

# G71 liquid cooled high-voltage inverter

JD-BP37/38 series high voltage frequency

inverter



**Model no.:** G71 Liquid Cooling High Voltage Inverter

**Power range:** 6kV: 6000kW-31000kW

10kV: 10000kW-53000kW

**Cooling mode:** Water cooling

**Performance features:** Based on the design of two quadrant synchronous (including permanent magnet synchronous motor) / asynchronous motor platform, reliable high-power power electronic devices and water cooling and heat dissipation mode are adopted, with high power density and strong environmental adaptability.

**Competitive advantages:** High reliability design, water cooling and heat dissipation, low noise, high efficiency and stronger environmental adaptability.

**Load type:** blast furnace blower, oxygen compressor, boiler induced draft fan, sintering main exhaust fan, fan and water pump

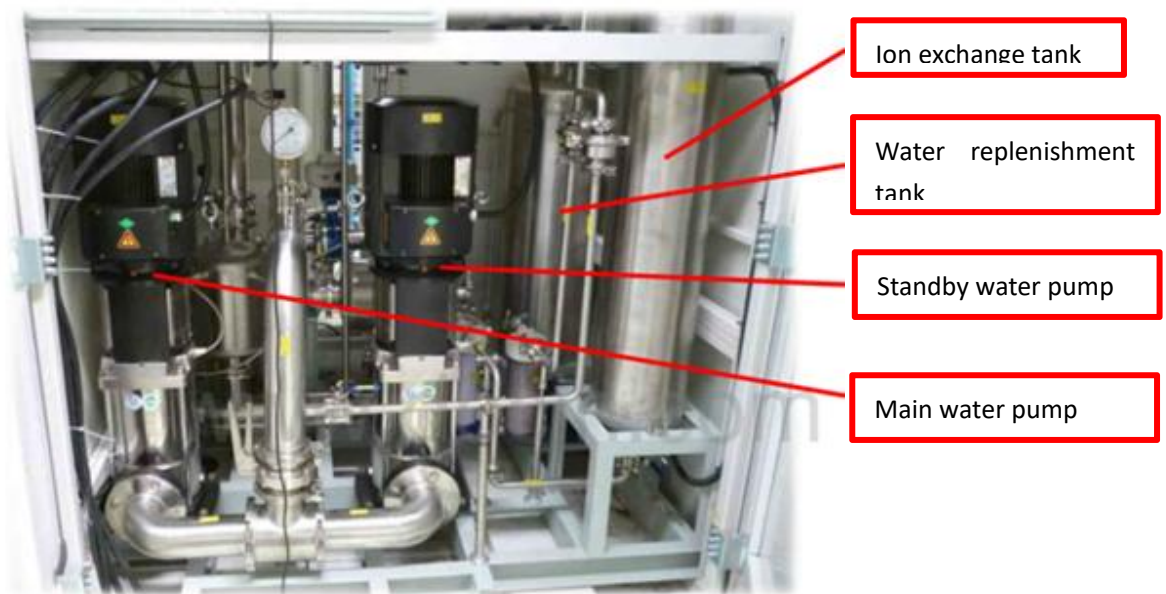
## ✓ Structural characteristics

### 1. Power unit cabinet

Main components: power unit (including HV-IGBT), current sensor, water cooling pipeline

Main function: By controlling HV-IGBT, achieve variable frequency speed regulation function and unit automatic bypass function; Based on carrier phase shifting technology, power units are connected in series to output a perfect sine wave; The pipeline is equipped with a cooling medium, which is driven by a circulating pump to transport the internal heat of the unit to the radiator.

### 2. Water cooling cabinet



Main function: The main circulation pump promotes the reciprocating circulation of cooling medium between the air radiator and power devices to achieve heat dissipation effect; The circulation pipeline is equipped with a high-level water tank as a stabilizing buffer device, which maintains a constant pressure for the system and can absorb the volume changes of the cooling medium in the system, ensuring the normal operation of the entire system.

Main components: main circulation pump, filter, circulation pipeline, air radiator

### 3. Concept Drive Circuit and Busbar Design



Higher reliability, higher power density, and lower voltage spikes

4、Typical load:

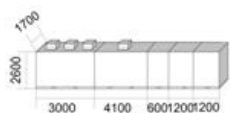
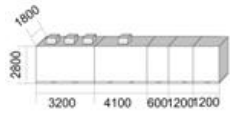
Blast furnace blower, oxygen compressor, boiler induced draft fan, sintering main exhaust fan, fan, water pump loads

## Product Parameters

Model		JD-BP37/38-F	JD-BP37/38-T
Motor power (kW)		200kW-20000kW(Using 4-pole motors as standard, selecting the motor type for 6-12 pole motors based on current)	200kW-8000kW(Using 4-pole motors as standard,selecting for 6-12 pole motors based on current)
Output	Rated power(kW)	Power operated at rated voltage	Power operated at rated voltage
		200kW-20000kW	200kW-8000kW
	Rated current(A)	Current operated at rated voltage	Current operated at rated voltage
	Overload capacity	Continuous operation at 105%	Continuous operation at 105%
		Permitted for 1 minute at 130%	Permitted for 1 minute at 130%
		Permitted for 3 seconds at 150%	Permitted for 3 seconds at 150%
	Output voltage(kV)	Three phase 0-6kV, 0-10kV	
	Waveform	SPWM sinusoidal wave	
Input	Phase number, frequency, voltage	Three phase ,50Hz/60Hz,6kV(10kV)	
	Allowable fluctuation	Voltage: -10%~+10%,frequency:±5%,-10% ~ -35% continuous operation under derating	
Basic feature	Starting frequency	0—10Hz can set	
	Accuracy	Analog setting: 0.3% of the highest frequency setpoint value (25±10°C). Digital setting: 0.02% of the highest frequency setpoint value (-10~+50°C).	
	Resolution	Analog setting: 0.05% of the highest frequency setpoint value. Digital setting: 0.01Hz (for frequencies below 99.99Hz) and 0.1Hz (for frequencies above 100Hz).	
	Efficiency	>At 98% during rated output	
	Power factor	>0.95	
Control	Acceleration and deceleration time	0.1~6000.0 seconds, with the ability to set acceleration and deceleration times separately	
	Voltage/Frequency Characteristics	Determined by the selected V/F curve	
	PID	Manual setting of PID parameter	
	Additional functions	V/F curve, low-frequency compensation, rated current, current protection threshold settings	
	High-voltage isolation	Electromagnetic coupling, multi-channel optical fiber transmission	
	Control power input	AC 220V 2kVA	
Opera	Operation	Local control (touch screen, cabinet door switch) operation, remote control operation at a distance , upper-level computer operation (optional)	
	Frequency reference	Touch screen digital setpoint, multi-segment speed setpoint, external control analog signal (DC 4~20mA) setpoint	

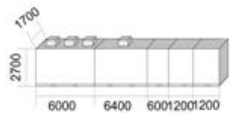
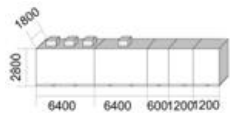
tion	Status output	Relay status output, inverter fault, alarm, run/stop status indicators, etc
	Touch screen	Input/output voltage, input/output current, setpoint, status of each unit, operating status, transformer status, voltage of each unit bus, etc
	Protection function	"Motor overcurrent, system overvoltage/undervoltage, unit overcurrent/overvoltage/overheating, input phase loss, optical fiber communication failure, etc.
Environ ment	Environment	Indoor, free from corrosive or conductive gases, dust, and direct sunlight
	Temperature, humidity	-10°C ~+40°C / 20~90%RH no condensation
	Vibration	5m/ s <sup>2</sup> (0.6g or less )
	Storage temperature	-20 to +65°C (suitable for short-term storage, such as during transportation)
	Altitude	≤ 1000m, customizable for altitudes exceeding 1000 meters
Cooling method/IP degree		Forced air cooling /IP31 Liquid cooling/IP40

## Product size

DIMENSION	Type	Motor power (kW)	Dimensions Width * Depth * Height (mm <sup>3</sup> )
	JD-BP37-6000	6000	10100*1700*2600
	JD-BP37-6500	6500	10100*1700*2600
	JD-BP37-7000	7000	10100*1700*2600
	JD-BP37-8000	8000	10300*1800*2800
	JD-BP37-8500	8500	10300*1800*2800
	JD-BP37-9000	9000	10300*1800*2800
	JD-BP37-9500	9500	10300*1800*2800
	JD-BP37-10000	10000	10300*1800*2800
	JD-BP37-10500	10500	10300*1800*2800
	JD-BP37-11000	11000	10300*1800*2800
	JD-BP37-11500	11500	10300*1800*2800

JD-BP37-F series (6kV) selection specifications and external dimensions (including switchgear)

The above dimensions are for reference only. Please refer to the actual product for details.

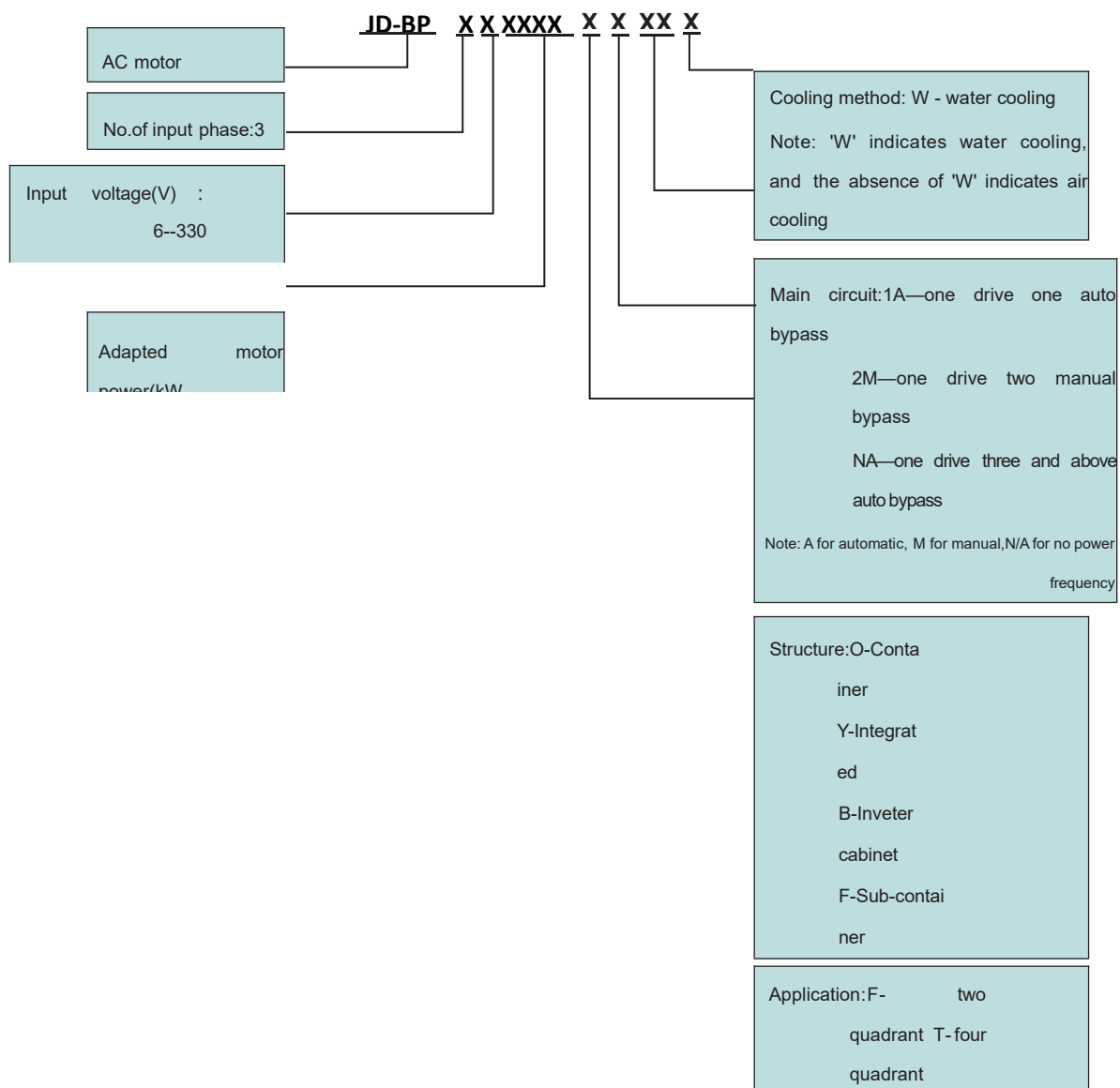
DIMENSION	Type	Motor power (kW)	Dimensions Width * Depth * Height (mm <sup>3</sup> )
	JD-BP38-10500	10500	15400*1700*2600
	JD-BP38-11000	11000	15400*1700*2600
	JD-BP38-11500	11500	15400*1700*2600
	JD-BP38-14000	14000	15800*1800*2800
	JD-BP38-14500	14500	15800*1800*2800
	JD-BP38-15000	15000	15800*1800*2800
	JD-BP38-15500	15500	15800*1800*2800
	JD-BP38-16000	16000	15800*1800*2800
	JD-BP38-16500	16500	15800*1800*2800
	JD-BP38-17000	17000	15800*1800*2800
	JD-BP38-17500	17500	15800*1800*2800

JD-BP38-F series (10kV) selection specifications and external dimensions (including switchgear)

The above dimensions are for reference only. Please refer to the actual product for details.



## Model no. description



For example:

6kV 560kW one-to-one automatic integrated high-voltage inverter for speed control, named JD-BP37-560FY1A

10kV 1600kW one-to-two manual sub-cabinet style high-voltage inverter for speed control named JD-BP38-1600FB2M

10kV 2500kW one-to-three automatic containerized water-cooled high-voltage inverter for speed control named JD-BP38-2500FONAW

## Scope of application

Power generation	Boiler feed pump, forced draft fan, induced draft fan, condensate pump, circulating water pump, mortar pump, compressor, dust suction fan and booster fan. There are more than 2000 sets of high-voltage frequency converters in the power generation industry.
Petroleum, petrochemical and natural gas	Air compressor, induced draft fan, pipeline pump, water injection pump, oil transfer pump, feed pump, submersible pump, circulating water pump and brine pump. Daqing Oilfield, Shengli Oilfield, Qinghai Oilfield, Liaohe Oilfield and other groups continue to cooperate, and the number of high and low voltage frequency converters exceeds 2500 sets.
Coal and mine	Mine hoist, counter-rotating fan, counter cyclone, axial flow fan, descaling pump, mixing pump, dust removal fan, mud pump, slurry pump, clean water pump, feed pump, drainage pump and medium pump. Shenhua Ningxia coal industry group has more than 100 high-voltage frequency converters.
Metallurgy	Dust removal fan, blast furnace blower, induced draft fan, compression fan, oxygen compressor, forced draft fan, feed pump, feed pump, descaling pump, SO <sub>2</sub> fan, slag flushing machine, converter, electric furnace, blast furnace, descaling pump and gas compressor.
Cement, building materials	Raw meal grinding induced draft fan, cement grinding fan, sorter fan, kiln induced draft fan, kiln air supply fan, kiln tail exhaust fan, high temperature fan, coal mill, dust removal fan, circulating fan and pressure supply fan.
Municipal	Booster pump, hot water circulating pump, sewage pump, clean water pump, water supply pump, induced draft fan, forced draft fan
Light industry, chemical industry	Booster pump, compressor, axial flow pump, soft water pump, water supply pump, blower, induced draft fan
Others	Air pump test bench, wind tunnel test device