

Compressed Air and Industrial Motors Worksheet



TAKE CHARGE™

Before you start

Instructions: Complete all relevant information for your project. Include with completed final application package.

All rebates are paid per unit and are capped at 30 percent of project's total cost.

Questions? Call 888-261-4567.

Submit your application

The following documents must accompany the Compressed Air and Industrial Motors Worksheet in a complete application:

- Rebate application
- Equipment spec sheet
- Itemized invoice showing model number
- W9 for payee
- Copy of latest electric bill

1 Project Information

Retrofit

ZIP (project location):

Estimated/Actual Install Date:

2 Building Type

- | | | |
|--|---|--|
| <input type="checkbox"/> Assembly | <input type="checkbox"/> Health/Medical - Nursing Home | <input type="checkbox"/> Office - Large |
| <input type="checkbox"/> Auto-Related | <input type="checkbox"/> Industrial/Manufacturing - 1-Shift | <input type="checkbox"/> Office - Small |
| <input type="checkbox"/> Convenience Store | <input type="checkbox"/> Industrial/Manufacturing - 2-Shift | <input type="checkbox"/> Religious Worship/Church |
| <input type="checkbox"/> Data Center | <input type="checkbox"/> Industrial/Manufacturing - 3-Shift | <input type="checkbox"/> Restaurant - Fast-Food |
| <input type="checkbox"/> Education - Community College | <input type="checkbox"/> Industrial/Manufacturing - Biotech/High - Tech | <input type="checkbox"/> Restaurant - Sit-Down |
| <input type="checkbox"/> Education - Primary School | <input type="checkbox"/> Institutional/Public Service | <input type="checkbox"/> Retail - Multi-story Large |
| <input type="checkbox"/> Education - University | <input type="checkbox"/> Lodging - Hotel | <input type="checkbox"/> Retail - Single-story Large |
| <input type="checkbox"/> Education - Secondary School | <input type="checkbox"/> Lodging - Motel | <input type="checkbox"/> Retail - Small |
| <input type="checkbox"/> Grocery | <input type="checkbox"/> Multi-Family (Common Areas) | <input type="checkbox"/> Storage - Conditioned |
| <input type="checkbox"/> Gymnasium | <input type="checkbox"/> Museum/Library | <input type="checkbox"/> Warehouse |
| <input type="checkbox"/> Health/Medical - Hospital | | <input type="checkbox"/> Warehouse - Refrigerated |

3 Trade Ally/Contractor Information

Business Name:

Contact Name:

Phone:

Business Address:

City:

State:

ZIP:

4 Air Nozzles for Air Compressors

Date Installed	Quantity Installed	Manufacturer	Model #	Efficient Nozzle CFM	Facility Operation Schedule	Nozzle Size	Compressor Control Type	Cost
					<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7	<input type="checkbox"/> 1/4" <input type="checkbox"/> 1/8"	<input type="checkbox"/> Reciprocating - On/Off <input type="checkbox"/> Reciprocating - Load/Unload <input type="checkbox"/> Screw - Load/Unload <input type="checkbox"/> Screw - Inlet Modulation <input type="checkbox"/> Screw - Inlet Modulation w/ Unloading <input type="checkbox"/> Screw - Variable Displacement <input type="checkbox"/> Screw - VFD	
					<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7	<input type="checkbox"/> 1/4" <input type="checkbox"/> 1/8"	<input type="checkbox"/> Reciprocating - On/Off <input type="checkbox"/> Reciprocating - Load/Unload <input type="checkbox"/> Screw - Load/Unload <input type="checkbox"/> Screw - Inlet Modulation <input type="checkbox"/> Screw - Inlet Modulation w/ Unloading <input type="checkbox"/> Screw - Variable Displacement <input type="checkbox"/> Screw - VFD	
					<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7	<input type="checkbox"/> 1/4" <input type="checkbox"/> 1/8"	<input type="checkbox"/> Reciprocating - On/Off <input type="checkbox"/> Reciprocating - Load/Unload <input type="checkbox"/> Screw - Load/Unload <input type="checkbox"/> Screw - Inlet Modulation <input type="checkbox"/> Screw - Inlet Modulation w/ Unloading <input type="checkbox"/> Screw - Variable Displacement <input type="checkbox"/> Screw - VFD	

5 No-Loss Condensate Drain

Date Installed	Quantity Installed	Manufacturer	Model #	Compressor CFM or HP	Compressor Control Type and Storage Volume	Facility Operation Schedule	Cost
					<input type="checkbox"/> Reciprocating - On/Off <input type="checkbox"/> Reciprocating - Load/Unload <input type="checkbox"/> Screw - Load/Unload <input type="checkbox"/> Screw - Inlet Modulation <input type="checkbox"/> Screw - Inlet Modulation w/ Unloading <input type="checkbox"/> Screw - Variable Displacement <input type="checkbox"/> Screw - VFD	<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7	
					<input type="checkbox"/> Reciprocating - On/Off <input type="checkbox"/> Reciprocating - Load/Unload <input type="checkbox"/> Screw - Load/Unload <input type="checkbox"/> Screw - Inlet Modulation <input type="checkbox"/> Screw - Inlet Modulation w/ Unloading <input type="checkbox"/> Screw - Variable Displacement <input type="checkbox"/> Screw - VFD	<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7	
					<input type="checkbox"/> Reciprocating - On/Off <input type="checkbox"/> Reciprocating - Load/Unload <input type="checkbox"/> Screw - Load/Unload <input type="checkbox"/> Screw - Inlet Modulation <input type="checkbox"/> Screw - Inlet Modulation w/ Unloading <input type="checkbox"/> Screw - Variable Displacement <input type="checkbox"/> Screw - VFD	<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7	

6 VFD Air Compressor

Date Installed	Manufacturer	Model #	Operating Schedule	Compressor Motor Size (HP)	Equipment Cost
			<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7		
			<input type="checkbox"/> 1-Shift 5 Days per Week <input type="checkbox"/> 2-Shift 5 Days per Week <input type="checkbox"/> 3-Shift 5 Days per Week <input type="checkbox"/> 24/7		

7

Variable Frequency/Speed Process Pumps and Fans

Date Installed	Quantity Installed	Manufacturer	Model #	Efficient Motor HP Eligibility limited for certain size motors - See Appendix for motor size requirements	Existing Motor Type	Existing Flow Control Type	Cost
					<input type="checkbox"/> Fan <input type="checkbox"/> Pump	<input type="checkbox"/> Bypass Valve (Pumps) <input type="checkbox"/> Discharge Damper (Fan) <input type="checkbox"/> Eddy Current Drive (Fans or Pumps) <input type="checkbox"/> Outlet Control Valve (Pumps) <input type="checkbox"/> Outlet Damper (Forward-Curved Fan) <input type="checkbox"/> On/Off (Fans or Pumps) <input type="checkbox"/> Torque Converter (Pumps) <input type="checkbox"/> VFD (Fans or Pumps) <input type="checkbox"/> Motor Horsepower _____	
					<input type="checkbox"/> Fan <input type="checkbox"/> Pump	<input type="checkbox"/> Bypass Valve (Pumps) <input type="checkbox"/> Discharge Damper (Fan) <input type="checkbox"/> Eddy Current Drive (Fans or Pumps) <input type="checkbox"/> Outlet Control Valve (Pumps) <input type="checkbox"/> Outlet Damper (Forward-Curved Fan) <input type="checkbox"/> On/Off (Fans or Pumps) <input type="checkbox"/> Torque Converter (Pumps) <input type="checkbox"/> VFD (Fans or Pumps) <input type="checkbox"/> Motor Horsepower _____	

Compressed Air and Industrial Motors Worksheet Appendix

VFD Process Pumps and Fans

Measure Description: Variable Frequency Drives (VFDs) control the speed of a motor to match flow demands.

How It Saves Energy: When used in place of traditional controls such as throttling or bypass valves in applications for which loads vary, VFDs can be highly effective at cutting energy costs.

Eligibility: This measure applies only to process pumps and fans. Controls on pumps or fans used for space conditioning do not qualify. VFD speed must be controlled automatically by differential pressure, flow, temperature, or another relevant input.

Air Nozzles for Air Compressors

Measure Description: This measure applies to the replacement of an inefficient, stationary, non-air entraining air nozzle in an industrial application.

How It Saves Energy: By entraining and amplifying atmospheric air into a stream, air-entraining air nozzles use less compressed air to do the same job as conventional air nozzles. Air-entraining nozzles can also reduce noise in systems with air at pressures greater than 30 psig.

Eligibility: Air-entraining air nozzles must replace an open copper tube (of 1/8" or 1/4" orifice diameter) with an energy-efficient air-entraining air nozzle that uses less than 15 CFM at 100 psi.

No-Loss Condensate Drains

Measure Description: This measure applies to the installation of new no-loss condensate drains in a compressed air system that prevent compressed air from leaving the system when condensate is drained.

How It Saves Energy: Water that is condensed out of a compressed air system (typically by refrigerated air dryers) must be drained. Many condensate drains are controlled by a timer that operates the drain for a fixed amount of time on regular intervals regardless of condensate levels. When drains open, compressed air escapes without doing any purposeful work in the system. In a no-loss condensate drain system, a sensor monitors condensate level, opens the drain valve when condensate needs to be drained, and closes before compressed air can escape.

Eligibility: To be eligible, no-loss condensate drains must replace standard condensate drains operated by a timer-controlled solenoid valve.

VFD for Air Compressor

Measure Description: VFD air compressor closely matches air demand with production by varying compressor speed to match production.

How It Saves Energy: Compared to load/no load machines, VFD air compressors save energy at part-load conditions.

Eligibility: Measure applies to new and replacement air compressors having VFD controls. Machine must be more than 10 HP and no more than 40 HP. It must be installed in a facility of at least 2-shifts.

The following conditions must also be met for the project to be eligible:

- The VFD must be used in conjunction with a process (non-HVAC) pump or fan application.
- Redundant or back-up units do not qualify.
- Routine replacement of existing VFDs does not qualify.
- VFD speed must be automatically controlled by differential pressure, flow, temperature, or another variable signal.
- The system controlled must have significant load diversity that will result in savings through motor speed variation. Conditions in which the motor is loaded consistently above 80% or consistently below 30% are ineligible, as these operating conditions may not realize sufficient savings from a VFD to qualify for an incentive.
- Motors must operate at least 3700 hours per year. Copies of invoices must list the drive's capacity (in motor HP)
- Eligible controlled motor size depends on type of load and existing control, as follows:

Load Type	Replaced Control Type	Minimum Motor Size
Pump	Bypass Valve	2 hp
Pump	Outlet Control	5 hp
Pump or Fan	Eddy Current Drive	10 hp