



VMAC Gas Powered Multifunction Power System – Bid Specifications

These specifications are for bid purposes only and are provided by VMAC.

All specifications are subject to change without notice.

MULTIFUNCTION – AIR COMPRESSOR, WELDER/GENERATOR, BATTERY BOOSTER/CHARGER, OPTIONAL COLD CLIMATE KIT - Gas Engine Driven, Standalone, Above Deck Mounted, Multifunction Power System with Engine Standby Mode.

The Multifunction will come as a complete multi-power system with all components/functions described within. Certain components/functions may be customized to suit the application. Customizable components/functions include the Cold Climate Kit, and Fuel Supply options, which include either a Fuel Tank or Fuel Pump.

Air Compressor:

Air End: The Air End will be a belt-driven, oil injected, rotary screw capable of 100% duty cycle, and providing up to 40 CFM and 150 psi of air power. A high temperature cut off sensor is integrated with the compressor unit. The compressor is equipped with a low profile integrated air inlet control and minimum pressure check valve. Air compressor output will be to ASME standards.

Air/Oil Separator Tank: The Air/Oil Separator tank will be a horizontal tank with integrated coalescing manifold, mounted within the enclosure of the Multifunction system. Material will be of high-grade aluminum material and will include a spin-on coalescing oil separator element and a replaceable spin on 25-micron oil filter with safety bypass feature. The air discharge will pass through a minimum pressure check valve and be protected by a 200 psi pressure relief valve.

Oil Cooler: The Oil Cooler will be a liquid-to-air compressor oil cooler that is mounted within the enclosure of the Multifunction system.

Warranty: The Compressor Air End will include a manufacturer lifetime warranty.

AC/DC Generator/Welder:

The AC/DC generator/welder will be capable of producing 8 kW of continuous output and will have one 30 A, 240V, 60 Hz three phase circuit, and two 20 A, 120V, 60 Hz single phase circuits.

Booster/Charger: The generator will consist of DC battery boosting and charging functions as well as other DC loads with 12V and 24V selectable with a max output of 300 A.



Welder: The welder will be integrated into the generator and will have CC mode for SMAW and GTAW (stick/TIG welding), and will have 60% duty cycle at 190 A DC output or 35% duty cycle at 250 A DC output.

Cold Climate Kit (optional):

Cold climate kit will include a 120V AC cold climate heater that is built into the package allowing the Multifunction to operate in ambient temperatures below -10°C (14°F).

Fuel Supply Options:

Fuel supply may be supplied by one of two options:

External Fuel Pump Kit (optional): The optional external fuel pump will be connected to the truck's fuel tank or a remote mounted fuel tank. It will be a 12V activated gas fuel priming transfer pump that activates automatically when the air compressor key switch is in RUN position.

Fuel Tank (optional): The optional 12-gallon fuel tank will be base mounted to the Multifunction and come equipped with low fuel level switch; EPA & CARB compliant.

Engine:

The air compressor will be powered by a four-stroke V-Twin EFI gas engine that is air cooled.

Digital Control System:

A 12-volt digital control box with LCD display will be included that will show system hours, service reminders and safety/functional messages. The control system will integrate with the gas engine to automatically start and stop the engine in response to air usage. Adjustable settings within the control system to include delay to stand-by, air use rate, restart pressure, system pressure, auto-restart disable, and system top up pressure. Compressor, welder, generator and engine over-temperature shutdown, failed temperature probe, fan control, high idle activation and error messages will all be controlled by the control system. The digital control system will also monitor engine temperature and automatically restart the engine if the temperature drops too low. The digital control system will also monitor battery voltage and restart the engine if the voltage drops below a minimum threshold.

Throttle Control:

Throttle controller will have a multi-speed control and will automatically modulate engine RPM with air demand.

**Package:**

The overall package size will be no greater than 23" (w) x 33" (l) x 26" (h) – with optional fuel tank adding 8" to the height. Total wet weight will not exceed 500 lb – with optional fuel tank adding 90 lb to the weight. The sheet metal enclosure will be aluminum. All sheet metal is to be powder coated.

Safety Features:

The Multifunction system will include an LED safety light and alarm to notify the user that the system is in standby mode. An alarm will be included to notify the user that the gas engine and air compressor are about to re-start. The system will be protected by a 200 psi pressure relief valve. The integrated voltage sensing interlock feature will ensure safe welding/battery boosting and protect the equipment by disabling the genset should an unsafe condition occur. The control system includes compressor, welder, generator and engine over-temperature shutdown.

Installation:

Installation of the Multifunction system must only be completed by the factory authorized distributor of the Multifunction manufacturer.