

FEATURES

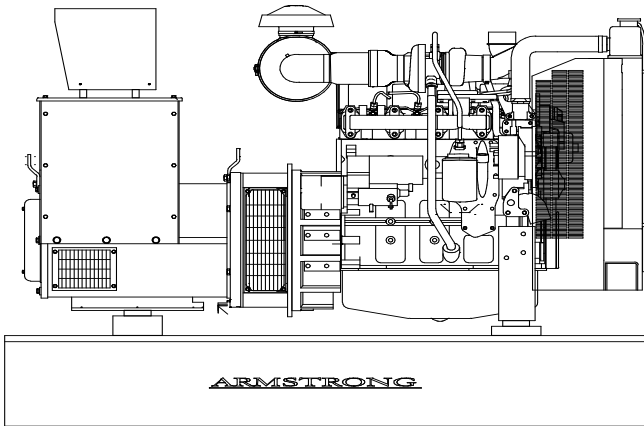
- Armstrong provides one-source responsibility for the generator system and its accessories.
- All units and components are factory tested during prototype and manufacturing stages assuring long product life.
- Generator set accepts one-step 100% of full load per NFPA 110.
- A **one-year** limited **warranty** covers all systems and components. Extended warranties are available.
- Rugged 4 cycle heavy-duty diesel engine, with swirl intake ports for a low fuel consumption and excellent transient response.

Generator features:

- Unique Volts per Hertz compensated electronic AVR excitation system delivers reliable voltage response for in rush loads.
- Brushless, rotating-field generator has low reactance, 2/3 pitch, class H insulation, minimizes voltage distortion when powering non-linear loads.

More features:

- Controllers are available to meet your most demanding applications.
- In the event of low oil pressure or high coolant temperature the self-protecting system will automatically stop the engine.



GENERATOR SET RATINGS

| Model | Volt Code | Voltage | Winding Connection | Phase | Power Factor | Hz | Amps Standby | Standby kW / kVA | Prime kW / kVA |
|--------|-----------|-----------|--------------------|-------|--------------|----|--------------|------------------|----------------|
| ACUM84 | 61 | 480 / 277 | 12 - HI WYE | 3 | 0.8 | 60 | 126 | 84 (105) | 75 (93) |
| ACUM84 | 63 | 440 / 254 | 12 - HI WYE | 3 | 0.8 | 60 | 138 | 84 (105) | 75 (93) |
| ACUM84 | 64 | 240 / 139 | 12 - HI DELTA | 3 | 0.8 | 60 | 253 | 84 (105) | 75 (93) |
| ACUM84 | 65 | 220 / 127 | 12 - LOW WYE | 3 | 0.8 | 60 | 276 | 84 (105) | 75 (93) |
| ACUM84 | 66 | 208 / 120 | 12 - LOW WYE | 3 | 0.8 | 60 | 292 | 84 (105) | 75 (93) |
| ACUM84 | 67 | 240 / 120 | 12 - 2 DELTA | 1 | 1.0 | 60 | 350 | 84 (84) | 75 (75) |
| ACUM84 | 51 | 415 / 240 | 12 - HI WYE | 3 | 0.8 | 50 | 130 | 70 (87) | 63 (78) |
| ACUM84 | 53 | 380 / 220 | 12 - HI WYE | 3 | 0.8 | 50 | 143 | 70 (87) | 63 (78) |
| ACUM84 | 55 | 220 / 127 | 12 - LOW WYE | 3 | 0.8 | 50 | 246 | 70 (87) | 63 (78) |
| ACUM84 | 57 | 220 / 110 | 12 - 2 DELTA | 1 | 1.0 | 50 | 341 | 70 (70) | 63 (63) |

Stand-By ratings are continuous electrical service during the interruption of normal power. No overload capacity is specified at these ratings. Prime ratings available with variable loads are continuous, 10% overload capacity for one hour in twelve hours periods.

Both ratings per BS 5514, DIN 6271, ISO-3046

Many industrial, commercial and residential voltages are available

ALTERNATOR SPECIFICATIONS

| | |
|-------------------------------------|--------------------------------|
| Type | Four pole, revolving field |
| Rotor Insulation | Class H |
| Temperature Rise | 150°C Standby |
| Material | Epoxy resin |
| Line-To-Line Harmonic Factor (Max) | 5% |
| Telephone Interference Factor (Tif) | 1% |
| Voltage Regulator | Solid State |
| Cooling | Self-ventilated and drip proof |
| Bearing | 1 each, pre-lubed |
| Coupling | Direct, Flexible Disc |
| Load Capacity (Standby) | 100% |
| Overload Capacity (Prime) | 110% |
| Voltage Regulation | |
| No Load To Full Load | ±1 % |
| One Step Load Acceptance | |
| Per NFPA 110 | 100% |

- ❑ Four pole, revolving field, direct coupled to engine flywheel, provides excellent alignment.
- ❑ Insulation is of class H, ready to be used on harsh environments where sea spray, sand and chemical corrosion are existing factors.
- ❑ Voltage regulator provides Volts/Hertz compensation to improve the motor starting capabilities, therefore support the engine handling transient loads.
- ❑ Dynamically balanced rotor, with damper winding, help dissipate transient voltage interference during load variations.
- ❑ The windings have a 2/3 pitch in order to reduce the harmonic content of voltage.
- ❑ Robust mechanical structure permits easy access to connections.

ENGINE SPECIFICATIONS

| | |
|------------------------------|--------------------------------|
| Manufacturer | CUMMINS |
| Model | 4BTA3.9-G3 |
| Bore | 4.02 in (102 mm) |
| Stroke | 4.72 in (120 mm) |
| Number Of Cylinders | 4-Cylinder |
| Piston Displacement | 239 in ³ (3.92 L) |
| Compression Ratio | 16.5:1 |
| Combustion System | Stanadyne DB4 Direct Injection |
| Engine Type | 4-Cycle; In-line |
| Aspiration | Turbocharged and aftercooled |
| Engine Crankcase Vent System | Closed |
| Cylinder | Borable |
| Crankshaft Material | Forged Steel |
| Governor Type | Mechanical |
| Frequency Regulation | |
| No Load To Full Load | 5 % |
| Air Cleaner | Dry Element |

- ❑ Robust industrial grade CUMMINS diesel engine, for reliable endurance.
- ❑ Direct fuel injection system and swirl intake ports combine for a low fuel consumption and excellent transient response.
- ❑ Cylinder Head provides superior airflow through specially designed intake manifold ports, large valves and seats resulting in superior engine performance in torque reserve, fuel consumption and emissions.
- ❑ Extra strong engine block with provisions for overhaul.
- ❑ Dynamically Balanced Crankshaft, with induction-hardened journal surfaces significantly increases wear life.
- ❑ Heavy-duty Cummins engines are known for their fuel efficiency, responsive transient performance and rugged reliability

Powered By:



STANDARD EQUIPMENT

ENGINE

- Air Cleaner
- Fuel Pump
- Fuel Filter
- Oil Pump
- Full Flow Oil Filter
- Jacket Water Pump
- Thermostat and Housing
- Exhaust Manifold Dry
- Oil Cooler
- Blower Fan & Fan Drive
- Radiator - Unit Mounted
- Electric Starting Motor 12v
- Housing & Flywheel
- Charging Alternator - 12v

- Battery Kit & Battery Rack

GENERATOR

- Synchronous, Brush-less
- Four Pole
- Single Bearing
- Direct Coupled With Flex
- Class H Insulation
- Drip-Proof Construction

CONTROL PANEL

- Electric Hour Meter
- Stop-Manual-Auto Pushbuttons
- Standard Engine Control Monitoring

- Automatic Shutdowns
 - * High Water Temperature
 - * Low Oil Pressure
 - * Protective 12vdc Circuit Breaker
- Display Lights For:
 - * Water Temperature
 - * Oil Pressure
 - * Overcrank
 - * Underspeed
 - * Overspeed
 - * Battery Charging

GENERAL

- Industrial Muffler

- Rain Cap
- Integrated Fuel tank
- In Frame Lifting Points
- Acrylic Enamel Paint

INSTALLATION AND APPLICATION DATA

| | Item | Units | Type of Operation and Application | | | |
|---------------------------|-------------------------------------|----------------------------|--|-------------|-------------|-------------|
| | | | 60 Hz | | 50 Hz | |
| | | | Prime | Standby | Prime | Standby |
| Engine | Rated Speed | rpm | 1800 | | 1500 | |
| | Gross Engine Output | bhp (kWm) | 130 (97) | 145 (108) | 117 (87) | 130 (97) |
| | BMEP | psi (kPa) | 239 (1648) | 266 (1838) | 215 (1483) | 239 (1648) |
| | Mean Piston Speed | Ft/s (m/s) | 23.6 (7.2) | | 19.66 (6.0) | |
| Cooling System | Ambient Air Temperature | °F (°C) | 122 (50) | | | |
| | Engine Heat Reject to Coolant | BTU/min (kW) | 2633 (46.3) | 2973 (52.2) | 2141 (37.6) | 2423 (42.6) |
| | Coolant Capacity | Gal (L) | 2.1 (7.9) | | | |
| | Standard Thermostat Range | °F (°C) | 180-203 (82-95) | | | |
| | Maximum Pressure Cap | Psi (kPa) | 10 (69) | | | |
| | Maximum coolant friction | Psi (kPa) | 5 (35) | | 4 (28) | |
| Fuel System | Total drain flow | gal/h (L/h) | 8 (30) | | | |
| | Fuel Type | | Diesel #2 | | | |
| | Fuel Consumption @ 25% Power | gal/hr (L/hr) | 1.44 | 1.60 | 1.19 | 1.33 |
| | Fuel Consumption @ 50% Power | gal/hr (L/hr) | 2.88 | 3.20 | 2.38 | 2.65 |
| | Fuel Consumption @ 75% Power | gal/hr (L/hr) | 4.31 | 4.79 | 3.58 | 3.98 |
| | Fuel Consumption @ 100% Power | gal/hr (L/hr) | 5.75 | 6.39 | 4.77 | 5.31 |
| Air Requirement | Combustion Air Flow | ft ³ /min (L/s) | 247 (117) | 261 (123) | 169 (80) | 181 (85) |
| | Air Intake Restriction clean filter | In.H ₂ O (kPa) | 10(2.49) | | | |
| | Air Intake Restriction dirty filter | In.H ₂ O (kPa) | 25 (6.22) | | | |
| | Exhaust Temperature | °F (°C) | 889 (476) | 919 (501) | 1045 (563) | 1053 (567) |
| | Maximun Allowable Back Pressure | In.H ₂ O (kPa) | 3 (10.13) | | | |
| Lubrication System | Maximum oil temperature | °F (°C) | 250 (121) | | | |
| | Oil Pan Capacity | gal (L) | 2.5 (9.5) | | | |
| | Total Engine Oil Cap. w/filter | gal (L) | 2.88 (10.9) | | | |
| | Oil Filter Type | | Cartridge | | | |
| | Lube oil specifications grade | | SAE 15W - 40 | | | |
| Engine Electricals | Battery Charging Alternator | Volts, Ground | 12V, negative | | | |
| | Battery Charging Alternator | Rated amps | 45 | | | |
| | Recommended Battery Cold Crank | CCA amps | 650 | | | |
| | Starter Motor | Volts, Ground | 12V, negative | | | |
| Operation | Temperature and Altditude Losses | % | 4% per 1000 ft (300 m) and 1% per 10°F (2% per 11°C) | | | |

OPTIONAL EQUIPMENT

Cooling System

- Remote Radiator
- Jacket Water Heater
- Crankcase Oil Heater

Fuel System

- Fuel/Water Separator
- Auxiliary Fuel Pump
- Sub-Base Fuel Tank
 - Double Wall
 - UL Listed

Start System

- Battery Nicad
- Battery Warmer Plate
- Battery Charger
 - Automatic Float Equalizing

- Trickle

Switchgear

- Main Line Circuit Breaker
 - Shunt trip
 - Auxiliary switch
- Automatic Transfer Switch
- Paralleling
- Protective Relays

Generator

- Permanent Magnet Excitation
- Space Heaters
- Temperature Rise Detectors

Control Panel

- NFPA 110 Ready
- Remote Annunciation Panel

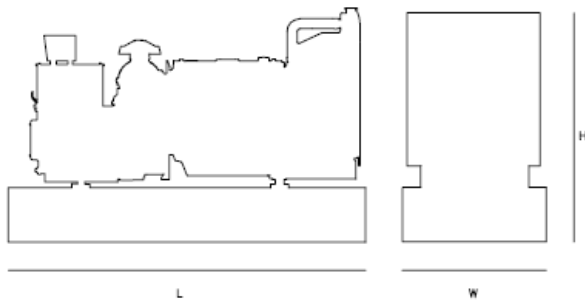
- Audible Alarm

General

- Aluminum enclosure
- Sound attenuation kit
- Spring vibration isolators
- Interior lights AC or DC
- Trailer
- Export Packaging
- Special Testing
- Warranties
 - ____ Year

For Other Options Consult

DIMENSIONS AND WEIGHT



| | Units | Open Unit | Enclosed Unit | Sound Att. Unit |
|--------|----------|-------------|---------------|-----------------|
| Length | In. (mm) | 77.5 (1970) | 77.5 (1970) | 97 (2460) |
| Width | In. (mm) | 37 (940) | 37 (940) | 37 (940) |
| Height | In. (mm) | 61 (1550) | 75 (190) | 75 (190) |
| Weight | Lbs (kg) | 1969 (960) | 2501 (1200) | 3160 (1500) |

General configuration for reference only, do not use these dimensions for installation purposes. Contact your local dealer for certified drawings.

All Specifications and Materials are subject to change without prior notice.

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