

Product description

Hv1000 series frequency inverter is the high performance vector inverter of HNC Electric. Using unique flux vector technology, HV1000 ensures 180% rated torque while at 0.5HZ and speed precision $<0.5\%$ via decoupling control of flux current and torque current, as well as torque increasing technology. Employing special control mode, the motor primacy switch stress as well as motor temperature rise and noise caused by drive can be reduced during the motor lifetime. Thanks to the excellent dynamic and static feature, HV1000 is widely applied to various of applications.

At a glance

- Precise self-learning of motor parameter
- Optimizing of reduce motor noise and heat
- Unique current limit technology
- Speed tracking function with hardware
- Dynamic control of DC-bus technology
- Instantaneous stop & non-stop
- Current Shock elimination technology
- Fast current limit function
- Built-in PLC for flexible control
- Optimized closed-loop control
- Customization for specified application

Customer benefits

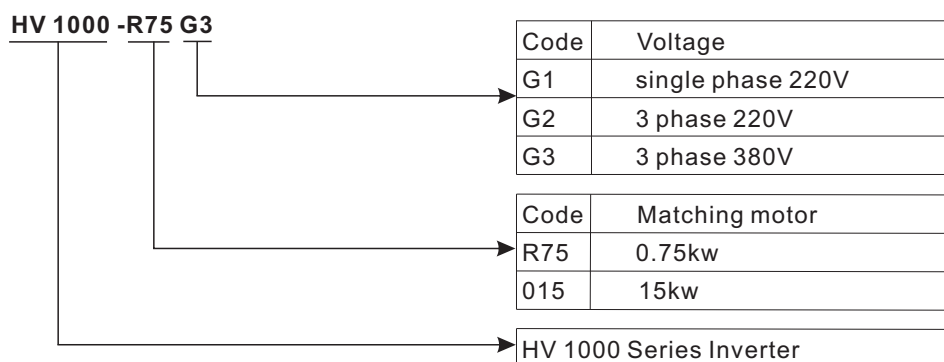
- Easy and high performance in CNC Lathe/Milling/Grinding spindle control
- CNC wood veneer peeling lathe application
- Winder/Unwinder built-in technology makes Winder application in plug&play easy way
- Injection Machine energy saving solution
- Extruding machine energy saving solution
- Control concept optimization for Crane application



HV1000**Specificalton**

Items	Description	
Input	Voltage range	Single-phase 0~200V/240V Three-phase 220V/380V~440V Continuous fluctuation range $\leq \pm 10\%$, Short time fluctuation range $\leq -15\% \sim +10\%$ Voltage unbalance range $\leq 3\%$; Frequency $\leq 5\%$
	Frequency range	47~63Hz
DC Link	Voltage range	Single-phase 283V/339V Three-phase 311V/537V~622V
Output	Voltage range	0~rated input voltage
	Frequency range	0Hz~650Hz H2 model 2000Hz for high speed spindle application
Peripheral Interface	Programmable digital input	7 inputs
	Programmable analog input	AI: 0 ~10V or 0~20mA
	Programmable open collector output	2 output (open collector output or high-speed pulse output)
	Relay output	2 outputs(only 1 relay output for power range lower than 4kW, including 4kW)
	Analog output	2 outputs, optional 0/4~20mA or 0~10V
Performance	Control mode	Open loop vector control; V/F control
	Overload capacity	G type: 150% rated current for 1 minute, 180% rated current for 3s/ 1s (380V/ 220V series) , 200% rated current for 0. 5s; P type: 120% rated current for 1 minute
	Starting torque	180% rated torque at 0.5Hz
	Speed ratio	1: 100
	Speed control accuracy	$\leq \pm 0.5\%$ rated synchronous speed
Function	Setpoint channels	Digital, analog, serial communication, multistage velocity, simple PLC, PID output. Combination and/or channel switch are available
	Standard functions	Traverse for textile motor Length control Droop control Tone selection Immunity to transient power failure
	Application base functions	Winder/Unwinder High speed spindle control(2000Hz) Plastic machine energy saving Crane application
	Automatic voltage regulation	Keep constant output voltage automatically in case of line voltage change
	Protection	Phase loss failure, Over/Under current, Over/Under voltage protection, Overheat and overload protection
Environment	Ambient	Indoor with good ventilation and free from corrosive gas and conductive dust
	Altitude	Need to rise the rated power when the altitude is more than 1000m
	Temperature	-10°C~+40°C, derating is required from 40~50°C; Increase every 1°C above 40°C, derating 2%, highest temperature allowed: 50°C
	Humidity	95%RH without dew condensation
	Vibration	<5.9m/S ² (0.6g)
	Enclosure rating	IP 20
	Cooling	Fan force cooling

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Model Definition

Frequency Inverter Model	Input Voltage	Rated Output Power (kW)	Rated Input Current (A)	Rated Output Current (A)	Motor Power (kW)
HV1000-R40G1	single-phase200V ~240V	0.4	5.3	2.5	0.4
HV1000-R75G1		0.75	8.2	4	0.75
HV1000-1R5G1		1.5	14	7.5	1.5
HV1000-2R2G1		2.2	23	10	2.2
HV1000-R40G2	three-phase200V ~240V	0.4	3.2	2.5	0.4
HV1000-R75G2		0.75	6.4	4	0.75
HV1000-1R5G2		1.5	10	7.5	1.5
HV1000-2R2G2		2.2	12	10	2.2
HV1000-004G2		4	19	17	4
HV1000-5R5G2		5.5	28	25	5.5
HV1000-7R5G2		7.5	35	32	7.5
HV1000-R75G3	three-phase380V ~440V	0.75	3.4	2.3	0.75
HV1000-1R5G3		1.5	5	3.7	1.5
HV1000-2R2G3		2.2	5.8	5	2.2
HV1000-004G3		4	10	9	4
HV1000-5R5G3		5.5	15.5	13	5.5
HV1000-7R5G3		7.5	20.5	17	7.5
HV1000-011G3		11	26	25	11
HV1000-015G3		15	35	32	15
HV1000-018G3		18.5	38.5	37	18.5
HV1000-022G3		22	46.5	45	22
HV1000-030G3		30	62	60	30
HV1000-037G3		37	76	75	37
HV1000-045G3		45	92	90	45
HV1000-055G3		55	113	110	55
HV1000-075G3		75	157	152	75
HV1000-090G3		90	180	176	90
HV1000-110G3		110	214	210	110
HV1000-132G3		132	256	260	132
HV1000-160G3		160	310	305	160
HV1000-185G3		185	355	350	185
HV1000-200G3	200	385	380	200	



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Frequency Inverter Model	Input Voltage	Rated Output Power (kW)	Rated Input Current (A)	Rated Output Current (A)	Motor Power (kW)
HV1000-220G3	three-phase 380V ~440V	220	430	425	220
HV1000-250G3		250	485	480	250
HV1000-280G3		280	545	530	280
HV1000-315G3		315	610	600	315
HV1000-350G3		350	625	650	350
HV1000-400G3		400	715	720	400
HV1000-450G3		450	775	755	450
HV1000-500G3		500	890	860	500
HV1000-560G3		560	980	950	560
HV1000-630G3		630	1184	1100	630
HV1000-800G3		800	1500	1400	800

Dimensional Drawing

Figure a

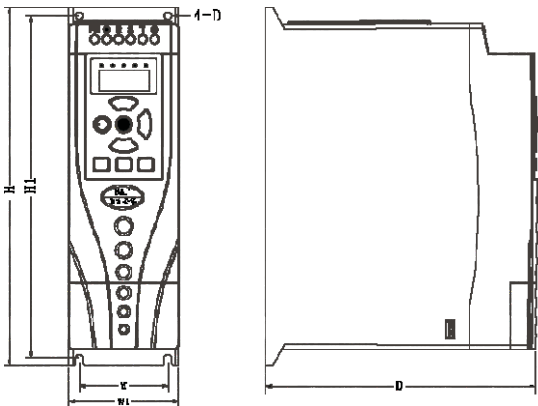


Figure b

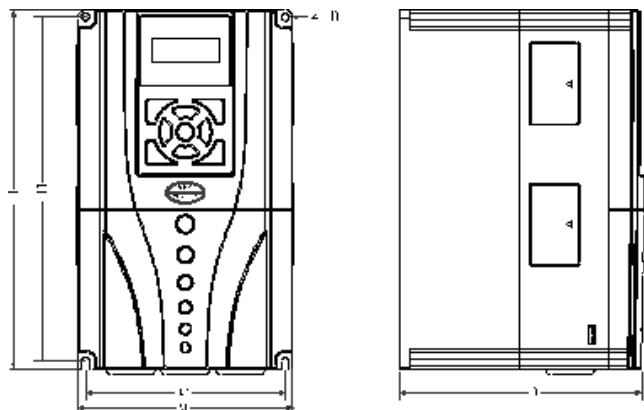


Figure c

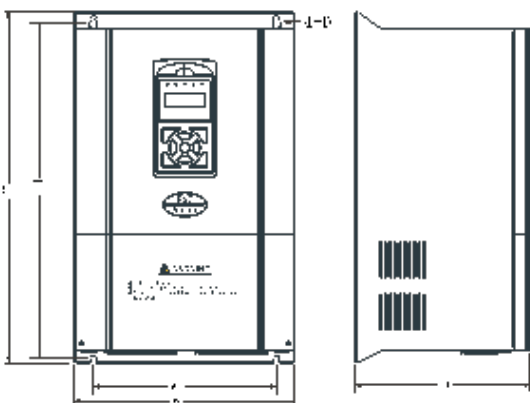
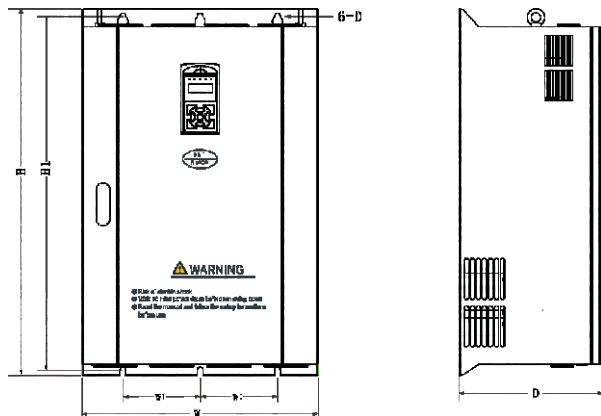
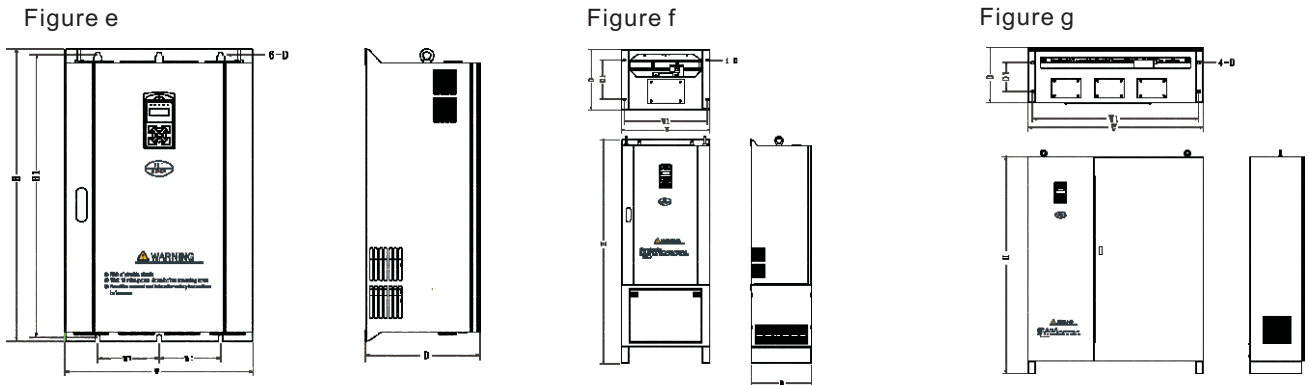


Figure d



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HV1000



Dimensions of HV1000 series (mm)

Inverter Model	D	W1	H1	H	W	Figures	Mounting Hole	Gross Weight (kg)	Installation type
HV1000-R40G1	171	56	216	226	69.4	Fig a	4.5	2.2	Wall
HV1000-R75G1									
HV1000-1R5G1									
HV1000-2R2G1									
HV1000-R75G3									
HV1000-1R5G3									
HV1000-2R2G3									
HV1000-004G3									
HV1000-5R5G3	181	146	251	262	157	Fig b	5.5	5	Wall
HV1000-7R5G3									
HV1000-011G3	181	180	288	305	198	Fig c	5.5	8	Wall
HV1000-015G3									
HV1000-018G3	220	230	424.5	438	276	Fig c	7	18	Wall
HV1000-022G3									
HV1000-030G3									
HV1000-037G3	231.5	320	571	589	395	Fig c	10	45	Wall
HV1000-045G3									
HV1000-055G3									
HV1000-075G3	298	320	733	759	489	Fig d	12	75	Wall
HV1000-090G3									
HV1000-110G3									
HV1000-132G3	370	320	898	927	539	Fig d	12	125	Compatible with wall & cabinet
HV1000-160G3									
HV1000-185G3									
HV1000-200G3	373	507	898	1377	539	Fig f	12	142	Compatible with wall & cabinet
HV1000-220G3									
HV1000-250G3									
HV1000-280G3	400	924	240	1684	960	Fig f	14	365	Cabinet
HV1000-315G3									
HV1000-350G3									
HV1000-400G3									
HV1000-450G3									
HV1000-500G3									
HV1000-600G3	460	1386	240	1808	1464	Fig g	18	160	Compatible with wall & cabinet
HV1000-630G3									
HV1000-800G3									



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Connection Diagram

