

Protector™ Series

Diesel Generator Set

INCLUDES:

- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese) with external viewing window for easy indication of generator status and breaker position.
- Isochronous Electronic Governor
- Sound Attenuated Aluminum Enclosure
- Smart Battery Charger
- UV / Ozone Resistant Hoses
- ±1% Voltage Regulation
- Five Year Limited Warranty

Not for sale in US/CA

Standby Power Rating

Model RD015 - 15 kW 60 Hz
Model RD020 - 20 kW 60 Hz
Model RD030 - 30 kW 60 Hz
Model RD048 - 48 kW 60 Hz (single phase only)
Model RD050 - 50 kW 60 Hz (three phase only)



QUIET-TEST™



*Assembled in the USA using domestic and foreign parts

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.
- **TEST CRITERIA:**
 - ✓ PROTOTYPE TESTED
 - ✓ SYSTEM TORSIONALTESTED
 - ✓ NEMA MG1-22 EVALUATION
 - ✓ MOTOR STARTING ABILITY
- **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 ±1%.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer 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 that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

15 • 20 • 30 • 48 • 50 kW**GENERATOR SPECIFICATIONS**

Type	Synchronous
Rotor Insulation Class	H (15 & 20 kW) or F (30, 48, & 50 kW)
Stator Insulation Class	H
Telephone Interference Factor (TIF)	< 50
Alternator Output Leads 1-Phase	Three wire
Alternator Output Leads 3-Phase	Six wire
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Excitation System	Direct
Total Harmonic Distortion	< 5%

VOLTAGE REGULATION

Type	Electronic
Sensing	Single Phase
Regulation	± 1%
Features	Adjustable Voltage & Gain

GOVERNOR SPECIFICATIONS

Type	Electronic Isochronous
Steady State Regulation	± 0.25%

ELECTRICAL SYSTEM

Battery Charge Alternator	50 Amp (15 & 20 kW), 65 Amp (30 kW), or 70 Amp (48 & 50 kW)
Static Battery Charger	2 Amp
Recommended Battery (battery not included)	Group 27F, 700CCA* *Group 31, 925CCA batteries can also be used with the 30kW
System Voltage	12 Volts

ALTERNATOR SPECIFICATIONS

Revolving field heavy duty generator Directly connected to the engine Operating temperature rise 120°C above a 40°C ambient Class H insulation is NEMA rated Class F insulation is NEMA rated All models fully prototype tested
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ENCLOSURE FEATURES

Aluminum weather protective enclosure	Ensures protection against mother nature. Electrostatically applied textured epoxy paint for added durability.
Enclosed critical grade muffler	Quiet, critical grade muffler is mounted inside the unit to prevent injuries and maximize sound dampening.
Small, compact, attractive	Makes for an easy, eye appealing installation.
SAE	Sound attenuated enclosure ensures quiet operation.

ENGINE SPECIFICATIONS: 15 & 20 kW

Make	Mitsubishi
Model	In-line
Cylinders	4
Displacement (Liters)	2.505
Bore (in / mm)	3.46 / 88
Stroke (in / mm)	4.06 / 103
Compression Ratio	22:1
Intake Air System	Naturally Aspirated
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum

ENGINE SPECIFICATIONS: 30 kW

Make	Perkins
Model	In-line
Cylinders	4
Displacement (Liters)	2.216
Bore (in / mm)	3.30 / 84
Stroke (in / mm)	3.94 / 100
Compression Ratio	23.3:1
Intake Air System	Turbocharged / Aftercooled
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum

ENGINE SPECIFICATIONS: 48 & 50 kW

Make	Generac
Model	In-line
Cylinders	4
Displacement (Liters)	3.4
Bore (in / mm)	3.86 / 98
Stroke (in / mm)	4.45 / 113
Compression Ratio	18.5:1
Intake Air System	Turbocharged / Aftercooled
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum

ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full flow spin-on canister
Crankcase Capacity (quarts / liters)	6.87 / 6.5 - 15 & 20 kW 11.2 / 10.6 - 30 kW 7.4 / 7 - 48 & 50 kW

FUEL SYSTEM

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Pump Type	Mechanical Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line (mm / in)	7.94 / 0.31 (ID)
Fuel Return Line (mm / in)	N/A - 15 & 20 kW 4.76 / 0.19 (ID) - 30 kW 7.94 / 7 (ID) - 48 & 50 kW
Fuel Specification	ASTM
Fuel Filtering (microns)	6 - 15 & 20 kW 25 - 30 kW 10 - 48 & 50 kW

ENGINE COOLING SYSTEM

Water Pump	Pre-lubed, self-sealing
Fan Speed (rpm)	2376 - 15 & 20 kW 1980 - 30 kW 2029 - 48 & 50 kW
Fan Diameter (in / mm)	18.11 / 460 (15 & 20 kW) 18 / 457.2 (30 kW) 22 / 559 (48 & 50 kW)
Fan Mode	Pusher

TANK SPECIFICATIONS

Total Size (gallons/liters)	45 / 170.3 - 15 & 20 kW 68 / 257.4 - 30, 48, & 50 kW
Usable Size (gallons/liters)	40 / 151.4 - 15 & 20 kW 61 / 230.9 - 30, 48, & 50 kW
Run Time @ 1/2 Load (hrs)	48.7 - 15 kW 38.8 - 20 kW 44.5 - 30 kW 26.5 - 48 & 50 kW

WEIGHTS AND DIMENSIONS

Model	Weight (lb / kg)	Dimensions (L x W x H) (in / cm)
15 kW	1372 / 622	62 x 31 x 49 / 158 x 78 x 124
20 kW	1372 / 622	62 x 31 x 49 / 158 x 78 x 124
30 kW	1726 / 783	77 x 35 x 57 / 195 x 89 x 147
48 & 50 kW	1953 / 886	77 x 35 x 55 / 195 x 89 x 141

15 • 20 • 30 • 48 • 50 kW**application and engineering data****GENERATOR OUTPUT VOLTAGE / KW-60 HZ**

		kW (standby)	Amp (standby)	kW (Prime)	Amp (Prime)	CB Size
RD015	120/240 V, 1Ø, 1.0 pf	15	62	12	50	70
	120/208 V, 3Ø, 0.8 pf	15	52	12	42	60
	120/240 V, 3Ø, 0.8 pf	15	45	12	36	50
RD020	120/240 V, 1Ø, 1.0 pf	20	83	16	67	100
	120/208 V, 3Ø, 0.8 pf	20	69	16	56	80
	120/240 V, 3Ø, 0.8 pf	20	60	16	48	70
RD030	120/240 V, 1Ø, 1.0 pf	30	125	24	100	150
	120/208 V, 3Ø, 0.8 pf	30	104	24	83	125
	120/240 V, 3Ø, 0.8 pf	30	90	24	72	100
	277/480 V, 3Ø, 0.8 pf	30	45	24	36	50
RD048	120/240 V, 1Ø, 1.0 pf	48	200	38.4	183	200
	120/208 V, 3Ø, 0.8 pf	50	173	40	153	200
RD050	120/240 V, 3Ø, 0.8 pf	50	150	40	132	175
	277/480 V, 3Ø, 0.8 pf	50	75	40	66	90

SURGE CAPACITY IN AMPS

Voltage Dip @ < 0.4 pf

15% 30%

		15%	30%
RD015	120/240 V, 1Ø	53	129
	120/208 V, 3Ø	37	90
	120/240 V, 3Ø	32	78
RD020	120/240 V, 1Ø	87	211
	120/208 V, 3Ø	59	143
	120/240 V, 3Ø	51	124
RD030	120/240 V, 1Ø	66	168
	120/208 V, 3Ø	59	144
	120/240 V, 3Ø	51	125
	277/480 V, 3Ø	26	64
RD048	120/240 V, 1Ø	69	189
	120/208 V, 3Ø	90	218
RD050	120/240 V, 3Ø	78	189
	277/480 V, 3Ø	36	87

ENGINE FUEL CONSUMPTION

gal/hr

L/hr

		gal/hr	L/hr
RD015	25% of rated load	0.60	2.27
	50% of rated load	0.85	3.22
	75% of rated load	1.10	4.16
	100% of rated load	1.46	5.53
RD020	25% of rated load	0.77	2.9
	50% of rated load	1.03	3.90
	75% of rated load	1.46	5.53
	100% of rated load	1.97	7.46
RD030	25% of rated load	0.97	3.67
	50% of rated load	1.37	5.19
	75% of rated load	1.97	7.46
	100% of rated load	2.77	10.49
RD048 RD050	25% of rated load	1.35	5.11
	50% of rated load	2.15	8.14
	75% of rated load	3.06	11.58
	100% of rated load	3.98	15.07

15 • 20 • 30 • 48 • 50 kW

ENGINE COOLING

	15 kW	20 kW	30 kW	48 & 50 kW
Air flow (inlet air including alternator and combustion air in cfm/cmm)	2750 / 78	2750 / 78	2800 / 79	2824 / 80
System coolant capacity (gal/liters)	3.0 / 11.4	3.0 / 11.4	2.5 / 9.5	2.8 / 10.6
Heat rejection to coolant (BTU per hr/MJ per hr)	95,220 / 100.5	95,220 / 100.5	128,638 / 135.7	135,900 / 143.4
Maximum operation air temperature on radiator (°C/°F)	50 / 122			
Maximum ambient temperature (°C/°F)	50 / 122			

COMBUSTION REQUIREMENTS

Flow at rated power (cfm / cmm)	86.3 / 2.4	86.3 / 2.4	88 / 2.5	190 / 5.38
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SOUND EMISSIONS

Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode*	65			
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load*	70			

EXHAUST

Exhaust flow at rated output (cfm/cmm)	98.88 / 2.8	98.88 / 2.8	296.6 / 8.4	448 / 12.7
Exhaust temperature at rated output (°C/°F)	482 / 900	482 / 900	499 / 930	604.4 / 1120

ENGINE PARAMETERS

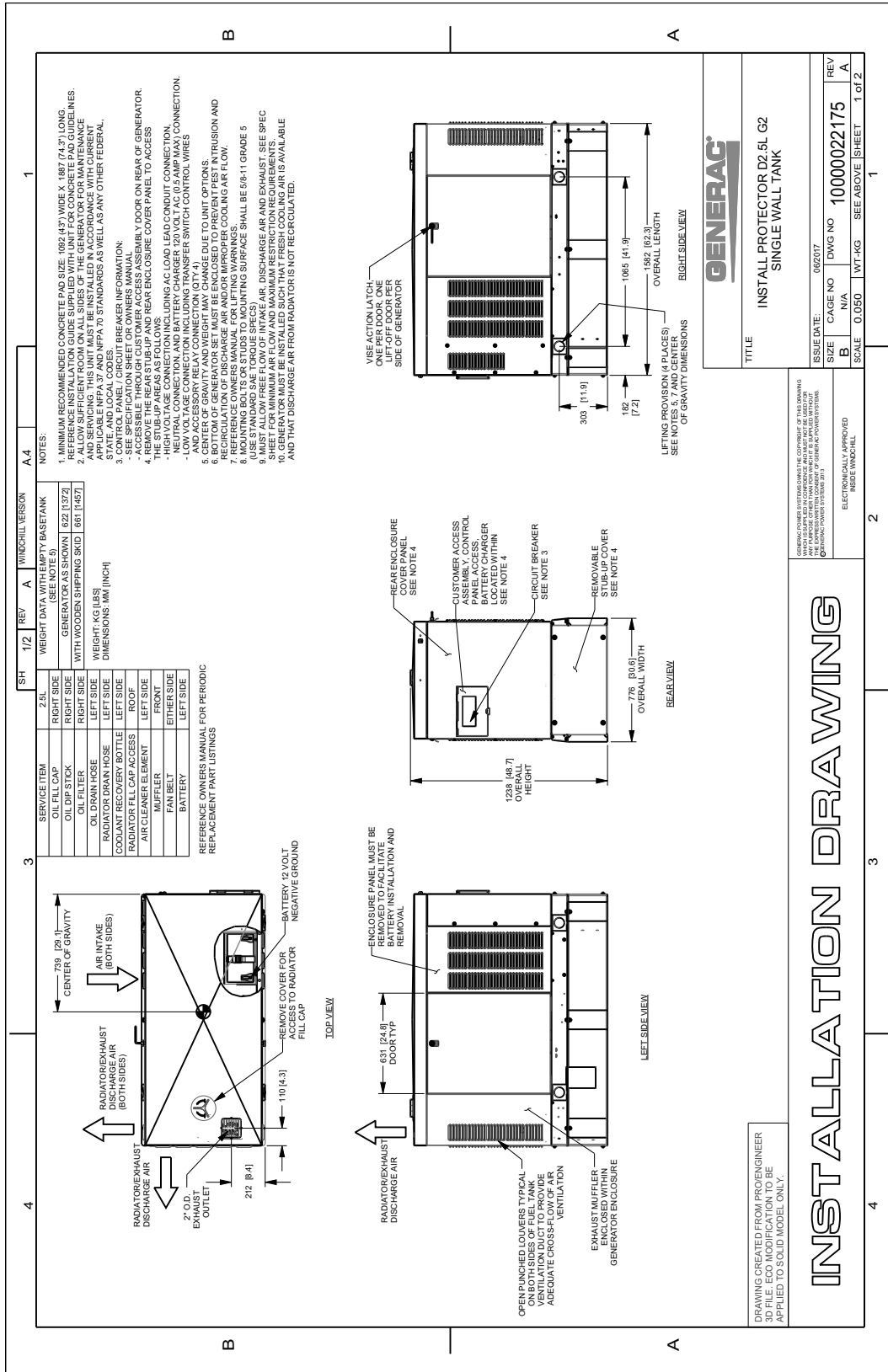
Rated Synchronous RPM	1800			
HP at rated kW	26.4	33.5	49	85

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

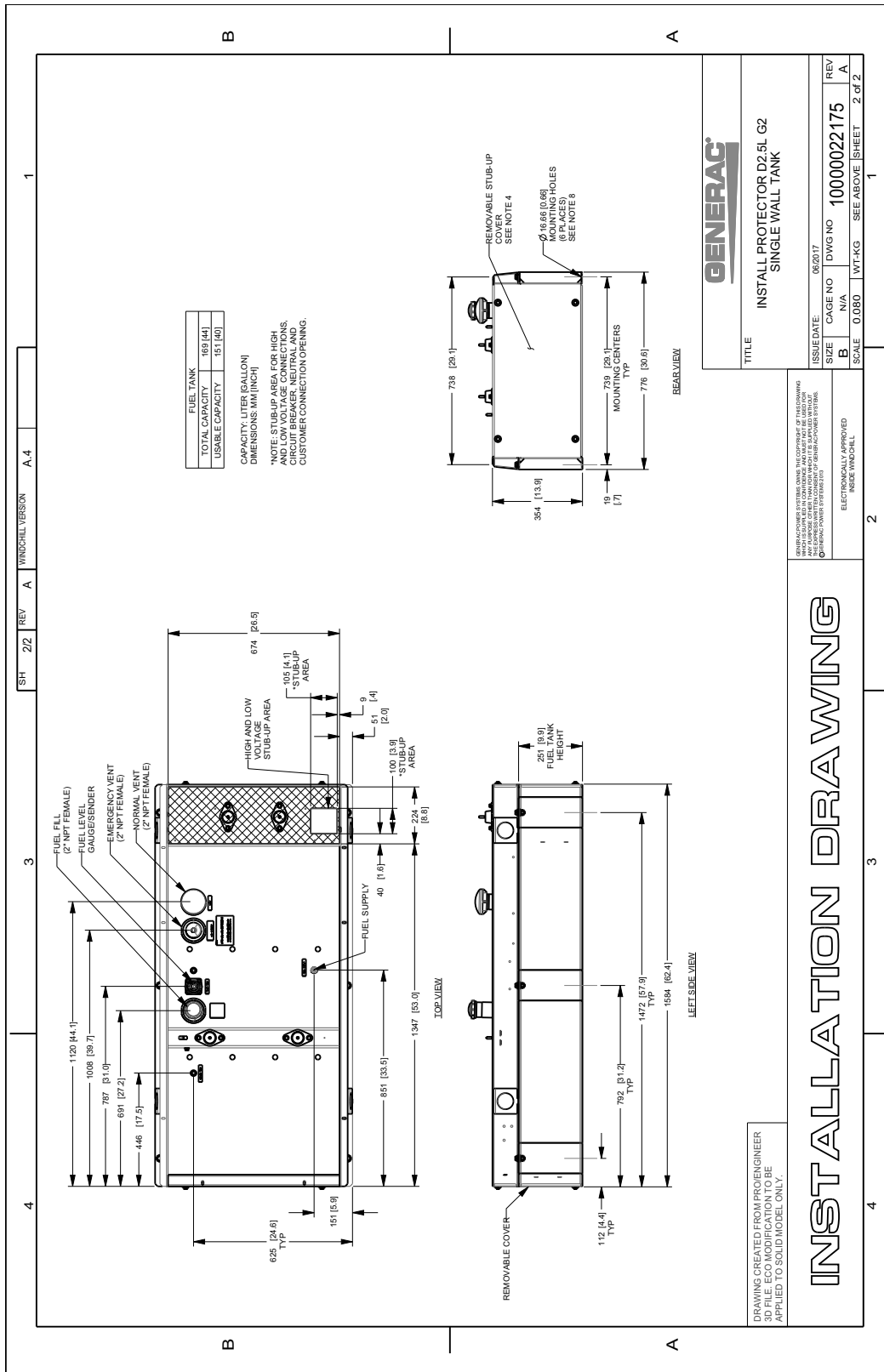
Temperature Deration	3% for every 5 °C above 25 °C or 1.7% for every 5 °F above 77 °F
Altitude Deration (15, 30, 48 & 50 kW).....	1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft
Altitude Deration (20 kW)	1% for every 100 m above 305 m or 3% for every 1000 ft above 1000 ft

CONTROLLER FEATURES

2-Line Plain Text Multilingual LCD Display	Simple user interface for ease of operation.
Mode Buttons: Auto	Automatic Start on Utility failure. Programmable 7 day exerciser.
Manual	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Off	Stops unit. Power is removed. Control and charger still operate.
Ready to Run/Maintenance Message	Standard
Engine Run Hours Indication	Standard
Programmable start delay between 2-1500 seconds	Five seconds standard (programmable by dealer only)
Utility Voltage Loss/Return to Utility Adjustable	From 140-171 V/190-216 V
Future Set Capable Exerciser/Exercise Set Error Warning	Standard
Run/Alarm/Maintenance Logs	50 Events Each
Engine Start Sequence	Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration)
Starter Lock-out	Starter cannot re-engage until 5 seconds after engine has stopped.
Smart Battery Charger	Standard
Charger Fault/Missing AC Warning	Standard
Low Battery/Battery Problem Protection and Battery Condition Indication	Standard
Automatic Voltage Regulation with Over and Under Voltage Protection	Standard
Under-Frequency/Overload/Stepper Overcurrent Protection	Standard
Safety Fused/Fuse Problem Protection	Standard
Automatic Low Oil Pressure Shutdown	Standard
Overcrank/Overspeed (@ 72 Hz)/RPM Sense Loss Shutdown	Standard
High Engine Temperature Shutdown	Standard
Internal Fault/Incorrect Wiring Protection	Standard
Common External Fault Capability	Standard
Field Upgradeable Firmware	Standard
Low Coolant Level Shutdown	Standard
Auxiliary Shutdown	Standard

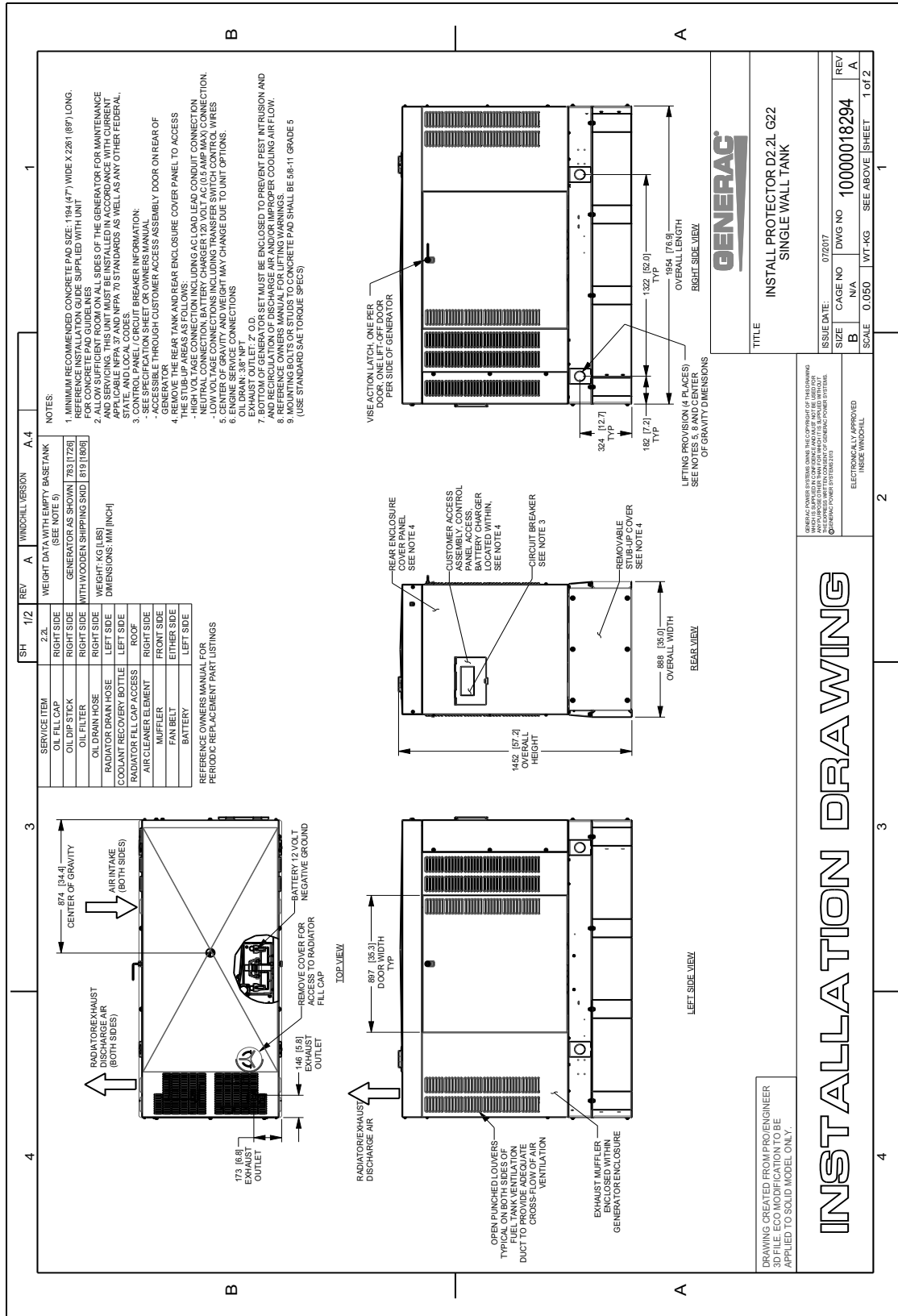


D2.5L G2 Single Wall (2 of 2)



30 kW

D2.2L G22 Single Wall (1 of 2)



30 kW

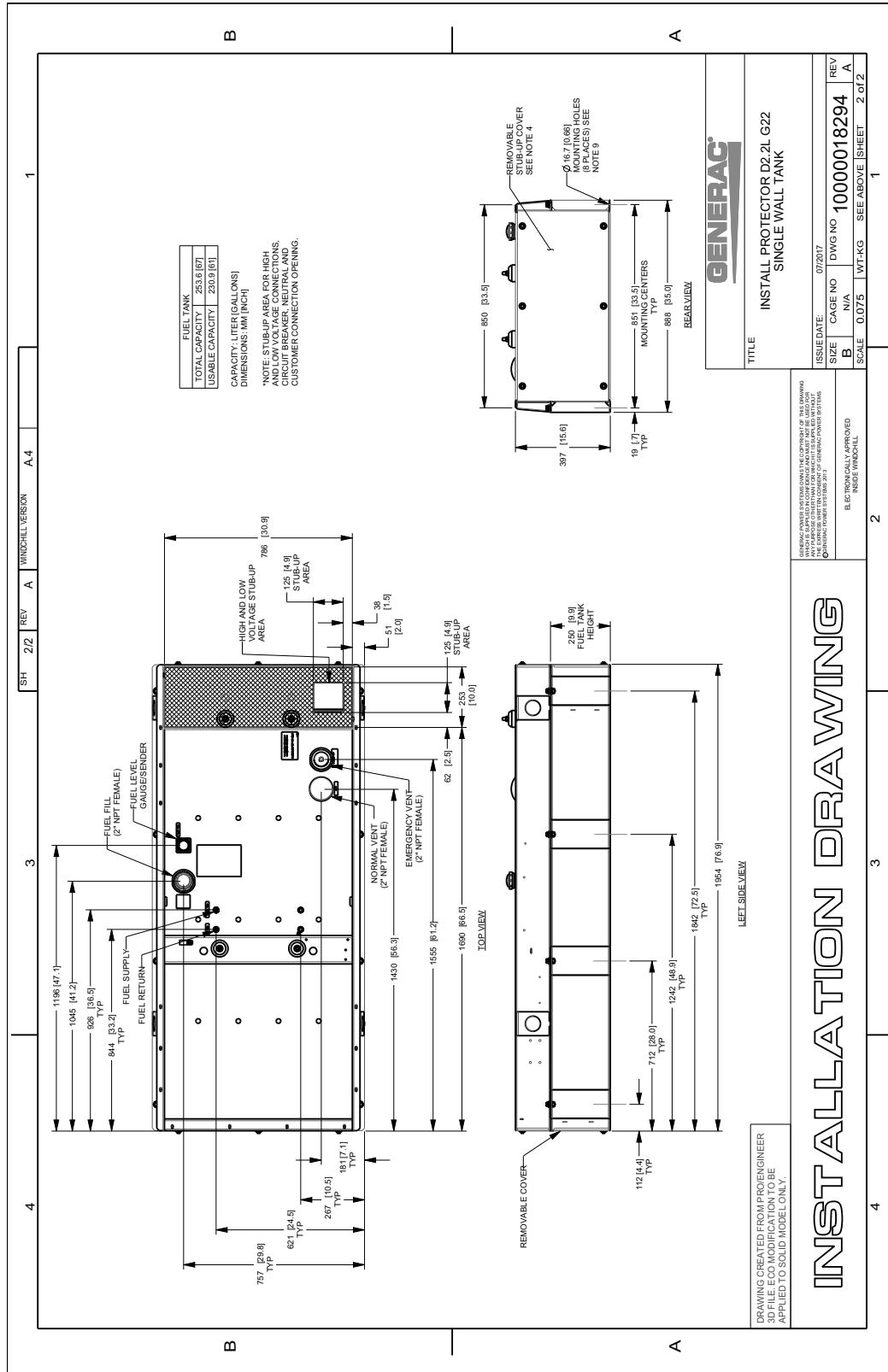
GENERAC

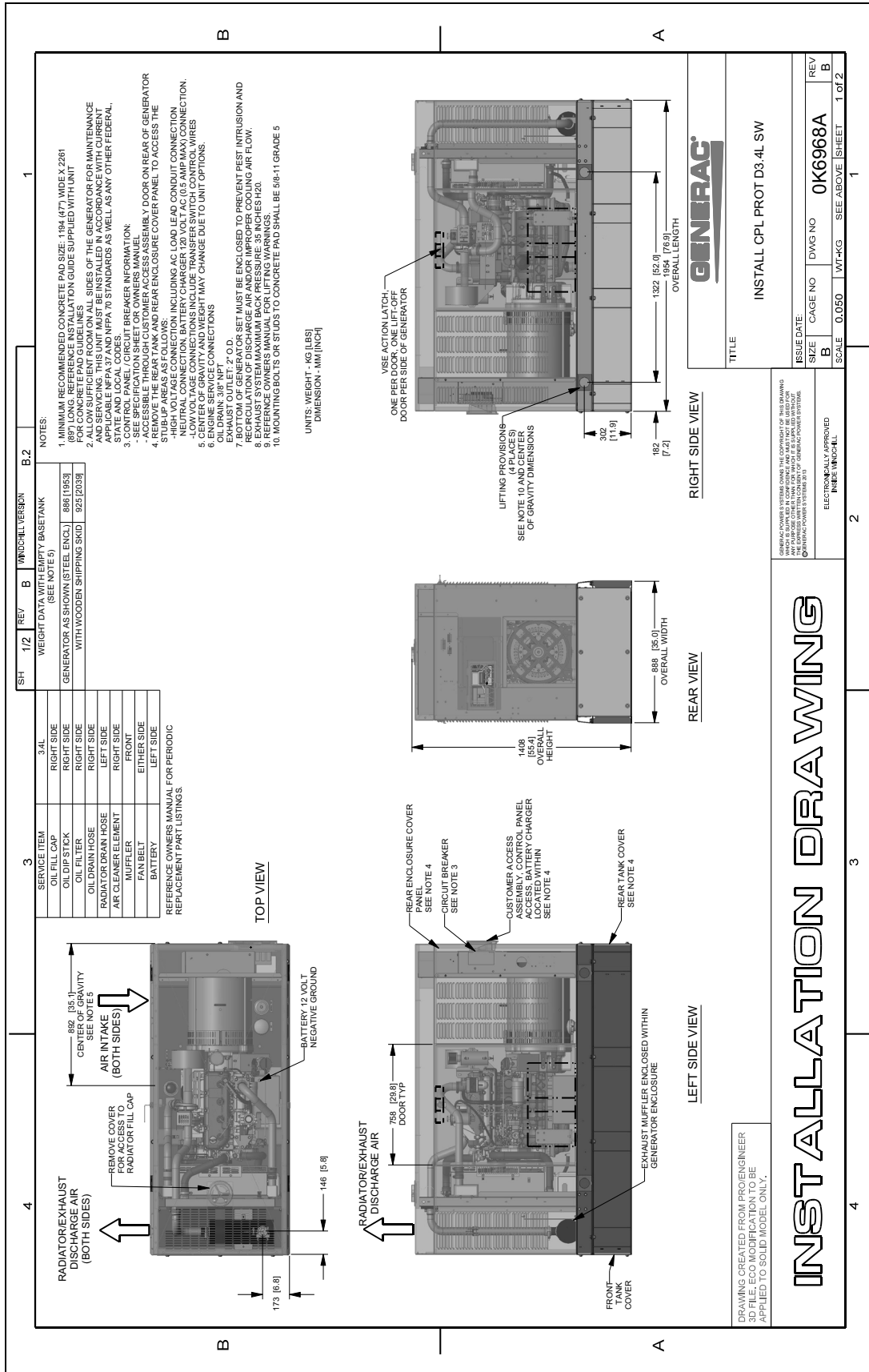
installation layout

D2.2L G22 Single Wall (2 of 2)

Protector™

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- NOTES:**
1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 184 (47) WIDE X 2281 (60) LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT
 2. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT STATE AND LOCAL CODES.
 3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL.
 - REMOVE THE REAR TANK AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
 - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION TO THE GENERATOR.
 - LOW VOLTAGE CONNECTIONS INCLUDE TRANSFER SWITCH CONTROL WIRES.
 - BATTERY SERVICE CONNECTIONS
 - EXHAUST OUTLET, 2" O.D.
 4. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND AIR FLOW.
 5. EXHAUST SYSTEM MAXIMUM BACK PRESSURE: 35 INCHES H₂O.
 6. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 7. MOUNTING BOLTS OR STUDS TO CONCRETE PAD SHALL BE 5/8-11 GRADE 5

UNITS: WEIGHT - KG (LBS)
DIMENSION - MM (INCH)

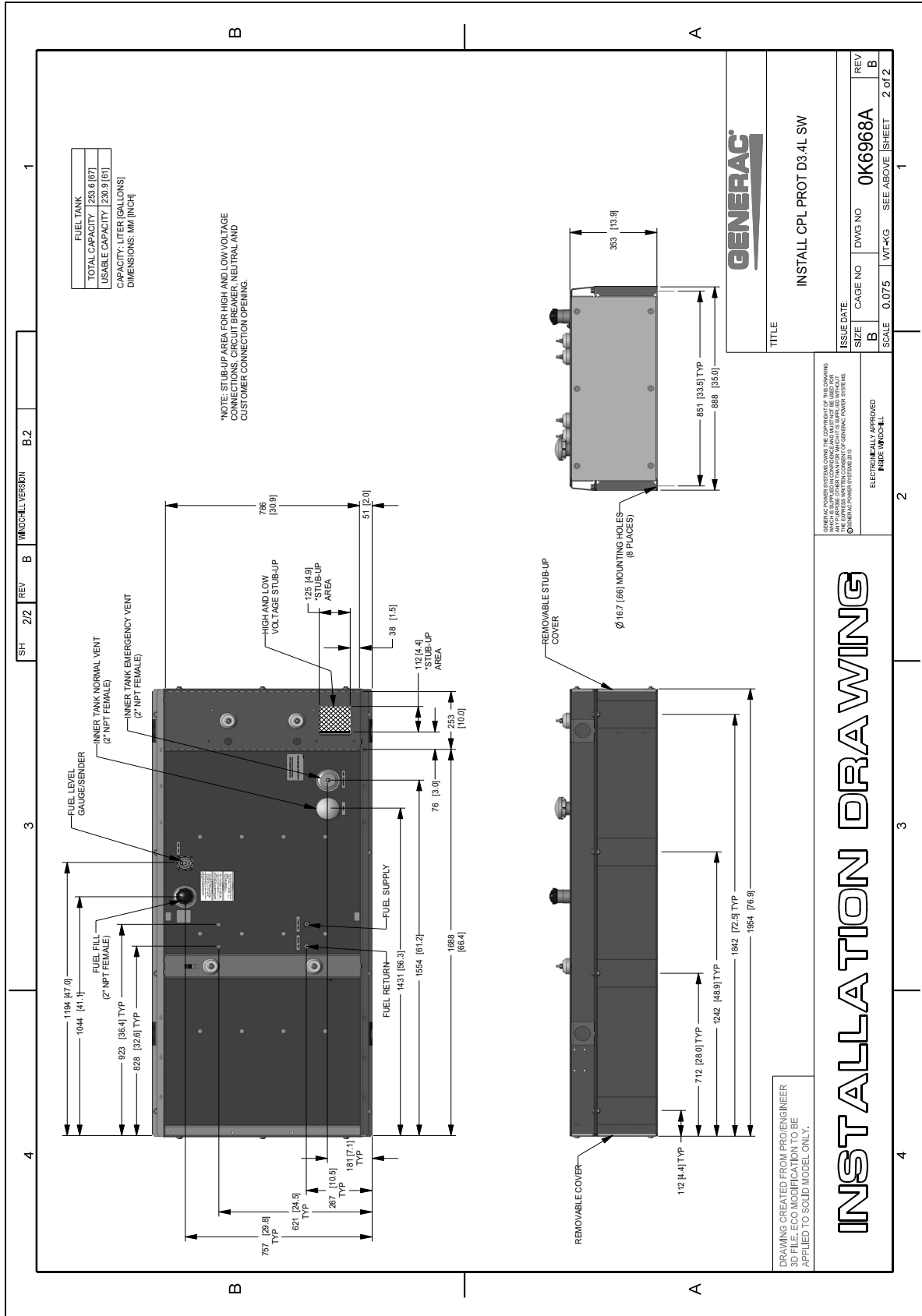
SH	1/2	REV	B	WINDCHILL VERSION	B.2	1
WEIGHT DATA WITH EMPTY BASE TANK (SEE NOTE 5)						
GENERATOR AS SHOWN (STEEL ENCL.) 886 [1953]						
WITH WOODEN SHIPPING SKID 925 [2038]						

3.4L	RIGHT SIDE
OIL FILL CAP	RIGHT SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	RIGHT SIDE
OIL DRAIN HOSE	RIGHT SIDE
RADIATOR DRAIN HOSE	LEFT SIDE
AIR CLEANER ELEMENT	RIGHT SIDE
MUFFLER	FRONT
FAN BELT	EITHER SIDE
BATTERY	LEFT SIDE

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.

48 • 50 kW

D3.4L Single Wall (2 of 2)



15 • 20 • 30 • 48 • 50 kW

GENERAC®
 available accessories

MODEL #	PRODUCT	DESCRIPTION
G006505-0 - 15 & 20 kW G006506-0 - 30, 48, & 50 kW	Tank Risers	Tank risers are required in some municipalities to help avoid potential base tank corrosion caused by mounting on rough surfaces.
G006512-0	Lockable Fuel Cap	The cast iron, lockable fuel cap provides the ability to lock the fuel system to prevent unwanted fuel tampering or fuel siphoning.
G007640-0 - 15 & 20 kW G007641-0 - 30 kW G006570-0 - 48 & 50 kW	Maintenance Kits	The Protector Maintenance Kits offer all the hardware necessary to perform complete maintenance on Ottomores Protector generators.
G007650-0 - 15 & 20 kW G007651-0 - 30 kW G006558-0 - 48 & 50 kW	Cold Weather Kits	Recommended for generators installed in regions where the temperature regularly falls below 32 °F (0 °C). The Cold Weather Kits consist of a block heater with all necessary mounting hardware and a battery warmer with a thermostat built into the battery wrap.
G005703-0	Paint Kit	If the generator enclosure is scratched or damaged, it is important to touch up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch up a generator enclosure.
G006873-0	Smart Management Module (50 Amps)	Manage large loads by utilizing up to 8 individual Smart Management Modules. These devices are installed directly in line with existing appliance wiring for easy installation.