



VMAC DTM70-H – Bid Specifications

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DIRECT-TRANSMISSION MOUNTED AIR COMPRESSOR with HYDRAULICS, PTO, and COLD CLIMATE PROTECTION - PTO Driven, Transmission Mounted, Air Compressor System.

The air compressor with hydraulic pump will come as a complete kit with all components/functions described within. It will include the compressor, hydraulic pump, PTO, electronic components, mounting brackets, all applicable fasteners, compressor oil, hoses and installation, owner's, and illustrated parts manuals.

Air Compressor:

Air End: The air compressor must be installed on the transmission PTO port and must be direct driven from the PTO without the use of a belt. The compressor must be an oil injected, rotary screw capable of 100% duty cycle, and providing up to 70 CFM and 175 psi of air power, dependent on truck model year, hydraulic pump, engine RPM, and operating mode. A high temperature cut off sensor is integrated with the compressor system. The compressor is equipped with an integrated air inlet control valve. Air compressor output will be to ASME standards.

Gear Case: The compressor must be driven by a gear case, and the gear case must be lubricated by the compressor system.

Regulator: The regulator is remote mounted and must contain the pressure sensor. It must be mounted on the vehicles firewall in the engine compartment.

Air Filter: The air filter will be a dry paper type in an air filter housing.

Air/Oil Separator Tank: The tank is an air/oil separator. Material must be of high-grade aluminum material and contain an integrated coalescing oil separator element. It must have a lubricant sight glass no smaller than 1 1/2" in diameter. Must contain a 200 PSI high pressure relief valve. It must have a replaceable spin on 25-micron oil filter with safety bypass feature. It must contain an 8 seconds or less integral pneumatically piloted blow down valve. The tank dimension must be no larger than 6" diameter X 31" length and the weight must be no greater than 18 lb.

Heat Exchanger: The Heat Exchanger must be a liquid-to-liquid cooler that is integrated with the engine cooling system. The overall dimensions should be no greater than 4" x 3-3/4" x 9" in size and the weight must be no greater than 17 lb without fluid.

Control Box: 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 box will integrate with the PTO to engage and disengage the PTO when the compressor is turned on and off. Compressor over-temperature shutdown, failed temperature probe, high idle activation and error messages will all be controlled by the control box. It will store error codes. The control box will also monitor compressor temperature and automatically start the cold climate kit if the temperature drops below -10°C (14°F). The control box must be compatible with start/stop crane modules and allow for simultaneous operation of both the air compressor and hydraulic pump.



Throttle Control: For 2017-2019 model year trucks, the Throttle Control must allow for dual speed operation with cranes that have available IO for high idle mode; 2 throttle control set-points available; adjustable up to 3000 RPM. For 2020+ model year trucks, the Throttle Control must allow for variable and fixed speed throttle controls; toggle to switch modes; adjustable up to 2500 RPM. If an automatic transmission vehicle is shifted into drive while the compressor is on, the Throttle Control must automatically disable.

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

Hydraulic Pump:

The Hydraulic Pump will bolt onto the mount flange, and via a spline shaft on the hydraulic pump it will connect to the through PTO port. The hydraulic pump will be capable of operating simultaneously with the air compressor. Hydraulic pump options are dependent on truck model year, and include the following pump capabilities:

- 2017-2019 model year trucks include pumps capable of 3.5 – 8 GPM at 3625 psi, 4.9 – 10.7 GPM at 3625 psi, 7.4 – 13.6 GPM at 3410 psi, or 8.1 – 14.9 GPM at 3265 psi, dependent on hydraulic pump, and engine RPM.
- 2020+ model year trucks include pumps capable of 3.4 – 6.8 GPM at 3000 psi, 6.0 – 11 GPM at 3000 psi, or 8.1 – 13.6 GPM at 3000 psi, dependent on hydraulic pump, engine RPM, and operating mode.

Power Takeoff:

The Power Takeoff will be a Chelsea PTO, capable of 200-300 ft-lb of intermittent torque.

Operating Modes:

The system for 2017-2019 model year trucks will allow for two fixed speed operating modes. The system for 2020+ model year trucks will include fixed and variable modes, utilizing a priority valve during variable mode.

Cold Climate Protection:

Cold climate protection will include the inverter, and 110V AC cold climate heaters that are built into the package allowing the air compressor to operate in ambient temperatures below -10°C (14°F).

Package:

Total wet weight will not exceed 190 lb.

Safety Features:

The system must include a compressor over-temp sensor, automatic rapid blow-down valve on the tank, 200 psi pressure relief valve, throttle control disable protection, parking brake safety, and PTO indicator.

Installation:

Installation of the air compressor system must only be completed by a factory authorized distributor of the air compressor manufacturer.