

Product description

Series HSV-180AS AC spindle motor drive is a new generation of full digital AC servo spindle drive developed by HNC Electric Limited. This product features high performance, compact structure, easy-to-use operation, and high reliability. Series HSV-180AS AC spindle motor drive adopts the latest technologies such as special motion control digital signal processor(DSP), and intelligent power module (IPM), and achieves the closed-loop servo control of spindle motor. It has various specifications such as 035、050、075、100、150、200、300、450A and different ranges of power options. Users can configure various types of spindle drive motor and AC spindle motor to form high reliability and performance AC spindle drive systems.

At a glance

- Easy and flexible operation
- Full display of status
- Various interfaces, and flexible control methods(Pulse/Analog /Feedback interface of encoder/Serial communication/ Programmable I/O)
- Spindle orientation function
- C axis function

Customer benefits

- Can support various control modes for various applications (Position control/ External Speed control/ Internal speed control)
- Support from 3.7kW up to 51kW power range which can meet different machine requirements
- Suitable for CNC machine tools, production machines and other servo related applications as well as supporting 3rd party servo motor by supporting various encoder types.

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www.hncelectric.com/HSV-180AS

For more information, please enter the link or scan the code via mobile devices and get direct access to technical data, manual, application examples and much more.



Specification

Items		Description
Input power	Rated voltage, Range of voltage fluctuation	150A and below specifications: Three-phase AC380V -15%~+10% 50/60Hz 200A and above Specifications:
	Frequency	1.Single phase AC220V control power -15%~+10% 50/60Hz 2.Three-phase AC380V strong power -15%~+10% 50/60Hz
Control modes		Position control, External speed control, JOG control, Internal speed control
Characteristic	Speed frequency response	300Hz or higher
	Speed fluctuation	Lower than 5r/min (load 0%~100%)
	Speed range	1r/min~12000r/min
	Constant power range	1:10000
Position control	Types of pulse command	① Direction + pulse train ②CCW pulse +CW pulse ③Two-phase A / B quadrature pulse
	Form of pulse command	Non-insulated wire drive (about +5V)
	Frequency of pulse command	≤500kHz
Speed control	Types of pulse command	① Direction + pulse train ②CCW pulse +CW pulse ③Two-phase A / B quadrature pulse
	Form of pulse command	Non-insulated wire drive (about +5V)
	Frequency of pulse command	≤500kHz
	Electronic gear ratio	$1 \leq \alpha / \beta \leq 32767$
	Analog command	DC 0~+10V or DC -10V~+10V
	Acceleration and deceleration function	0.1~180seconds
Type of spindle motor encoder		TTL composite incremental photoelectric encoder:1024line, 2048line, 2500 line Sine and cosine incremental encoder: 256line Absolute encoder: ENDAT2.1/2.2 Protocol encoder (EQN1325/EQN1313)
Spindle encoder encoder type		Optical encoder (TTL) Sine and cosine analog signal (1Vpp)
Input and output Signal	Control input	Run enable Alarm clear Forward and reverse running enable Spindle orientation ready Control modes switch Indexing incremental orientation ratio input selection
	Control output	Spindle ready Spindle alarm Spindle orientation-finished Speed-reached Zero-speed reached
Spindle function	Spindle orientation	Accuracy: ±1pulse; Position adjustment: Parameter setting
	Rigid tapping	Tapping deviation: ±2%
	Other function	C-axis control, Thread cutting
Communication function		RS232 use MODBUS protocol
Monitoring function		Speed Flux current Torque current Motor load current Switch-value input status display Switch-value output status display Control mode display

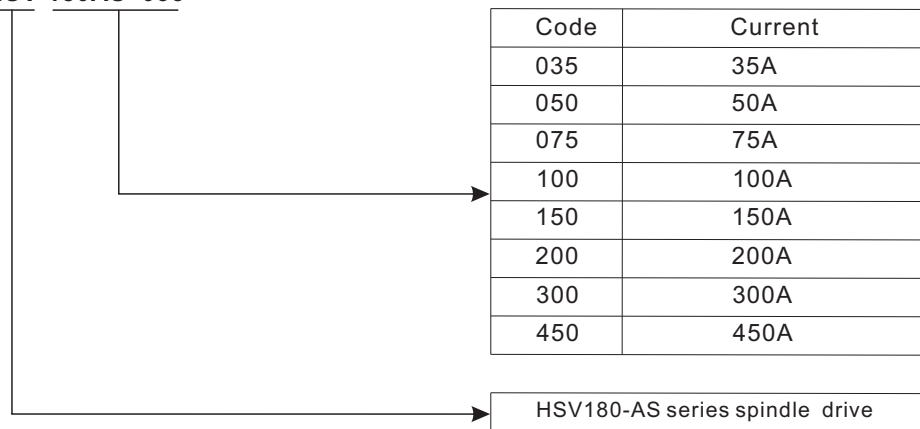
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Items		Description
Protecting function		Provides protection against: Over speed Main power over-voltage and under-voltage Over current Overload Motor over heat Big speed error IPM fault etc
Operation		Six LED digital tubes, two light-emitting diodes(LED), five bottoms
Adaptive motor		2.2kW~51kWAC spindle motor
Use Environment	Use place	Non-corrosive, flammable gas, prevent conductive objects, metal dust, oil mist and liquid from entering inside the drive unit.
	Use Temperature Storage Temperature	Use temperature :0℃~+40℃, More than 40 ℃ shall be derated Storage temperature : -20℃~+60℃
	Use humidity Storage humidity	Below 90% RH, non-condensing.
	Altitude	Below 1000m, Altitude above 1000m shall be derated
	Vibration / impact resistance	Vibration Resistance 4.9m/S², Impact resistance 19.6m/S²

Model Definition

HSV-180AS -035

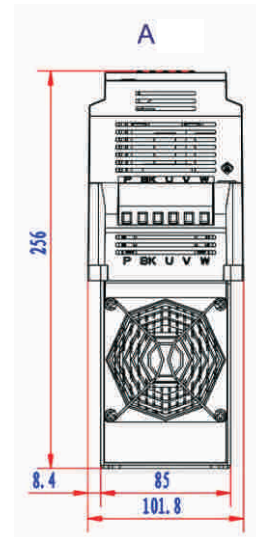
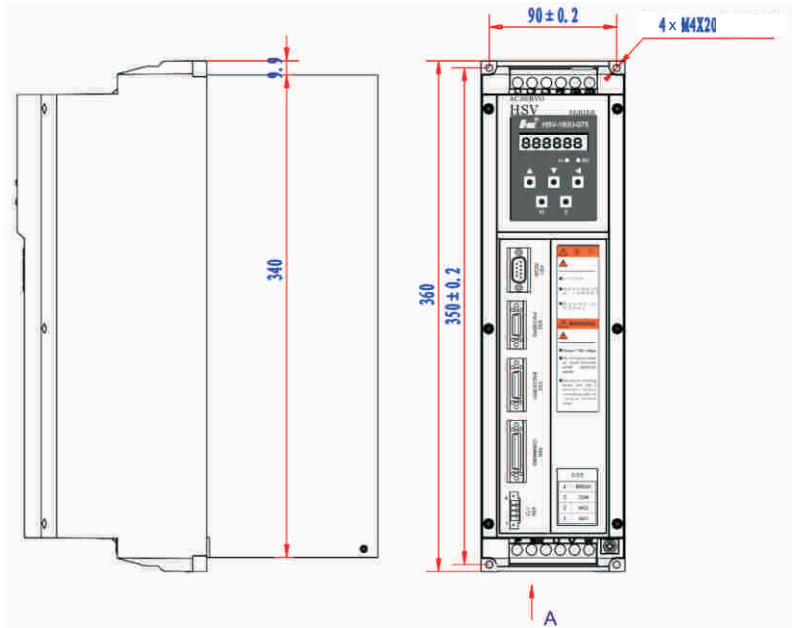


Type	HSV-180AS-035	HSV-180AS-050	HSV-180AS-075	HSV-180AS-100	HSV-180AS-150	HSV-180AS-200	HSV-180AS-300	HSV-180AS-450
Maximum power of applicable Motor (KW)	3.7KW 5.5KW	5.5KW 7.5KW	7.5KW 11KW	11KW 15KW	18.5KW 22KW	30KW 37KW	51KW	75KW
Rated output current (A)	16.8	21.9	31.4	43.8	62.8	85.7	125	170
Short-time Peak Current (A)	22	28	42	56	84	110	168	224
Circuit breaker (A)	25 32	32 40	40 63	63 63	100 100	125 160	200	400
Connector (A)	18 25	25 32	32 40	40 50	63 80	95 115	150	250
Input exchange reactor	Current (A)	10 15	15 20	20 30	30 40	50 60	80 90	150 250
	Inductance (mH)	1.4 0.93	0.93 0.7	0.7 0.47	0.47 0.35	0.28 0.24	0.17 0.16	0.095 0.056
Input filter(A)	10 15	15 20	20 30	40	50 65	100	150	250
Maximum braking resistor (A)	25	25	40		75		100	150
Recommended Braking resistor	Resistor (Ω)	51Ω	51Ω	27Ω	33Ω	27Ω	30Ω	30Ω
	Power (W)	1500W	1500W	2000W	1500W	2000W	2500W	2500W
	Quantity	1	1	1	2	2	3	4
Recommended value of main circuit cable (mm²)	4	4 4	4 10	10 16	16 25		70	120

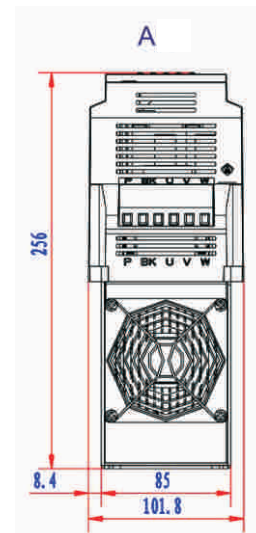
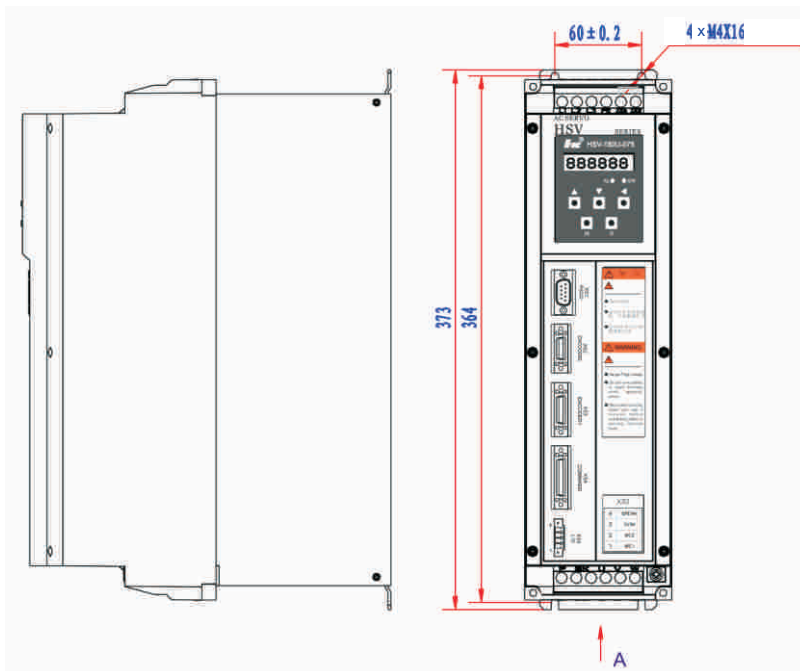


Dimensional Drawing

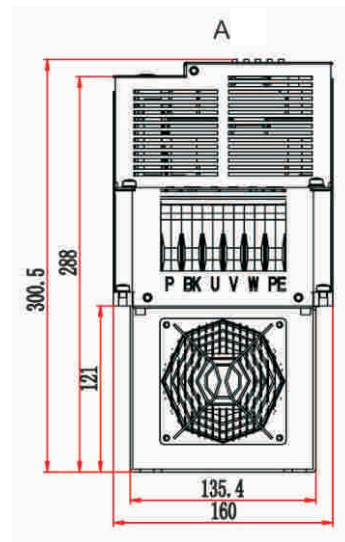
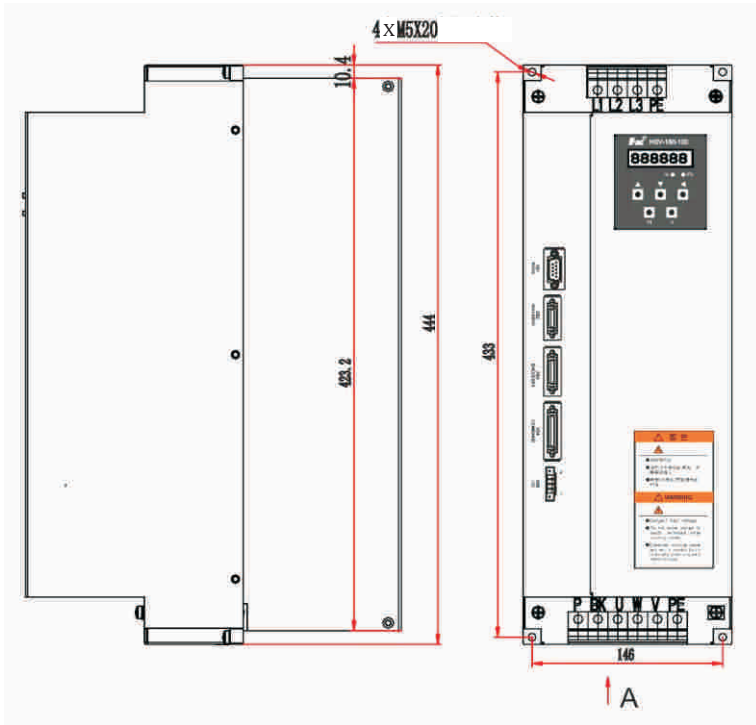
1. HSV-180AS-, 035, 050, 075 (without auxiliary devices Unit: mm)



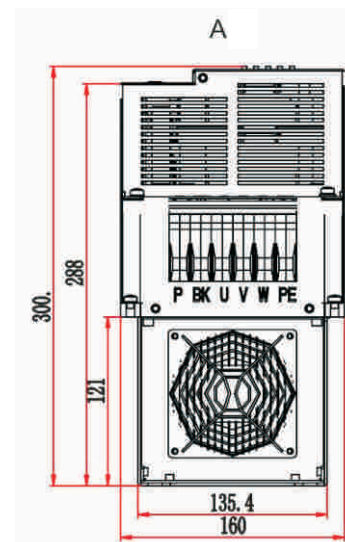
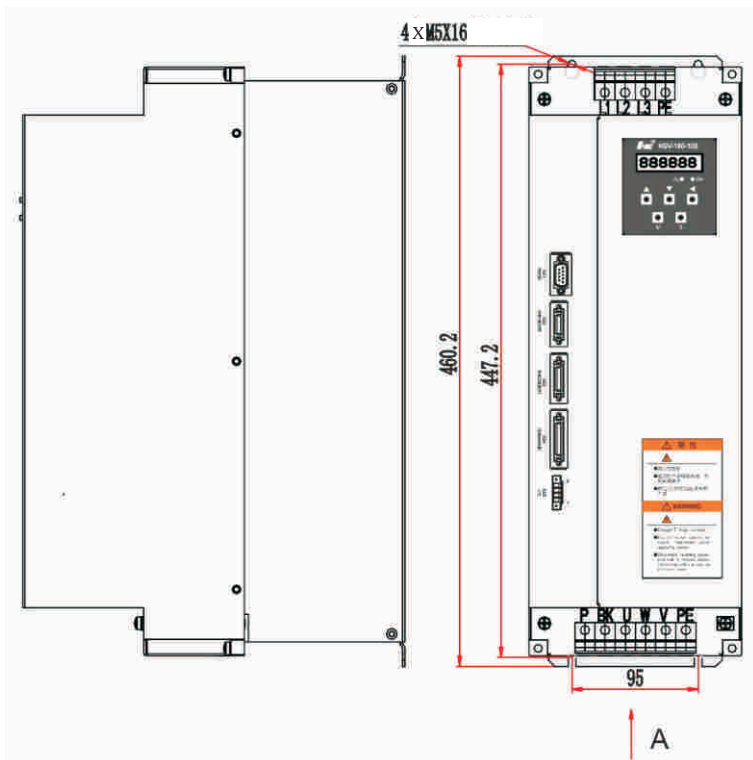
HSV-180AS-025, 035, 050, 075 (with auxiliary devices Unit: mm)



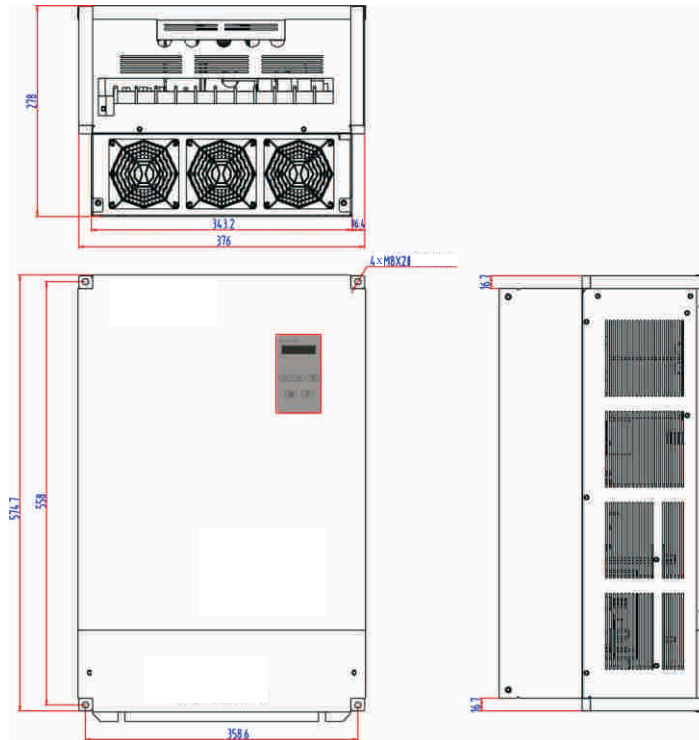
2. HSV-180AS-,100, 150 (without auxiliary devices Unit: mm)



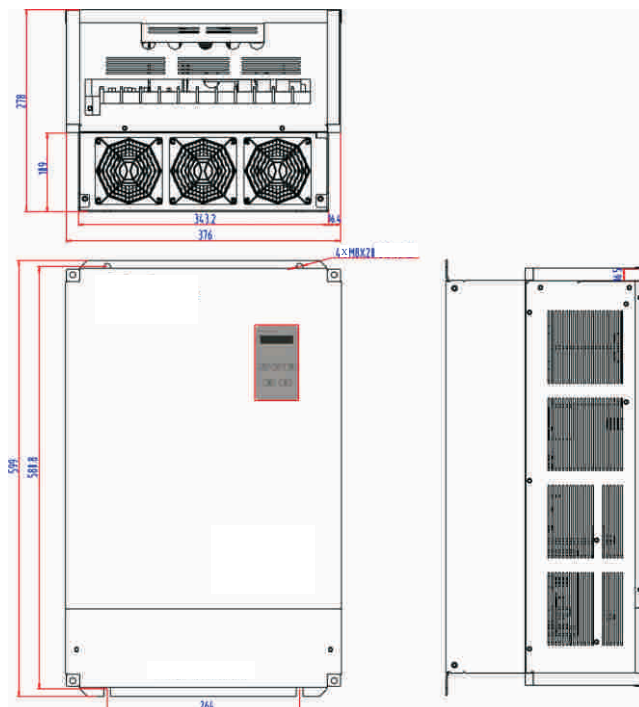
HSV-180AS-100,150 (with auxiliary devices Unit: mm)



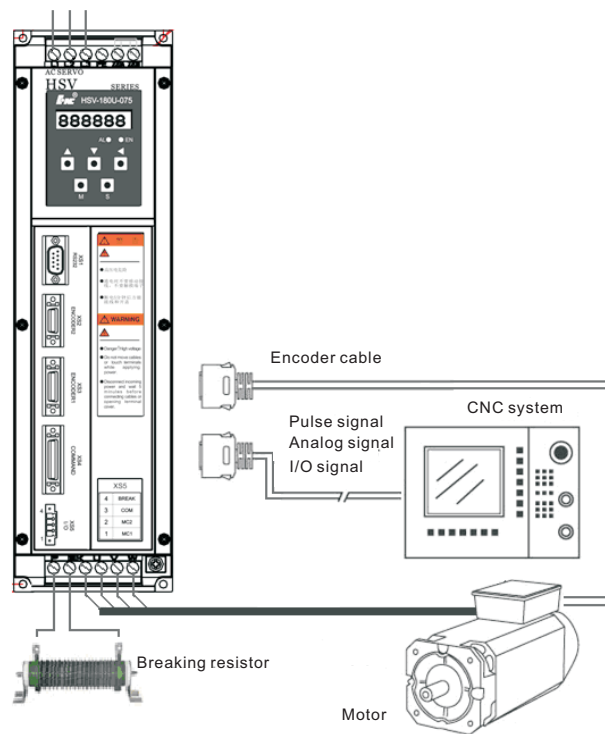
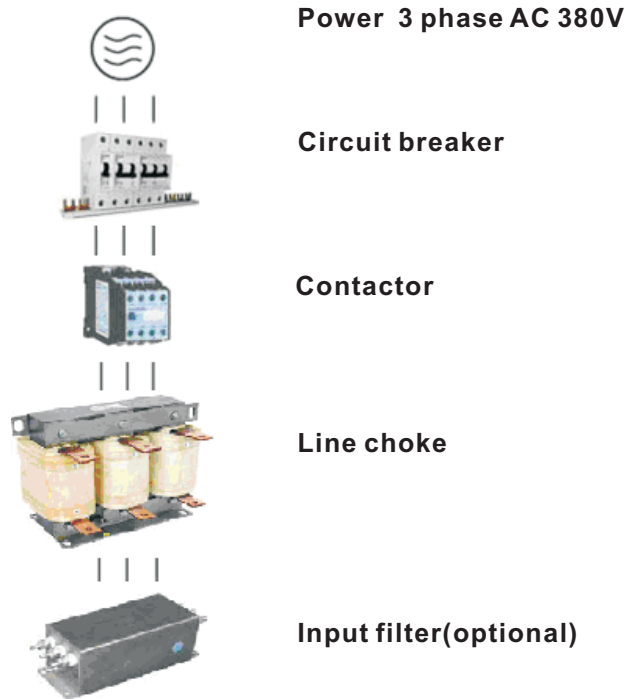
3、HSV-180AS-,200, 300,450 (without auxiliary devices Unit: mm)



HSV-180AS-,200, 300,450 (with auxiliary devices Unit: mm)



Connection Diagram



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