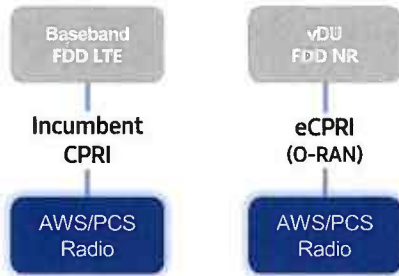


Youtube  
[www.youtube.com/samsung5g](http://www.youtube.com/samsung5g)

# Points of Differentiation

## Continuous Migration

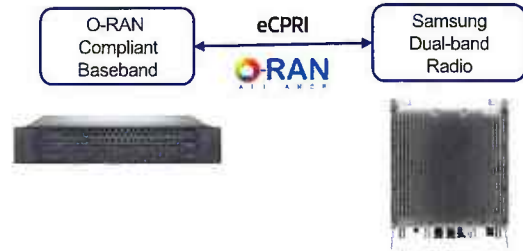
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



## O-RAN Compliant

A standardized O-RAN radio can help in implementing cost-effective networks, which are capable of sending more data without compromising additional investments.

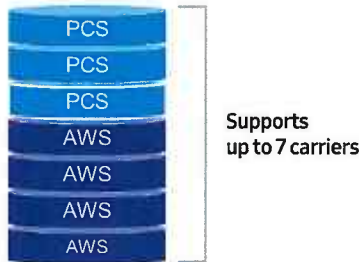
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



## Optimum Spectrum Utilization

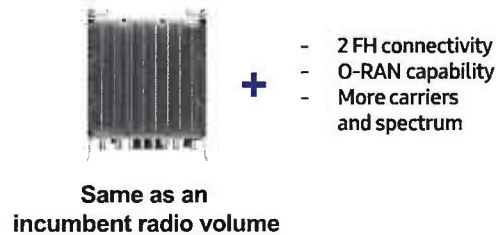
The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

The new AWS/PCS dual-band radio can support up to 3 carriers in the PCS (1.9GHz) band and 4 carriers in the AWS (2.1GHz) band, respectively.



## Brand New Features in a Compact Size

Samsung's AWS/PCS macro radio offers several features, such as dual connectivity for baseband for both CDU and vDU, O-RAN capability, more carriers and an enlarged PCS spectrum, combined into an incumbent radio volume of 36.8L.



# Technical Specifications

Item	Specification
Tech	LTE/NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

# 700/850 4T4R Macro 320W ORU - New Filter (RF4461d-13A)

SAMSUNG

## Specifications



Item	Specification
Air Interface	LTE, NR (HW resource ready)
Band	Band13 (700MHz) Band5 (850MHz)
Frequency	DL: 746~756MHz DL: 869~894MHz UL: 777~787MHz UL: 824~849MHz
IBW	10MHz 25MHz
OBW	10MHz 25MHz
Carrier Bandwidth	LTE/NR 5*/10MHz LTE 5/10MHz NR 5/10/15/20MHz
# of carriers	2C*
Total # of carriers	4C + B13 (SDL) 1C
RF Chain	4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector Total : 320W
RF Output Power	4 x 40W or 2 x 60W 4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support
RX Sensitivity	Typ. -104.5dBm @1Rx (25RBs 5MHz)
Modulation	256QAM support (1024QAM with 1~2dB power back-off)
Input Power	-48VDC (-38VDC to -57VDC)
Power Consumption	1,165 Watt @ 100% RF load, room temperature
Size (WHD)	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)
Volume	37.5 L
Weight (W/o Solar Shield & finger guard)	35.9 kg (79.1 lb)
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 3GPP 36.104 FCC 47 CFR 27.53 c) f) FCC 47 CFR 22.917 -69 dBm/100 kHz per path @ 896 ~901MHz
CPRI Cascade	Not supported
Optic Interface	20km 2 ports (9.8Gbps x 2) SFP+ single mode Duplex (Option: Bi-di)
RET & TMA Interface	AISG 3.0
Bias-T	4 ports (2 ports per band)
Mounting Options	Pole wall
NB-IoT	2GB+2IB or 4IB 2SA+2GB or 2GB+2IB or 4GB
PIM Cancellation	Support
# of antenna port	4
External Alarm	4
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)
CPRI compression	Not Support

\* 5MHz supporting in B13(700MHz) depends on 3GPP std. and UE capability.  
External filters in interferer and victim sides for Mexican boarder to support 5MHz service need to be considered  
\*\* Finger guard is not needed.

## HYBRID CABLE



HUBER+SUHNER's hybrid cable combine optical fiber and DC power, are highly flexible and easy-to-route. Two rip cords between the shielding and the jacket allows a quick stripping of the jacket. The shielding, a copper foil under the jacket and the drain wire maintain contact throughout the cable run and allow potential equalisation and a safe installation with regard to lightning strikes.

### HYBRID CABLE SPECIFICATIONS

		<b>LSFH(TM) hybrid cable, global market</b>	<b>UL listed hybrid cable, US market</b>
Jacket material		thermoplastic, low smoke, halogen free (LSFH(TM))	PVC
Standard		IEC 60502-1:2004-04	UL 1277, TC-OF-ER
Temperature range	in service installation	-40 to +75 °C -10 to +50 °C	-40 to +75 °C -10 to +50 °C
Operating voltage		48 Vdc	48 Vdc
Rated voltage		10 × cable Ø 8 × cable Ø	12 × cable Ø 10 × cable Ø
Conductors		6 mm <sup>2</sup> , 10 mm <sup>2</sup> 16 mm <sup>2</sup>	AWG 10, 8, 6
Drain wire		6 mm <sup>2</sup> , 10 mm <sup>2</sup> class 2	AWG 6 class B
Cable shielding		copper foil 100 % coverage (contacted with drain wire)	copper foil 100 % coverage (contacted with drain wire)



Fiber optic	5 mm loose-tube cable with up to 36 single mode fibers	5 mm loose-tube cable with up to 36 single mode fibers
Halogen free	yes	no
Flame retardant	IEC 60332-1-2:2004	UL 1685 (UL 1581) vertical tray flame test (70 000 BTU/hr)
UV resistant	IEC 60068-2-5	UL1581

**DO YOU HAVE A QUESTION?**



**CONTACT US**



**SG050NA | 4.5L | 50 kW**  
**INDUSTRIAL SPARK-IGNITED GENERATOR SET**  
 EPA Certified Stationary



**Standby Power Rating**  
 50 kW, 63 kVA, 60 Hz

**Demand Response Rating**  
 50 kW, 63 kVA, 60 Hz

**Prime Power Rating**  
 45 kW, 56 kVA, 60 Hz

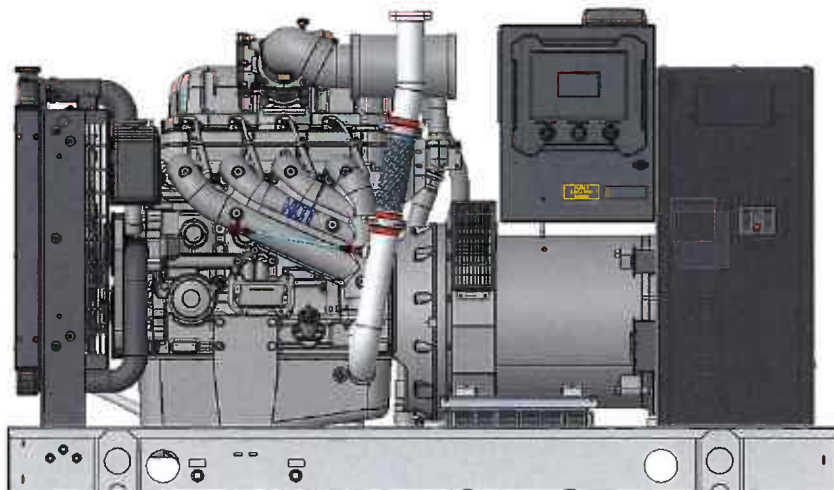


Image used for illustration purposes only

**Codes and Standards**

Not all codes and standards apply to all configurations. Contact factory for details.

-   UL2200, UL6200, UL1236, UL489
-  CSA C22.2
-   BS5514 and DIN 6271
-  SAE J1349
-  NFPA 37, 70, 99, 110
-  NEC700, 701, 702, 708
-  ISO 3046, 7637, 8528, 9001
-  NEMA ICS10, MG1, 250, ICS6, AB1
-  ANSI C62.41
-  IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

**Powering Ahead**

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

# SG050NA | 4.5L | 50 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary

**GENERAC®** | **INDUSTRIAL**  
POWER

### STANDARD FEATURES

#### ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Critical Silencer
- Oil Temperature Sender with Alarm
- Air Filter Restriction Indicator

#### Fuel System

- Fuel Line - NPT Connection
- Primary and Secondary Fuel Shutoff

#### Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

#### Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

#### ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearing
- Full Load Capacity Alternator

#### GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)

#### ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

#### CONTROL SYSTEM

##### Power Zone Pro® Controller

- NFPA 110 Level 1 Compliant
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, and Ethernet 10/100
- Alarm and Event Logging with Real Time Stamping
- Expandable Analog and Digital Inputs and Outputs
- Remote Wireless Software Update Capable
- Wi-Fi, Bluetooth, BMS, and Remote Telemetry
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Programmable I/O Channel Properties
- Built-In Diagnostics

#### Alarms and Warnings

- High/Low Oil Pressure
- High/Low Coolant Level
- High/Low Coolant Temperature
- Sender/Sensor Failure
- High/Low Oil Temperature
- Over Total kW
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over Current
- High/Low Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I<sup>2</sup>T Algorithm)

#### 4.3 Inch Color Touch Screen Display

- Resistive Color Touch Screen
- Easily Identifiable Icons
- Multi-Lingual
- On Screen Editable Parameters
- Key Function Monitoring
- Three Phase Voltage, Amperage, kW, kVA, and kVAR
- Selectable Line to Line or Line to Neutral Measurements
- Frequency
- Engine Speed
- Engine Coolant Temperature
- Engine Oil Pressure
- Engine Oil Temperature
- Battery Voltage
- Hourmeter
- Warning and Alarm Indication
- Diagnostics
- Maintenance Events/Information

## CONFIGURABLE OPTIONS

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### ENGINE SYSTEM

- Heater with Shutoff Valves
- Fluid Containment Pan
- Engine Coolant Heater
- Oil Heater
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Radiator Duct Adapter (Open Set Only)

### ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

### ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

### CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- 3rd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

## ENGINEERED OPTIONS

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### CONTROL SYSTEM

- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

### GENERATOR SET

- Demand Response Rating
- Extended Factory Testing (3-Phase Only)
- 8 Position Load Center

### ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Enclosure Heaters

### CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- 10A Run Relay
- Ground Fault Indication and Protection Functions
- 120V GFCI and 240V Outlets
- 100 dB Alarm Horn

### WARRANTY (Standby Gensets Only)

- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

### GENERATOR SET

- Special Testing
- Battery Box

# SG050NA | 4.5L | 50 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary



### APPLICATION AND ENGINEERING DATA

#### ENGINE SPECIFICATIONS

##### General

Make	Generac
Cylinder #	4
Type	In-Line
Displacement - in <sup>3</sup> (L)	275.0 (4.5)
Bore - in (mm)	4.5 (114.0)
Stroke - in (mm)	4.25 (107.95)
Compression Ratio	9.94:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	5
Connecting Rods	Forged Steel, Fractured Split, Bushingless
Cylinder Head	Cast Iron
Cylinder Liners	Cast Iron
Ignition	Coil Near Plug Solid State Inductive
Piston Type	Cast Aluminum Flat Top
Crankshaft Type	Forged Steel
Lifter Type	Hydraulic
Intake Valve Material	Stainless Steel
Exhaust Valve Material	Stainless Steel
Hardened Valve Seats	High Steel Iron Alloy

##### Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

##### Lubrication System

Oil Pump Type	Gear Driving
Oil Filter Type	Full-Flow Spin-On Cartridge
Crankcase Capacity - qt (L)	21 (20)

##### Cooling System

Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed - RPM	2,100
Fan Diameter - in (mm)	20 (508)

##### Fuel System

Fuel Type	Natural Gas, Propane
Fuel Injection	Electronic
Fuel Shut Off	Dual
NG Operating Fuel Pressure - in H <sub>2</sub> O (kPa)	5 - 14 (1.2 - 3.5)
LP Operating Fuel Pressure - in H <sub>2</sub> O (kPa)	7 - 14 (1.7 - 3.5)

##### Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	35 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

#### ALTERNATOR SPECIFICATIONS

Standard Model	K0050124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	<50

Standard Excitation	Synchronous Brushless
Bearings	Sealed Ball
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

**SG050NA | 4.5L | 50 kW**  
**INDUSTRIAL SPARK-IGNITED GENERATOR SET**



EPA Certified Stationary

**OPERATING DATA**

**POWER RATINGS**

Alternator	Voltage	Natural Gas				LP Vapor			
		Standby/Demand Response		Prime		Standby/Demand Response		Prime	
		Power	Amps	Power	Amps	Power	Amps	Power	Amps
A0050044N21	Single-Phase 120/240 VAC @1.0pf	48 kW/48 kVA	200	45 kW/45 kVA	188	50 kW/50 kVA	208	45 kW/45 kVA	188
A0060044N21	Single-Phase 120/240 VAC @1.0pf	50 kW/50 kVA	208	45 kW/45 kVA	188	50 kW/50 kVA	208	45 kW/45 kVA	188
K0050124Y21	Three-Phase 120/208 VAC @0.8pf	48 kW/60 kVA	167	45 kW/56 kVA	156	50 kW/63 kVA	174	45 kW/56 kVA	156
K0060124Y21	Three-Phase 120/208 VAC @0.8pf	50 kW/63 kVA	174	45 kW/56 kVA	156	50 kW/63 kVA	174	45 kW/56 kVA	156
K0050124Y21	Three-Phase 120/240 VAC @0.8pf	48 kW/60 kVA	144	45 kW/56 kVA	135	50 kW/63 kVA	150	45 kW/56 kVA	135
K0060124Y21	Three-Phase 120/240 VAC @0.8pf	50 kW/63 kVA	150	45 kW/56 kVA	135	50 kW/63 kVA	150	45 kW/56 kVA	135
K0050124Y21	Three-Phase 277/480 VAC @0.8pf	50 kW/63 kVA	75	45 kW/56 kVA	68	50 kW/63 kVA	75	45 kW/56 kVA	68
K0060124Y21	Three-Phase 277/480 VAC @0.8pf	50 kW/63 kVA	75	45 kW/56 kVA	68	50 kW/63 kVA	75	45 kW/56 kVA	68

**MOTOR STARTING CAPABILITIES (skVA)**

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC	30%
K0050124Y21	98	K0050124Y21	75
K0060124Y21	124	K0060124Y21	95

**SG050NA | 4.5L | 50 kW**  
**INDUSTRIAL SPARK-IGNITED GENERATOR SET**



EPA Certified Stationary

**OPERATING DATA**

**FUEL CONSUMPTION RATES\***

Natural Gas – scfh (m³/hr)		Propane Vapor – scfh (m³/hr)	
Percent Load	Standby	Percent Load	Standby
25%	204 (5.8)	25%	102.6 (2.9)
50%	343 (9.7)	50%	175.9 (5.0)
75%	456 (12.9)	75%	237.5 (6.7)
100%	621 (17.6)	100%	293.2 (8.3)

\* Fuel supply installation must accommodate fuel consumption rates at 100% load.

**COOLING**

		Standby
Air Flow (Fan Air Flow Across Radiator)	scfm (m³/min)	2,470 (69.9)
Coolant Flow	gpm (Lpm)	38 (142.7)
Coolant System Capacity	gal (L)	3 (11.4)
Max. Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199270SSD	
Maximum Radiator Backpressure	in H <sub>2</sub> O (kPa)	0.5 (0.12)

**COMBUSTION AIR REQUIREMENTS**

	Standby
Flow at Rated Power scfm (m³/min)	115 (3.3)

**ENGINE**

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	76
Piston Speed	ft/min (m/min)	1,275 (389)
BMEP	psi (kPa)	124 (855)

**EXHAUST**

		Standby
Exhaust Flow (Rated Output)	scfm (m³/min)	332 (9.4)
Maximum Exhaust Backpressure	inHg (kPa)	0.75 (2.54)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,100 (593)

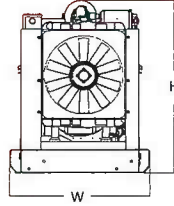
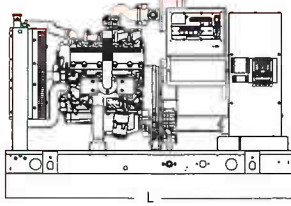
\*\* Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.  
 Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.  
 Standby - See Bulletin 0187500SSB  
 Prime - See Bulletin 0187510SSB

**SG050NA | 4.5L | 50 kW**  
**INDUSTRIAL SPARK-IGNITED GENERATOR SET**  
 EPA Certified Stationary

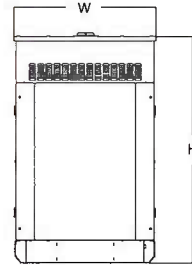
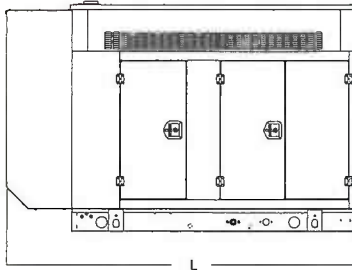


**DIMENSIONS AND WEIGHTS\***



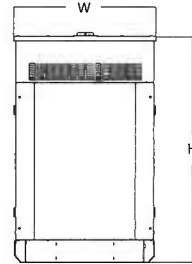
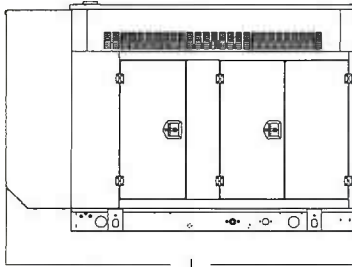
**OPEN SET (Includes Exhaust Flex)**

L x W x H - in (mm)	76.0 (1,930) x 37.4 (950) x 46.3 (1,176)
Weight - lbs (kg)	2,256 (1,023)



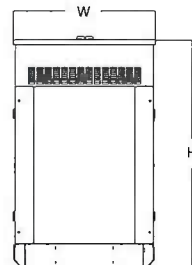
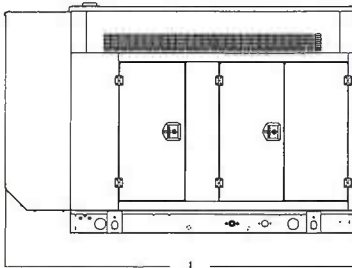
**WEATHER PROTECTED ENCLOSURE**

L x W x H - in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)
Weight - lbs (kg)	Steel: 2,697 (1,223) Aluminum: 1,754 (795)



**LEVEL 1 SOUND ATTENUATED ENCLOSURE**

L x W x H - in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)
Weight - lbs (kg)	Steel: 2,776 (1,259) Aluminum: 2,508 (1,138)



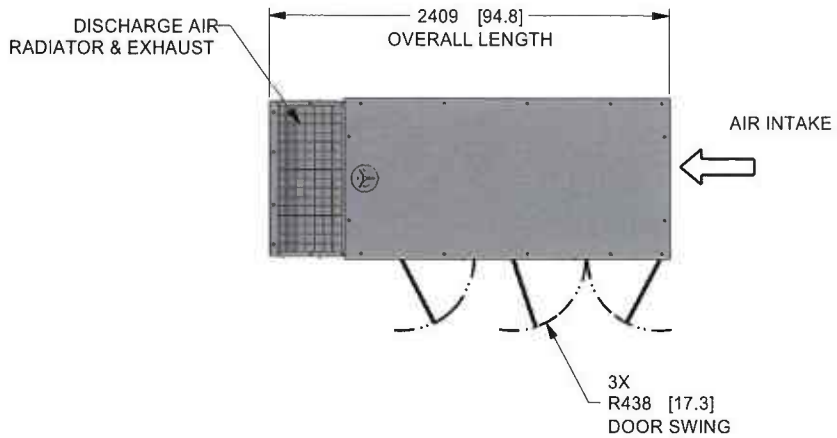
**LEVEL 2 SOUND ATTENUATED ENCLOSURE**

L x W x H - in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)
Weight - lbs (kg)	Steel: 2,928 (1,328) Aluminum: 2,574 (1,168)

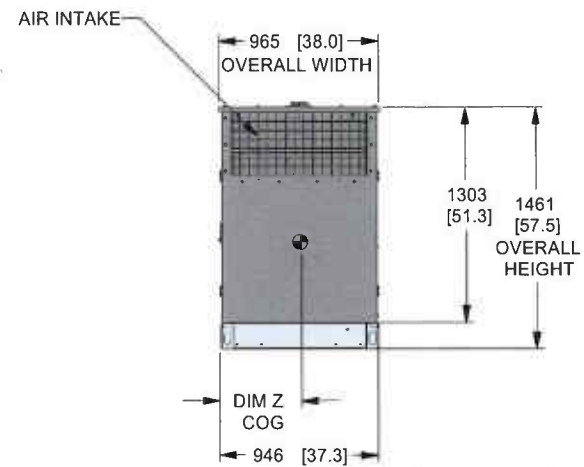
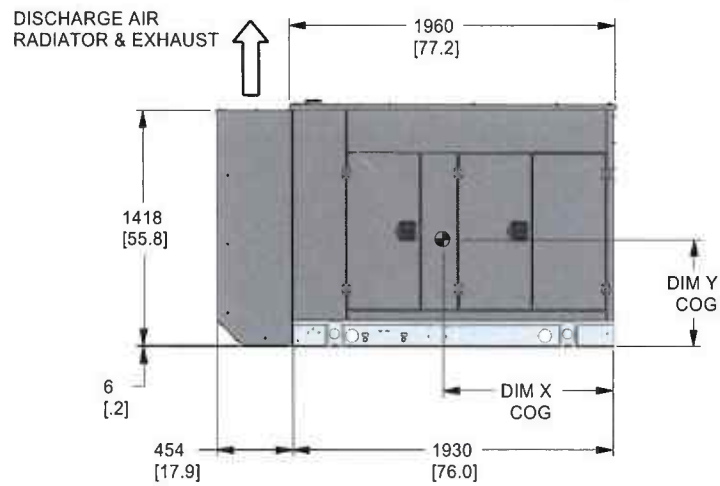
\* All measurements are approximate and for estimation purposes only.

<b>YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER</b>

Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.



FOR ALL STUB-UP, WEIGHT AND COG DETAILS, SEE CORRESPONDING OPEN SET DRAWING PER UNIT CONFIGURATION.



DIMENSIONS ARE IN MILLIMETERS [INCHES]

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

# INSTALLATION DRAWING

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ELECTRONICALLY APPROVED  
INSIDE WINDCHILL



TITLE  
INSTALL G4.5 G26 N/A ENCLOSED SSS  
G4.5L 60Hz  
SG35, SG40, SG45, SG50

ISSUE DATE:

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0000529382	1
SCALE	WT-KG	804.509	SHEET 1 of 1
0.035			

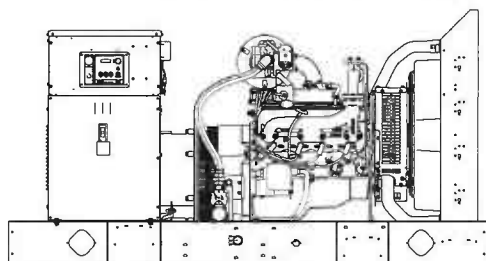


**EPA-Certified for 60 Hz Stationary  
Emergency Applications**

EPA certification not applicable at 50 Hz

### Ratings Range

Standby:	kW kVA	60 Hz	50 Hz
		53 53-66	44 44- 55



### Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A one-year limited warranty covers all generator set systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
  - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
  - The brushless, rotating-field alternator has broadrange reconnectability.

### Generator Set Ratings

Alternator	Voltage	Ph	Hz	Natural Gas 130°C Rise Standby Rating		LP Gas 130°C Rise Standby Rating	
				kW/kVA	Amps	kW/kVA	Amps
4P8X	120/208	3	60	53/66	184	53/66	184
	127/220	3	60	53/66	174	53/66	174
	120/240	3	60	53/66	159	53/66	159
	120/240	1	60	53/53	221	53/53	221
	139/240	3	60	53/66	159	53/66	159
	220/380	3	60	53/66	101	53/66	101
	277/480	3	60	53/66	80	53/66	80
	347/600	3	60	53/66	64	53/66	64
	110/190	3	50	44/55	168	44/55	168
	115/200	3	50	44/55	159	44/55	159
	120/208	3	50	44/55	153	44/55	153
	110/220	3	50	44/55	145	44/55	145
	110/220	1	50	44/44	200	44/44	200
	220/380	3	50	44/55	84	44/55	84
230/400	3	50	44/55	80	44/55	80	
240/415	3	50	44/55	77	44/55	77	
4P10X	120/208	3	60	53/66	184	53/66	184
	127/220	3	60	53/66	174	53/66	174
	120/240	3	60	53/66	159	53/66	159
	120/240	1	60	53/53	221	53/53	221
	139/240	3	60	53/66	159	53/66	159
	220/380	3	60	53/66	101	53/66	101
	277/480	3	60	53/66	80	53/66	80
	347/600	3	60	53/66	64	53/66	64
	110/190	3	50	44/55	168	44/55	168
	115/200	3	50	44/55	159	44/55	159
	120/208	3	50	44/55	153	44/55	153
	110/220	3	50	44/55	145	44/55	145
	110/220	1	50	44/44	200	44/44	200
	220/380	3	50	44/55	84	44/55	84
230/400	3	50	44/55	80	44/55	80	
240/415	3	50	44/55	77	44/55	77	
4Q8X	120/240	1	60	53/53	221	53/53	221
	110/220	1	50	44/44	200	44/44	200
4Q10X	120/240	1	60	53/53	221	53/53	221
	110/220	1	50	44/44	200	44/44	200

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. *Standby Ratings:* The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. For dual fuel engines, use the natural gas ratings for both the primary and secondary fuels.

# Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth Permanent Magnet
Leads: quantity, type	
4P8X, 4P10X	12, Reconnectable
4Q8X, 4Q10X	4, 110- 120/220- 240 V
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V, 400 V 4P8X (12 lead)	255 (60 Hz), 215 (50 Hz)
480 V, 400 V 4P10X (12 lead)	275 (60 Hz), 220 (50 Hz)
240 V, 220 V 4Q8X (4 lead)	120 (60 Hz), 96 (50 Hz)
240 V, 220 V 4Q10X (4 lead)	144 (60 Hz), 121 (50 Hz)

- The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
- The brushless, rotating-field alternator has broadrange reconnectability.
- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.

## Application Data

### Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	Kohler	
Engine: model, type	KG6208 6.2 L Natural Aspiration	
Cylinder arrangement	V-8	
Displacement, L (cu. in.)	6.2 (378)	
Bore and stroke, mm (in.)	101.6 x 95.25 (4.00 x 3.75)	
Compression ratio	10.5:1	
Rated rpm	1800	1500
Max. power at rated rpm, kW (HP)	77.0 (103)	64.3 (86)
Cylinder head material	Cast Aluminum	
Piston type and material	High Silicon Aluminum	
Crankshaft material	Cast Iron	
Valve (exhaust) material	Forged Steel	
Governor type	Electronic	
Frequency regulation, no-load to full-load	Isochronous	
Frequency regulation, steady state	±1.0%	
Frequency	Fixed	
Air cleaner type, all models	Dry	

### Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	11.7 (414)	9.8 (345)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	677 (1250)	
Maximum allowable back pressure, kPa (in. Hg)	10.2 (3.0)	
Exhaust outlet size at engine hookup, mm (in.)	76 (3.0) OD	

### Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Ignition system	Electronic, Distributor	
Ignition system	Electronic	
Battery charging alternator:		
Ground (negative/positive)	Negative	
Volts (DC)	12	
Ampere rating	130	
Starter motor rated voltage (DC)	12	
Battery, recommended cold cranking amps (CCA):		
Qty., rating for - 18°C (0°F)	1, 630	
Battery voltage (DC)	12	

### Fuel

Fuel System	60 Hz	50 Hz
Fuel type	Natural Gas, LP Gas, or Dual Fuel	
Fuel supply line inlet	1 NPTF	
Natural gas fuel supply pressure, kPa (in. H <sub>2</sub> O)	1.74- 2.74 (7-11)	
LPG vapor withdrawal fuel supply pressure, kPa (in. H <sub>2</sub> O)	1.24- 2.74 (5-11)	
Dual fuel engine, LPG vapor withdrawal fuel supply pressure, kPa (in. H <sub>2</sub> O)	1.24 (5)	

Fuel Composition Limits *	Nat. Gas	LP Gas
Methane, % by volume	90 min.	—
Ethane, % by volume	4.0 max.	—
Propane, % by volume	1.0 max.	85 min.
Propene, % by volume	0.1 max.	5.0 max.
C <sub>4</sub> and higher, % by volume	0.3 max.	2.5 max.
Sulfur, ppm mass	25 max.	
Lower heating value, MJ/m <sup>3</sup> (Btu/ft <sup>3</sup> ), min.	33.2 (890)	84.2 (2260)

\* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

## Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.) §	5.7 (6.0)	
Oil pan capacity with filter, L (qt.) §	7.1 (7.5)	
Oil filter: quantity, type §	1, Cartridge	
§ Kohler recommends the use of Kohler Genuine oil and filters.		

## Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature, °C (°F) *	50 (122)	
Engine jacket water capacity, L (gal.)	7.3 (1.93)	
Radiator system capacity, including engine, L (gal.)	20.8 (5.5)	
Engine jacket water flow, Lpm (gpm)	129 (34.1)	108 (28.5)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	61.7 (3510)	53.3 (3030)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	533 (21)	
Fan, kWm (HP)	2.2 (2.9)	1.3 (1.7)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.125 (0.5)	

\* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).

## Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm) †	136 (4800)	113 (4000)
Combustion air, m <sup>3</sup> /min. (cfm)	4.6 (163)	3.9 (136)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	30.9 (1760)	26.5 (1510)
Alternator, kW (Btu/min.)	7.7 (440)	6.9 (390)
† Air density = 1.20 kg/m <sup>3</sup> (0.075 lbm/ft <sup>3</sup> )		

Fuel Consumption ‡	60 Hz	50 Hz
<b>Natural Gas, m<sup>3</sup>/hr. (cfh) at % load</b>	<b>Standby Ratings</b>	
100%	24.9 (879)	20.4 (721)
75%	19.7 (696)	14.8 (524)
50%	13.9 (490)	9.8 (345)
25%	7.9 (277)	5.8 (204)

LP Gas, m <sup>3</sup> /hr. (cfh) at % load	Standby Ratings	
100%	9.5 (337)	8.5 (300)
75%	7.6 (267)	5.7 (199)
50%	5.1 (178)	4.2 (146)
25%	3.2 (113)	2.7 (96)

‡ Nominal fuel rating: Natural gas, 37 MJ/m<sup>3</sup> (1000 Btu/ft.<sup>3</sup>)  
LP vapor, 93 MJ/m<sup>3</sup> (2500 Btu/ft.<sup>3</sup>)

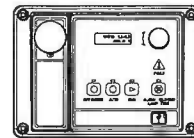
LP vapor conversion factors:

8.58 ft.<sup>3</sup> = 1 lb.

0.535 m<sup>3</sup> = 1 kg.

36.39 ft.<sup>3</sup> = 1 gal.

## Controllers



### APM402 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-161 for additional controller features and accessories.

## Standard Features

- Alternator Protection
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Gas Fuel System (includes fuel mixer, electronic secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature

## Available Options

### Approvals and Listings

- CSA Approval
- IBC Seismic Certification
- UL 2200 Listing
- Hurricane Rated Enclosure

### Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)

### Open Unit

- Exhaust Silencer, Critical (kit: PA-352663)
- Flexible Exhaust Connector, Stainless Steel

### Fuel System

- Dual Fuel NG/LPG (automatic changeover)
- Flexible Fuel Line  
(required when the generator set skid is spring mounted)
- Fuel Filter Kit

### Controller

- Common Fault Relay
- Two Input/Five Output Module
- Remote Annunciator Panel
- Remote Emergency Stop
- Run Relay
- Manual Speed Adjust

### Cooling System

- Block Heater, 1500 W, 110- 120 V  
Required for ambient temperatures below 10°C (50°F)
- Radiator Duct Flange

### Electrical System

- Alternator Strip Heater
- Battery
- Battery Charger
- Battery Charger Temperature Compensation
- Battery Heater
- Line Circuit Breaker (NEMA1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA1 enclosure)

## Miscellaneous

- Air Cleaner Restrictor Indicator
- Certified Test Report
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Rodent Guards
- Open Unit Accessory Kit  
(stone guards, radiator duct flange, flexible exhaust)

## Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

## Warranty

- 2-Year Basic Limited Warranty
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty

## Other Options

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

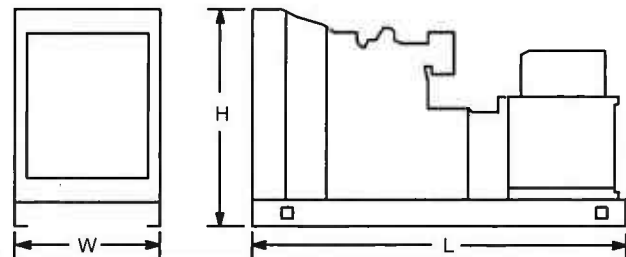
## Dimensions and Weights

Overall Size, L x W x H, mm (in.):

Wide Skid 2200 x 1040x 1170 (86.6 x 40.9 x 46.1)

Narrow Skid 2200 x 864 x 1170 (86.6 x 34.0 x 46.1)

Weight (radiator model), wet, kg (lb.): 862 (1900)



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

**DISTRIBUTED BY:**

NOTES:

1. BOTH SIDES OF THE GENERATOR ARE SERVICE ACCESSIBLE W/EASY ACCESS SERVICE PANELS.
2. 6 AMP BATTERY CHARGER.
3. 120VAC ENGINE BLOCK HEATER
4. GENERATOR MUST BE GROUNDED
5. SOUND ATTENUATED ENCLOSURE STANDARD WITH GENERATOR.
6. MUST ALLOW FREE FLOW OF DISCHARGE AIR AND EXHAUST.
7. MUST ALLOW FREE FLOW OF INTAKE AIR
8. IT IS THE RESPONSIBILITY OF THE INSTALLATION TECHNICIAN TO ENSURE THAT THE GENERATOR INSTALLATION COMPLIES WITH ALL APPLICABLE CODES, STANDARDS, AND REGULATIONS.

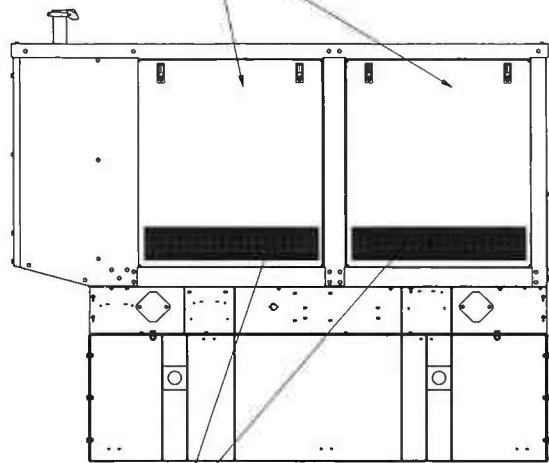
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C

B

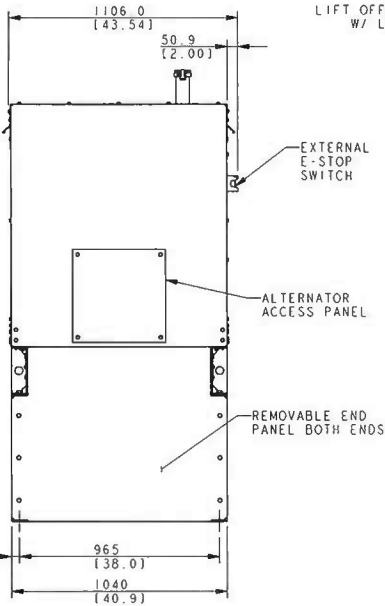
A

LIFT OFF SERVICE PANELS  
W/ LOCKABLE LATCHES

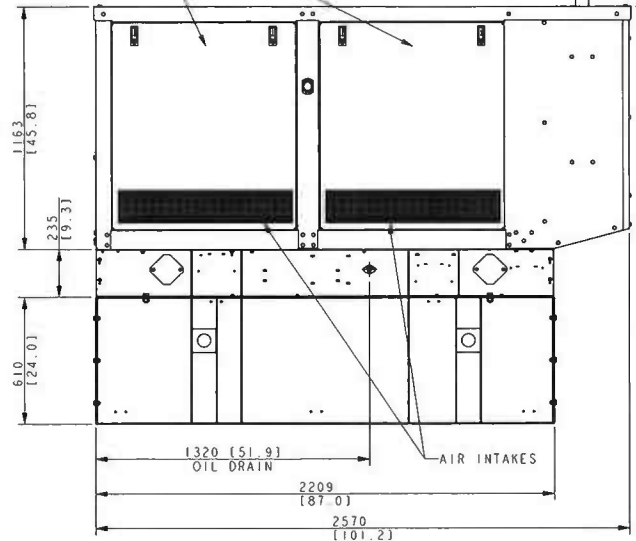


AIR INTAKES

37.5 REF  
[1.48]



LIFT OFF SERVICE PANELS  
W/ LOCKABLE LATCHES



EXHAUST  
RAIN CAP

195  
[7.7]

188  
[6.6]

MINIMUM REQUIRED CLEARANCE FOR AIR FLOW

61.0  
[24.0]

AIR DISCHARGE

176  
[6.9]

195  
[7.7]

188  
[6.6]

DIMENSIONS IN II ARE INCH EQUIVALENTS.

MODEL	ALTERNATOR	GENSET WEIGHT (WET)	GENSET WEIGHT (WET) WITH ENCLOSURE	GENSET WEIGHT (WET) WITH ENCLOSURE & BASE
40-60KW	4P7/4Q7	807 KG [1780 LBS]	1051 KG [2318 LBS]	1290 KG [2844 LBS]
45-60KW	4P10/4Q10	862 KG [1900 LBS]	1106 KG [2438 LBS]	1345 KG [2965 LBS]

40-60KG KOHLER NG/LP  
W/ SOUND ENCLOSURE

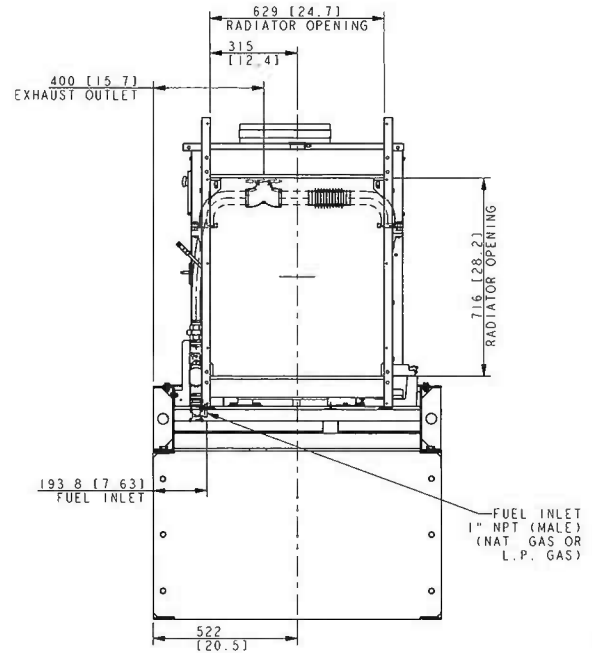
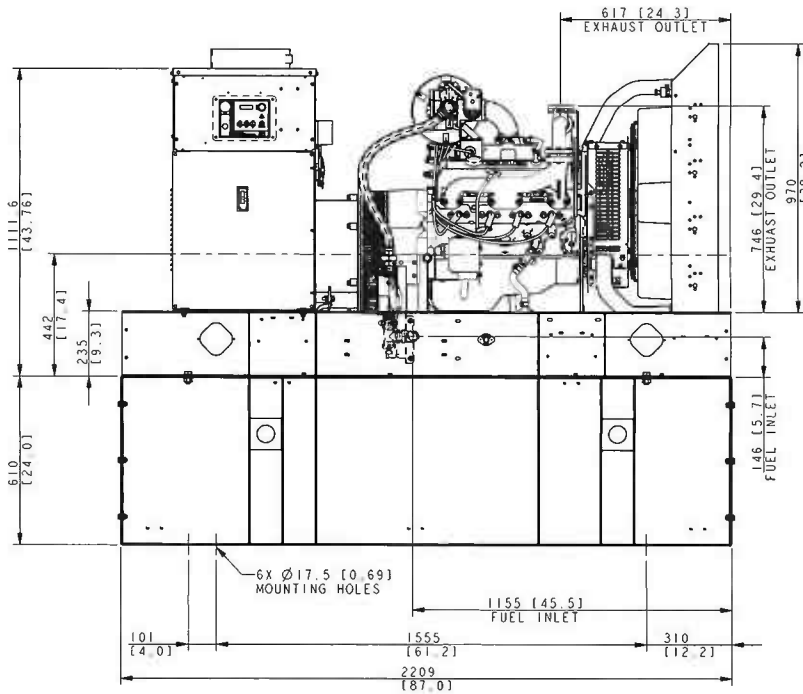
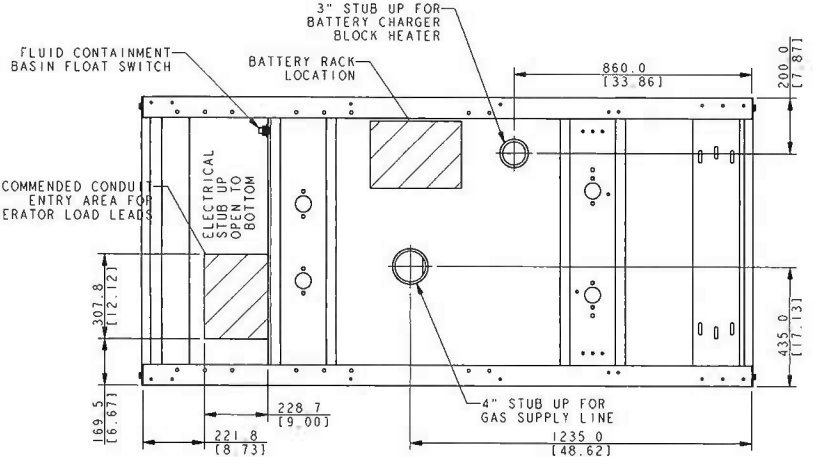
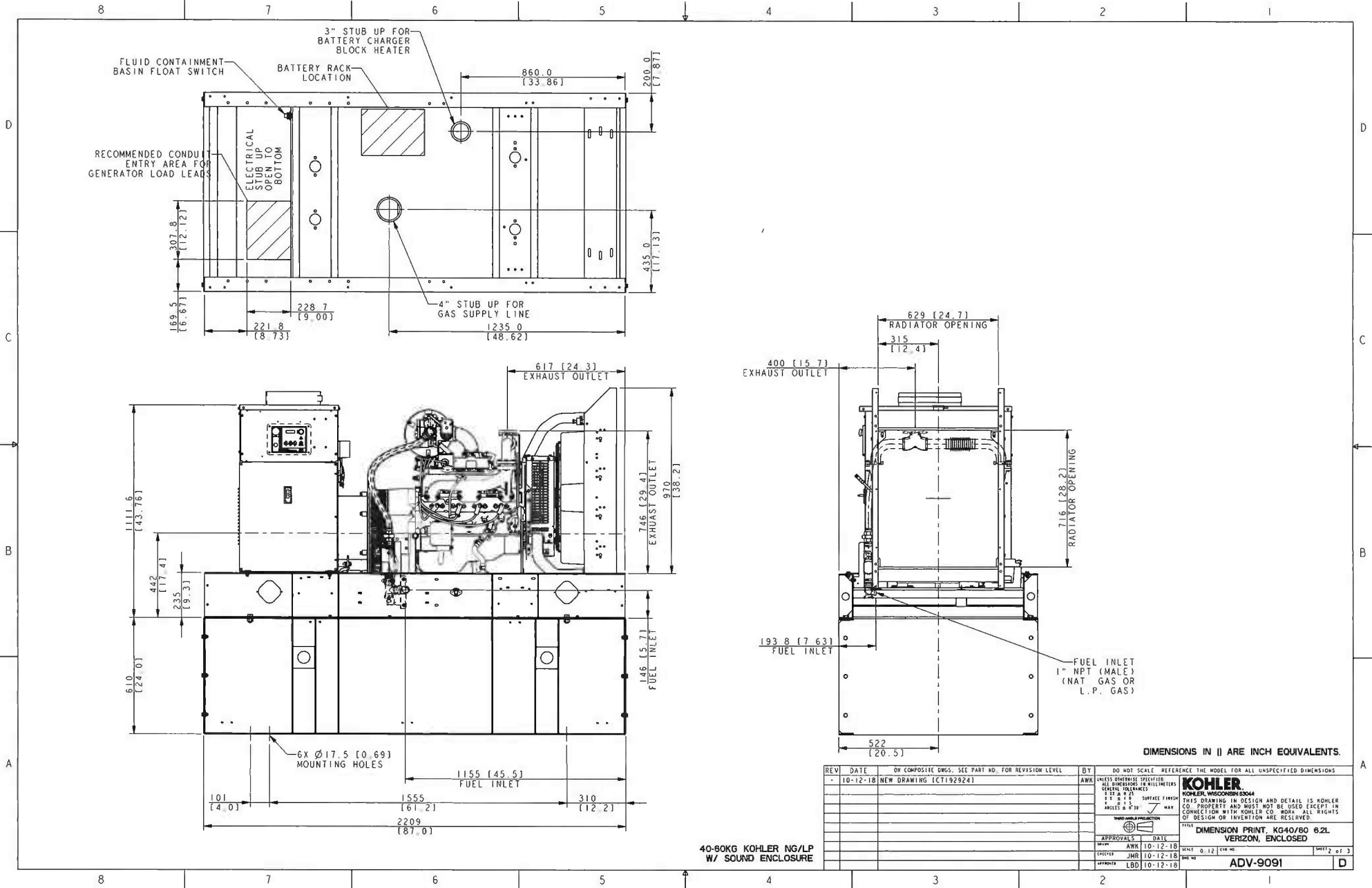
REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY	DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS.
1	10-11-18	NEW DRAWING [CT192924]	AWK	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE MILLIMETERS GENERAL DIMENSIONS 1:10 ± 0.15 1:5 ± 0.15 1:2 ± 0.15 ANGLES ± 0.1° MAX
				<b>KOHLER</b> KOHLER WISCONSIN LLC THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
				TITLE: DIMENSION PRINT, K040/60 6.2L VERIZON, ENCLOSED
				APP'D PROJECTS: [Signature] DATE: [Blank]
				CHECKED: JMR 10-11-18 DATE: 0.09
				APPROVED: LBD 10-11-18 DATE: [Blank]
				ADV-9091 [D]

D

C

B

A



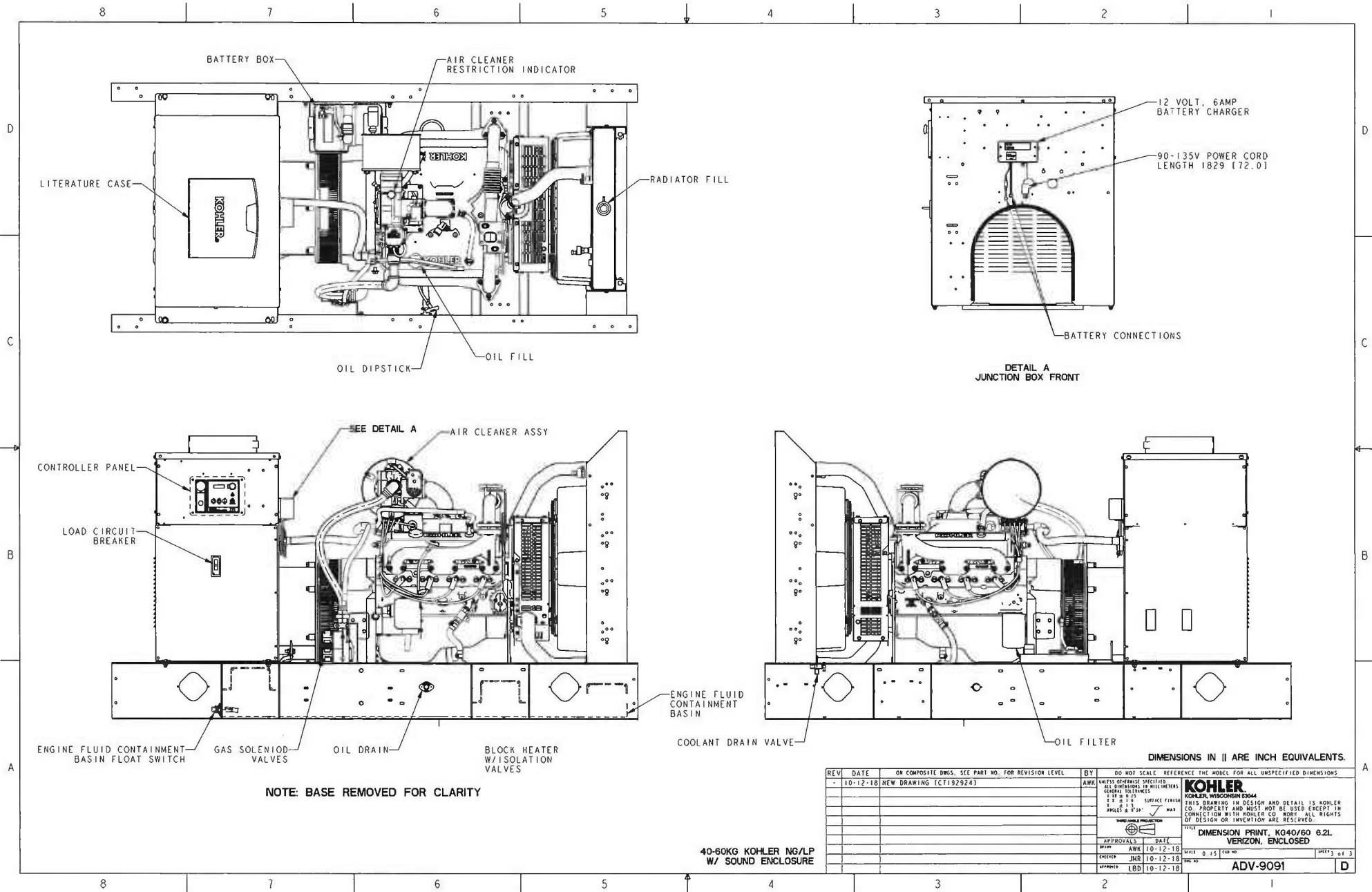
DIMENSIONS IN ( ) ARE INCH EQUIVALENTS.

40-60KG KOHLER NG/LP  
W/ SOUND ENCLOSURE

REV	DATE	BY	DESCRIPTION
10	12-18	AWK	NEW DRAWING [CT192924]

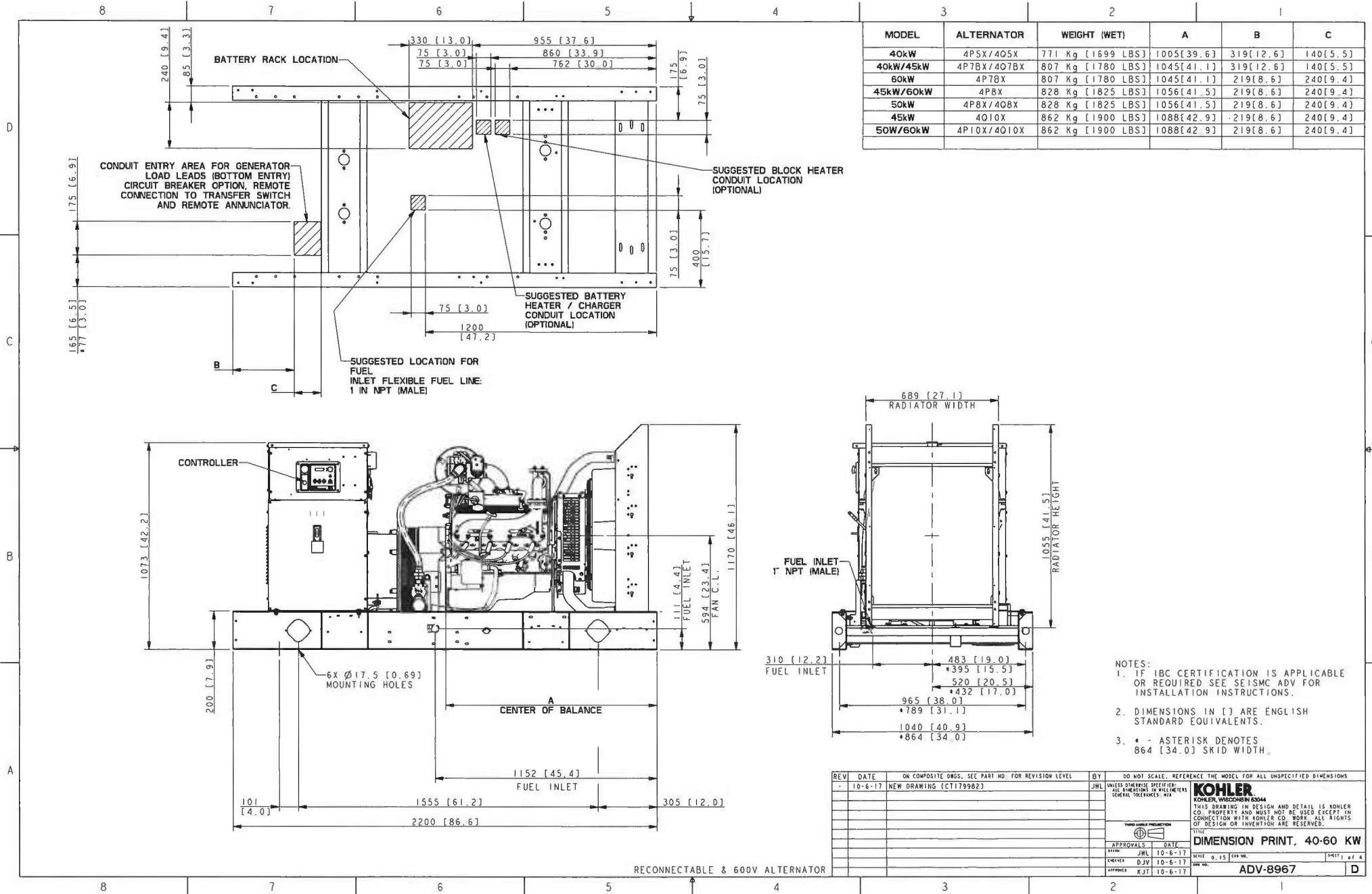
DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS.
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS DIMENSIONS IN INCHES TOLERANCES 1:1 & 2:1 SURFACE FINISH 1:1 & 2:1 MAX ANGLES & Ø'S
<b>KOHLER</b> KOHLER WISCONSIN 63044 THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
TITLE <b>DIMENSION PRINT, KG40/60 6.2L VERIZON, ENCLOSED</b>
SCALE 0.12 (SEE NO. 1)
SHEET 2 OF 3
APPROVALS DATE DRAWN ANK 10-12-18 CHECKED JHR 10-12-18 APPROVED LBD 10-12-18
ADV-9091

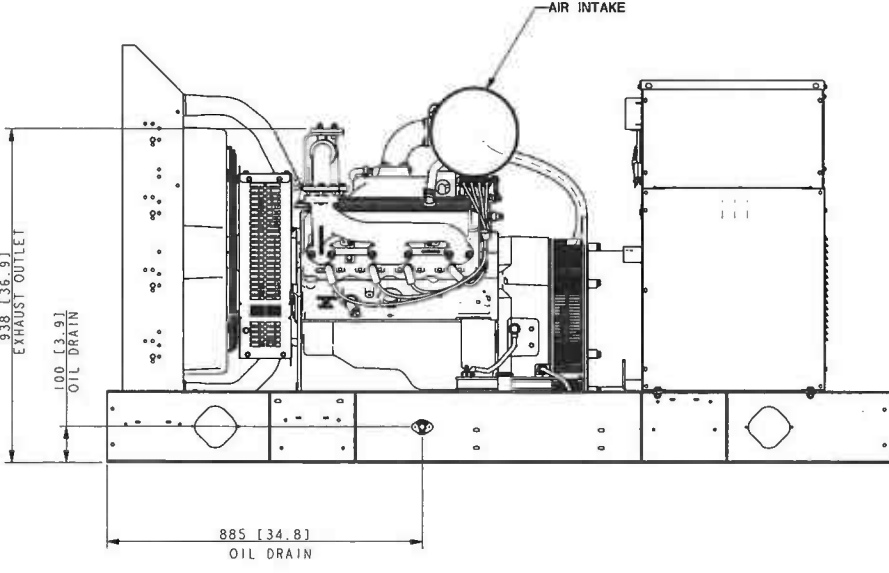
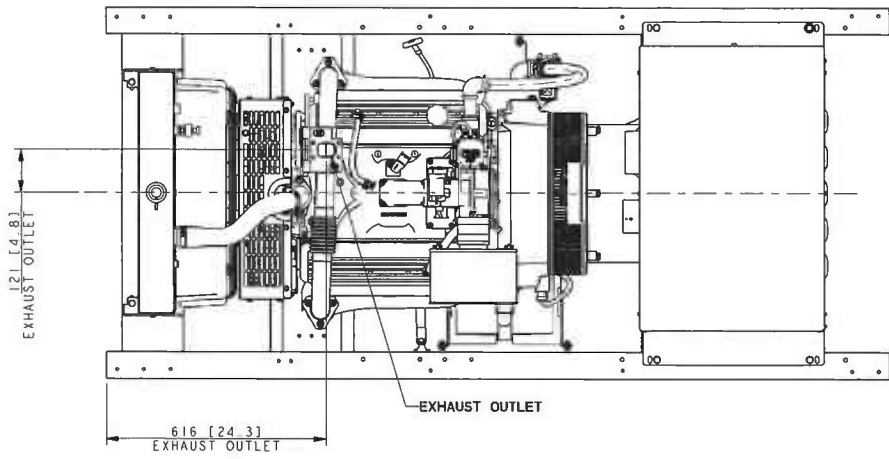


DIMENSIONS IN  $\square$  ARE INCH EQUIVALENTS.

REV	DATE	ON COMPOSITE DWS. SEE PART NO. FOR REVISION LEVEL	BY	DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS.
1	10-12-18	NEW DRAWING (CT192924)	ARK	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS GENERAL TOLERANCES F 1/16 0.5 F 1/8 1.0 F 3/16 1.5 F 1/4 2.0 F 3/8 3.0 F 1/2 4.0 F 3/4 6.0 F 1 8.0 F 1 1/4 12.0 F 1 1/2 15.0 F 2 20.0 F 2 1/2 25.0 F 3 30.0 F 3 1/2 35.0 F 4 40.0 F 4 1/2 45.0 F 5 50.0 F 5 1/2 55.0 F 6 60.0 F 6 1/2 65.0 F 7 70.0 F 7 1/2 75.0 F 8 80.0 F 8 1/2 85.0 F 9 90.0 F 9 1/2 95.0 F 10 100.0
			ARK	<b>KOHLER</b> KOHLER WISCONSIN USA THIS DRAWING IS DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
			ARK	TITLE: DIMENSION PRINT, KG40/60 6.2L VERZON, ENCLOSED
			ARK	APPROVALS: DATE: 10-12-18
			ARK	DATE: 10-12-18
			ARK	SCALE: 0.15 (1/4"=1')
			ARK	SHEET: 01 OF 3
			ARK	FIG. NO. ADV-9091
			ARK	D

40-60KG KOHLER NG/LP W/ SOUND ENCLOSURE





RECONNECTABLE & 600V ALTERNATOR

- NOTES:
1. IF IBC CERTIFICATION IS APPLICABLE OR REQUIRED SEE SEISMIC ADV FOR INSTALLATION INSTRUCTIONS.
  2. DIMENSIONS IN ( ) ARE ENGLISH STANDARD EQUIVALENTS.
  3. \* - ASTERISK DENOTES 864 [34.0] SKID WIDTH.

REV	DATE	ON COMPOSITE DRGS. SEE PART NO. FOR REVISION LEVEL	BY	DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS
-	10-6-17	NEW DRAWING [CT1799B2]	JWL	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS LENGTH TOLERANCES: MFA
				<b>KOHLER</b> KOHLER WISCONSIN 80044 THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. TITLE:
				THIRD PARTY PRODUCTION 
				APPROVALS      DATE BY: JWL 10-6-17 CHECKED: DJV 10-6-17 APPROVED: KJT 10-6-17
				DIMENSION PRINT, 40-60 KW SCALE: 0.15      CDR NO.      SHEET 2 of 2 PART NO.      ADV-8967      D

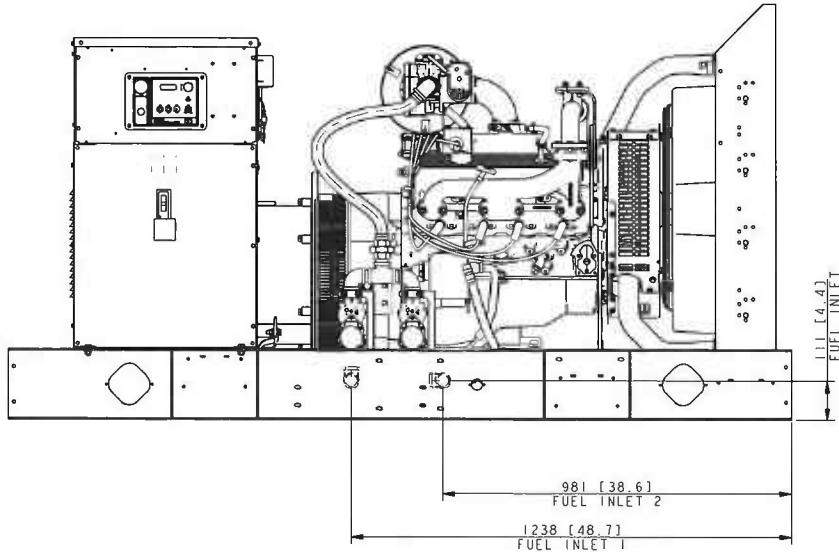
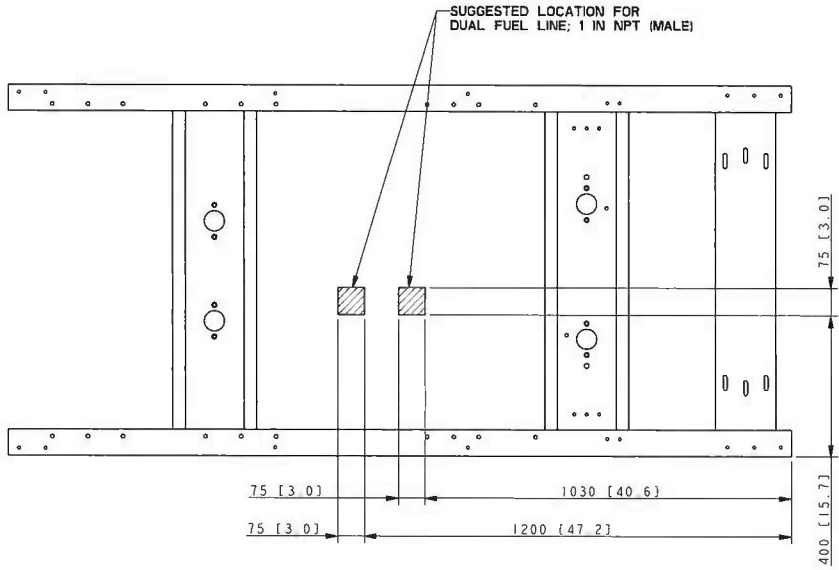
8 7 6 5 4 3 2 1

D

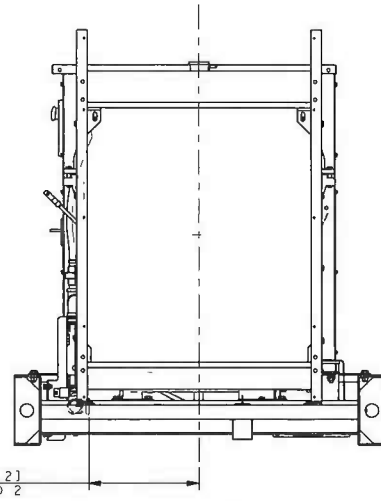
C

B

A



DUAL FUEL NAT GAS



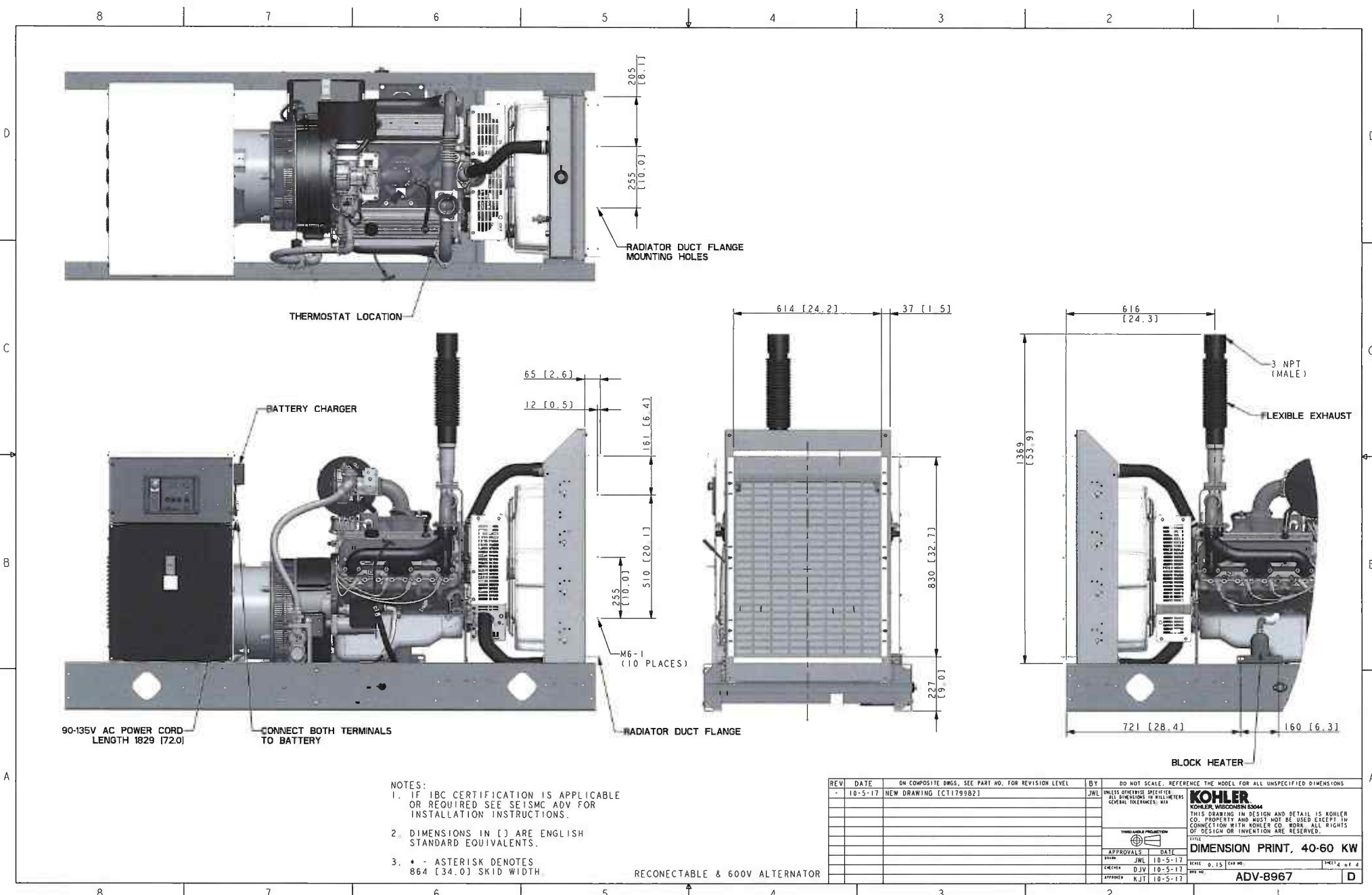
310 [12.2]  
FUEL INLET 1 AND 2

RECONNECTABLE & 600V ALTERNATOR

- NOTES:
- IF IBC CERTIFICATION IS APPLICABLE OR REQUIRED SEE SEISMIC ADV FOR INSTALLATION INSTRUCTIONS.
  - DIMENSIONS IN [ ] ARE ENGLISH STANDARD EQUIVALENTS.
  - \* - ASTERISK DENOTES 864 [34.0] SKID WIDTH.

REV	DATE	ON COMPOSITE DWGS. SEE PART NO. FOR REVISION LEVEL	BY	DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS
-	10-6-17	NEW DRAWING (CT179982)	JHL	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS GENERAL TOLERANCES: MA
				<b>KOHLER</b> KOHLER, WISCONSIN 53044 THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
				TITLE <b>DIMENSION PRINT, 40-60 KW</b>
				APPROVALS DATE DRAWN: JHL 10-6-17 CHECKED: DJV 10-6-17 APPROVED: KJT 10-6-17
				SCALE: 0, 15 [0.6] [1:1] of 4 DWG NO.: <b>ADV-8967</b>

8 7 6 5 4 3 2 1



- NOTES:
- IF IBC CERTIFICATION IS APPLICABLE OR REQUIRED SEE SEISMIC ADV FOR INSTALLATION INSTRUCTIONS.
  - DIMENSIONS IN ( ) ARE ENGLISH STANDARD EQUIVALENTS.
  - \* - ASTERISK DENOTES 864 [34.0] SKID WIDTH

RECONNECTABLE & 600V ALTERNATOR

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY	DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS
-	10-5-17	NEW DRAWING (CT179982)	JWL	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN MILLIMETERS GENERAL TOLERANCES: M3
<b>KOHLER</b> KOHLER WISCONSIN 65004 THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.				
<b>DIMENSION PRINT, 40-60 KW</b>				
APPROVALS		DATE	SCALE	SHEET # OF #
DESIGNER		JWL	10-5-17	1 OF 4
CHECKER		DJW	10-5-17	
APPROVER		KJT	10-5-17	
REV NO.			ADV-8967	D