

Electro Press
JP-S Series New Generation
Servo Press



●Specifications may be modified without prior notice to improve product quality.

2012.5(JIEE)

A space-saving Servo Press that's making built-in compact devices the industry standard...

Electro Press JP-S Series

New Generation Servo Press



Feature 1

Slim & Compact

The JP-S features a slim main unit design and space-saving controller unit ideal for installation in any factory system. Even where multiple presses are linked together, they take up only a small amount of space, making for easy and efficient inclusion in your production facility plans.

Feature 2

External Control

Using PLC commands, you can control the Electro Press via Digital Input/Output, Fieldbus or the Ethernet.

Feature 3

Ethernet-based Data Gathering

Using dedicated PC software you can quickly gather detailed position and load data. Traceability is assured through the saving of important quality control data including sensor judgment results.

Feature 4

Fieldbus Compatibility

Result data (such as final position/load, judgment position/load) from the PLC is conveyed by a Fieldbus for readout on a register. Users can choose from three Fieldbus types: Devicenet, Profibus and CC-Link.

Feature 5

Extensive Lineup

Our lineup ranges from 5kN up to 50kN with 6 different basic model types as well as a clean room model. We are expanding our product range with new models coming soon!

Feature 6

Ideal for Hydraulic/Pneumatic Press Replacement

Hold down start-up costs by choosing the functions which meet your specific needs (for example, choose whether or not to include a load cell, etc.).

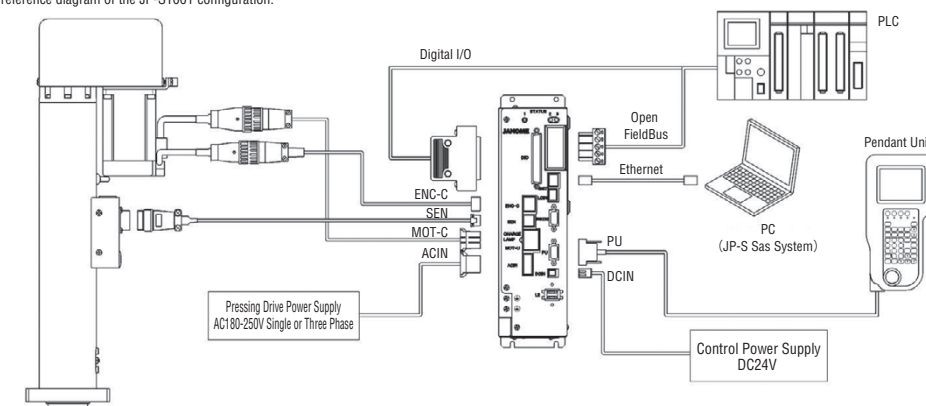
Feature 7

Various Control Modes and Judgment Functions

We combined the pressing parameters (such as speed and load) with the hold parameters (position, load, distance, time, etc.) to create 9 different pressing modes. You can set several pressing modes to the steps in one program, to create a multi-stage operation. We also prepared several sensor judgment functions, including step judgments (judgments made while pressing), and load zone judgments (load judgments against any position range you set). You can set up to 16 step judgments for one step.

System Configuration

This is a simplified reference diagram of the JP-S1001 configuration.



※In order to be able to immediately stop the press, be sure to install an external safety circuit (such as one to cut off the power to the press due to an emergency stop).
 ※For detailed information about power sources, etc., please refer to the Operation Manual.

Choosing Your Model

Example : JP-S0501-00-100BS-NLCCA-331

JP-S	0501	0	0	100	B	S	N	L	CC	A	3	3	1
JP-S	Load	Specs.	Variation	Stroke	Brake	Load Cell	DIO	Linear Encoder	Fieldbus	Regeneration Resistance	Main Unit Cable #1	Power Cable #2	Power Source Specs.
Main Unit: JP-S	5kN: 0501	Standard: 0	Standard: 0	5kN/10kN	Yes: B	Pressing: S	NPN: N	Included*4: L	CC-Link: CC	External Attachment: A	3m: 3	3m: 3	5kN-20kN
Controller: JP-SC	10kN: 1001	CE: 1	Special Configuration ①*3-1	100mm: 100 250mm: 250	No: 0	Pulling: L None: 0	PNP: P None: 0	None: 0	Devicenet: DE Profibus: PR None: 00	Built-in: B	5m: 5 10m: A 15m: B 20m: C None: 0 ... *5	5m: 5 None: 0	Single Phase: 1 Three Phase: 3 Three Phase: 3
	15kN: 1501	Clean: 2		15kN									
	20kN: 2001	CE Clean: 3		100mm: 100 200mm: 200 350mm: 350									
	30kN: 3001			20kN/30kN									
	50kN: 5001			100mm: 100 200mm: 200 400mm: 400									
				50kN									
				200mm: 200 400mm: 400									

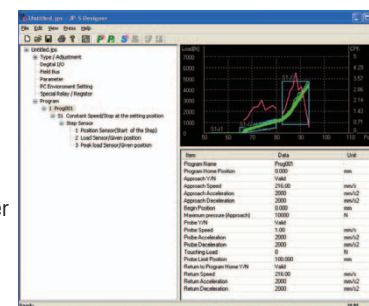
*1 Main Unit Cables (set of 3): Motor Cable, Encoder Connector Cable, Sensor-Load Cell Cable/Sensor Cable
 ※ For the JP-S5001, a thermostat cord is also included.
 *2 Power Cables (set of 2): Controller Power Cable, Drive Power Cable
 *3 Special Configuration ①: JP-S1001 is equipped with a 20kN motor
 *4 Linear Encoder: Under Development
 *5 Main Unit Cable Lengths: for lengths greater than 5m as well as for movable cables, please contact us.

JP-S SaS System PC Software

●JP-S Designer

This software makes the following settings:

- Model Type/Adjustments
- Digital Input/Output (DIO)
- Fieldbus
- RS-232C
- Parameters
- JOG Environment Settings
- Special Relay/Special Register
- Position Zone Output
- Constant Load Gain
- Program

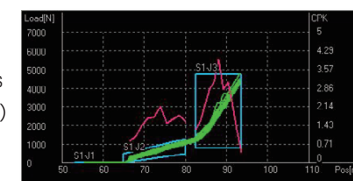


For these settings the software allows you to enter settings, display data, edit, save files and print. In addition, the software carries out bundle transmission and bundle reception to and from the press (excluding model type/adjustments for reception) graph display and display screen changes (length & load values, language).

Graph Display

Read sampling files* including time series data and display pressing result data as a graph.

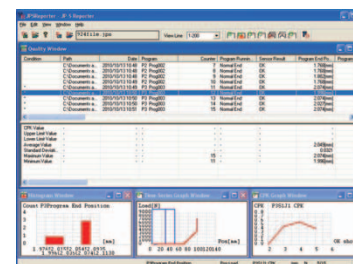
- Green: Time Series Data
- Aqua: Step Judgment Parameters
- Purple: Load Zone Judgment** Parameters
- Red: CPK (Process Capability Index)



* Sampling File...: a file containing pressing result data from JP-S Sampler.
 ** Load Zone Judgments can be generated automatically.

●JP-S Reporter (Optional)

This software displays the pressing result data taken by JP-S Sampler and creates result analyses and reports (HTML format) JP-S Reporter reads in sampling files and setting data and displays quality control lists, quality control statistical lists, histograms, time series graphs and CPK graphs.

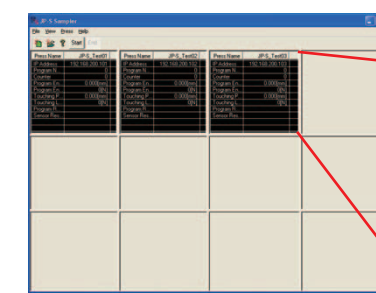


JP-S Reporter can also automatically take quality control data and quality control statistical data .csv files, and save time series graph, pictogram and CPK graph data screens to create and display result reports.

●JP-S Sampler (Optional)

This software is for uploading pressing result data (quality control data/ time series data) onto the PC and saving the sampling files in (.csv) text format. JP-S Sampler can gather pressing result data from up to 20 different presses.

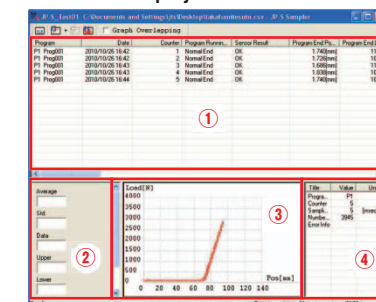
※With JP-S Designer, saving mode is preselected.



<Enlarged Monitor Screen>

Press Name	JP-S_Test03
IP Address	192.168.200.103
Program N...	0
Counter	0
Program En...	0.000(mm)
Program En...	0(N)
Touching P...	0.000(mm)
Touching L...	0(N)
Program R...	
Sensor Res...	

<Detailed Display Screen>



- ① Quality Control Data Display Area
 - One display line for each shot
- ② CPK Display Area
 - CPK details shown on a CPK graph
- ③ Graph Display Area
 - Allows you to switch among time series graph/ histogram/ CPK displays
- ④ Time Series Data Header Display Area
 - Data headers for the most recent pressing results

With the histogram, you can choose from among "Program", "Load Zone Judgment", "Step" and "Step Judgment", and see variations in the data with one glance.

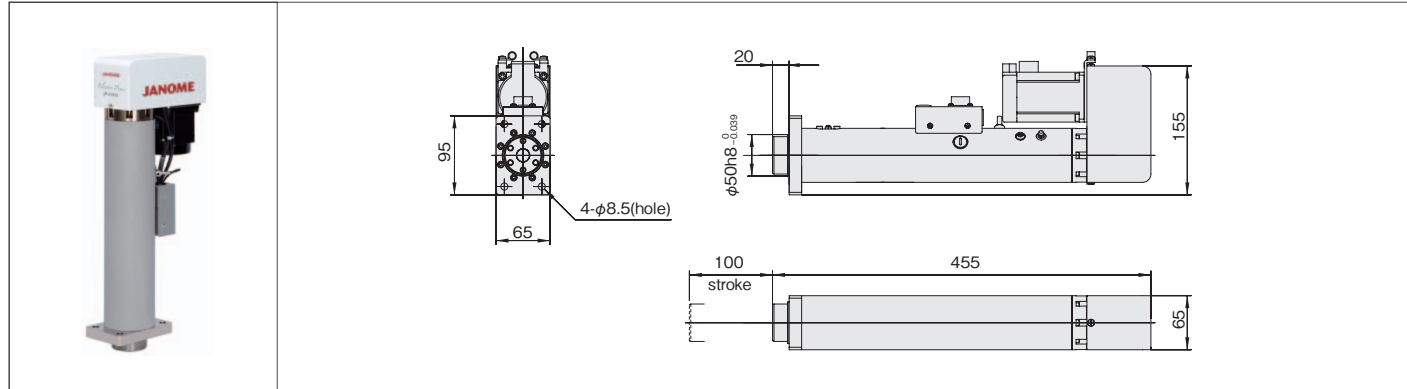
<Operating Environment>

The following operating environment is needed to run the JP-S SaS System Software:
 OS: Microsoft Windows® XP/ Vista/ 7
 PC: a PC which operates on Microsoft Windows® XP/ Vista/ 7
 Available Memory: minimum 512MB
 Hard Disk Space: minimum 2GB

Electro-Press Dimensions

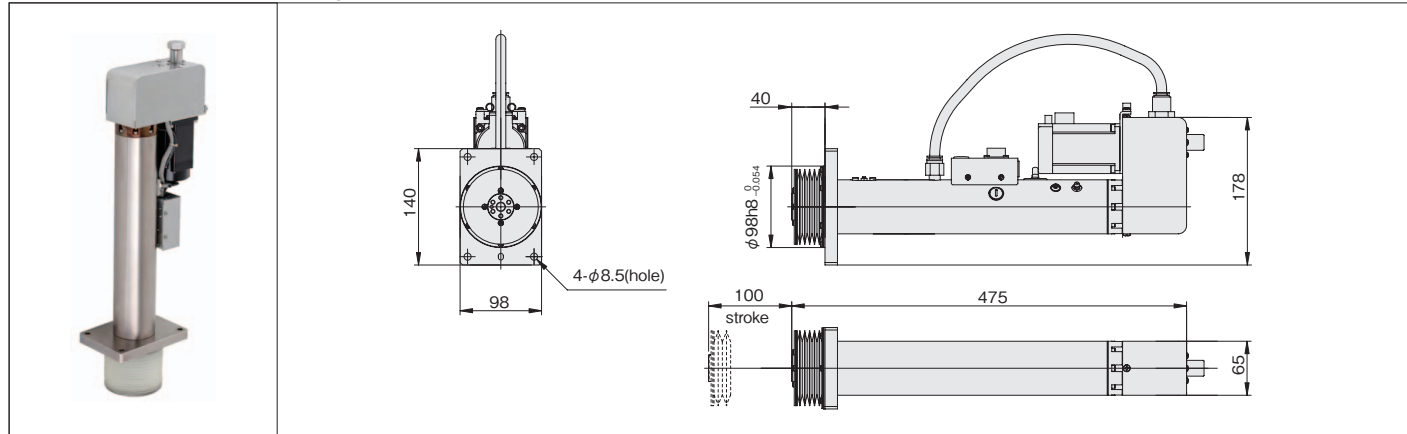
JP-S0501-100, JP-S1001-100

Unit:mm



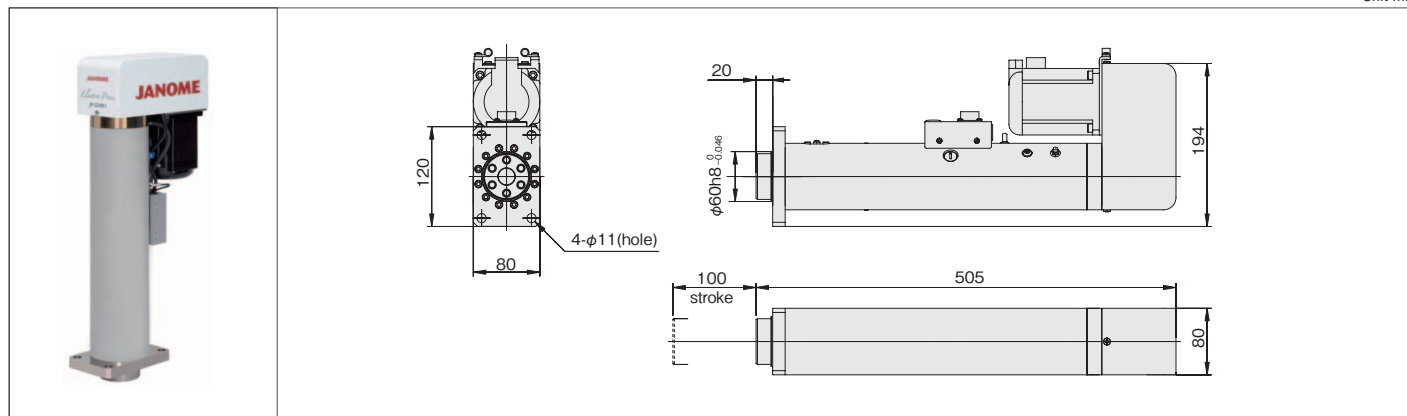
JP-S1001-20-100 (Clean Room Compatible)

Unit:mm



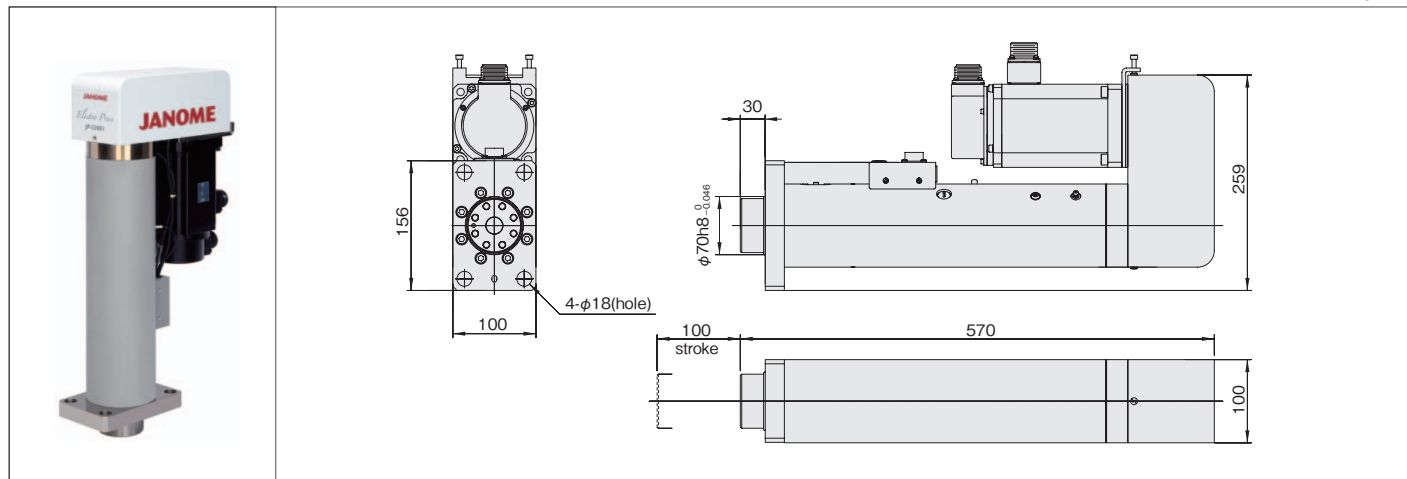
JP-S1501-100, JP-S2001-100

Unit:mm



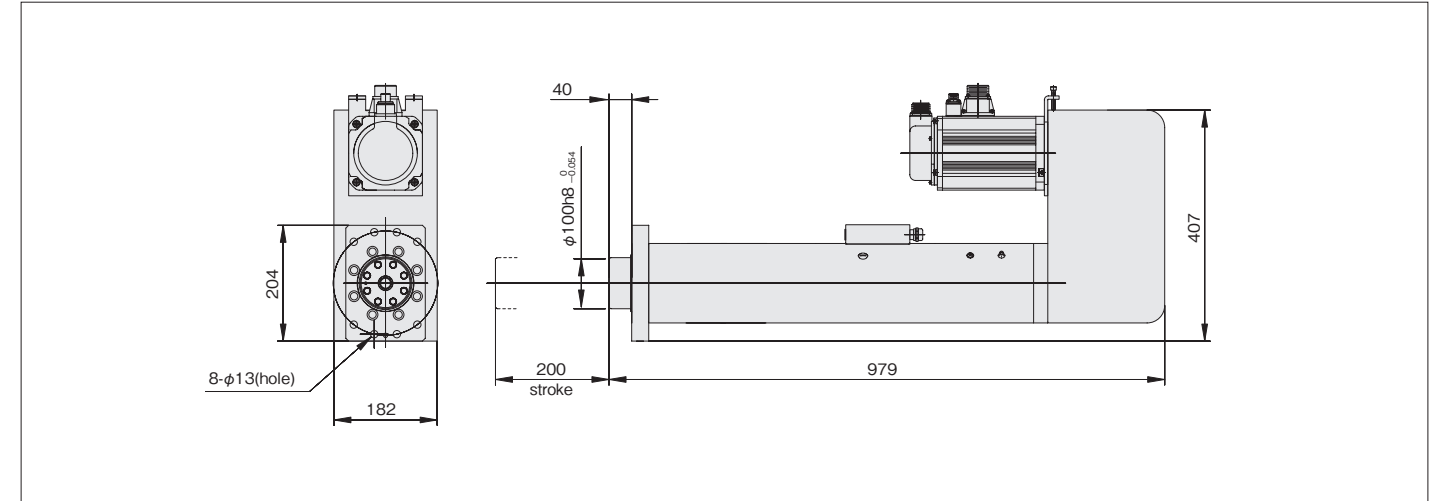
JP-S3001-100

Unit:mm



JP-S5001-200

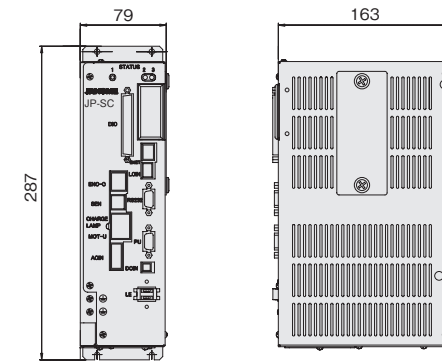
Unit:mm



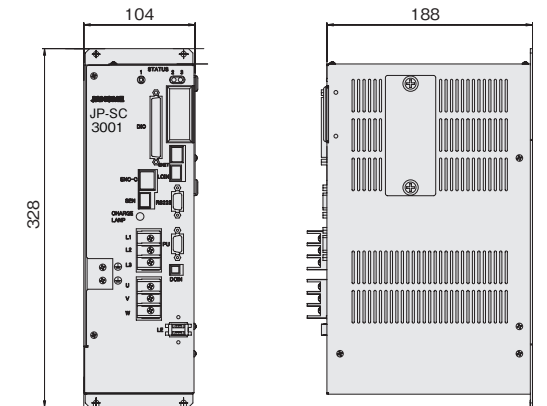
Controller Dimensions

Unit:mm

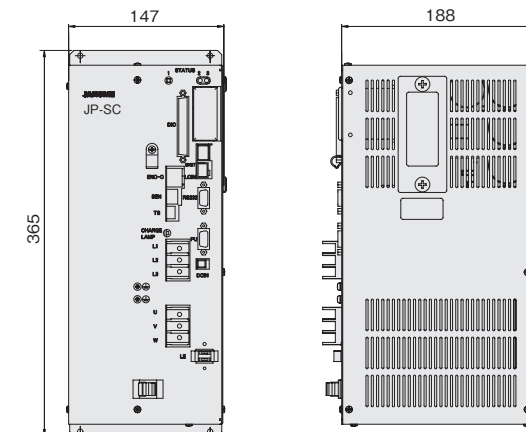
JP-SC0501~2001



JP-SC3001



JP-SC5001



Main Unit	W (mm)	D (mm)	H (mm)	Weight
JP-S0501-100	65	155	455	12kg
JP-S0501-250			655	16kg
JP-S1001-100	65	155	455	12kg
JP-S1001-250			655	16kg
JP-S1001-01-100	80	194	455	14kg
JP-S1001-01-250			655	18kg
JP-S1001-20-100	98	178	475	13kg
JP-S1001-20-250			695	17kg
JP-S1501-100	80	196	505	20kg
JP-S1501-200			645	25kg
JP-S1501-350			845	30kg
JP-S2001-100	80	196	505	20kg
JP-S2001-200			645	25kg
JP-S2001-400			925	33kg
JP-S3001-100	100	259	570	35kg
JP-S3001-200			690	42kg
JP-S3001-400			930	55kg
JP-S5001-200	182	407	979	121kg
JP-S5001-400			1,219	145kg
Controller	W (mm)	D (mm)	H (mm)	Weight
JP-SC0501~2001	79	163	287	3kg
JP-SC3001	104	188	328	5kg
JP-SC5001	147	188	365	8kg

※Dimensions exclude cables and protrusions.

JP-S <Specifications>

Model Type		JP-S0501	JP-S1001	JP-S1001-01 (Special Configuration①)	JP-S1001-20 (Clean Room Compatible)	JP-S1501	JP-S2001	JP-S3001	JP-S5001	
Pressing Capacity	Maximum	5kN	10kN	10kN	10kN	15kN	20kN	30kN	50kN	
	Sensor Detection Unit*1	2N	4N	4N	4N	8N	8N	12N	20N	
Ram Stroke		100mm 250mm	100mm 250mm	100mm 250mm	100mm 250mm	100mm 200mm 350mm	100mm 200mm 400mm	100mm 200mm 400mm	200mm 400mm	
Ram Speed	Pressing	0.01~35mm/sec	0.01~35mm/sec	0.01~35mm/sec	0.01~35mm/sec	0.01~35mm/sec	0.01~35mm/sec	0.01~35mm/sec	0.01~35mm/sec	
	Approaching/Returning	1~216mm/sec	1~216mm/sec	1~208mm/sec	1~216mm/sec	1~200mm/sec	1~200mm/sec	1~210mm/sec	1~200mm/sec	
Maximum Holding Time*2		999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	
Load Precision*3		±50N at 0.5kN or more	±100N at 1kN or more	±100N at 1kN or more	±100N at 1kN or more	±200N at 1.5kN or more	±200N at 2kN or more	±300N at 3kN or more	±500N at 5kN or more	
Repeatability*4		±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	
Maximum Jig Weight Suspended from Ram Tip		5kg	10kg	10kg	10kg	15kg	20kg	30kg	50kg	
Power Consumption		200W	400W	750W	400W	750W	750W	2,000W	5,000W	
Power Source*5	Single Phase	180~250V (50/60Hz) ※Both single and three phase power cables are available. Please specify when placing your order.							—	—
	Three Phase								180~250V (50/60Hz)	
Controller Power Source		DC24V 1.6A								
Ethernet		Included as Standard Equipment								
Motor Encoder Output		Included as Standard Equipment								
Load Cell Output		Included as Standard Equipment								
Analog Motor Output		Speed and electrical current monitoring during press operation. (Optional)								
Pendant Unit Connection		Included as Standard Equipment (Pendant Unit is optional.)								
Digital Input/Output (DIO)		17 Inputs, 16 Outputs ※NPN/ PNP/ None (Please specify when placing your order.)								
Fieldbus		DeviceNet/ Profibus/ CC-Link/ None (Please specify when placing your order.)								
Regenerative Resistance		External Attachment/ Built-in (Please specify when placing your order.)								
Through Output for Pendant Unit Emergency Stop Contact Point*6		Contact point for Emergency Stop Button (EMG) attached to Pendant Unit goes through the controller unit outputs directly.								
RS232C		1ch (9 pins) IP Address setting, access to I/O Memory (Relay/register reading and writing)								
Operating Environment	Temperature	0~40°C								
	Relative Humidity	20~90% (Without condensation)								
Operating Noise		70db or less						Maximum 78.1db*7		
Compatible Controller		JP-SC0501	JP-SC1001	JP-SC1001	JP-SC1001	JP-SC1501	JP-SC2001	JP-SC3001	JP-SC5001	
Clean Class*8 (at the exhaust volume listed below)		—	—	—	Class 1000	—	—	—	—	
Exhaust Flow		—	—	—	60NL/min	—	—	—	—	
Exhaust Aperture (pipe's internal diameter)		—	—	—	φ19	—	—	—	—	

*1) Load detection unit indicates resolution capacity (A to D conversion); this differs from load detection accuracy.

*2) Hold times decrease as loads increase. (In some situations, hold times cannot be obtained.) Increases in motor temperature also shorten hold times.

*3) Load sensor accuracy is ±1% (±1.3% for the JP-S1501) of the maximum pressing capacity provided that the press is operating at 10% of its maximum capacity or more and the press unit and surrounding environment are at a constant temperature.

This figure represents the level of sensor accuracy and is not an indicator of load tolerance after pressing or margin of error. ※Please periodically check the load value.

*4) Repeatability is dependent upon the press unit bearing a constant load and the press and surrounding environment are at a constant temperature. Repeatability is not absolute and is not guaranteed.

*5) 30kN and larger models are available in three phase versions only, and require an electrical transformer for use.

*6) The pendant unit's emergency stop signal is not detectable by the controller. To activate it, please be sure to construct a circuit that cuts power to the unit during an emergency stop.

*7) Measured at a distance of 1m from the unit.

*8) Clean class is based upon the United States' Federal Standard 209D (FED-STD-209D).

<<Compliance with European Union EC Directives>>

We make the following declarations about this product.

① Declaration of EMCD conformity

② Declaration of incorporation to cover LVD and MD

※For the machine and device as a whole, we respectfully request that customers conduct their own conformity test and risk assessment and carry out procedures for their declaration of EMCD, LVD and MD conformity.

※Conforming Models:

• JP-S0501-10 / JP-SC0501
 • JP-S1001-10 / JP-S1001-30 / JP-SC1001
 • JP-S1501-10 / JP-SC1501
 • JP-S2001-10 / JP-SC2001
 • JP-S3001-10 / JP-SC3001
 • JP-S5001-10 / JP-SC5001

JP-S Series Presses



JP-S <Software Functions>

Software Functions	
No. of Programs*1	Up to 512
No. of Pressing Steps*1	Up to 512 (in one program)
No. of Step Judgments*1	Up to 16 (in one step)
Basic Pressing Modes	Constant Speed Pressing · Position Hold / Constant Speed Pressing · Distance Hold / Constant Speed Pressing · Load Hold / Constant Speed Pressing · Increased Load Hold / Constant Speed Pressing · Event Hold Constant Load Pressing · Time Hold / Constant Load Pressing · Position Hold / Constant Load Pressing · Distance Hold / Constant Load Pressing · Event Hold Using the combinations listed above, it is possible to set multiple pressing steps in a single program.
Step Judgment Types	Position Judgment (beginning of step) Load Judgment · Position Designation / Load Judgment · Distance Designation Peak Load Judgment · Position Designation / Peak Load Judgment · Distance Designation Bottom Load Judgment · Position Designation / Bottom Load Judgment · Distance Designation Top Load Judgment · Position Designation / Top Load Judgment · Distance Designation Valley Load Judgment · Position Designation / Valley Load Judgment · Distance Designation Peak to Peak Load Judgment · Position Designation / Peak to Peak Load Judgment · Distance Designation Differential Judgment 1 · Position Designation / Differential Judgment 1 · Distance Designation Differential Judgment 2 · Position Designation / Differential Judgment 2 · Distance Designation Position Judgment (end of step)
Ethernet Interfacing Capability	System program write-over Send/receive setting data Send result data Relay/register access-based control (Ethernet IO)
PC Software (JP-S SaS System)*2	JP-S Designer (Standard) JP-S Sampler (Optional) JP-S Reporter (Optional)
Display Unit Options	Load Unit: N, kgf, Lbf Length Unit: mm, inch
Pendant Unit Display Language Options	English, Japanese, Korean

*1) The number of programs, pressing steps and step judgments is limited in relation to the total memory size (about 1MB). When multiple steps are included in one program, this in turn limits the number of new programs which can be added to the memory.

*2) The JP-S SaS System is a software package created for the JP-S Series. It is not compatible with other Electro Press products. JP-S Sampler and JP-S Designer are not equipped with a language switching function. Please choose your preferred language when you place your order. 490KB are available for storing result data. (This is roughly equal to 300sec of time series data.)

(Standard Attachments)

- Main unit cables (motor cable, encoder connector cable, sensor/load cell cable or sensor cable) ※ For the JP-S5001, a thermostat cord is also included.
- Power cables (controller power cable, press unit drive power cable)
- Operation manual, PC software (CD-ROM) JP-S SaS System JP Designer

(Options)

- The JP Sampler and JP Reporter functions of the JP-S SaS System software do not have display language switching capability. Please choose either English or Japanese when you place your order.
- Pendant unit (with or w/o an EMG) (cable length: 2m, 3m or 5m)
- EMG contact point output cable* (cable length: 3m or 5m)
- Short connector for the pendant*
- DIO connector
- DIO cable (cable length: 2m, 3m or 5m)
- Encoder output cable (cable length: 3m or 5m)
- Load cell output cable (cable length: 3m or 5m)
- Analog monitor output cable (cable length: 2m)
- DIN rail attachment board

*When using a pendant unit with an EMG attached, be sure to construct a circuit which cuts power to the press unit. An "EMG contact point output cable" is needed for cutoff circuit construction. In addition, a "pendant short connector" is needed for EMG pendant unit removal.

Controllers

