



# COMPRESSED AIR

## Is your compressed air system operating at its best?

Of the energy required to operate your compressed air system, only **10% - 15%**<sup>1</sup> is actually delivered as compressed air. Keep your budget in check by ensuring your system is running as efficiently as possible.

### What does your system's energy cost?

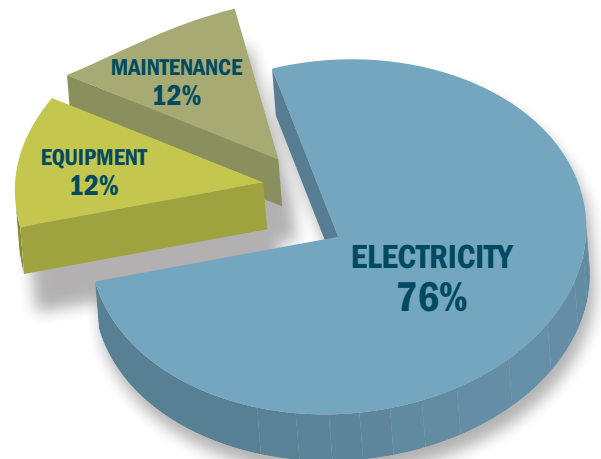
System Size	1 Shift (2,080 Hours)	2 Shifts (4,160 Hours)	3 Shifts (8,760 Hours)
25 hp	\$2,948	\$5,897	\$12,417
50 hp	\$5,897	\$11,794	\$24,835
75 hp	\$8,845	\$17,690	\$37,252
100 hp	\$11,794	\$23,587	\$49,669
125 hp	\$14,742	\$29,484	\$62,087

Assumes a rate of \$.10/kWh.

Taking simple steps can reduce your compressed air system's operating expenses by at least 10%, directly improving your bottom line.

### Lifetime compressed air costs

According to the Department of Energy, 76% of a compressed air system's cost over a 10-year period is for electricity.<sup>2</sup>



### Leak survey and repairs

- Leaks typically are responsible for 20% - 30% of the air compressor's output.
- Leaks can negatively impact system pressure, capacity, and equipment life.
- Try to reduce leaks to less than 10% of your system output.
- Even a small leak can add up over time. Check out the chart below to better understand the cost of leaks.

Leak Rate	1 Shift (2,080 Hours)	2 Shifts (4,160 Hours)	3 Shifts (8,760 Hours)
2 cfm	\$83	\$166	\$350
6 cfm	\$250	\$499	\$1,051
10 cfm	\$416	\$832	\$1,752



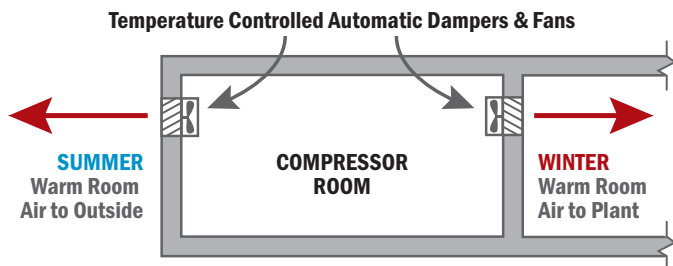
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# WAYS TO OPTIMIZE YOUR COMPRESSED AIR SYSTEM

## Heat recovery<sup>3</sup>

- As much as 80% of the electricity consumed by your air compressor is wasted as heat.
- Properly designed heat recovery can recover 50% - 90% of the waste and use it to heat air or water.



- To help maximize savings, use dampers and controls to automatically switch from summer to winter operation.
- Heat recovery provides benefits no matter the season. Removing unwanted heat in summer will increase employee comfort while redirecting recovered heat inside during winter will reduce the demand for mechanical heating.

## Variable-speed compressor<sup>4</sup>

- Variable-speed air compressors operate more efficiently at slower speeds compared to cycling on and off at full load or using inlet modulation controls.
- Consider a constant-speed compressor to serve a consistent base load and use a variable speed compressor for the trim load.
- Systems may operate most efficiently using a combination of constant-speed and variable-speed compressors.
- If the system load varies, savings of 10% - 35% are typical.

## Other opportunities

- Load shifting.
- Cycling refrigerated air dryers.
- Mist eliminators.
- No-loss drains.
- Dew-point controls on desiccant dryers.
- Pressure/flow control valves.
- High-efficiency nozzles.

### REDUCING ENERGY WASTE ACROSS WISCONSIN

Focus on Energy, Wisconsin utilities' statewide program for energy efficiency and renewable energy, helps eligible residents and businesses save energy and money while protecting the environment. Focus on Energy information, resources and financial incentives help to implement energy efficiency and renewable energy projects that otherwise would not be completed.

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## Get started

FOCUS ON ENERGY® offers financial incentives for compressed air system upgrades. Visit [focusonenergy.com](https://focusonenergy.com) or call **800.762.7077** to learn more.

<sup>1</sup> [https://www.energy.gov/sites/prod/files/2014/05/f16/compressed\\_air1.pdf](https://www.energy.gov/sites/prod/files/2014/05/f16/compressed_air1.pdf)

<sup>2</sup> [https://www.energy.gov/sites/prod/files/2014/05/f16/compressed\\_air3.pdf](https://www.energy.gov/sites/prod/files/2014/05/f16/compressed_air3.pdf)

<sup>3</sup> [https://www.bpa.gov/EE/Sectors/Industrial/Documents/CA\\_2006-3\\_TipSheetCAEfficiencyMeasures.doc](https://www.bpa.gov/EE/Sectors/Industrial/Documents/CA_2006-3_TipSheetCAEfficiencyMeasures.doc)

<sup>4</sup> <https://www.airbestpractices.com/>; <https://compressedairchallenge.org/>



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