

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



Clean-Room Electro Press

■ A World First Clean Room Class 10 (0.3 μ m)* 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 0.5 μ m or greater per cubic foot of air.

Clean Class 10	Stainless-steel type	1.8Nm ³ /h (300NL/min)	30Nm ³ /h (500NL/min)
Control Box	Unit Type	1.8Nm ³ /h (300NL/min)	1.8Nm ³ /h (300NL/min)
Stainless-steel type	Control Box	1.8Nm ³ /h (300NL/min)	1.8Nm ³ /h (300NL/min)
Exhaust Pipe	Stainless-steel type	External ϕ 12 (One-touch connector)	Internal ϕ 25
Diameter	Unit Type	Internal ϕ 19 (Fired by a hose band & screw plug)	Internal ϕ 19 (Fired by a hose band & screw plug)
	Control Box	External ϕ 10 (One-touch connector)	Internal ϕ 19 (Fired by a hose band & screw plug)
		External ϕ 16 (One-touch connector)	External ϕ 16 (One-touch connector)

(Note) 1.5kN and 80kN models are not available in clean room types.



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

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 failsafe 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 (analogous 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 easy-to-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 - **100** **4** **CL**

① Stand-Alone Type ② ③
(1) 10kN Pressing Capacity (2) Unit Type (3) Clean 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		

Stand-Alone Type Head Type Unit Type

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.

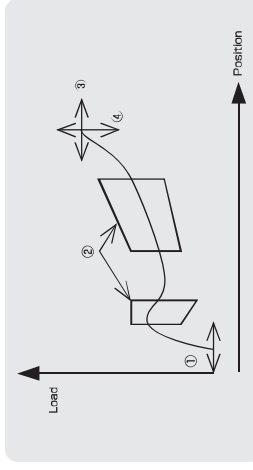
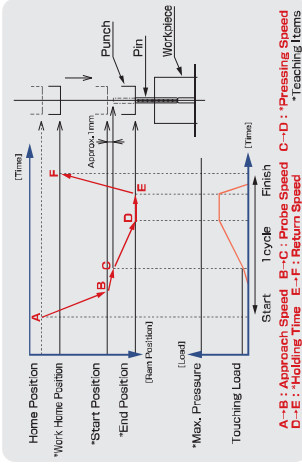
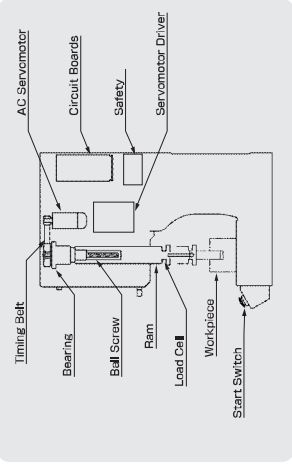
The Electro Press is JANOME's original press machine. Unlike other types of press machines such as mechanical and hydraulic presses, it precisely controls pressure, stop position, pressing speed, and holding time according to your exact specifications.

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.

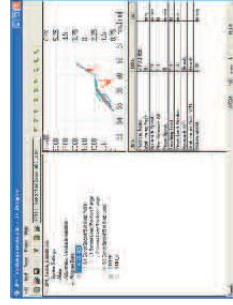
Judgment Functions

- 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.
- ③ Load and position judgment function at the end position.

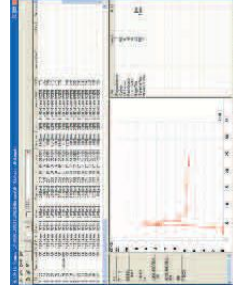


PC Software (JP Tas System)

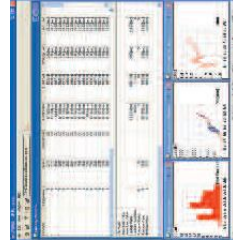
- **JP Designer**
 - Allows teaching data creation and sensor mode settings. Also retrieves the data from the Electro Press onto a PC for changing settings, making backups, or printing.
- **JP Sampler**
 - Retrieves quality and time series data from the Electro Press at each cycle and saves it onto a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



JP Designer

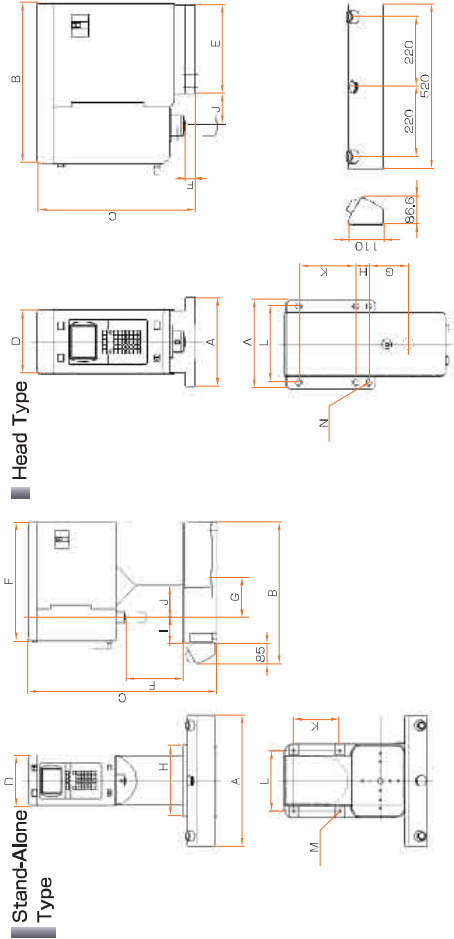


JP Sampler



JP Reporter

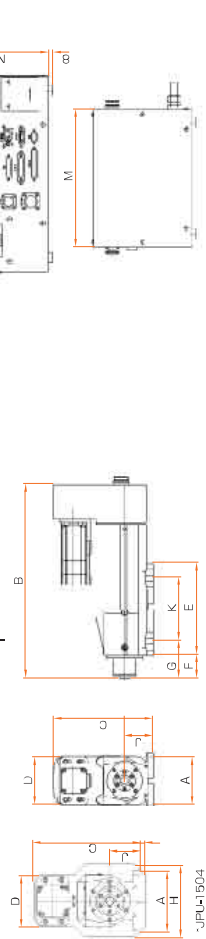
External Dimensions 0.5kN·1kN·2kN·5kN·10kN·15kN



Unit Type

Body

Control Box



Unit Type

Body

Control Box

Unit: mm

Clear-room type	Long-stroke type													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Stand-Alone	520	567	750	200	472	285	160	115	100	115	185	240	4-φ12	-
JP-05A,10A,20A			(755)					(117)	(102)					
JP-50A,100A	520	595	875	200	505	275	160	325	115	130	185	230	4-φ12	-
			(950)					(325)						
JP-150A	520	595	875	200	505	275	160	325	115	130	185	230	4-φ12	-
			(950)					(325)						

Head	Long-stroke type													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JP-H-05A,10A,20A	282	472	470	200	255	80	152	-	-	124	180	240	-	4-φ18
			(475)											
JP-H-50A,100A	280	505	495	200	280	30	120	41	-	100	180	240	-	6-φ18
			(570)											
JP-H-150A	280	505	495	200	280	30	120	41	-	100	185	240	-	6-φ18
			(570)											

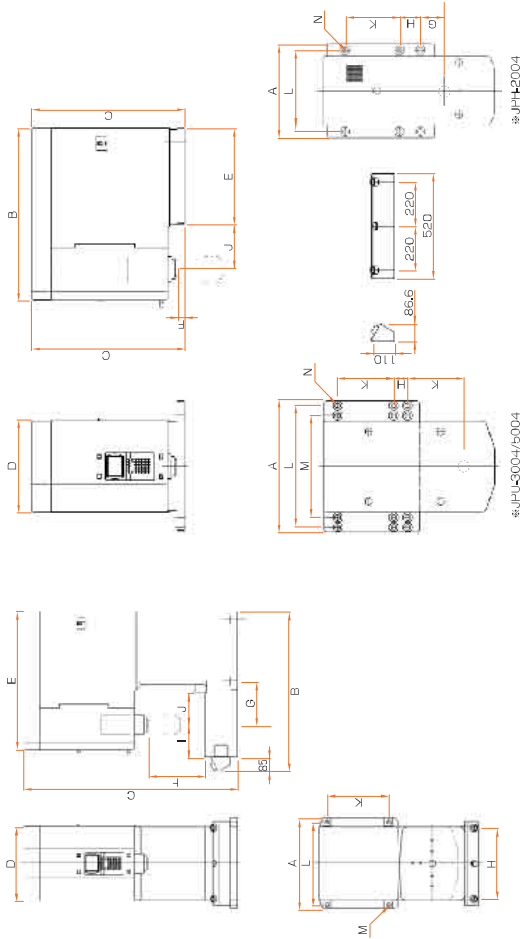
Unit	Long-stroke type													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JP-L-05A,10A,20A	118	415	213	100	195	50	80	-	12	60	135	398	280	198
JP-L-50A,100A	146	495	250	125	300	50	80	-	13	75	200	398	280	198
			(370)											
JP-L-150A*	146	497	270	125	300	50	80	-	13	75	200	398	280	198
		(570)												

*Please contact us for more details.

20kN·30kN·50kN·80kN

Stand-Alone Type

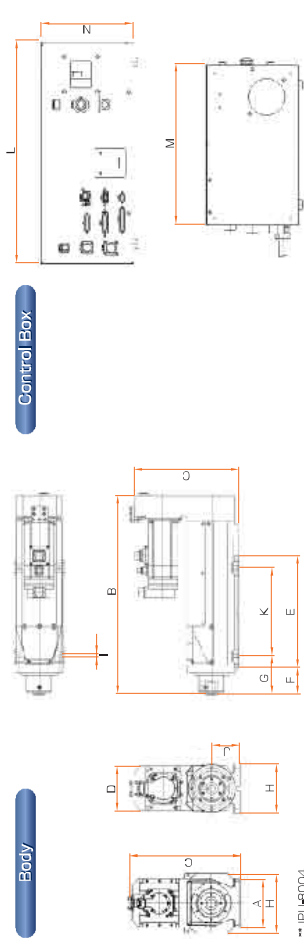
Head Type



Unit Type

Body

Control Box



Unit: mm

Clear-room type	Long-stroke type													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Stand-Alone	520	813	1,236	298	729	350	195	376	150	150	319	336	4-φ18	-
JP-200A														
JP-300A	560	985	1,315	458	858	350	270	450	200	200	380	510	4-φ22	-
JP-500A								(454)	(202)					
Head	400	729	728	298	459	10	165	90	-	105	230	345	-	6-φ22
JP-H-200A														
JP-H-300A,500A	660	858	765	458	480	-	260	70	-	220	260	510	610	12-φ26

Unit	Long-stroke type													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JP-L-200A	-	675	367	162	380	90	130	168	13	9b	300	398	330	188
		(955)			(590)						(500)			
JP-L-300A	-	775	508	220	435	100	150	220	18	132	340	550	398	230
		(1,065)						(230)						
JP-L-500A*	220	775	512	220	435	100	150	270	18	132	340	550	398	230
		(1,065)												

*Please contact us for more details.

Specifications

Item	Model										
	JP / JPH / JPU054	JP / JPH / JPU104	JP / JPH / JPU204	JP / JPH / JPU504	JP / JPH / JPU1004	JP / JPH / JPU1504	JP / JPH / JPU2004	JP / JPH / JPU3004	JP / JPH / JPU5004	JP / JPH / JPU1004	JP / JPH / JPU1504
Pressing Capacity	0.5kN 5N~500N	1kN 10N~14kN	2kN 20N~28kN	5kN 50N~5kN	10kN 100N~1kN	15kN 150N~15kN	20kN 200N~20kN	30kN 300N~30kN	50kN 500N~50kN	10kN 10N	15kN 150N~15kN
Minimum Starting Capacity*	1N	1N	4N	1N	1N	1N	1N	10N	10N	1N	10N
Ram Stroke	80mm	80mm	80mm	100mm (Longstroke:150mm)	100mm (Longstroke:150mm)	100mm (Longstroke:150mm)	100mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)
Increments	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm
Pressing	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec
Ram Speed	1.66mm/sec	1.66mm/sec	1.66mm/sec	1.66mm/sec	1.66mm/sec	1.66mm/sec	20.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)
Approaching/Retracting (Vaj, Vajr)	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec
Maximum (At Max.Load)**	999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	1.0sec	1.0sec	1.0sec	1.0sec	1.0sec
Allowable Range	0~999.9sec	0~999.9sec	0~999.9sec	0~999.9sec	0~999.9sec	0~999.9sec	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	0.1sec	0.1sec	0.1sec	0.1sec	0.1sec	0.1sec
Repeatability**	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm
Load Sensing Range	50N~500N	100N~1kN	200N~2kN	500N~5kN	1kN~10kN	1kN~10kN	2kN~20kN	3kN~30kN	5kN~50kN	5kN~50kN	5kN~50kN
Max. Jip Weight Handling on Ram Tip	0.5kg	1kg	2kg	5kg	10kg	10kg	20kg	30kg	50kg	50kg	100kg
Power Consumption	300W	300W	300W	850W	850W	850W	1.8kW	3kW	5kW	5kW	5kW
Power Supply	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V
Dimensions											
WxDxH											
(Nut including protrusion parts)											
Head Type	520x567x750mm	282x472x470mm	282x472x470mm	282x472x470mm	282x472x470mm	282x472x470mm	520x567x750mm	520x567x750mm	520x567x750mm	520x567x750mm	520x567x750mm
Unit Type*	118x415x213mm	118x415x213mm	118x415x213mm	146x495x250mm	146x495x250mm	146x495x250mm	166x675x367mm	166x675x367mm	166x675x367mm	166x675x367mm	166x675x367mm
Control Box	398x290x198mm	100kg	100kg	100kg	100kg	100kg	398x290x198mm	398x290x198mm	398x290x198mm	398x290x198mm	398x290x198mm
Stand/Alumc Type											
Head Type											
Unit Type											
Control Box											

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, FL, 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 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	N, kgf, Lbf/mm, inch
External Interface*	Japanese, English, French, Spanish, Italian, German, Korean, Chinese (Simplified characters only)
External Input/Output	RS-232C 1ch (9-pin male connector)/COM1
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 S. Control Method	AC Servomotor, 3S-wt. GPM
Working Ambience	Ambient Temperature 0~40°C Relative Humidity 20~90% Non-condensing
	Ingress Protection (IP Rating) IP40

Item	Model										
	JP / JPH / JPU054	JP / JPH / JPU104	JP / JPH / JPU204	JP / JPH / JPU504	JP / JPH / JPU1004	JP / JPH / JPU1504	JP / JPH / JPU2004	JP / JPH / JPU3004	JP / JPH / JPU5004	JP / JPH / JPU1004	JP / JPH / JPU1504
Pressing Capacity	0.5kN 5N~500N	1kN 10N~14kN	2kN 20N~28kN	5kN 50N~5kN	10kN 100N~1kN	15kN 150N~15kN	20kN 200N~20kN	30kN 300N~30kN	50kN 500N~50kN	10kN 10N	15kN 150N~15kN
Minimum Starting Capacity*	1N	1N	4N	1N	1N	1N	1N	10N	10N	1N	10N
Ram Stroke	80mm	80mm	80mm	100mm (Longstroke:150mm)	100mm (Longstroke:150mm)	100mm (Longstroke:150mm)	200mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)	200mm (Unit LongStroke:400mm)
Increments	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm	0.001mm
Pressing	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec	35mm/sec
Ram Speed	1.66mm/sec	1.66mm/sec	1.66mm/sec	1.66mm/sec	1.66mm/sec	1.66mm/sec	20.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)	30.0mm/sec (20.0mm/sec)
Approaching/Retracting (Vaj, Vajr)	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec	0.01mm/sec
Maximum (At Max.Load)**	999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	999.9sec	1.0sec	1.0sec	1.0sec	1.0sec	1.0sec
Allowable Range	0~999.9sec	0~999.9sec	0~999.9sec	0~999.9sec	0~999.9sec	0~999.9sec	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	0.1sec	0.1sec	0.1sec	0.1sec	0.1sec	0.1sec
Repeatability**	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm	±0.005mm
Load Sensing Range	50N~500N	100N~1kN	200N~2kN	500N~5kN	1kN~10kN	1kN~10kN	2kN~20kN	3kN~30kN	5kN~50kN	5kN~50kN	5kN~50kN
Max. Jip Weight Handling on Ram Tip	0.5kg	1kg	2kg	5kg	10kg	10kg	20kg	30kg	50kg	50kg	100kg
Power Consumption	300W	300W	300W	850W	850W	850W	1.8kW	3kW	5kW	5kW	5kW
Power Supply	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V	180~250V
Dimensions											
WxDxH											
(Nut including protrusion parts)											
Head Type	520x567x750mm	282x472x470mm	282x472x470mm	282x472x470mm	282x472x470mm	282x472x470mm	520x567x750mm	520x567x750mm	520x567x750mm	520x567x750mm	520x567x750mm
Unit Type*	118x415x213mm	118x415x213mm	118x415x213mm	146x495x250mm	146x495x250mm	146x495x250mm	166x675x367mm	166x675x367mm	166x675x367mm	166x675x367mm	166x675x367mm
Control Box	398x290x198mm	100kg	100kg	100kg	100kg	100kg	398x290x198mm	398x290x198mm	398x290x198mm	398x290x198mm	398x290x198mm
Stand/Alumc Type											
Head Type											
Unit Type											
Control Box											

(Note)

- Load display accuracy is ±1% within the above ranges, over 1.0% of the maximum pressing capacity. (Check the load value and calibration amount periodically.)
- Maximum approach speed will vary depending on conditions. This value in () is the default speed.
- Settable time will vary depending on conditions.
- 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.)
- The installation method for the unit type under 30kN pressing capacity is a standard side mounting, a or an optional vertical flange mounting. (For the 20kN, both the side and vertical flange mountings are standard.)
- For JPU5004/8004, side mounting only. For JPU5004/8004, vertical flange mounting only.

Interface options

- Encoder output interface: Output A, B phase • 2,000 p/rev/1 revolution, Z phase • 1 pulse/1 revolution
- Load cell output interface: Output current DC4 • 20mA
- Optional panel cell output: I/P, and Ethernet cannot be used for muting specifications.

Standard Accessories

Stand/Alumc Type: I/O-SYS connector (Note: Cables are not included)

Head Type: I/O-SYS connector (Note: Cables are not included)

Unit Type: I/O-SYS connector (Note: Cables are not included)

Operation manual (OPDM)

Short connector

I/O-SYS connector (Note: Cables are not included)

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

Operation manual (OPDM)

Optional Devices

- Switch box (with a 2m cable)
- Teaching pendant (with a 5m cable)
- Marker box for the unit type
- Specialist PC software (UP-TAS System) complies with Windows® 2000/XP.

All clients granted in Japan and the U.S.A.

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