

# GENERAC®

## QuietSource® Series

### QUIETSOURCE® SERIES Standby Generators Liquid-Cooled Gas Engine

#### INCLUDES:

- Two Line LCD Tri-Lingual Digital Nexus™ Controller
- Isochronous Electronic Governor
- Sound Attenuated Enclosure
- Closed Coolant Recovery System
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- $\pm 1\%$  Voltage Regulation
- Natural Gas or LP Operation
- 2 Year Limited Warranty
- UL 2200 Listed

#### Standby Power Rating

Model QT022 (Aluminum - Gray) - 22 kW 60Hz  
 Model QT027 (Aluminum - Gray) - 27 kW 60Hz  
 Model QT036 (Aluminum - Gray) - 36 kW 60Hz  
 Model QT048 (Aluminum - Gray) - 48 kW 60Hz



**QUIET-TEST**

Meets EPA Emission Regulations  
 22 & 27kW are CA/MA emissions compliant  
 48kW meets CA/MA emissions requirements with optional catalyst  
 36kW not for sale in CA/MA

## 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 TORSIONAL TESTED
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
- **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 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.

# GENERAC®



## 22 • 27 • 36 • 48 kW

## application & engineering data

### GENERATOR SPECIFICATIONS

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Type                                | Synchronous                         |
| Rotor Insulation Class              | H (22 & 27 kW) or<br>F (36 & 48 kW) |
| Stator Insulation Class             | H                                   |
| Telephone Interference Factor (TIF) | <50                                 |
| Alternator Output Leads 1-Phase     | 4 wire                              |
| Alternator Output Leads 3-Phase     | 6 wire                              |
| Bearings                            | Sealed Ball                         |
| Coupling                            | Flexible Disc                       |
| Excitation System                   | Direct                              |

### VOLTAGE REGULATION

|            |              |
|------------|--------------|
| Type       | Electronic   |
| Sensing    | Single Phase |
| Regulation | ± 1%         |

### GOVERNOR SPECIFICATIONS

|                         |             |
|-------------------------|-------------|
| Type                    | Electronic  |
| Frequency Regulation    | Isochronous |
| Steady State Regulation | ± 0.25%     |

### ELECTRICAL SYSTEM

|                           |                                                           |
|---------------------------|-----------------------------------------------------------|
| Battery Charge Alternator | 12 Volt 30 Amp                                            |
| Static Battery Charger    | 2 Amp                                                     |
| Recommended Battery       | Group 26 (22, 27 & 36 kW)<br>or Group 24F (48 kW), 525CCA |
| System Voltage            | 12 Volts                                                  |

### GENERATOR FEATURES

|                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Revolving field heavy duty generator<br>Directly connected to the engine<br>Operating temperature rise 120 °C above a 40 °C ambient<br>Class H insulation is rated at 150 °C rise at 25 °C ambient<br>Class F insulation is rated at 145 °C rise at 25 °C ambient<br>All models fully prototyped tested |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 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.                                  |
| Small, compact, attractive            | Makes for an easy, eye appealing installation.                                                                 |
| SAE                                   | Sound attenuated enclosure ensures quiet operation.                                                            |

### ENGINE SPECIFICATIONS: 22, 27 & 36kW

|                       |                                                                         |
|-----------------------|-------------------------------------------------------------------------|
| Make                  | Generac                                                                 |
| Model                 | In-line                                                                 |
| Cylinders             | 4                                                                       |
| Displacement (Liters) | 2.4                                                                     |
| Bore (in/mm)          | 3.41/86.5                                                               |
| Stroke (in/mm)        | 3.94/100                                                                |
| Compression Ratio     | 9.5:1                                                                   |
| Intake Air System     | Naturally Aspirated (22 & 27 kW) or<br>Turbocharged/Aftercooled (36 kW) |
| Lifter Type           | Hydraulic                                                               |

### ENGINE SPECIFICATIONS: 48kW

|                       |                     |
|-----------------------|---------------------|
| Make                  | Generac             |
| Model                 | V-Type              |
| Cylinders             | 8                   |
| Displacement (Liters) | 5.4                 |
| Bore (in/mm)          | 3.55/90.2           |
| Stroke (in/mm)        | 4.17/105.9          |
| Compression Ratio     | 9:1                 |
| Intake Air System     | Naturally Aspirated |
| Lifter Type           | Hydraulic           |

### ENGINE LUBRICATION SYSTEM

|                                    |                                            |
|------------------------------------|--------------------------------------------|
| Oil Pump Type                      | Gear                                       |
| Oil Filter Type                    | Full flow spin-on cartridge                |
| Crankcase Capacity (quarts/liters) | 4/3.8 (22, 27 & 36 kW) or<br>6/5.7 (48 kW) |

### ENGINE COOLING SYSTEM

|                      |                                                     |
|----------------------|-----------------------------------------------------|
| Type                 | Closed                                              |
| Water Pump           | Belt driven                                         |
| Fan Speed (rpm)      | 1980 - 22 & 27 kW<br>1500 - 36 kW<br>1954 - 48 kW   |
| Fan Diameter (in/mm) | 18.1/459.7 (22 & 27 kW) or<br>22/558.8 (36 & 48 kW) |
| Fan Mode             | Pusher (22 & 27 kW) or<br>Puller (36 & 48 kW)       |

### FUEL SYSTEM

|                          |                            |
|--------------------------|----------------------------|
| Fuel Type                | Natural gas, propane vapor |
| Carburetor               | Down Draft                 |
| Secondary Fuel Regulator | Standard                   |
| Fuel Shut Off Solenoid   | Standard                   |
| Operating Fuel Pressure  | 5" - 14" H <sub>2</sub> O  |

**22 • 27 • 36 • 48 kW**
**operating data**
**GENERATOR OUTPUT VOLTAGE/kW - 60Hz**

|       |                       | kW LPG | Amp LPG | kW Nat. Gas | Amp Nat. Gas | CB Size (Both) |
|-------|-----------------------|--------|---------|-------------|--------------|----------------|
| QT022 | 120/240 V, 1Ø, 1.0 pf | 22     | 92      | 22          | 92           | 100            |
|       | 120/208 V, 3Ø, 0.8 pf | 22     | 76      | 22          | 76           | 80             |
|       | 120/240 V, 3Ø, 0.8 pf | 22     | 66      | 22          | 66           | 80             |
| QT027 | 120/240 V, 1Ø, 1.0 pf | 27     | 113     | 25          | 104          | 125            |
|       | 120/208 V, 3Ø, 0.8 pf | 27     | 94      | 25          | 87           | 100            |
|       | 120/240 V, 3Ø, 0.8 pf | 27     | 81      | 25          | 75           | 90             |
| QT036 | 120/240 V, 1Ø, 1.0 pf | 36     | 150     | 35          | 146          | 175            |
|       | 120/208 V, 3Ø, 0.8 pf | 36     | 125     | 35          | 121          | 150            |
|       | 120/240 V, 3Ø, 0.8 pf | 36     | 108     | 35          | 105          | 125            |
|       | 277/480 V, 3Ø, 0.8 pf | 36     | 54      | 35          | 53           | 60             |
| QT048 | 120/240 V, 1Ø, 1.0 pf | 48     | 200     | 48          | 200          | 200            |
|       | 120/208 V, 3Ø, 0.8 pf | 48     | 166.5   | 48          | 166          | 175            |
|       | 120/240 V, 3Ø, 0.8 pf | 48     | 144     | 48          | 144          | 150            |
|       | 277/480 V, 3Ø, 0.8 pf | 48     | 72      | 48          | 72           | 80             |

**SURGE CAPACITY IN AMPS**

|       |               | Voltage Dip @ < .4 pf |     |
|-------|---------------|-----------------------|-----|
|       |               | 15%                   | 30% |
| QT022 | 120/240 V, 1Ø | 89                    | 216 |
|       | 120/208 V, 3Ø | 74                    | 180 |
|       | 120/240 V, 3Ø | 64                    | 156 |
| QT027 | 120/240 V, 1Ø | 109                   | 265 |
|       | 120/208 V, 3Ø | 91                    | 221 |
|       | 120/240 V, 3Ø | 79                    | 192 |
| QT036 | 120/240 V, 1Ø | 54                    | 149 |
|       | 120/208 V, 3Ø | 87                    | 210 |
|       | 120/240 V, 3Ø | 75                    | 182 |
|       | 277/480 V, 3Ø | 36                    | 87  |
| QT048 | 120/240 V, 1Ø | 69                    | 189 |
|       | 120/208 V, 3Ø | 111                   | 269 |
|       | 120/240 V, 3Ø | 96                    | 233 |
|       | 277/480 V, 3Ø | 43                    | 104 |

**ENGINE FUEL CONSUMPTION**

|       |                    | Natural Gas |         | Propane  |        |
|-------|--------------------|-------------|---------|----------|--------|
|       |                    | (ft³/hr)    | (m³/hr) | (gal/hr) | (l/hr) |
| QT022 | Exercise cycle     | 42          | 1.2     | 0.44     | 1.7    |
|       | 25% of rated load  | 100         | 2.8     | 1.1      | 4.2    |
|       | 50% of rated load  | 190         | 5.4     | 2.1      | 7.8    |
|       | 75% of rated load  | 255         | 7.2     | 2.8      | 10.5   |
|       | 100% of rated load | 316         | 9       | 3.4      | 13     |
| QT027 | Exercise cycle     | 42          | 1.2     | 0.44     | 1.7    |
|       | 25% of rated load  | 108         | 3.1     | 1.2      | 4.5    |
|       | 50% of rated load  | 197         | 5.6     | 2.1      | 8.1    |
|       | 75% of rated load  | 287         | 8.2     | 3.1      | 11.8   |
|       | 100% of rated load | 359         | 10.2    | 3.9      | 14.8   |
| QT036 | Exercise cycle     | 48          | 1.4     | 0.5      | 2      |
|       | 25% of rated load  | 156         | 4.4     | 1.7      | 6.4    |
|       | 50% of rated load  | 282         | 8       | 3.1      | 11.6   |
|       | 75% of rated load  | 392         | 11.1    | 4.3      | 16.2   |
|       | 100% of rated load | 503         | 14.3    | 5.5      | 20.8   |
| QT048 | Exercise cycle     | 95          | 2.7     | 1        | 3.9    |
|       | 25% of rated load  | 204         | 5.8     | 2.16     | 8.5    |
|       | 50% of rated load  | 392         | 11.1    | 4.14     | 15.7   |
|       | 75% of rated load  | 547         | 15.5    | 5.8      | 22.8   |
|       | 100% of rated load | 756         | 21.5    | 7.96     | 31.3   |

Note: **Fuel pipe must be sized for full load.**

For Btu content, multiply ft³/hr x 2520 (LP) or ft³/hr x 1000 (NG)

For megajoule content, multiple m³/hr x 93.89 (LP) or m³/hr x 37.26 (NG)

Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

**STANDBY RATING:** 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. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

**22 • 27 • 36 • 48 kW**

**operating data**

**ENGINE COOLING**

|                                                                         | 22 kW        | 27 kW         | 36 kW       | 48 kW         |
|-------------------------------------------------------------------------|--------------|---------------|-------------|---------------|
| Air flow (inlet air including alternator and combustion air in cfm/cmm) | 2400/68      | 2400/68       | 2200/62.3   | 4350/123.2    |
| System coolant capacity (gal/liters)                                    | 3/11.4       | 3/11.4        | 2.5/9.5     | 3/11.4        |
| Heat rejection to coolant (BTU per hr/MJ per hr)                        | 99,000/104.5 | 105,000/110.8 | 145,000/153 | 186,000/196.2 |
| Maximum operation air temperature on radiator (°C/°F)                   | 60/150       |               |             |               |
| Maximum ambient temperature (°C/°F)                                     | 50/140       |               |             |               |

**COMBUSTION REQUIREMENTS**

|                               |        |        |       |         |
|-------------------------------|--------|--------|-------|---------|
| Flow at rated power (cfm/cmm) | 68/1.9 | 68/1.9 | 106/3 | 163/4.6 |
|-------------------------------|--------|--------|-------|---------|

**SOUND EMISSIONS**

|                                                                               |    |    |    |    |
|-------------------------------------------------------------------------------|----|----|----|----|
| Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode*         | 61 | 61 | 58 | 63 |
| Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load* | 70 | 70 | 64 | 68 |

\*Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters.

**EXHAUST**

|                                               |         |          |          |          |
|-----------------------------------------------|---------|----------|----------|----------|
| Exhaust flow at rated output (cfm/cmm)        | 165/4.7 | 180/5.1  | 300/8.5  | 414/11.7 |
| Exhaust temperature at muffler outlet (°C/°F) | 482/900 | 538/1000 | 579/1075 | 552/1025 |

**ENGINE PARAMETERS**

|                       |      |
|-----------------------|------|
| Rated Synchronous RPM | 1800 |
|-----------------------|------|

**POWER ADJUSTMENT FOR AMBIENT CONDITIONS**

Temperature Deration .....3% for every 10 °C above 25 °C or 1.65% for every 10 °F above 77 °F  
 Altitude Deration (22, 27 & 48 kW) .....1% for every 100 m above 183 m or 3% for every 1000 ft above 600 ft  
 Altitude Deration (36 kW) .....1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft

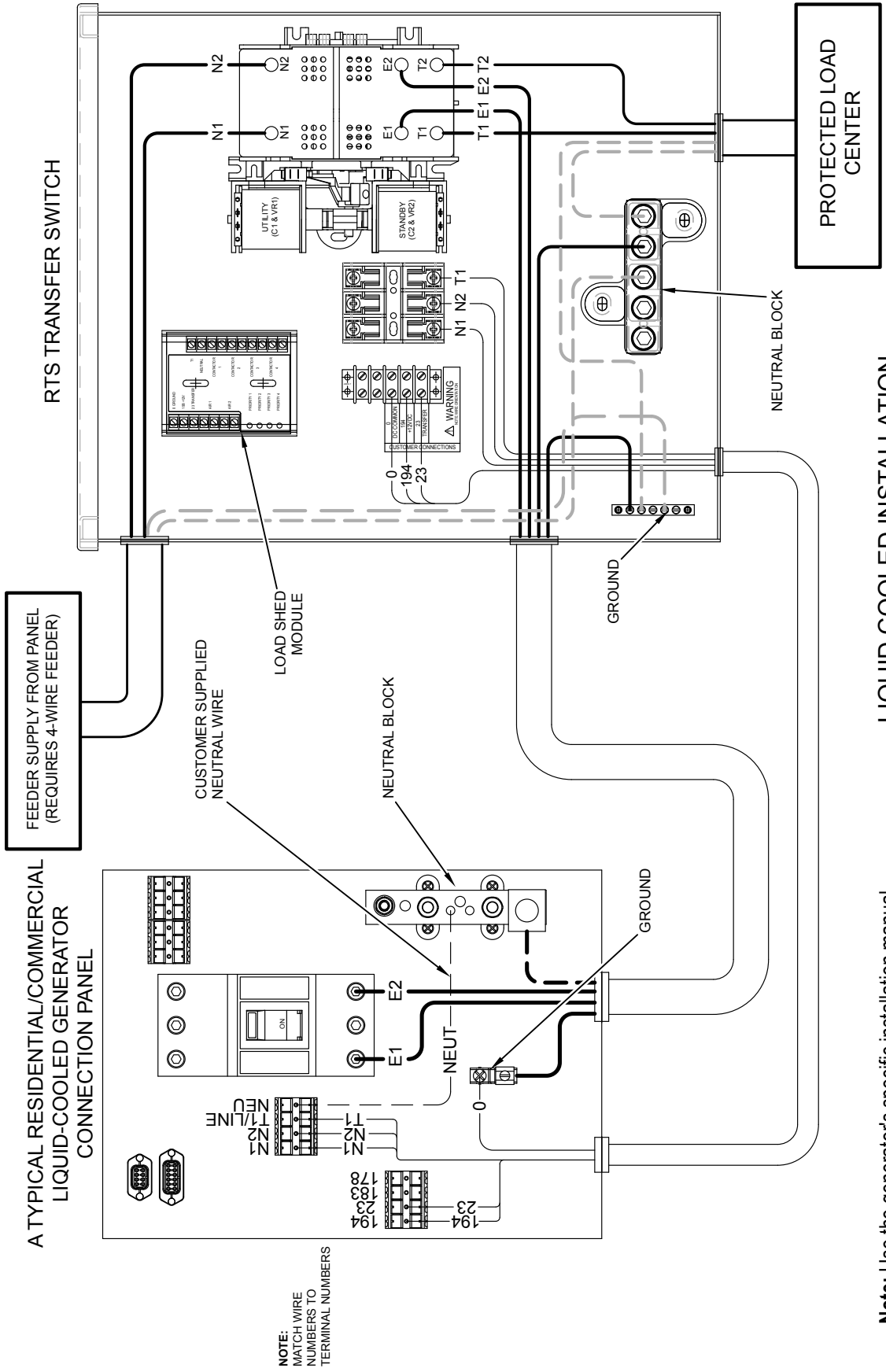
**CONTROLLER FEATURES**

2-Line Plain Text LCD Display.....Simple user interface for ease of operation.  
 Mode Switch: Auto .....Automatic Start on Utility failure. 7 day exerciser  
                   Off.....Stops unit. Power is removed. Control and charger still operate.  
                   Manual.....Start with starter control, unit stays on. If utility fails, transfer to load takes place.  
 Programmable start delay between 10-30 seconds ..... Standard  
 Engine Start Sequence.....Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration)  
 Engine Warm-up.....5 sec  
 Engine Cool-Down.....1 min  
 Starter Lock-out ..... Starter cannot re-engage until 5 sec after engine has stopped.  
 Smart Battery Charger ..... Standard  
 Automatic Voltage Regulation with Over and Under Voltage Protection..... Standard  
 Automatic Low Oil Pressure Shutdown ..... Standard  
 Overspeed Shutdown ..... Standard, 72 Hz  
 High Temperature Shutdown..... Standard  
 Overcrank Protection ..... Standard  
 Safety Fused ..... Standard  
 Failure to Transfer Protection..... Standard  
 Low Battery Protection..... Standard  
 50 Event Run Log..... Standard  
 Future Set Capable Exerciser..... Standard  
 Incorrect Wiring Protection..... Standard  
 Internal Fault Protection ..... Standard  
 Common External Fault Capability..... Standard  
 Governor Failure Protection ..... Standard

**22 • 27 • 36 • 48 kW**
**available accessories**

| Model #                                                       | Product                               | Description                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 005630-0 - 22, 27 & 36 kW<br>005632-0 - 48 kW                 | Cold Weather Kit                      | If the temperature regularly falls below 32 °F (0 °C), install a cold weather kit to maintain optimal battery temperature. Kit consists of battery warmer with thermostat built into the wrap.                                                                                                                   |
| 005616-0 - 22, 27 & 36 kW<br>006204-0 - 48 kW                 | Extreme Cold Weather Kit              | Recommended where the temperature regularly falls below 32 °F (0 °C) for extended periods of time. For liquid cooled units only.                                                                                                                                                                                 |
| 005621-0                                                      | Auxiliary Transfer Switch Contact Kit | The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load you may not need.                                                                                                                                                                                |
| 005651-0                                                      | Base Plug Kit                         | Add base plugs to the base of the generator to keep out debris.                                                                                                                                                                                                                                                  |
| 005704-0                                                      | 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.                                                                                   |
| 005656-0 - 22 & 27 kW<br>005984-0 - 36 kW<br>006205-0 - 48 kW | Scheduled Maintenance Kit             | The Liquid-Cooled Scheduled Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac liquid-cooled generators.                                                                                                                                                               |
| 005928-0                                                      | Wireless Remote                       | Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house.                                                                                                                                                          |
| 005951-0                                                      | Advanced Wireless Remote              | Remotely control generator functions with the advanced model's LCD display. In addition to remote testing of the generator, set the exercise cycle and maintenance interval reminders.                                                                                                                           |
| 006199-0                                                      | PMM Starter Kit                       | The PMM Starter Kit consists of a 24 VAC, field installed transformer that enables the use of the 24 VAC Power Management Modules (PMMs) and one PMM. The standard controller (without starter kit) can control two HVAC loads with no additional hardware. Not compatible with pre-wired switches.              |
| 006186-0                                                      | Power Management Module (50 Amps)     | Power Management Modules are used in conjunction with the Smart Switch to increase its power management capabilities. It gives the Smart Switch additional power management flexibility not found in any other transfer switch. Not compatible with pre-wired switches. Note: PMM Starter Kit required.          |
| 006463-0                                                      | Mobile Link™                          | Generac's Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message. Note: Harness Adapter Kit required. |
| 006478-0                                                      | Harness Adapter Kit                   | The Harness Adapter Kit is required to make liquid-cooled units compatible with Mobile Link™.                                                                                                                                                                                                                    |

22 • 27 • 36 • 48 kW



**Note:** Use the generator's specific installation manual and wiring diagrams to verify generator wiring connections, as they may differ slightly from illustration.



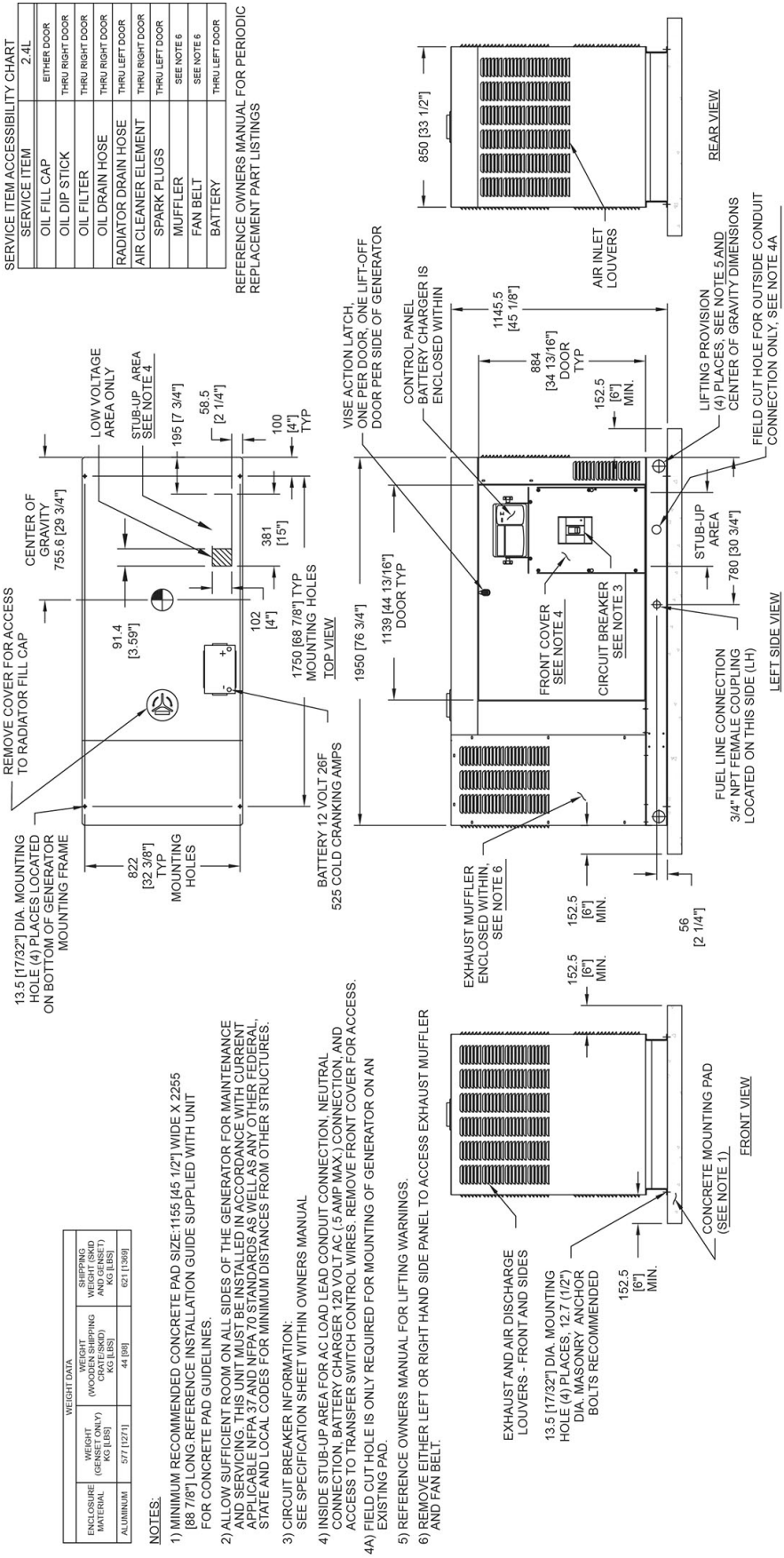
## installation layout

| WEIGHT DATA |                    |                                  |                                         |                                                |
|-------------|--------------------|----------------------------------|-----------------------------------------|------------------------------------------------|
| ENGINE KW   | ENCLOSURE MATERIAL | WEIGHT (GENSET ONLY)<br>KG [LBS] | WEIGHT (SHIPPING CARTON/SD)<br>KG [LBS] | SHIPPING WEIGHT (GENSET/SD+CARTON)<br>KG [LBS] |
| 2.4L 22KW   | ALUMINUM           | 353 [843]                        | 30 [66]                                 | 413 [909]                                      |
| 2.4L 22KW   | ALUMINUM           | AGE 0013                         |                                         | 454 [1001]                                     |

6) REMOVE LIFT-OFF ENCLOSURE TO ACCESS EXHAUST MUFFLER.

13.5 (17/32") DIA. MOUNTING  
HOLE (4) PLACES, 12.7 (1/2")  
DIA. MASONRY ANCHOR  
BOLTS RECOMMENDED

36 kW



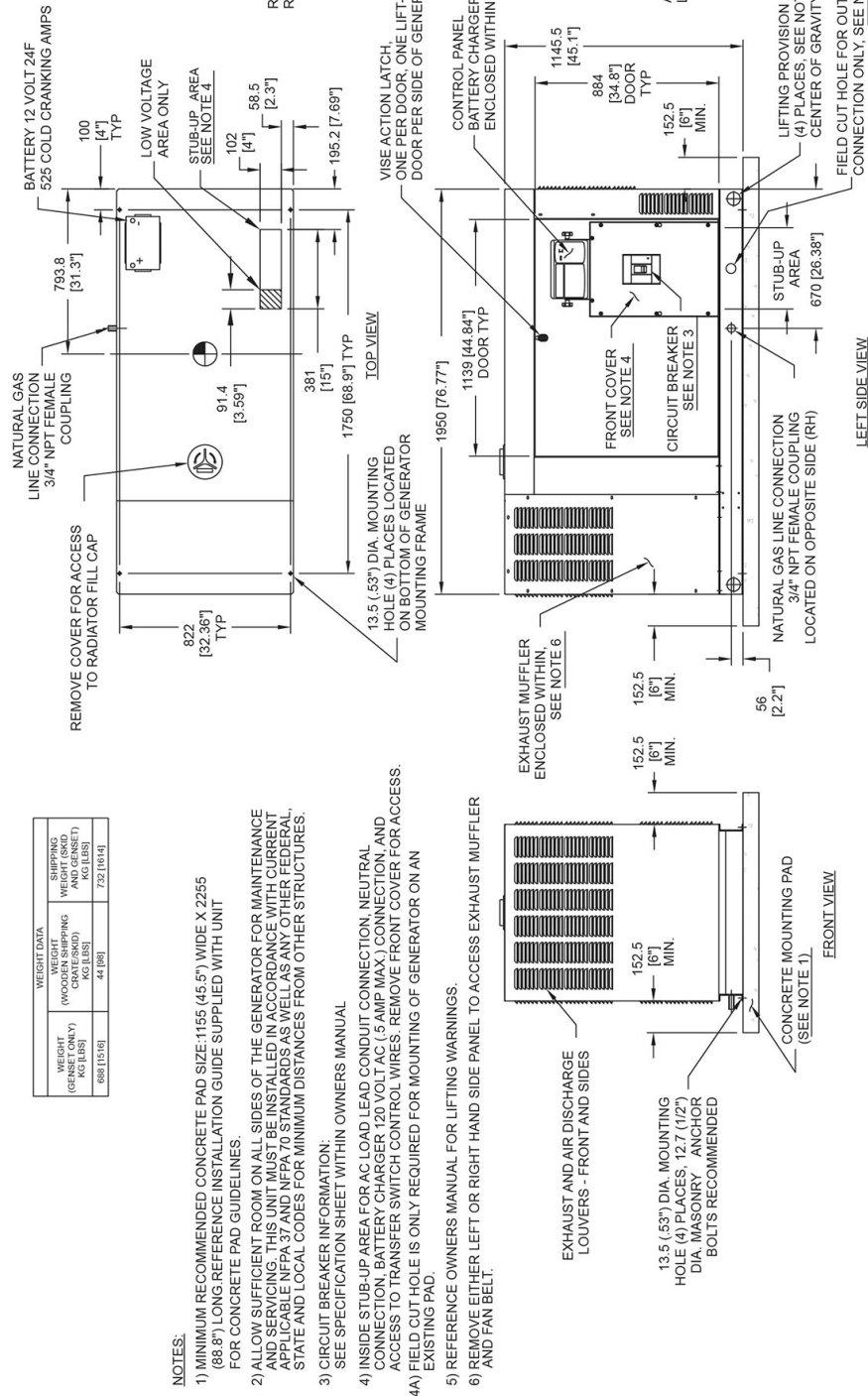


## installation layout

# 48 kW

| SERVICE ITEM ACCESSIBILITY CHART |                 |
|----------------------------------|-----------------|
| SERVICE ITEM                     |                 |
| OIL FILL CAP                     | THRU RIGHT DOOR |
| OIL DIP STICK                    | THRU LEFT DOOR  |
| OIL FILTER                       | THRU LEFT DOOR  |
| OIL DRAIN HOSE                   | THRU RIGHT DOOR |
| RADIATOR DRAIN HOSE              | THRU LEFT DOOR  |
| AIR CLEANER ELEMENT              | BOTH DOORS      |
| SPARK PLUGS                      | BOTH DOORS      |
| MUFFLER                          | SEE NOTE 6      |
| FAN BELT                         | SEE NOTE 6      |
| BATTERY                          | THRU RIGHT DOOR |

## REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS



| WEIGHT DATA                         |                                                       |                                                     |
|-------------------------------------|-------------------------------------------------------|-----------------------------------------------------|
| WEIGHT<br>(GENSET ONLY)<br>KG [LBS] | WEIGHT<br>(WOODEN SHIPPING<br>CRATE/SKID)<br>KG [LBS] | SHIPPING<br>WEIGHT (SKID<br>AND GENSET)<br>KG [LBS] |
| 688 [1516]                          | 44 [98]                                               | 732 [1614]                                          |

## NOTES:

- 1) MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1155" (45.5") WIDE X 2255" (88.8") LONG REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
- 2) ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE AND LOCAL CODES FOR MINIMUM DISTANCES FROM OTHER STRUCTURES.
- 3) CIRCUIT BREAKER INFORMATION:
  - 4) INSIDE SPECIFICATION SHEET WITHIN OWNERS MANUAL
  - 4) INSIDE STUB-UP AREA FOR AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (5 AMP MAX.) CONNECTION, AND ACCESS TO TRANSFER SWITCH CONTROL WIRES. REMOVE FRONT COVER FOR ACCESS.
  - 4A) FIELD CUT HOLE IS ONLY REQUIRED FOR MOUNTING OF GENERATOR ON AN EXISTING PAD.
- 5) REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
- 6) REMOVE EITHER LEFT OR RIGHT HAND SIDE PANEL TO ACCESS EXHAUST MUFFLER AND FAN BELT.