

# *Bid Specifications*

## **HP935WCU PORTABLE AIR COMPRESSOR**

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### **GENERAL: TANDEM AXLE; STANDARD**

Working weight	10400 lbs	4717 kg
Length	203.5"	5.169 m
Width	79.6"	2.022 m
Height	93"	2.362 m
Track	65.2"	1.656 m
Tire Size	LT215 / 85R16E, 10PLY	

### **LESS RUNNING GEAR OPTION**

Working Weight	9400 lbs	4263 kg
Length	152"	3.861 m
Width	79.6"	2.022 m
Height	76"	1.930 m

### **ENGINE**

Type	DIESEL	
Make/model	CUMMINS M11-335C	
Number of cylinders	6	
Displacement	661 cid	10.8 L
Bore and stroke	4.92 X 5.79"	
Speed idle / full	1200/1800	1200/1800
Power at rated speed	335 bhp	249.9 kw
Electrical system	24 volts	
Cooling system	Water	

### **FUEL SYSTEM / CONSUMPTION**

Fuel tank capacity	142 gal	538 L
Fuel consumption 75%	11.3 gph	42.8 L/h
Operating time	12.7 hrs	
Fuel consumption 100%	13.3 gph	50.3 L/h
Operating time	10.7 hrs	

### **COMPRESSOR**

Type	ISO 1217 ROTARY SCREW SINGLE STAGE	
Free-Air Delivery (cfm / M <sup>3</sup> /min)	935 / 26.5	
Rated Operating Press (psig/bar)	150 / 10.34	
Pressure Range (psig/bar)	80 TO 175/ 5.52 TO 12.07	
Air DischargeOutlet Size	2.0 / 50.8 + 1.25 / 31.75	
Air DischargeOutlet Quantity	1 + 3	
Separator Tank Volume (US Gal/Litres)	42.4 / 160	
Oil Capacity (US Gal/Litres)	19.8 / 75	

### **ENGINE FEATURES**

- Heavy-duty turbocharged and aftercooled.
- Three stage, heavy duty, dry type air cleaner with service indicator and replaceable primary and safety elements.
- 24V Electric starting system, two 4D, 1150 CCA batteries.
- Starter protection system.

### **PACKAGE FEATURES**

- Tandem axle running gear with 16" wheels, 10 ply tires.
- Instrument and control panel with locking door - front mounted.
- Shock mounted engine and compressor.

- Large lockable doors on all four sides.
- Hydraulic surge brakes with mechanical parking brake.
- Heavy duty detachable 'A' frame drawbar.
- Tail lights, 6-wire socket, marker lights, reflectors, and license plate light.
- Fuel/water separator.
- Large fuel tank for full shift operation.
- Lockable fuel filler; behind small access door.
- Adjustable height pintle eye hitch.
- Shipping tie-downs on frame.
- Screw jack with pivoting sands foot.
- Single point, internal lifting bail.
- Pusher fan (cool box design).
- Rear steps for cooler fill access.
- Side by side coolers for easy cleaning.
- Minimum pressure valve.
- One year or 2000 hour warranty on all components, except engine, tires and batteries which carry standard manufacturer's warranty.

### **SAFETY FEATURES**

- Automatic safety shutdowns: high discharge air temp, low engine oil pressure, high engine coolant temp, and low fuel level shutdown.
- Manual and automatic blowdown valves.
- ASME approved high-pressure relief valve.
- Fan and belt guards.
- Towing safety chains with safety hooks.
- Trailer lighting complies with US DOT/Federal MVSS 108.
- Lifting bail access from inside of unit.
- Operating and safety decals.

### **COMPRESSOR**

- The compressor is a single stage, oil flooded asymmetrical rotary screw.
- The rated capacity is 935 cfm (441 L/s).
- The rated operating pressure is 150 psig (10.34 bar).
- The pressure range is 80-175 psig (5.52-12.07 bar).
- The air delivery and pressure shall be determined in accordance with ISO 1217.
- The rated pressure shall be measured after oil separation.
- The regulation system is 100% stepless.
- The air service valve is (1) 2" NPT.

### **COMPRESSOR FEATURES**

- Three stage, heavy duty, dry type air cleaner with service indicator and replaceable primary and safety elements.
- 25-micron spin-on oil filter.
- Two-stage oil separation system with vertical tank, sight gauge and over-fill protection.
- Air-to-oil finned tube oil cooler.
- Engine driven flexible drives coupling.
- Two-year or 4000 hour compressor airend warranty.

### **INSTRUMENTS AND CONTROLS**

- Standard gauges include: air discharge pressure, hourmeter, tachometer, engine water temperature, engine oil pressure, discharge air temperature, voltmeter, and fuel level.
- Diagnostic panel indicator lights for safety shutdowns, and warning lights for alternator charge, low fuel level, low coolant level, and air cleaner restriction.

- Drip-proof enclosure protects rear of instruments, controls, and wiring harness connections; maintenance access is provided via a hinged instrument panel.

#### **OPTIONAL EQUIPMENT--FACTORY INSTALLED**

- Integral aftercooler with water separator -  
20 degrees F approach to ambient temperature.
- Filter: Coalescing/particulate filter (available with aftercooler only) 0.5-PPM liquid aerosol, 1-micron max. particle size.
- Keyed ignition.
- Amber roof light; revolving or strobe.
- Electric Brakes
- Less running gear.
- Central drain system.
- Dual Pressure Regulation: 100 psig to Rated psig.
- Discharge Manifold with service valves:  
[BSPT: {(1) 2 1/2"+ (3) 1 1/4"} or [NPT: {(3) 2" + (1) 3/4"}]
- European CE Mark (EEC Noise level).
- Universal separator tank (export only).
- Language Manuals: Spanish, German, Portuguese, French, Italian and English.
- Ether cold start system.
- Engine and battery heater system 120V AC.
- Special paint - lead free only (requires DuPont paint number for Centari® or Imron®)
- Spark arrestor.
- Filter kit

## ***SPECIFICATIONS WITH COMMON OPTIONS\****

\*indicates factory installed options in text below

### **TYPE**

- Self contained, fully enclosed, diesel engine driven, heavy duty portable air compressor mounted on a tandem axle or wagon\* steer trailer with a minimum rated capacity of 935 cfm, free air delivery, at 150 psi, with a maximum operating pressure of 175 psi; all in accordance with ISO 1217.
- The rated pressure shall be measured after oil separation.

### **GENERAL**

- The equipment shall be a standard product of the manufacturer.
- The compressor airend shall be completely manufactured and assembled by the manufacturer of the compressor unit.
- The compressor unit shall meet the EPA noise level regulations of 76 dBa at 7 meters or EEC noise level\*.
- The manufacturer shall have local parts and service facilities capable of complete machine overhaul.
- Additionally, the compressor manufacturer shall have a flexible airend repair program; i.e., parts and training may be obtained to make repairs, or the airend may be exchanged for a new or remanufactured unit.

### **ENGINE**

- A diesel engine shall be a turbocharged industrial water-cooled six cylinder, with a rating of no less than 335 SAE brake horsepower, at 1800 rpm.
- The engine shall have a 24-volt electrical system and the batteries shall have a minimum rating of 1150 CCA in accordance with SAE J537 specifications for 30-second test.
- A dedicated heavy duty, three stage, dry type air cleaner, with replaceable primary and safety elements and an automatic filter maintenance indicator, shall be used to filter intake air.
- The fuel system shall include fuel storage with a minimum capacity of 142 gallons, a fuel/water separator, and a replaceable fuel filter.
- The fuel system shall incorporate low fuel level shutdown prior to running out of fuel.

### **COMPRESSOR AIREND**

- The compressor airend shall be oil flooded rotary screw type with asymmetrical rotor profiles incorporating tapered roller thrust bearings.
- The airend shall be driven through a flexible coupling to isolate engine and compressor vibrations.
- An inlet unloader valve shall be used to provide stepless engine speed control matched to air demand.
- The regulation system shall allow the engine to start and warm up under low load.
- A dedicated heavy duty, three stage, dry type air cleaner, with replaceable primary and safety elements and an automatic filter maintenance indicator, shall be used to filter intake air.

### **COOLING SYSTEM**

- The engine and airend coolers shall be finned tube type heat exchangers arranged in a side-by-side configuration for easy cleaning.
- A single cooling air fan shall be driven by the engine, drawing cool air through the compressor unit before entering the heat exchangers, and maintaining internal package temperatures of no more than 20 degrees F above that of the ambient.
- An aftercooler\* and water separator\* shall be incorporated in the design to cool the compressed air to within 20 degrees F of the ambient air temperature.
- A coalescing/particulate filter\* shall remove all particles down to 1 micron including coalesced liquid water and oil, providing a minimum remaining oil aerosol content of .5 PPM at 70 degrees F.
- A valve system\* shall be supplied to permit bypassing the aftercooler\* system.

## **COMPRESSOR OIL SYSTEM**

- The compressor oil system shall incorporate a vertical separator tank, a temperature bypass valve, an oil cooler, and a 25-micron spin-on oil filter.
- The separator tank shall meet ASME Section VIII Code requirements (or Universal tank) and include an oil level sight gauge and over-fill protection.

## **TRAILER**

- The trailer shall be a tandem axle design using heavy-duty leaf spring running gear with 16" bias ply load range E tires with a track width of no less than 65.2".
- The trailer shall be of welded steel construction and include an 'A' frame detachable drawbar with three position pintle eye and safety chains.
- The trailer shall include a screw jack with pivoting sand foot, hydraulic surge brakes with break-away protection, towing and side marker lights, and lighted license plate mounting.
- Trailer lighting to comply with US DOT/Federal MVSS 108.
- The engine and airend shall be rubber mounted directly to the trailer to minimize vibration.
- An internal, single point, lifting bail capable of lifting the complete unit shall also be included.
- The lifting bail shall be accessible from the inside to eliminate the risk of falling from the roof.
- The trailer shall incorporate shipping tie downs.

## **ENCLOSURE**

- Sheet metal housing shall fully enclose the compressor unit providing protection as well as noise attenuation.
- Access for routine maintenance and tool storage shall be provided through large doors on all four sides of the compressor.
- All doors shall be equipped with no-rust aluminum hinges, lockable "slam-type" latches, and hasps to hold the doors in their open positions.

## **INSTRUMENTS & CONTROLS**

- The instruments and controls shall be clearly labeled and located on the front of the unit in a drip-proof enclosure and protected with a lockable door.
- The instrument panel shall be hinged for easy service access and it shall include the following gauges: hourmeter, voltmeter, tachometer, discharge air pressure, discharge air temperature, engine water temperature, engine oil pressure, and fuel level.
- The instrument panel shall also include diagnostic warning indicator lights for air filter maintenance, alternator charge, radiator coolant level, low fuel level and an indicator light to aid in troubleshooting when the unit stops due to low fuel level or a safety shutdown.
- The back of the panel shall be enclosed in a drip proof housing to protect all gauges and electrical parts from corrosion.

## **SAFETY FEATURES**

- The compressor unit shall incorporate the following features to ensure operator safety and to protect the equipment: fan guards meeting OSHA recommendations, operating and maintenance manuals, operating and safety decals in accordance with the Westinghouse Product Safety Label Handbook, internal access to the lifting bail, automatic and manual blowdown valves, an ASME approved pressure relief valve on the oil separator tank, a starter protection system to prevent over-cranking of the engine starter, safety shutdown devices in case of high compressor discharge temperature, low engine oil pressure, high engine coolant temperature, low fuel level.

## **WARRANTY**

- The air compressor package shall be warranted to be free of defects in material and workmanship for a period of one year or 2000 operating hours, whichever occurs first.
- The airend itself shall be warranted for two years or 4000 hours, whichever occurs first.
- Their respective manufacturers shall warrant the engine, batteries and tires.

\*option

# **INGERSOLL-RAND IQ SYSTEM®**

## **COOL, CLEAN, DRY COMPRESSED AIR OPTION\***

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(Requires aftercooler/coalescing filter IQ option above)

Heatless Regenerative AIR DRYER RD1000/Skid Mounted\*

### **TYPE**

- Heatless Regenerative with dual pressure vessels.
- Self contained, mounted on a skid with forklift slots.

### **GENERAL**

- The skid shall contain an inlet coalescing filter, two pressure vessels, an outlet coalescing filter, and all necessary valving and controls necessary for alternate drying and purging cycles.
- All filters and vessels shall be properly sized for the compressed air volume and pressure of the supply air compressor.

### **INLET Pre-FILTER**

- The inlet coalescing filter shall be capable of removing liquid aerosols to .01 PPM by weight and particulate to .01 micron size.

### **HEATLESS REGENERATIVE AIR DRYER**

- The air dryer shall be a "Heatless Regenerative" desiccant type that shall utilize two pressure vessels, along with appropriate valving and controls, to switch between the active and the regenerating vessel. One vessel shall be actively drying the compressed air while the other vessel is being regenerated. The two vessels shall alternate with the regenerated vessel becoming the active drying vessel, as the other vessel is regenerated by "purge air" from the active vessel. Switching between vessels shall be by non-lubricated shuttle valves. Purge air shall be adjustable.
- These pressure vessels shall meet ASME Section VIII Code.
- Compressed air from the vessel(s) shall be consistently -40 degree F (-40 degrees C) Dew Point temperature.

### **OUTLET After-FILTER**

- The outlet coalescing filter shall be capable of removing liquid aerosols to .5 PPM by weight and particulate to 1-micron size.

### **SKID**

- The skid shall have heavy-duty construction and fork lift slots for transport.

### **OUTLET AIR QUALITY**

- Outlet compressed air from the dryer shall exceed the Instrument Society of America:
- "Quality Standard for Instrument Air"; S7.0.01-1996; when used with the INGERSON-RAND IQ SYSTEM® aftercooler and filters.