



Fixed speed versus VSD compressors

Technical Information Bulletin - #12

This technical bulletin is designed to provide more information about how Variable Speed Drive (VSD) compressors work and whether a VSD is right for your business.

What is a Variable Speed Drive compressor?

Variable Speed Drive (VSD) is an advanced technology used in compressors that helps businesses reduce energy wastage and improve efficiency.

VSD compressors are designed to automatically adjust their output based on your exact air demand. Unlike traditional systems that run at a constant speed, VSD units continuously monitor and maintain system pressure within a narrow band, ensuring optimal performance without wasting energy. This flexibility not only boosts efficiency but also helps reduce energy costs, making VSD compressors a smart, cost-effective choice for any business looking to improve their operations.

By investing in a correctly-sized VSD compressor, you ensure that your compressed air system operates efficiently and effectively, cutting down on unnecessary energy loss and increasing overall savings.

Benefits of VSD compressors

A VSD compressor is built to respond to your unique operational requirements. This adaptability provides several advantages for your business, including:



Reduced energy consumption

Tailored output means you only use the energy your operations require.



Quieter operations

Lower revolutions per minute (RPM) results in a quieter work environment.



Consistent plant pressure

VSDs maintain optimal pressure, extending the lifespan of components.



Lower maintenance costs

Less wear and tear leads to easier and more cost-effective maintenance.



Low inrush current

The inrush current is significantly reduced as the motor gradually ramps up.



Compact design

VSDs offer a complete solution that fits seamlessly into your workspace.



Explore our Venti VSD compressors

We offer a range of Venti Compressors with Variable Speed Drive, designed to meet the unique demands of your business.

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How can VSD compressors reduce your energy costs?

VSD compressors provide exceptional flexibility and efficiency by adjusting to air demand, which reduces energy consumption and mechanical stress compared to fixed-speed models.

They meet the required air demand by continuously adjusting the electric motor's speed through an inverter.

VSD units can also enter standby mode when the inverter reaches its lowest rotation speed.

An electronic controller constantly monitors real airflow and pressure values to ensure the pre-set targets are met.



Unlock thousands in energy savings by investing in a VSD compressors

If your compressed air needs fluctuate during the day, with varied demand and high off-load power consumption, a VSD compressor could significantly reduce your operating expenses by optimising energy use.

For example: A 15 kW fixed speed compressor running a normal work week, Monday to Friday, at eight hours a day, equates to more than 2,000 hours every year. For businesses running longer hours or operating on weekends, it's as high as 3,000 hours.

Based on 0.30 cents/kW in electricity charges, energy costs for this system equate to \$13,500 per year.

Replacing this fixed speed compressor with a VSD system would save your business 25% in running costs - a saving of \$3,375 per year.

More information

Learn more about VSD compressors at <https://www.nesscopressure.com.au/vsd-compressors/>.

Not sure if a VSD compressor fits your business needs? Call our compressed air specialists on 1300 290 638 or email info@nesscopressure.com.au, and we'll work with you to design the perfect solution for your operations.

