5 Basic Specifications

5.1 Basic Specifications

Table. 2 Basic Specifications*1

Item \ Model		MOTOMAN-UP130	MOTOMAN-UP165
Operation Mode		Vertically Articulated	
Degree of Freedom		6	
Payload		130kg	165kg
Repetitive Positioning Accuracy*2		±0.2mm	
Motion Range	S-Axis (turning)	±180°	
	L-Axis (lower arm)	+76°, -60°	
	U-Axis (upper arm)	+240°, -130°	
	R-Axis (wrist roll)	±360°	
	B-Axis (wrist pitch/yaw)	±130°	
	T-Axis (wrist twist)	±360°	
Maximum Speed	S-Axis	2.27 rad/s, 130°/s	1.92 rad/s, 110°/s
	L-Axis	2.27 rad/s, 130°/s	1.92 rad/s, 110°/s
	U-Axis	2.27 rad/s, 130°/s	1.92 rad/s, 110°/s
	R-Axis	3.75 rad/s, 215°/s	3.05 rad/s, 175°/s
	B-Axis	3.14 rad/s, 180°/s	2.53 rad/s, 145°/s
	T-Axis	5.24 rad/s, 300°/s	4.19 rad/s, 240°/s
Allowable Moment*3	R-Axis	735N•m (75kgf•m)	883N•m (90kgf•m)
	B-Axis	735N•m (75kgf•m)	883N•m (90kgf•m)
	T-Axis	421N•m (43kgf•m)	490N•m (50kgf•m)
Allowable Inertia ($GD^2/4$)	R-Axis	45kg•m^2	51.25kg•m^2
	B-Axis	45kg•m^2	51.25kg•m^2
	T-Axis	15kg•m^2	15kg•m^2
Mass		1300kg	
Ambient Conditions	Temperature	0° to 45 ℃	
	Humidity	20 to 80% RH (non-condensing)	
	Vibration	Less than 0.5G	
	Others	• Free from corrosive gasses or liquids, or explosive gasses • Clean and dry • Free from excessive electrical noise (plasma)	
Power Capacity		7.5kVA	

*1 SI units are used in this table. However, gravitational unit is used in ().
*2 Conformed to ISO9283
*3 Refer to 6.1 "Allowable Wrist Load" for details on the permissible moment of inertia.

5.2 Part Names and Working Axes

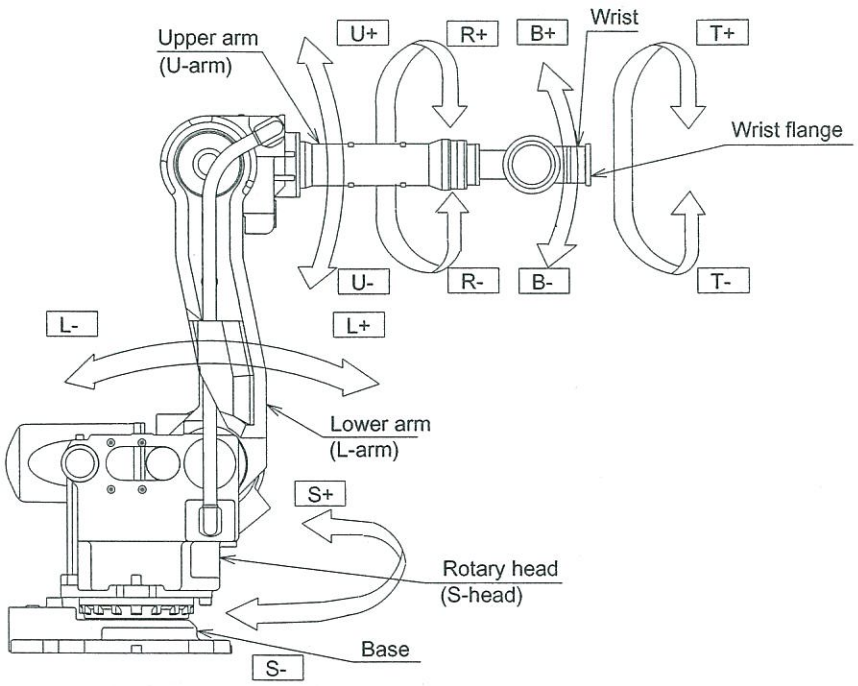


Fig. 8 Part Names and Working Axes

5.3 Baseplate Dimensions

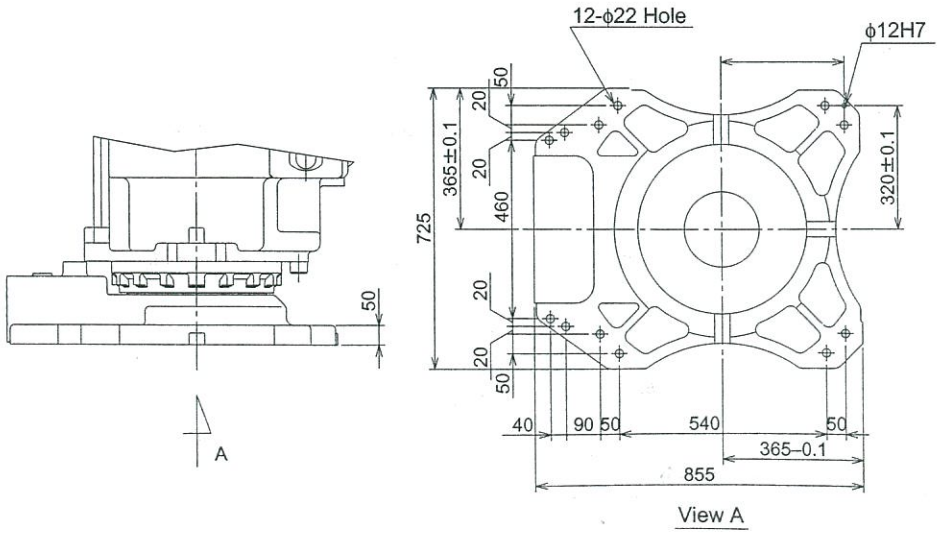


Fig. 9 Baseplate Dimensions (mm)

5.4 Dimensions and Working Range

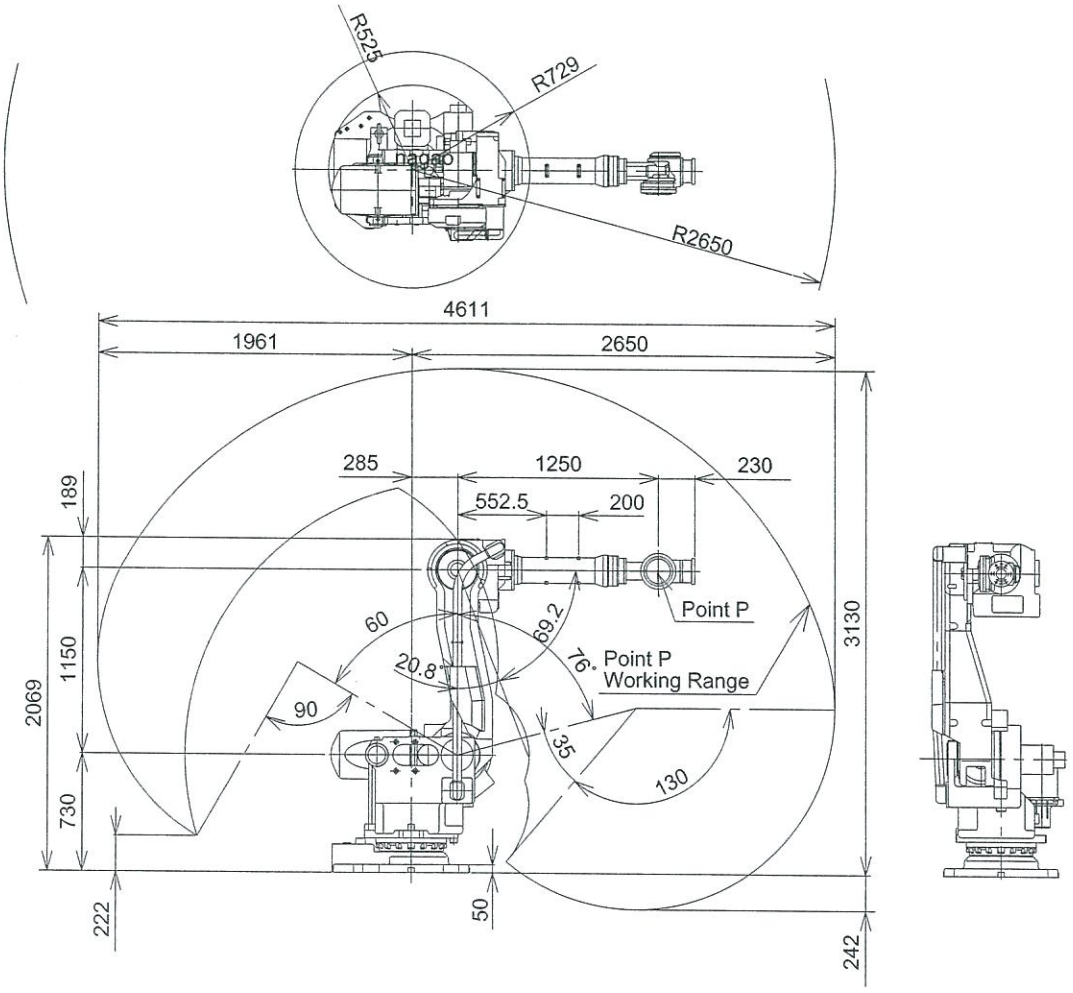


Fig. 10 Dimesions and Working Range

TRIMMING PRESS

SECTION 15. SPECIFICATIONS

1. BODY

Type of the main frame:	Straight side frame type
Maximum output power:	500 KN
Maximum lifting power:	270 KN
Table size:	3450×1500 mm
Slide size:	2500×1500 mm
Open height:	1800 mm
Stroke:	1200 mm
Shut height:	600 mm

2. PRESS SPEED (operation speed of the main cylinder)

Inner diameter of cyl. x Rod dia. x pieces	ϕ 140× ϕ 95×2
Stroke:	1200 mm
Normal descend speed:	250 mm/sec
Slow descend speed:	155 mm/sec
Pressing speed:	22 mm/sec
Normal ascend speed:	220 mm/sec
Slow ascend speed:	43 mm/sec

3. DIE CHANGER DEVICE

Motor:	0.75Kw-4P
Stroke:	3100 mm
In speed:	100 mm/sec
Out speed:	100 mm/sec
Capacity:	10 TON

4. POSITIONING DEVICE OF BOLSTER

Inner diameter of cyl. x Rod dia. x pieces:	ϕ 50× ϕ 28×2
Stroke:	40 mm

5. SLIDE LOCKING DEVICE (automatic upper limit by air)

Inner diameter of cyl. × Rod dia. × pieces:	ϕ 40 × ϕ 16 × 2
Stroke:	75 mm
Diameter of rock pin:	50 mm

6. HYDRAULIC SYSTEM

High-pressure pump:	SQP2-15 (TOKIMEC)
Maximum output pressure:	16 MPa
Maximum output capacity:	43 litter/min
Low-pressure pump:	SQP-4-60 (TOKIMEC)
Maximum output pressure:	8 MPa
Maximum output capacity:	176 litter/min
Hydraulic tank capacity:	700 litters

7. ELECTRICITY

Electricity, power section:	AC415 volt 50 Hz 3 phase
Electricity, controller:	DC24 volt (Transformer built in)
Electric motor:	Enclosed cooled-fan motor
Main motor:	30kw-6p 1 piece 1000 r.p.m.

8. CONTROL SYSTEM

Control method:	Integrated push button control (auto, manual and link)
Die changer control method:	manual and auto
Main operation board on the right side of the body:	self stand type
Sub operation board: (both hand starter)	self stand type

9. ACCURACY

The second accuracy of Japan Industrial Standard (J.I.S.) B 6403 for hydraulic press.

10. SPECIAL EQUIPMENT

1) Two pieces of safety poles:	1 set
2) Automatic slide locking device at the upper limit by air	1 set
3) Area sensor (SS40-T48 by Takenaka) front & rear:	1 set
(SS40-T28 by Takenaka) both sides:	
4) Production counters with four-digit.	1 set
5) Power outlet for light (AC240V×2) on side of control board:	1 set
6) Power outlet for light (AC240V×2) on the hydraulic unit:	1 set
7) Automatic lubrication device with oil shortage warning:	1 set
8) Both hand starter with emergency stop:	1 set
9) Emergency stop button (4 on upright and 2 on die changer):	1 set
10) Side position control by LS:	1 set
11) In-house fluorescent lamp (240V 40W×2) front & rear:	1 set
12) Auto clamp (TYC4R by Aioi) 6 pieces for upper mold:	1 set
Auto clamp (TYA6F by Aioi) 4 pieces for lower mold:	1 set
13) Two line of die lifter (DLF50H1600) by Aioi	
Total capacity: 10 TON. One line has two pieces.	1 set
14) Automatic water coolant with sensor:	1 set
15) Digital switch on operation board for setting pressing pressure:	1 set
16) Digital display of pressing pressure on operation board:	1 set

11. OTHERS

1. Color of coatings

Painting to be done by your designated color.

Body	2.5G8/2
Operation board (surface)	2.5G8/2
Operation board (inside)	2.5YR6/13
Danger color	2.5Y8/12
Pipe for hydraulic and cable:	2.5G8/2

Coating will be consist of one anti-rust base coating, one middle coating and two-times finish coating

SPM

2. MAIN SPECIFICATION

Note 1: The figures in the below table are for 50 Hz districts.

Note 2: The plasticization capacity is the one at half stroke in our standard test and differs with resin grade and molding condition.

Note 3: A set of screw cylinder we deliver is selected from the following screw codes and conforms with the designated size.

Note 4: The maximum platen stroke includes the press stroke.

Note 5: The injection ratio is calculated at a hydraulic pressure of 0.7 MPa.

Machine Model		JIP600CE II	
Injection Unit		I 5	
Injection Unit			
Screw code	—	A	B
Screw diameter	mm	110	120
Injection pressure	MPa	168	141
Injection capacity (Theoretical)	cm^3	5034	5991
Shot weight (PS)	g	4581	5452
Injection ratio	cm^3/s	765 (Option)	910 (Option)
Plasticization capacity	kg/h	531 (Option)	485 (Option)
Screw speed	min^{-1}	68 / 91 / 136 (Option)	
Nozzle shape	—	Flange-jointed open nozzle SVO ϕ 15 × SR45 (Option)	
Nozzle stroke (from center of mold platen)	mm	600	
Nozzle center height (from mount. surface of mold)	mm	300	
Nozzle touch force	kN	73.5	
Press Unit			
Pressing force / Mold opening force	kN	1960～5880 / 392 (Option)	
Max. mold opening speed	mm/s	230 (Option)	
Maximum daylight opening	mm	2400 (Option)	
Mold platen stroke / Min. mold thickness	mm	1300 / 1100 (Option)	
Min. mold dimensions (L × W)	mm	1380 × 1000	
Distance between tie-bars (L × W)	mm	2300 × 1400	
Platen size (L × W)	mm	3000 × 2000	
Press stroke	mm	3～100	
Press speed	mm/s	1～15 (Option)	
Ejector force	kN	245	
Ejector stroke	mm	200	

Monitor	
Motion monitor function	Checks and displays interlocks when the machine stops.
Molding condition upper/lower limit monitor function	Monitors actual values of each molding condition. (with N-count set function)
Inspection and maintenance function	When an inspection/maintenance time of the machine comes, the contents of it is displayed automatically.
Alarm function	Stores the contents of alarms during molding, date and time of occurrence are stored as history.
Set value history	Stores a history of set values changed during molding.
Cylinder temperature monitor function	Monitors faults against the upper and lower limits of cylinder temperature.
Heater fault monitor function	Monitors faults on the heater system.
Injection pressure monitor (IPM) function	Detects such injection pressure faults as gate clogging and stops the injection action to protect the mold.
Injection waveform monitor	Displays the injection speed, charge pressure and holding pressure waveform in continuous shots.
Injection waveform memory	One injection waveform may be stored when molding condition is registered.
Statistical graph	Data are displayed in statistical graphs based upon actual value monitor (max. 500 shots). The timing of taking in actual data is determined by shot number or time interval.
Actual value display	If a retrieve shot number is keyed in based upon actual value data (max. 500 shots), an actual value for a designated shot number is displayed.
Fault alarm buzzer	The buzzer blows when an alarm occurs.
Production monitor function	Advance alarm, shot number, etc. may be monitored at the end of production. An expected end time of production may be monitored.
Working time display function	Displays each operating condition and time: pump in stop, operating mode "OFF", "MANUAL", and "AUTO."
Hydraulic oil level alarm	Installs a level switch in order to monitor the lower limit of the oil level.
Hydraulic oil temperature upper/lower limit alarm	Monitors faults in the hydraulic oil temperature.
Injection unit grease lubrication function	Warns a grease lubrication time automatically.

Others		
Accessories	Special tools	A set of special tools necessary for the inspection and maintenance of the machine are attached. (except general commercial tools)
	Spare parts	One band heater is attached to the nozzle. One filter each for hydraulic oil and lubricating oil is attached.
	Ejector rod	8 pcs.
	Foundation parts	Foundation bolts and leveling liners

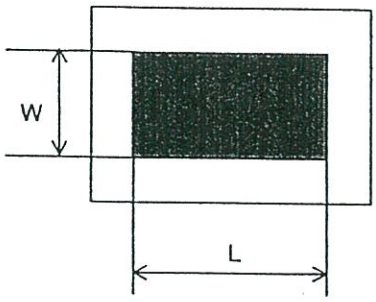
Machine Model		JIP600CE II
Injection Unit		I 5
Electric Unit		
Main power	—	AC415V×50Hz, 3-phase, 4-wire (Option)
Control power	—	DC24V / AC100 V/AC200V Rev.1
Pump motor capacity	kW	75+75+55=205 (Option)
Heater capacity	kW	43.15
Total power capacity (Excluding optional equip.)	kW	248.15
Others		
Machine weight	t	Approx. 85 (Press unit: 65, Injection / hydraulic unit: 20)
Machine dimension (L×W×H)	mm	Approx. 8.2×4.5×5.8
Hydraulic oil tank capacity	L	2200
Cooling water consumption	m^3/h	16(For cooling oil cooler and cylinder hopper)
Air source	MPa	Over 0.5 (Plant air)

Note 6: The fluctuation of power supply voltage must be held within ±6%.

Note 7: The cooling water consumption varies with atmospheric temperature, water temperature, molding condition and other elements. The indicated value is an approximate one at a water temperature of 28°C. (provided it does not include the cooling water consumption for the mold.) Connect a pipe size that permits a water flow about three times the indicated value in consideration of scale deposit and water pressure drop.

Note 8: The screw can not be rotated while the mold is being opened.

Note 9: As for the minimum mold size, see the figure on the right.



Safety Device		
Vertical open/close type safety door		A vertical open/close type door is installed on the press operation side. A vertical open/close type door is installed on the press left side.(Option) 改訂1. 金ロック：押すとロック、回すとリセットするタイプ
Emergency stop push button switch		A switch is installed on each operation side. The machine makes a total stop if this push button switch is pressed. Button type : Push lock turn reset type Rev.1
Clamping unit safety device (triple interlock type)	Electric type	The limit switches built in the safety door shuts off the electric circuit when the door is opened, bringing all machines to a stop.
	Hydraulic type	The hydraulic cam valve built in the safety door shuts off the hydraulic circuit when the door is opened, bringing the mold close action to a stop.
	Mechanical type	The mechanical stopper operates by an electric signal for mold open end and when the safety door opens, thereby mechanically stopping the mold close action caused by self fall.
Purge box		A purge box installed in the purge operation position protects the resin from scattering from the nozzle at purge operation.
Safety key		Mounted on the local control box. If the safety key is pulled out, the pump is prevented from starting.
Hydraulic Unit		
Energy-saving circuit for pump selection		A combination of multiple pumps and computer control makes up an energy-saving circuit, depending upon pressure and flow.
Hydraulic oil temperature stabilizer		Detects the hydraulic oil temperature and controls the water flow to the oil cooler to stabilize the oil temperature.
Hydraulic oil temperature preheating circuit		Forcibly preheats the hydraulic oil temperature to a proper level at the beginning of work.
Hydraulic oil purifier		A combination of a rolled tissue type filter and a micro separator purifies the hydraulic oil.
Control Unit		
Controller display		Color LCD (SYSCOM 1000)
Molding condition memory function		Enables to store and reset up to ten mold conditions in the internal memory of the controller.
Data card (external memory)		Enables to store and reset up to 20 mold conditions in the data card.
Printer output terminal		A terminal that permits the printer to record molding condition is provided.
Self diagnosis function		A self diagnosis function is built in the controller.
Clock function		Displays date and time on the message area at the top of the controller screen.