

# VARIABLE SPEED DRIVERS FANS, PUMPS AND MOTORS



## What is a Variable Speed Drive?

A variable speed drive is also known as a VSD, other names are variable frequency drives (VFDs), adjustable speed drive, adjustable frequency drive, AC drive and microdrive.

A variable speed drive (VSD) is a piece of equipment that regulates the speed and rotational force of an electric motor. More than 65 percent of all industrial electrical energy use goes to powering electric motors.

Rather than limiting yourself to the two options of full-throttle or switched off, a VSD can be used to ramp down the frequency or flow to meet the actual demand of the electric motor's load. As the motor speed requirements fluctuate, the VSD can simply turn up or down the motor speed to meet the speed requirement.

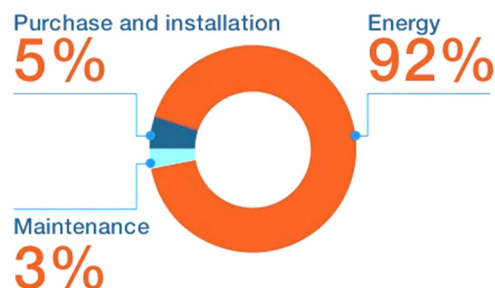
A VSD is one of the most effective tools used to control a facility's energy use. As organisations struggle to reduce running costs, variable speed drives offer some of the best available returns on investment.

## Benefits of installing a Variable Speed Drive

- Smoother operation,
- Acceleration control,
- Conserve energy, e.g. by reducing the speed of ventilation fans,
- Limit acceleration, speed, start up currents, torque or inrush currents,
- Coordinate speeds and accelerations of multiple motors working together in one machine,
- Controlling air or water flow with electrical pumps or fans, and
- Equipment motors will not run as hard, therefore your equipment's life will be extended and you will see a reduction in the amount of maintenance required, providing additional savings.

The payback time for using variable speed drives is **very short**, and the return on investment can come **within months**.

According to life cycle approach, the purchase price of a motor and a drive is just a few percent compared to the energy spent to run the equipment over its entire lifetime.



Graph provided by <http://www.abb.com/drives>.

## Is a VSD right for your business?

Call the Electrical Sensations team on 07 4637 2744 to arrange an energy assessment to see what measures we can implement to save you money!

