Electro Press

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

**Electro Press**

**JP-S Series** New Generation Servo Press

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**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 when 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.

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**Feature 2: External Control**

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

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**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.

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**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, Profinet, CC-Link and CANopen.

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**Feature 5: Extensive Lineup**

Our lineup ranges from 5kN to 200kN with 8 different basic model types as well as new short stroke versions of our 50kN and 100kN types for inclusion in facilities with height or length limitations. We also offer clean room compatible models and high motor output specification types. Choose the ram stroke that is right for your application as well as a pressing or pulling type load cell. (Availability varies depending upon model.)

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**Feature 6: Ideal for Hydraulic/Pneumatic Press Replacement**

The JP-S features low noise operation good for your working environment, and it consumes less energy than hydraulic and pneumatic presses. You can also reduce start-up costs by choosing the functions which meet your specific needs (for example, choose whether or not to include a load cell, etc.).

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**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.

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**System Configuration**

This is a simplified reference diagram of the JP-S1000 configuration.

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**Built-in Thermostat Model**

In addition to the panel on the left, there is an Ethernet terminal for control communication.

**Compatible Models:**

- [ABC123**]{1}

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*For detailed information about power source, etc., please refer to the Operation Manual.*
Choosing Your Model

Example: JP-S0501-0100BS-NLCCA-3231

<table>
<thead>
<tr>
<th>JP-S</th>
<th>0501</th>
<th>-</th>
<th>0</th>
<th>0</th>
<th>100</th>
<th>B</th>
<th>S</th>
<th>-</th>
<th>N</th>
<th>L</th>
<th>CC</th>
<th>A</th>
<th>-</th>
<th>3</th>
<th>3</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Main Unit: JP-S</td>
<td>150k</td>
<td>0501</td>
<td>Standard</td>
<td>0</td>
<td>Standard</td>
<td>0</td>
<td>1000</td>
<td>100</td>
<td>Yes</td>
<td>B</td>
<td>Pressing: S</td>
<td>P</td>
<td>0</td>
<td>No</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Controller: JP-SC</td>
<td>150k</td>
<td>1001</td>
<td>CE-1</td>
<td>Special</td>
<td>511</td>
<td>P1, P13</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>No</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>300k</td>
<td>1001</td>
<td>CE-1</td>
<td>Special</td>
<td>511</td>
<td>P1, P13</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>No</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500k</td>
<td>1001</td>
<td>CE-2</td>
<td>Special</td>
<td>111</td>
<td>P1, P13</td>
<td>-</td>
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<td>-</td>
<td>0</td>
<td>No</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000k</td>
<td>1001</td>
<td>CE-2</td>
<td>Special</td>
<td>111</td>
<td>P1, P13</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>No</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1500k</td>
<td>1001</td>
<td>CE-2</td>
<td>Special</td>
<td>111</td>
<td>P1, P13</td>
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<td>0</td>
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<td>-</td>
<td>-</td>
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</tr>
<tr>
<td></td>
<td>2000k</td>
<td>1001</td>
<td>CE-2</td>
<td>Special</td>
<td>111</td>
<td>P1, P13</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>No</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

JP-S SaS System PC Software

● JP-S Designer
  This software makes the following settings:
  ● Model Type/Adjustments
  ● Digital Input/Output (DIO)
  ● Fieldbus
  ● RS-422C
  ● Parameters
  ● JIG 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 can output bundle transmission and bundle reception to the press (excluding Model Type/Adjustments for reception) graph display and display screen changes (length & load values, language).

Graph Display
Reads sampling files including time series data and displays run result data as a graph.

Green: Time Series Data
Aqua: Step Judgment Parameters
Purple: Load Zone Judgment** Parameters
Red: CPK (Process Capability Index)
  * Sampling T1 - 5-10 minutes pressing result data from JP-S Sampler.
  ** Load Zone Judgment can be generated automatically.

● JP-S Sampler (Optional)
This software is for bringing run 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 run result data from up to 20 different presses.
With JP-S Designer, saving results is preselected.

The run result displays are color-coded.
Run result and judgment are both OK: blue
Run result and judgment are NG: red

● JP-S Reporter (Optional)
This software displays the run 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 graphs, pictograms, and CPK graph data screens to create and display result reports.

Operating Environment
The following operating environment is needed to run the JP-S SaS System Software:
  OS: Microsoft Windows® Vista/Windows® 7/Windows® 8
  PC: a PC which operates on Microsoft Windows® Vista/Windows® 7/Windows® 8
  Available memory: minimum 512MB
  Hard Disk Space: minimum 2GB

Electro Press JP-S Series 02
### Controller Dimensions

**External Dimensions**

<table>
<thead>
<tr>
<th>Main Unit</th>
<th>W (mm)</th>
<th>D (mm)</th>
<th>H (mm)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP-SC0501-011-100</td>
<td>65</td>
<td>155</td>
<td>455</td>
<td>12kg</td>
</tr>
<tr>
<td>JP-SC0501-011-150</td>
<td>65</td>
<td>155</td>
<td>505</td>
<td>13kg</td>
</tr>
<tr>
<td>JP-SC0501-011-200</td>
<td>65</td>
<td>155</td>
<td>655</td>
<td>14kg</td>
</tr>
<tr>
<td>JP-SC0501-011-100</td>
<td>80</td>
<td>194</td>
<td>455</td>
<td>14kg</td>
</tr>
<tr>
<td>JP-SC0501-011-200</td>
<td>80</td>
<td>194</td>
<td>505</td>
<td>15kg</td>
</tr>
<tr>
<td>JP-SC0501-011-250</td>
<td>80</td>
<td>194</td>
<td>655</td>
<td>16kg</td>
</tr>
<tr>
<td>JP-SC0501-011-300</td>
<td>80</td>
<td>194</td>
<td>805</td>
<td>18kg</td>
</tr>
<tr>
<td>JP-SC0501-011-350</td>
<td>80</td>
<td>194</td>
<td>955</td>
<td>20kg</td>
</tr>
<tr>
<td>JP-SC0501-011-400</td>
<td>80</td>
<td>194</td>
<td>1105</td>
<td>22kg</td>
</tr>
<tr>
<td>JP-SC0501-011-500</td>
<td>80</td>
<td>194</td>
<td>1255</td>
<td>24kg</td>
</tr>
</tbody>
</table>

**Controllers**

- JP-SC3001
- JP-SC5R01~20T1

The right motive output type controller specifications are the same as those for the controller of the regular specification press one size larger. Dimensions exclude cables and protrusions.
### JP-S Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pressing Capacity</strong></td>
<td>5kN</td>
<td>10kN</td>
<td>15kN</td>
<td>20kN</td>
<td>30kN</td>
<td>50kN</td>
<td>100kN</td>
<td>200kN</td>
</tr>
<tr>
<td><strong>Diaper Detection Unit</strong></td>
<td>2N</td>
<td>4N</td>
<td>8N</td>
<td>12N</td>
<td>20N</td>
<td>40N</td>
<td>80N</td>
<td>120N</td>
</tr>
<tr>
<td><strong>Ram Stroke</strong></td>
<td>100mm</td>
<td>150mm</td>
<td>250mm</td>
<td>100mm</td>
<td>250mm</td>
<td>300mm, 400mm</td>
<td>450mm</td>
<td>600mm, 700mm, 800mm, 900mm, 1000mm</td>
</tr>
<tr>
<td><strong>Ram Speed</strong></td>
<td>0.01—216 mm/sec</td>
<td>0.01—216 mm/sec</td>
<td>0.01—216 mm/sec</td>
<td>0.01—216 mm/sec</td>
<td>0.01—216 mm/sec</td>
<td>0.01—216 mm/sec</td>
<td>0.01—216 mm/sec</td>
<td>0.01—216 mm/sec</td>
</tr>
<tr>
<td><strong>Maximum Holding Time</strong></td>
<td>999.9sec</td>
<td>999.9sec</td>
<td>999.9sec</td>
<td>999.9sec</td>
<td>999.9sec</td>
<td>999.9sec</td>
<td>999.9sec</td>
<td>999.9sec</td>
</tr>
<tr>
<td><strong>Load Precision</strong></td>
<td>±0.2% of range or more</td>
<td>±0.1% of range or more</td>
<td>±0.1% of range or more</td>
<td>±0.1% of range or more</td>
<td>±0.1% of range or more</td>
<td>±0.1% of range or more</td>
<td>±0.1% of range or more</td>
<td>±0.1% of range or more</td>
</tr>
<tr>
<td><strong>Repeatability</strong></td>
<td>±0.01mm</td>
<td>±0.01mm</td>
<td>±0.01mm</td>
<td>±0.01mm</td>
<td>±0.01mm</td>
<td>±0.01mm</td>
<td>±0.01mm</td>
<td>±0.01mm</td>
</tr>
<tr>
<td><strong>Maximum Rigidity</strong></td>
<td>50kN</td>
<td>50kN</td>
<td>50kN</td>
<td>50kN</td>
<td>50kN</td>
<td>50kN</td>
<td>50kN</td>
<td>50kN</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>200W</td>
<td>400W</td>
<td>750W</td>
<td>750W</td>
<td>1000W</td>
<td>5000W</td>
<td>5000W</td>
<td>5000W</td>
</tr>
<tr>
<td><strong>Controller Power Source</strong></td>
<td>DC24V</td>
<td>DC24V</td>
<td>DC24V</td>
<td>DC24V</td>
<td>DC24V</td>
<td>DC24V</td>
<td>DC24V</td>
<td>DC24V</td>
</tr>
<tr>
<td><strong>EtherCAT</strong></td>
<td>Included as Standard Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motor Encoder Output</strong></td>
<td>Included as Standard Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Load Cell Output</strong></td>
<td>Included as Standard Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analog Motor Output</strong></td>
<td>Speed and motor current values measured using electrical current output during press operation (optional).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pendant Unit Connection</strong></td>
<td>Included as Standard Equipment (Pendant Unit is optional).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fieldbus</strong></td>
<td>DeviceNet/Profinet/CC/Link/CANopen/None (Please specify when placing your order.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regenerative Resistance</strong></td>
<td>External/Attachment/Build-in (Please specify when placing your order.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contact Point</strong></td>
<td>Contact point for Emergency Stop Button (ESM) attached to Pendant Unit goes through the controller unit outputs directly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RS232C</strong></td>
<td>1ch (9 pins)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IP Addressing</strong></td>
<td>16ch (16 bits)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Operating Environment</strong></td>
<td>0~60°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Relative Humidity</strong></td>
<td>20~90% (Without condensation)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>IP Protection Rating</strong></td>
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<td><strong>High Power Motor Specification</strong></td>
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<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
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<tr>
<td><strong>Clean Room Compatibile</strong></td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
</tr>
<tr>
<td><strong>Clean Class</strong></td>
<td>Class 1000</td>
<td>Class 1000</td>
<td>Class 1000</td>
<td>Class 1000</td>
<td>Class 1000</td>
<td>Class 1000</td>
<td>Class 1000</td>
<td>Class 1000</td>
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<tr>
<td><strong>Exhaust Flow</strong></td>
<td>60L/min</td>
<td>60L/min</td>
<td>60L/min</td>
<td>60L/min</td>
<td>60L/min</td>
<td>60L/min</td>
<td>60L/min</td>
<td>60L/min</td>
</tr>
<tr>
<td><strong>Exhaust Directorate (pipe's internal diameter)</strong></td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
</tr>
</tbody>
</table>

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

*2) Holding time decreases as loads increase. (In some situations, holding times cannot be calculated.) Increases in motor temperature also shorten holding times.

*3) Load accuracy is ±2% of the maximum pressing capacity provided that the press is operating at 10% of its maximum capacity or more and that the press and its surrounding environment are at a constant temperature. (However, for the 15kN type, load sensor accuracy is ±3% when at 15% maximum capacity or above.)

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

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

*5) For information about load weight, please contact the manufacturer of the jig you are using.

*6) The regenerative resistance for the JP-55001 High Power Motor specifications types is built-in only.

*7) 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.

*8) The controller's memory has 490K available for storing start data. (This is roughly equal to 300sec of time series data.)

*9) The high power motor does not increase the maximum pressing capacity. Rather, it is useful for extending the holding time under certain conditions.

The ram speed, power consumption, etc. for these types differs from the content of this catalog. Please contact us for more information.

*10) Clean Room Types are not CE certified for use in the European Union.

*11) Clean class is based on the United States’ Federal Standard 209B (ISO 5/10/100/1000).
<table>
<thead>
<tr>
<th>Software Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Programs***</td>
</tr>
<tr>
<td>No. of Pressing Steps**</td>
</tr>
<tr>
<td>No. of Step Judgments**</td>
</tr>
</tbody>
</table>

**Basic Pressing Modes**
- Constant Speed Pressing: Position Hold / Constant Speed Pressing: Distance Hold / Constant Speed Pressing: Hold Load / Constant Speed Pressing: Increased Load Hold / Constant Speed 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)
- Lead Judgment: Position Disregard / Lead Judgment: Distance Disregard
- Peak Lead Judgment: Position Disregard / Peak Lead Judgment: Distance Disregard
- Bottom Lead Judgment: Position Disregard / Bottom Lead Judgment: Distance Disregard
- Top Lead Judgment: Position Disregard / Top Lead Judgment: Distance Disregard
- Valley Lead Judgment: Position Disregard / Valley Lead Judgment: Distance Disregard
- Peak to Peak Lead Judgment: Position Disregard / Peak to Peak Lead Judgment: Distance Disregard
- Differential Judgment 1: Position Designation / Differential Judgment 1: Distance Designation
- Differential Judgment 2: Position Designation / Differential Lead Judgment 2: Distance Designation

**Position Judgment (end of step)**

**Ethernet Interfacing Capability**
- System program write-over
- Send/receive setting data
- Send result data
- Relay/access register access-based control (Ethernet B)

**PC Software (JP-S SaS System)**

**Display Unit Options**
- Lead Unit: N, kg, lb
- Length Unit: mm, inch

**Pendant Unit Display Language Options**
- English, Japanese, Korean

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**Standard Attachments**
- Main unit cables (motor cable, encoder connector cable, sensor load cell cable or sensor cable)
- JP-S-0070-11, and models with a maximum pressing capacity of 50KN and above include a thermal element cable.
- Power cables (controller power cable, press unit drive power cable)

**Options**
- The JP-S Sampler and JP-S 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 without an emergency stop button (*)
- Emergency stop button contact point output cable (*)
- Short connector for the pendant ()
- IDI 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 emergency stop button, be sure to construct a circuit to cut off the drive power. An emergency stop button connection point output cable is needed to construct a cut-off circuit. Also, when removing a pendant unit that has an emergency stop button, a ‘pendant short connector’ is needed.**

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**Compliance with European Union EC Directives**
- We make the following declarations about this product.
- Declaration of Compliance conformity
- 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 meeting EC, LVD and MD conformity.

**Conforming Models:**

**Clean Room Types are not CE certified use in the European Union.**

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**Specifications may be modified without prior notice to improve product quality.** 2014,07(3)2,000