SAVE ON ENERGY™
POWER WHAT'S NEXT

VARIABLE FREQUENCY DRIVES

Fan and pump systems may offer big savings by using VFDs to match the motor speed to the driven load. Fans, circular pumps and booster pumps in larger buildings are all good candidates for VFDs.

- Extend motor lifetime and reduce maintenance costs by controlling acceleration and operating speed.
- Reduce wear and tear on pump and fan components.
- Reduce electricity bill Global Adjustment and peak demand charges by avoiding demand spikes from motor start-ups during peak hours.

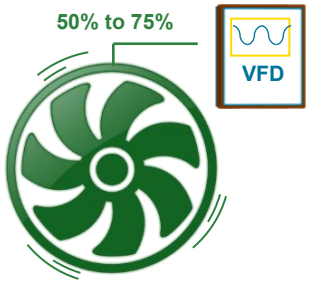
Sources:
Efficiency Vermont, *Energy Savings with VFDs*, https://www.youtube.com/watch?v=LYDSbOyUV4I

Save on Energy, *Buying Guide: Variable Frequency Drives*, https://saveonenergy.ca/For-Business-and-Industry/Industry-knowledge-centre/VFDs-Buying-Guide

Case study source: CIET-TdS Dixon, 2021

Most motor-driven equipment – such as fans and pumps – runs at a constant speed, leading to energy waste and equipment wear and tear when the system load is low. Variable frequency drives (VFDs) control the speed of AC motors by regulating the voltage and frequency of the electricity supplied to the motor based on the process needs. In mid-tier buildings, VFDs offer significant energy savings when using common equipment such as fans, circulator pumps and booster pumps, often with a payback period of fewer than five years.

Fans and pumps run at a constant speed regardless of the system load.



VFDs adjust the speed of the equipment based on the system load – ventilation demand, for example – avoiding energy waste.

Case Study: Low-Rise Office

A three-story, 48,000 ft^2 building in the Greater Toronto Area added a VFD to one booster pump as part of a deep energy retrofit that also included new HVAC rooftop units, a building automation system, a new boiler and interior and exterior lighting retrofits. In its first year of operation, the VFD saved 25,880 kWh and $3,900 in electricity costs, while the overall project reduced the building's energy consumption by 37%.

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The Save on Energy Retrofit program offers an incentive of up to $13,000 per VFD.

Visit the Save on Energy Retrofit program page to learn more. For more information or to get in touch with a Save on Energy representative in your area, please contact the Retrofit Support Line at 1-844-303-5542, or email retrofit@ieso.ca.