

DF5000 series HV VSD



Product overview

Fans and pump type loads; they are commonly used in Various fields. With the development of society and economy, the problem of energy shortage has become more and more serious, and more and more attention has been paid to power consumption in various companies. It can not only save energy and power, but also improve the performance of fans and pumps by the application of frequency conversion and speed regulation technology in the field.

DF5000 series HV VSD is a high-energy-saving pollution-free HV high power frequency conversion device with high reliability and high efficiency. The power factor of grid side of the equipment is higher than 0.95, and it doesn't require reactive power compensation; the system efficiency is greater than 96%; the input and output harmonics meets the requirements of IEEE 519-1992 and GB/T14549-93 standards. There is no harmonic pollution in the power grid. Furthermore, the excellent output voltage waveform also eliminates the problems of motor heating and additional stress, which greatly extends the service life of the motor.

The rich user interface, modular design, and friendly HMI can meet the changing field needs of users, and can be widely used in all kinds of industrial fields.

Technical characteristics

- 32-bit MCU+DSP+FPGA hardware platform and real-time multitasking software operating system are used for the controller.
- Powerful communication function, with Ethernet, RS232, and RS485 hardware interface.
- Automatic tracking technology without speed sensor; realizing the functions of "speed start" and "power frequency/frequency switching and cutting off" .
- Industrial-grade touch screen, user-friendly Chinese and English graphic operation and monitoring interface.
- System reliability is significantly improved by using reliable non-disturbance dual-input switching technology of the control power.
- Modular design is adopted for I/O plug-in. The I/O plug-in has complete intellectual property rights, and enables flexible configuration and expansion.
- Patented flexible start technology is adopted to reduce the impact on the power grid and improve the service life of the VSD. In addition, LV no-load whole machine function commissioning technology is adopted.
- Industry standard large-capacity data storage card is provided to facilitate the recording and query of operation information.

DF5000 series HV VSD

Application field

Fans and pumps, etc. are commonly used in Various fields. For most applications, the baffle or the valve opening is used to regulate the air volume and flow. Since the adjusting method of the backward dampers and valves works just like a horse pulling a small trolley, the operating efficiency of the fans and pumps is lower, causing a lot of power waste. With the development of society and economy, the problem of energy shortage has become more and more serious, and more and more attention has been paid to power consumption in various companies. The technology with high efficiency and low consumption has attracted more and more attention. It can save energy and power, improve the performance of fans and water pumps, and increase gas supply quality by the application of frequency conversion and speed regulation technology in the field.

Frequency conversion and speed regulation is the most effective method for saving energy and reducing consumption for fans and water pumps.

Application Case

The energy-saving problem of enterprise motors is effectively solved, the waste of non-renewable resources is reduced, the stability of the equipment is improved, and the service life of the equipment is extended by our frequency conversion energy-saving system solutions.

- ID fan energy-saving transformation of the power plant

Equipment	Electricity consumption for operation with VSD (10,000kWh)	Average operating power (kW)	Power saving rate settlement	Standard coal saving (t)
ID fan A1,400kW	78.49	413.75	54.69%	331.6
ID fan B1,400kW	77.48	408.43	52.45%	299.1
Primary fan A1,600kW	116.48	614.05	49.73%	403.3
Primary fan B1,600kW	116.35	613.33	46.68%	356.5
Statistics of fan operation time with frequency conversion in the settlement period		1,897 hours		
Total energy savings of 4 fans during the settlement period		3,972,931kWh		
Total standard coal savings of 4 fans during the settlement period		1,390.5t		