

HYUNDAI INVERTER  **N Series**
| Powerful Operation & High Performance |



HYUNDAI *hi* RUN **N** Series

Hyundai Heavy Industries realizes the satisfaction of customer with its best products.

Hyundai N-Series inverters with characteristics of digital control and open network communication are newly developed products.

The compact Hyundai N-Series inverters, produced by the state-of-the-art equipment, cover from micro to medium voltage large capacity. They are new generation products meeting the customers' needs.



Powerful Operation & High Performance



HYUNDAI Inverter Collection

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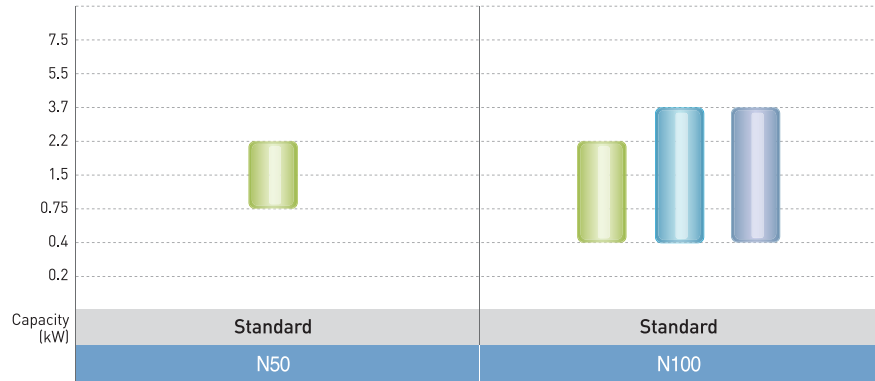
HHI will realize customer's satisfaction with its new Series

As general manufacturer of inverter in Korea, HHI will solve the customers' problems easily with its inverter varying from 0.4kW to 6400kW

Series	Model	Capacity	Application	Features
N50	N50 Single Phase Vector	1 ϕ 200V : 0.75~2.2kW	Conveyor, Treadmill, Washing machine, Waste heat recovery equipment, Automatic door, Extruder	<ul style="list-style-type: none"> • Compact size • High starting torque • Various operation methods • Easy maintenance
N100	N100 Small Vector	1 ϕ 200V : 0.4~1.5kW 3 ϕ 200V : 0.4~3.7kW 3 ϕ 400V : 0.4~3.7kW	Fan, Pump, Conveyor, Wood working machine	<ul style="list-style-type: none"> • High torque with sensorless vector control • MMI using RS485 • Auto tuning • Compact size
N500	N500 Medium Capacity Vector	3 ϕ 400V: 160 ~ 350kW	Fan, Pump, Conveyor	<ul style="list-style-type: none"> • Convenient operator (LCD) • Compact size • Trip tracking data save
	N500P Medium Capacity	3 ϕ 400V: 320 ~ 380kW	Fan, Pump, Blower	<ul style="list-style-type: none"> • Energy saving • Compact size • Trip tracking data save
N700	N700 High Performance Vector	3 ϕ 200V : 5.5~55kW 3 ϕ 400V : 5.5~132kW	Hoist, Crane, Extruder, Machine tool, Parking machine, Textile machine	<ul style="list-style-type: none"> • Sensorless / Full vector control • Minimize the speed deviation at low speed • Built-in BRD (5.5 ~ 22kW) & BRD of up to 132kW is optional • Operation for multi motors
N700E	N700E Sensorless Vector	3 ϕ 200V : 5.5~22kW 3 ϕ 400V : 5.5~132kW	Fan, Pump, Conveyor, Extruder, Washing machine	<ul style="list-style-type: none"> • High torque performance by sensorless vector • Fan On / Off function • Built-in BRD (5.5 ~ 22kW) • Global certifications (CE, UL/cUL)
N5000	N5000 Medium Voltage Large Capacity Vector	3 ϕ 3.3kV: 155 ~ 3200kW 3 ϕ 4.16kV: 205 ~ 4000kW 3 ϕ 6.6kV: 330 ~ 6400kW	Fan, Pump, Blower	<ul style="list-style-type: none"> • High efficiency • Low total harmonic distortion • Easy maintenance • Limitless distance between motor and inverter • One touch screen digital operator (5" color LCD) • Easy to use • Global certification (CE)

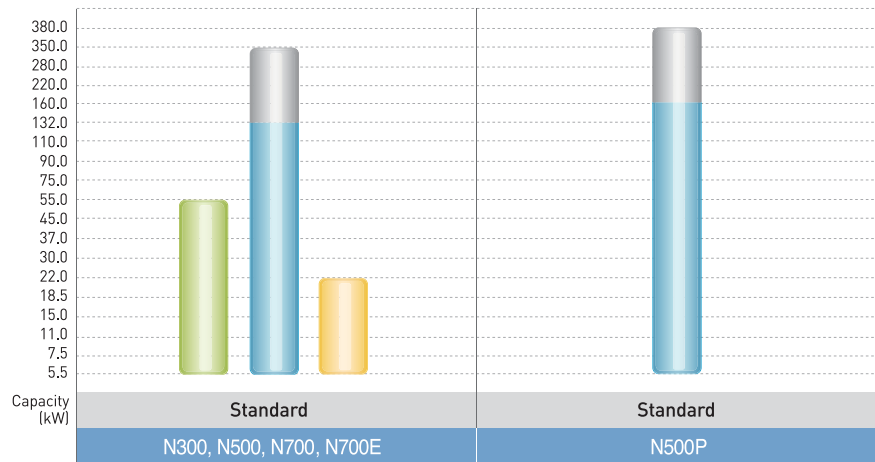
Small Size Inverter

- 1 ϕ 200V
- 3 ϕ 200V
- 3 ϕ 400V



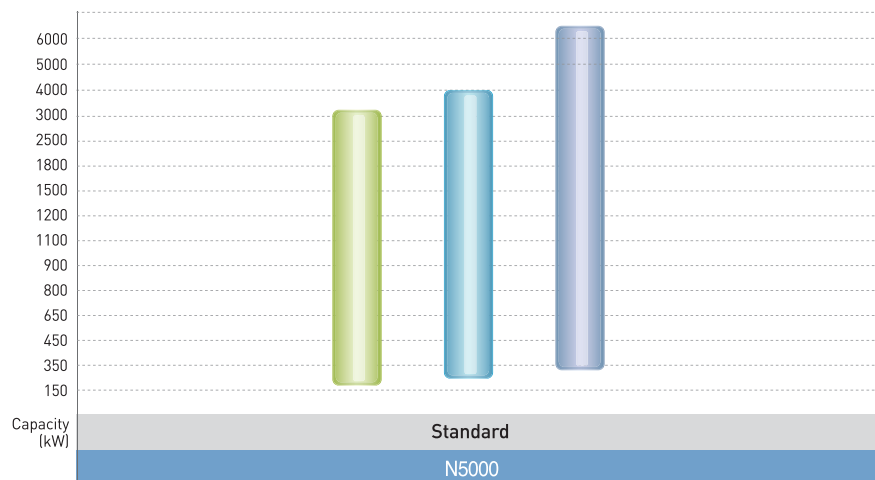
Medium Capacity Inverter

- N700 3 ϕ 200V
- N700 & N700E 3 ϕ 400V
- N500 3 ϕ 400V
- N700E 3 ϕ 200V



Large Capacity Inverter

- 3 ϕ 3300V
- 3 ϕ 4160V
- 3 ϕ 6600V



N50 Series

| Single Phase Vector Inverter |

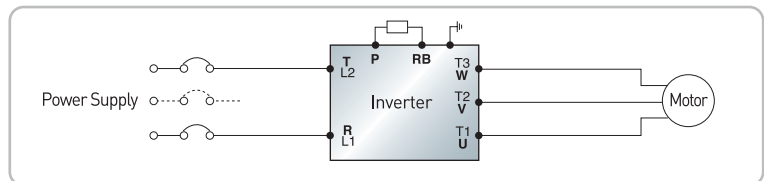


Features

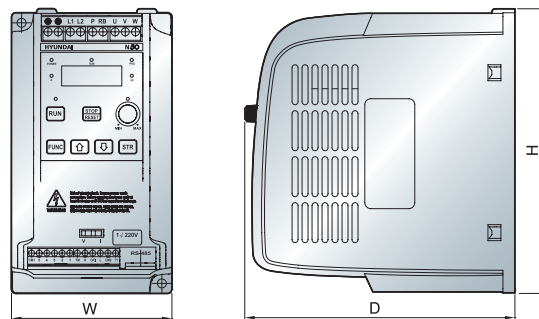
- **Vector inverter for single phasing input only**
 - High torque of 200% or greater at speed as low as 1Hz during starting and operation
- **Realize tripless driving by adding current suppression**
 - Stable operation even under the instantaneous impact load and overload is realized through the addition of over-current level adjusting function.
 - Maintain constant speed even at the time of sudden load change by rapid speed restoration characteristics.
 - Applicable to the transfer machine, treadmill, industrial washing machine due to its function of momentary current suppression.
- **Possible to select various operation method**
 - It is possible to select the operation method of either RS485 communication driving or analog signal driving for the user's convenience.



- **Compact size for easy installation**
 - Reduction in cubic volume, 52% compare to the N100 series.
- **Develop optional product for user convenience**
 - DOP05: Economical remote operator, Operation & display function



Dimension



Unit : mm

Model	W	D	H
007SF	80	142	135
015SF, 022SF	95	142	135



Standard Specification

Model		N50-007SF	N50-015SF	N50-022SF
Applicable motor capacity (kW)		0.75	1.5	2.2
output	Rated output current (A)	5.0	7.0	11.0
	Rated output capacity (kVA)	1.9	3.0	4.2
	Rated output voltage (V)	3-phase, 200 ~ 230VAC		
	Maximum output frequency (Hz)	400Hz		
Input	Voltage / frequency	Single phase, 200 ~ 230V, 50/60Hz		
	Power conditions	Voltage: $\pm 10\%$ / frequency: $\pm 5\%$		
Control characteristic	PWM method	Space vector PWM		
	Control method	V/F control, sensorless vector control		
	Output frequency range	0.1 ~ 400Hz		
	V/F characteristics	V/F free-setting (30 ~ 400Hz of base frequency), constant torque and variable torque patten selectable		
	Overload rating	150% of rated current for 1minute		
	Starting torque	More than 200% (at 1Hz)		
	Torque boost	Manual torque boost can be set between 0 ~ 50%		
	Acceleration/deceleration time setting	0.1 ~ 3000sec		
	Acceleration/deceleration pattern	Linear, S-curve, U-curve		
	Current stall prevention operation level	Operating current level setting possible (20 ~ 200%), enable/disable selection		
	Voltage stall prevention operation level	Operating current level constant, enable/disable selection		
	Analog frequency setting	DC 0 ~ 10V / 4 ~ 20mA		
Protective functions		Over current protection, under-voltage error, output short circuit, overload shut-off (electronic thermal), ground fault, external trip, commutation error, EEPROM error		
Environment	Ambient temperature	-10 ~ 40°C (no freezing)		
	Ambient humidity	90% RH or less (non-condensing)		
	Storage temperature	-20 ~ 60°C (short-term temperature during transport)		
	Installation area	Indoors without corrosive gases, flammable gases, oil mist or dust		
	Altitude and vibration	Maximum 1000m or less above sea level, 5.9m/s ² or less		
Cooling method		Forced air cooling		
International directive compliance		CE & UL/cUL		

N50 Series Type

Motor (kW)	0.75	1.5	2.2
Single-phase 200V	●	●	●

N100 Series

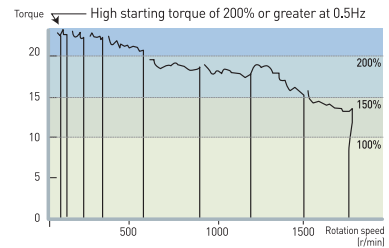
| Small Size Vector Inverter |



Features

• Advance sensorless vector control function

- Realize smooth driving without motor vibration and high precise driving with no effect of changing load.
- Show high torque of 200% or greater at speeds as low as 0.5Hz during starting and operation.



• Strengthening auto-tuning function

- Automatically measure motor parameters.
- Realize optimal motor control without torque dropping and speed fluctuation.
- Realize precise driving without inconvenience of user and measure motor parameters manually.

• Strengthening the PID control function

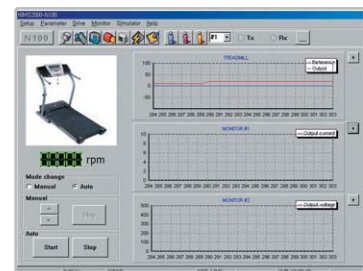
- Strengthened the speed control program for controlling flux, temperature, pressure and so forth.
- Apply to high precision systems by high speed responsibility.

• Realize tripless driving by adding current suppression

- Realize stable driving at instant impact load and overload by adding over-current level adjusting function.
- Maintain constant speed on changing load suddenly by rapid speed restoration characteristics.
- Widely apply transfer machine, treadmill, industrial washing machine and so forth by momentary current suppressing.

• MMI function using RS485 communication (HIMS 2000)

- Built-in RS485 communication standard using Modbus protocol possible flexible application for various FA system, on remote driving at master system and easy monitoring the status of driving.
- Realize remote motor control drive using exclusive MMI program.



• SINK/SOURCE type signal selectable

- Many types of programmable controllers are easily connected.

• Global products

- Compliance with EN standard by attaching EMC filter (option)
- Obtain CE Standard, UL, cUL

• Compact size for easy to install

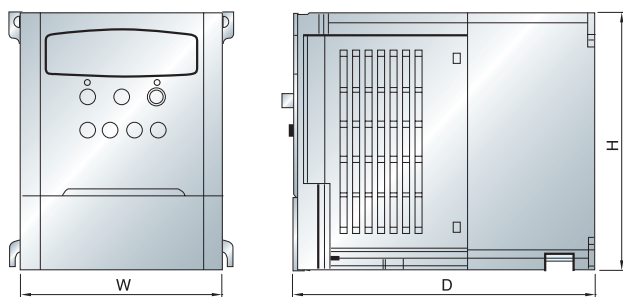
- Reduction in cubic volume 52% compare to the J100 series.

• **Develop option product for user convenience**

- Digital operator (operation and display)
- Remote operator (read and copy function)
- EMI/EMC filter by EN standard



Dimension



Unit : mm

Model	W	D	H
N100 - 004SF/LF, 007SF/LF, 004HF	115	135	130
N100 - 015SF/LF, 022LF, 007HF, 015HF	115	155	130
N100 - 037LF, 022HF, 037HF	150	155	130

Standard Specification

Model	200V Class								400V Class					
	N100-004SF	N100-007SF	N100-015SF	N100-004LF	N100-007LF	N100-015LF	N100-022LF	N100-037LF	N100-004HF	N100-007HF	N100-015HF	N100-022HF	N100-037HF	
Applicable motor capacity (kW)	0.4	0.75	1.5	0.4	0.75	1.5	2.2	3.7	0.4	0.75	1.5	2.2	3.7	
Rated output	Rated output current (A)	3.0	5.0	7.0	3.0	5.0	7.0	11.0	17.0	1.8	3.4	4.8	7.2	9.2
	Rated output capacity (kVA)	1.1	1.9	3.0	1.1	1.9	3.0	4.2	6.1	1.1	1.9	3.0	4.2	6.1
	Rated output voltage (V)	3-phase, 200 ~ 230VAC				3-phase, 200 ~ 230VAC				3-phase, 380 ~ 460VAC				
	Output frequency range	0.1 ~ 400Hz								0.1 ~ 400Hz				
Rated input	Input voltage (V)	Single-phase 200 ~ 230V (±10%)			3-phase, 200 ~ 230V				3-phase, 380 ~ 460V					
	Frequency	50 / 60Hz (±5%)								50 / 60Hz (±5%)				
Power transistor	ASIPM								ASIPM					
Control method	Space vector PWM control								Space vector PWM control					
Starting torque	200%, 0.5Hz								200%, 0.5Hz					
Overload capacity	150%, 1min								150%, 1min					
Analog input command	DC 0 ~ 5V, DC 0 ~ 10V, DC 4 ~ 20mA, 0 ~ 1kΩ								DC 0 ~ 5V, DC 0 ~ 10V, DC 4 ~ 20mA, 0 ~ 1kΩ					
Weight (kg)	1.2	1.2	1.5	1.2	1.2	1.5	1.5	2	1.2	1.5	1.5	2	2	

N100 Series Type

Motor (kW)	0.4	0.75	1.5	2.2	3.7
Single-phase 200V	●	●	●		
3-phase 200V	●	●	●	●	●
3-phase 400V	●	●	●	●	●

- Option**
- Remote Operator : NOP1 (Copy Unit) / DOP1 (Economic)
 - Cable: 1.5m (Nop1-1A) / 3.0m (Nop1-3A)
 - Noise Filter
 - HNF 2020 (200V, 20A)
 - HNF 4012 (400V, 12A)

Standard Specification

| 400V Class |

Model		Standard				Fan, Pump only	
		N500-1600HF	N500-2200HF	N500-2800HF	N500-3500HF	N500-3200HFP	N500-3800HFP
Rated output	Motor capacity (kW)	160	220	280	350	320	380
	Rated current (A)	304	418	525	656	616	732
Overload capacity		150%, 1min				120%, 1min	
Rated output voltage		3-phase 380 ~ 480VAC ($\pm 10\%$), 50/60Hz (Complying with input voltage)					
Output voltage method		Space vector PWM					
Control method		V/F control, sensorless vector control, sensed vector control					
Starting torque		200%, 0.5Hz					
Output frequency range		0.1 ~ 400Hz					
Digital I/O		Multi-function digital input 8 channel, multi-function open collector output 5 channel, multi-function C contact output 2 channel					
Analog I/O		Voltage / current output 2 channel, pulse output 1 channel					
Analog input command		DC 0 ~ 10V, DC -10 ~ +10V, DC 4 ~ 20mA					
Weight (kg)		185	185	215	215	215	215

N500 Series Type		Motor (kW)	160	220	280	320	350	380
Standard	3-phase 400V		●	●	●		●	
Fan, Pump only	3-phase 400V					●		●

N700 Series

| High Performance Vector Inverter |

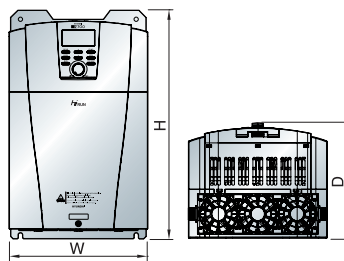


Features

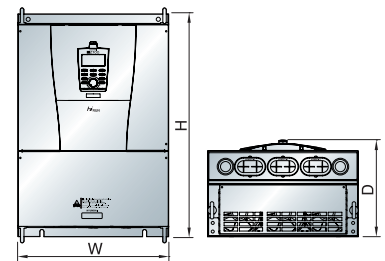
- **Advanced sensorless vector control at ultra low speed**
 - Excellent control performance with all machines thanks to the improvement of torque characteristics at low speed
 - Sensorless vector control : 200% or greater at 0.5Hz
- **Excellent response speed and torque control performance**
 - Quick response to a sudden load change is realized
 - Strong torque restriction function to protect the machine
- **Expansion of multi-speed control function**
 - Three steps accel/decel time setting is possible
- **Advanced On-line / Off-line auto tuning**
- **Improved DC brake function**
 - Improved brake characteristic at stop command by upgrading the DC brake function
- **External brake control function for elevators**
 - Safe and detailed control system prepared for all variables when an external brake is used for elevator
- **High quality voltage and current**
 - Even if the incoming voltage fluctuates, the AVR function keeps the output voltage constant to the motor
- **IGBT temperature check**
 - The temperature of IGBT is checked and displayed.

Dimension

[A-TYPE]



[B-TYPE]



Unit : mm

	Model	W	D	H
A	N700 - 055LF/HF~110LF/HF	182	205	336
	N700 - 150~220LF/HF	290	240	478
	N700 - 300LF/HF	330	250	580
	N700 - 370~450LF/HF	400	260	610
B	N700 - 550LF/HF	440	271	650
	N700 - 750, 900HF	420	320	740
	N700 - 1100, 1320HF	500	320	780

Standard Specification

| 200V Class |

Model		200V Class												
		N700-055LF	N700-075LF	N700-110LF	N700-150LF	N700-185LF	N700-220LF	N700-300LF	N700-370LF	N700-450LF	N700-550LF			
Motor capacity (kW)		5.5	7.5	11	15	18.5	22	30	37	45	55			
Rated output	Rated current (A)	24	32	46	64	76	95	121	145	182	220			
	Rated power (kVA)	8.3	11	15.9	22.1	26.3	32.9	41.9	50.2	63	76.2			
	Output voltage (V)	3-phase 200 ~ 240VAC												
	Output frequency range	0.1 ~ 400Hz												
Rated input	Input voltage (V)	3-phase 200 ~ 240V (±10%)												
	Frequency	50 / 60Hz (±5%)												
Power transistor		IGBT												
Control method		Space vector modulation PWM												
Starting torque		200%, 0.5Hz												
Overload capacity		150%, 1min												
Analog input command		DC 0 ~ 10V, DC -10 ~ +10V, DC 4 ~ 20mA												
Weight (kg)		7	7	7	15	15	15	25	37	37	51			

| 400V Class |

Model		400V Class													
		N700-055HF	N700-075HF	N700-110HF	N700-150HF	N700-185HF	N700-220HF	N700-300HF	N700-370HF	N700-450HF	N700-550HF	N700-750HF	N700-900HF	N700-1100HF	N700-1320HF
Motor capacity (kW)		5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
Rated output	Rated current (A)	12	16	23	32	38	48	58	75	90	110	149	176	217	260
	Rated power (kVA)	8.3	11	15.9	22.1	26.3	33.2	41.9	50.2	63	76.2	103.2	121.9	150.3	180.1
	Output voltage (V)	3-phase 380 ~ 480VAC													
	Output frequency range	0.1 ~ 400Hz													
Rated input	Input voltage (V)	3-phase 380 ~ 480V (±10%)													
	Frequency	50 / 60Hz (±5%)													
Power transistor		IGBT													
Control method		Space vector modulation PWM													
Starting torque		200%, 0.5Hz													
Overload capacity		150%, 1min													
Analog input command		DC 0 ~ 10V, DC -10 ~ +10V, DC 4 ~ 20mA													
Weight (kg)		7	7	7	15	15	15	25	37	37	51	70	70	90	90

N700 Series Type

Motor (kW)	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
3-phase 200V	●	●	●	●	●	●	●	●	●	●				
3-phase 400V	●	●	●	●	●	●	●	●	●	●	●	●	●	●

N700E Series

| Economical sensorless vector Inverter |



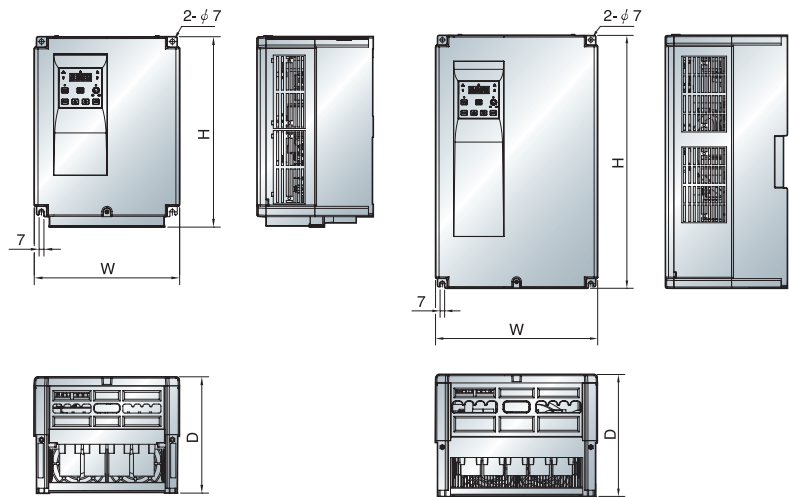
NEW



Features

- **High torque performance in ultra low speed zone**
 - Advanced sensorless vector control technology provides motor with high torque performance in ultra low speed zone.
 - Sensorless vector control: above 150% at 1Hz
- **Superb speed control by improved tuning technology for motors**
 - Through technology of compensating the motor time constant while motor tuning, minimize the speed change, stable operation can be achieved
- **Improved PID control performance**
 - Built in PID function uniformly controls oil pressure and flow quantity without additional options
- **Built-in regenerative braking system**
 - BRD is basically equipped with the N700E series
- **Compact size**
 - Compact size of N700E series utilizes existing panel even when changing model
- **Convenient maintenance and repair**
 - N700E is available to replace the fan without separation
 - Fan on/off function increases fan's durability and minimizes fan's noise

Dimension



Unit : mm

Model	W	D	H
N700E - 055, 075, 110LF/HF	210	168	275
N700E - 150, 185, 220LF/HF	250	188	390
N700E - 300, 370HF	312	270	530
N700E - 450, 550HF	342	280	548

Standard Specification

| 200V Class |

Model		200V Class					
		N700E-055LF	N700E-075LF	N700E-110LF	N700E-150LF	N700E-185LF	N700E-220LF
Motor capacity (kW)		5.5	7.5	11	15	18.5	22
Rated output	Rated current (A)	24	32	45	64	76	90
	Rated power (kVA)	8.3	11.1	15.6	22.2	26.3	31.2
	Output voltage (V)	3-phase 200 ~ 240VAC					
	Output frequency range	0.1 ~ 400Hz					
Rated input	Input voltage (V)	3-phase 200 ~ 240V (±10%)					
	Frequency	50 / 60Hz (±5%)					
Power transistor		IGBT					
Control method		Space vector PWM					
Starting torque		150%, 1Hz					
Overload capacity		150%, 1min					
Analog input command		DC 0 ~ 10V, DC 4 ~ 20mA					
Weight (kg)		4.2	4.5	4.5	6.5	7.5	8

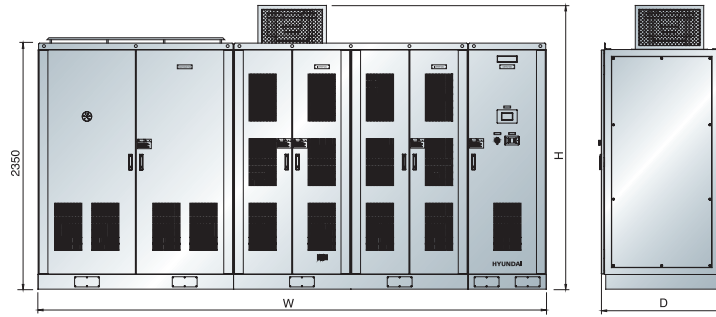
| 400V Class |

Model		400V Class									
		N700E-055HF	N700E-075HF	N700E-110HF	N700E-150HF	N700E-185HF	N700E-220HF	N700E-300HF	N700E-370HF	N700E-450HF	N700E-550HF
Motor capacity (kW)		5.5	7.5	11	15	18.5	22	30	37	45	55
Rated output	Rated current (A)	12	16	23	32	38	45	58	75	90	110
	Rated power (kVA)	7.9	10.5	15.1	21.1	25	29.6	38.2	49.4	59.2	72.4
	Output voltage (V)	3-phase 380 ~ 480VAC									
	Output frequency range	0.1 ~ 400Hz									
Rated input	Input voltage (V)	3-phase 380 ~ 480V (±10%)									
	Frequency	50 / 60Hz (±5%)									
Power transistor		IGBT									
Control method		Space vector PWM									
Starting torque		150%, 1Hz									
Overload capacity		150%, 1min									
Analog input command		DC 0 ~ 10V, DC 4 ~ 20mA									
Weight (kg)		4.2	4.5	4.5	7	7	7.5	22	22	27	30

N700E Series Type

Motor (kW)	5.5	7.5	11	15	18.5	22	30	37	45	55
3-phase 200V	●	●	●	●	●	●				
3-phase 400V	●	●	●	●	●	●	●	●	●	●

Dimension



Unit : mm

Type	Model	W	D	H
3300V	N5000 - 0155L	2000	1100	2800
	N5000 - 0245L	2000	1100	2800
	N5000 - 0325L	2400	1100	2800
	N5000 - 0410L	2400	1100	2800
	N5000 - 0490L	3300	1100	2800
	N5000 - 0620L	3300	1100	2800
	N5000 - 0835L	3600	1200	2800
	N5000 - 1040L	3600	1200	2800
	N5000 - 1270L	3800	1400	2800
	N5000 - 1500L	3800	1400	2800
	N5000 - 1710L	3900	1400	2800
	N5000 - 1940L	3900	1400	2800
	N5000 - 2250L	4000	1400	2800
	N5000 - 2500L	4000	1400	2800
4160V	N5000 - 2800L	4100	1500	2800
	N5000 - 3200L	4100	1500	2800
	N5000 - 0205M	3200	1100	2800
	N5000 - 0310M	3200	1100	2800
	N5000 - 0410M	3200	1100	2800
	N5000 - 0530M	3200	1100	2800
	N5000 - 0630M	3900	1100	2800
	N5000 - 0790M	3900	1100	2800
	N5000 - 1040M	4900	1100	2800
	N5000 - 1310M	4900	1100	2800
	N5000 - 1630M	5100	1100	2800
	N5000 - 1900M	5100	1100	2800
	N5000 - 2160M	5100	1100	2800
	N5000 - 2460M	5100	1100	2800
6600V	N5000 - 2930M	5200	1400	2800
	N5000 - 3240M	5200	1400	2800
	N5000 - 3500M	5300	1500	2800
	N5000 - 4000M	5300	1500	2800
	N5000 - 0330H	3200	1200	2800
	N5000 - 0495H	3200	1200	2800
	N5000 - 0675H	3900	1200	2800
	N5000 - 0835H	3900	1200	2800
	N5000 - 1000H	4900	1400	2800
	N5000 - 1270H	4900	1400	2800
	N5000 - 1700H	5100	1400	2800
	N5000 - 2130H	5100	1400	2800
	N5000 - 2590H	5200	1400	2800
	N5000 - 3020H	5700	1400	2800
	N5000 - 3450H	5900	1400	2800
	N5000 - 3930H	6000	1400	2800
N5000 - 4500H	6200	1400	2800	
N5000 - 5000H	6200	1400	2800	
N5000 - 5600H	6400	1500	2800	
N5000 - 6400H	6400	1500	2800	

Standard Specification

Voltage Class		3300V ¹⁾															
3.3 kV output capacity (kVA)		200	300	400	500	600	750	1000	1250	1500	1750	2000	2250	2700	3000	3500	4000
Rated output current (A)		35	53	70	88	105	132	175	219	263	307	350	394	473	525	619	707
Motor power output (kW) ²⁾		155	245	325	410	490	620	835	1040	1270	1500	1710	1940	2250	2500	2800	3200
Voltage Class		4160V ¹⁾															
4.16 kV output capacity (kVA)		250	380	500	640	750	950	1250	1550	1900	2200	2500	2850	3400	3750	4400	5000
Rated output current (A)		35	53	70	89	105	132	174	216	264	306	347	396	472	525	619	707
Motor power output (kW) ²⁾		205	310	410	530	630	790	1040	1310	1630	1900	2160	2460	2930	3240	3500	4000
Voltage Class		6600V ¹⁾															
6.6 kV output capacity (kVA)		400	600	800	1000	1200	1500	2000	2500	3000	3500	4000	4500	5400	6000	7000	8000
Rated output current (A)		35	53	70	88	105	132	175	219	263	307	350	394	473	525	619	707
Motor power output (kW) ²⁾		330	495	675	835	1000	1270	1700	2130	2590	3020	3450	3930	4500	5000	5600	6400
Input	Main circuit	3-phase 3300V, 50/60Hz, 3-phase 4160V, 50/60Hz or 3-phase 6600V, 50/60Hz															
	Control circuit	3 Phase 220V or 440V, 50Hz or 60Hz															
	Tolerance	Voltage: ±10%, Frequency: ±5%															
Output	Output frequency range (Hz)	0 ~ 120Hz															
	Overload capacity	120%, 60sec															
Power factor of main power supply		Approx. 95% or more at normal operating speed															
Efficiency		Approx. 96% (Including transformer)															
Control specification	Control method	Sensorless vector control + Multilevel sinusoidal PWM															
	Frequency precision	±0.5% of max. output frequency (Analog input)															
	Torque characteristics of load	Variable torque load, constant torque load															
	Acceleration deceleration time	0.1 ~ 3600sec (Depend on GD ² of motor and load)															
	Main control functions	Restart after instantaneous power failure, operation possible at instantaneous input power failure (0 ~ 83ms, non-torque control), specific frequency evasion function, multiple Acc./Dcc. rate setting, soft stall															
	Main protective functions	Current limit, over current, over voltage, over load, under voltage, grand fault, CPU error, cooling fan abnormal, control power abnormal															
Data transmission		RS485/232/modbus/ethernet, profibus-DP (Option)															
Operation board	Display	Color LCD graphic: color TFT touch screen 5" LCD															
	Method	Start, stop, reset fault															
Signal interface	Analog	Input: 4 channel (DC 0 ~ 10V or DC 4 ~ 20mA) Output: 4 channel (DC 0 ~ 10V or DC 4 ~ 20mA)															
	Digital	Input: 16 channel (Dry contact) Output: 8 channel (Dry contact: AC 250V 5A or DC 30V 5A)															
Input transformer		Temperature class H, Dry type, tapping range ±5% for N5000 only															
Con-struction	Protection degree of enclosure	IP20 (IEC-529)															
	Panel construction	Free standing, free maintenance type, door handle key type															
	Cooling	Air cooled by ventilation fans mounted on panel (IP40 without opening or closing of panel door)															
	Panel color	Munsell No. 5Y 7/1															
Ambient conditions	Ambient temperature	0 ~ 40 °C															
	Humidity	Max 85% (No condensation)															
	Altitude	1000m above sea level or less															
	Vibration	0.5 G or less at 10 ~ 50Hz															
Installation		Indoor															
Application		Fan, blower, pump, compressor, extruder, mixer, turbine generators etc.															
Standards		Electrical performance: IEC Components: KS															

※ 1) As for non-standard voltage (3.0 / 6.0kV) motor, please contact our company.

2) HHI 4-pole standard induction motor





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