

SPECIFICATION OF ROBOT

RA010NFE40

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KAWASAKI HEAVY INDUSTRIES LTD.

ROBOT DIV.

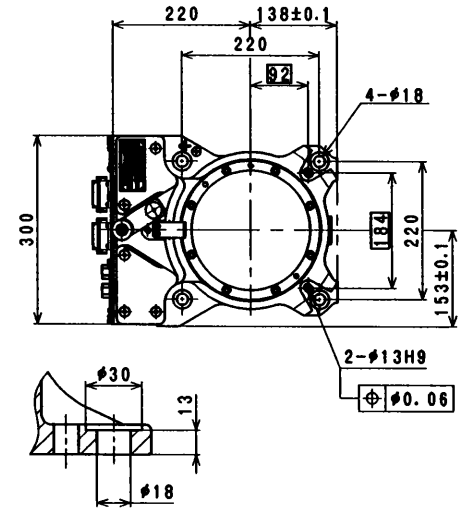
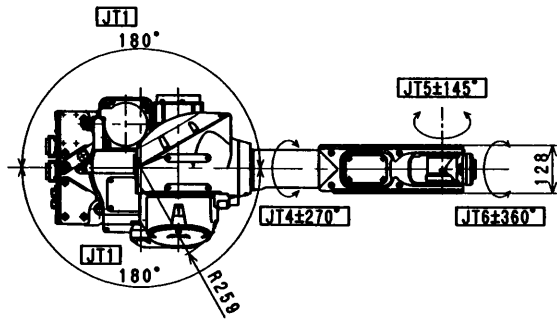
Doc, No: 90101-2065DEB

1. Specification of Robot

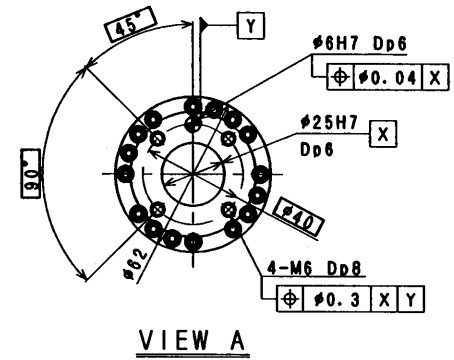
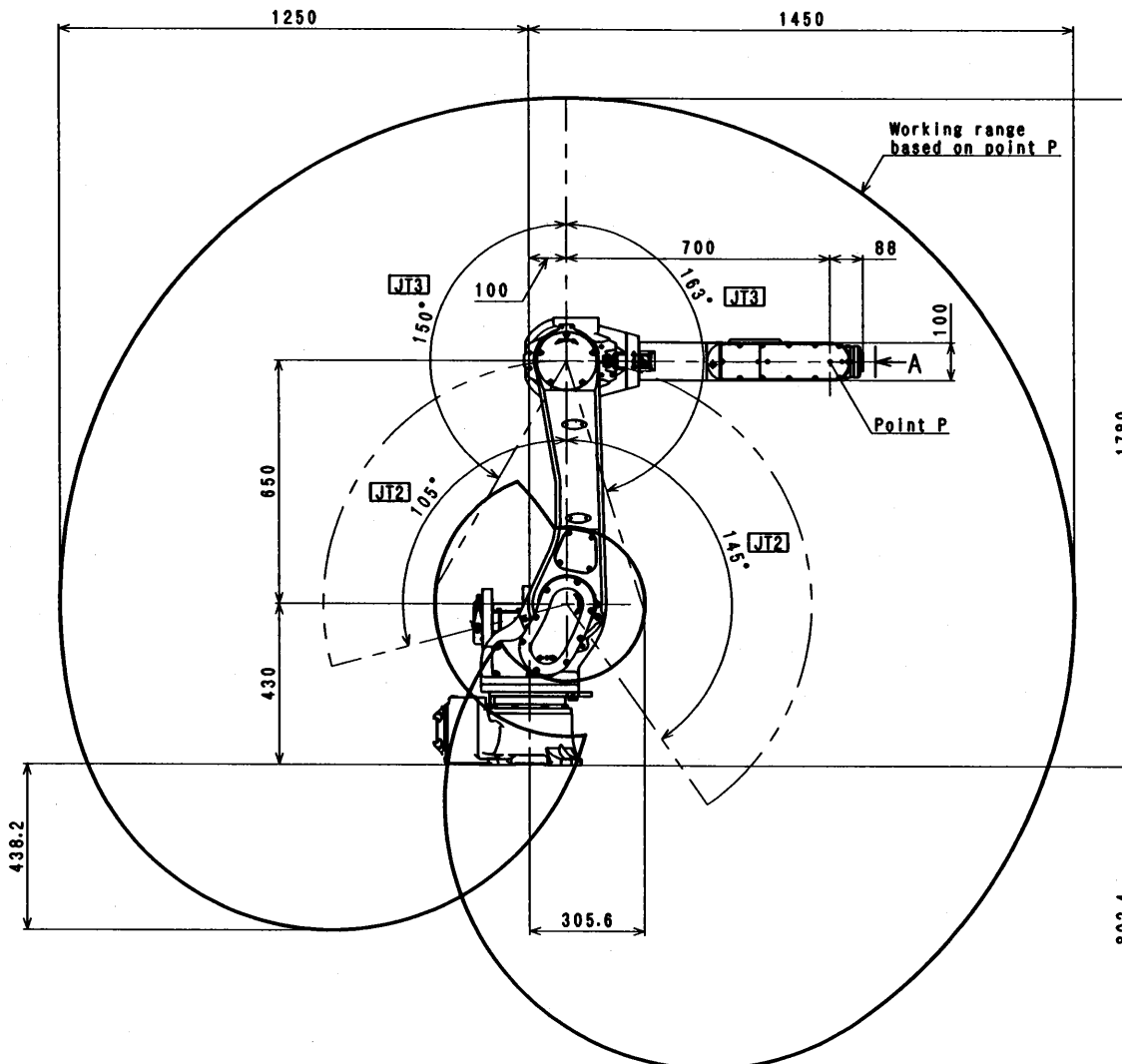
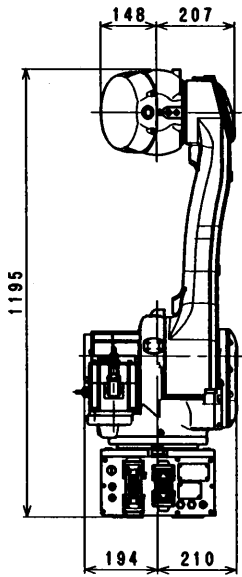
[1] Robot Arm			
1. Model	RA010N-A		
2. Type	Articulated robot		
3. Degree of freedom	6 axes		
4. Axis specification	Operating axis	Max. operating range	Max. speed
	Arm rotation (JT1)	+180° ~ -180°	250°/s
	Arm out-in (JT2)	+145° ~ -105°	250°/s
	Arm up-down (JT3)	+150° ~ -163°	215°/s
	Wrist swivel (JT4)	+270° ~ -270°	365°/s
	Wrist bend (JT5)	+145° ~ -145°	380°/s
	Wrist twist (JT6)	+360° ~ -360°	700°/s
5. Repeatability	±0.06 mm (at the tool mounting surface)		
6. Max. payload	10 kg		
7. Max. speed	11800 mm/s (at the center of tool mounting surface)		
8. Load capacity of wrist		Max. torque	Moment of inertia*
	JT4	22 N·m	0.7 kg·m ²
	JT5	22 N·m	0.7 kg·m ²
	JT6	10 N·m	0.2 kg·m ²
Note* Each value in this table shows allowable moment of inertia of JT4/JT5/JT6 when max. allowed torque is applied to each axis. If more detailed data is required for your application, please contact Kawasaki.			
9. Driving motor	Brushless AC Servomotor		
10. Working range	See attached drawing		
11. Mass	150 kg (without options)		
12. Color	Munsell 10GY9/1 equivalent		
13. Installation	Floor or Ceiling mounting		
14. Environment cond.	(Temperature) 0 ~ 45 °C, (Humidity) 35 ~ 85 %, no dew, nor frost allowed		
15. Degree of protection	IP65		
16. Built-in utilities	Pneumatic pipings (φ 8 × 2 lines)		
17. Options	Shock sensor	Shock sensor made by KHI , Others ()	
	Torch bracket	Std. Bracket (350A/ 500A) , Others ()	
	Solenoid valve	Double solenoid/ Single solenoid valves (3 units max.)	
	Mechanical stopper	Adjustable mechanical stoppers JT1/ JT2/ JT3	
	Color	Munsell ()	
	Installation	Wall mounting installation	
	Arm installation stand	height 600 mm/ 300 mm	
	Arm installation plate	750 mm × 750 mm	
	Traverse unit	Stroke (mm)	
18. Others	Consult Kawasaki about maintenance parts and spare parts.		

[2] Controller		
1. Model	E40/E42	Arc welding
2. Enclosure	Enclosed structure / Indirect cooling system	
3. Dimensions	See attached drawing	
4. Number of controlled axes	6 axes for E40/E42, 7/8/9 axes(built-in addition, option), Max.16 axes(external additional amplifier, option)	
5. Servo control and drive system	Full Digital Servo System	
6. Type of control	Teach mode	Joint, Base, Tool, operation mode
	Repeat mode	PTP, CP control mode Joint, Linear, Circular (option) interpolation
7. Teaching method	Teaching or AS language programming	
8. Memory capacity	8 MB	
9. External operation signals	External Motor Power Off, External Hold, etc.	
10. General purpose signals	Input signals	32 channels (Includes dedicated signals)
	Output signals	32 channels (Includes dedicated signals)
11. Operation panel	FastCheck/Teach/Repeat SW, Emergency Stop SW, Control power lamp	
12. Cable length	Power/Signal cable	10 m
	Teach Pendant cable	10 m
13. Mass	See attached drawing	
14. Power requirement	AC380 V - AC415 V±10%, 50/60 Hz, 3 phases, Max 4.9 kVA(E40), Max 9.9 kVA(E42)	
15. Ground	Less than 100 Ω (robot dedicated ground) Leakage current: max. 10 mA	
16. Ambient temperature	0 - 45 °C	
17. Relative humidity	35 - 85 % (non-condensation)	
18. Color	Munsell: 10GY9/1 equivalent	
19. Teach Pendant	TFT color display (5.7 inch LCD) with touch panel Emergency Stop SW, Teach Lock SW and Enable SW	
20. Safety Circuit	Category: 3, Performance Level: d (EN ISO13849-1: 2008) ★	
21. AC Outlet	AC220 - 240V Outlet (depends on Primary input voltage)	
22. Motor brake release	Manual brake release switch	
23. Arc welding spec.	Automatic arc welding sequence functions, built-in database for arc welding, built-in arc welding interface, function of wire inching, wire retractor, gas control	
24. Options		
General purpose signals	Input signals	64/96/128 channels
	Output signals	64/96/128 channels
I/O connector	D-SUB 37pin(male,female) with cover	
Operation panel	Motor Power ON, Cycle start, RUN/HOLD, Error reset, Error lamp	
Power/Signal cable	5m, 15m	
Teach Pendant cable	5m, 15m	
Auxiliary storage	USB memory	
PC cable	1.5 m, 3 m	
Teach Pendant option	Teach Pendant Stand, Cable hook, connector for TP less	
Others	Cooler, LED Light, Field BUS, Software PLC, Analog input/output, Conveyor Synchronization, Vision and so on	
25. Others	Consult Kawasaki about maintenance parts and spare parts.	

★ Category and Performance level (PL) are determined by the whole system and conditions.□
The safety circuit of this controller is available in the system of category: up to 3, PL: up to d.



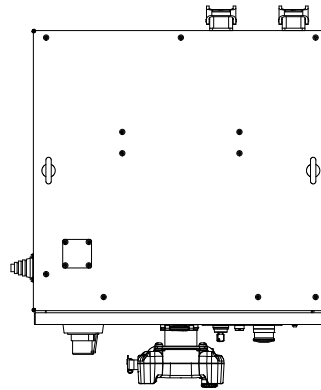
Installation Dimensions



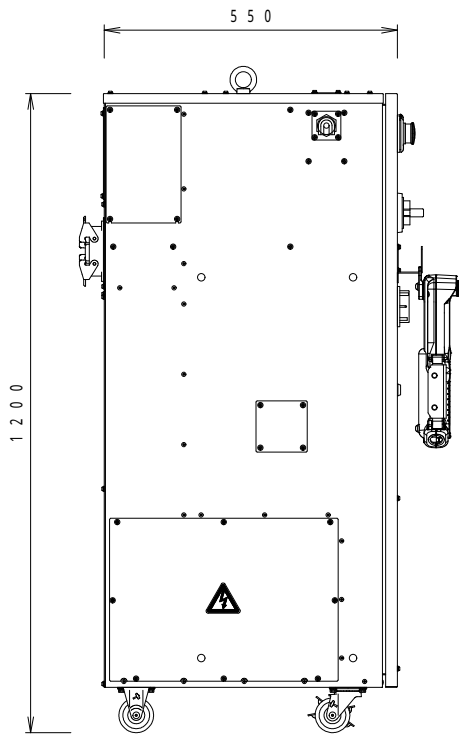
RA010N
WORKING RANGE

E 4 0 C O N T R O L L E R

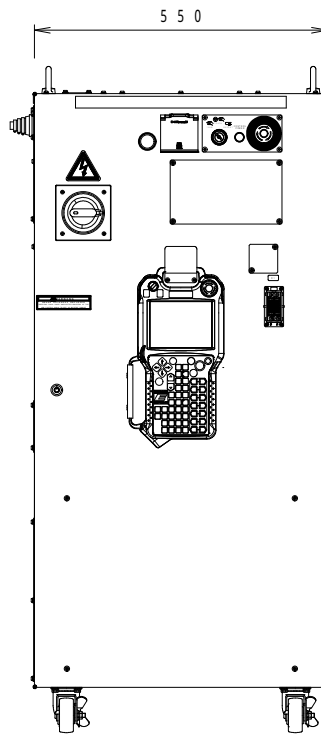
M A S S : 1 4 5 K g



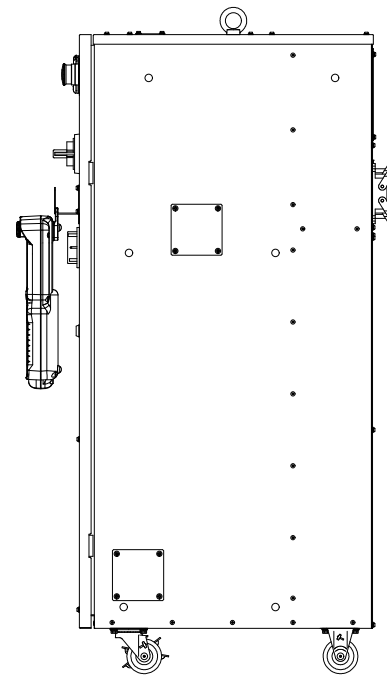
T O P V I E W



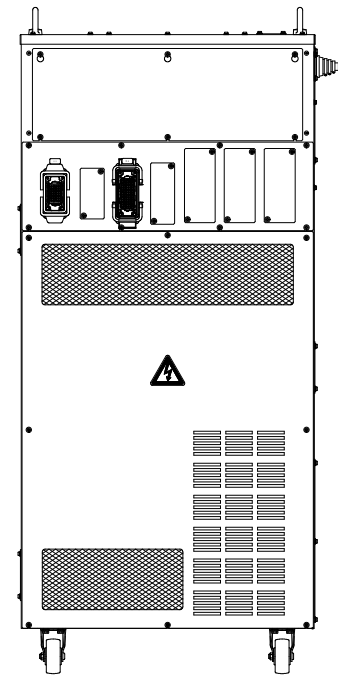
S I D E V I E W



F R O N T V I E W



S I D E V I E W



R E A R V I E W