

HITACHI
Inspire the Next

HITACHI VARIABLE FREQUENCY DRIVES

NEW



WJ200 series
Pursuing the Ideal
Compact Inverter



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








X200 series
Simple, Trip- less and Eco-
friendly Compact Inverter



L300P series
Enhanced Energy-saving Function
for General Applications

Hitachi Has Developed Intelligent and Sophisticated Variable Frequency Drives to Meet Various Requirements from a Wide Range of Demanding Applications!

Specifications

Series		WJ200	X200		SJ700	L300P	L100
Appearance							
Power Source	Rated input voltage	1-phase	200–240V +10%/–15%, 50/60Hz +/-5%	200–240V +10%/–15%, 50/60Hz +/-5%	—	—	100–115V +/-10%, 50/60Hz +/-5%
		3-phase (200V)	200–240V +10%/–15%, 50/60Hz +/-5%	200–240V +10%/–15%, 50/60Hz +/-5%	200–240V +10%/–15%, 50/60Hz +/-5%	200–240V +/-10%, 50/60Hz +/-5%	—
		3-phase (400V)	380–480V +10%/–15%, 50/60Hz +/-5%	380–480V +10%/–15%, 50/60Hz +/-5%	380–480V +10%/–15%, 50/60Hz +/-5%	380–480V +/-10%, 50/60Hz +/-5%	—
Applicable motor		0.1–15kW	0.2–7.5kW		0.4–400kW	11–132kW	0.2–0.75kW
Output frequency range		0.1–400Hz	0.5–400Hz		0.1–400Hz	0.1–400Hz	0.5–360Hz
Starting torque		200% or greater (at 0.5Hz) (Sensorless vector control)	100% or greater (Torque boost mode)		200(180)*1, or greater (at 0.3Hz) 150(130)*1 at around 0Hz	100% or greater (Torque boost mode)	100% or greater (Torque boost mode)
Braking torque	Dynamic brake (capacitor feedback)	10–50%	20–50%		10–20%	10–20%	20–100%
	DC brake	Variable operating frequency, time, and braking force	Variable operating frequency, time, and braking force		Variable operating frequency, time, and braking force	Variable operating frequency, time, and braking force	Variable operating frequency, time, and braking force
Overload capacity		Dual rating: CT (Heavy duty) : 150%, 60sec. VT (Normal duty): 120%, 60 sec.	150%, 60sec.		150%, 60sec., 200, 3sec.	120%, 60sec., 150%, 0.5sec.	150%, 60sec.
Acceleration/deceleration time		0.01–3,600sec.	0.01–3,000sec.		0.01–3,600sec.	0.01–3,600sec.	0.1–3,000sec.
Multispeed operation		Max. 16-stage (Bit command also available)	Max. 16-stage		Max. 16-stage (Bit command also available)	Max. 16-stage (Bit command also available)	Max. 16-stage
Analog input for frequency control		0–10VDC, 4–20mA	0–10VDC, 4–20mA		0–10VDC, 4–20mA –10 to +10VDC	0–10VDC, 4–20mA –10 to +10VDC	0–10VDC, 4–20mA
Protective functions		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	Over-current, over-voltage, under-voltage, overload, overheat, ground fault at power-on, input over-voltage, external trip, EEPROM error, CPU error, USP error, Thermistor error, Driver error, Emergency stop		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, overload protection, braking resistor overload protection, over-voltage protection, EEPROM error, under-voltage error, CT (Current transformer) error, CPU error, external trip, USP error, ground fault, input over-voltage protection, instantaneous power failure, option 1 connection error, option 2 connection error, inverter thermal trip, phase failure detection, IGBT error, thermistor error	Over-current protection, over-voltage protection, under-voltage protection, overload protection, temperature error, CPU error, EEPROM error, ground fault, external trip, input over-voltage protection, USP error, PTC error
Other functions		Free V/f setting (7 breakpoints), PM motor control, 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	AVR (Automatic Voltage Regulation), V/f characteristic selection, accel./decel. curve selection, frequency upper/lower limit, 16 stage multispeed, PID control, frequency jump, external frequency input bias start/end, jogging, cooling fan On/Off, 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, high-torque multi-motor operation (sensorless vector control of two motors by one inverter)	V/f free-setting (up to 7 points), frequency upper/lower limit, frequency jump, accel./decel. curve selection, manual torque boost value and frequency adjustment, analog meter tuning, starting frequency, carrier frequency, electronic thermal protection level, external frequency output zero/span reference, external frequency input bias start/end, analog input selection, retry after trip, reduced voltage soft start, overload restriction, automatic energy-saving	AVR function, frequency upper/lower limit, PID control, carrier frequency change, frequency jump, electronic thermal level adjustment, fine adjustment of start frequency, gain/bias setting, retry, automatic torque boost, trip history
Environmental conditions	Ambient operating temperature	–10 to 50 degrees C*2	–10 to 50 degrees C*2		–10 to 50 degrees C*2	–10 to 40 degrees C*2	–10 to 50 degrees C*2
	Humidity	20 to 90%RH (No condensation)	20 to 90%RH (No condensation)		20 to 90%RH (No condensation)	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)		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)

*1 : 75kW and over

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

Product Range

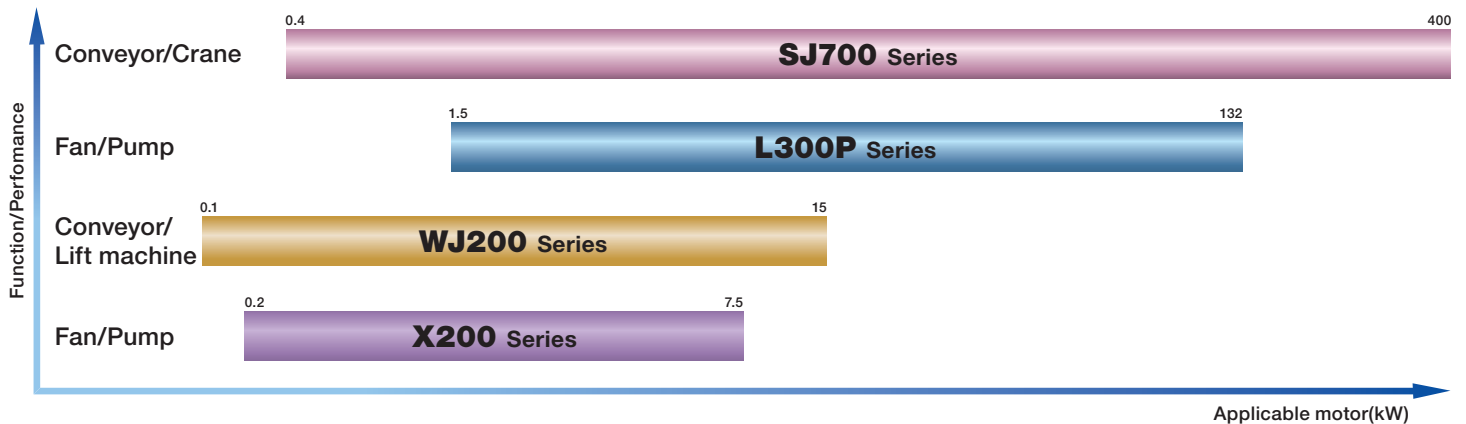
Model	kW (HP)	0.1 (1/8)	0.2 (1/4)	0.4 (1/2)	0.55 (3/4)	0.75 (1)	1.1 (1.5)	1.5 (2)	2.2 (3)	3 (4)	3.7 (5)	4 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (125)	110 (150)	132 (175)	150 (200)	185 (250)	220 (300)	315 (400)	400 (500)	
WJ200	1-phase 200V class																															
	3-phase 200V class																															
	3-phase 400V class																															
X200*1	1-/3-phase 200V class			Note 3		Note 3																										
	3-phase 200V class																															
	3-phase 400V class									Note 3																						
SJ700	3-phase 200V class																															
	3-phase 400V class																															
L300P	3-phase 200V class																															
	3-phase 400V class																															
L100	1-phase 100V class**																															

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

Note 2 : European version does not have 150kW model.US version does not have 132kW model.

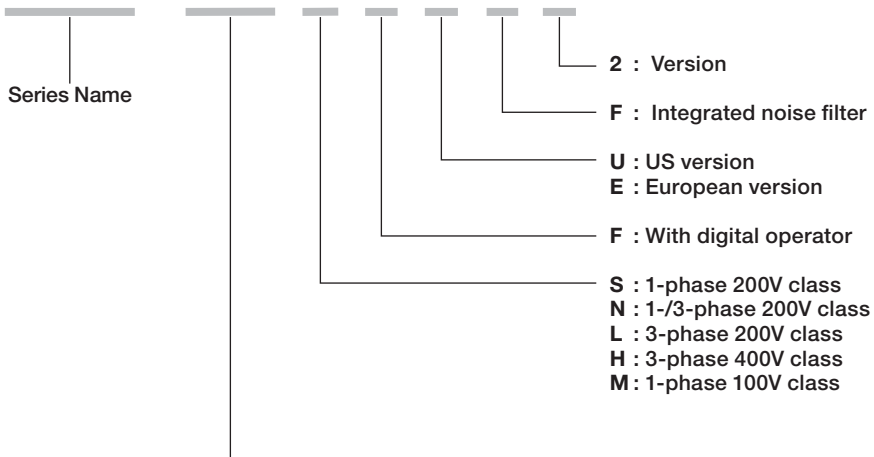
Note 3 : Available only for European version

Note 4 : Available only for US version



Model Name Indication

X200 - 004 S F E F 2



Applicable Motor Capacity in kW (HP)

001 - 0.1 (1/8)	185 - 18.5 (25)
002 - 0.2 (1/4)	220 - 22 (30)
004 - 0.4 (1/2)	300 - 30 (40)
005 - 0.55 (3/4)	370 - 37 (50)
007 - 0.75 (1)	450 - 45 (60)
011 - 1.1 (1.5)	550 - 55 (75)
015 - 1.5 (2)	750 - 75 (100)
022 - 2.2 (3)	900 - 90 (125)
030 - 3 (4)	1100 - 110 (150)
037 - 3.7 (5)	1320 - 132 (175)
040 - 4 (5)	1500 - 150 (200)
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)

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

- Easy sequence [EzSQ] programming function.
- Safe stop function.
- 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.

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 (Patent registered).
- 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, C-Tick approvals.



- A serial RS-485 Modbus[®] RTU port is standard. DeviceNet[™], CompoNet[™], PROFIBUS[®] and CANopen with optional expansion card (planned).
- 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	0.2	0.4	0.75	1.5	2.2	3.0	3.7	4.0	5.5	7.5	11	15
Applicable motor rating in kW (HP)		(1/8)	(1/4)	(1/2)	(1)	(2)	(3)	(4)	(5)	(5)	(7.5)	(10)	(15)	(20)
1-phase200V	SF	●	●	●	●	●	●							
3-phase 200V	LF	●	●	●	●	●	●	●	●	●	●	●	●	●
3-phase400V	HF			●	●	●	●	●	●	●	●	●	●	●

● : Available

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

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

X200 Series

Simple, Trip-less and Eco-friendly Compact Inverter



Feature

Environmental Friendliness

- Integrated EMC filter saves cost and space (European version only).
Single-phase input : EN61800-3 cat.C1
Three-phase input : EN61800-3 cat.C2
- RoHS compliance for all models.
- Micro Surge Voltage suppress function (Patent registered).
- Varnish coating of internal PC boards is standard, for longer life in harsh environments.

Useful fan and pump functions

- Improved Trip Avoidance Function (Over-current, over-voltage).
- Automatic energy-saving function delivers "realtime" energy-saving operation for fan and pump applications.
- Improved PID control.
- Allows for smooth restart when an IPF (Instantaneous Power Failure) occurs. This is especially useful in fan and pump applications.

Ease of Maintenance and space reduction

- Easily replaceable cooling fan.
- Cooling fan ON/OFF control extends fan life.
- Side-by-side installation.
- Emergency Stop Function.

Global Performance

- CE, UL, c-UL and c-Tick approvals.



- Logic input terminal apply sink and source logic.
- Wide Input power voltage range
(Input voltage 240V for 200V class and 480V for 400V class as standard).
- RS-485 is provided as standard for Modbus[®] RTU serial communication.
PROFIBUS[®], CANopen option modules are available soon.

X200 Series Applicable motor rating in kW (HP)		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)	3.0 (4)	3.7 (5)	4.0 (5)	5.5 (7.5)	7.5 (10)
1-phase 200V	SFEF2	●	●	●	●	●	●	●					
	NFU2	●	●	●	●	●	●	●					
3-phase 200V	LFU2									●	●	●	●
	LFRF2	●	●	●	●	●	●	●	●	●	●	●	●
3-phase 400V	HFEF2		●	●	●	●	●	●	●		●	●	●
	HFU2		●	●	●	●	●	●	●		●	●	●
	HFRF2		●	●	●	●	●	●	●		●	●	●

●: Available

● LONWORKS is a registered trademark of Echelon Corporation.
● PROFIBUS is a registered trademark of Profibus Nutzer Organization.

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

SJ700 Series

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



Feature

High starting Torque, Powerful Drive and easy set up

- High Starting Torque 200% 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.
- Built-in PLC-like Programming function.
- EMI Filter will be built-in (Category C3 up to 132kW).
- Internal Braking Circuit will be built-in up to 22kW.
- Emergency Stop Function.
- DC Bus AVR Function During Deceleration.
- Using optional SRW operator, SJ300 parameters can be transferred easily to SJ700.

Long lifetime components & Ease of Maintenance

- Long life components for improved maintainability.
- Easily replaceable cooling fans and bus capacitors 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 (Patent registered).
- EU RoHS compliant by restricting to use hazardous substances (except solder in power module).
- 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, C-Tick approvals.



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

SJ700 Series		0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	150	185	220	315	400	
Applicable motor rating in kW (HP)		(1/2)	(1)	(2)	(3)	(5)	(5)	(7.5)	(10)	(15)	(20)	(25)	(30)	(40)	(50)	(60)	(75)	(100)	(125)	(150)	(175)	(200)	(250)	(300)	(400)	(500)	
3-phase 200V	LFUF2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○							
3-phase 400V	HFEF2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	HFUF2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● : Available
○ : Plan model

• 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.

L300P Series

Enhanced Energy-Saving Function for General Applications



Feature

Wide Range of Application Specific Functions for Optimal Operation

- Automatic Energy-saving Function.
- Enhanced Input/output Terminals.
- Analog Output Monitor.
- Intelligent Input/output Terminal System.
- Easy-to-use Operator Panel.

Ease of Maintenance

- Easy-removable Cooling Fan and DC Bus Capacitor.
- Removable Control Circuit Terminals.

Compact Design

- Installation area is reduced by approximately 30% from that of our previous model [Comparison of 11kW(15HP)].

User-friendly Operation

- Ease of Operation with Digital Operator.
- User Selection of Command Functions ("Quick Menu").
- Built-in RS-485.
- Optional PC Drive Configuration Software.

Environmental Friendliness

- EMI Filters (Optional).
- Reduced Noise from Control Power Supply.

Protection for Various Installation Environments

- Standard Enclosure: IP20 (NEMA1*), IP00 (75kW and above).
- IP54 (NEMA12), please contact Hitachi sales office.

Global Performance

- CE, UL, c-UL, C-Tick approvals (EMC filters are available as an option).



- Compatibility with networks such as DeviceNet™, PROFIBUS®, LONWORKS®, Modbus® RTU*2, and Ethernet™*3, with communication options.

Note 1 : Up to 30kW.

An optional conduit box is required for 37kW to 55kW and 200V 75kW to meet NEMA1.

Note 2, 3 : Being planned.

L300P Series

Applicable motor rating in kW (HP)

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)
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3-phase 200V	LFU2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3-phase 400V	HFE2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	HFU2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● : Available

● DeviceNet is a trademark of Open DeviceNet Vendor Association.
 ● PROFIBUS is a registered trademark of Profibus Nutzer Organization.
 ● LONWORKS is a registered trademark of Echelon Corporation.

● Modbus is a registered trademark of Modicon Inc. (Schneider Automation International).
 ● Ethernet is a trademark of Xerox Corporation.

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

WJ200-	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)	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)	260(10.24)	296(11.65)	350(13.78)
Depth	109(4.29)		122.5(4.82)	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)

X200-	SFEF2	002	004	005, 007	011-022	—
	HFEF2	—	—	004	007-040	055, 075
	NFU2	002	004	007	015,022	—
	LFU2	—	—	—	037	055, 075
	HFU2	—	—	004	007-040	055, 075
Width	80(3.15)		80(3.15)	110(4.33)	110(4.33)	180(7.09)
Height	155(6.10)		155(6.10)	189(7.44)	189(7.44)	250(9.84)
Depth	93(3.66) ^{(*)1}		107(4.21) ^{(*)1}	128(5.04) ^{(*)1}	155(6.10) ^{(*)1}	165(6.50)

SJ700-	HFEF2	007-040	055-110	150-220	300	370-550	—	750, 900	1100, 1320	1850, 2200	3150	4000
	LFUF2	004-037	055-110	150-220	300	370-450	550	—	—	—	—	—
	HFUF2	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)

SJ200-	NFEF2	002	004,005	007, 011	015, 022	—
	HFEF2	—	—	004	007-040	055, 075
	NFU2	002	004	007	015, 022	—
	LFU2	—	—	—	037	055, 075
	HFU2	—	—	004	007-040	055, 075
Width	80(3.15)		80(3.15)	110(4.33)	110(4.33)	180(7.09)
Height	CE	140(5.51) ^{(*)2}	140(5.51) ^{(*)2}	155(6.10) ^{(*)2}	155(6.10) ^{(*)2}	250(9.84)
	UL	120(4.72) ^{(*)2}	120(4.72) ^{(*)2}	130(5.12) ^{(*)2}	130(5.12) ^{(*)2}	220(8.66)
Depth	103(4.06) ^{(*)3}		117(4.61) ^{(*)3}	139(5.47) ^{(*)3}	166(6.54) ^{(*)3}	155(6.10) ^{(*)3}

L300P-	HFE2	015-055	075-150	185-300	370	450-750	—	900, 1100	1320
	LFU2	015-055	075-150	185-300	370	450, 550	750	—	—
	HFU2	015-055	075-150	185-300	370	450-750	—	900, 1100	1320
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) ^{(*)4}	550(21.65) ^{(*)5}	700(27.56) ^{(*)6}	700(27.56)	740(29.13)
Depth	140(5.51) ^{(*)7}		170(6.69) ^{(*)7}	190(7.48) ^{(*)7}	195(7.68) ^{(*)7}	250(9.84) ^{(*)7}	250(9.84) ^{(*)7}	270(10.63) ^{(*)7}	270(10.63) ^{(*)7}

L100-	MFU	002, 004	007
Width	128(5.04) ^{(*)8}		128(5.04) ^{(*)8}
Height	130(5.12) ^{(*)2,9}		180(7.09) ^{(*)2,9}
Depth	110(4.33) ^{(*)3}		110(4.33) ^{(*)3}

Note 1: Add 4.4mm (0.17inch) for potentiometer.
 Note 2: Add 10mm (0.39inch) for ground terminal
 Note 3: Add 7mm (0.28inch) for potentiometer
 Note 4: Add 100mm (3.94inches) for conduit box
 Note 5: Add 80mm (3.15inches) for conduit box

Note 6: Add 70mm (2.76inches) for conduit box
 Note 7: Add 8.5mm (0.33inch) for potentiometer
 Note 8: Add 4mm (0.16inch) for hinges
 Note 9: Add 1mm (0.04inch) for top cover
 Note 10: Add 16mm (0.63inch) for ground terminal

L100 Series

**Innovative Compact Design
with Full of Smart Functions**



SJ200 Series




**The Compact Inverter
with High-torque and User-friendliness**



Information in this brochure is subject to change without notice.

For further information, please contact your nearest sales representative.

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

<p>ISO 14001</p>   	<p>Hitachi variable frequency drives (inverters) in this brochure are produced at the factory registered under the ISO 14001 standard for environmental management system and the ISO 9001 standard for inverter quality management system.</p>
<p>ISO 9001 JQA-1153</p>	