

XG Protector® Series

Protector® Series Standby Generators Liquid-Cooled Gaseous Engine

STANDARD FEATURES

- 1-Phase or Configurable 3-Phase Voltage Output Models
- Power Zone® 410 Controller, NFPA 110 System Control Capable
- Circuit Breaker in 1-Phase Models & Molded Case Switch in 3-Phase Models
- Padlockable Control Panel Cover with UV Protection
- Cellular Connectivity with Wi-Fi™ backup for Mobile Link™ and Fleet¹
- Quiet Operation including Selectable Low-Speed Exercise Quiet-Test™
- Corrosion Resistant Aluminum Enclosure, Electro-Galvanized Baseframe Components, and Stainless Steel Exhaust System
- 5 Year/2,000 Hour Limited Warranty
- High Motor-Starting & Surge Capacity
- $\pm 1\%$ Digital Voltage Regulation
- $< 5\%$ Total Harmonic Distortion Power Quality
- Fuel Efficiency
- Controller-Selectable Fuel Type - Propane or Natural Gas
- Single-Side Regular Maintenance Access
- EPA Emissions Certified
- CA & MA Emissions Compliant
- UL2200 Listed
- SwRI listed and labeled allowing installation as close as 18 in (457 mm) to a structure²
- 145 mph (233 km/h) Wind Speed Rating³

1 - Cellular service for the US, Canada, and other supported countries using the Generac Generator Connectivity Accessory, Cellular (GGCAC). Cellular is the primary mode for connectivity with Wi-Fi as a secondary mode when a cellular connection is not possible.

2 - Must be located away from doors, windows, and fresh air intakes and in accordance with all applicable codes and regulations.

3 - Requires correctly prepared concrete pad and anchoring system.

OPTIONAL FIELD-INSTALLABLE FEATURES

Available as field-installable kits

- 3-Phase Voltage Configuration Cartridges (VCC)
- 3-Phase Circuit Breakers (3-Phase Models Include a Molded Case Switch)
- Generator Ready-Status Indicator
- Push-Button Emergency Stop
- NFPA 110 System Control & Remote Annunciation
- Cold Weather Operation Heaters
- Baseframe Blockoff
- Exhaust Diverter

STANDBY POWER RATING

Model XG02525 – 25 kW, 60 Hz Emergency Standby Power Generator
Model XG03025 – 30 kW, 60 Hz Emergency Standby Power Generator



Product may vary from above image depending on model.



QUIET-TEST™

GENERAC®
Mobile Link™

EPA Emissions Certified
CA & MA Emissions Compliant

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **MOBILE LINK® CONNECTIVITY:** Standard with the Generac Liquid-Cooled XG Protector Series home standby generators, Mobile Link Cellular Connectivity with Wi-Fi backup allows users to monitor the status of their generator from anywhere using a smartphone, tablet, or PC. Easily access real-time operating status, maintenance alerts, and generator readiness. Users can also connect their account to an authorized generator servicer for proactive support and streamlined service. With Mobile Link, users can see their generator is ready before the next power outage.
- **ONE CONFIGURABLE 3-PHASE VOLTAGE MODEL:** Each XG power output 3-phase model can be configured for 208/120, 240/120, or 480/277 V 3-phase output. Every 3-phase XG model is configured at the factory for 208/120 V using a Voltage Configuration Cartridge (VCC). The 3-phase voltage can be changed by the generator installer using a different VCC available as an accessory. The single-piece VCC makes installation simple and error-proof eliminating the need to consult wiring diagrams or require skilled labor. Fewer models with more possibilities.
- **TRUE POWER™ ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at $\pm 1\%$.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive service network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES:** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.

GENERATOR SPECIFICATIONS

GENERATOR OUTPUT

PROPANE

Voltage	XG02525		XG03025	
	Power (kW)	Current (A)	Power (kW)	Current (A)
120/240 V 1-Phase	25	104	30	125
208/120 V 3-Phase	25	86	30	104
240/120 V 3-Phase	25	75	30	90
480/277 V 3-Phase	25	37	30	45

NATURAL GAS

Voltage	XG02525		XG03025	
	Power (kW)	Current (A)	Power (kW)	Current (A)
120/240 V 1-Phase	25	104	30	125
208/120 V 3-Phase	25	86	30	104
240/120 V 3-Phase	25	75	30	90
480/277 V 3-Phase	25	37	30	45

Emergency Standby Power (ESP) Rating: Standby ratings apply to installations served by a reliable utility source. The ESP rating is applicable to varying loads for the duration of a power outage. The average power output over 24 hours shall not exceed 70% of the ESP rating.

ALTERNATOR SYSTEM

		XG02525	XG03025
Voltage Output	1-Phase	120/240 V Only	120/240 V Only
	3-Phase	208/120 V; Configurable for 240/120 V or 480/277 V with Optional VCC	208/120 V; Configurable for 240/120 V or 480/277 V with Optional VCC
Circuit Breaker (CB) or Molded Case Switch (MCS)	1-Phase	125 A CB	150 A CB
	3-Phase	MCS Standard; Field-Installable CB Kit Optional	MCS Standard; Field-Installable CB Kit Optional
Alternator Type		Synchronous	
Rotor Insulation Class		H	
Stator Insulation Class		H	
Telephone Interference Factor (TIF)		<50	
Bearings		Sealed Ball	
Coupling		Direct Drive	
Excitation System		Direct	
Total Harmonic Distortion		<5%	

VOLTAGE REGULATION

Type	Digital
Sensing	All Phases
Regulation	±1%

SURGE CAPACITY

Surge Amps at <0.4 Power Factor for Voltage Output	XG02525		XG03025	
	15% Voltage Dip (A)	30% Voltage Dip (A)	15% Voltage Dip (A)	30% Voltage Dip (A)
120/240V 1-Phase	100	230	100	250
208/120 V 3-Phase	100	170	104	180
240/120 V 3-Phase	85	145	90	155
480/277 V 3-Phase	60	90	60	90

ENGINE

		XG02525	XG03025
Make		Generac	
Model		2.5 L, Inline 4-Cylinder, Naturally Aspirated	
Compression Ratio		9.7:1	
Lifter Type		Hydraulic	
Oil Pump Type		Gear	
Oil Filter Type		Full Flow Spin-on Cartridge	
Crankcase Capacity (qt (L))		5.0 (4.7)	
Temperature Derate		1.5% per 10 °F temperature rise above 77 °F (1.6% per 5 °C temperature rise above 25 °C)	
Altitude Derate	Propane	2.6% per 1,000 ft above 2,000 ft (0.85% per 100 m above 610 m)	
	NG	3% per 1,000 ft above 0 ft (1% per 100 m above 0 m)	
Exercise Speed (rpm)		1,200	
Operating Speed (rpm)		1,800	
Exhaust Flow at Rated Output (cfm (m³/min))		212 (6.0)	247 (7.0)

GOVERNOR

Type	Electronic
Frequency Regulation	Isochronous

COOLING SYSTEM

	XG02525	XG03025
Coolant	50/50 (50% Ethylene Glycol)	
Coolant System Capacity (US gal (L))	2.9 (11)	
Water Pump Type	Belt Driven	
Fan Type	Electric	
Fan Quantity	2	
Maximum Ambient Air Temperature (°F (°C))	122 (50)	

GENERATOR SPECIFICATIONS

FUEL SYSTEM

Usable Fuels	Liquid Propane (LP) Vapor or Natural Gas (NG)
Fuel Type Configuration	Controller-Selected Only
LP Vapor Pressure (in H ₂ O (kPa))	7-14 (1.74-3.48)
NG Pressure (in H ₂ O (kPa))	3.5-14 (0.87-3.48)
Fuel Shutoff Solenoid	Standard, Dual

FUEL CONSUMPTION

LIQUID PROPANE

Rated Load	XG02525		XG03025	
	(US gph)	(L/h)	(US gph)	(L/h)
No Load @ Exercise Speed	0.1	0.4	0.1	0.4
25%	0.9	3.4	1.0	3.9
50%	1.6	5.9	1.8	6.9
75%	2.3	8.5	2.7	10.2
100%	3.0	11.4	3.7	13.8

Propane – 91,452 BTU/US gal (25.5 MJ/L); 36 ft³/US gal (0.27 m³/L); 2,516 BTU/ft³ (93.7 MJ/m³); 4.24 lb/US gal (0.508 kg/L)

NATURAL GAS

Rated Load	XG02525		XG03025	
	(CFH)	(m ³ /h)	(CFH)	(m ³ /h)
No Load @ Exercise Speed	35	1.0	35	1.0
25%	104	2.9	114	3.2
50%	154	4.4	176	5.0
75%	209	5.9	244	6.9
100%	269	7.6	320	9.1

Natural Gas – 1,036 BTU/ft³ (37.3 MJ/m³)

See Emissions Data Sheets for maximum fuel flow for EPA and SCAQMD permitting purposes.

ELECTRICAL SYSTEM

	XG02525	XG03025
System Voltage (V)	12	
Charge Alternator (A)	75	
Battery Charger (A)	5	
Recommended Battery (not included)	Flooded Lead Acid, Group 26, 525 CCA Minimum	
Maximum Recommended Battery ⁴ (not included)	Flooded Lead Acid, Group 34, 690 CCA Minimum	

4 - Recommended battery for operating environments where the temperature drops below -22 °F (-30 °C).

ENCLOSURE

	XG02525	XG03025
Sound Level at Exercise Speed (dB(A) @ 23 ft (7 m)) ⁵	51	51
Sound Level at Operating Speed & No Load (dB(A) @ 23 ft (7 m)) ⁵	59	59
Wind Speed Rating (mph (km/h)) ⁶	145 (233)	
Color	Metro Gray	

5 - Lowest sound level measurement of 8 locations around the generator. Sound levels at other locations around the generator may vary depending on the installation.

6 - ASCE 7-16 exposure B wind speed rating

GENERATOR SPECIFICATIONS

POWER ZONE 410 CONTROLLER



016030

Standard Features

- 128 x 64 Pixel Graphical Display with Heater
- Multilingual
 - English
 - French
 - Spanish
 - Portuguese
- 3-Phase Sensing Digital Voltage Regulator
- Full Range Standby Operation
- Full System Status
 - 3-Phase AC Voltage
 - 3-Phase Current
 - Power
 - Power Factor
 - Oil Pressure
 - Engine Coolant Temperature
 - Oil Temperature
 - Fuel Pressure
 - Engine Speed
 - Battery Voltage
 - Output Frequency
 - Time
 - Date
 - Load On Line Power and Gen Power
 - Hourmeter
 - Service Reminders
 - Fault History (Alarm Log)
- Remote Communications
- Programmable Auto Crank
- Emergency Stop
- Not in Auto Flashing Light
- Selectable Low Speed Exercise
- NFPA 110 System Control Capable
- 5A Integrated Battery Charger

Standard Protections

- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current

- Overload
- Battery Voltage
- Battery Charger Current
- Phase-to-Phase and Phase-to-Neutral Short Circuits (I^2T Algorithm)
- Ground Fault

Display

- Easy Menu Structure
- Multilingual (English, Spanish, French, and Portuguese)
- On Screen Editable Parameters
- Key Function Monitoring
 - 3-Phase Voltage, Amperage, Power, Apparent Power, Reactive Power
 - Selectable Average or Line-to-Neutral Voltage Measurements
 - Frequency
 - Engine Speed
 - Engine Coolant Temperature
 - Oil Pressure
 - Battery Voltage
 - Warning and Alarm Indication
 - Diagnostics
 - Maintenance Events/Information
 - Hourmeter

Control Panel

- AUTO/OFF/MANUAL
 - Operation Through Onboard Buttons or Optional Key Switch
 - Indication Through Display Screen and LEDs

- Audible Alarm and Silence

- Auxiliary Shutdown Rocker Switch (on controller)

- Not-in-Auto Indication

Voltage Regulation

- Digital Control
- 3-Phase Sensing
- Variable V/F Slope Settings
- Negative Power Limit
- Loss of Sensing Protection
- Fault Protection (I^2T Function)
- High Voltage Limit
- Low Voltage Limit
- Maximum Power Limit

Governor Functionality

- Speed Control through ECM Integration

Communications Ports

- 1 CANbus Port
- 1 USB Port (for Configuration Transfer and Firmware Upgrades)
- 1 RS-485 Modbus Client Port (for External RAP/RRP/External I/O Modules)
- 1 RS-485 Modbus Server Port (for other uses, e.g. Building Management System)
- 2 RS-232 Communication Ports (for GGCAC or other uses)

Codes And Standards

- UL 6200
- CE
- NFPA 110

FIELD-INSTALLABLE ACCESSORIES

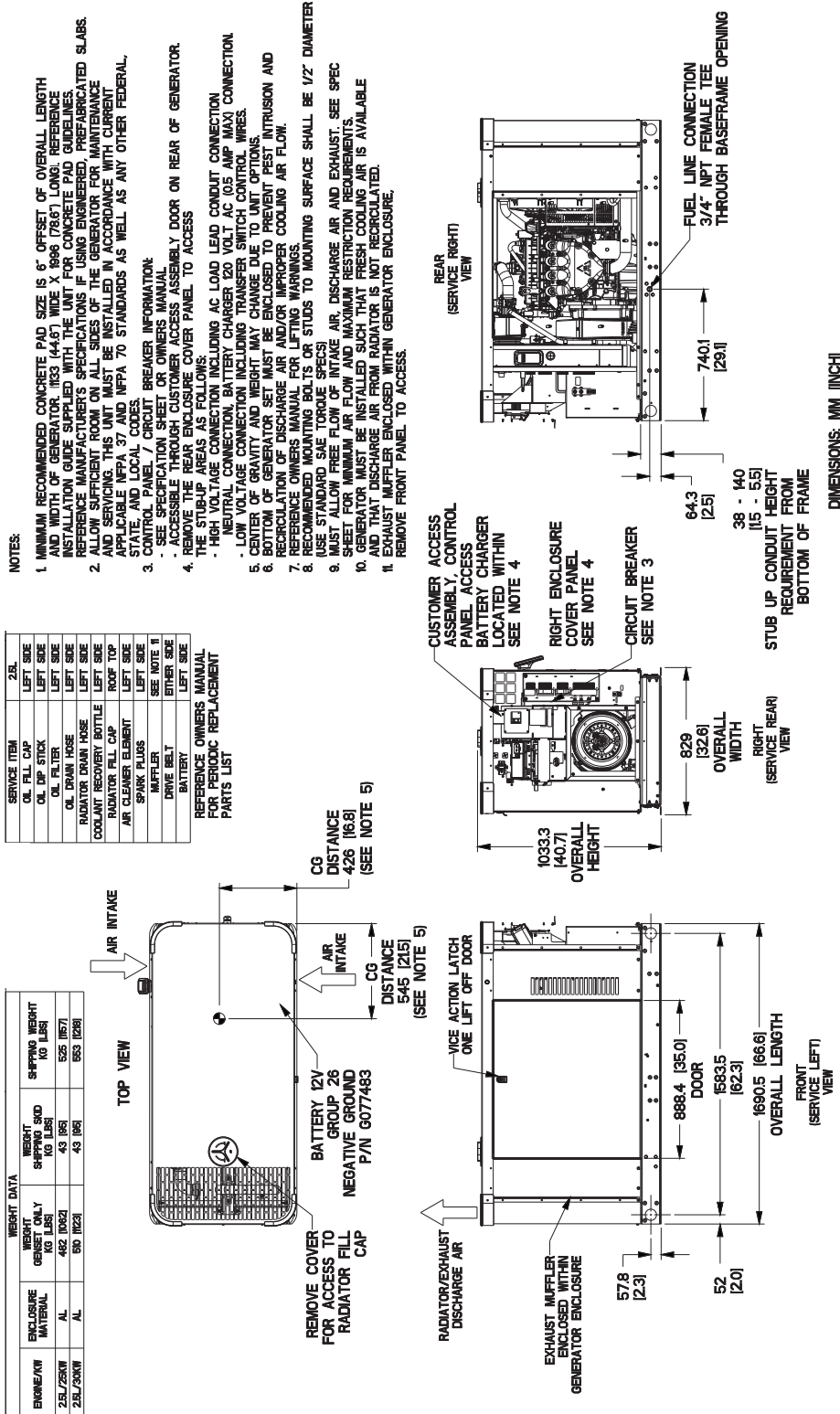
PRODUCT	PART NUMBER	DESCRIPTION
3-Phase XG Voltage Configuration Cartridges (VCC)		
XG025/30/32/35/40/48 'G' 208/120 V 3-Phase Voltage Configuration Cartridge	G0099010	Voltage Configuration Cartridge (VCC) for 208/120 V 3-phase output. It is INSTALLED in every 3-phase XG02525, XG03025, XG03245, XG03545, XG04045, and XG04845 model. Offered as an accessory if a replacement is needed for any reason. <u>For use in 3-phase XG02525, XG03025, XG03245, XG03545, XG04045, and XG04845 models only.</u>
XG025/30/32/35/40/48 'J' 240/120 V 3-Phase Voltage Configuration Cartridge	G0099020	Voltage Configuration Cartridge (VCC) for 240/120 V 3-phase output. It is NOT included with any XG02525, XG03025, XG03245, XG03545, XG04045, or XG04845 model. <u>For use in 3-phase XG02525, XG03025, XG03245, XG03545, XG04045, and XG04845 models only.</u>
XG025/30/32/35/40/48 'K' 480/277 V 3-Phase Voltage Configuration Cartridge	G0099030	Voltage Configuration Cartridge (VCC) for 480/277 V 3-phase output. It is NOT included with any XG02525, XG03025, XG03245, XG03545, XG04045, or XG04845 model. <u>For use in 3-phase XG02525, XG03025, XG03245, XG03545, XG04045, and XG04845 models only.</u>
3-Phase XG Circuit Breaker Kits		
50 A 3-Pole Circuit Breaker (CB) Kit	G0099035	3-pole, 50 A CB and mounting hardware (typical for 25 kW, 480/277 V 3-phase generator). Offered as a substitute for the standard Molded Case Switch (MCS) if a CB is required for the installation.
60 A 3-Pole Circuit Breaker (CB) Kit	G0099040	3-pole, 60 A CB and mounting hardware (typical for 30 & 32 kW, 480/277 V 3-phase generators). Offered as a substitute for the standard Molded Case Switch (MCS) if a CB is required for the installation.
90 A 3-Pole Circuit Breaker (CB) Kit	G0099055	3-pole, 90 A CB and mounting hardware (typical for 25 kW, 240/120 V 3-phase generator). Offered as a substitute for the standard Molded Case Switch (MCS) if a CB is required for the installation.
100 A 3-Pole Circuit Breaker (CB) Kit	G0099060	3-pole, 100 A CB and mounting hardware (typical for 25 kW, 208/120 V; 30 & 32 kW, 240/120 V; and 60 kW, 480/277V 3-phase generators). Offered as a substitute for the standard Molded Case Switch (MCS) if a CB is required for the installation.
125 A 3-Pole Circuit Breaker (CB) Kit	G0099070	3-pole, 125 A CB and mounting hardware (typical for 30 & 32 kW, 208/120 V and 40 kW, 240/120 V 3-phase generators). Offered as a substitute for the standard Molded Case Switch (MCS) if a CB is required for the installation.
Control System Kits		
Generator Ready-Status Indicator Kit	G0099100	3-color LED providing at-a-glance indication of generator ready-to-run status. The display mounts to the front of the generator and plugs into the wire harness.
Enclosure Mounted Emergency Stop Kit	G0079930	Emergency Stop consists of a red push button switch. It mounts to the exterior of the generator enclosure replacing the Generator Emergency Shutdown push-button switch in the same location.
Remote Emergency Stop Kit, Surface Mount	G0099250	Emergency Stop consists of a red push button switch with twist release. The switch has an aluminum enclosure which can be mounted extending out from a surface. It mounts remote from the generator such as near an electrical panel.
Remote Emergency Stop Kit, Flush Mount	G0099260	Emergency Stop consists of a red push button switch with twist release. The switch has an aluminum enclosure which can be mounted flush. It mounts remote from the generator such as near an electrical panel.
Remote Emergency Stop Kit, Break Glass	G0099270	Emergency Stop consists of a spring-loaded switch behind breakable glass. The glass can be broken with the tethered hammer. The switch has an aluminum enclosure which can be mounted extending out from a surface. It mounts remote from the generator such as near an electrical panel.
Generac Load Manager, 50 A	G0070001	50 A Load Manager for 1-phase loads helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac Load Manager, 100 A	G0070061	100 A Load Manager for 1-phase loads helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac LTE Propane Tank Fuel Level Monitor	G0070090	The Propane Tank Fuel Level Monitor connects to 4G LTE cellular service to measure and report the amount of LP fuel remaining in the tank. The app alerts the user of both remaining LP fuel and usage reports.

FIELD-INSTALLABLE ACCESSORIES

PRODUCT	PART NUMBER	DESCRIPTION
Power Zone Kits		
NFPA 110 Controller Kit	G0099120	Includes controller module with Key Switch, Alarm Horn, and Emergency Stop Switch which connects to the Power Zone 410 controller. The module mounts below the controller and is visible through the control panel cover. The G0098511, G0098521, or G0098531 panel and a capable transfer switch are required to be considered for NFPA 110 system control and remote annunciation.
Remote Annunciator Panel with 8 Relays	G0098511	Remote annunciator panel with relays. The panel mounts in the structure that is connected to the backup generator.
Remote Relay Panel	G0098521	Remote relay panel without LEDs or keypad. The panel mounts in the structure that is connected to the backup generator.
Remote Annunciator Panel without Relays	G0098531	Remote annunciator panel without relays. The panel mounts in the structure that is connected to the backup generator.
Power Zone 410 I/O Extender Kit	G0089370	The kit expands I/O for the Power Zone 410 controller to provide connections for additional accessories. <u>It is required for installation of the G0099850 Engine Block Heater Kit.</u> It connects to the controller with a 3-wire RS-485 interface.
Power Zone Gateway Kit	G0089360	The Gateway kit provides an Ethernet connection port for the generator for a Building Management System (BMS). The Gateway is NOT intended for or able to be used with Mobile Link or Fleet.
Operating Environment Kits		
Battery Heater Kit, 2.5 L	G0099870	Recommended for operating environments where the temperature drops below 32 °F (0 °C). The heater is externally powered by 120 VAC, 60 Hz <u>connecting directly to the utility power on the generator terminal block.</u> Fits XG02525 and XG03025 models only.
Engine Block Heater Kit, 2.5 L	G0099850	Recommended for operating environments where the temperature drops below 0 °F (-18 °C). The heater is externally powered by 120 VAC, 60 Hz. The kit includes a relay-controlled weather tight GFCI receptacle for the heater power cord plug. <u>The G0089370 Power Zone 410 I/O Extender Kit is required for the heater installation.</u> Fits XG02525 and XG03025 models only.
Installation Kits		
Baseframe Blockoff Kit, XG02525 & XG03025	G0099920	Aluminum panel and hardware to close off the bottom of the generator. It maintains correct airflow through the generator for cooling while keeping animals and objects out. It is required anytime the generator is elevated. Fits XG02525 and XG03025 models only.
Exhaust Diverter Kit, XG02525 & XG03025	G0099725	The exhaust diverter kit assembles to the top of the generator extending the full length of the roof. The exhaust is redirected from upward to the side at the front of the generator. Useful for keeping out small leaves or needles which could drop into the exhaust area or climates with heavy snowfall. Fits XG02525 and XG03025 models only.
Base Plug Kit	G0056510	Base plugs to fit in the lifting holes of the baseframe to keep debris out.
Maintenance Kits		
2.5 L Gaseous Engine Regular Maintenance Kit	G0073710	Regular maintenance kit includes oil filter, air filter, and spark plugs. Applies to XG02525 and XG03025.
Metro Gray Paint Kit	G0099180	It is important to touch-up the paint to protect against corrosion if the generator enclosure is scratched or damaged. The paint kit includes the necessary paint to correctly maintain or touch-up a generator enclosure.
Transfer Switch Kits		
3-Phase Voltage Sensing Kit for 208/120 & 240/120 V RTS Transfer Switch	G0074110	3-phase Voltage Sensing Kit is <u>required</u> for RTS Transfer Switches when used with the Power Zone 410 controller for 'G' 208/120 or 'J' 240/120 V 3-phase voltage. The kit is used with 3-phase XG02525, XG03025, XG03245, XG03545, XG04045, XG04845, XG06045, and XG08045 models configured for 'G' or 'J' voltage.
3-Phase Voltage Sensing Kit for 480/277 V RTS Transfer Switch	G0074120	3-phase Voltage Sensing Kit is <u>required</u> for RTS Transfer Switches when used with the Power Zone 410 controller for 'K' 480/277 V 3-phase voltage. The kit is used with 3-phase XG02525, XG03025, XG03245, XG03545, XG04045, XG04845, XG06045, and XG08045 models configured for 'K' voltage.

25-30 KW

Drawing # A0010443482 Rev C (1 of 2)

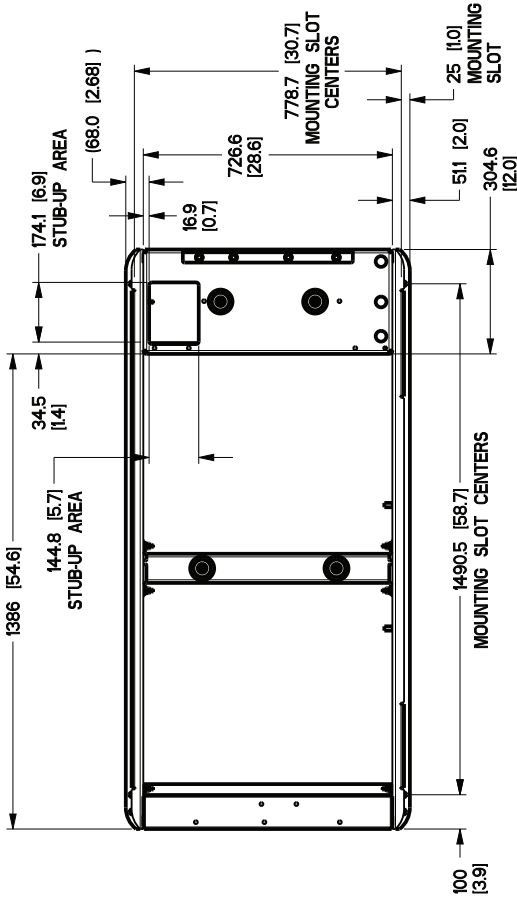


INSTALLATION DRAWING

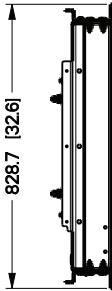
25-30 KW

Drawing # A0010443482 Rev C (2 of 2)

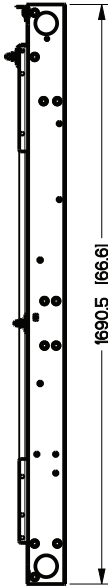
NOTE:
STUB-UP AREA FOR HIGH AND LOW
VOLTAGE CONNECTIONS, CIRCUIT BREAKER,
NEUTRAL AND CUSTOMER CONNECTION OPENING.



TOP VIEW



RIGHT
(SERVICE REAR)
SIDE VIEW



FRONT
(SERVICE LEFT)
SIDE VIEW