

## ● Clean-Room Electro Press

### ■ A World First Clean Room Class 10 (0.3μm)\* Compliant Press Machine!

- ① The special airtight structure prevents dust emissions.
- ② Special external conductive coating prevents static electricity.
- ③ Low dust grease is used on the inside of the sliding ram; additionally a special antistatic accordion hose covers the outside of the ram.
- ④ Large and small exhaust pipe connectors are included for use with a variety of types and capacities of exhaust equipment. (Not available for all models)
- ⑤ The body (not including the control box) can be used in both clean room and general environments.
- ⑥ All plates and screws exposed to the outside are made of stainless-steel.

### ■ What's Clean Class 10?

Clean Class 10 is defined by Federal Standard 209D as a particulate count that shall not exceed a total of 10 particles of a size of 0.5μm or greater per cubic foot of air.

Clean Class10	Stand-Alone/Head Type	18Nm <sup>3</sup> /h (300NL/min)	30Nm <sup>3</sup> /h (500NL/min)
	Unit Type	15Nm <sup>3</sup> /h (250NL/min)	18Nm <sup>3</sup> /h (300NL/min)
Outlet Flow	Control Box	12Nm <sup>3</sup> /h (200NL/min)	15Nm <sup>3</sup> /h (250NL/min)
Exhaust Pipe Diameter	Stand-Alone/Head Type	External: φ12 (One-touch connector) Internal: φ19 (Fixed by a hose band & screw plug)	Internal: φ25 (Fixed by a hose band & screw plug)
	Unit Type	External: φ10 (One-touch connector) External: φ16 (One-touch connector)	Internal: φ19 (Fixed by a hose band & screw plug)
	Control Box	External: φ10 (One-touch connector) External: φ16 (One-touch connector)	Internal: φ19 (Fixed by a hose band & screw plug)

[Note] 15kN and 80kN models are not available in clean room type.



# Electro Press JP Series 4

**JP Series 4 Electro Presses**

High-Precision Servo Presses  
0.5kN · 1kN · 2kN · 5kN · 10kN  
15kN · 20kN · 30kN · 50kN · 80kN

You can examine our products at our showrooms in Japan, Taiwan, Thailand, USA, and Germany. Please feel free to contact us for any inquiry.

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Distributor

# JP Series 4 Electro Press

## Main Features

### A Variety of Models to Satisfy All Needs

Stand-alone, head, and unit types with a pressing capacity ranging from 0.5kN to 80kN are available for diverse needs in a variety of fields. In addition to the standard stroke, short and long strokes are also available. \*There are two installation methods available: side mounting or flange vertical mounting suitable for in-line production. (\*Optional depending on the model)

### Clean, Energy-Saving, and Safe

Driven by the AC servo motor, the Electro Press provides a quiet and clean work environment. Consuming 10% to 20% less energy compared to pneumatic and hydraulic presses, the Electro Press can contribute to a total cost reduction as well as environmental conservation (ISO14000). To ensure safety, all Electro Presses come equipped with an area sensor (light curtain) terminal as well as a fail-safe circuit.

### High Accuracy and High Function

The AC servo motor, high precision ball screw, and load cell deliver high accuracy and high function.

### Various Pressing Modes & Functions

Specialized processes can easily be handled with two- or multiple-section pressing (user-programmable via a teaching pendant) and a variety of operation modes including "Constant Speed · Set Stop Position", "Constant Speed · Set Distance Mode", and more. With precise positioning and adjustment capabilities, there is no need for making or adjusting high precision dies or jigs when changing set-ups or starting up new production lines. Additionally the impact on the die is very low. The Electro Press can speed up your operations and improve productivity.

### Load and Position Traceability & Complete Quality Control

The Electro Press has a variety of sensor functions for load, position, distance, and speed. In the Sensor Load mode, the sampling function checks many load values including Peak, Bottom, and Differential. The Press can be connected directly to a PC through the external interface, RS-232C; thus, all the data such as pressure curves and work results can be stored and organized in a PC (using optional software). Also, the pressure curve display on the LCD on the Electro Press or monitor box allows visual checks during operation. Furthermore, the optional load cell output (analogue data) and motor encoder output (pulse output) are available for real-time transmission of position and load data to external devices. With these functions, the Electro Press ensures traceability of products, makes quality control easier, and supports your compliance with ISO9000.

### Muting Function

The stand-alone Electro Press is also available in special specifications with a muting function (which outputs a signal to deactivate the area sensor when the ram is ascending or in the stand-by position) to create a more efficient work environment.

### Large LCD Screen & User-Friendly Operation

An interactive operation system is employed with the switch panel and easily-viewable large LCD. Display languages (Japanese and other major languages) and units of measure (mm/inch) are changeable.

### Self Diagnosis Function

In case of a problem, an error message will be displayed so you can quickly locate and react to the problem.

## Model Name



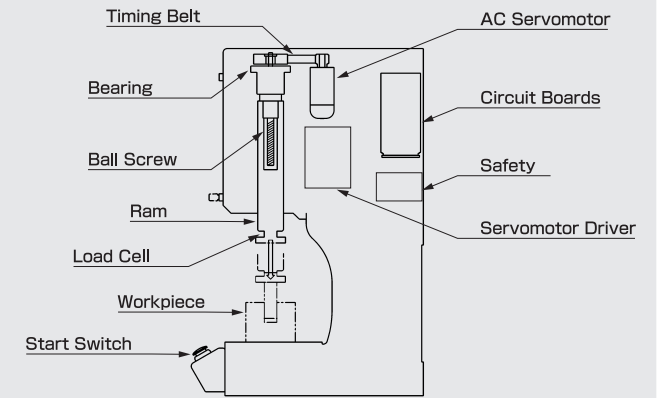
JP U - 100 4 CL e.g.) JPU-1004CL: ①Unit Type  
②10kN Pressing Capacity  
③Clean Room Type

①		② Pressing Capacity				③	
Nil	Stand-Alone Type	05	0.5kN	150	15kN	Nil	Standard
H	Head Type	10	1kN	200	20kN	L	Long Stroke
U	Unit Type	20	2kN	300	30kN	CL	Clean Room
B	Control Box	50	5kN	500	50kN		
		100	10kN	800	80kN		

## Structure

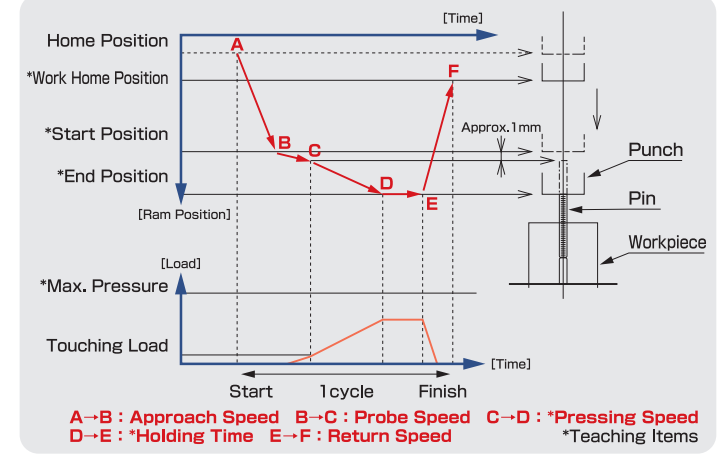
The Electro Press is driven by an AC servo motor. The rotation force produced by the AC servo motor is adjusted to a vertical direction by a high-precision ball screw; then the Press utilizes the power to apply pressure to a workpiece. The Electro Press also controls pressure and position by a load cell and an encoder.

The Electro Press is JANOME's original press machine. Unlike other types of press machines such as mechanical and hydraulic presses, it precisely controls pressure, stop position, pressing speed, and holding time according to your exact specifications.



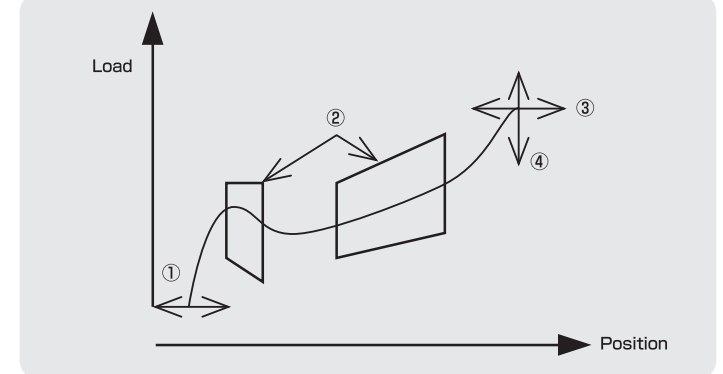
## Basic Operation

- Values can be registered interactively in the teaching mode.
- Turn the select key switch to RUN mode and press the start switches; then the Electro Press begins operation as registered. (See the diagram on the right.)
- The Electro Press can be started through an external I/O using a sequencer by turning the select key switch to External RUN mode.
- The EDIT function enables multiple-section settings to control the ram speed and stop position while descending.
- The differential function enables the Electro Press to sample the load just before a sharp increase in pressure and checks that the sampled load is within the desired range.



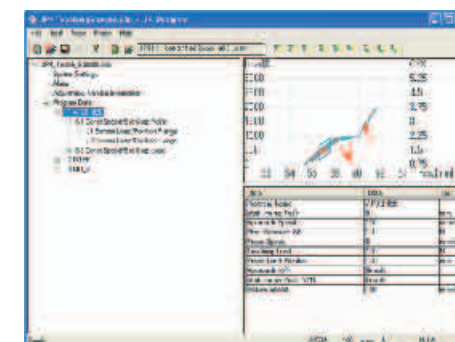
## Judgment Functions

- ① Position judgment function at the start position.
- ② Load judgment and sampling load function (peak, differential, and other load values) within the desired range.
- ③④ Load and position judgment function at the end position.

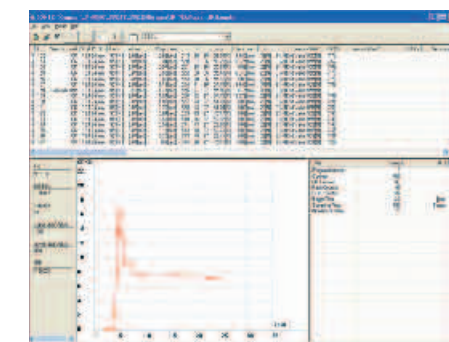


## PC Software (JP TaS System)

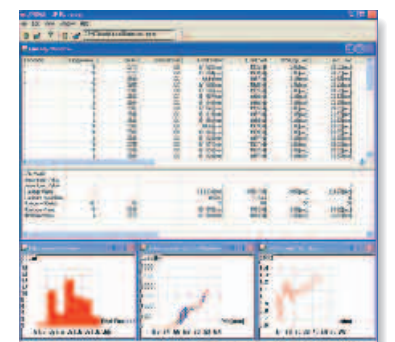
- **JP Designer**  
- Allows teaching data creation and sensor mode settings. Also retrieves the data from the Electro Press onto a PC for changing settings, making backups, or printing.
- **JP Sampler**  
- Retrieves quality and time series data from the Electro Press at each cycle and saves it onto a PC as a sampling file (text format).
- **JP Reporter**  
- Analyzes and reports on CPK or results displaying the data retrieved from the Electro Press using the JP Sampler.



JP Designer



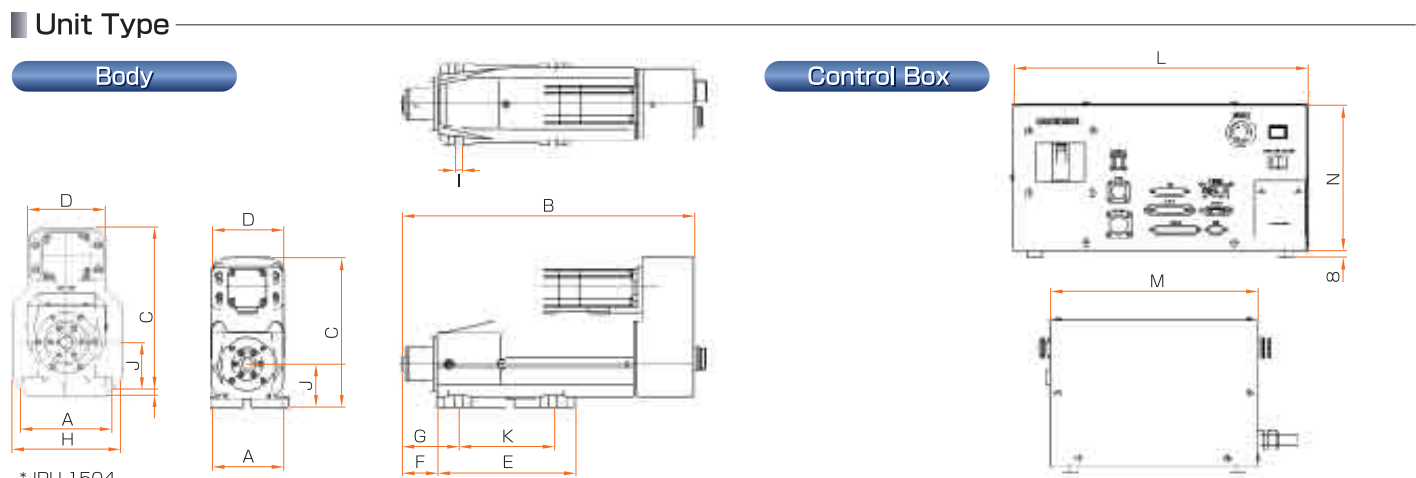
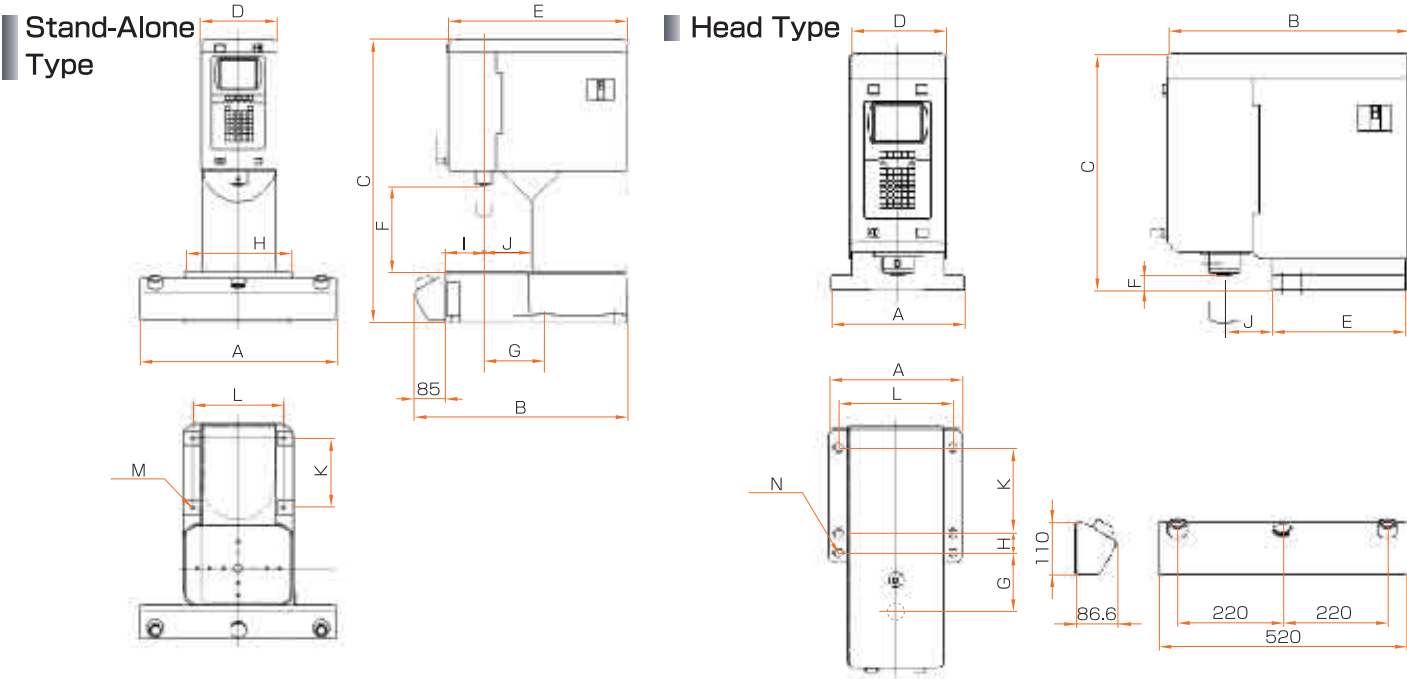
JP Sampler



JP Reporter



External Dimensions 0.5kN·1kN·2kN·5kN·10kN·15kN



\*JPU-1504 [ ]: Clean-room type ( ): Long-stroke type Unit: mm

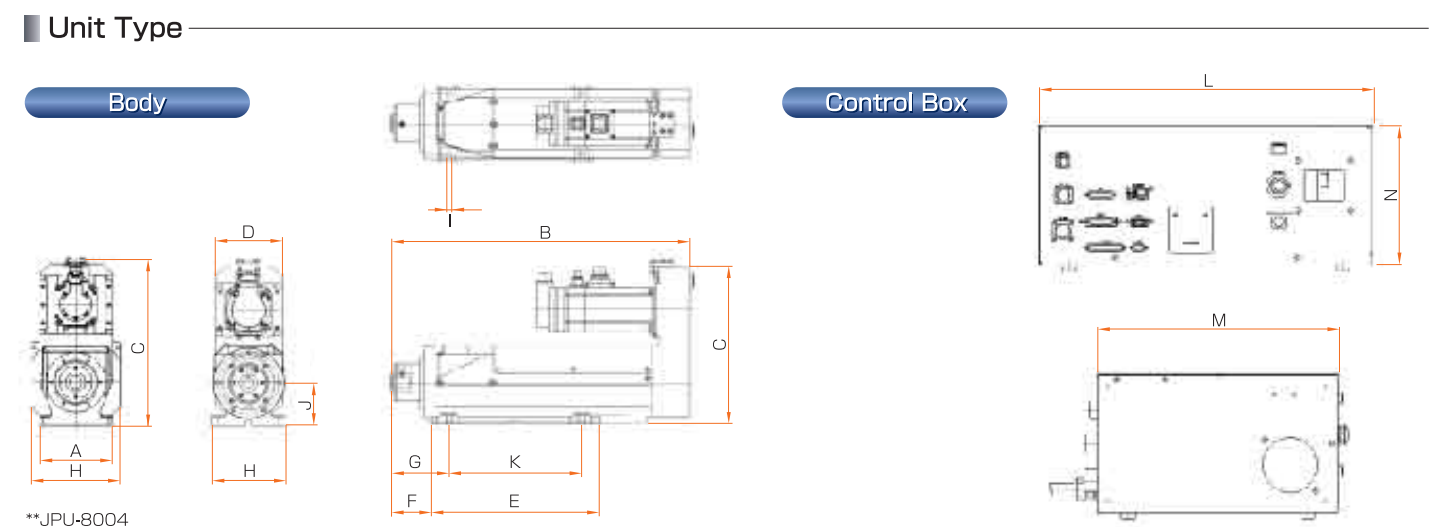
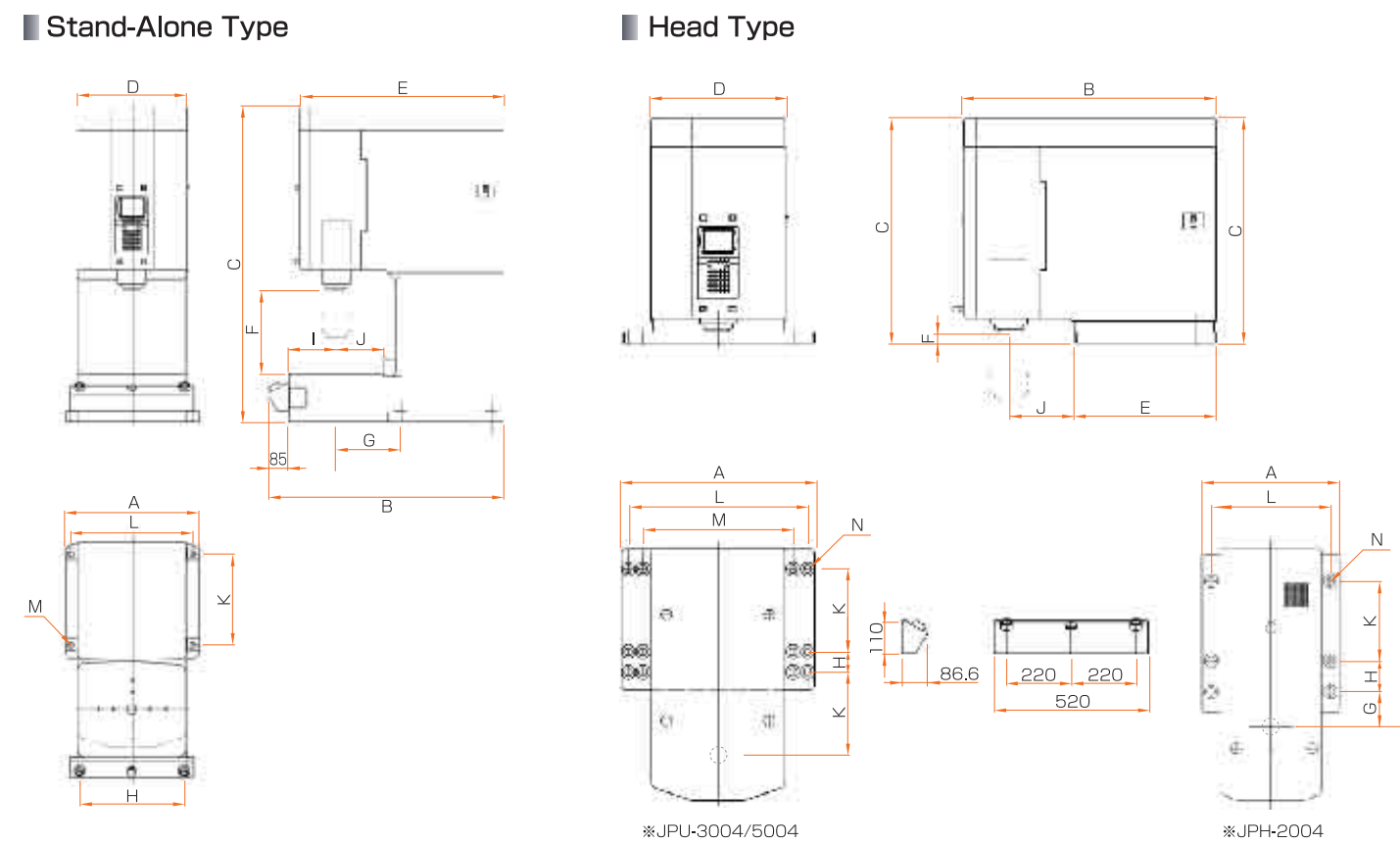
Stand-Alone	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JP-054,104 204	520	567	750 [755]	200	472	225	160	280 [284]	100 [102]	115 [117]	185	240	4-φ12	-
JP-504,1004	520	585	875 (950) [880]	200	505	275	160	325 [329]	115 [117]	130	185	230	4-φ12	-
JP-1504	520	585	875 (950) [880]	200	505	275	160	325 [880]	115 [117]	130	185	230	4-φ12	-

Head	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JPH-054,104 204	282	472	470 [475]	200	255	80	152	-	-	124	180	240	-	4-φ18
JPH-504,1004	280	505	495 (570) [500]	200	280	30	120	41	-	100	180	240	-	6-φ18
JPH-1504	280	505	495 (570) [500]	200	280	30	120	41	-	100	185	240	-	6-φ18

Unit	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JPU-054,104 204	118	415	213	100	195	50	80	-	12	60	135	398	280	198
JPU-504,1004	146	495 (570)	250	125	300	50	80	-	13	75	200	398	280	198
JPU-1504*	146	497 (570)	270	125	300	50	80	175	13	75	200	398	280	198

●Please contact us for more details.

20kN·30kN·50kN·80kN



[ ]: Clean-room type ( ): Long-stroke type Unit: mm

Stand-Alone	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JP-2004	520	813	1,236	298	729	350	195	376	150	150	319	336	4-φ18	-
JP-3004	560	985	1,315	458	858	350	270	450 [454]	200 [202]	200 [202]	380	510	4-φ22	-

Head	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JPH-2004	400	729	726	298	459	10	165	90	-	105	230	345	-	6-φ22
JPH-3004, 5004	660	858	765	458	480	-	280	70	-	220	280	510	610	12-φ26

Unit	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JPU-2004	-	675 (955)	367	152	380 (580)	90	130	168	13	95	300 (500)	398	330	198
JPU-3004 JPU-5004	-	775 (1,065)	508	220	435	100	150	220 (230)	18	132	340	550	398	230
JPU-8004**	220	775 (1,065)	512	220	435	100	150	270	18	132	340	550	398	230

●Please contact us for more details.

## Specifications

Item		Model				
		JP/JPH/JPU-054	JP/JPH/JPU-104	JP/JPH/JPU-204	JP/JPH/JPU-504	JP/JPH/JPU-1004
Pressing Capacity	Maximum	0.5kN	1kN	2kN	5kN	10kN
	Allowable Range	5N - 500N	10N - 1kN	20N - 2kN	50N - 5kN	100N - 10kN
	Increments	1N	1N	1N	1N	1N
	Minimum Sensing Capacity*1	1N	2N	4N	10N	20N
Ram Stroke	Maximum	80mm	80mm	80mm	100mm (Long-stroke:150mm)	100mm (Long-stroke:150mm) (Unit short-stroke:25mm)
	Increments	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm
Ram Speed	Pressing	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec
	Approaching-Ascending (Max.) <sup>*2</sup>	166mm/sec	166mm/sec	166mm/sec	166mm/sec	166mm/sec
	Increments	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec
Holding Time	Maximum (At Max.Load) <sup>*3</sup>	999.9sec	999.9sec	999.9sec	999.9sec	50sec
	Allowable Range	0 - 999.9sec	0 - 999.9sec	0 - 999.9sec	0 - 999.9sec	0 - 999.9sec
	Increments	0.1sec	0.1sec	0.1sec	0.1sec	0.1sec
Repeatability*4		±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm
Load Sensing Range		50N - 500N	100N - 1kN	200N - 2kN	500N - 5kN	1kN - 10kN
Max Jig Weight Hanging on Ram Tip		0.5kg	1kg	2kg	5kg	10kg
Power Consumption		300W	300W	300W	850W	850W
Power Supply	Three-Phase	180 - 250V	180 - 250V	180 - 250V	180 - 250V	180 - 250V
	Single-Phase					
Dimensions WxDxH (Not including protrusion parts)	Stand-Alone Type	520×567×750mm			520×585×875mm	
	Head Type	282×472×470mm			280×505×495mm	
	Unit Type*5	118×415×213mm			146×495×250mm	
	Control Box	398×280×198mm			398×280×198mm	
Weight	Stand-Alone Type	100kg			160kg	
	Head Type	80kg			100kg	
	Unit Type	25kg			35kg	
	Control Box	13kg			13kg	

Item		Model				
		JP/JPH/JPU-1504	JP/JPH/JPU-2004	JP/JPH/JPU-3004	JP/JPH/JPU-5004	JPU-8004
Pressing Capacity	Maximum	15kN	20kN	30kN	50kN	80kN
	Allowable Range	150N - 15kN	200N - 20kN	300N - 30kN	500N - 50kN	800N - 80kN
	Increments	1N	1N	10N	10N	10N
	Minimum Sensing Capacity*1	30N	40N	60N	100N	160N
Ram Stroke	Maximum	100mm (Long-stroke:150mm)	200mm (Unit Long-Stroke:400mm)	200mm (Unit Long-Stroke:400mm)	200mm (Unit Long-Stroke:400mm)	200mm (Long-Stroke:400mm)
	Increments	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm
Ram Speed	Pressing	20mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec
	Approaching-Ascending (Max.) <sup>*2</sup>	100mm/sec	200mm/sec (166mm/sec)	300mm/sec (200mm/sec)	300mm/sec (200mm/sec)	200mm/sec (133mm/sec)
	Increments	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec
Holding Time	Maximum (At Max.Load) <sup>*3</sup>	60sec	15sec	10sec	10sec	10sec
	Allowable Range	0 - 999.9sec	0 - 999.9sec	0 - 999.9sec	0 - 999.9sec	0 - 999.9sec
	Increments	0.1sec	0.1sec	0.1sec	0.1sec	0.1sec
Repeatability*4		±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm
Load Sensing Range		1.5kN - 15kN	2kN - 20kN	3kN - 30kN	5kN - 50kN	8kN - 80kN
Max.Jig Weight Hanging on Ram Tip		15kg	20kg	90kg	100kg	100kg
Power Consumption		850W	1.6kW	3kW	5kW	5kW
Power Supply	Three-Phase	180 - 250V	180 - 250V	180 - 250V	180 - 250V	180 - 250V
	Single-Phase					
Dimensions WxDxH (Not including protrusion parts)	Stand-Alone Type	520×585×875mm	520×813×1,236mm	560×985×1,315mm		—
	Head Type	280×505×495mm	400×729×726mm	660×858×765mm		—
	Unit Type*5	175×497×270mm	168×675×367mm	220×775×508mm		270×775×512mm
	Control Box	398×280×198mm	398×330×198mm	550×398×230mm		550×398×230mm
Weight	Stand-Alone Type	160kg	550kg	1,050kg		—
	Head Type	100kg	360kg	650kg		—
	Unit Type	35kg	77kg	160kg		160kg
	Control Box	13kg	14kg	40kg		40kg

## Common Specifications

Common Specifications		
Operation Mode	Constant Speed - Set Stop Position/Constant Speed - Set Stop Load/Constant Speed - Set Distance Mode Constant Load - Timed Pressure/Constant Load - Set Stop Position/Constant Load - Set Distance Mode 2-Section Pressing (PP, DD, LL, PL, DL, LP, LD) 3 to 100-Section Pressing (User-oriented settings using a teaching pendant)	
Sensor Mode	Sensor Position - At Start/Sensor Load - Position Range/Sensor Load - In Distance Range Sampling (Load) - Position Range/Sampling (Load) - In Distance Range *There are 7 load sampling items: Peak, Bottom, Differential (N/sec), Peak to Peak, Top, Valley, and Differential 2 (N/mm). Sensor Speed - In Time Range/Sensor Speed - Position Range/Sensor Speed - In Distance Range Sampling (Speed) - In Time Range/Sampling (Speed) - Position Range/Sampling (Speed) - In Distance Range *There are 6 speed sampling items: Peak, Bottom, Differential, Peak to Peak, Top, and Valley. Sensor Distance - At End/Sensor Position - At End/Sensor Load - At End/Sensor Time - At End/Sensor Load - Holding	
Encoder	Incremental or Absolute (Optional)	
Screen Display	Unit of Pressure/Measure	N, kgf, Lbf/mm, inch
	Display Language	Japanese, English, French, Spanish, Italian, German, Korean, Chinese (Simplified characters only)
External Interface*6	RS-232C 1ch (9-pin male connector) COM1	
External Input/Output	I/O-SYS Inputs 17, Outputs 16 (37-pin female connector) *NPN/PNP can be chosen before shipment.	
Power Switch for I/O	Built-in 24VDC Power Supply (Available for I/O control up to 2A) Switching the internal/external power supply can be done using the dip switch on the maintenance panel. (Factory default: external power supply)	
Number of Programs	100 programs	
Program Providing System	Installed before shipment.To upgrade the program, download a new one from a PC to the internal flash ROM via the COM1.	
Drive & Control Method	AC Servomotor, 32-bit CPU	
Working Ambience	Ambient Temperature	0 - 40°C
	Relative Humidity	20 - 90%, Non-condensing
	Ingress Protection (IP) Rating	IP40

### [Note]

\*1) Load display accuracy is ±1% within the above ranges, over 10% of the maximum pressing capacity. (Check the load value and calibration amount periodically.)

\*2) Maximum approach speed will vary depending on conditions. The value in ( ) is the default speed.

\*3) Settable time will vary depending on conditions.

\*4) Repeatability is guaranteed only in the case that the machine body remains at a constant temperature.  
(The ±0.005mm value is achieved with a constant temperature.)

\*5) The installation method for the unit type under 30kN pressing capacity is a standard side mounting or an optional vertical flange mounting.  
(For the 20kN, both the side and vertical flange mountings are standard.)  
(For JPU5004/8004, side mouting only. For JPUF5004/8004, vertical flange mouting only.)

\*6) Interface options

Encoder output interface : Output A/B phase - 2,000 pulse/1revolution, Z phase - 1 pulse/1 revolution

Load cell output interface : Output current DC4 - 20mA

(Optional load cell output, I/O-1, and Ethernet cannot be used for muting specifications.)

### <Standard Accessories>

Stand-Alone Type : I/O-S connector, I/O-SYS connector (Note: Cables are not included.)

Operation manual (CD-ROM)

Head Type : I/O-S connector, I/O-SYS connector, Switch box short connector (Note: Cables are not included.)

Operation manual (CD-ROM)

Unit Type : Short connector

I/O-S connector, I/O-SYS connector, Switch box short connector (Note: Cables are not included.)

3 connection cables between the body and control box (3m)

Operation manual (CD-ROM)

### <Optional Devices>

- Switch box (with a 2m cable)

- Teaching pendant (with a 5m cable)

- Monitor box for the unit type

- Specialist PC software (JP TaS System) complies with Windows® 2000/XP.

●All patents granted in Japan and the U.S.A.

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