

National high-tech enterprise



## General Purpose VFD

**Drive&zero-carbon energy-saving innovator**



★ 8000m series AC drive

★ 8000B series AC drive

★ 8000H series AC drive

**Drive&zero-carbon innovator**

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GUANGZHOU SANJING ELECTRIC CO.,LTD



To build **green**, intelligent  
and **efficient** energy  
environment, and to create better,  
**happier and healthier lives**  
for people everywhere.



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# About SAJ

Headquartered in Guangzhou, serves the world

With American technical background, Guangzhou Sanjing Electric Co., LTD (hereinafter referred to as SAJ) is a professional leading provider of motor drive and control technology, renewable energy conversion, transmission and storage solutions. Established in 2004 with the registered capital of 36 million RMB, SAJ has a strong Research & Development and technical team which accounts for the total number of 50% employees in the company.

SAJ pushes forward independent innovation of key technology such as the high performance frequency vector control, motion control, and photovoltaic power generation. SAJ has been awarded national high-tech enterprise, top 20 companies for patent creator in Guangzhou development zone (2012), Intertek "authorized satellite lab" and so on. As of December 2014, the company has been authorized or is applying for 20 invention patents, 60 utility model patents, 20 exterior design patents, 20 software copyrights and 6 software product registrations.

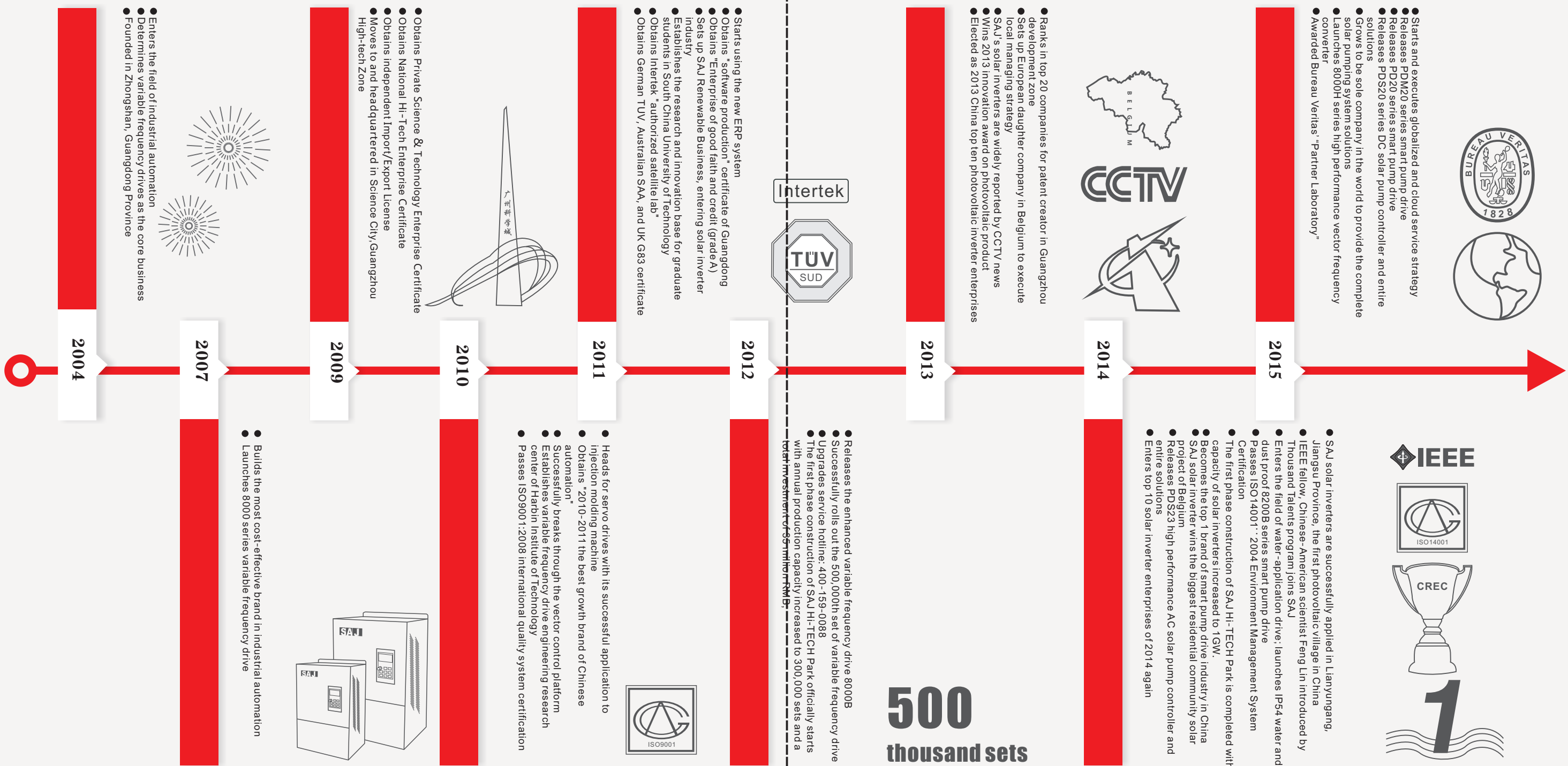
SAJ specializes in providing low voltage variable frequency drives, servo drives, solar pumping system, solar inverters for distributed solar power plants, monitoring solutions etc. With 16 branch offices and 50 service centers in China, SAJ's service network has expanded in Germany, Switzerland, Belgium, UK, Netherlands, Denmark, Poland, Turkey, South Africa, Brazil, Chile, Mexico, Middle East, India, Sri Lanka, Thailand, Australia and other countries.

Adhering to the concept of "integrity, learning, innovation, win-win cooperation", SAJ is a leading provider of drive & zero-carbon and energy-saving technology. We work collaboratively to build intelligent and efficient energy environment, making lives better, happier, and healthier for people everywhere.





# Milestones





General Purpose VFD

8000m series AC drive, 8000B series AC drive, 8000H series AC drive

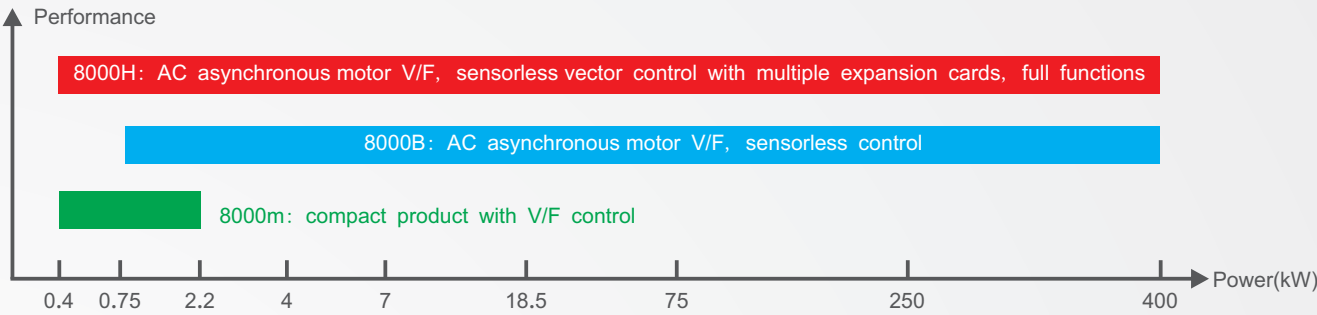
Stable & Reliable

Full-functional

Convenient & Practical



Sequence chart of general purpose VFD



Application selection guide of general purpose VFD

	8000m	8000B	8000H
Structure	rail-mounting and wall-mounting installation	wall-mounted and foot-mounted (high power) installation	wall-mounted, penetrating and foot-mounted( high power)installation
Size with the same power	Small	Medium	Big
Performance	Common	Higher	Highest
Load	Light load	Heavier load	heaviest load
Function	Standard functions	Standard functions	Full functions
Expansion card and optional accessories	None	LCD keyboard	I/O card, communication card, LCD keyboard
Common application	Fan, pump and light loaded small machines	Constant torque machinery like air compressor, conveyor, building material mining machinery	Variable frequency power source and heavy load constant torque machinery like lifting machine and machine tool

How to select general purpose VFD

- ★ Rated load current of motor can't exceed rated current of AC drive.
- ★ Select V/F mode AC drive for fan and pump type loads.
- ★ Select AC drive with sensorless vector control mode for loads with high dynamic/static index requirement such as lifting machine.





# 8000m Series

Power range: single phase input and three-phase output(220V); three-phase input and three-phase output(380V): 0.75-2.2kW

Flexible

Dual-core

Economical

## 8000m series economical AC drive

With ten-year experience, combining general market demands and adopting new design philosophy, SAJ develops 8000m series new generation economical low power AC drive, which is convenient to debug, high in efficiency and reliable in application.



IP20

### International chip quality, dual-core control



Core computing DSP (CPU)---American Texas Instruments  
World's leading analog and digital semiconductor IC design and manufacturing company

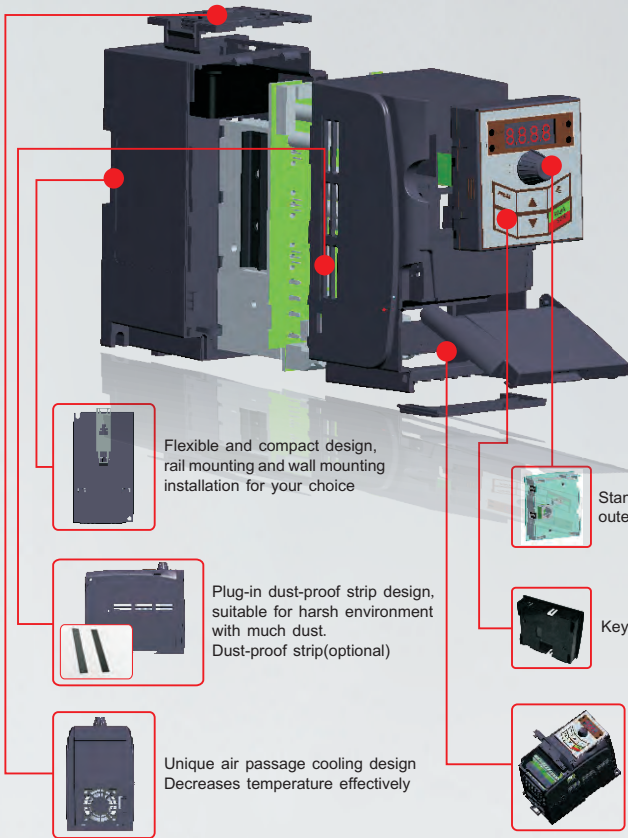


Power components---German Infineon  
World's biggest power semiconductor supplier---former semiconductor business unit of Siemens



Processor MCU---STMicroelectronics  
One of the world's biggest semiconductor suppliers and advanced integrated component manufacture

### Flexible and compact design



Flexible and compact design,  
rail mounting and wall mounting  
installation for your choice

Plug-in dust-proof strip design,  
suitable for harsh environment  
with much dust.  
Dust-proof strip(optional)

Unique air passage cooling design  
Decreases temperature effectively

Standard RJ-45 network cable  
outer lead interface

Keyboard bracket(optional)

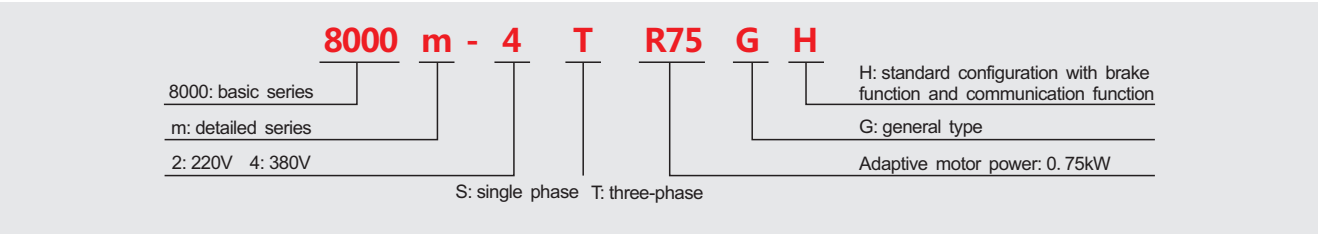
Optimized terminal group, optimal  
design meeting regular applications



■ Datasheet

Control characteristic	Control mode	V/F control
	Starting torque	0.5Hz 100%
	Speed adjustable range	1:20
	Speed-holding precision	±1.0%
	Overload capability	G type: 150% rated current for 60s; 180% rated current for 1s
	V/F curve	Linear, square, multipoint type
	DC braking capacity	DC braking frequency:0.00-maxumum frequency; braking time:0.1-50.0s
	Inching running	Inching frequency range: 0.00-maximum frequency; inching acceleration and deceleration time range: 0.1-3600S
	Acceleration and deceleration time	Linear mode: acceleration and deceleration time range: 0.1-3600S
Input/output	Torque compensation	Manual:0.1-30.0%;automatic:0.0
	Start frequency	0.50-10Hz
	Input voltage	220V/380V±15%
	Input frequency range	50/60Hz, fluctuation range: ±5%
	Input frequency precision	Analog setting: maximum frequency×0.1%;digital setting: 0.01Hz
	Output voltage	0-rated input voltage
peripheral interface	Output frequency	0.00-600Hz
	Programmable digital input	4 ways of digital terminal input
	Programmable analog input	AVI: 0-10V
	Relay output	1 way of output, programmable
	Open-collector output	1 way of output, programmable
	Analog output	Default: FM: 0-10V; jumper: 4-20mA
Basic function	Serial communication port	RS-485 half-duplex, standard Modbus protocol
	Command running channel	Three kinds of channels: set by operation panel, control terminal and serial communication port, switchable by many ways
	Frequency source	7 frequency sources: set by potentiometer of operation board, digital button UP/DOWN, communication port, PID etc.
	Auxiliary frequency source	1 auxiliary frequency source, capable of frequency synthesis and frequency trimming
	Simple PLC, multi-speed control	Multiple sections speed and PLC running mode can be defined.
	Integrated PID	For the convenience to realize closed-loop control
Personalization function	AVR	When grid voltage changes, it keeps output voltage constant automatically. By default, it doesn't work at deceleration.
	Stall control	Automatically limit current and voltage at running period to prevent tripping caused by frequent overcurrent/over voltage.
	LED display	16 kinds of variables can be displayed including running frequency, set frequency, bus voltage, output voltage, output current etc.
	Automatic energy saving	Decrease output voltage at light load automatically to save energy.
Application environment	Password setting	4-bit password can be set with non-zero numbers. Exit password setting interface and the password will be valid after 1 minute.
	Parameter lock	Define whether the parameter is locked in running or stopped state in case of misoperation.
	Protection	Over current protection, over voltage protection, output phase loss protection, undervoltage protection, overheating protection, over load protection etc.
	IP grade	Ip20, suitable for dusty environment with dust-proof strip added.
	Altitude	Lower than 1000m, service in derated capacity above 1000m. Derate 1% capacity every 100m increase in height.
	Environmental temperature	-10℃~+40℃, service in derated capacity for 40℃~+50℃. Derate 4% capacity every 1°℃ increase in temperature.
	Humidity	≤95%RH, no water condensation
	Vibration	<5.9m / S2 (0.6G)
	Storage temperature	-20℃~+60℃

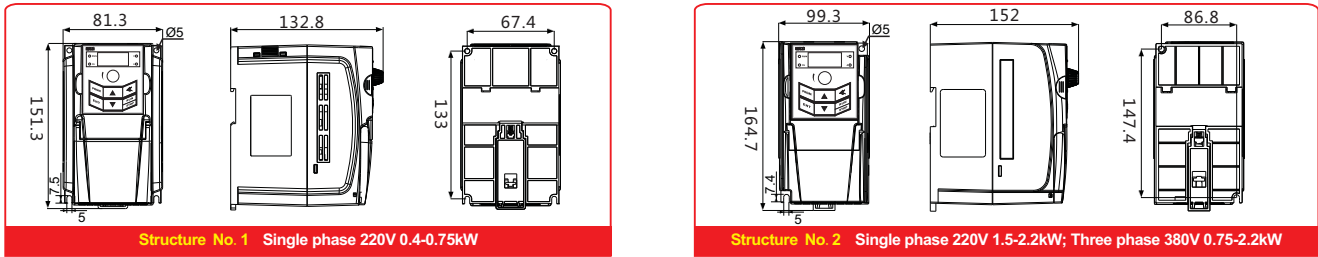
■ Model number description



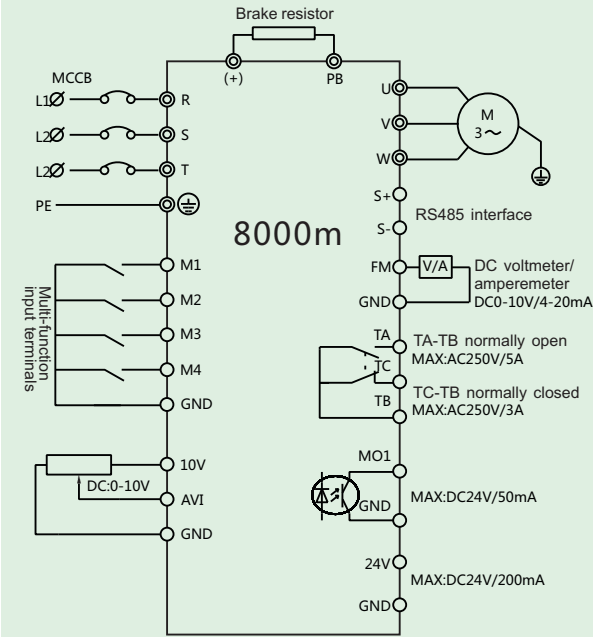
■ Specification and selection guide

Voltage grade	Power		Rated input current(A)	Rated output current(A)	Structure No.	Series No.		2 : 220V 4 : 380V	S:single phase T: three-phase	Adaptive motor power	G: general type	H: standard configuration with brake function and communication function
	kW	HP										
Single phase 220VAC ±15%	0.4	0.55	4.5	2.4	1	8000m	-	2	S	R40	G	H
	0.75	1	8.2	4.5	1	8000m	-	2	S	R75	G	H
	1.5	2	14.2	7	2	8000m	-	4	T	1R5	G	H
	2.2	3	23	10	2	8000m	-	4	T	2R2	G	H
Three phase 380VAC ±15%	0.75	1	3.4	2.5	2	8000m	-	4	T	R75	G	H
	1.5	2	5	3.7	2	8000m	-	4	T	1R5	G	H
	2.2	3	5.8	5	2	8000m	-	4	T	2R2	G	H

■ Dimensions(mm)



■ Wiring diagram



■ Accessories

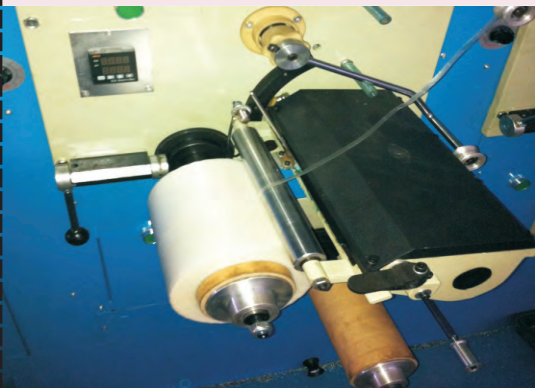




# 8000m Industry Applications

## Fluid machinery

**Typical equipment:** draught fan, pump  
**Requirements:** variable torque load, energy saving control  
**8000m features:** speed regulation, energy conservation, automatic current-limiting and voltage-limiting



## Packaging machinery

**Typical equipment:** vertical/pillow packaging machine  
**Requirements:** constant torque load, frequent start/stop  
**8000m features:** steady speed, multiple speed setting, inching control, decrease motor noise

## Food machinery

**Typical equipment:** dumpling machine, vegetable cutter, conveyor  
**Requirements:** stability, reliability, easy maintenance and speed adjustment, compact structure  
**8000m features:** high performance, easy wiring and installation, convenient operation and debugging



## Plastic and chemical fiber machinery

**Typical equipment:** coiler, needling machine  
**Requirements:** high precision of steady speed, rapid response, adjustable control and alarm  
**8000m features:** good dynamic performance, steady running speed, programmable

8000m industry applications  
Drive&zero-carbon energy-saving innovator



# 8000B Series

Power range: single phase input and three-phase output (220V): 0.75-2.2kW; three-phase input and three-phase output (380V): 0.75-400kW

## 8000B series enhanced AC drive

8000B series AC drive is a brand new product optimized from 8000 series standard AC drive. Its overall performance is highly improved and is the best choice for high performance speed control of general machinery.

8000B series AC drive is suitable for common draught fan, pump, especially for circumstance with high load and quick response demands.



### Flexible & practical

- Rich and practical terminal function and virtual terminals
- Integrated PID regulator and industry application functions
- RS-485 communication, standard Modbus protocol

### High performance

- Sensor-less vector control and V/F control, strong applicability
- 0.5Hz low frequency high torque output reaches 150%, adapts to heavy load startup
- 150% overload for 1 minute, high reliability
- Accurate motor parameter identification, convenient debugging

### Stable & reliable

- Up to 27 fault detection and protection, safer
- High standard hardware configuration, long lifetime
- ±15% wide voltage input design, strong applicability
- Automatic protective paint spray, quality assurance
- More than 200,000 application verification, high reliability

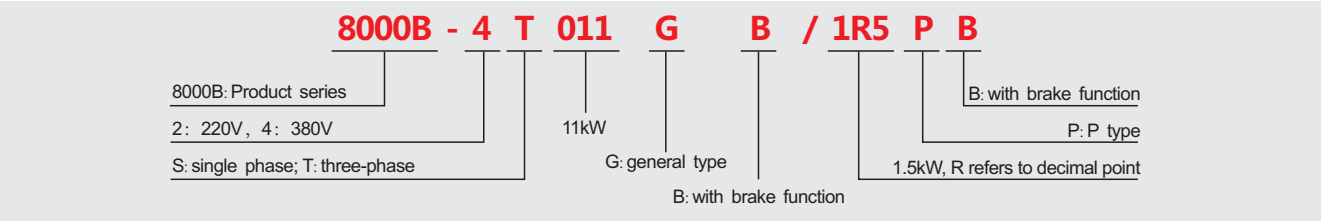




■ Datasheet

Control characteristic	Control mode	speed sensorless vector control(SVC)	V/F control
	Starting torque	0.5Hz 150%	0.5Hz 100%
	Speed adjustable range	1:100	1:20
	speed-holding precision	±0.5%	±1.0%
	Overload capability	G type: 150% rated current for 60s; 180% rated current for 1s      P type: 120% rated current for 60s; 150% rated current for 1s	
	V/F curve	Linear, square, multipoint type	
	DC braking capacity	Braking current: 0-150% rated current(G type), 0-100% rated current(P type);   braking time:0.0-50.0s	
	Inching running	Inching frequency range: 0.00-maximum frequency; inching acceleration and deceleration time range: 0.1-3600S	
	acceleration and deceleration time	Two kinds: linear or S curve mode: acceleration and deceleration time range: 0.1-3600S	
Input/output	Torque compensation	Manual:0.1-30.0%;automatic:0.0	
	Start frequency	0.50-10Hz	
	Input voltage	220V/380V±15%	
	Input frequency	50/60Hz, fluctuation range: ±5%	
	Output voltage	0-rated input voltage	
peripheral interface	Output frequency	SVC:0~300Hz,   V/F:  0~600Hz	
	Programmable digital input	6 ways of digital terminal input	
	Programmable analog input	AVI:  0-10V;ACI:  0-10V or 0/4-20mA	
	Relay output	1 way of output, programmable	
	Open-collector output	1 way of output, programmable	
Basic function	Analog output	0.75-2.2kW: FM: 0-10V;AM:4-20mA;    4-400kW: FM: 0-10V; AM: 4-20mA	
	Serial communication port	RS-485 half-duplex, standard Modbus protocol	
	Command running channel	Set by operation panel, external terminals and RS-485 communication port, switchable by many ways	
	Main frequency source	Multiple setting ways: set by potentiometer of operation board, digital button UP/DOWN, analog terminals,   RS-485 communication, PID etc.	
	Auxiliary frequency source	Capable of frequency synthesis and   frequency trimming	
	Simple PLC	PLC running mode can be defined.	
	multi-speed control	16 sections of different speed can be chosen by external digital input terminals	
	Integrated PID	For the convenience to realize closed-loop control	
	AVR	When grid voltage changes, it keeps output voltage constant automatically. By default, it doesn't work at deceleration.	
Industrial application	Stall control	Automatically limit current and voltage at running period to prevent tripping caused by frequent overcurrent/over voltage.	
	Pendulous frequency	Multiple triangular wave frequency control function, mainly used in traversing and winding situations	
	Frequency hopping	Two configurable frequency hopping points and hopping frequency range to avoid motor resonance frequency point	
	Droop control	Mainly used in the case that   multiple motors drive the same load where balanced load is needed	
	Metering control	Automatically calculate and save meters of products according to set base when driving the motor	
Personalization function	LED display	multiple variables can be displayed including running frequency, set frequency, bus voltage, output voltage, output current etc.	
	Automatic energy saving	Decrease output voltage at light load automatically to save energy.	
	Password setting	4-bit password can be set with non-zero numbers. Exit password setting interface and the password will be valid after 1 minute.	
	Parameter lock	Define whether the parameter is locked in running or stopped state in case of misoperation.	
	Protection	Over current protection, over voltage protection, input/output phase loss protection, undervoltage protection, overheating protection, over load protection etc.	
Application environment	Altitude	Lower than 1000m, service in derated capacity above 1000m. Derate 1% capacity every 100m increase in height.	
	Environmental temperature	-10℃+~40℃, service in derated capacity for 40℃~50℃. Derate 4% capacity every 1℃ increase in temperature.	
	Humidity	≤95%RH, no water condensation	
	Vibration	< 9.8m / S2   (1.0G)	
	Storage temperature	-40℃~+70℃	

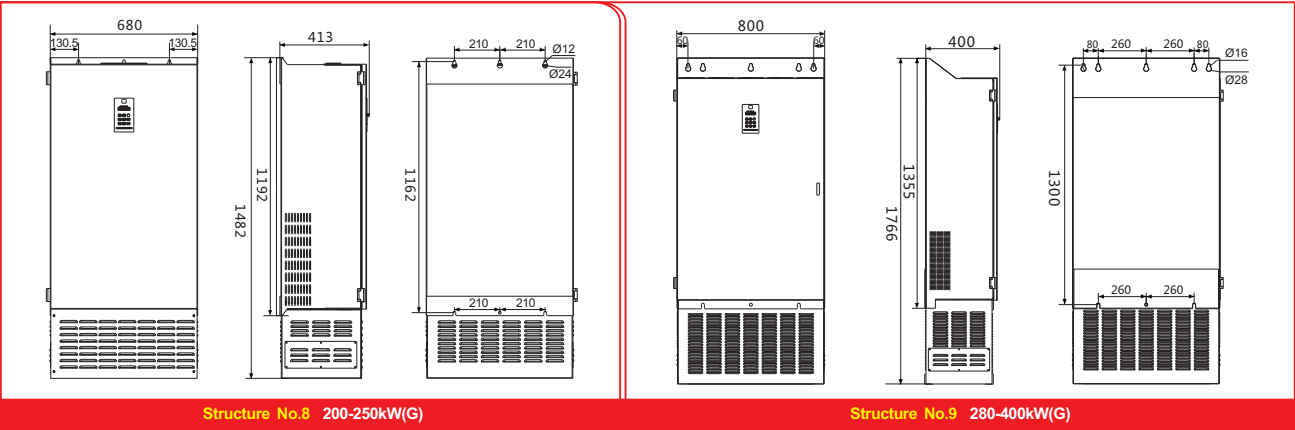
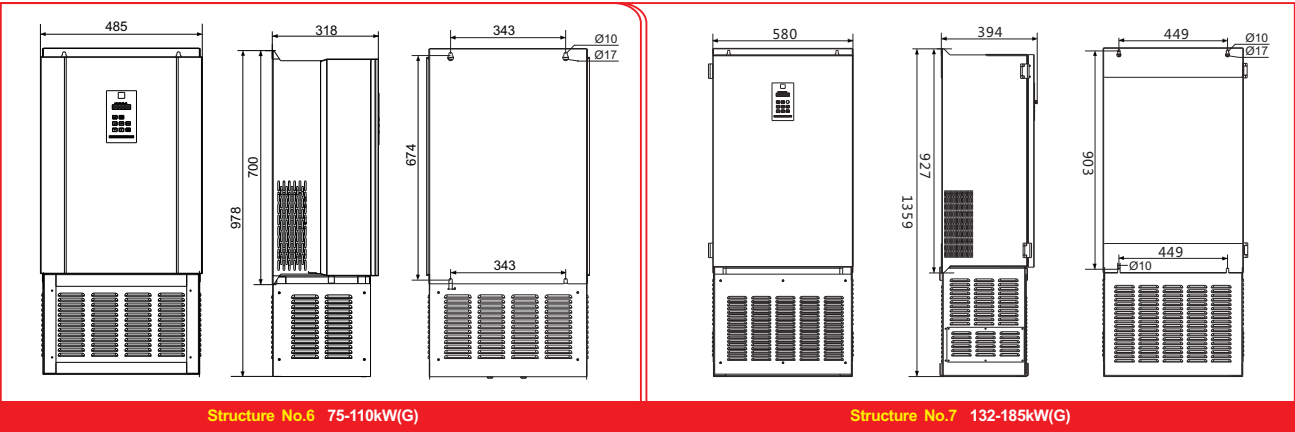
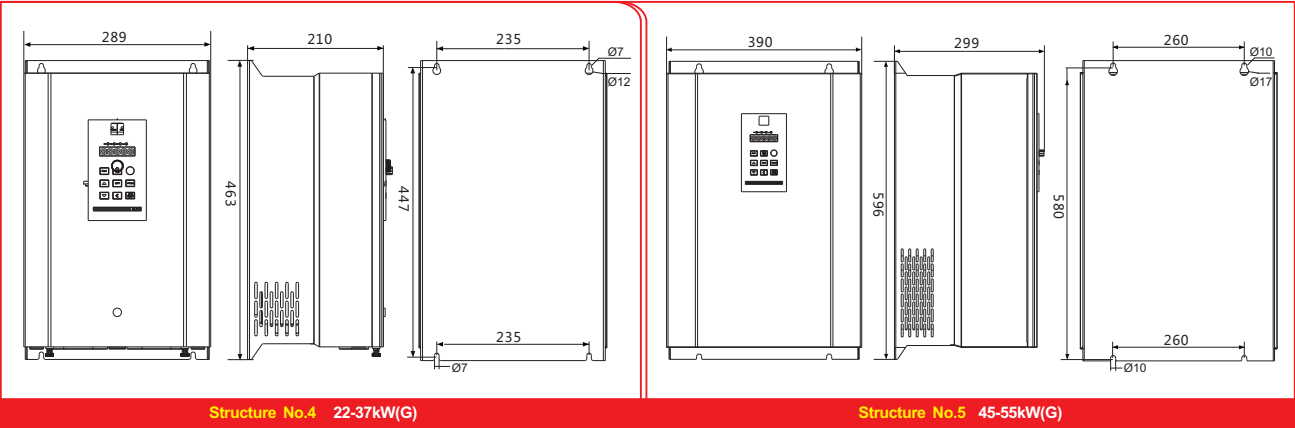
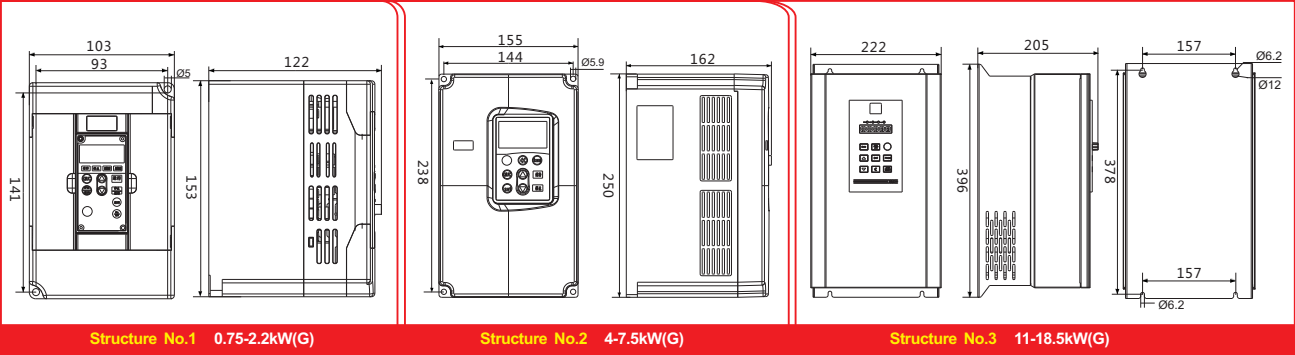
■ Model number description



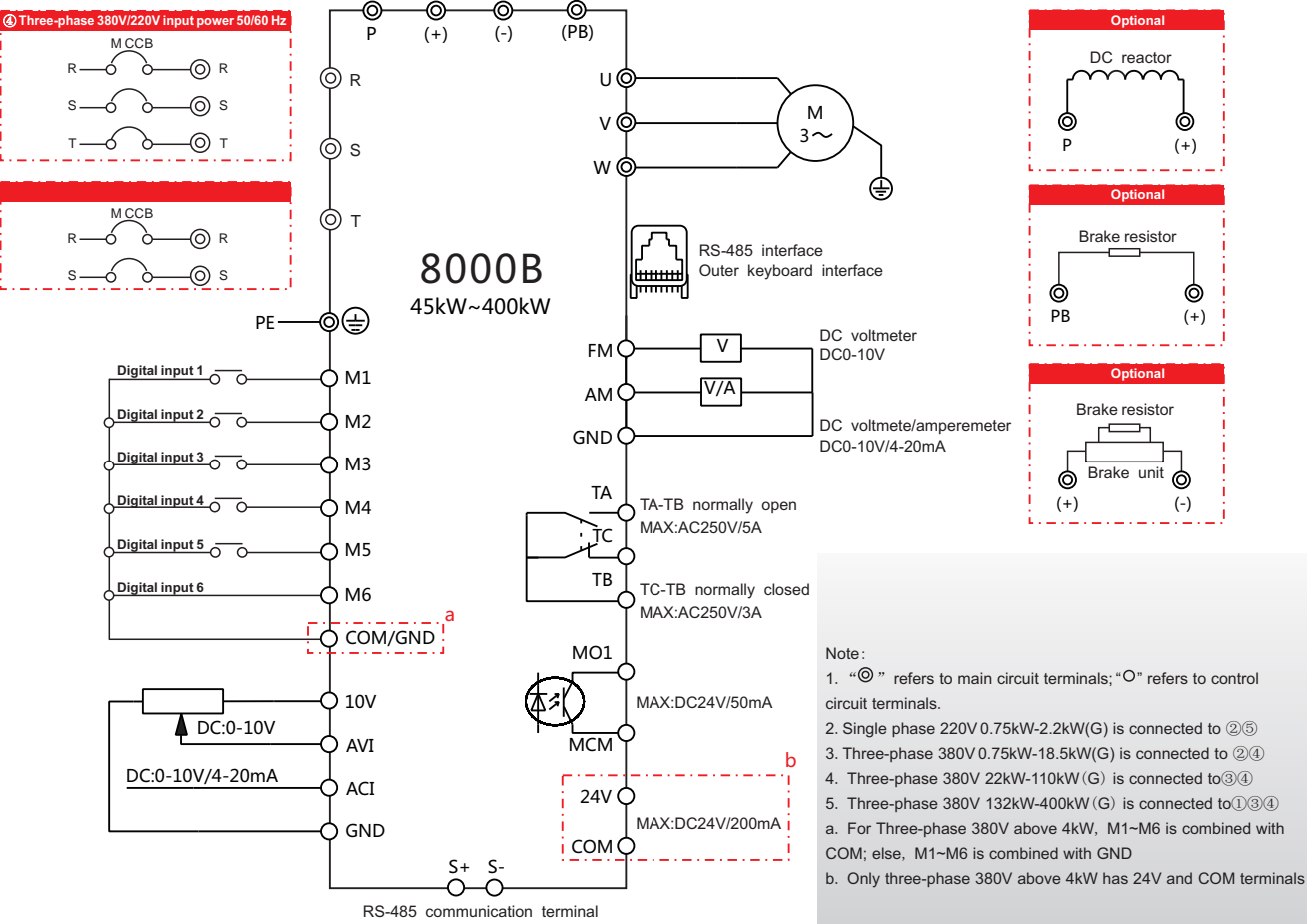
Voltage grade	Power		Rated input current(A)	Rated output current(A)	Structure No.	Series No.	B: enhanced type		2 : 220V 4 : 380V	S:single phase T: three-phase	Adaptive motor power	G: general type P: fan and pump type (Some models support G/P integration)	B: integrated with brake function
	kW	HP											
Single phase 220VAC ±15%	0.75	1.0	8.2	4.5	1	8000	B	-	2	S	R75	G	B
	1.5	2.0	14.2	7	1	8000	B	-	2	S	1R5	G	B
	2.2	3.0	23	10	1	8000	B	-	2	S	2R2	G	B
Three phase 380VAC ±15%	0.75	1.0	3.4	2.5	1	8000	B	-	4	T	R75	G	B
	1.5	2.0	5	3.7	1	8000	B	-	4	T	1R5	G	B
	2.2	3.0	5.8	5	1	8000	B	-	4	T	2R2	G	B
	4/5.5	5.5/7.5	10/15	9/13	2	8000	B	-	4	T	004/5R5	G/P	B
	5.5/7.5	7.5/10	15/20	13/17	2	8000	B	-	4	T	5R5/7R5	G/P	B
	7.5	10.2	20	17	2	8000	B	-	4	T	7R5	G/P	B
	11/15	15/20.4	26/35	25/32	3	8000	B	-	4	T	11/15	G/P	B
	15/18.5	20.4/25.2	35/38	32/37	3	8000	B	-	4	T	15/18R5	G/P	B
	18.5	25.2	38	37	3	8000	B	-	4	T	18R5	G	B
	22/30	30/40.8	46/62	45/60	4	8000	B	-	4	T	22/30	G/P	
	30/37	40.8/50.3	62/76	60/75	4	8000	B	-	4	T	30/37	G/P	
	37	50.3	76	75	4	8000	B	-	4	T	37	G	
	45/55	61.2/74.8	91/113	90/110	5	8000	B	-	4	T	45/55	G/P	
	55/75	74.8/102	113/157	110/150	5	8000	B	-	4	T	55/75	G/P	
	75/93	102/126.5	157/180	150/176	6	8000	B	-	4	T	75/93	G/P	
	93/110	126.5/149.7	180/214	176/210	6	8000	B	-	4	T	93/110	G/P	
	110	149.7	214	210	6	8000	B	-	4	T	110	G	
	132/160	179.6/217.7	253/307	250/300	7	8000	B	-	4	T	132/160	G/P	
	160/185	217.7/251.7	307/346	300/340	7	8000	B	-	4	T	160/185	G/P	
	185	251.7	346	340	7	8000	B	-	4	T	185	G	
	200/220	272.1/229.3	385/420	380/415	8	8000	B	-	4	T	200/220	G/P	
	220/250	299.3/340.1	420/473	415/470	8	8000	B	-	4	T	220/250	G/P	
	250/280	340.1/381	473/525	470/520	8	8000	B	-	4	T	250/280	G/P	
	280/315	381/428.6	525/603	520/600	9	8000	B	-	4	T	280/315	G/P	
	315	428.6	603	600	9	8000	B	-	4	T	315	G	
	350	476.2	655	640	9	8000	B	-	4	T	350	G	
	400	544.2	710	690	9	8000	B	-	4	T	400	G	



■ Dimensions(mm)



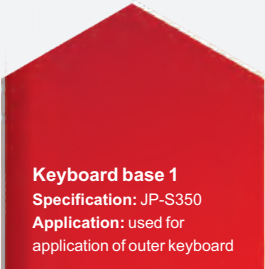
■ Wiring diagram



■ Accessories



**LCD keyboard**  
Specification: VKB-LCD-A  
Application: to display parameters and parameter names, to copy and download parameters for the convenience of debugging  
Note: extension cord for your option. Specification of extension cord is the same as 8000M



**Keyboard base 1**  
Specification: JP-S350  
Application: used for application of outer keyboard



**Keyboard base 2**  
Specification: S350  
Application: used for application of outer keyboard



**Keyboard line 2 meters**  
Specification: A-10P-2M L=2M (S350 series 0.75~400kw)  
Application: used for lead of outer keyboard





# 8000B Industry Applications



## Building material mining processing machinery

**Typical equipment:** dredger, stonesaw  
**Requirements:** great inertial load, instant high overload, electricity generation of motor is frequently switched.  
**8000B features:** high start torque, stall control, high overload capability, wide voltage range



## General fluid machinery

**Typical equipment:** draught fan, pump, air compressor  
**Requirements:** variable torque load, energy saving control  
**8000B features:** automatic energy saving operation, process PID adjustment, torque tracking restart, long term reliability



## Metal/civil working machinery

**Typical equipment:** numerical control machine tool, engraving and milling machine  
**Requirements:** constant torque, rapid start/stop control  
**8000B features:** parameter identification, DC braking, analog and communication given frequency



## Conveying machinery

**Typical equipment:** roller conveyer line  
**Requirements:** constant torque, great inertial load  
**8000B features:** high start torque, parameter identification, DC braking, rapid start/stop, integrated brake unit for 18.5kW and below



## Rubber and plastics machine

**Typical equipment:** plastic extruder  
**Requirements:** wide speed regulation range, steady torque, low speed fluctuation  
**8000B features:** low speed high torque, quick dynamic response, AVR automatic voltage regulation



## Textile/chemical fiber machinery

**Typical equipment:** double twister, needling machine, needling machine  
**Requirements:** stepless speed regulation, low speed high torque, low speed fluctuation  
**8000B features:** low speed high torque, quick dynamic response

8000B industry applications  
Drive&zero-carbon energy-saving innovator



# 8000H Series

Power range: single phase input and three-phase output (220V): 0.4-2.2kW;  
three-phase input and three-phase output (380V): 0.4-45kW; three-phase input and three-phase output (380V): :0.75-93kW

IP20  
Grade

## 8000H series high performance vector AC drive

8000H series AC drive is compatible with the function of 8000B and most functions of other drives on the market to match user's habits. Some functions are optimized and upgraded. Compared with common general AC drive, it is highly improved in performance, functions and usability.



Powerful+

### Higher performance

- Excellent V/F and SVC control performance, great start torque, steady speed
- V/F separation, respective adjustment of voltage and frequency, suitable for professional applications
- Two control modes speed and torque control; quick response and high efficiency in torque mode
- More V/F curves, adaptive to more load types
- With S acceleration/ deceleration setting, steady running

Perfect+

### Perfect protection

- 41 fault detection codes, 10 more than 8000B
- Self-detection of peripheral equipment at power on, safer
- Optimized over voltage stall control and protection, steadier
- Optional protection actions at failure, more correct protection
- Optimized judgment function at momentary stop of power supply; decrease stop probability by mistake
- Higher hardware redundant design, more reliable

Flexible+

### More flexible applications

- Input/output single type, public terminals of power supply can be selected by jumper
- High speed pulse input and output, used for multi-motor synchronous control
- Common DC bus function
- Up to 10 kinds of frequency sources, 2 more than that of 8000B;
- Up to 10 kinds of auxiliary frequency sources, 8 more than that of 8000B
- Rich options and expansion cards including LCD panel, IO expansion card, communication card etc.
- PT100 and PT1000 interfaces for your choice to detect the temperature of motor
- Compatible with various active sensor signals
- Definable active level of terminals, more flexible system design

Functions+

### Richer functions

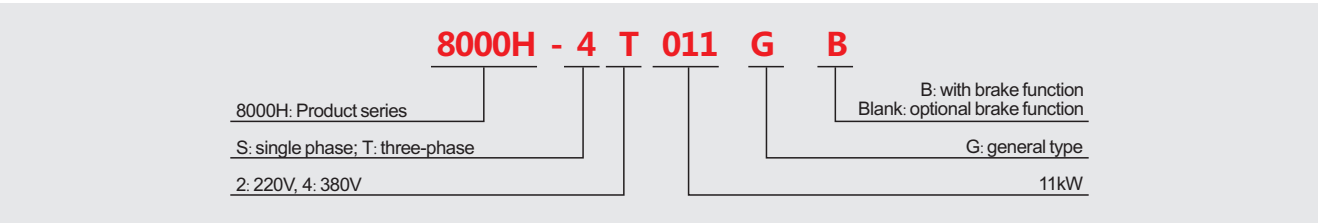
- Multi-function panel, definable user parameters
- Optimized PID control with pulse feedback and two sections of PID parameters
- Adds functions to input/output functions such as virtual terminals, analog channel used for digital input
- Rotational speed tracking and restart, faster
- AI curve setting, selection and correction
- PID inversion intercept; AI can be expanded to DI function; parameter backup



■ Datasheet

Control characteristic	Control mode	Open loop vector control, (SVC); V/F control
	Starting torque	G model: 0.5Hz 150% (SVC); P model: 0.5Hz/100%
	Speed adjustable range	1:100 (SVC)
	Speed-holding precision	± 0.5% (SVC)
	Overload capability	G type: 150% rated current for 60s; 180% rated current for 1s; P type: 120% rated current for 60s; 150% rated current for 1s
	V/F separation	Linear, multipoint type, N power V/F curve(1.2nd, 1.4th, 1.6th, 1.8th, 2nd power )
	DC braking	2 modes: total separation and semi-separation
	Inching control	braking time:0.0-36.0s, braking current: 0-100.0%
	Acceleration and deceleration curve	Inching frequency range: 0.00-50.0Hz; inching acceleration and deceleration time range: 0.0-6500S
	Torque limit	linear or S curve mode; 4 kinds of acceleration /deceleration time; acceleration and deceleration time range: 0.1-6500S
Input/output	Torque compensation	Automatic limit to torque at running to prevent tripping caused by frequent overcurrent
	Start frequency	Manual:0.1-30.0%; automatic:0.0
	Input voltage	0.50~10Hz
	Input frequency	220V/380V±15%
	Input frequency resolution	50/60Hz, fluctuation range: ±5%
	Output voltage	Digital setting: 0.01Hz; analog setting: max frequency×0.025%
	Common DC bus	0-rated input voltage
	carrier frequency	Multiple drives can share DC bus
	Output frequency	0.5kHz~16kHz, carrier frequency can be adjusted automatically according to load characteristic
	V/F curve	SVC: 0-300Hz; V/F: 0-650Hz
peripheral interface	Programmable input	5 digital input terminals, one of which can serve as high pulse input up to 100kHz. Input terminals can be expanded to 10. Compatible with active PNP or NPN input mode two analog input terminals, of which one can only serve as voltage input and the other can serve as voltage or current input(1 voltage input terminal can be expanded)
	Programmable output	1 high pulse output terminal(can be open collector mode), 0kHz~100kHz square signal output to realize set frequency and output frequency output;1 digital output terminal(can be expanded to 2); 1 relay output terminal (can be expanded to 2)
	Serial communication port	1: RS-485 half-duplex, 2: standard Modbus protocol, 3: CAN-LINK, Profibus-DP
Basic function	Command running channel	3 kinds: set by operation panel, external terminals and serial communication port, switchable by many ways
	Main frequency source	10 kinds: digital setting, analog voltage setting, analog current setting, pulse setting, serial communication setting etc. switchable by many ways
	Auxiliary frequency source	10 kinds, capable of frequency synthesis and frequency trimming
	Simple PLC	PLC running mode can be defined.
	Multi-speed control	16 sections of different speed can be chosen by external digital input terminals
	Integrated PID	For the convenience to realize closed-loop control with two groups of PID parameters, enhanced control such as integral pause
	AVR	When grid voltage changes, it keeps output voltage constant automatically. By default, it doesn't work at deceleration.
	Rapid current limiting	Minimize overcurrent fault to protect the AC drive
	Automatic energy saving	Decrease output voltage at light load automatically to save energy.
	Stall control	Automatically limit current and voltage at running period to prevent tripping caused by frequent overcurrent/over voltage.
	Pendulous frequency in textile	Multiple triangular wave frequency control function, mainly used in traversing and winding situations
	Frequency hopping	Two configurable frequency hopping points and hopping frequency range to avoid motor resonance frequency point
Industrial application	Droop control	Mainly used in the case that multiple motors drive the same load where balanced load is needed
	Timing control	Time range: 0~65535h
	Metering control	Automatically calculate and save meters of products according to set base when driving the motor
Display and panel operation	LED display	To display parameters
	LCD display	Optional, hints operation content in Chinese
	Parameter copy	To realize rapid copy of parameters by LCD operation panel
	Password setting	5-bit password can be set with non-zero numbers. Exit password setting interface and the password will be valid after 1 minute.
	key lock and function choice	Lock part or whole of keys; Define action range of partial keys in case of misoperation.
	QUICK key	Three parameter modes: basic parameter mode, customized parameter mode, parameter modification mode
Protection	MFK key	Programmable key: command channel switch, positive negative rotation, inching running options
	Protection	Over current protection, over voltage protection, input/output phase loss protection, undervoltage protection, overheating protection, over load protection etc.
	Power on self-checking of peripherals	Safety inspection of peripheral equipment at power on such as grounding and short circuit
Application environment	Operation place	Indoor without direct sunlight, corrosive gas, dust, inflammable gas, oil mist, steam, drip or salt
	Altitude	Lower than 1000m, service in derated capacity above 1000m. Derate 1% capacity every 100m increase in height.
	Environmental temperature	-10℃~+40℃, service in derated capacity for 40℃~+50℃. Derate 4% capacity every 1℃ increase in temperature.
	Humidity	≤95%RH, no water condensation
	Vibration	<5.9m/S2(0.6G)
	Storage temperature	-40℃~+70℃

■ Model number description

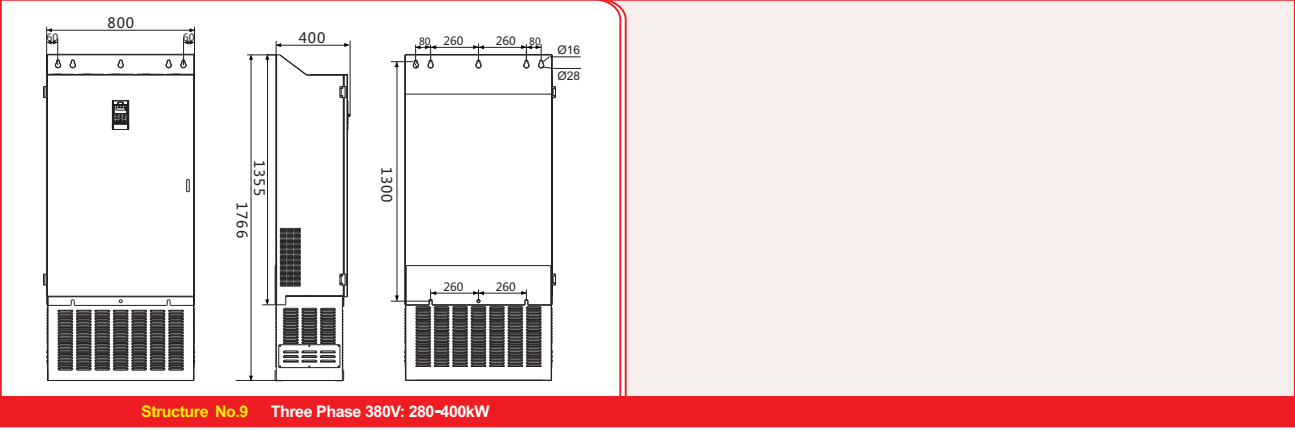
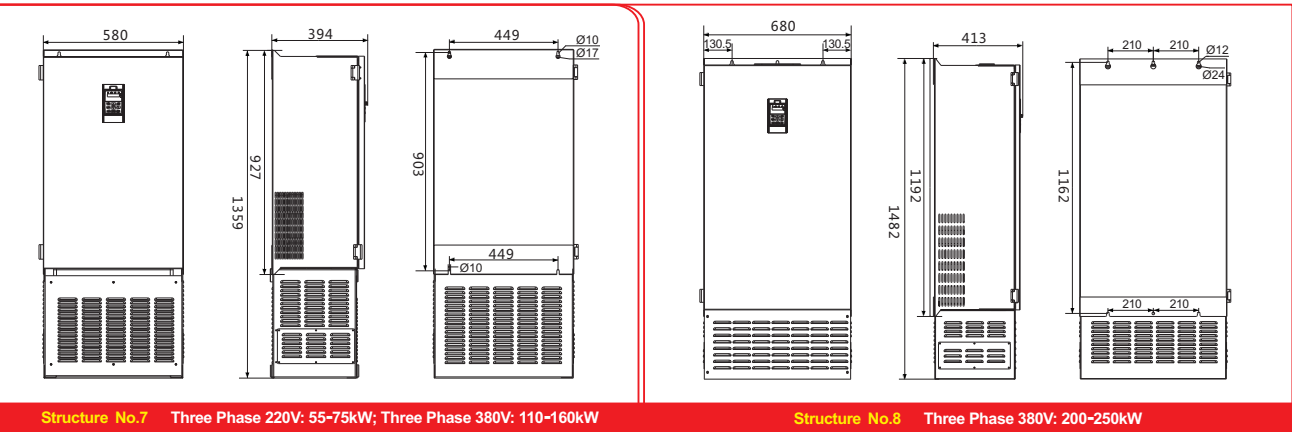
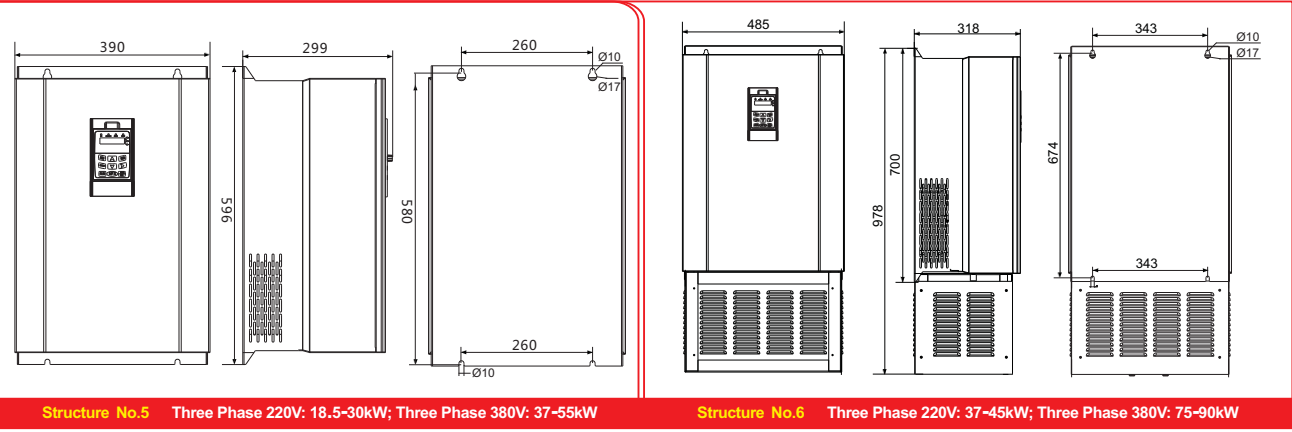
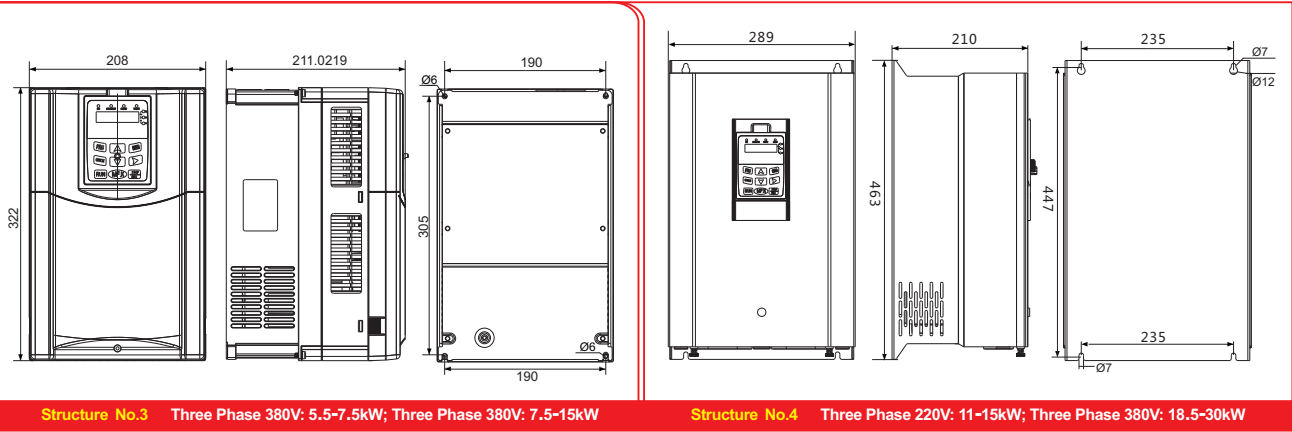
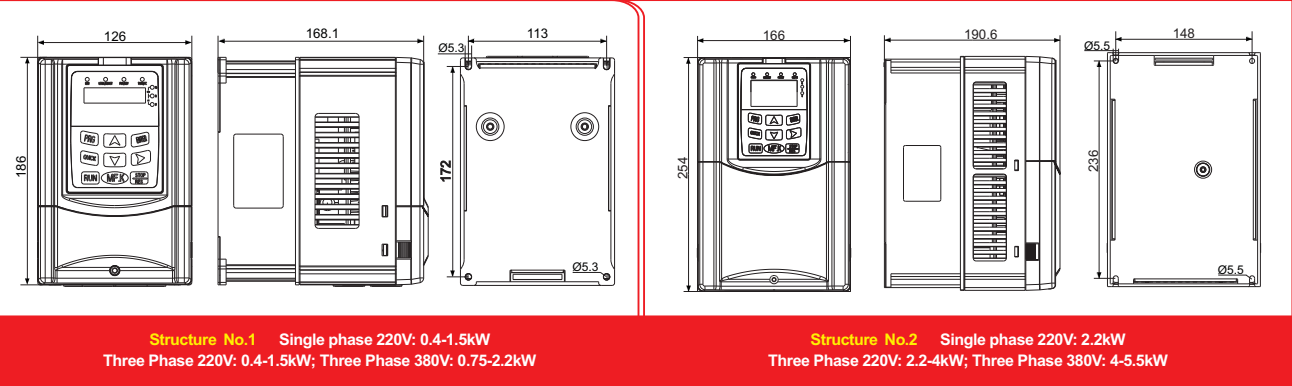


■ Specification and selection guide

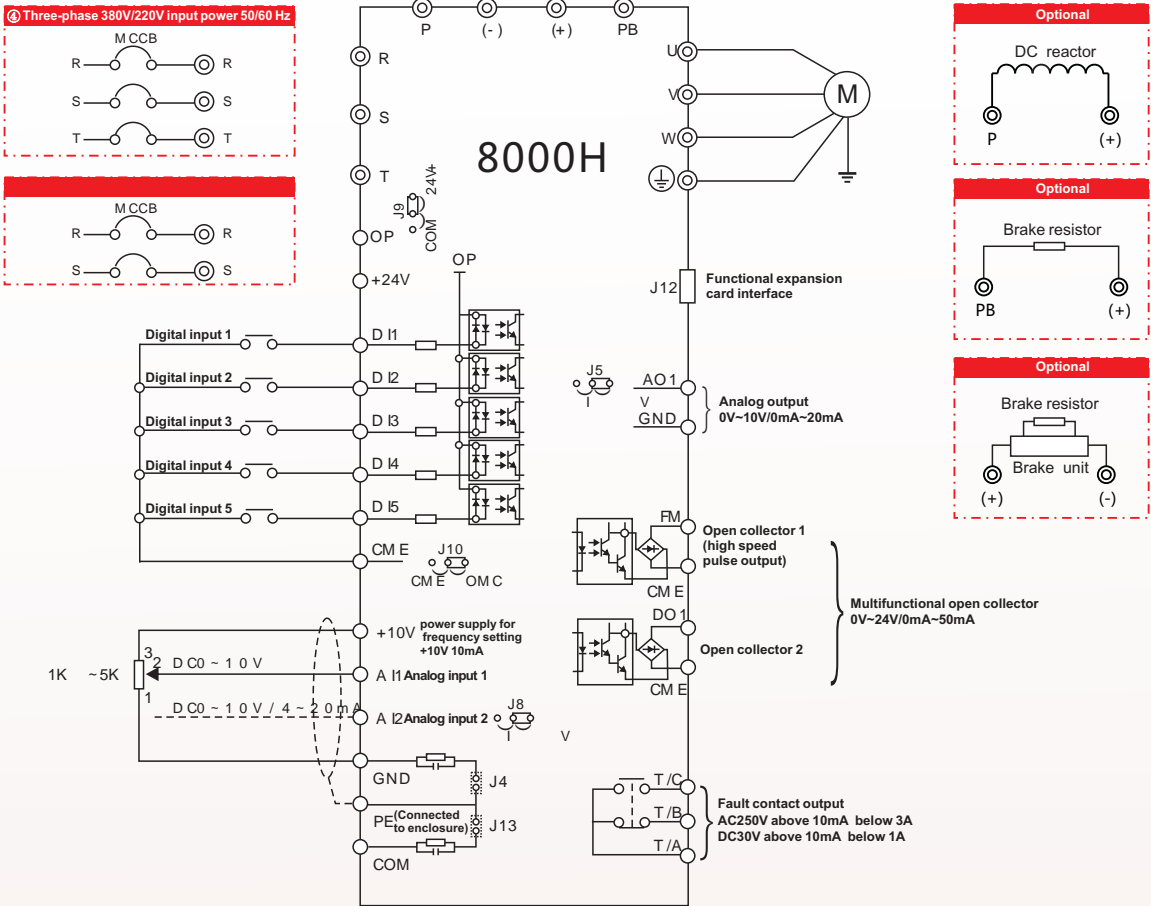
Voltage grade	Power		Rated input current(A)	Rated output current(A)	Structure No.	Series No.	H: high performance		2 : 220V 4 : 380V	S:single phase T: three-phase	Adaptive motor power	G: general type	B: integrated with brake function Blank: optional brake function
	kW	HP											
Single phase 220VAC ±15%	0.4	0.5	5.4	2.3	1	8000	H	-	2	S	R4	G	B
	0.75	1	8.2	4	1	8000	H	-	2	S	R75	G	B
	1.5	2	14	7	1	8000	H	-	2	S	1R5	G	B
	2.2	3	23	9.6	2	8000	H	-	2	S	2R2	G	B
Three phase 220VAC ±15%	0.4	0.5	3.4	2.1	1	8000	H	-	2	T	R4	G	B
	0.75	1	5	3.8	1	8000	H	-	2	T	R75	G	B
	1.5	1.5	7.8	7	1	8000	H	-	2	T	1R5	G	B
	2.2	3	10.5	9	2	8000	H	-	2	T	2R2	G	B
	4	5	14.6	13	2	8000	H	-	2	T	4	G	B
	5.5	7.5	26	25	3	8000	H	-	2	T	5R5	G	B
	7.5	10	35	32	3	8000	H	-	2	T	7R5	G	B
	11	15	46.5	45	4	8000	H	-	2	T	11	G	
	15	20	62	60	4	8000	H	-	2	T	15	G	
	18.5	25	76	75	5	8000	H	-	2	T	18R5	G	
	22	30	92	91	5	8000	H	-	2	T	22	G	
	30	40	113	112	5	8000	H	-	2	T	30	G	
	37	50	157	150	6	8000	H	-	2	T	37	G	
	45	60	180	176	6	8000	H	-	2	T	45	G	
	55	70	214	210	7	8000	H	-	2	T	55	G	
	75	100	307	304	7	8000	H	-	2	T	75	G	
Three phase 380VAC ±15%	0.75	1	3.4	2.1	1	8000	H	-	4	T	0.75	G	B
	1.5	2	5	3.8	1	8000	H	-	4	T	1.5	G	B
	2.2	3	5.8	5.1	1	8000	H	-	4	T	2.2	G	B
	4	5	10.5	9	2	8000	H	-	4	T	4	G	B
	5.5	7.5	14.6	13	2	8000	H	-	4	T	5.5	G	B
	7.5	10	20.5	17	3	8000	H	-	4	T	7.5	G	B
	11	15	26	25	3	8000	H	-	4	T	11	G	B
	15	20	35	32	3	8000	H	-	4	T	15	G	B
	18.5	25	38.5	37	4	8000	H	-	4	T	18.5	G	
	22	30	46.5	45	4	8000	H	-	4	T	22	G	
	30	40	62	60	4	8000	H	-	4	T	30	G	
	37	50	76	75	5	8000	H	-	4	T	37	G	
	45	60	92	91	5	8000	H	-	4	T	45	G	
	55	70	113	112	5	8000	H	-	4	T	55	G	
	75	100	157	150	6	8000	H	-	4	T	75	G	
	90	125	180	176	6	8000	H	-	4	T	90	G	
	110	150	214	210	7	8000	H	-	4	T	110	G	
	132	175	256	253	7	8000	H	-	4	T	132	G	
	160	210	307	304	7	8000	H	-	4	T	160	G	
	200	260	380	377	8	8000	H	-	4	T	200	G	
	220	300	430	426	8	8000	H	-	4	T	220	G	
	250	350	468	465	8	8000	H	-	4	T	250	G	
	280	370	525	520	9	8000	H	-	4	T	280	G	
	315	420	590	585	9	8000	H	-	4	T	315	G	
	355	470	665	650	9	8000	H	-	4	T	355	G	
	400	530	785	725	9	8000	H	-	4	T	400	G	



■ Dimensions(mm)



■ Wiring diagram



- Note:
1. "⊙" refers to main circuit terminals; "○" refers to control circuit terminals.
  2. Single phase 220V 0.4kW-2.2kW is connected to ②⑤
  3. Three-phase 220V 0.4kW-7.5kW; Three-phase 380V 0.75kW-15kW is connected to ②④
  4. Three-phase 220V 11kW-45kW; Three-phase 380V 18.5kW-90kW is connected to ③④
  5. Three-phase 220V 55kW-75kW; Three-phase 380V 110kW-400kW is connected to ①③④



# 8000H Industry Applications



## Large inertia braking

**Typical equipment:** game machine, industrial washing machine  
**Requirements:** high overload capability, gentle start, high precision of steady speed  
**8000H features:** high start torque, stall protection, high overload capability, wide voltage range



## Fluid machinery

**Typical equipment:** draught fan, pump, air compressor  
**Requirements:** variable torque load, energy saving control, steady output  
**8000H features:** automatic energy saving operation, high precision process PID adjustment, torque tracking restart



## Tension machinery

**Typical equipment:** dividing and cutting machine, coiler  
**Requirements:** high precision of steady speed, high speed response  
**8000H features:** torque control mode, low speed high torque output, high precision process PID adjustment



## Extrusion machinery

**Typical equipment:** plastic extruder  
**Requirements:** wide speed regulation range, steady torque, low speed fluctuation  
**8000H features:** low speed high torque, quick dynamic response, automatic voltage regulation

## Lifting machinery

**Typical equipment:** mine hoist, bridge crane  
**Requirements:** steady running speed, great output torque  
**8000H features:** great start torque, strong overload capability, various function expansion cards



## metal cutting and forming machinery

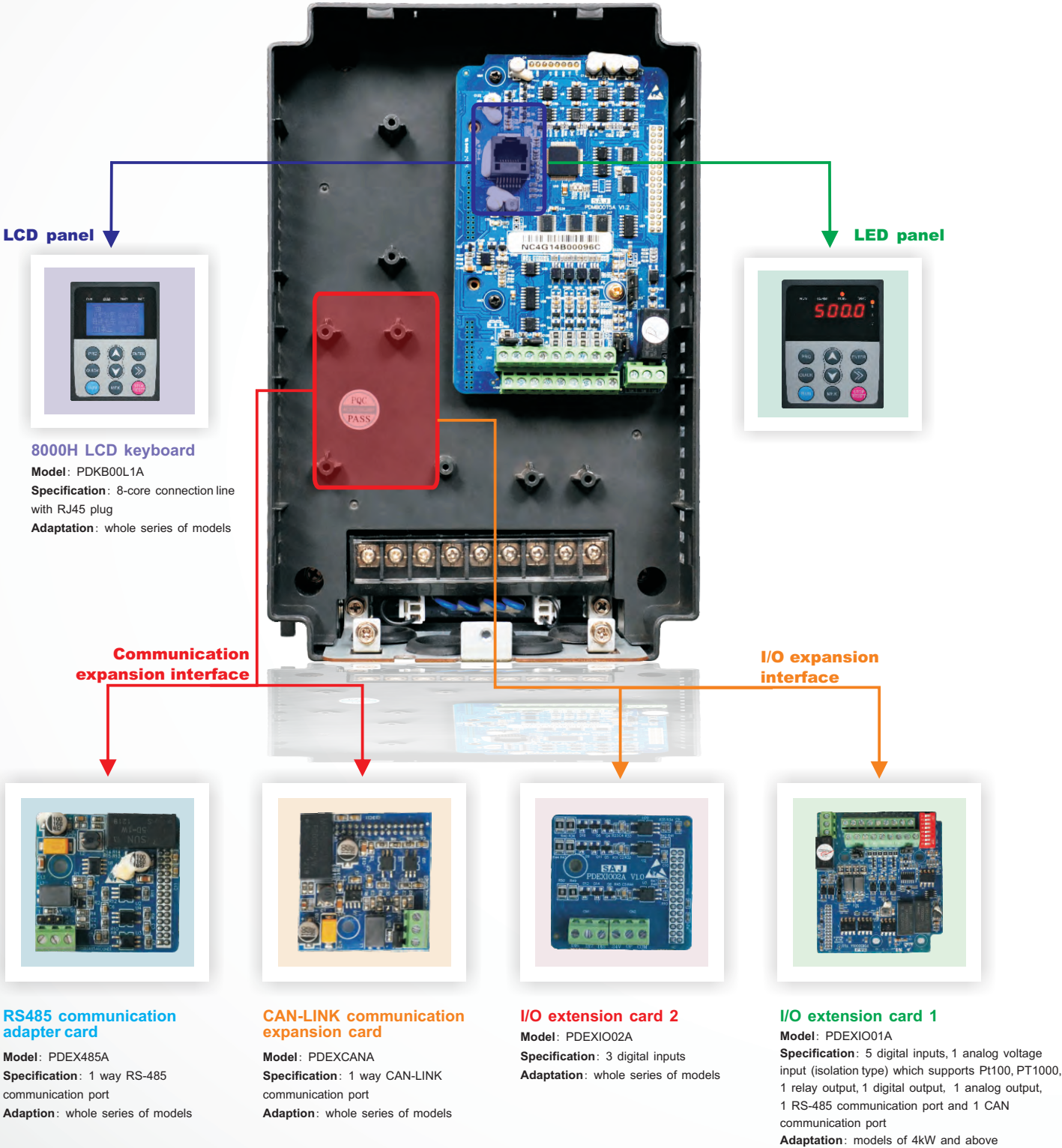
**Typical equipment:** metal forming machine, numerical control machine  
**Requirements:** processing torque holding, quick response to impact load  
**8000H features:** high start torque, quick frequency response, steady output speed

8000H industry applications  
Drive&zero-carbon energy-saving innovator



# 8000H Special Fittings

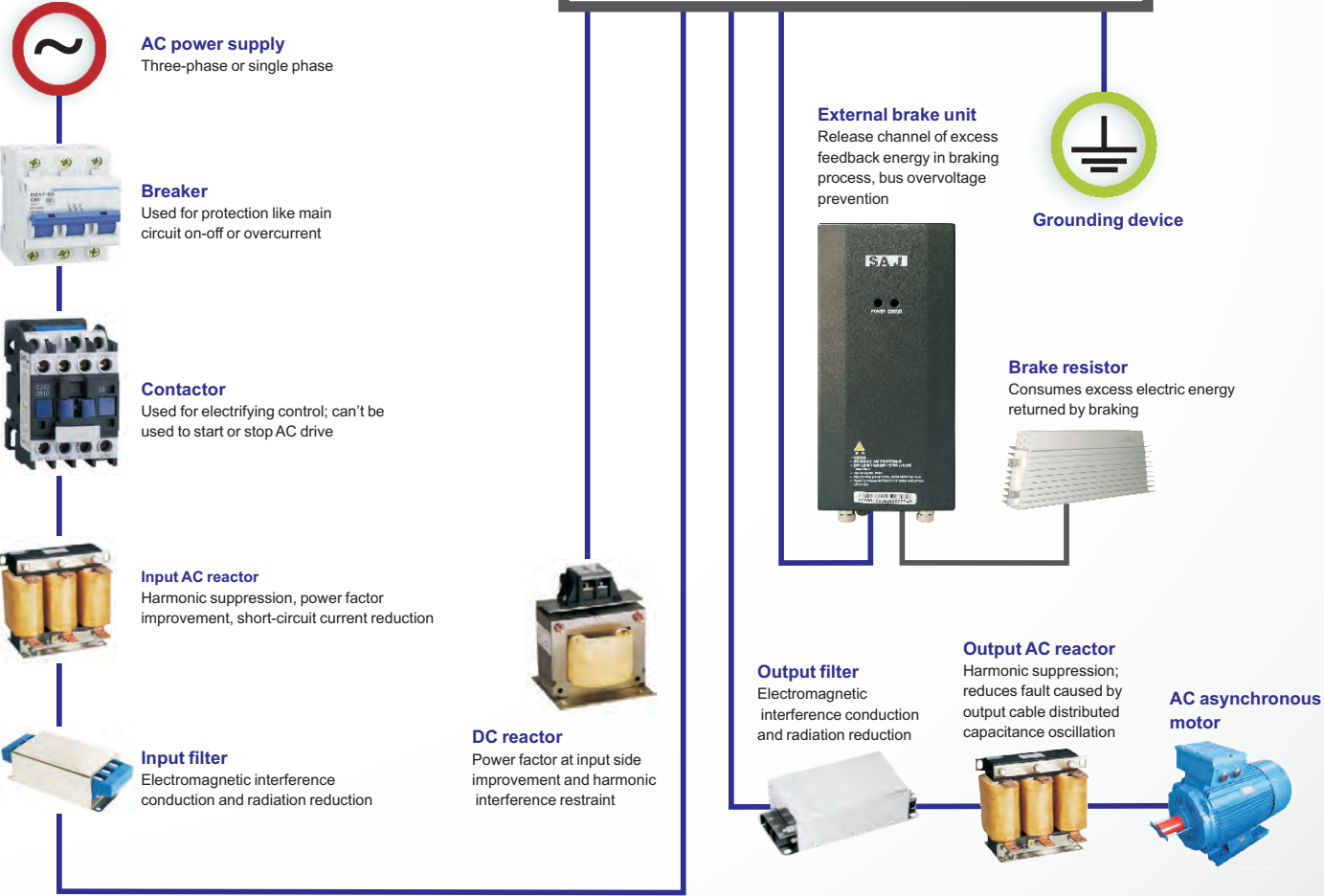
Various function **expansion** cards and keyboards are available for 8000H.  
It is suitable for a broader **range** of applications.



# General Accessories for AC Drive

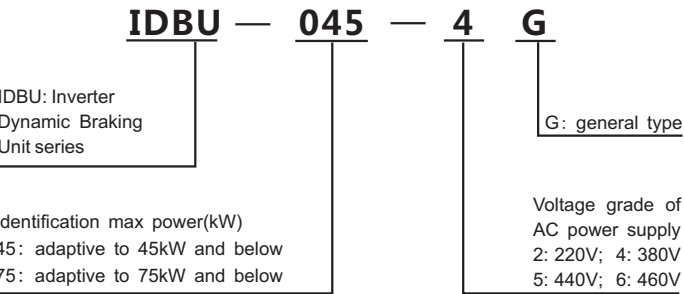
## Peripheral equipment and selection guide

- 1. External brake unit**  
Select according to voltage grade and braking power. For more details, please refer to instruction of AC drive and braking unit.
- 2. Brake resistor**  
Select according to braking power, load inertia, braking frequency, deceleration time. For more details, please refer to instruction of AC drive.
- 3. Input/output AC reactor**  
Select according to frequency and current of AC drive. For more details, please refer to instruction of AC drive.
- 4. DC reactor**  
Select according to frequency and current of AC drive. For more details, please refer to instruction of AC drive.
- 5. Contactor and air switch:** please refer to instruction of AC drive.
- 6. Cable:** please refer to instruction of AC drive.

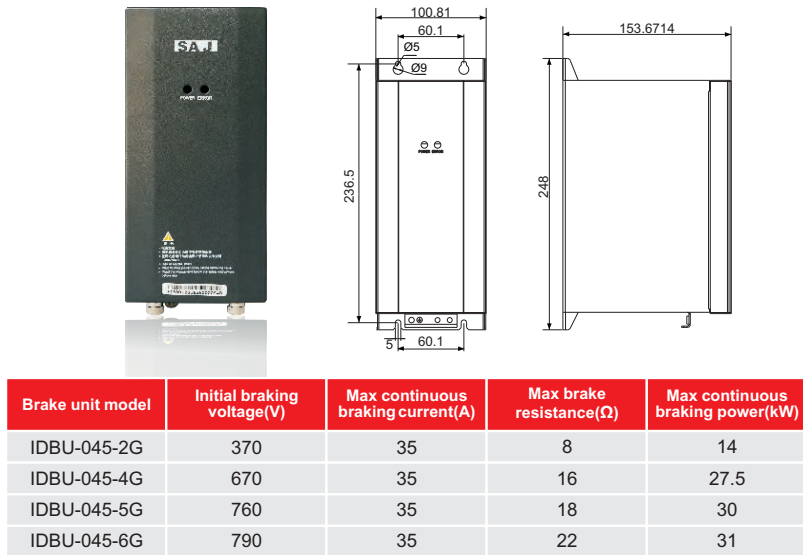




IDBU series brake unit



Dimensions

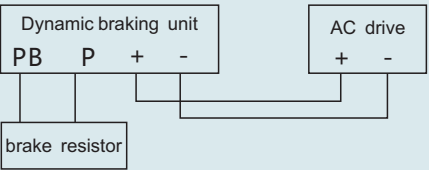


IDBU-045-xG specification table

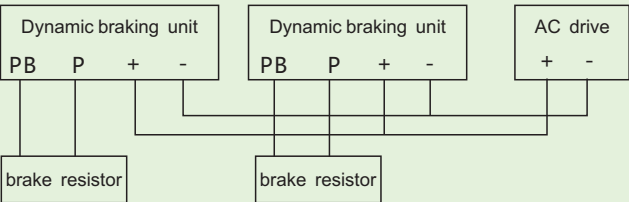
Brake unit model	Initial braking voltage(V)	Max continuous braking current(A)	Max brake resistance(Ω)	Max continuous braking power(kW)
IDBU-075-2G	370	70	4	55
IDBU-075-4G	670	70	8	60
IDBU-075-5G	760	70	9	62
IDBU-075-6G	790	70	11	

IDBU-075-xG specification table

Wiring of single dynamic braking unit



Wiring of multiple dynamic braking units



Input AC reactor

**Technical data**

- System voltage: 380V-1140V
- Rated working frequency: 50/60Hz
- Rated working current: 5A-3000A
- Voltage drop: 2%-4%
- Strength: iron core-winding: 3000VAC/50Hz/ 10mA/10s without flashover breakdown
- Insulation resistance: iron core-winding 1000VDC, insulation resistance ≧ 100MΩ
- Reactor noise is less than 65dB(tested with 1 meter far away from horizontal point of reactor)
- Overload capability: 1. 5 times for 1min, 2 times for 10s
- Saturation characteristics: no less than 80% for 1. 5 times of inductance
- IP grade: IP00
- Storage condition: temperature 40°C-70°C
- Working temperature: 30°C-55°C, derate above 50°C
- Altitude: rated current for 1000m below, derate 1% each 100 meters high for above 1000 meters
- Product standard: IEC289: 1987 reactor GB 10946-2011 reactor JB/T 9644-1999 reactor for semi-conductor electric drive

Output AC reactor

**Technical data**

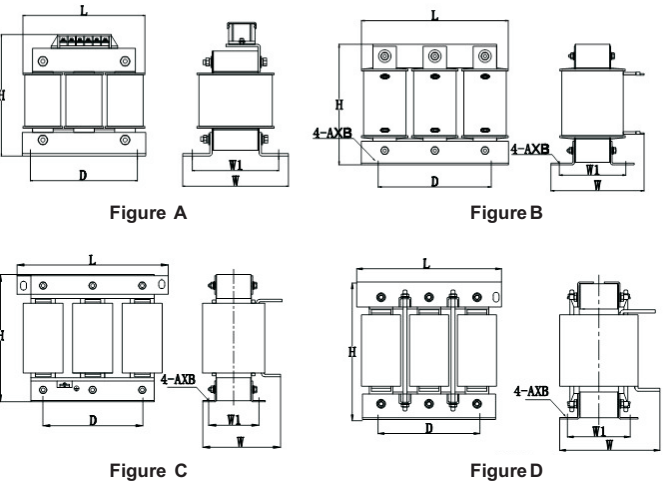
- System voltage: 380V-1140V
- Rated working frequency: 50/60Hz
- Rated working current: 5A-3000A
- Voltage drop: 2%-4%
- Strength: iron core-winding 3000VAC/50Hz/ 10mA/10S without flashover breakdown
- Insulation resistance: iron core-winding 1000VDC, insulation resistance ≧ 100MΩ
- Reactor noise is less than 75dB(tested with 1 meter far away from horizontal point of reactor)
- Overload capability: 1. 5 times for 1min, 2 times for 10s
- Saturation characteristics: no less than 90% for 2 times of inductance
- IP grade: IP00
- Storage condition: temperature 40°C-70°C
- Working temperature: 30°C-55°C, derate above 50°C
- Altitude: rated current for 1000m below, derate 1% each 100 meters high for above 1000 meters
- Product standard: IEC289: 1987 reactor GB 10946-2011 reactor JB/T 9644-1999 reactor for semi-conductor electric drive

DC reactor

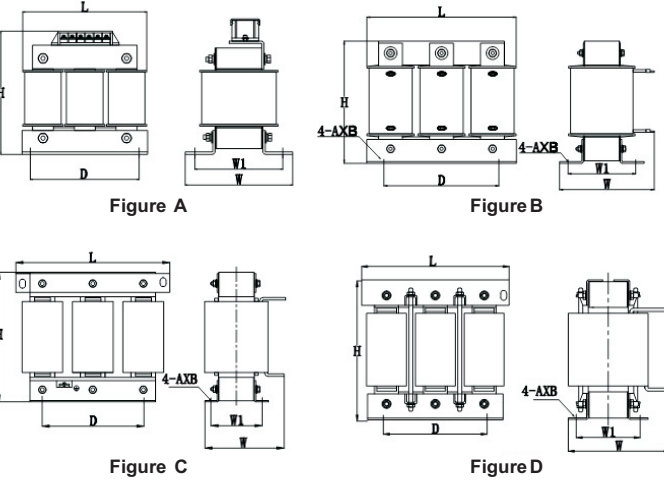
**Technical data**

- System voltage: 380V-1140V
- Rated working frequency: 50/60Hz
- Rated working current: 5A-3000A
- Voltage drop: 2%-4%
- Strength: iron core-winding 3000VAC/50Hz/ 10mA/10S without flashover breakdown
- Insulation resistance: iron core-winding 1000VDC, insulation resistance ≧ 100MΩ
- Reactor noise is less than 65dB(tested with 1 meter far away from horizontal point of reactor)
- Overload capability: 1. 5 times for 1min, 2 times for 10s
- Saturation characteristics: no less than 90% for 1. 5 times of inductance
- IP grade: IP00
- Storage condition: temperature 40°C-70°C
- Working temperature: 30°C-55°C, derate above 50°C
- Altitude: rated current for 1000m below, derate 1% each 100 meters high for above 1000 meters
- Product standard: IEC289: 1987 reactor GB 10946-2011 reactor JB/T 9644-1999 reactor for semi-conductor electric drive

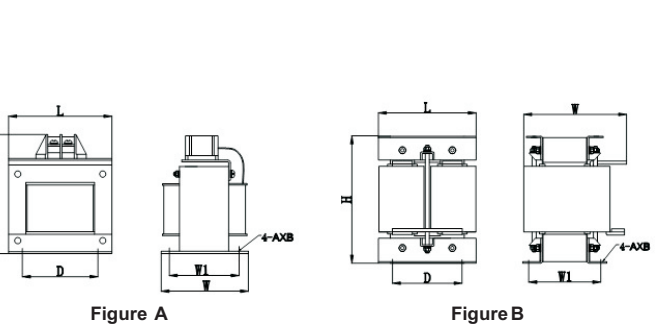
Dimensions



Dimensions



Dimensions



Selection guide

Reactor model	Power (kW)	Figure No.	Rated current(A)	Pressure drop	Insulation grade	Dimensions(± 2mm)					
						L	D	W	W1	H	A*B
ACL-0020-0700-0380	7.5	A	20A	2%	F、H	155	95	100	80	165	6*15
ACL-0030-0470-0380	11	B	30A	2%	F、H	190	120	110	85	150	8.5*20
ACL-0040-0350-0380	15		40A	2%	F、H	195	120	110	82	165	8.5*20
ACL-0050-0280-0380	18.5		50A	2%	F、H	195	120	130	102	165	8.5*20
ACL-0060-0240-0380	22		60A	2%	F、H	195	120	135	107	165	8.5*20
ACL-0080-0170-0380	30		80A	2%	F、H	195	120	135	107	165	8.5*20
ACL-0090-0160-0380	37		90A	2%	F、H	195	120	135	107	165	8.5*20
ACL-0120-0120-0380	45	C	120A	2%	F、H	250	182	135	96	230	11*18
ACL-0150-0095-0380	55		150A	2%	F、H	295	214	150	110	240	11*18
ACL-0200-0070-0380	75		200A	2%	F、H	295	214	160	120	240	11*18
ACL-0250-0056-0380	110		250A	2%	F、H	295	214	160	120	240	11*18
ACL-0290-0048-0380	132		290A	2%	F、H	325	243	165	122	270	12*20
ACL-0330-0042-0380	160		330A	2%	F、H	325	243	165	122	270	12*20
ACL-0390-0036-0380	185		400A	2%	F、H	325	243	180	137	270	12*20
ACL-0490-0028-0380	220		490A	2%	F、H	385	260	200	175	350	12*20
ACL-0660-0021-0380	300		660A	2%	F、H	395	275	200	175	350	12*20
ACL-0800-0017-0380	380		800A	2%	F、H	430	295	215	190	400	12*20
ACL-1000-0014-0380	450	D	1000A	2%	F、H	430	295	215	190	450	12*20
ACL-1250-0011-0380	550		1250A	2%	F、H	490	345	225	195	575	14*25
ACL-1600-0009-0380	630		1600A	2%	F、H	540	395	225	195	575	14*25

Selection guide

Reactor model	Power (kW)	Figure No.	Rated current(A)	Pressure drop	Insulation grade	Dimensions(± 2mm)					
						L	D	W	W1	H	A*B
OCL-0020-0350-0380	7.5	A	20A	1%	F、H	155	95	76	61	155	6*15
OCL-0030-0230-0380	11	B	30A	1%	F、H	195	120	110	85	165	8.5*20
OCL-0040-0180-0380	15		40A	1%	F、H	195	120	110	85	165	8.5*20
OCL-0050-0140-0380	18.5		50A	1%	F、H	195	120	130	102	165	8.5*20
OCL-0060-0120-0380	22		60A	1%	F、H	195	120	130	102	165	8.5*20
OCL-0080-0087-0380	30		80A	1%	F、H	195	120	130	102	165	8.5*20
OCL-0090-0078-0380	37		90A	1%	F、H	195	120	130	102	165	8.5*20
OCL-0120-0058-0380	45	C	120A	1%	F、H	250	182	135	96	230	11*18
OCL-0150-0047-0380	55		150A	1%	F、H	295	214	140	100	240	11*18
OCL-0200-0035-0380	75		200A	1%	F、H	295	214	140	100	240	11*18
OCL-0250-0028-0380	110		250A	1%	F、H	295	214	140	100	245	11*18
OCL-0290-0024-0380	132		290A	1%	F、H	325	243	155	112	270	12*20
OCL-0330-0021-0380	160		330A	1%	F、H	325	243	155	112	270	12*20
OCL-0390-0018-0380	185		400A	1%	F、H	325	243	165	122	270	12*20
OCL-0490-0014-0380	220		490A	1%	F、H	385	260	200	175	350	12*20
OCL-0660-0011-0380	300		660A	1%	F、H	385	260	200	175	350	12*20
OCL-0800-0009-0380	380		800A	1%	F、H	430	295	215	190	400	12*20
OCL-1000-0007-0380	450	D	1000A	1%	F、H	430	295	215	190	450	12*20
OCL-1250-0006-0380	550		1250A	1%	F、H	490	345	225	195	575	14*25
OCL-1600-0005-0380	630		1600A	1%	F、H	490	345	225	195	575	14*25

Selection guide

Reactor model	Power (kW)	Figure No.	Rated current(A)	Pressure drop	Insulation grade	Dimensions(± 2mm)					
						L	D	W	W1	H	A*B
DCL-0023-3600-0380	5.5	A	23A	3.6	F、H	105	87	100	70	140	8.4*13
DCL-0023-3600-0380	7.5		23A	3.6	F、H	105	87	100	70	140	8.4*13
DCL-0033-2000-0380	11		33A	2	F、H	105	87	100	70	140	8.4*13
DCL-0033-2000-0380	15		33A	2	F、H	105	87	100	70	140	8.4*13
DCL-0040-1300-0380	18.5		40A	1.3	F、H	105	87	100	70	140	8.4*13
DCL-0050-1080-0380	22		50A	1.08	F、H	105	87	100	85	140	8.4*13
DCL-0065-0800-0380	30		65A	0.8	F、H	114	95	180	156	170	8.4*13
DCL-0078-0700-0380	37		78A	0.7	F、H	114	95	180	156	170	8.4*13
DCL-0095-0540-0380	45		95A	0.54	F、H	114	95	180	156	170	8.4*13
DCL-0115-0450-0380	55		115A	0.45	F、H	114	95	180	156	170	8.4*13
DCL-0160-0360-0380	75	B	160A	0.36	F、H	160	100	130	98	215	9*18
DCL-0180-0330-0380	90		180A	0.33	F、H	160	100	130	98	215	9*18
DCL-0250-0260-0380	110		250A	0.26	F、H	200	176	150	115	255	11*18
DCL-0250-0260-0380	132		250A	0.26	F、H	200	176	150	115	255	11*18
DCL-0340-0170-0380	160		340A	0.17	F、H	200	176	150	115	255	11*18
DCL-0460-0090-0380	220		460A	0.09	F、H	215	191	150	115	280	11*18
DCL-0650-0072-0380	300		650A	0.072	F、H	230	206	160	125	280	11*18