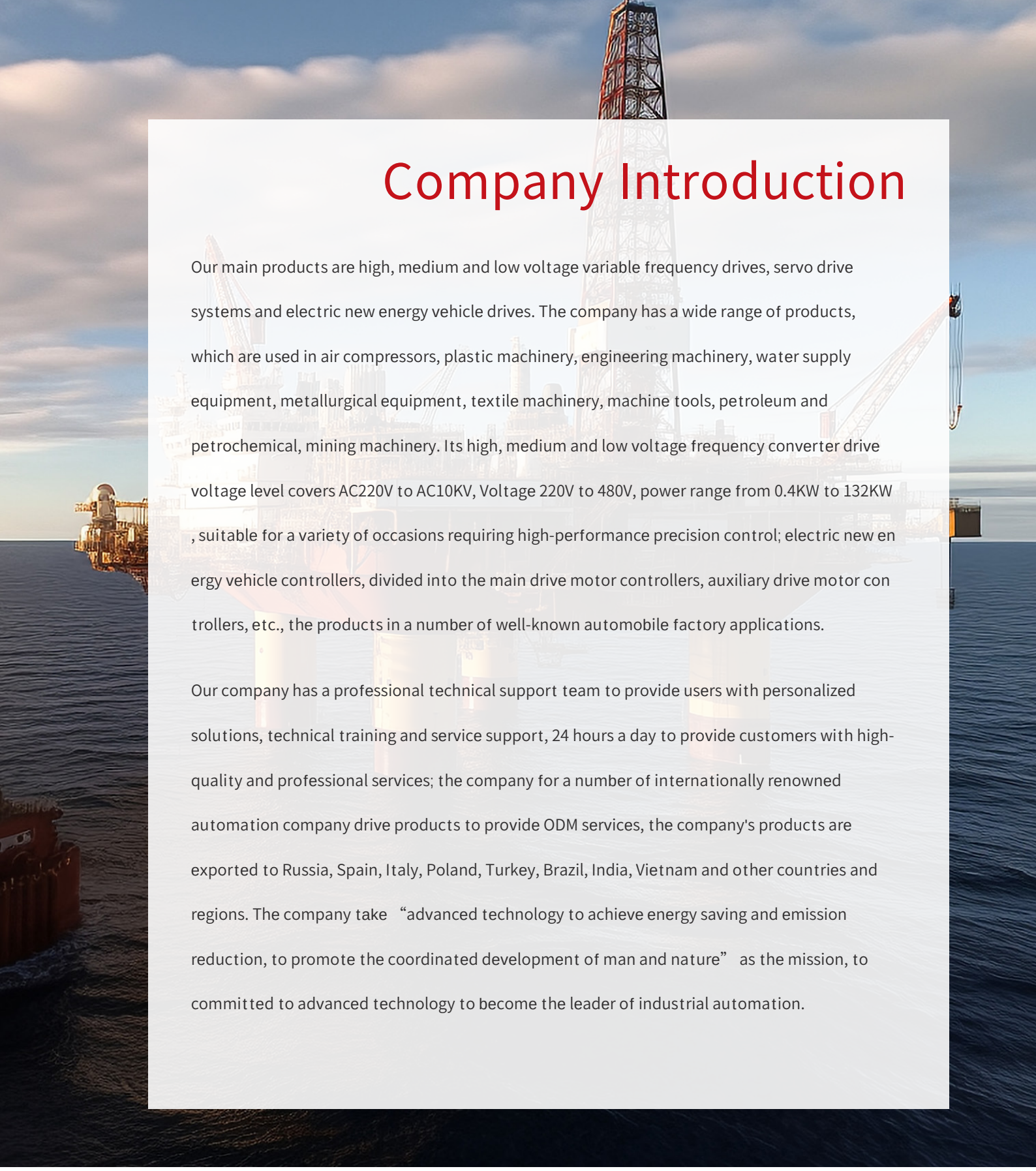
Professional Drive Manufacturer

www.invotric.com



Company Introduction

Our main products are high, medium and low voltage variable frequency drives, servo drive systems and electric new energy vehicle drives. The company has a wide range of products, which are used in air compressors, plastic machinery, engineering machinery, water supply equipment, metallurgical equipment, textile machinery, machine tools, petroleum and petrochemical, mining machinery. Its high, medium and low voltage frequency converter drive voltage level covers AC220V to AC10KV, Voltage 220V to 480V, power range from 0.4KW to 132KW , suitable for a variety of occasions requiring high-performance precision control; electric new en ergy vehicle controllers, divided into the main drive motor controllers, auxiliary drive motor con trollers, etc., the products in a number of well-known automobile factory applications.

Our company has a professional technical support team to provide users with personalized solutions, technical training and service support, 24 hours a day to provide customers with high-quality and professional services; the company for a number of internationally renowned automation company drive products to provide ODM services, the company's products are exported to Russia, Spain, Italy, Poland, Turkey, Brazil, India, Vietnam and other countries and regions. The company take “advanced technology to achieve energy saving and emission reduction, to promote the coordinated development of man and nature” as the mission, to committed to advanced technology to become the leader of industrial automation.

Product Production Process

PCB SMT Assembly Process

Automatic loading, solder paste printing, component placement, soldering

Has 6 fully automatic SMT production lines

Automatic testing of the circuit board

Fully automatic conformal coating spray drying line

Inverter assembly

Production line whole machine testing

Aging test

Load test

AOI Inspection

Items that can be tested include：

- The inspection items include missing parts, extra parts, wrong parts, misalignment, sideways components, tombstoning, reversed components, polarity reversal, component replacement, bent IC pins, and text recognition
- The soldering defects include no solder, insufficient solder, excessive so lder, solder balls, short circuits, cold joints, and floating.

Product Composition

power unit

Each phase consists of 3 to 9 units, forming a 4N+1 step PWM wave, with a three-phase Y connection, directly outputting 3 to 11 kV.

Air Cooling

The system uses internationally renowned brand centrifugal fans, which offer large airflow, ample capacity, long lifespan, and high stability, ensuring the cooling needs of the high-voltage inverter and enhancing the product's stability.

Control System

Based on high-speed ARM, DSP, and FPGA intelligent controllers; the system employs magnetic flux closed-loop vector control technology and optimized superimposed wave PWM control technology to achieve high-quality sinusoidal voltage and current output.

Human-Machine Interface

The system uses touch screens from well-known brands, featuring a novel interface and a rich set of connections, making it easy for on-site expansion and integration with user systems.

Bypass Cabinet/Wiring Cabinet

The design innovatively integrates the bypass cabinet, allowing for the inclusion of either a one-to-one manual bypass cabinet or a one-to-one automatic bypass cabinet without altering the product's installation dimensions.

Transformer Cabinet

The transformer cabinet and power unit cabinet are arranged in a front-to-back configuration. Through advanced thermal design, this setup not only ensures sufficient cooling but also reduces the installation space required on-site, thereby lowering infrastructure costs for customers.

Power Unit

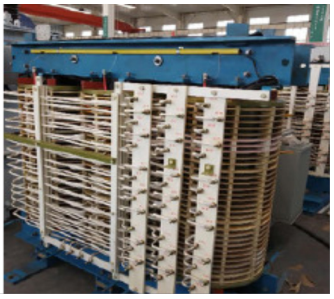
The brand new power unit design is lighter and more aesthetically pleasing; the innovative semi-sealed structure enhances environmental adaptability and reliability. It features self-healing thin-film capacitors without life limitations, which do not short-circuit even if overvoltage breakdown occurs.

modular design

The units feature a modular design, allowing for easy interchangeability and convenient assembly and disassembly.

multi-pulse rectification method

The input side uses phase-shifting transformers to form a multi-pulse rectification method, which greatly improves the current waveform on the grid side, enhances the input power factor, and reduces harmonic pollution from the equipment to the power grid.



advanced short-circuit protection technology

The secondary side short-circuit protection technology for phase-shifting transformers helps avoid fires caused by short-circuits on the transformer's secondary side and prevents fault escalation. This technology is timely: it can detect short-circuit information within the transformer's tolerance time and take protective measures to ensure equipment safety. It is comprehensive: considering short-circuit phases and positions from all angles, providing effective protection under various conditions. Additionally, it is flexible: it does not require additional equipment, making it more flexible and reliable.

Perfect harmonic-free solution

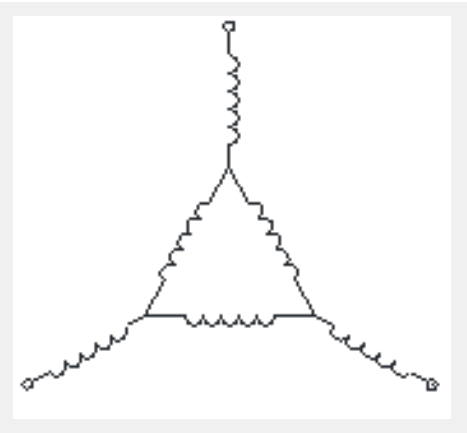
The secondary winding of the phase-shifting transformer adopts a Y-delta connection to change the phase angle of each phase's secondary winding, eliminating the harmonic impact on the power grid generated by the units. For analysis, consider two units connected in series as an example: the phase shift angle σ= 60° / 2 = 30°

The current is recalculated to the primary input side and expanded using Fourier series:

$$Ia = \frac{1}{2}\left(I1\sin(\omega t) + I5\sin(7\omega t) + I7\sin(7\omega t) + I11\sin(11\omega t) + I13\sin(13\omega t)\ldots\right)$$

$$Ib = \frac{1}{2}\left(I1\sin(\omega t) - I5\sin(7\omega t) - I7\sin(7\omega t) - I11\sin(11\omega t) + I13\sin(13\omega t)\ldots\right)$$

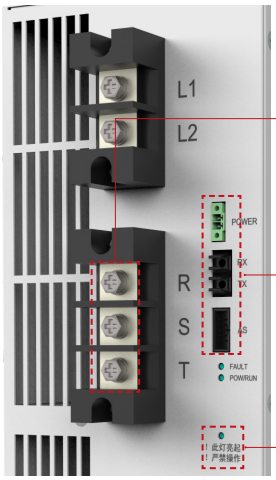
The 5th, 7th, and 11th harmonic phase angles differ by 180 ° . Through phase-shifting rectification technology, these harmonics cancel each other out.



polygonal-delta

Using the input phase-shifting transformer of a 10 kV inverter as an example, the primary winding is 10 kV, and the secondary side has 24 sets of three-phase windings, each with an output voltage of 690 V. Each winding uses a polygonal-delta connection with a phase shift angle difference of 7.5 ° , effectively eliminating harmonics below the 47th order. This means that 48-pulse rectification can effectively eliminate harmonics below the 47th order (6n-1, where n is the number of units per phase).

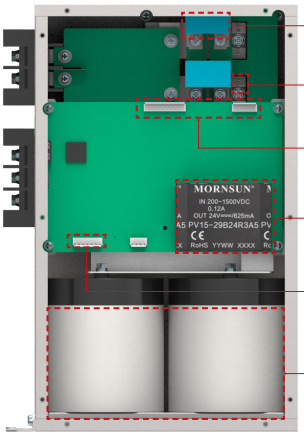
Product Features



The system uses high-voltage barrier-type power terminal blocks, making wiring more co nvenient and safer.

The power unit panel features a reasonable layout, and comm unication between the unit and the control section uses optic al fibers. The system also includes a variety of interfaces, maki ng on-site maintenance and adjustments more convenient.

The power unit includes a live power reminder, ensuring safer and more assured on-site mai ntenance.



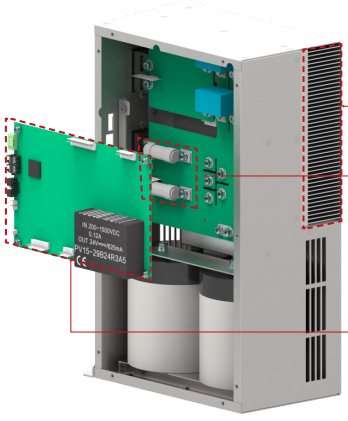
The system uses high-voltage IGBT snubber capacitors to absorb voltage spikes, ensuring m ore stable IGBT voltage. It features advanced insulated gate bipolar transistors (IGBTs) with l ow power consumption and high efficiency.

The system includes IGBT upper and lower bridge drive connectors.

Uses top-tier modular power supplies from domestic manufacturers, providing reliability, and stable voltage

The system includes RST detection connectors.

The filter capacitors can stabilize and maintain the DC voltage, featuring specially designe d long-life metal film capacitors specifically for power electronics.



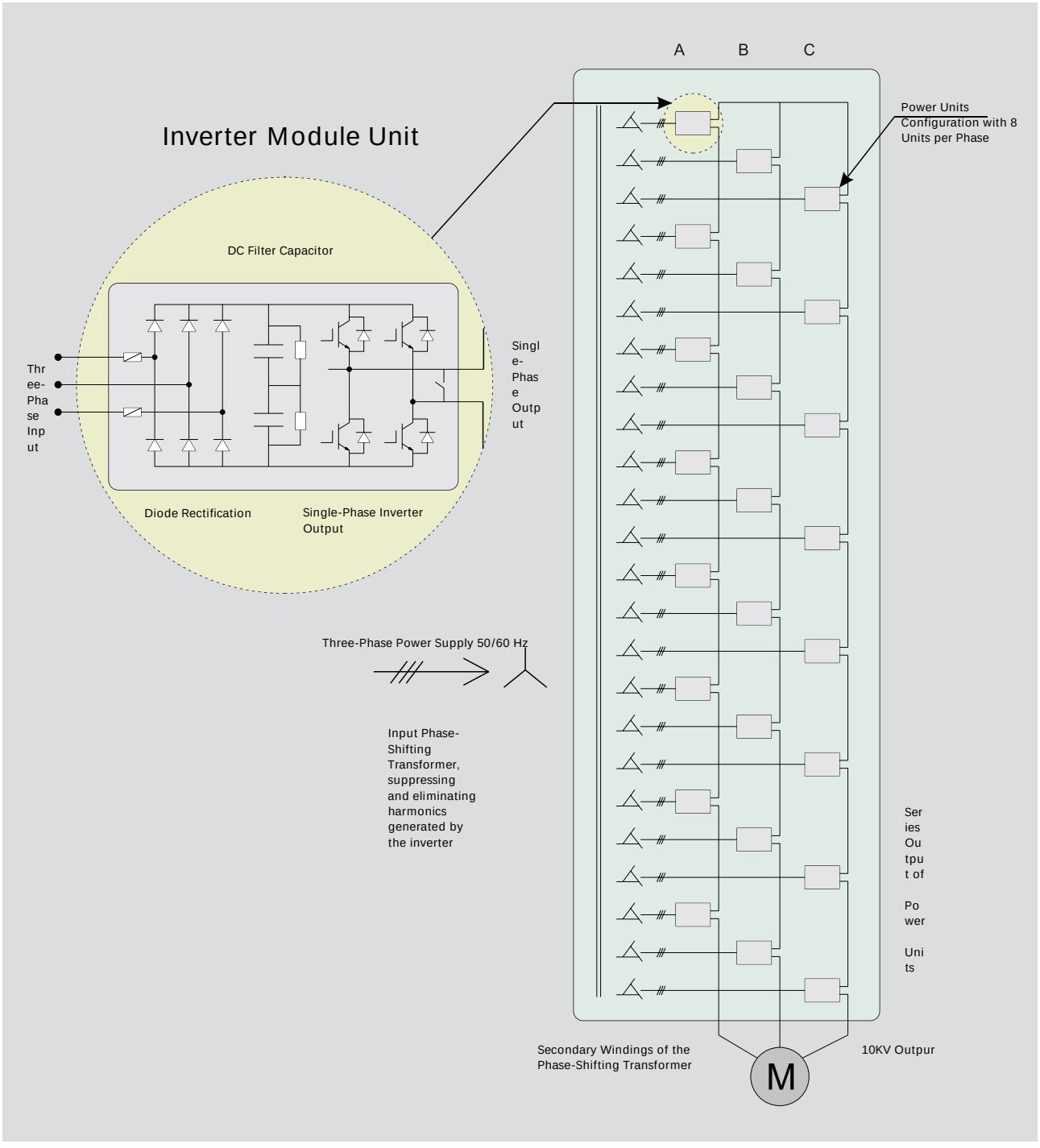
The system features a unique cooling design that transfers heat from the heat sink to the cooling air.

It also includes input fuses at the three-phase voltage input terminals, pro viding excellent protection.

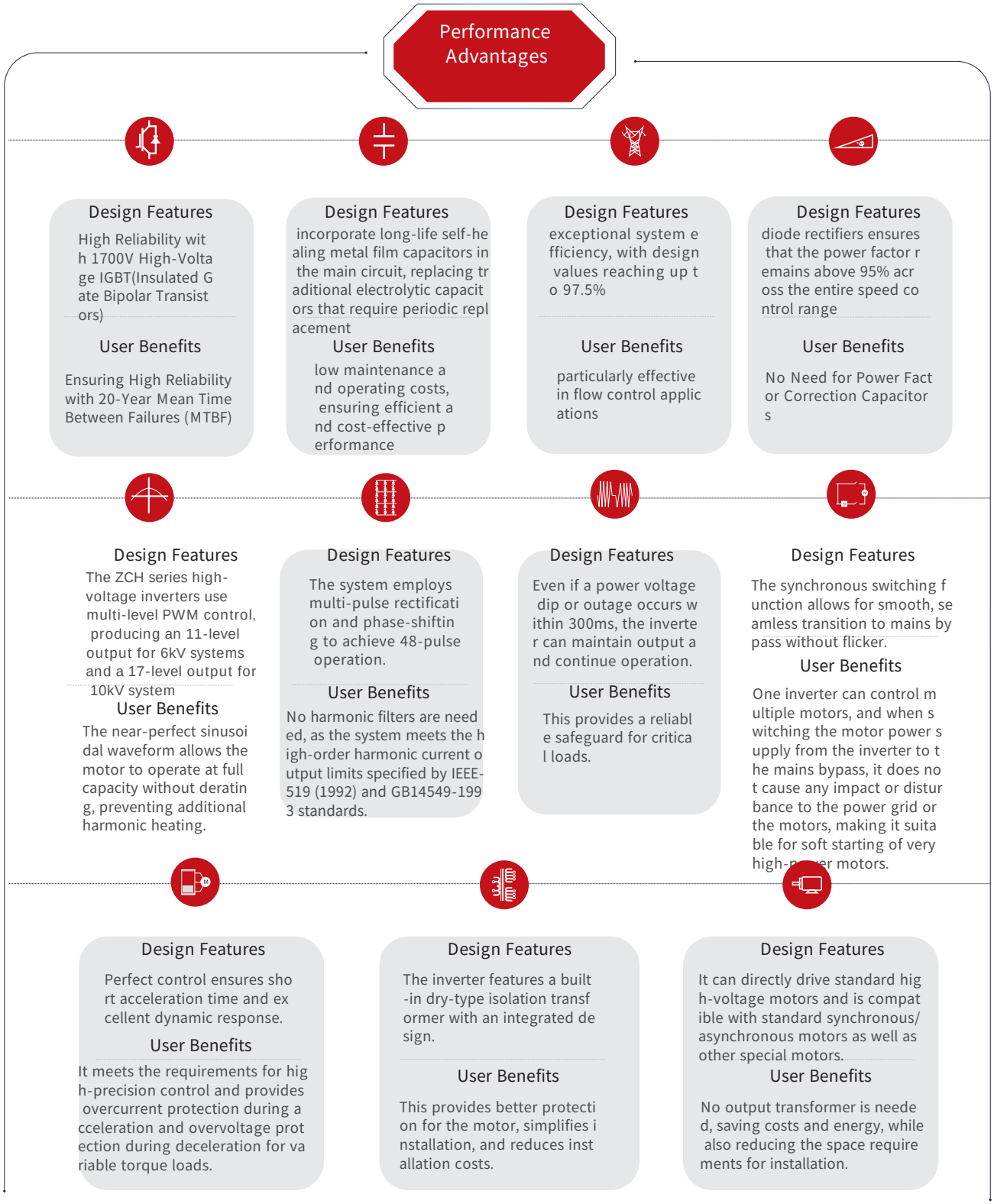
The control board transmits the PWM control signal to the gate drive, and the gate drive circuit board directly drives th e IGBT.

Technical Principles

The main circuit ofthe ZCH series high-voltage inverter consists of an inputtransformer and several single-pha se
PWM inverter units. For a 6kV system, each phase has 5 inverter units that can produce an 11-level outputvolta ge.
For a 10kV system, each phase has 8 inverter units that can produce a 17-level outputvoltage. The pre-chargi ng
circuit reduces the charging current ofthe capacitors and the inrush current ofthetransformer when applying high voltage, minimizing the impact on the power grid, protecting the inverter, and extending its lifespan.



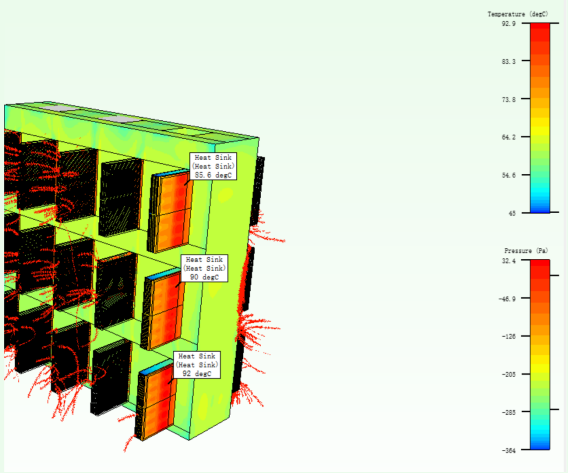
Performance Advantages

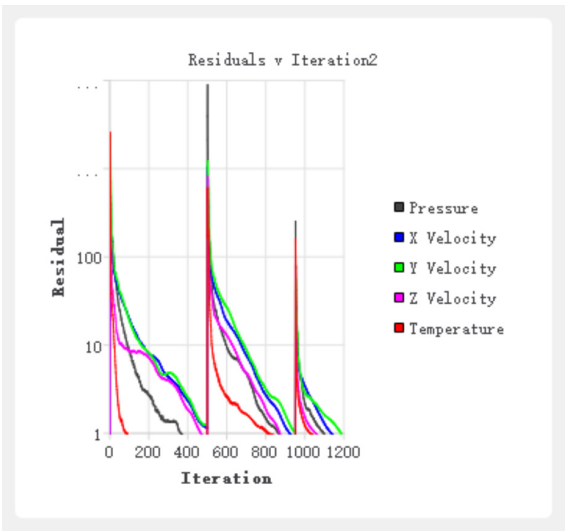


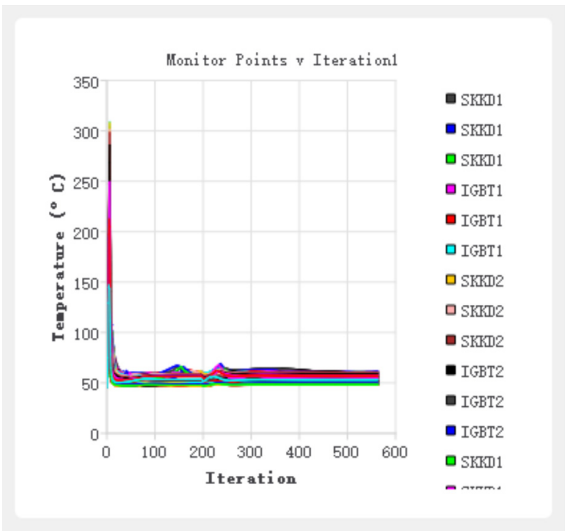
Product Advantages

Thermal Simulation Analysis

Thermal Analysis Using Mainstream Simulation Software







Technical Specification Table

项目	Voltage	6kV系列	10kV系列
输入	输入额定电压	3相50/60Hz，6kV	3相50/60Hz，10kV
	电压波动范围	6kV/10kV±10%满载运行，-10%~-35% 允许长期降额运行	
	频率变化范围	50Hz±10%	
	单元输入电压	690V	
	输入功率因数	>0.95 （20%负荷以上）	
	输入电流谐波	<2% 满足IEEE519-1992和GBT14549-93	
输出	输出电压范围	0~6kV	0~10kV
	输出容量范围	230~7000kVA	250~12500kVA
	单元输出电压	690V	
	输出频率范围	0~50Hz　max330Hz　120Hz以上厂家定制	
	调速比	40:1 (通用矢量)　100:1 (SVC)　200:1 (FVC)	
	转速精度	±0.5 % (SVC)　±0.2 % (FVC)	
	转矩响应	> 750rad/s	
	启动转矩	0.5HZ/150% (SVC)；　0Hz/180% (FVC)	
技术方案		**单元级联，交直交，高高方式**	
控制方式		通用矢量、无/有速度传感器控制方式（SVC/FVC ）	
整流形式		二极管三相全桥	
逆变形式		IGBT逆变桥	
加减速时间		0.1-6500秒，>6500秒厂家定制	
起停控制		本地或远方	
控制系统		ARM、DSP、FPGA、CPLD HMI	
面板显示		触摸屏/LCD可选，简体中文	
过载能力		120%额定电流,1分钟	
整机效率		**> 97.5%**	
变频器装置有无熔断器		**功率单元输入侧带熔断器**	
电气隔离部分是否采用光纤		是	
是否需要输入滤波器		否	
是否需要输出滤波器		否	
是否需要功率因素补偿		否	
功率单元保护		**过压、欠压、均压、输入缺相、过流、超温、通讯等**	
系统保护		电机过载、输出过载、输出短路、输出接地、输入过流、输入过压、输入不平衡、输入 接地、冷却风扇故障报警、门开关联锁保护、变压器过热报警、变压器过热跳闸等	
平均无故障时间		50000小时	
通讯接口		**CANbus、Modbus、PROFIBUS特殊可按用户定制**	
开关量输入		10路,继电器干式接点	
开关量输出		16路，继电器干式接点	
模拟量输入		4路，4~20mA 或 0~10V	
模拟量输出		5路，4~20mA 或0~10V	
使用环境		**室内**	
环境温度		-10°C~+40°C，+40°C~＋50°C降额运行；低T-10°C ,启动前需要预热	
环境湿度		5%~95% ,无凝露	
海拔高度		<1000m ,大于1000m需要降额运行，具体请在订货时说明	
设备总噪声		**<75dB**	
冷却方式		强迫风冷	
防护等级		IP30	
进出线方式		下进下出/上进上出特殊可按用户定制	
控制电源		380V±10%AC三相四线	

Technical Specification Table for ZCH Series High-Voltage Inverters

Parameter	Specification
Input Rated Voltage	6kV / 10kV
Voltage Fluctuation Range	±10%
Frequency Variation Range	50Hz ± 5% / 60Hz ± 5%
Unit Input Voltage	690V
Input Power Factor	>95%
Input Current Harmonics	Complies with IEEE-519 (1992) and GB14549-1993
Output Voltage Range	0 - 6kV / 0 - 10kV
Output Capacity Range	[Specify range, e.g., 230kW - 7000kW]
Unit Output Voltage	690V
Output Frequency Range	0 - 300Hz Max 330Hz
Speed Control Ratio	100:1 200:1 40:1
Speed Accuracy	±0.5%
Torque Response	>750 rad / s
Starting Torque	150% of rated torque

Technical Specification Table for ZCH Series High-Voltage Inverters

Parameter	Specification
Control Method	Multi-level PWM
Rectification Form	Multi-pulse rectification
Inversion Form	Multi-level IGBT Inversion
Acceleration/Deceleration Time	Programmable (0.1 - 6500 seconds)
Start/Stop Control	Programmable start/stop control
Control System	Digital control with microprocessor/FPGA
Panel Display	User-friendly touch screen from well-known brands
Overload Capacity	150% for 60 seconds
System Efficiency	Up to 97.5%
Fuses in Inverter	Yes, fuses included
Electrical Isolation	Optical fiber isolation used
Output Filter Required	No, not required
Power Compensation Factor Needed	No, not required
Power Unit Protection	Overcurrent, overvoltage, short-circuit, thermal protection
System Protection	Comprehensive protection including short-circuit, overvoltage, undervoltage, and thermal protection
Mean Time Between Failures (MTBF)	Up to 50000hrs
Communication Interface	Optical fiber, RS485, Modbus
Digital Inputs	10 programmable digital inputs
Digital Outputs	16 programmable digital outputs
Analog Inputs	4 programmable analog inputs (0-10V, 4-20mA)
Analog Outputs	5 programmable analog outputs (0-10V, 4-20mA)
Operating Environment	Industrial environments
Ambient Temperature	-10°C to +40°C
Ambient Humidity	5% to 95% non-condensing
Altitude	Up to 2000 meters without derating
Total Equipment Noise	<75 dB
Cooling Method	Air-cooled with high-quality centrifugal fans
Protection Level	IP21 (indoor use), optional higher IP ratings available
Cable Entry/Exit Method	Top or bottom entry/exit
Control Power Supply	24V DC, optional 220V AC

Energy-Saving Principles

Fans and pumps are mechanical devices that transfer mechanical energy from a prime mover to fluids, enabling the transport of gases or liquids by increasing their pressure or moving them from low to high elevations.

Performance Parameters of Fans and Pumps

The basic performance parameters of fans and pumps indicate their fundamental performance and include flow rate, total pressure, shaft power, efficiency, rotational speed, and specific speed.

- Flow Rate :
  units commonly used to measure flow rate include liters per second (L/s), cubic meters per second (m3/s), and cubic meters per hour (m3/h)
- Total Pressure:
  p represents the mechanical energy gained by the gas or liquid after passing through a fan or pump. It is the energy per unit volume that the fluid acquires as it moves from the inlet cross-section 1 to the outlet cross-section 2. The total pressure can be calculated using the following formula $p=(p_2+\frac{1}{2}\rho v_2^2)-(p_1+\frac{1}{2}\rho v_1^2)N/m^2$
- Shaft power is the power transmitted from the prime mover or transmission device to the shaft of the fan or pump. It is denoted by
  P and is typically measured in kilowatts (kW) $P=\frac{Q\times p\times g}{1000\eta_r\eta_f}=\frac{Q\times p}{102\eta_r\eta_f}$

in the formula：Q---flow rate of air (for fans) or water (for pumps) （m^3/s，Nm^3/s）；

p---total pressure （kg/m^2）；

η_f—efficiency；

“ 1/102 ” = g/1000----Conversion Factor from kg · m/s to kW

η_r—Transmission Efficiency；

1) When the flow rate Q is in cubic meters per hour (m3/h) and power needs to be in kilograms per meter squared (kg/m2), divide the flow rate by 3600： $P=\frac{Q\times p}{3{,}600\times 000\,\eta_r\eta_f}$ g,

2) When Q is in “ m^3/s ”，pressure unit is “ MPa ”的话，then：P= $\frac{Q\times p\times 1000000}{1000\cdot\eta_r\eta_f}=1000\cdot\frac{Q\times p}{\eta_r\eta_f}$

3) When flow rate Q is in “ m^3/h ”，pressure unit is “ MPa"，divide by 3600：P= $\frac{1000\times Q\times p}{3600\eta_r\eta_f}=\frac{Q\times p}{3.6\eta_r\eta_f}$

4) When the flow rate Q is “ m^3/s ”，pressure unit is “ kPa ”，P= $\frac{Q\times p\times 1000}{1000\eta_r\eta_f}=\frac{Q\times p}{\eta_r\eta_f}$

Selection of Motor Capacity：$P_d=\frac{P}{\eta^d}$ (In the formula: nd indicates motor efficiency.)

Energy-Saving Principles

continued

$$P = \frac{Q \times p}{\eta_r \eta_f \eta_d}$$

- Efficiency

Efficiency (η) is the ratio of the output power (useful power) Pu of the airflow or water flow to the input po wer (shaft power) P. It is called the airflow or water flow efficiency or total pressure efficiency and is represe nted by η

Rotational Speed:

$$\eta_f = \frac{R}{P} = \frac{Q.p}{P}$$

- The rotational speed of the airflow or water flow refers to the speed at which the shaft of the fan or pump rotates, which i s the number of revolutions of the fan shaft per unit time. It is denoted by n and measured in units of RPM (r/min) or radi ans per second (S^(-1))

- Specific Speed:

The specific speed of airflow or water flow, denoted by n y, is defined using the followi ng formula

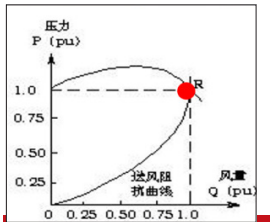
$$n_y = \frac{5.54 n \sqrt{q}}{(\frac{1.2}{\rho} p)^{3/4}}$$

As a performance parameter, specific speed (\(n_y \)) is calculated based on the basic perf ormance parameters corresponding to the highest efficiency point of the airflow or water fl ow. For geometrically similar airflow or water flow devices, regardless of their size or rotati onal speed, the specific speed remains constant. Therefore, specific speed is also a criterio n for classifying airflow and water flow devices.

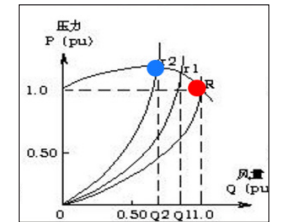
- Main Characteristics of Airflow and Water Flow Drive Systems

Blade-type fans and pumps exhibit square torque characteristics, meaning the torque required on the shaft is proportiona l to the square of the rotational speed. Fans and pumps follow similarity laws under three similarity conditions: geometric similarity, kinematic similarity, and dynamic similarity. For the same fan (or pump), when the fluid density ρ remains constant and only the rotational speed changes, the performance parameters change according to the followi ng proportionality laws:

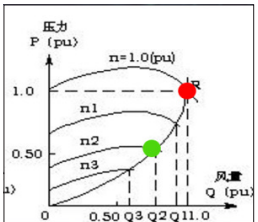
$$\frac{Q}{Q'} = \frac{n}{n'} \quad ; \quad \frac{H}{H'} = (\frac{n}{n'})^2 \quad \frac{p}{p'} = (\frac{n}{n'})^2 \quad ; \quad \frac{P}{P'} = (\frac{n}{n'})^3$$



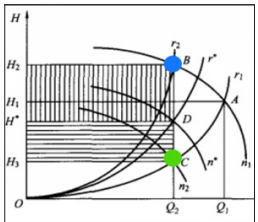
Flow Rate-Pressure Characteristic Curve



Control Characteristics of DampersValves



VFD) Control Characteristics



VFD Energy Saving Space

Industry Applications

Metallurgical Industry

Typical applications of VFDs in the petrochemical and metallurgical industries include mud pumps, induced draft fans, descaling pumps, ventilation fans, dust collection fans, centrifugal feed pumps, and blast furnace blowers, where VFDs enhance energy savings, process control, equipment stability, and reduce maintenance costs for large, high-power, and high-flow equipment.

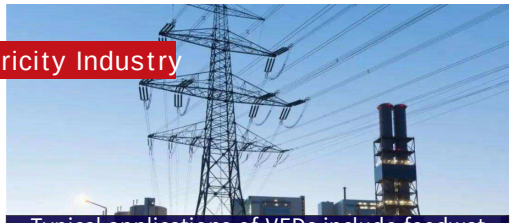
Petrochemical Industry

Typical applications of VFDs in the petrochemical industry include injection pumps, induced draft fans, extrusion pumps, electric submersible pumps, mainline pumps, gas compressors, and boiler feedwater pumps, where VFDs can seamlessly integrate into pump station control systems without modifying existing motors and wiring, making them suitable for both new and retrofit projects.

Cement Industry

Typical applications of VFDs in the cement industry include raw mill fans, dust collection fans, preheater fans, coal mill fans, grinders, rotary kilns, and high-temperature fans, where modular design simplifies installation, commissioning, and maintenance, ensuring proven and more reliable performance.

Electricity Industry



Typical applications of VFDs include feedwater pumps, primary air fans, supply fans, exhaust fans, slurry pumps, circulation pumps, booster pumps, condensate pumps, and sludge pumps, where traditional control methods are inefficient and cumbersome to maintain, while VFDs offer more reliable, precise, and efficient direct-drive speed control.

non-ferrous metals industry

Typical applications of VFDs include ID fans, mother liquor pumps, seed pumps, underflow pumps, dissolution pumps, and feed pumps, where VFDs use power unit series multi-level technology to meet the needs of load speed regulation, energy saving, and improved production processes.

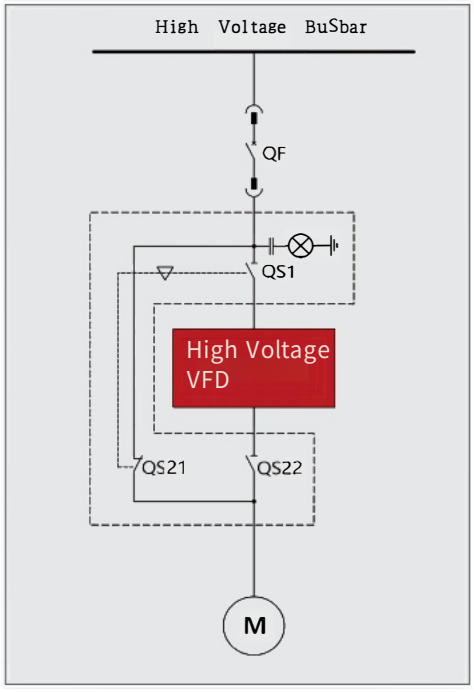
Coal Industry

Typical applications of VFDs include belt conveyors (with multiple motors driving the same belt), mixers/grinders, various slurry pumps, water pumps, various fans, and compressors, where precise torque control and automatic load balancing in multi-motor control are crucial in large conveyor applications, effectively addressed by VFDs.

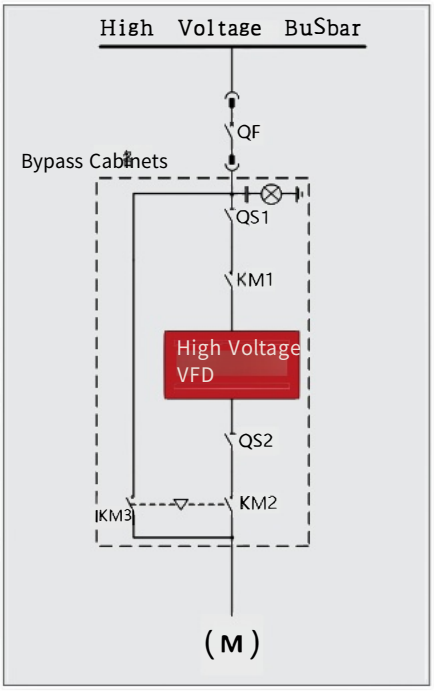
Industry Applications

Common Applications	Typical applications of VFDs in the power industry include induced draft fans, primary and secondary fans, circulating water pumps, feedwater pumps, condensate pumps, slurry circulation pumps, and vertical coal mills.
	Typical applications of VFDs in the oil, gas, and chemical industries include electric submersible pumps, injection pumps, oil transfer pumps, pipeline compressors, LNG compressors, air separation compressors, syngas compressors, ammonia compressors (refrigeration units), product gas compressors, propylene compressors, and carbon dioxide compressors.
	Typical applications of VFDs in the mining industry include belt conveyors, main ventilation fans, gas exhaust pumps, slurry pumps, crushers, semi-autogenous mills, ball mills, and high-pressure grinding rolls.
	Typical applications of VFDs in the cement industry include raw mill circulation fans, coal mill exhaust fans, cement mill exhaust fans, kiln head exhaust fans, kiln tail high-temperature fans, kiln tail exhaust fans, cooler fans, coal mills, and roller presses.
	Typical applications of VFDs in the metallurgical industry include dust collection fans, sintering main exhaust fans, blast furnace blowers, circulating water pumps, dephosphorization pumps, slag flushing pumps, air separation compressors, mills, stamping machines, and bidirectional energy recovery compressors.
	Typical applications of VFDs in municipal services include intake pumps, supply pumps, primary water pumps, secondary clean water pumps, seawater desalination pumps, booster pumps, and irrigation pumps.
	Typical applications of VFDs in waste-to-energy plants include various types of standard fans and water pumps.
Main Functions	VFDs feature low voltage ride through, auto-restart within 20 seconds after power failure, unit bypass, flying start, synchronous switching, optional redundant control power supply and power unit design (N+1), optional fan redundancy, customizable functions, and mill-specific control modules.
Inverter Supporting Equipment	Magnetizing inrush current suppression cabinet, one-to-one manual bypass cabinet, one-to-two manual bypass cabinet, one-to-one automatic bypass cabinet, one-to-two automatic bypass cabinet, one-to-one synchronous switching cabinet, output reactor cabinet, isolation cabinet.

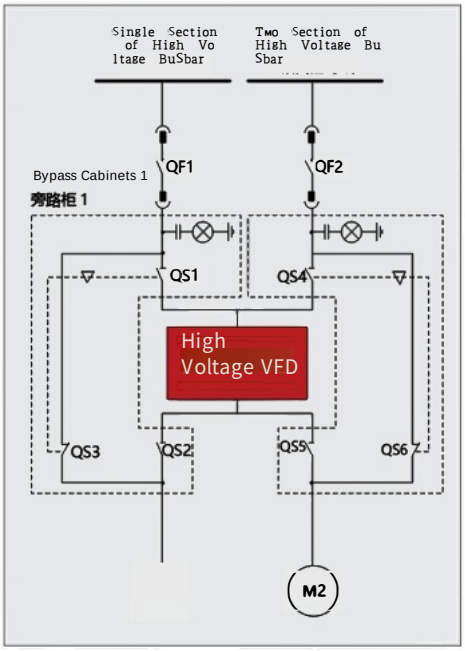
Single-Line Diagram



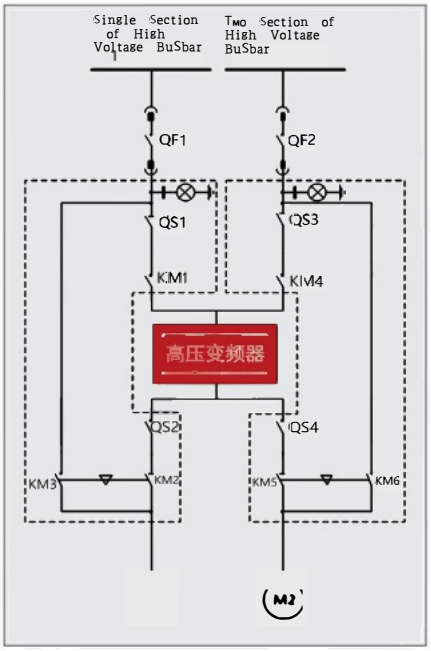
One-to-One Manual Bypass System



One-to-One Automatic Bypass System



Dual Power One-to-Two Manual Switching System



Dual Power One-to-Two Automatic Switching System

High Voltage Variable Frequency Drive (VFD) Product Selection

ZCH100 - T - 10 - 1000kW - 9-AP

Installation Specification Sheet

Model	Suitable Motor Power (kW)	Inverter Capacity (kVA)	Weight (kg)	Cabinet	Dimensions (L×W×H)
ZCH100-06-185kW	185	230	2650	A1 Cabinet	2150×1400×2400
ZCH100-06-220kW	220	275			
ZCH100-06-250kW	250	320			
ZCH100-06-280kW	280	350	2760		
ZCH100-06-315kW	315	400			
ZCH100-06-355kW	355	450	2930		
ZCH100-06-400kW	400	500			
ZCH100-06-450kW	450	560	3160		
ZCH100-06-500kW	500	630	3360		
ZCH100-06-560kW	560	700	3985	B1 Cabinet	3450×1600×2250
ZCH100-06-630kW	630	800	4042		
ZCH100-06-710kW	710	900	4160		
ZCH100-06-800kW	800	1000	4382		
ZCH100-06-900kW	900	1150	4590		
ZCH100-06-1000kW	1000	1250	4792		
ZCH100-06-1120kW	1120	1400	4985		
ZCH100-06-1250kW	1250	1600	5285		
ZCH100-06-1400kW	1400	1800	6120	C1 Cabinet	4150×1600×2250
ZCH100-06-1600kW	1600	2000	6390		
ZCH100-06-1800kW	1800	2250	6745		
ZCH100-06-2000kW	2000	2500	7090		
ZCH100-06-2250kW	2250	2800	9220	D1 Cabinet	5400×1400×2400
ZCH100-06-2500kW	2500	3200	9570		
ZCH100-06-2800kW	2800	3500	10070		
ZCH100-06-3200kW	3200	4000	10670		
ZCH100-06-3600kW	3550	4500	11240		
ZCH100-06-4000kW	4000	5000	12500	F1 Cabinet	6850×1400×2400
ZCH100-06-4500kW	4500	5650	13000		
ZCH100-06-5000kW	5000	6300	14000		
ZCH100-06-5600kW	5600	7000	17755	G1 Cabinet	8200×1600×2400/2600
ZCH100-06-6300kW	6300	8000	18795		
ZCH100-06-6600kW	7100	9000	19450		

Model	Suitable Motor Power (kW)	Inverter Capacity (kVA)	Weight (kg)	Cabinet	Dimensions (L×W×H)
ZCH100-10-185kW	185	230	2220	A Cabinet	2000×1500×2000
ZCH100-10-220kW	220	275	2240		
ZCH100-10-250kW	250	320	2260		
ZCH100-10-280kW	280	350	2286		
ZCH100-10-315kW	315	400	2316		
ZCH100-10-355kW	355	450	2346		
ZCH100-10-400kW	400	500	2383		
ZCH100-10-450kW	450	560	2433		
ZCH100-10-500kW	500	630	2483		
ZCH100-10-560kW	560	700	2593		
ZCH100-10-630kW	630	800	2719		
ZCH100-10-710kW	710	900	2875		
ZCH100-10-800kW	800	1000	3062		
ZCH100-10-900kW	900	1150	3192	B Cabinet	2500×1650×2200
ZCH100-10-1000kW	1000	1250	3258		
ZCH100-10-1120kW	1120	1400	3409		
ZCH100-10-1250kW	1250	1600	4390		
ZCH100-10-1400kW	1400	1800	4648		
ZCH100-10-1600kW	1600	2000	4948		
ZCH100-10-1800kW	1800	2250	5270		
ZCH100-10-2000kW	2000	2500	5604	C Cabinet	4000×1500×2200
ZCH100-10-2250kW	2250	2800	5916		
ZCH100-10-2500kW	2500	3150	7990		
ZCH100-10-2800kW	2800	3500	8150		
ZCH100-10-3200kW	3200	4000	8700		
ZCH100-10-3600kW	3550	4500	8820	D Cabinet	6925×1500×2455
ZCH100-10-4000kW	4000	5000	11990		
ZCH100-10-4500kW	4500	5600	12500		
ZCH100-10-5000kW	5000	6300	13300		
ZCH100-10-5500kW	5600	7000	13800		
ZCH100-10-6300kW	6300	8000	18410	E Cabinet	9100×1650×2455
ZCH100-10-7100kW	7100	9000	19700		
ZCH100-10-8000kW	8000	10000	20400	F Cabinet	9200×1700×2800
ZCH100-10-9000kW	9000	11250	22500		
ZCH100-10-10000kW	10000	12500	27120	G Cabinet	12200×1600×2455
ZCH100-10-11000kW	11000	13750	28860		

note：

- The above dimensions and weights are for reference only, the exact dimensions and weights are subject to the technical agreement;
- The standard series input and output voltages are identical;
- The height of the overall size does not include the height of the fan, the height of the fan needs to be added 300mm to 600mm;
- The above dimensions and weight of the whole machine refer to the sum of control cabinet, unit cabinet and transformer cabinet, excluding the part of industrial frequency bypass cabinet;
- The distance of the front of the equipment from the wall is not less than 1500mm, the distance of the back of the equipment from the wall is not less than 1000mm, the distance of the side of the equipment from the wall is not less than 800mm, and the distance of the top of the equipment from the roof of the room is not less than 1,000mm.
- Standard overload capacity of 120%/1 minute, allowing 1 minute of overload every 10 minutes; optional 125%, 150%, and 200% overload capacities are available to meet the needs of different applications;
- Applicable motor power may change due to differences in the form and structure of the motor, and is for reference only.