

SPECIFICATION OF ROBOT

RS020NFE91

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**KAWASAKI HEAVY INDUSTRIES LTD.
ROBOT DIV.**

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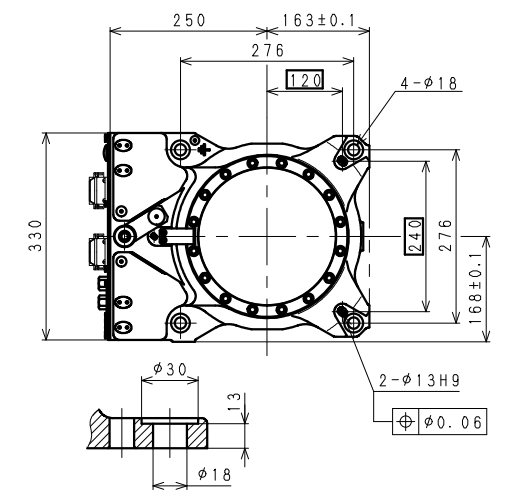
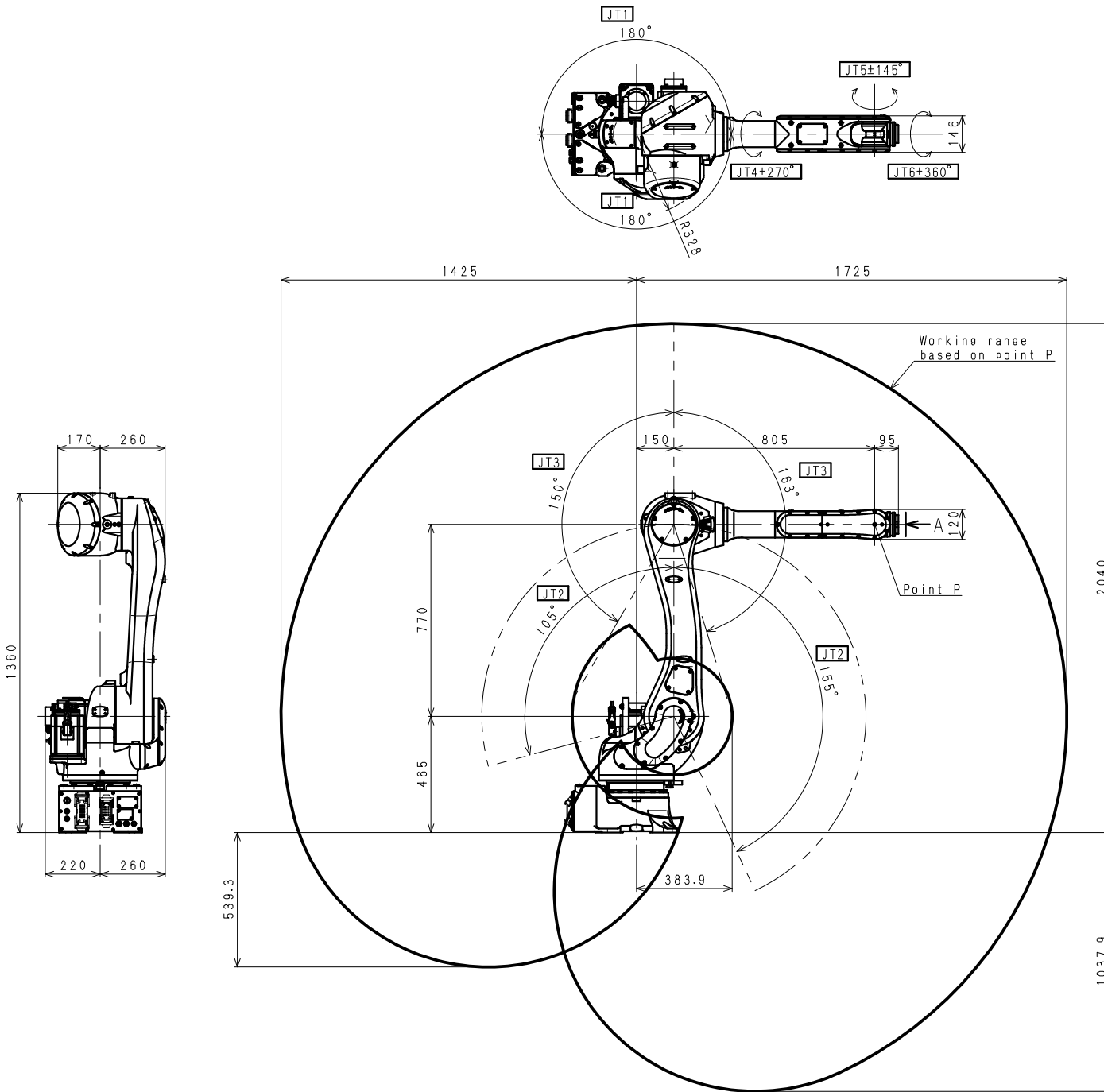
1. Specification of Robot

[1] Robot Arm

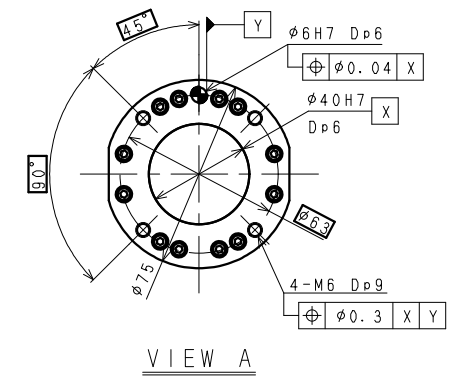
1. Model	RS020N-A		
2. Type	Articulated robot		
3. Degree of freedom	6 axes		
4. Axis specification	Operating axis	Max. operating range	Max. speed
	Arm rotation (JT1)	+180° ~ -180°	190° /s
	Arm out-in (JT2)	+155° ~ -105°	205° /s
	Arm up-down (JT3)	+150° ~ -163°	210° /s
	Wrist swivel (JT4)	+270° ~ -270°	400° /s
	Wrist bend (JT5)	+145° ~ -145°	360° /s
	Wrist twist (JT6)	+360° ~ -360°	610° /s
5. Repeatability	±0.05 mm (at the tool mounting surface)		
6. Max. payload	20 kg		
7. Max. speed	11500 mm/s (at the center of tool mounting surface)		
8. Load capacity of wrist		Max. torque	Moment of inertia*
	JT4	45 N·m	0.9 kg·m ²
	JT5	45 N·m	0.9 kg·m ²
	JT6	29 N·m	0.3 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	230 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	Wrist : IP67 Arm : IP65		
16. Built-in utilities	Pneumatic pipings (φ 8 × 2 lines)		
17. Options	Wall mounting installation		
	Degree of protection of arm : IP67		
	Sensor harness (12 circuits), wired inside robot arm		
	Double solenoid/ Single solenoid valves (4 units max.)		
	Air cleaning equipment (filter, regulator, mistseparator)		
	Adjustable mechanical stoppers JT1/JT2/JT3		
	Color (Munsell)		
	Traverse unit (Stroke mm)		
	Arm installation stand (height 600 mm, 300 mm)		
	Arm installation plate (750 mm × 750 mm)		
18. Others	Consult Kawasaki about maintenance parts and spare parts.		

[2] Controller		
1. Model	E91	
2. Enclosure	Enclosed structure / Indirect cooling system	
3. Dimensions	See attached drawing	
4. Number of controlled axes	Max.6 axes	
5. Servo control and drive system	Full Digital Servo System	
6. Type of control	Teach mode	Joint, Base, Tool, Fixed Tool (option) 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	AC200 V - AC230 V±10%, 50/60 Hz, 1 phase, Max. 4 kVA	
15. Ground	Less than 100 Ω (robot dedicated ground) Leakage current: max. 100 mA	
16. Ambient temperature	0 - 40°C	
17. Relative humidity	35 - 85 % (non-condensation)	
18. Surface Treatment	Munsell: 10GY9/1	
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. Options		
General purpose signals	Input signals	64/96 channels
	Output signals	64/96 channels
I/O connector	D-SUB 37pin(male,female) with cover	
Power/Signal cable	5m, 15m	
Teach Pendant cable	5m, 15m	
Motor brake release	Manual brake release switch BOX	
Auxiliary storage	USB memory	
PC cable	1.5 m, 3 m	
Teach Pendant option	Connector for TP less	
Others	Field BUS, Software PLC, Analog input/output, Conveyor Synchronization, Vision and so on	
22. 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.



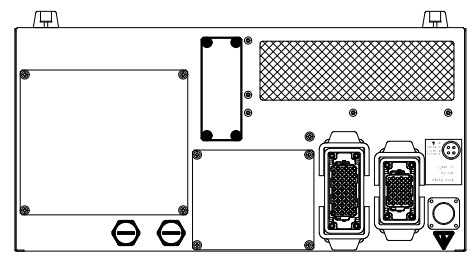
Installation Dimensions



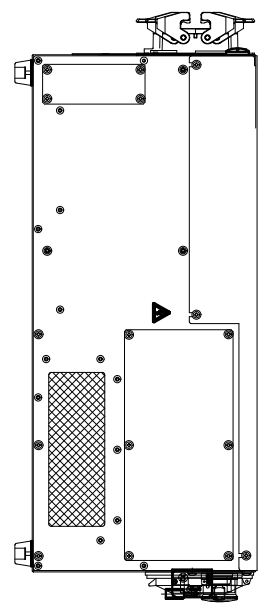
RS020N
WORKING RANGE

E 9 1 C O N T R O L L E R

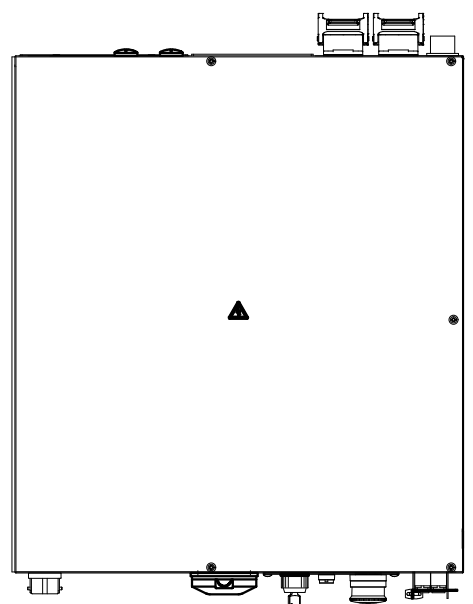
M A S S : 4 0 K g



R E A R V I E W

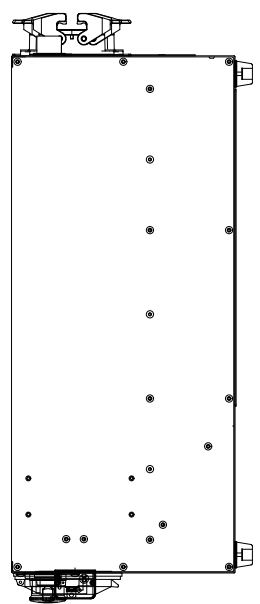


S I D E V I E W

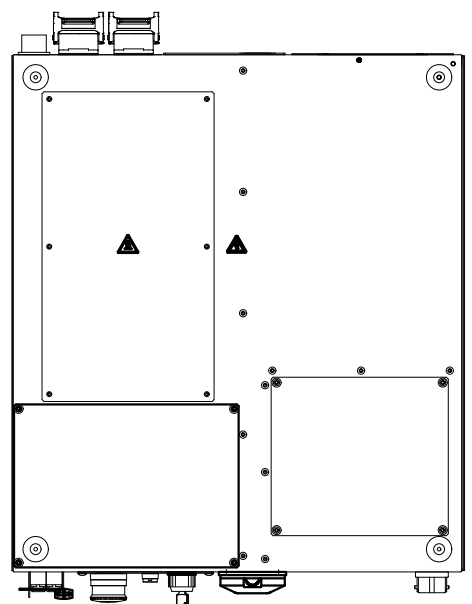


T O P V I E W

(5 0)
5 8 0
(3 4)

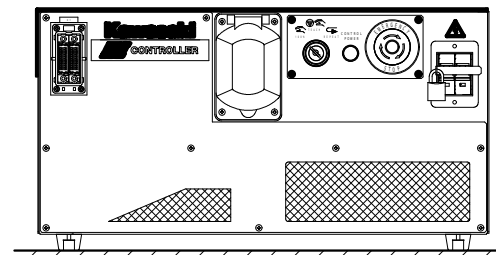
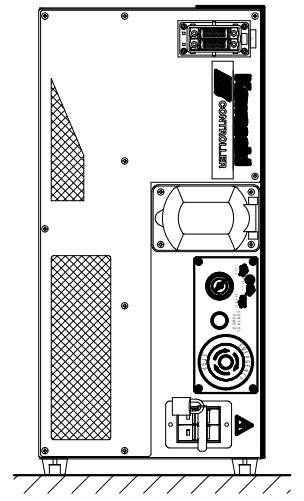


S I D E V I E W



B O T T O M V I E W

Vertical Mount
縦置の場合



F R O N T V I E W

5 0 0
2 5 0
1 8

