



60Hz MOBILE/PRIME/STANDBY POWER

500kW/60Hz/Mobile/1800RPM



\* Photo depicts a typical model but may not include options such as trailer.

| VOLTAGE VAC                | 120/208V |         | 139/240V |         | 277/480V |         | 347/600V** |         |
|----------------------------|----------|---------|----------|---------|----------|---------|------------|---------|
| RATING                     | Prime    | Standby | Prime    | Standby | Prime    | Standby | Prime      | Standby |
| PHASE                      | 3        |         | 3        |         | 3        |         | 3          |         |
| PF                         | 0.8      |         | 0.8      |         | 0.8      |         | 0.8        |         |
| HZ                         | 60       |         | 60       |         | 60       |         | 60         |         |
| KW                         | 500      | 550     | 500      | 550     | 500      | 550     | 500        | 550     |
| KVA                        | 625      | 680     | 625      | 680     | 625      | 680     | 625        | 680     |
| AMPS                       | 1734     | 1887    | 1503     | 1636    | 752      | 818     | 602        | 654     |
| SKVA@30%<br>VOLTAGE<br>DIP | 2070     |         | 2070     |         | 2070     |         | N/A        |         |
| MLCB<br>(AMPS)             | 2000     |         | 2000     |         | 2000     |         | 600        |         |

## Description

Mobile generators are an efficient, reliable and versatile source of mobile electrical power. Designed to operate in the most extreme working conditions. All Mobile Generators combine an innovative design and the use of high quality materials that provide the user with the most dependable power that you can rely on for non-stop power with easy to operate controls.

Powered by a radiator-cooled, industrial VOLVO PENTA Diesel engine, which meets current Environmental Protection Agency (EPA) TIER 4 Final non-road exhaust emission regulations, driving a single bearing, four-pole, three-phase alternator, with IP23 protection. The Prime Power kVA rating for generator set is given with a 105 degree °C alternator winding temperature rise.

## Features and Benefits

**VOLVO PENTA Diesel Engine:** Long-life, heavy-duty, 4-cycle, direct injection engine for economy of operation and maximum reliability and durability. Capable of full rated load acceptance in one step.

**Cooling:** Radiator with belt driven pusher fan.

**Air Filter:** Heavy-duty replaceable element air-cleaner.

**Alternator:** Single bearing, rotating field, self-excited, self-ventilated, 12-wire re-connectable, 60Hz brushless alternator with permanent magnetic generator (PMG), with Class F insulation. Automatic voltage regulator (AVR) providing close voltage regulation and skVA starting capability for electric motor loads.

Certification: ISO 8528-5.

**Fuel Tank:** Environmentally friendly steel base welded sub-base fuel tank with internal filling system and 110% containment capability for any diesel fuel, coolant or engine oil spills. Easy access for maintenance activities.

**Enclosure:** Fully sound attenuated enclosure, fabricated in 11-gauge steel, powder coated with finish that exceeds 1400-hr salt spray test, curved edges, minimum outside fasteners and single point lift. Ample layer of durable Rockwool sound insulating material placed all around the inside of the container, doors and ducting with metal retaining frames. It can be cleaned with high-pressure water and is oil and fire resistant. Vertical air discharge for quiet operation. Wide steel lockable access doors with rubber seals, easy access for maintenance and service activities, lift off stainless steel hinges, corrosion resistant hardware and fasteners.

**Fuel Filtration:** Standard and secondary water separator with visible level on fuel filters.

**Voltage Change Over Board:** Two-position, manual change over board. 120/208 and 277/480V 3-phase.

**Controls:** Digital control panel with manual and automatic start and stop features. Many programmable automatic functions for local and remote controls with LED lights, tamper proof engine hour recorder. Load Connections: Covered distribution panel for easy access to cable power outlets, receptacles, lugs and Camlocks.

## APPLICATION DATA

### ENGINE SPECIFICATION

|   |                               |
|---|-------------------------------|
| Manufacturer                                    | VOLVO PENTA                   |
| Model   | TWD 1672 GE                   |
| EPA certified                                   | Tier 4 FINAL                  |
| Crankshaft speed                                | 1,800 rpm                     |
| Type  | Diesel, 4-stroke              |
| Injection                                       | Direct                        |
| Aspiration                                      | Turbocharged                  |
| Number of Cylinders                             | 6                             |
| Cylinder arrangement                            | In-line                       |
| Displacement CID (liters)                       | 983.9 (16.12)                 |
| Bore and Stroke ins (mm)                        | 5.67 x 6.5 (144 x 165)        |
| Nominal power                                   | 796 HP                        |
| Cooling   | Liquid                        |
| Governor  | Electronic                    |
| Governor Regulation Class                       | ISO 8528 Part 1 Class G3      |
| Frequency Regulation                            | Isochronous                   |
| Starting motor & alternator                     | 24 volt                       |
| Compression ratio                               | 16.8:1                        |
| Air cleaner type                                | Heavy duty - single cartridge |
| Exhaust gas flow cu. ft./minute (cu.m. /minute) | 4025 (114)                    |
| Max. Exhaust temp at full load degrees °F (°C)  | 793 (423)                     |
| Max. permissible back pressure - ins H2O (kPA ) | 76 (19)                       |

### COOLING SYSTEM

|   |              |
|---|--------------|
| Engine cooling air flow - cu. ft./min (cu. m/min)                                   | 30,207 (912) |
| Alternator cooling flow - cu. ft./min (cu. m/min)                                   | 2100 (59)    |
| Total cooling air flow (engine + alternator + combustion) - cu. ft./min (cu. m/min) | TBD          |
| Total cooling capacity - US gallons (liters)  | 25.3 (96)    |
| Max. Operating Temperature °F (°C)  | 113 (45)     |

### LUBRICATION SYSTEM

|  |  |
|--|--|
| Oil pan capacity - US gallons (liters)             | 11.1 (42)  |
| Oil pan capacity with filter - US gallons (liters) | 12.7 (48)  |
| Oil cooler   | Liquid   |
| Recommended lubricating oil grade                  | SAE 10W-40 conventional DH4 (refer to owners manual) |
| Oil consumption at full load                       | < 0.1% of fuel consumption                           |
| Oil pressure - psi (kPA)                           | 58 (399)   |

### ENGINE ELECTRICAL SYSTEM

|                              |              |
|------------------------------|--------------|
| Starting motor voltage       | 24 volt      |
| Cold Cranking Amps - minimum | 300 Amp X 2  |
| Battery charging Alternator  | N/A          |
| Battery capacity             | 225 Amps X 2 |

## APPLICATION DATA

### FUEL SYSTEM

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| Recommended fuel                    | # 2 - ULSD                           |
| Fuel supply line, min. ID mm(in.)   | 9.5 (3/8")                           |
| Fuel return line, min. ID, mm (in.) | 9.5 (3/8")                           |
| Max. lift, fuel pump, type, m (ft)  | TBD                                  |
| Fuel filter                         | Secondary 5 Microns @ 98% Efficiency |
| DEF Tank capacity - US Gal.         | 42.3                                 |

### FUEL AND DEF CONSUMPTION

|                                    | FUEL (Prime Power Rating) | DEF (% of fuel consumption) |
|------------------------------------|---------------------------|-----------------------------|
| 100% load - US gallons/hour (L/hr) | 31.1 (105.6)              | 7.1 %                       |
| 75% load - US gallons/hour (L/hr)  | 25 (94.6)                 | TBA                         |
| 50% load - US gallons/hour (L/hr)  | 17.3 (65.4)               | TBA                         |
| 25% load - US gallons/hour (L/hr)  | 9.9 (37.4)                | TBA                         |

### ALTERNATOR SPECIFICATION

|  |   |
|--|---|
| Manufacturer   | STAMFORD  |
| Model  | HCI 534 E with PMG  |
| Voltages   | 120/208V - 277/480  |
| Alternator Type  | Four pole, rotating field   |
| Excitation System  | Brushless, PMG-excited  |
| Power factor   | 0.8 / 1.0   |
| Number of leads  | 12 leads, reconnectable   |
| Stator Pitch   | 2/3   |
| Insulation   | Class H   |
| Windings - Temperature Rise                              | Class F (105/40° C)   |
| Enclosure (IEC-34-S)                                     | IP23  |
| Bearing  | Single, sealed  |
| Coupling   | Flexible disc   |
| Amortisseur windings                                     | Full  |
| Voltage regulation - no load to full load with MX341 AVR | ± 1%  |
| TIF  | <50   |
| Radio Frequency Emissions compliance                     | Meets requirements of most industrial and commercial applications |
| Line harmonics   | 5% maximum  |

### STANDARD ACCESSORIES

|                                    |   |
|------------------------------------|---|
| • Air Filter Restriction Indicator | • Leak Proof Tray                       |
| • Leakage Detection Sensor         | • MLCB Auxiliary Contacts               |
| • Battery Switch                   | • Shunt Trip on MLCB                    |
| • Crankcase Ventilation Filter     | • 2 Positions Voltage Change Over Board |
| • Oil/Coolant Drain Extension      | • PMG Excitation on Alternator          |
| • Distribution Panel 2000A         | • Low Coolant Level Sensor              |
| • Water Jacket Heater              |   |

• Distribution power panel \*See image RH back-page - NEMA 3R/IP67 0.09" aluminum panel, black powder coated, weather proof rated; 2 x15A 125V NEMA 5-15P Shore line connector; 6 sets 400A single pin Camlocks rated 400A with snap covers; color coded Camlocks 3Ø - 5W black, red blue, white & green; pad lockable 1/4 turn door access with cable trap; auxiliary bus bars with mechanical lugs; 1 single barrel lug per phase; mechanical lugs up to 2 x 600MCM cable

### OPTIONAL ACCESSORIES

|   |  |
|---|--|
| • Battery Blanket                                   | • Variable speed fan LCV220 - Viscous Clutch |
| • Hydronic heater (5 kw)                            | • Engineered Options available upon request  |
| • 3-Way Fuel valve                                  | • Control Panel Heater                       |
| • 6 Amp - 10 Amp battery charger, 12/24V, UL Listed | • Oil Pan Heater                             |
|   | • Trailer                                    |

## CONTROL SYSTEMS STANDARD FEATURES - Generator Digital Control Panel

COMAP IntelliGen NT Control Panel: The IntelliGen NT digital control panel is back-lit with icon LCD text display, and is PC configurable. IntelliGen NT is a comprehensive controller for both single and multiple gen-sets operating in standby or parallel modes. Compact construction is optimized for these purposes and various modifications allow customers to select the optimum type for a particular application. A built-in synchronizer and digital isochronous load sharer allow a total integrated solution for gen-sets in standby, island parallel or mains parallel. Native cooperation of up to 32 gen-sets is a standard feature. IntelliGen NT supports many standard ECU types and is specially designed to easily integrate new ones.

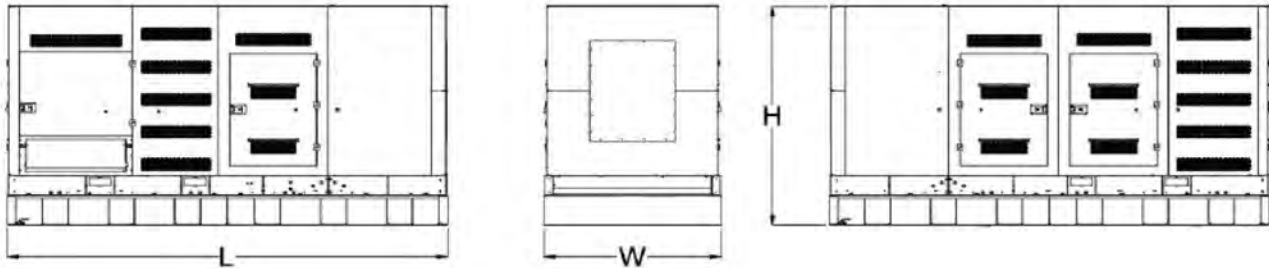
Engine alarms included: High coolant temperature, low oil pressure, low coolant level, unexpected shutdown, low fuel level, stop failure, low battery voltage, battery charging alternator failure, over-speed, under-speed, start failure and emergency stop. Support of engines with ECU (J1939, Modbus and other proprietary interfaces); alarm codes displayed in text form.

Alternator alarms included: Overload, unbalanced voltage, over voltage, under voltage, over frequency, under frequency, short circuit, reverse power, and incorrect phase sequence.



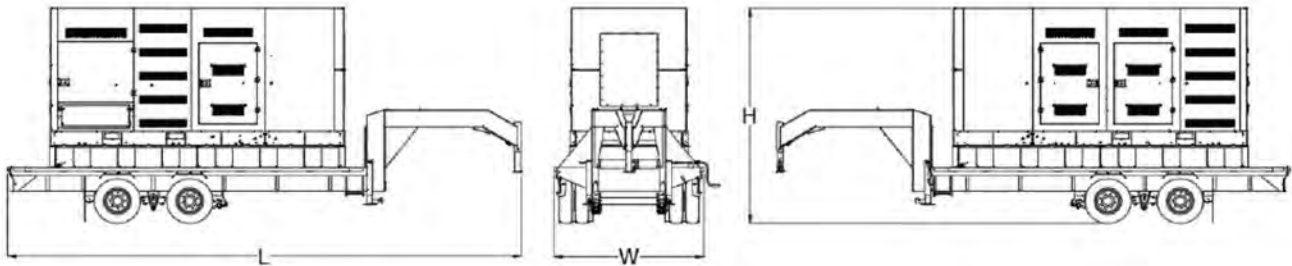
# DIMENSIONS, WEIGHTS & SOUND LEVELS

## ENCLOSED SET



| CONFIGURATION | Fuel Tank Data (base option) |                 | Generator Data * |           |            |            |     |
|---------------|------------------------------|-----------------|------------------|-----------|------------|------------|-----|
|               | Run Time Hours               | Capacity (Gals) | L = Length       | W = Width | H = Height | Weight lbs | dBa |
| Enclosed Set  | 19                           | 600             | 200"             | 81"       | 112"       | 18700      | 72  |

## ENCLOSED SET WITH TRAILER



| CONFIGURATION             | Fuel Tank Data (base option) |                 | Generator Data * |           |            |            |     |
|---------------------------|------------------------------|-----------------|------------------|-----------|------------|------------|-----|
|                           | Run Time Hours               | Capacity (Gals) | L = Length       | W = Width | H = Height | Weight lbs | dBa |
| Enclosed Set with Trailer | 19                           | 600             | 347"             | 102"      | 152"       | 26160      | 72  |

\* All measurements are approximate and for estimation purposes only. Weights are without fuel tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

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