

**HITACHI**  
Inspire the Next

# Hitachi Variable Frequency Drives



**NE-S1** series  
Economical Inverter with  
Simple Operation

**NEW**



**SJ series P1**  
High performance inverter with  
innovative ease-of-use and  
excellent driving performance



**WJ200** series  
Pursuing the Ideal  
Compact Inverter



**SJ700B** series  
Inverter designed for  
fans & pumps plus conveyors



**SJ700D/SJ700** series  
High performance with Many useful  
Functions and, yet User Friendly

# Hitachi Has Developed Intelligent and to Meet Various Requirements from a

## Specifications

Series		SJ series P1	WJ200
Appearance			
Power Source	Rated input voltage	1-phase (100V)	100 to 120V +/-10%, 50/60Hz +/-5%
		1-phase (200V)	200 to 240V +10%/-15%, 50/60Hz +/-5%
		3-phase (200V)	200 to 240V +10%/-15%, 50/60Hz +/-5%
		3-phase (400V)	380 to 500V +10%/-15%, 50/60Hz +/-5%
Applicable motor		200V class : 0.4 to 55kW 400V class : 0.75 to 132kW	0.1 to 15kW
Output frequency range		V/f : 0.1 to 590Hz, SLV/PM motor : 0.1 to 400.0Hz	0.1 to 400Hz
Starting torque*5		SLV [200% or greater (at 0.3Hz) (75kW or greater : 180%)] 0Hz SLV [150% at around 0Hz*2, (75kW or greater : 130%*2)]	200% or greater (at 0.5Hz) (Sensorless vector control)
Braking torque	Dynamic brake (capacitor feedback)	10 to 20%	10 to 50%
	DC brake	Variable operating frequency, time, and braking force	Variable operating frequency, time, and braking force
Overload capacity		VLD (Very light duty) : 110% 60sec, 120% 3sec LD (Light duty) : 120% 60sec, 150% 3sec ND (Normal duty) : 150% 60sec, 200% 3sec	Dual rating: CT (Heavy duty) : 150%, 60sec. VT (Normal duty) : 120%, 60 sec.
Acceleration/deceleration time		0.01 to 3,600sec.	0.01 to 3,600sec.
Multispeed operation		Max. 16stage. Individual accel/dec time setting is available.	Max. 16-stage
Analog input for frequency control		0 to 10VDC or 4 to 20mA switchable (2CH) -10 to +10VDC (1CH)	0 to 10VDC, 4 to 20mA
Protective functions		Overcurrent error, overload error, brake resistor overload, overvoltage error, memory error, undervoltage error, current detector error, CPU error, external trip error, USP error, ground error, supply overvoltage error, power loss error, temperature detector error, Cooling-fan rotation speed decrease, temperature error, phase input error, IGBT error, phase output error, thermistor error, brake error, low-speed range overload error, inverter overload, RS485 communication error, RTC error etc.	Over-current, over-voltage, under-voltage, overload, brake resistor overload, CPU error, memory error, external trip, USP error, ground fault detection at power on, temperature error, internal communication error, driver error, thermistor error, brake error, safe stop, overload at low speed, modbus communication error, option error, encoder disconnection, speed excessive, EzSQ command error, EzSQ nesting error, EzSQ execution error, EzSQ user trip
Other functions		Free V/f setting (7 breakpoints), PM motor control, frequency upper/lower limit, jump (center) frequency, acceleration/deceleration according to characteristic curve, manual torque boost (level/breakpoint), energy-saving operation, analog meter adjustment, start frequency setting, carrier frequency adjustment, electronic thermal function (available also for free setting), external start/end (frequency/frequency rate), analog input selection, retry after trip, restart after instantaneous power failure, output of various signals, starting with reduced voltage, overload restriction, initial-value setting, automatic deceleration at power failure, AVR function, online/offline auto-tuning, programable function (EzSQ), Safe stop, Password, Peer-to-Peer communication, Over-current Suppress, Various PID functions (4CH, sleep mode, soft start, etc), Multi rating, Simulation mode, Gain mapping function, Pulse train input, Cooling FAN control, and more.	Free V/f setting (7 breakpoints), PM motor control (corresponds more than Ver.2.0), Simple positioning control, Easy sequence programming function, Safe stop, Password, Peer-to-Peer communication, frequency upper/lower limit, jump (center) frequency, manual torque boost level/breakpoint, energy-saving operation, analog meter adjustment, Minimum time deceleration, Over-current Suppress, electronic thermal function (available also for free setting), external start/end frequency/frequency rate, restart after instantaneous power failure, Controlled deceleration on power loss, auto-tuning
Environmental conditions	Ambient operating temperature	ND : -10 to 50 degrees C, LD : -10 to 45 degrees C, VLD : -10 to 40 degrees C*4	-10 to 50 degrees C*4
	Humidity	20 to 90%RH (No condensation)	20 to 90%RH (No condensation)
	Location	Less than 1,000m of altitude, indoors (no corrosive gas nor dust)	Less than 1,000m of altitude, indoors (no corrosive gas nor dust)

\*1 : 400kW is 0.1-120Hz \*2 : When inverter is one frame size larger than motor. \*3 : 90kW and over

\*4 : See derating data and carrier frequency adjustment in instruction manual when ambient operating temperature is 40 degrees C or over.

# Sophisticated Variable Frequency Drives Wide Range of Demanding Applications!

NE-S1	SJ700D/SJ700	SJ700B
		
—	—	—
200 to 240V +10%/–15% 50/60Hz +/-5%	—	—
200 to 240V +10%/–15% 50/60Hz +/-5%	200 to 240V +10%/–15%, 50/60Hz +/-5%	200 to 240V +10%/–15%, 50/60Hz +/-5%
380 to 480V +10%/–15%, 50/60Hz +/-5%	380 to 480V +10%/–15%, 50/60Hz +/-5%	380 to 480V +10%/–15%, 50/60Hz +/-5%
0.2 to 4.0kW	0.4 to 400kW	11 to 160kW
0.5 to 400.0Hz	0.1 to 400Hz*1	0.1 to 400Hz
100% or greater (Torque boost mode)	200%, or greater (at 0.3Hz) 75 to 132kW: 180%, or greater (at 0.3Hz), 185kW and over: 150%, or greater (at 0.3Hz) 150%*2 at around 0Hz, 75kW and over: 130%*2 at around 0Hz	150% (120)*3, or greater (at 0.5Hz) (Sensorless vector control)
20 to 50%	10 to 20%	10 to 20%
Variable operating frequency, time, and braking force	Variable operating frequency, time, and braking force	Variable operating frequency, time, and braking force
150%, 60sec.	150%, 60sec., 200%, 3sec. (185kW and over : 150%, 60sec., 180%, 0.5sec.)	120%, 60sec., 150%, 3sec.
0.00 to 3,600sec.	0.01 to 3,600sec.	0.01 to 3,600sec.
Max. 8-stage	Max. 16-stage	Max. 16-stage
0 to 10VDC, 4 to 20mA	0 to 10VDC, 4 to 20mA –10 to +10VDC	0 to 10VDC, 4 to 20mA –10 to +10VDC
Over-current, Over-voltage, Under-voltage, Overload, Overheat, Ground fault at power-on, Input over-voltage, External trip, Memory error, CPU error, USP error, Driver error, Output phase loss protection	Over-current protection, over-voltage protection, under-voltage protection, electronic thermal protection, temperature error protection, instantaneous power failure protection, phase loss input protection, braking-resistor overload protection, ground-fault current detection at power-on, USP error, external trip, emergency stop trip, CT error, communication error, option board error	Over-current protection, over-voltage protection, under-voltage protection, electronic thermal protection, temperature error protection, instantaneous power failure protection, phase loss input protection, braking-resistor overload protection, ground-fault current detection at power-on, USP error, external trip, emergency stop trip, CT error, communication error, option board error
AVR (Automatic Voltage Regulation), V/f characteristic selection, accel./decel. curve selection, frequency upper/lower limit, 8 stage multispeed, PID control, frequency jump, external frequency input bias start/end, jogging, trip history	Free V/f setting (7 breakpoints), frequency upper/lower limit, jump (center) frequency, acceleration/deceleration according to characteristic curve, manual torque boost level/breakpoint, energy-saving operation, analog meter adjustment, start frequency setting, carrier frequency adjustment, electronic thermal function (available also for free setting), external start/end frequency/frequency rate, analog input selection, retry after trip, restart after instantaneous power failure, output of various signals, starting with reduced voltage, overload restriction, initial-value setting, automatic deceleration at power failure, AVR function, fuzzy acceleration/deceleration, online/offline auto-tuning	Free V/f setting (7 breakpoints), frequency upper/lower limit, jump (center) frequency, acceleration/deceleration according to characteristic curve, manual torque boost level/breakpoint, energy-saving operation, analog meter adjustment, start frequency setting, carrier frequency adjustment, electronic thermal function (available also for free setting), external start/end frequency/frequency rate, analog input selection, retry after trip, restart after instantaneous power failure, output of various signals, starting with reduced voltage, overload restriction, initial-value setting, automatic deceleration at power failure, AVR function, online/offline auto-tuning
–10 to 50 degrees C*4	–10 to 50 degrees C*4	–10 to 40 degrees C*4
20 to 90%RH (No condensation)	20 to 90%RH (No condensation)	20 to 90%RH (No condensation)
Less than 1,000m of altitude, indoors (no corrosive gas nor dust)	Less than 1,000m of altitude, indoors (no corrosive gas nor dust)	Less than 1,000m of altitude, indoors (no corrosive gas nor dust)

\*5 : The characteristic is different according to the motor combination.

## Product Range



**SJ-P1**  
Conveyor/Crane  
Fan/Pump

kW (HP)	0.1 (1/8)	0.2 (1/4)	0.4 (1/2)	0.55 (3/4)	0.75 (1)	1.1 (1.5)	1.5 (2)	2.2 (3)	3 (4)	3.7 (5)	4 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)	150 (200)	160 (220)	185 (250)	220 (300)	315 (400)	400 (500)	
3-phase 200V class			●		●		●	●		●		●	●	●	●	●	●	●	●	●	●											
3-phase 400V class					●		●	●		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						



**SJ700D**  
Conveyor/  
Crane

kW (HP)	0.1 (1/8)	0.2 (1/4)	0.4 (1/2)	0.55 (3/4)	0.75 (1)	1.1 (1.5)	1.5 (2)	2.2 (3)	3 (4)	3.7 (5)	4 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)	150 (200)	160 (220)	185 (250)	220 (300)	315 (400)	400 (500)	
3-phase 200V class			●		●		●	●		●		●	●	●	●	●	●	●	●	●	●	●										
3-phase 400V class					●		●	●		●	Note 5	Note 4		●	●	●	●	●	●	●	●	●	●	●	●	Note 2	Note 3		●	●	●	●



**SJ700B**  
Fan/Pump

kW (HP)	0.1 (1/8)	0.2 (1/4)	0.4 (1/2)	0.55 (3/4)	0.75 (1)	1.1 (1.5)	1.5 (2)	2.2 (3)	3 (4)	3.7 (5)	4 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)	150 (200)	160 (220)	185 (250)	220 (300)	315 (400)	400 (500)		
3-phase 200V class														●	●	●	●	●	●	●	●	●											
3-phase 400V class														●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					



**WJ200**  
Conveyor/  
Lift&other machine

kW (HP)	0.1 (1/8)	0.2 (1/4)	0.4 (1/2)	0.55 (3/4)	0.75 (1)	1.1 (1.5)	1.5 (2)	2.2 (3)	3 (4)	3.7 (5)	4 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)	150 (200)	160 (220)	185 (250)	220 (300)	315 (400)	400 (500)	
1-phase 100V class			●		●																											
1-phase 200V class	●	●	●		●		●	●																								
3-phase 200V class	●	●	●		●		●	●		●		●	●	●	●																	
3-phase 400V class			●		●		●	●	●		●	●	●	●	●																	



**NE-S1**  
Fan/Pump

kW (HP)	0.1 (1/8)	0.2 (1/4)	0.4 (1/2)	0.55 (3/4)	0.75 (1)	1.1 (1.5)	1.5 (2)	2.2 (3)	3 (4)	3.7 (5)	4 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)	150 (200)	160 (220)	185 (250)	220 (300)	315 (400)	400 (500)	
1-phase 200V class	●	●			●		●	●																								
3-phase 200V class	●	●	●		●		●	●																								
3-phase 400V class			●		●		●	●			●																					

Function/Performance

Applicable motor (kW)

Note 1 : European version have EMC filter as standard. (EN61800-3 cat. C1 for SFEF series, cat. C2 for HFEF series)

Note 2 : Available only for JP version and European version.

Note 3 : Available only for US version

Note 4 : Available only for European version and US version

Note 5 : Available only for JP version

## Model Name Indication

# SJ700 - 004 L F U F 2

Series Name

2 : Version

F : Integrated noise filter

U : US version

E : European version

C : China version

R : JP version

F : With digital operator

B : Without digital operator

S : 1-phase 200V class

N : 1-/3-phase 200V class

L : 3-phase 200V class

H : 3-phase 400V class

M : 1-phase 100V class

Applicable Motor Capacity in kW (HP)

001 - 0.1 (1/8)	220 - 22 (30)
002 - 0.2 (1/4)	300 - 30 (40)
004 - 0.4 (1/2)	370 - 37 (50)
005 - 0.55 (3/4)	450 - 45 (60)
007 - 0.75 (1)	550 - 55 (75)
011 - 1.1 (1.5)	750 - 75 (100)
015 - 1.5 (2)	900 - 90 (125)
022 - 2.2 (3)	1100 - 110 (150)
030 - 3 (4)	1320 - 132 (175)
037 - 3.7 (5)	1500 - 150 (200)
040 - 4 (5)	1600 - 160 (220)
055 - 5.5 (7.5)	1850 - 185 (250)
075 - 7.5 (10)	2200 - 220 (300)
110 - 11 (15)	3150 - 315 (400)
150 - 15 (20)	4000 - 400 (500)
185 - 18.5 (25)	

# SJ series P1

## High performance inverter with innovative ease-of-use and excellent driving performance



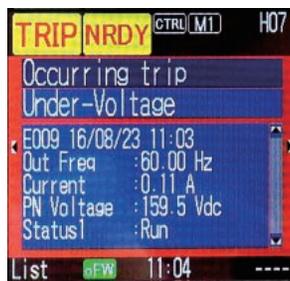
### Feature

#### Easy access to all the functionality

- Intuitive, easy-to-use LCD operator is standard.
- Easily monitor, set, or review operational data and parameters.
- Japanese and English display available as standard. (Other languages also available in near future.)
- Operation panel is removable and memory is built in. So, parameter data can be copied to multiple inverters, which allows users to replace inverter in a short working time.



[Monitor display]



[Trip display]

- Panel mounting portion is supplied as separate part. (5.5 kW or more) Even if its body size is different, it is possible to correspond in flexible ways.
- Cooling fan and the main circuit capacitor is designed for 10 years life. (This is an estimate value by ambient temperature 40°C (annual average) and output rated current 80%).
- Monitor lifetime prediction functions.
  - Electrolytic capacitor of control circuit (internal estimation).
  - Cooling fan.
- Normal power supply (R0, T0) to CPU. Also possible to utilize an external 24VDC control power supply.
- Control Simulation Logic operation without direct motor output. The simulation mode makes it easier to verify connection with the system control equipment.

#### A High Performance drive for the most demanding of applications

- High starting torque at low speed range while in control of heavy loads (ND rating).
- Decreasing overshoot and undershoot contributes to smooth and stabilized operation with reduced load shock (Gain mapping Function).
- Availability to control either induction motor or permanent magnet AC motor (PM motor) from same inverter unit. Programmable current limit to protect demagnetization of the PM motor is also prepared.
- 590Hz at the maximum operation is available for precise metal processing. For PM motor, also up to 400Hz (actual output frequency depends on motor).
- Automatic speed adjustment manages ideal acceleration / deceleration speed to reduce the trip possibility from over current, over voltage, and impact load.

#### Versatility through multi mode operation, to meet your specific application needs

- Third party certified functional safety (PLe, SIL3 STO) as standard (Certification in process). SS1, SLS and others are available with slot-in option cassette (In design phase).
- Triple-rated for Induction motor for various applications is selectable. Dual-rated for PM motor control. Multiple rating helps to save space and cost.
- Since complies with the RoHS, Environmental considerations also sufficient.
- Standard Modbus-RTU and following optional communication can be used together.
  - Ethernet (Modbus-TCP) • EtherCAT® • PROFIBUS-DP • PROFINET (Available soon)
- Hitachi's EzSQ, sequential programming function, makes it possible to create customize control easily at the customer's end, which enables cost savings and improved performance depending on your use.

#### Model indication

**P1-00175-HF□F**

- Type Name
- Motor maximum rated current (VLD rated current)
- Power Source
  - L: 3-phase 200V class
  - H: 3-phase 400V class
- F: with keypad
- Region
  - E: Europe version
  - U: North America version
  - None: Japan version
  - F: Integrated EMC filter

#### Line up

**SJ Series P1**

Applicable motor rating in kW (HP)

3-phase 200V LFF/LFUF

3-phase 400V HFF/HFUF/HFEF

0.4 (1/2)	0.75 (1)	1.5 (2)	2.2 (3)	3.7 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)
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●: Available

●: 400V class supports input voltage up to 500V.

• Modbus is a registered trademark of Modicon Inc. EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.  
 • Other company names and product names mentioned are the property of the respective trademarks or registered trademarks.

# WJ200 Series

## Pursuing the Ideal Compact Inverter



### Feature

#### Industry-leading Levels of Performance

- High starting torque of 200% or greater achieved by sensorless vector control (when sized for heavy duty).
- Speed regulation at low-speed is improved.
- Trip avoidance functions (Minimum time deceleration function and over-current suppress function).
- Simple positioning control (when feedback signal is used).
- Induction motor & Permanent magnetic motor\* control with one inverter (\*corresponds from Ver. 2.0).

#### Pursuit of Ease of Use

- Sequence operation is realized by downloading to an inverter a program created with Hitachi's ProDriveNext software.
- Safe stop function\*1. (Cat. 3, PLd to EN / ISO 13849-1 and SIL CL2 to EN 62061 / IEC 61508 /EN 61800-5-2)
- Password function.
- USB (Mini-B connector) port and RS-422 (RJ45 connector) port are standard.
- Ease of wiring.
- Easy to maintain.
- Side-by-side installation.
- Allows manual adjustment of the inverter output frequency by turning the optional potentiometer module.

Potentiometer Option



#### Ease of Maintenance

- Long life time components (Design life time 10 years or more).
- Cooling fan ON/OFF control for longer fan life.
- Life time warning function.
- Easy-removable cooling fan.

#### Environmental Friendliness

- Micro surge voltage suppress function.
- EU RoHS compliant (ordered items).
- Varnish coating of internal PC board is standard. (Logic PCB and I / F PCB are excluded.)

#### Global standards

- Conformity to global standards. CE, UL, c-UL, RCM approvals.\*2



- Modbus-RTU is supported as standard. Using option card, following fieldbus network are available.



- Wide input power voltage range. (Input voltage 200V to 240V for 200V class and 380V to 480V for 400V class as standard)
- Logic input and output terminal can be configured for sink or source logic.

WJ200 Series		0.1 (1/8)	0.2 (1/4)	0.4 (1/2)	0.75 (1)	1.5 (2)	2.2 (3)	3.0 (4)	3.7 (5)	4.0 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)
Applicable motor rating in kW (HP)														
1-phase 100V	MF			●	●									
1-phase 200V	SF	●	●	●	●	●	●							
3-phase 200V	LF	●	●	●	●	●	●	●	●	●	●	●	●	●
3-phase 400V	HF			●	●	●	●	●	●	●	●	●	●	●

● : Available

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 • Other company names and product names mentioned are the property of the respective trademarks or registered trademarks.

\*1 : C version (SFC, LFU, HFC) and 1-phase 100V class is not certified. \*2 : 1-phase 100V class is for CE, UL and c-UL only.

# NE-S1 series

## Economical Inverter with Simple Operation



**N**  
*Next & New*  
Next generation inverter opens the door to New market segments

**E**  
*Ecological & Economical*  
Ecological - saves energy  
Economical - simple to install and easy to use

**S**  
*Small & Simple*  
Simple functions in a Small package

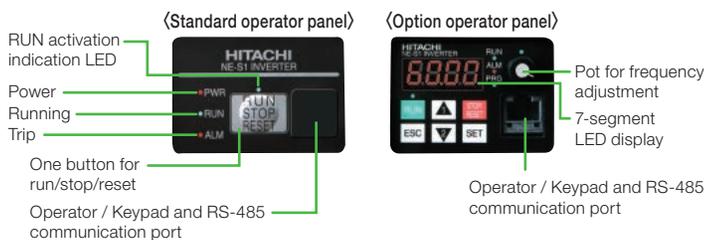
### Feature

#### Among the smallest form-factors in their category

- 43% smaller than the X200 of conventional model (0.2 kW).
- Side-by-side installation to save panel space.

#### Simple Operation

- Run/Stop/Reset is integrated in one button for simple operation.
- Full-function attachable operator available as an option.



#### Global Standards

- Conformity to global standards. CE, UL, c-UL, RCM approvals.



- Logic input is compatible with both sink and source logic.
- Wide input power voltage range.  
(Input voltage 200V to 240V for 200V class and 380V to 480V for 400V class as standard)
- RS-485 Modbus<sup>®</sup> RTU Communication port is standard

<b>NE-S1 Series</b> Applicable motor rating in kW (HP)		0.2 (1/4)	0.4 (1/2)	0.75 (1)	1.5 (2)	2.2 (3)	4.0 (5)
3-phase 200V	LB	●	●	●	●	●	
1-phase 200V	SB	●	●	●	●	●	
3-phase 400V	HB		●	●	●	●	●

● : Available

• Modbus is a registered trademark of Modicon Inc. (Schneider Automation International).

# SJ700D/SJ700 Series

**High performance with  
Many useful Functions and,  
yet User Friendly**



## Feature

### Enhanced version SJ700D-3 series inverter (Models: 3-ph.200V class 0.4 to 55kW, 3-ph.400V class 0.75 to 132kW)

- Dual Rating.
- EzSQ improvement. (1task/2ms ⇒ 5 tasks/2ms)
- RS485 (Modbus<sup>®</sup> RTU) communication speed is improved. (Max19.2kbps ⇒ 115.2kbps speed is improved)
- Induction motor & Permanent magnet motor control from one inverter. (PM motor control: ordering production)

### High starting Torque, Powerful Drive and easy set up

- High Starting Torque 200% at 0.3Hz. (75 to 132kW : 180% at 0.3Hz, 185kW and over : 150%, at 0.3Hz)
- Hitachi exclusive 0Hz Domain sensorless vector control.
- High accuracy & improved Auto-tuning function.
- Full Vector Control with Feedback option (Torque Control, Position Control).

### Many useful Functions

- Over current & voltage suppress function.
- Sequence operation is realized by downloading to an inverter a program created with Hitachi's ProDriveNext software.
- EMI Filter will be built-in (EN61800-3 cat.C3 up to 150kW\*). (\*European Version and JP Version does not have 150kW.)
- Internal Braking Circuit will be built-in up to 22kW.
- Emergency Stop Function.
- DC Bus AVR Function During Deceleration.
- Using optional WOP operator, SJ300 parameters can be transferred easily to SJ700D/SJ700.

### Long lifetime components & Ease of Maintenance

- Long life components for improved maintainability.
- Easily replaceable cooling fans and bus capacitors (15kW and over) speed field maintenance.
- Common wiring terminals with previous model series simplifies replacement wiring.

### Easy Operation

- Data comparison function shows only parameters changed from factory default.
- Ability to define 12 user-selectable parameters for display.
- Basic mode shows only most commonly used parameters.

### Environmental Friendliness

- Micro Surge Voltage suppress function.
- EU RoHS compliant by restricting to use hazardous substances
- Varnish coating of internal PC board & plating of main circuit copper bus bar as standard.

### Global standards

- Conformity to global standards. CE, UL, c-UL, RCM approvals.



- RS-485 communication port with Modbus<sup>®</sup> RTU protocol is available as standard for all models.
- Compatibility with networks such as DeviceNet<sup>™</sup> and PROFIBUS<sup>®</sup>, with communication options.
- Logic input & output terminals are selectable for sink & source logic.
- Wide Input power voltage range.

### SJ700D/SJ700 Series

Applicable motor rating in kW (HP)

		0.4 (1/2)	0.75 (1)	1.5 (2)	2.2 (3)	3.7 (5)	4.0 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)	150 (200)	185 (250)	220 (300)	315 (400)	400 (500)		
3-phase 200V	LFUF3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	LFF3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3-phase 400V*1	HFEF3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	HFUF3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	HFF3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● : Available

● Modbus is a registered trademark of Modicon Inc. (Schneider Automation International).  
● DeviceNet is a trademark of Open DeviceNet Vendor Association.

● PROFIBUS is a registered trademark of Profibus Nutzer Organization.

\*1 : Model name (185kW to 400kW) : SJ700-\*\*\*\* HF2, HFE2, HFU2

# SJ700B Series

**Inverter designed for fans & pumps plus conveyors**



## Feature

### High starting torque 150% (90kW and over: 120%) at 0.5Hz

- Sensorless Vector Control so the SJ700B can be applied to constant torque loads where high starting torque is needed.
- On-line/off-line auto-tuning.

### Long lifetime components & Ease of Maintenance

- Design lifetime 10 Years or more for DC bus capacitors & Cooling Fan.
- Life time warning function.
- Field replacement of cooling fan(s) and DC bus capacitors (18.5kW and over) can be accomplished in a fraction of the time.
- Move existing L300P logic terminal strip to SJ700B without wiring change.
  - \*SJ700B series standard control terminals are the same as SJ700/SJ300. Output terminals are all open collector type.
- Read L300P parameters via WOP remote operator and write them to SJ700B.

### Various versatile functions and compact design to save space

- Sequence operation is realized by downloading to an inverter a program created with Hitachi's ProDriveNext software.
- External components can be simplified or eliminated, resulting in cost-savings.
- EMC Filter is built in for all models\*1.
- Dynamic brake circuit is included up to 30kW.
- Over-current suppress functions reduce nuisance tripping.

### Global standards

- Conformity to global standards. CE\*1, UL, c-UL, RCM approvals.



- Logic input & output terminals are selectable for sink & source logic.
- Input voltage 200V to 240V for 200V class and 380V to 480V for 400V class as standard.
- A serial RS-485 Modbus® RTU port is standard.
- The SJ700B can communicate via DeviceNet™ and PROFIBUS® with optional expansion cards.

SJ700B Series Applicable motor rating in kW (HP)		5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160
		(7.5)	(10)	(15)	(20)	(25)	(30)	(40)	(50)	(60)	(75)	(100)	(125)	(150)	(175)	(220)
3-phase 200V	LFUF		●	●	●	●	●	●	●	●	●	●				
	HFF	●*1	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3-phase 400V	HFUF		●	●	●	●	●	●	●	●	●	●	●	●	●	●

●: Available

•DeviceNet is a trademark of Open DeviceNet Vendor Association.  
 •PROFIBUS is a registered trademark of Profibus Nutzer Organization.

•Modbus is a registered trademark of Modicon Inc. (Schneider Automation International).

\*1 : 5.5kW is without EMC Filter and CE Mark.

## Dimensions [Unit: mm(inch)] (Inches for reference only)

SJ-P1-	LF□F	004-037	055-110	150-220	300	370-450	550	—	—
	HF□F	007-037	055-110	150-220	300	370-550	—	750, 900	1100, 1320
Width		150(5.91)	210(8.27)	245(9.65)	300(11.81)	390(15.35)	480(18.90)	390(15.35)	480(18.90)
Height		255(10.04)	260(10.24)	390(15.35)	540(21.26)	550(21.65)	700(27.56)	700(27.56)	740(29.13)
Depth		140(5.51)	170(6.69)	190(7.48)	195(7.68)	250(9.84)	250(9.84)	270(10.63)	270(10.63)

WJ200-	MF	—	—	004	—	007	—	—	—	—	
	SF	001, 002	004	—	—	—	007-022	—	—	—	
	LF	001, 002	004	—	007	—	015, 022	037	055, 075	110, 150	
	HF	—	—	—	—	004	007-030	040	055, 075	110, 150	
Width		68(2.68)	68(2.68)	68(2.68)	68(2.68)	108(4.25)	108(4.25)	140(5.51)	140(5.51)	180(7.09)	220(8.66)
Height		128(5.04)	128(5.04)	128(5.04)	128(5.04)	128(5.04)	128(5.04)	128(5.04)	260(10.24)	296(11.65)	350(13.78)
Depth		109(4.29)	122.5(4.82)	132.5(5.22)	145.5(5.73)	143.5(5.65)	170.5(6.71)	170.5(6.71)	155(6.10)	175(6.89)	175(6.89)

NE-S1-	SB	002	004	—	007	015	—	022	—
	LB	002	004	007	—	015	—	022	—
	HB	—	—	—	004, 007	—	015	022	040
Width		68(2.68)	68(2.68)	68(2.68)	108(4.25)	108(4.25)	108(4.25)	108(4.25)	108(4.25)
Height		128(5.04)	128(5.04)	128(5.04)	128(5.04)	128(5.04)	128(5.04)	128(5.04)	128(5.04)
Depth		76(2.99)	91(3.58)	115(4.53)	96(3.78)	107(4.21)	111(4.37)	125(4.92)	135(5.31)

SJ700D*1-	HFEF3	007-040	055-110	150-220	300	370-550	—	750, 900	1100, 1320	1850, 2200	3150	4000
	LFUF3	004-037	055-110	150-220	300	370-450	550	—	—	—	—	—
	HFUF3	007-040	055-110	150-220	300	370-550	—	750, 900	1100, 1500	1850, 2200	3150	4000
Width		150(5.91)	210(8.27)	250(9.84)	310(12.20)	390(15.35)	480(18.90)	390(15.35)	480(18.90)	695(27.36)	680(26.77)	1050(41.34)
Height		255(10.04)	260(10.24)	390(15.35)	540(21.26)	550(21.65)	700(27.56)	700(27.56)	740(29.13)	995(39.17)	1300(51.18)	1700(66.93)
Depth		140(5.51)	170(6.69)	190(7.48)	195(7.68)	250(9.84)	250(9.84)	270(10.63)	270(10.63)	370(14.57)	450(17.72)	450(17.72)

\*1: Model name (185kW to 400kW) : SJ700-\*\*\*\*\* HF2, HFE2, HFU2

SJ700B-	HFF	055	075-150	185-300	370	450-750	—	900, 1100	1320, 1600
	LFUF	—	075-150	185-300	370	450, 550	750	—	—
	HFUF	—	075-150	185-300	370	450-750	—	900, 1100	1320, 1600
Width		150(5.91)	210(8.27)	250(9.84)	310(12.20)	390(15.35)	480(18.90)	390(15.35)	480(18.90)
Height		255(10.04)	260(10.24)	390(15.35)	540(21.26)	550(21.65)	700(27.56)	700(27.56)	740(29.13)
Depth		140(5.51)	170(6.69)	190(7.48)	195(7.68)	250(9.84)	250(9.84)	270(10.63)	270(10.63)



Information in this brochure is subject to change without notice.

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*For further information, please contact your nearest sales representative.*

 **Hitachi Industrial Equipment Systems Co., Ltd.**



Hitachi Industrial Equipment Systems Co., Ltd.  
NARASHINO division is certified for ISO 14001  
(standard of environmental management  
system) and ISO 9001 (standard of quality  
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