

SPECIFICATION OF ROBOT

MT400NFE42

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KAWASAKI HEAVY INDUSTRIES LTD.
ROBOT DIV.

Doc, No: 90101-1886DEB

Materials and specifications are subject to change without notice.

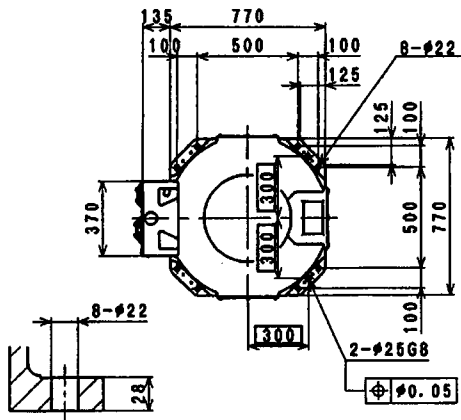
1. Specification of Robot

[1] Robot Arm

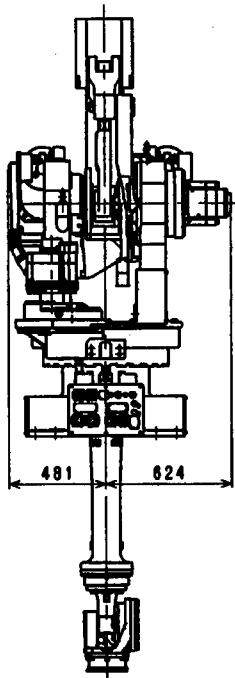
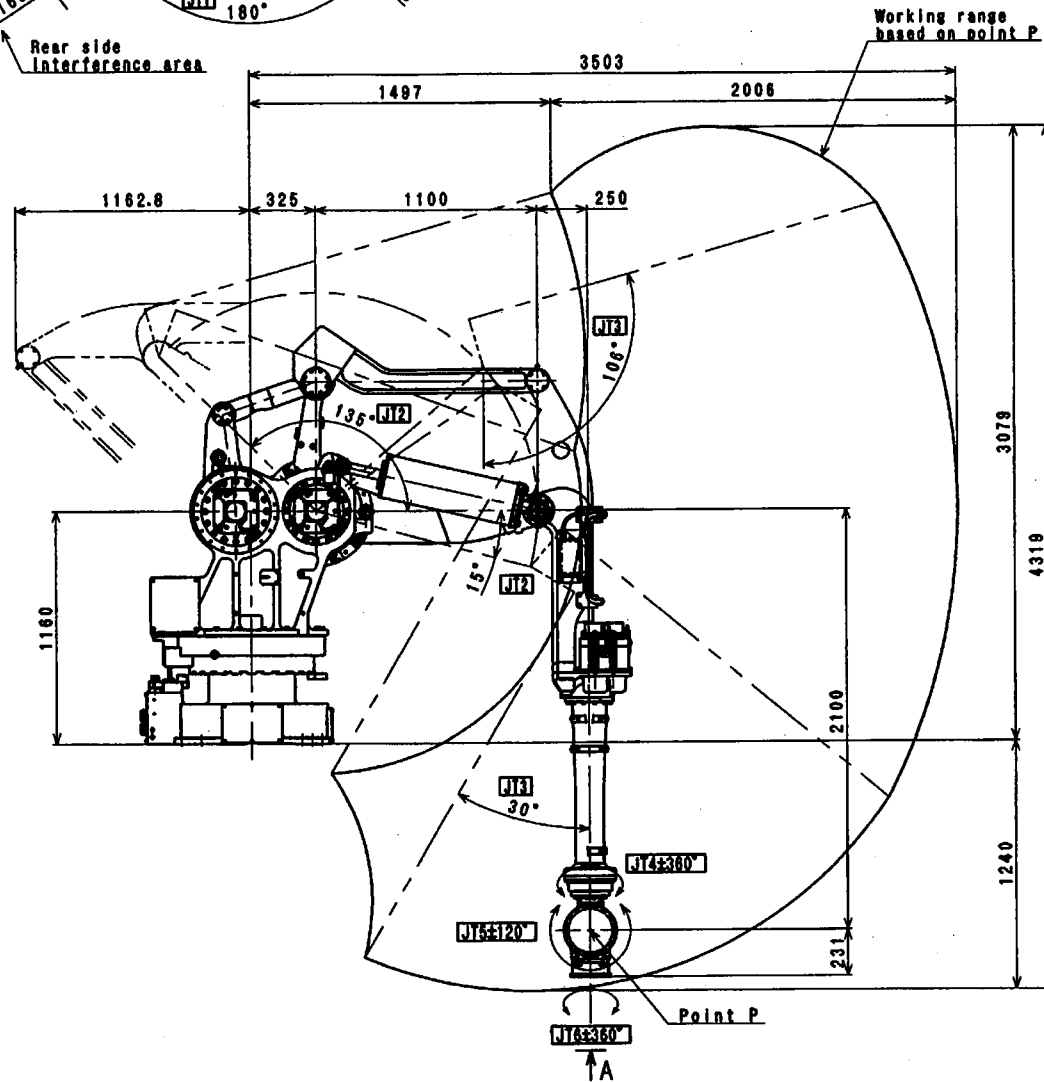
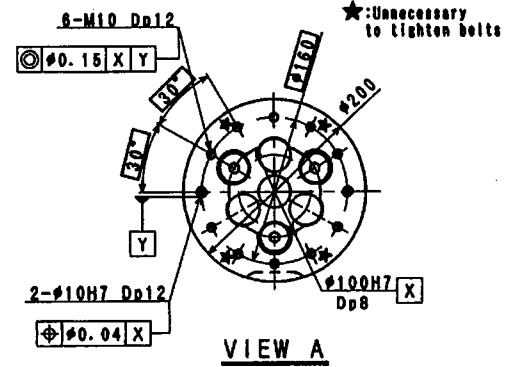
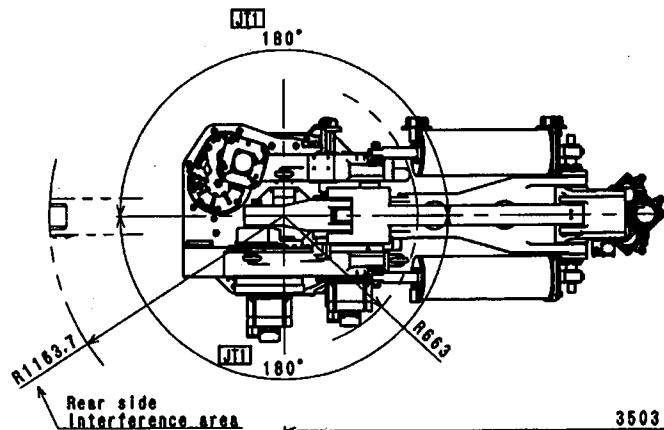
| | | | |
|---|--|----------------------|-----------------------|
| 1. Model | MT400N-D | | |
| 2. Type | Articulated robot | | |
| 3. Degree of freedom | 6 axes (Option 7 axes) | | |
| 4. Axis specification | Operating axis | Max. operating range | Max. speed |
| | Arm rotation (JT1) | +180° ~ -180° | 80°/s |
| | Arm out-in (JT2) | +15° ~ -135° | 70°/s |
| | Arm up-down (JT3) | +106° ~ -30° | 70°/s |
| | Wrist swivel (JT4) | +360° ~ -360° | 70°/s |
| | Wrist bend (JT5) | +120° ~ -120° | 70°/s |
| | Wrist twist (JT6) | +360° ~ -360° | 130°/s |
| | Linear traverse (-) | 2000 mm (Standard) | 1000 mm/s |
| 5. Repeatability | ±0.5 mm (at the tool mounting surface) | | |
| 6. Max. payload | 400 kg (If payload is between 380 and 400kg , the tool mounting surface always looks down.) | | |
| 7. Max. linear interpolation speed | 2200 mm/s | | |
| 8. Load capacity of wrist | In case of payload under 380kg | | |
| | | Max. torque | Moment of inertia* |
| | JT4 | 2150 N·m | 200 kg·m ² |
| | JT5 | 2150 N·m | 200 kg·m ² |
| | JT6 | 980 N·m | 147 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. | | | |
| In case of payload between 380 and 400kg Consult Kawasaki. | | | |
| 9. Driving motor | Brushless AC Servomotor | | |
| 10. Working range | See attached drawing | | |
| 11. Mass | 2600 kg (without options) | | |
| 12. Color | Munsell 10GY9/1 equivalent | | |
| 13. Installation | Rack mounting | | |
| 14. Environment cond. | (Temperature) 0 ~ 45 °C, (Humidity) 35 ~ 85 %, no dew, nor frost allowed | | |
| 15. Built-in utilities | Pneumatic pipings (φ 12 × 2 lines) | | |
| | Wirings for valves to operate the hand (DC24 V × 7 circuits) | | |
| 16. Options | Adjustable mechanical stoppers JT1/JT2/JT3 | | |
| | Limit switches JT1/JT2/JT3 | | |
| | Forklift pockets for transport | | |
| | Color (Munsell) | | |
| | Internal signal harness | | |
| | Double solenoid valve (1 circuit/2 circuits) | | |
| | Single solenoid valve (1 circuit/2 circuits) | | |
| | Double solenoid valve (1 circuit) and single solenoid valve (1 circuit) | | |
| Air cleaning equipment (filter, regulator, mistseparator) | | | |
| 17. Others | Consult Kawasaki about maintenance parts and spare parts. | | |

| [2] Controller | | |
|-----------------------------------|--|--|
| 1. Model | E40/E42/E43/E44 | |
| 2. Enclosure | Enclosed structure / Indirect cooling system | |
| 3. Dimensions | See attached drawing | |
| 4. Number of controlled axes | 6 axes for E40/E42/E44, 5 axes for E43 (depends on number of axes of arm) 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, 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 | AC380 V - AC415 V \pm 10%, 50/60 Hz, 3 phases, Max 4.9 kVA(E40), Max 9.9 kVA(E42/E43/E44) | |
| 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. 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 | |
| 24. 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.



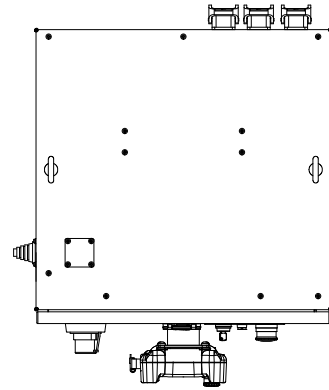
Installation Dimensions



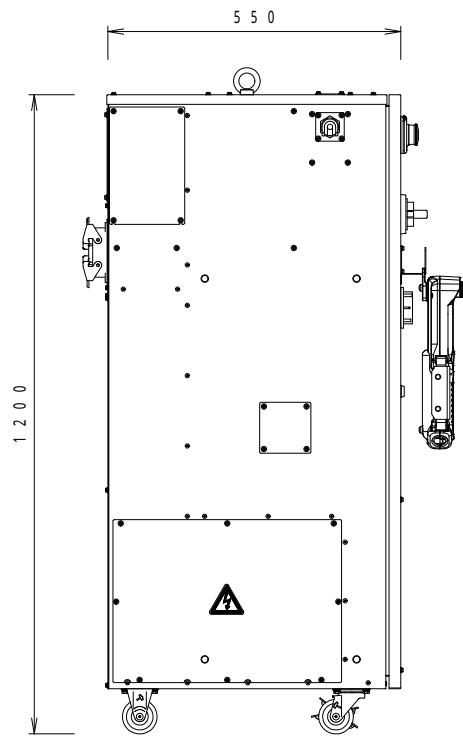
MT400N
WORKING RANGE

E 4 2 C O N T R O L L E R

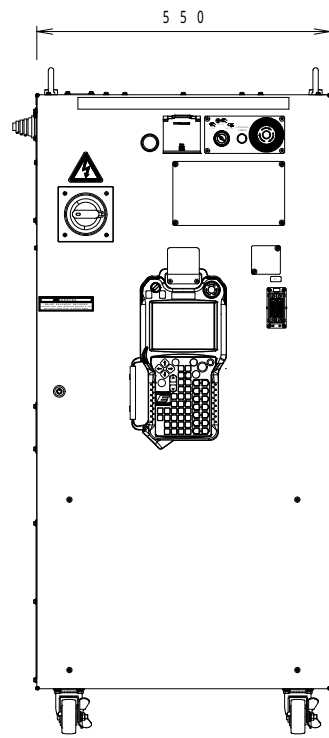
M A S S : 1 8 0 K g



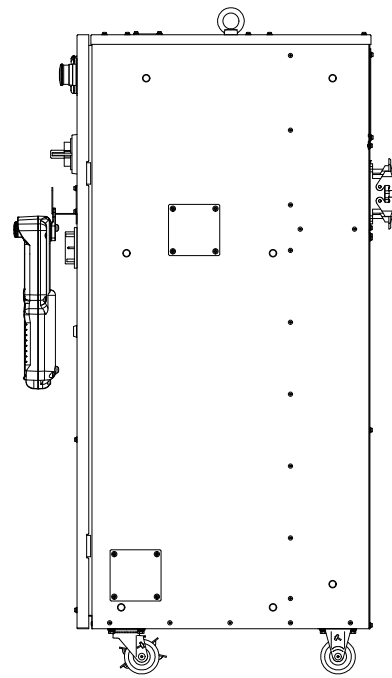
T O P V I E W



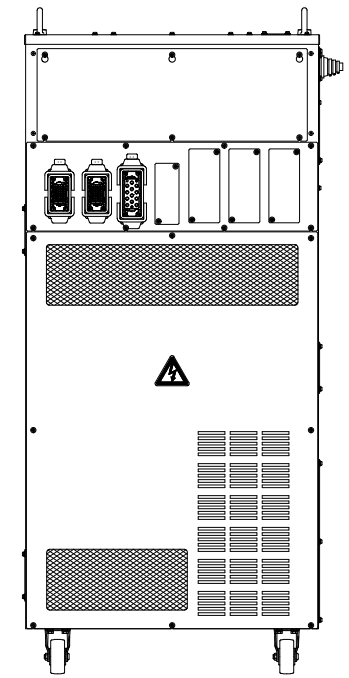
S I D E V I E W



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