

Protect the motor. Skip the filter cabinet.

The Clean Power VFD Specialist

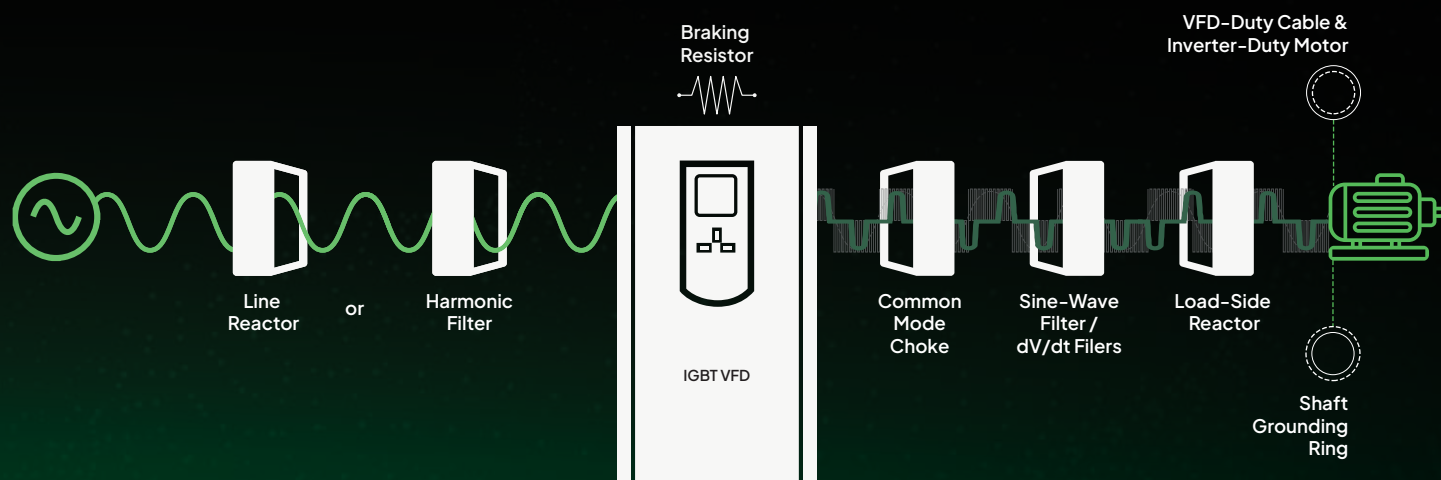
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Clean power for critical motors

Output filters, shaft grounding rings, inverter-duty motors, VFD-duty cable — a conventional PWM installation may need any of them to manage harmonics, reflected-wave stress, common-mode effects and cable-length constraints. The Clean Power VFD builds the waveform differently: SiC devices enable a high-frequency multilevel architecture with compact integrated filtering, producing a near-sinusoidal motor output with nothing bolted on outside the drive.

The conventional solution IGBT drive + mitigation hardware

Depending on the installation, any of these may have to be specified, bought, shipped, wired, housed and maintained alongside the drive — plus VFD-rated cable and motor insulation



CLEAN POWER® VARIABLE FREQUENCY DRIVE



SiC multilevel · Integrated filtering · Active Front End. Standard motor. Standard cable. Nothing bolted on outside the drive

SiC multilevel architecture

SiC devices enable the high-frequency multilevel architecture and compact integrated filtering used to produce a near-sinusoidal motor output.

A true sine wave to the motor

Not a PWM square pulses. No reflected-wave spikes, no high dV/dt at the terminals, no filter standing between drive and motor.

Low harmonics on the line side

The Active Front End is designed for near-unity power factor and very low input-current distortion under specified operating conditions.

What you see in the field and what is actually causing it

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Most of what gets accepted as normal VFD behaviour is a side effect of one design choice made forty years ago: switching a DC bus into square pulses and correcting the result afterwards.

	The symptom	What is behind it	What changes with the Clean Power VFD
	Growing panel footprint	Reactors and harmonic, dV/dt or sine-wave filters bolted around a conventional drive	The filtering is inside the drive, so there is no external filter package to specify, ship or wire
	Bearing fluting and frosting	High-frequency common-mode and shaft-voltage mechanisms associated with PWM driving bearing currents and EDM discharge.	The drive delivers a near-sinusoidal output to the motor. Common-mode and shaft-voltage measurements are available on request for your application.
	Motor whine and elevated winding temperature	PWM switching harmonics increasing acoustic noise and motor losses	The motor sees a near-sinusoidal waveform rather than PWM switching edges
	Motor-cable distance constraints	Reflected-wave overvoltage building up on long motor cable runs	The drive supports long cable runs with no external output filter — 1,400 ft in service at the City of Stratford
	VFD-specific motor and cable requirements	PWM voltage spikes exceeding standard insulation margins	The drive is designed to run with standard motors and standard cable, which is what makes retrofits on aged motors practical
	Input harmonics and low power factor	A six-pulse diode front end drawing distorted current from the supply	The Active Front End is designed for input current THDi below 5% under specified test conditions, which helps support IEEE 519 compliance at the PCC.

The first company dedicated to the Clean Power VFD

A Montreal-based company designing and building the Clean Power VFD (Patented SiC multilevel architecture that takes the filters out of your panel) — backed by Hammond Power Solutions, Schneider Ventures, and Desjardins Capital.

No

External
Filters

up to 50%

Less panel space
vs. 6-pulse drive + filters

1400ft

Long Cable, No Filters
Stratford, ON - Case

25-50%

Energy saving
on variable-torque loads

3-8 weeks

Lead time
vs 12-18 weeks - standard

UL certified · 20-150 HP · 480 V and 600 V · Availability depends on frame and configuration



1-866-776-2783
sales@smartd.tech
smartd.tech

SmartD Technologies
425 Guy St, Suite 210
Montreal, QC H3J 1S9 Canada

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