

SOIL & GROUND REMEDIATION

Air Compressor Equipment, Jacksonville, Florida

Challenge: Soil and Ground Water Remediation Companies run their systems outdoors at 100% duty cycle & 70% full load, billing their clients by “hours of operation”. Their goal is 100% billing. An air compressor that shuts down due to over-heating, malfunction or premature wear negatively impacts their total billable hours. With billable hours as their primary revenue source, these companies require an air compressor that works at 100% duty cycle without fail.



Application Requirements & Past History

The air compressor is the source of clean air delivered through PVC pipes to “bubble” up the hydrocarbons in 15-50 low water wells. The hydrocarbons are captured by the remediation towers and destroyed per industry guidelines. This remediation process accelerates the collection of hydrocarbons, cleaning the valuable land in an abbreviated time period. 100 psi on the header supports 15-50 PVC pipes 24 hours per day, 365 days a year. 100% duty cycle, 70% full load. Demand depends on well percolation.

Previously these companies were using reciprocating air compressors that were not 100% duty cycle and wore out in 3 months time. The reciprocating air compressors were generating oil vapor which was volatilizing at high temperatures and adding to the hydrocarbon load. Rotary screw compressors run hot and then turn off at 230°, which is unacceptable in a 24/7/365 ground remediation process that leaves the system exposed to the elements for months at a time. These remediation systems are housed 60% of the time in covered trailers, and 40% of the time with a roof covering only.

Solution: Mattei Air Compressors operate on a proprietary vane technology which meets all of the needs of the Soil & Ground Remediation Companies requirements for maximum billable hours:

- Passes less oil, avoiding recontamination of the area
- Has a discharge temperature that is 20-25° less than a rotary air compressor which is critical in maintaining PVC connections & while operating in difficult outdoor conditions
- Runs smoother & cooler with less vibration
- Runs at 1,750 RPM versus 8,000 RPM with belt driven air compressors where friction generates unwanted heat into the ground remediation process
- Runs unattended for months at a time
- Mattei vane technology allows the units to serve in this application for 15-20 years versus 5 years for other air compressor technologies
- No other air compressor technology meets the unique rigorous requirements for soil and ground water remediation service providers

Air Output ref. ISO 1217	cfm	105/104
Working Pressure L/H	psig	125/150
Standard Voltages	3 ph.	208-230/460
Main Motor	hp	25
Motor Type		ODP E-pact Eff. TEFC Premium Eff. Optional
Insulation Class		F
Thermal Protection		Thermal Overload
Nominal Speed	rpm	1800
Drive Type		Direct
Starter Type		Across the line
Control System		Dual
Control Voltage	V	110
Off-Load Pressure	psig	19
After Cooler		Air cooled aluminum fin type
Ambient Temperature Limits	F/C	32-104 / 0-40
Air Outlet Temperature Rise	F/C	6-9 / 3-5
Oil Carryover	PPM	1-3
Condensate Separator		Automatic Float Type
Low Oil Level Protection		Float Switch
Overtemperature Protection		Bi-Metallic Switch
Oil Capacity	gal	3
Sound ref. ISO 3746 ERC/AC	db(A)	81/72