



## The AirMaster+ Software Tool

Diagnose the energy use of your industrial compressed air system and identify ways to improve its energy efficiency

Discover Your Facility's  
Energy-Savings Potential with  
ITP Software Tools



**Energy Efficiency Software Tools**

<http://www.eere.energy.gov/industry/bestpractices/software.html>

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## The AIRMaster+ Software Tool

Developed by the U.S. Department of Energy’s Industrial Technologies Program (ITP), AIRMaster+ is an online software tool that can help you analyze the energy use and savings opportunities of your industrial compressed air system. AIRMaster+ provides a systematic approach to assessing compressed air systems, analyzing collected data, and reporting results, which leads to energy savings and the lessening of environmental impacts. Those who may find AIRMaster+ most useful include companies or distributors of compressed air equipment, compressor system auditors, industrial plant personnel, and utility representatives.

## How Does AIRMaster+ Work?

AIRMaster+ includes a database of generic or industry-standard compressors and generates an inventory specific to your actual in-plant compressors. Based on user-provided data, the software simulates existing and modified compressed air system operations. AIRMaster+ also includes LogTool—companion software that serves as a data importation and analysis aid. AIRMaster+ requires users to input

- Company information
- Utility service information
- Facility information
- System information
- Compressor details
- Profile/use information.

Once established, your AIRMaster+ database can be updated at any time, which is especially helpful as new information becomes available or as modifications are made to each facility or compressor inventory list. Whether using information from the user-defined list or from the industry-standard list of compressors—which range from 1 to 3500 hp—AIRMaster+ provides a thorough analysis of potential air system energy savings by allowing you to evaluate your system across eight Energy Efficiency Measures (EEMs):

- Reduction of air leaks
- Improvement in end-use efficiency
- Reduction of system air pressure
- Use of unloading controls
- Adjustment of cascading set points



**AIRMaster+ Home Screen**

Description	Energy Savings, kWh	Energy Savings, \$	Energy Savings, %	Demand Savings, kW	Demand Savings, \$	Installed Cost, \$	Total Savings, \$	Simple Payback, years
Reduce Air Leaks	77,632	2,948	9.6	14.9	603	1,000	3,551	0.3
Use Efficient Nozzles for Blow	29,866	1,135	3.7	19.9	806	800	1,941	0.4
Reduce System Air Pressure	49,055	1,862	6.0	12.9	521	100	2,384	0.0
Use Unloading Controls	36,463	1,386	4.5	0.0	0	1,200	1,386	0.9
Adjust Cascading Set Points	14,226	540	1.8	1.5	59	200	600	0.3
Use Automatic Sequencer	126,020	4,788	15.5	28.3	1,144	8,000	5,932	1.3
Reduce Run Time	73,168	2,780	9.0	0.0	0	200	2,780	0.1
Add Primary Receiver Volume	18,709	711	2.3	0.0	0	3,500	711	4.9
<b>TOTALS</b>	<b>425,139</b>	<b>16,150</b>	<b>52.4</b>	<b>77.4</b>	<b>3,134</b>	<b>15,000</b>	<b>19,285</b>	<b>0.8</b>

**Evaluation of EEMs**

**Life Cycle Analysis Results**

Loan Amount, \$ 15,000      After tax return on investment, % 0.0  
 Capital recovery factor 0.25      Benefit-to-cost ratio (before tax) 0.12  
 Annual loan payment, \$ 3,757      Benefit-to-cost ratio (after tax) 0.12  
 After tax net present value, \$ -2,657,151      Levelized cost of conserved energy, \$/kWh 0.589

Year	Project Revenues, Nominal \$	Loan Pmt + Op Costs, Nominal \$	Depreciation, Nominal \$	After Tax Benefits, Nominal \$	After Tax Benefits, BY \$	Cumulative After Tax Benefits, BY \$	Conserved Energy Cost, Nominal \$
2007	19,285	0	5,000	-210,715	-210,715	-210,715	0
2008	20,249	233,757	4,000	-213,508	-207,289	-418,005	550
2009	21,261	233,757	3,000	-212,496	-200,297	-618,302	550
2010	22,324	233,757	2,000	-211,432	-193,491	-811,793	550
2011	23,441	233,757	1,000	-210,316	-186,863	-998,656	550
2012	24,613	233,757	0	-209,144	-180,410	-1,179,066	550
2013	25,843	230,000	0	-204,157	-170,978	-1,350,044	541
2014	27,135	230,000	0	-202,865	-164,947	-1,514,991	541
2015	28,492	236,900	0	-208,408	-164,519	-1,679,510	557
2016	29,917	244,007	0	-214,090	-164,082	-1,843,593	574
2017	31,413	251,327	0	-219,915	-163,637	-2,007,230	591
2018	32,983	258,867	0	-225,884	-163,183	-2,170,413	609

### Life Cycle Analysis Results

- Use of automatic sequencer
- Reduction in run time
- Addition of primary receiver volume.

The EEMs feature provides an easy method for analyzing energy savings and payback periods, but that is only the beginning. AIRMaster+ also provides maintenance logging capabilities, as well as life cycle analyses for air compressor systems.

Overall, AIRMaster+ is a one-stop shop for compressed air system evaluations and recordkeeping.

## What's the Next Step?

AIRMaster+ will guide you to the ITP resources that will help you implement improvements at your facility to realize energy and cost savings, including

- Other system-specific software tools to identify targeted savings opportunities
- Consultations with ITP's Qualified Specialists
- Special training sessions for plant-wide and system-specific improvements.

## How to Access AIRMaster+

AIRMaster+ can be **downloaded for free** at [http://www1.eere.energy.gov/industry/bestpractices/software\\_AIRMaster.html](http://www1.eere.energy.gov/industry/bestpractices/software_AIRMaster.html).

To learn more about AIRMaster+, visit [http://www1.eere.energy.gov/industry/bestpractices/compressed\\_air.html](http://www1.eere.energy.gov/industry/bestpractices/compressed_air.html).



## More ITP Resources

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In addition to AIRMaster+, ITP provides a variety of free software tools to help you identify energy-savings opportunities across your facility. These tools specifically target

- *Motors*
- *Fan systems*
- *Process heating systems*
- *Pumping systems*
- *Chilled water systems*
- *Industrial facilities/buildings*
- *Steam systems*
- *Data centers.*

To access these tools, visit <http://www.eere.energy.gov/industry/bestpractices/software.html>.

To learn about training opportunities on topics related to these systems, visit <http://www.eere.energy.gov/industry/bestpractices/training.html>.

For more information on ITP, visit <http://www.eere.energy.gov/industry/>.

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1-877-EERE-INFO (1-877-337-3463)  
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