

Innovation/Technology/High Quality



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VFD500 Series High Performance

FREQUENCY INVERTER

PRODUCT FEATURES

Wide input voltage range

| | |
|-------------------------------------|-----------|
| single-phase/three-phase 220V model | 200V~240V |
| three-phase 380V model | 380V~440V |

Advanced thermal design

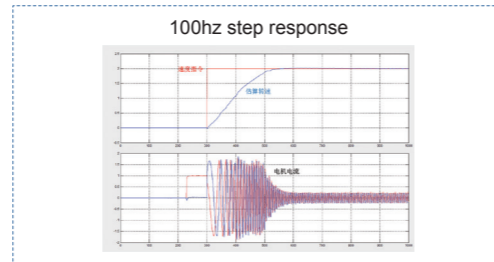
Small size, advanced thermal design, greatly smaller than the same type of inverter

High speed control accuracy

| | |
|-------------------|---------------------|
| V/F control | ±0.5% |
| SVC control | ±0.2% |
| Overload capacity | 180% for 10 seconds |

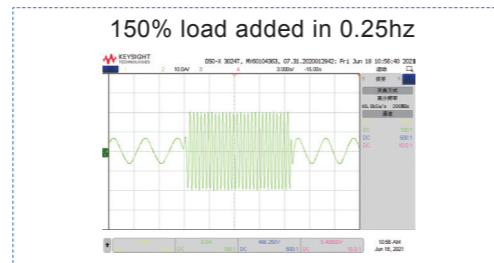
High speed stabilization accuracy, wide speed range

- Stable speed accuracy: ±0.5% (SVC) 、 ±0.02% (VC) ;
- Speed adjustment range: 1:200 (SVC) 、 1:1000 (VC) ;
- Heavy duty overload capacity : Running stably with 110% rated current in long time ;
- 150% rated current 60S ;
- 180% rated current 10S



Big torque in low frequency ,fast response for output torque

load capacity in low frequency: VF: 180%@0.50HZ ;
SVC: 180%@0.25HZ



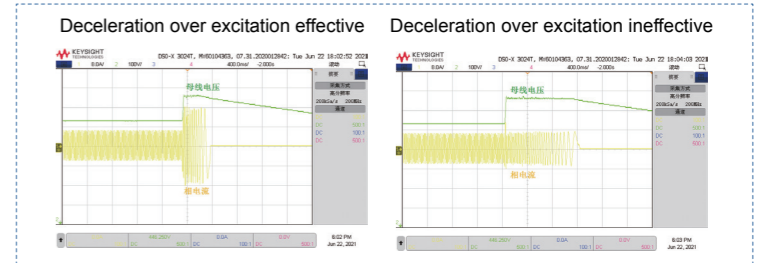
Fast Dynamic response

In SVC mode, the acceleration and deceleration time can be set arbitrarily (even 0.0s) The inverter runs stably without alarming, esp in some occasions requiring quick response



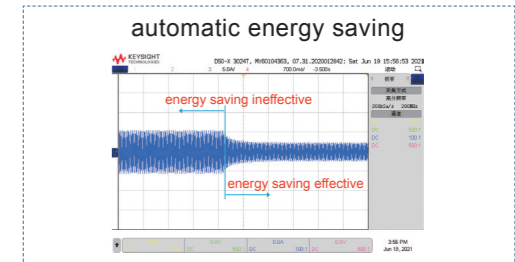
Deceleration over excitation function

The over-excitation function is set to convert the mechanical energy of the motor when it is decelerated into motor heat to be consumed, which can shorten the deceleration time and save accessories such as braking resistors in the occasions where braking is infrequent.



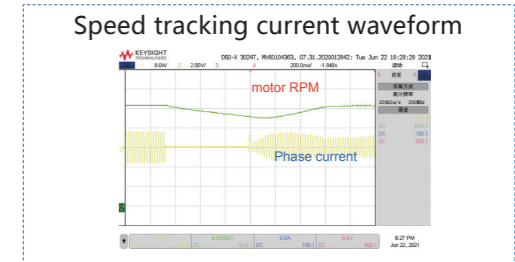
Energy-saving operation of fans and pumps

With excellent automatic energy-saving function, only need to set the maximum energy-saving target, When the operation meets the energy-saving conditions, it can enter the automatic energy-saving state. By setting the VF function, one-to-multiple and long-distance control applications can be realized to meet the application of transformation occasions



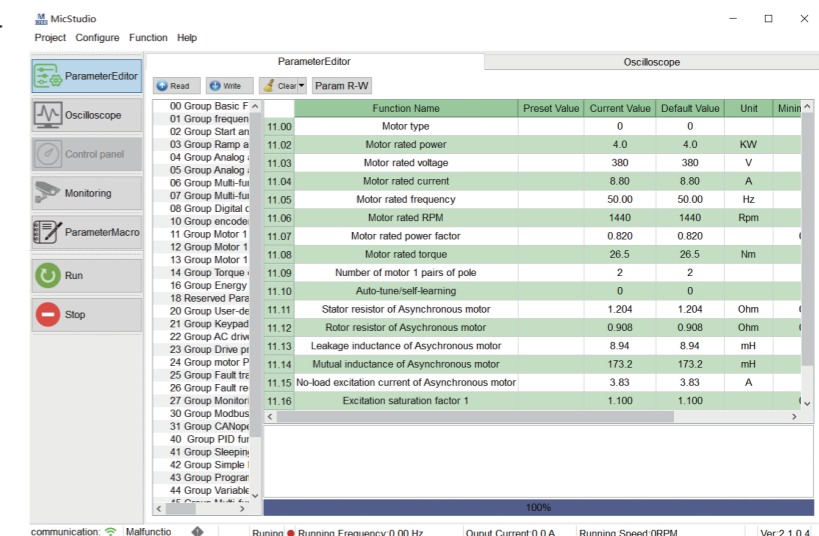
Excellent speed tracking function

Achieve smooth start without impact for the motor which does not stop rotating



Strong PC tool commission

Strong PC tool commission, equipped with Modbus communication as standard, supports virtual terminals, programmable logic applications, and complete protection functions;



APPLICATION OCCASIONS

CNC machine tools



Photovoltaic pumps



large grinders



metal wire drawing machines



chemical machinery ,etc



MODEL INSTRUCTION

VFD500 - 4R0G/5R5P - T 4 B

Product series

Model Type and power rating
(G-General Type,P-Fan and pupm Type)

Phase(T-Three Phase,S-Single Phase)

B means breaking units

Voltage Class
(2-220V,4-380V,6-690V)

PRODUCT SERIES INSTRUCTION

| Model | Power capacity | Input current | Output current(A) | | Adaptable Motor | SIZE | Brake Unit |
|--------------------------------|----------------|---------------|-------------------|-------|-----------------|--------|------------|
| | | | Heavy | Light | | | |
| Three phase: 380-480V, 50/60Hz | | | | | | | |
| VFD500-R75GT4B | 1.5 | 3.4 | 2.5 | 4.2 | 0.75kW | SIZE A | Internal |
| VFD500-1R5GT4B | 3 | 5 | 4.2 | 5.6 | 1.5kW | | |
| VFD500-2R2GT4B | 4 | 5.8 | 5.6 | 9.4 | 2.2 kW | | |
| VFD500-4R0G/5R5PT4B | 5.9 | 10.5 | 9.4 | 13.0 | 3.7 kW | SIZE B | |
| VFD500-5R5G/7R5PT4B | 8.9 | 14.6 | 13.0 | 17.0 | 5.5 kW | SIZE C | |
| VFD500-7R5G/011PT4B | 11 | 20.5 | 17.0 | 23.0 | 7.5 kW | | |
| VFD500-011G/015PT4B | 17 | 26.0 | 25.0 | 31.0 | 11 kW | SIZE D | |
| VFD500-015G/018PT4B | 21 | 35.0 | 32.0 | 37.0 | 15 kW | | |
| VFD500-018G/022PT4B | 24 | 38.5 | 37.0 | 45.0 | 18.5 kW | SIZE E | |
| VFD500-022G/030PT4B | 30 | 46.5 | 45.0 | 57.0 | 22 kW | | |
| VFD500-030G/037PT4 | 40 | 62.0 | 60.0 | 75.0 | 30 kW | SIZE F | option |
| VFD500-037G/045PT4 | 50 | 76.0 | 75.0 | 87.0 | 37 kW | | |
| VFD500-045G/055PT4 | 60 | 92.0 | 90.0 | 110.0 | 45 kW | SIZE G | |
| VFD500-055G/075PT4 | 75 | 113.0 | 110.0 | 135.0 | 55 kW | | |
| VFD500-075G/090PT4 | 104 | 157.0 | 152.0 | 165.0 | 75 kW | SIZE H | External |
| VFD500-090G/110PT4 | 112 | 170.0 | 176.0 | 210.0 | 90 kW | | |
| VFD500-110G/132PT4 | 145 | 220.0 | 210.0 | 253.0 | 110 kW | SIZE I | |
| VFD500-132G/160PT4 | 170 | 258.0 | 253.0 | 304.0 | 132 kW | | |

| Model | Power capacity | Input current | Output current(A) | | Adaptable Motor | SIZE | Brake Unit |
|----------------------------------------|----------------|---------------|-------------------|--------|-----------------|--------|------------|
| | | | Heavy | Light | | | |
| Three phase: 380-480V , 50/60Hz | | | | | | | |
| VFD500-160G/185PT4 | 210 | 320.0 | 304.0 | 360.0 | 160 kW | SIZE I | External |
| VFD500-185G/200PT4 | 245 | 372.0 | 360.0 | 380.0 | 185 kW | SIZE J | |
| VFD500-200G/220PT4 | 250 | 380.0 | 380.0 | 426.0 | 200 kW | SIZE K | |
| VFD500-220G/250PT4 | 280 | 425.0 | 426.0 | 465.0 | 220 kW | | |
| VFD500-250G/280PT4 | 315 | 479.0 | 465.0 | 520.0 | 250 kW | SIZE L | |
| VFD500-280G/315PT4 | 350 | 532.0 | 520.0 | 585.0 | 280 kW | | |
| VFD500-315G/355PT4 | 385 | 585.0 | 585.0 | 650.0 | 315 kW | SIZE M | |
| VFD500-355G/400PT4 | 420 | 638.0 | 650.0 | 725.0 | 355 kW | | |
| VFD500-400G/450PT4 | 470 | 714.0 | 725.0 | 820.0 | 400 kW | | |
| VFD500-450G/500PT4 | 530 | 810.0 | 820.0 | 900.0 | 450 kW | | |
| VFD500-500G/560PT4 | 585 | 900.0 | 900.0 | 980.0 | 500 kW | SIZE N | |
| VFD500-560G/630PT4 | 660 | 969.0 | 980.0 | 1080.0 | 560 kW | | |
| VFD500-630GT4 | 720 | 1100.0 | 1120.0 | 1260.0 | 630 kW | | |
| VFD500-710GT4 | 800 | 1245.0 | 1260.0 | 1380.0 | 710 kW | | |
| Single phase :220V ,50/60HZ | | | | | | | |
| VFD500-R40GS2B | 1.3 | 6.0 | 3.2 | 5.6 | 0.4 kW | SIZE A | Inbuilt |
| VFD500-R75GS2B | 2.4 | 11.0 | 5.6 | 8.0 | 0.75 kW | | |
| VFD500-1R5GS2B | 3.5 | 15.0 | 8.0 | 10.6 | 1.5 kW | | |
| VFD500-2R2GS2B | 5.5 | 25.0 | 10.6 | 14.0 | 2.2 kW | | |
| VFD500-4R0GS2B | 7.7 | 35.0 | 23.0 | 23.0 | 4.0 kW | | |
| VFD500-5R5GS2B | 8.9 | 53.0 | 25.0 | 31.0 | 5.5kW | | |
| VFD500-7R5GS2B | 11 | 67.0 | 32.0 | 37.0 | 7.5kW | | |
| Three phase 220V ,50/60HZ | | | | | | | |
| VFD500-R40GT2B | 4 | 6.0 | 3.2 | 5.6 | 0.4 | SIZE A | Inbuilt |
| VFD500-R75GT2B | 4 | 11.0 | 5.6 | 8.0 | 0.75 | | |
| VFD500-1R5GT2B | 3.5 | 15.0 | 8.0 | 10.6 | 1.5 | | |
| VFD500-2R2GT2B | 5.5 | 25.0 | 10.6 | 14.0 | 2.2 | | |
| VFD500-4R0GT2B | 11 | 35.0 | 17.0 | 23.0 | 4.0 | | |
| VFD500-5R5GT2B | 17 | 53.0 | 25.0 | 31.0 | 5.5 | | |
| VFD500-7R5GT2B | 21 | 67.0 | 32.0 | 37.0 | 7.5 | | |
| VFD500-011GT2B | 30 | 46.5 | 45.0 | / | 11 | SIZE D | External |
| VFD500-015GT2 | 40 | 62.0 | 60.0 | / | 15 | SIZE E | |
| VFD500-018GT2 | 50 | 76.0 | 75.0 | / | 18.5 | SIZE F | |
| VFD500-022GT2 | 60 | 92.0 | 90.0 | / | 22 | | |
| VFD500-030GT2 | 75 | 113.0 | 110.0 | / | 30 | SIZE G | |
| VFD500-037GT2 | 104 | 157.0 | 152.0 | / | 37 | | |
| VFD500-045GT2 | 112 | 170.0 | 176.0 | / | 45 | SIZE H | |
| VFD500-055GT2 | 145 | 220.0 | 210.0 | / | 55 | | |
| VFD500-075GT2 | 145 | 320.0 | 304.0 | / | 75 | SIZE I | |

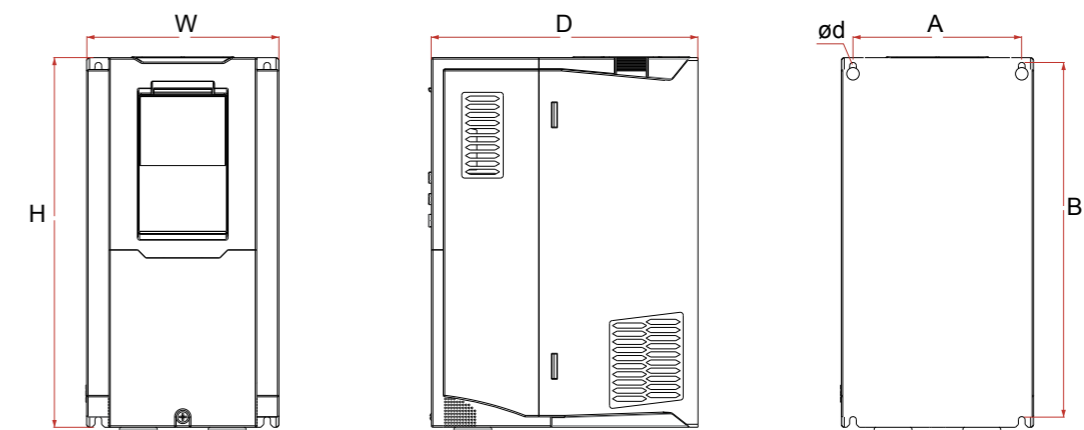
TECHNICAL SPECIFICATIONS

| Item | | Specification |
|---------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input | Input Voltage | 1phase/3phase 220V: 200V~240V 3 phase 380V-480V: 380V~480V |
| | Allowed Voltage fluctuation range | -15%~10% |
| | Input frequency | 50Hz/ 60Hz, fluctuation less than 5% |
| Output | Output Voltage | 3phase: 0~input voltage |
| | Overload capacity | General purpose application: 60S for 150% of the rated current Light load application: 60S for 120% of the rated current |
| Control | Control mode | V/f control Sensorless flux vector control without PG card (SVC) Sensor speed flux vector control with PG card (VC) |
| | Operating mode | Speed control、 Torque control (SVC and VC) |
| | Speed range | 1:100(V/f) 1:200(SVC) 1:1000 (VC) |
| | Speed control accuracy | ±0.5% (V/f) ±0.2% (SVC) ±0.02% (VC) |
| | Speed response | 5Hz(V/f) 20Hz(SVC) 50Hz(VC) |
| | frequency range | 0.00~600.00Hz(V/f) 0.00~200.00Hz(SVC) 0.00~400.00Hz(VC) |
| | Input frequency resolution | Digital setting: 0.01 Hz Analog setting: maximum frequency x 0.1% |
| | Startup torque | 150%/0.5Hz(V/f) 180%/0.25Hz 180%/0Hz(VC) |
| | Torque control accuracy | SVC: within 5Hz10%, above 5Hz5% VC:3.0% |
| | V/f curve | V / f curve type: straight line, multipoint, power function, V/f separation; Torque boost support: Automatic torque boost (factory setting),manual torque boost |
| | Frequency giving ramp | Support linear and S curve acceleration and deceleration; 4 groups of acceleration and deceleration time, setting range 0.00s ~60000s |
| | DC bus voltage control | VdcMax Control: Limit the amount of power generated by the motor by adjusting the output frequency to avoid over-voltage trip; VdcMin control: Control the power consumption of the motor by adjusting the output frequency, to avoid jump undervoltage fault |
| | Carrier frequency | 1kHz~12kHz(Varies depending on the type) |
| | Startup method | Direct start (can be superimposed DC brake); speed tracking start |
| | Stop method | Deceleration stop (can be superimposed DC braking); free to stop |

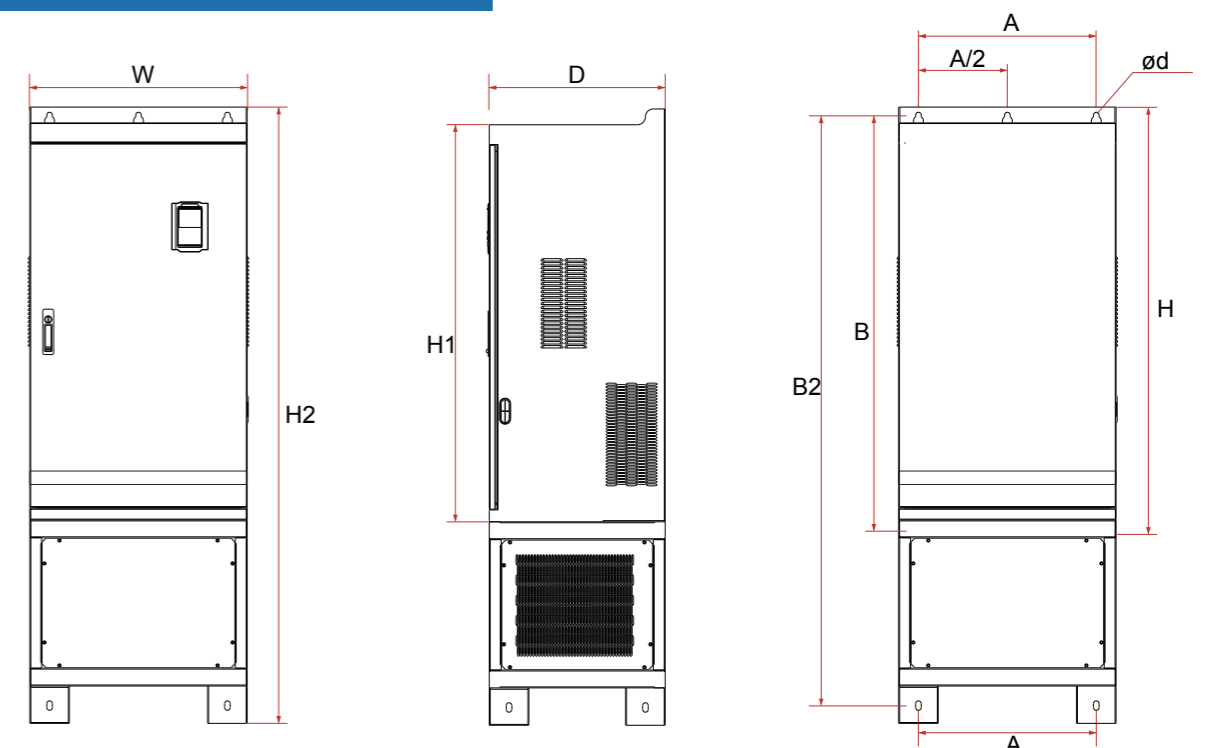
PRODUCT APPEARANCE AND INSTALLATION DIMENSION

| Item | Specification | |
|-------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Main control function | Jog control, droop control, up to 16-speed operation, dangerous speed avoidance, swing frequency operation, acceleration and deceleration time switching, VF separation, over excitation braking, process PID control, sleep and wake-up function, built-in simple PLC logic, virtual Input and output terminals, built-in delay relay, built-in comparison unit and logic unit, parameter backup and recovery, perfect fault record, fault reset, two groups of motor parameters freely switch, software swap output wiring, terminals UP / DOWN |
| function | Keypad | LED Digital keyboard and LCD keypad(option) |
| | communication | Standard: MODBUS communication Option:Profinet and CAN OPEN |
| | PG card | Incremental Encoder Interface Card (Differential Output and Open Collector), Rotary transformer Card |
| | Input terminal | standard: 5 digital input terminals, one of which supports high speed pulse input up to 50kHz; 2 analog input terminals, support 0~10V voltage input or 0~20mA current input; Option card: 4 digital input terminals 2 analog input terminals.support-10V- +10V voltage input |
| | Output terminal | standard: 1 digital output terminal; 1 high-speed pulse output terminal (open collector type), support 0~50kHz square wave signal output; 1 relay output terminal 2 analog output terminals, support 0~20mA current output or 0~10V voltage output; Option card: 4 digital output terminals |
| Protection | Refer to Chapter 6 "Troubleshooting and Countermeasures" for the protection function | |
| Environment | Installation location | Indoor, no direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapor, drip or salt. |
| | Altitude | Lower than 1000 m |
| | Ambient temperature | -10°C~+40°C (derated if the ambient temperature is between 40°C and 50°C) |
| | Humidity | Less than 95%RH, without condensing |
| | Vibration | Less than 5.9 m/s ² (0.6 g) |
| | Storage temperature | -20°C ~ +60°C |
| others | Installation | Wall-mounted, floor-controlled cabinet, transmural |
| | Protection level | IP20 |
| | cooling method | Forced air cooling |

SIZE J



SIZE J1



| SIZE | Appearance and installation dimension (mm) | | | | | | | | | |
|-------------|-------------------------------------------------|-------|------|-------|------|------|-----|-----|-------|---------|
| | A | B | B2 | H | H1 | H2 | W | D | fd | Moution |
| 0.75KW-4KW | 87 | 260.5 | / | 215 | / | / | 100 | 170 | ∅5.0 | M4*16 |
| 5.5KW-7.5KW | 113 | 239.5 | / | 250 | / | / | 130 | 180 | ∅5.0 | M4*16 |
| 11KW-15KW | 153 | 299 | / | 310 | / | / | 170 | 193 | ∅6.0 | M5*16 |
| 18.5KW-22KW | 165 | 350 | / | 370 | 335 | / | 210 | 196 | ∅6.0 | M5*16 |
| 30KW-37KW | 218 | 438 | / | 452.5 | 424 | / | 260 | 230 | ∅7.0 | M6*16 |
| 45KW-55KW | 250 | 535 | / | 555 | 520 | / | 320 | 275 | ∅10.0 | M8*20 |
| 75KW-90KW | 280 | 620 | / | 640 | 605 | / | 350 | 290 | ∅10.0 | M8*20 |
| 110KW | 280 | 695 | 915 | 715 | 660 | 935 | 370 | 313 | ∅11.0 | M8*25 |
| 132KW-160KW | 280 | 705 | 925 | 725 | 670 | 945 | 360 | 338 | ∅11.0 | M8*25 |
| 185KW-200KW | 360 | 795 | 1145 | 816 | 762 | 1166 | 490 | 358 | ∅11.0 | M10*25 |
| 220KW-250KW | Flooring mounting:H2*W*D=1166*490*358 | | | | | | | | | |
| | 450 | 1045 | 1495 | 1075 | 1005 | 1560 | 550 | 450 | ∅13.0 | M12*30 |
| 280KW-315KW | Flooring mounting:H2*W*D=1560*550*450 | | | | | | | | | |
| | 630 | 1013 | 1425 | 1045 | 970 | 1495 | 730 | 450 | ∅13 | M12*30 |
| 355KW-400KW | Flooring mounting:H2*W*D=1495*730*450 | | | | | | | | | |
| | 660 | 1063 | 1505 | 1095 | 1020 | 1575 | 785 | 450 | ∅13 | M12*30 |
| 450KW-500KW | Flooring mounting:H2*W*D=1575*785*450 | | | | | | | | | |
| | Only for Flooring mounting:H2*W*D=1800x1080x500 | | | | | | | | | |
| 560KW-710KW | | | | | | | | | | M12*30 |

STANDARD WIRING DIAGRAM

