



National Carwash Solutions

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Affiliate Companies

Car Wash Technologies – www.carwashtech.com
Pittsburgh | Columbus | Cleveland | Harrisburg

TEC Services – www.thecarwashsource.com
Knoxville | Nashville | Raleigh



Upgrade Your Tunnel w/ VFD

Save 20%-50% on Your Power Costs with VFD Technology

It's all about the proper application of the VFD technology to the car wash environment. The greater number of VFD application strategies you implement and how aggressively you deploy them is up to you with each having a direct impact on savings, payback time and performance.



Candidates for VFD for Dryers

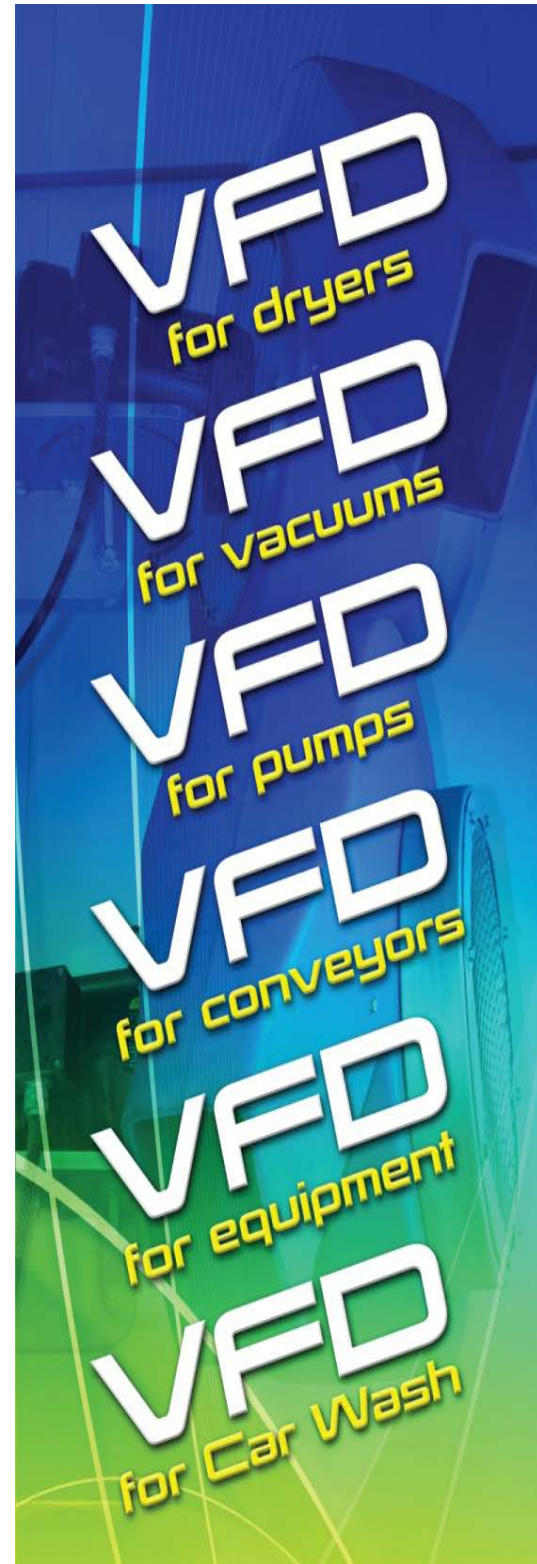
- ✓ All New Construction Car Washes
- ✓ All High Volume Tunnels > 50k / Year
- ✓ All Washes with High Demand Penalties
- ✓ Retrofits with aggressive VFD programming

Candidates for VFD for Vacuums

- ✓ ANY Central Vacuum System
 - Full Service or Flex
 - Free Vacs @ Express
 - Detail Areas
- ✓ All New Construction Car Washes with Central Vacs
 - Add the Vac VFD to the Custom MCC at a fraction of the cost of a separate vacuum control panel
- ✓ All Washes with High Demand Penalties

APPLICATIONS FOR VFD

Centrifugal loads, like fans and pumps, offer the greatest energy savings potential. Fortunately, our car washes are chock full of centrifugal loads. In fact, centrifugal loads represent the vast majority of our motor horsepower; Dryer Fan Motors, Water Pump Motors, Vacuum Pump Motors and Air Compressor Pump Motors.

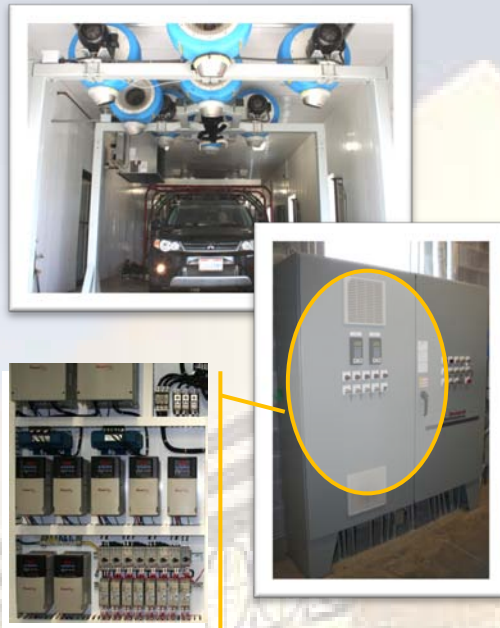


VFD for Dryers

New or retrofit, the payback is less than three years. Collateral savings are enjoyed from demand penalty reductions while acquisition cost is sometimes offset by governmental and utility incentives.

Up to 40% power usage savings by taking the unused top end motor speed off the dryers, merchandising the dryer with your packages – good, better, best – and slowing their speed down in the warm months when it's easier to dry.

- Speed Tune™ - tweak the top speed of the drying system just like dialing in your chemicals - 57 Hz or 95% motor speed for 14% savings
- Service Tune™ - merchandise Good-Better-Best drying like Good-Better-Best washing; savings range from a two cents per car on the top package to fifteen cents per car on the base package – horse power and volume dependent.
- Temp Tune™ – slow down dryer speed in warm weather. Savings range up from a penny per car depending on what other measures are also being used.



Collateral VFD savings and benefits

VFD's mitigate peak demand penalties

VFDs are the best way to mitigate demand penalties in your electric bill. VFD's control the inrush current peaks 80% better than cross the line motor starters and 50% better than soft start motor starters. If you are getting nailed with demand penalties, then you may have all the reason you need to convert to VFD motor control.

VFD's reduce wear, tear and repair

Starting a motor using an across the line starter increases stress on the mechanical system. Belts slip and squeal, chains jump, and high pressures develop in pipes. VFD motor control inherently offers soft starts and soft stops which reduce mechanical stress on systems and lengthens their productive lives, helping to reduce the overall long-term cost of equipment ownership.

VFDs usually qualify for government and/or utility incentives and rebates

The government and many local utilities are offering incentives and rebates to install energy efficient devices like VFDs. Use DSIRE website, which is a comprehensive source of information on state, local, utility and federal incentives and policies that promote renewable energy and energy efficiency; www.dsireusa.org

VFD for Vacuums

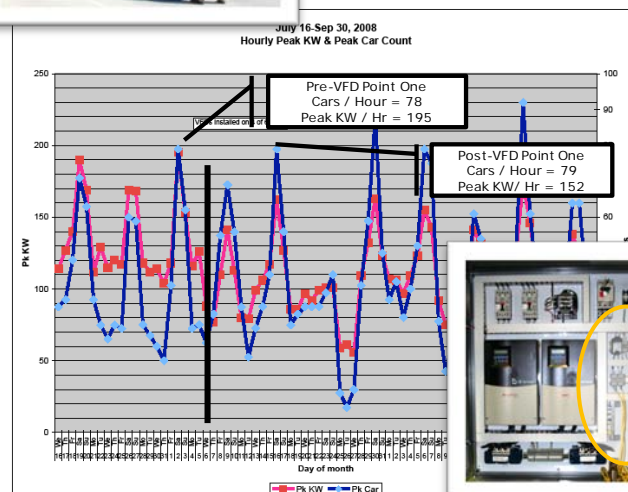
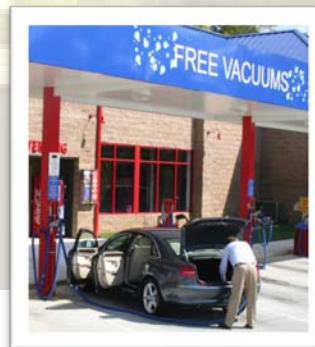
New or retrofit, the payback is less than three years on 25%-45% energy savings.

The typical vacuum in today's carwash is operated by across the line motor starter. The vacuum is either on at full speed or off.

Our auto. drive™ VFD system measures vacuum pressure with a pressure transducer and feeds this back to the VFD. Using a PI algorithm to dynamically control speed, we maintain a constant vacuuming pressure. No longer will your vacuum motors be full on when only one customer is vacuuming. The system is straight forward and easy to set up.

Additional benefits to VFD for Vacuums

- Reduced voltage starting, less peak demand charges.
- Reduced mechanical wear and tear, longer vacuum life
- Reduced maintenance and longer life for belts and bearings
- Energy rebates from many local energy companies and Government agencies
- Supports Green initiatives both present and future



By placing a pressure sensor in the vacuum line, we sense suction pressure and automatically adjust it to meet customer demand. This drastically lowers power consumption.

