

Standard specifications

MS005NGE73001

July 10, 2015

KAWASAKI HEAVY INDUSTRIES, LTD.

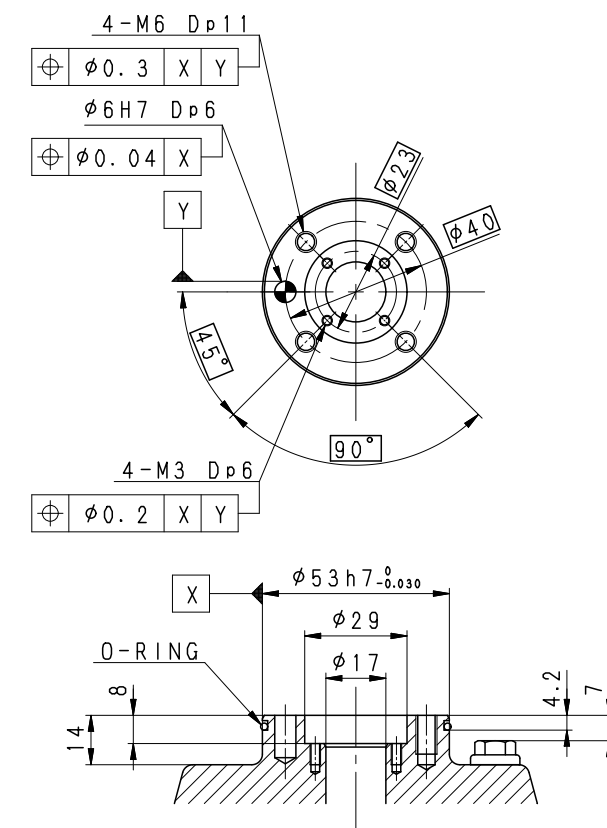
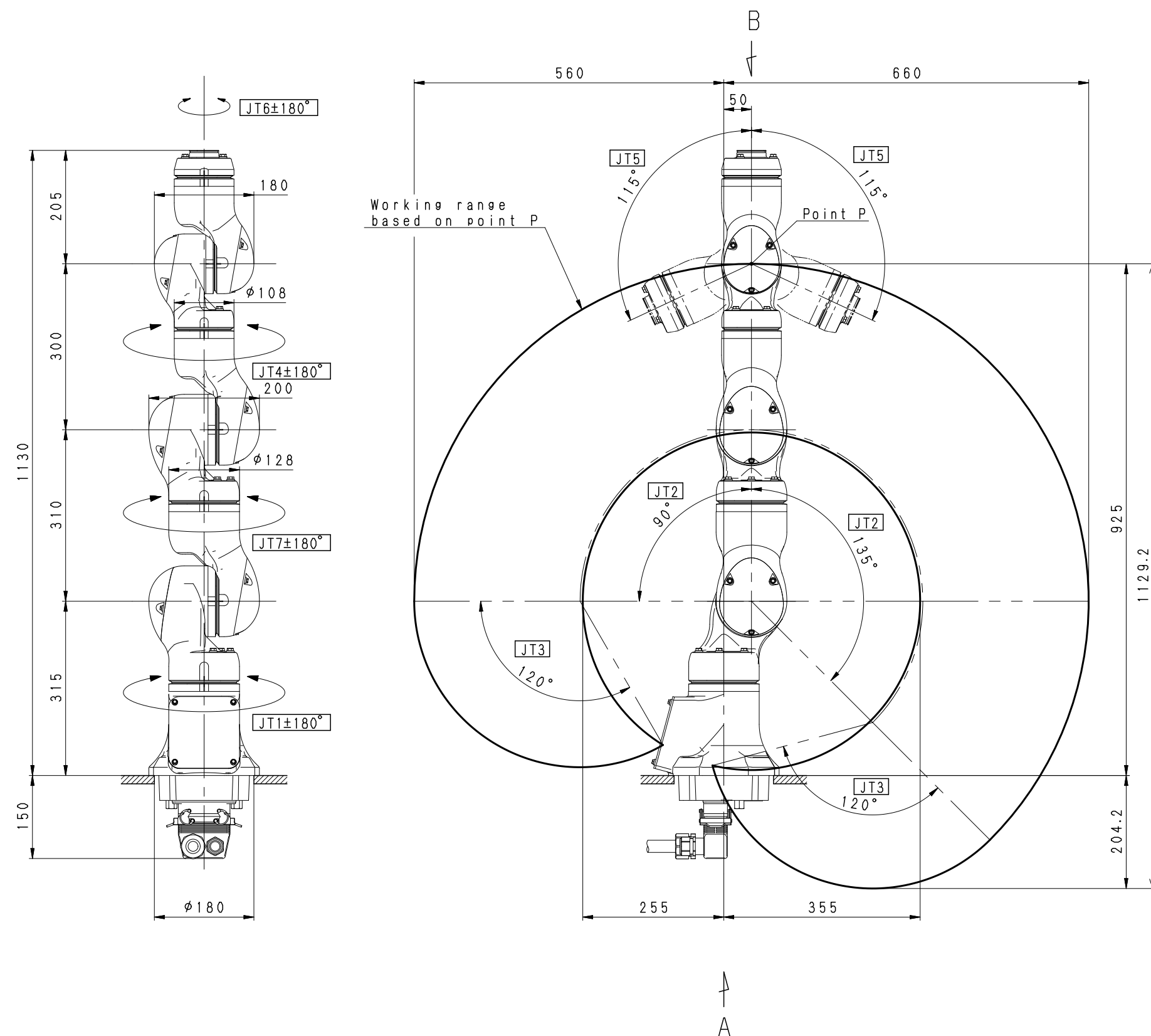
ROBOT DIVISION

| | |
|-----------------|---------------|
| Specification : | 90101-2374DEA |
| (Arm) : | 90151-0082DEA |
| (Controller) : | 90152-0012DEA |

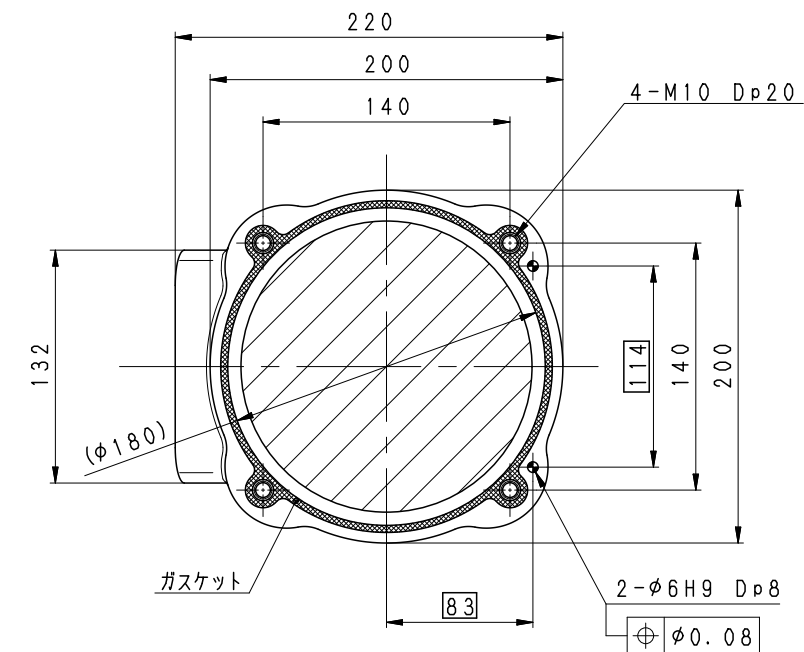
| [1] Robot Arm | | | | | | | | | | | | | | | |
|--|---|----------------------|------------------------|--|-------------|--------------------|-----|----------|------------------------|-----|----------|------------------------|-----|---------|------------------------|
| 1. Model | MS005N-B00x | | | | | | | | | | | | | | |
| 2. Name | MSR05N | | | | | | | | | | | | | | |
| 3. Type | Articulated robot | | | | | | | | | | | | | | |
| 4. Degree of freedom | 7 axes | | | | | | | | | | | | | | |
| 5. Axis specification | Operating axis | Max. operating range | Max. speed | | | | | | | | | | | | |
| | Shoulder rotatic (JT1) | + 180 ° ~ − 180 ° | 130 ° /s | | | | | | | | | | | | |
| | Shoulder out-in (JT2) | + 135 ° ~ − 90 ° | 130 ° /s | | | | | | | | | | | | |
| | Arm up-down (JT3) | + 120 ° ~ − 120 ° | 215 ° /s | | | | | | | | | | | | |
| | Wrist swivel (JT4) | + 180 ° ~ − 180 ° | 300 ° /s | | | | | | | | | | | | |
| | Wrist bend (JT5) | + 115 ° ~ − 115 ° | 300 ° /s | | | | | | | | | | | | |
| | Wrist twist (JT6) | + 180 ° ~ − 180 ° | 480 ° /s | | | | | | | | | | | | |
| | Arm rotation (JT7) | + 180 ° ~ − 180 ° | 215 ° /s | | | | | | | | | | | | |
| 6. Repeatability | ±0.10 mm (at the tool mounting surface) | | | | | | | | | | | | | | |
| 7 Max. payload | 5 kg | | | | | | | | | | | | | | |
| 8 Max. speed | 6600 mm/s (at the center of tool mounting surface) * It isn't linear motion speed | | | | | | | | | | | | | | |
| 9. Load capacity of wrist | <table><tr><td></td><td>Max. torque</td><td>Moment of inertia*</td></tr><tr><td>JT4</td><td>17.0 N•m</td><td>0.90 kg•m²</td></tr><tr><td>JT5</td><td>17.0 N•m</td><td>0.90 kg•m²</td></tr><tr><td>JT6</td><td>7.0 N•m</td><td>0.40 kg•m²</td></tr></table> | | | | Max. torque | Moment of inertia* | JT4 | 17.0 N•m | 0.90 kg•m ² | JT5 | 17.0 N•m | 0.90 kg•m ² | JT6 | 7.0 N•m | 0.40 kg•m ² |
| | | Max. torque | Moment of inertia* | | | | | | | | | | | | |
| | JT4 | 17.0 N•m | 0.90 kg•m ² | | | | | | | | | | | | |
| | JT5 | 17.0 N•m | 0.90 kg•m ² | | | | | | | | | | | | |
| | JT6 | 7.0 N•m | 0.40 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. | | | | | | | | | | | | | | | |
| 10. Driving motor | Brushless AC Servomotor | | | | | | | | | | | | | | |
| 11. Working range | See attached drawing | | | | | | | | | | | | | | |
| 12. Mass | 50 kg (without options) | | | | | | | | | | | | | | |
| 13. External facing | Mirror-finished Stainless steel (316L equivalent) | | | | | | | | | | | | | | |
| 14. Installation | Floor mounting | | | | | | | | | | | | | | |
| 15. Environment cond. | (Temperature) 10 ~35 °C, (Humidity) 35 ~ 85 %, no dew, nor frost allowed | | | | | | | | | | | | | | |
| 16. Cleanliness | ISO Class 5 | | | | | | | | | | | | | | |
| 17. Degree of protection | IP69K (except connectors box) | | | | | | | | | | | | | | |
| 18. Built-in utilities | | | | | | | | | | | | | | | |
| 19. Overhaul intarval | 15000Hours (Conditonal interval: 20000Hours) | | | | | | | | | | | | | | |
| 20. Options | | | | | | | | | | | | | | | |
| 21. Others | Consult Kawasaki about maintenance parts and spare parts. | | | | | | | | | | | | | | |

[2] Controller

| | | |
|-----------------------------------|---|---|
| 1. Model | E73/E74 | |
| 2. Enclosure | Open structure / Direct cooling system | |
| 3. Dimensions | See attached drawing | |
| 4. Number of controlled axes | 8 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 | Teach/Repeat SW, Emergency Stop SW, Control power lamp | |
| 12. Cable length | Power/Signal cable | 5 m |
| | Teach Pendant cable | 5 m |
| 13. Mass | See attached drawing | |
| 14. Power requirement | AC200 V - AC240 V \pm 10%, 50/60 Hz, 1 phases, Max 1.5 kVA(E73), Max 3 kVA(E74) | |
| 15. Ground | Less than 100 Ω (robot dedicated ground) Leakage current: max. 100 mA | |
| 16. Ambient temperature | 0 - 45 °C (Horizontal mount), 0 - 40°C (Vertical mount) | |
| 17. Relative humidity | 35 - 85 % (non-condensation) | |
| 18. Surface Treatment | Zinc Plating, Trivalent chromate finish | |
| 19. Teach Pendant | TFT color display (5.7 inch LCD) with touch panel Emergency Stop SW, Teach Lock SW and Enable SW | |
| 20. Options | | |
| General purpose signals | Input signals | 64/96 channels |
| | Output signals | 64/96 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 | 10m, 15m | |
| Teach Pendant cable | 10m, 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 | |
| 21. Others | Consult Kawasaki about maintenance parts and spare parts. | |



VIEW B



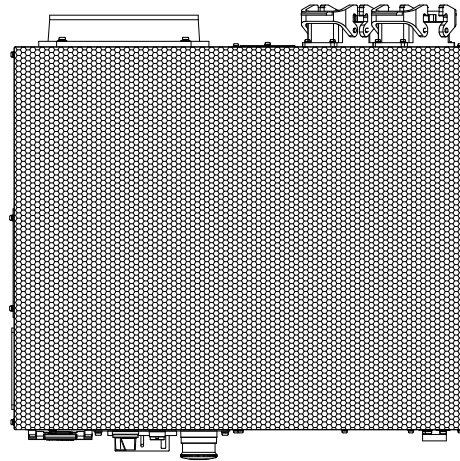
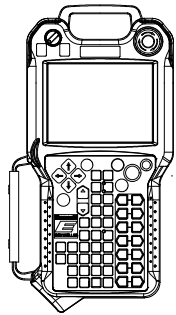
VIEW A

(Installation Dimensions)

MSR05n
WORKING RANGE

E 7 3 / E 7 4 C O N T R O L L E R

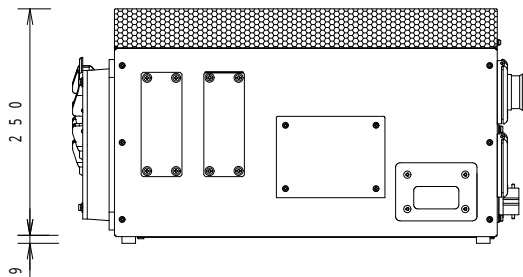
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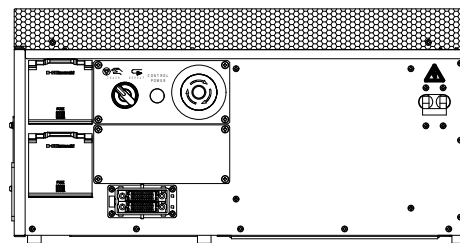
T O P V I E W

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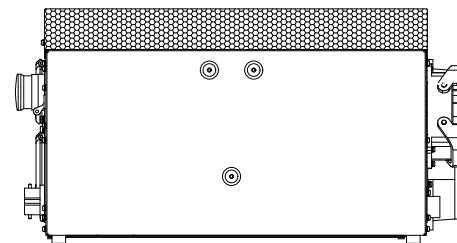
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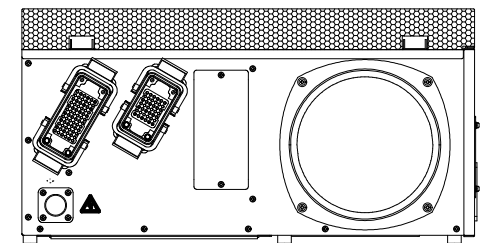
S I D E V I E W



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