

# Standard specifications

## BX300LSE42004

November 06, 2015

KAWASAKI HEAVY INDUSTRIES, LTD.  
ROBOT DIVISION

|                 |               |
|-----------------|---------------|
| Specification : | 90101-2402DEA |
| (Arm) :         | 90151-0029DEA |
| (Controller) :  | 90152-0022DEA |

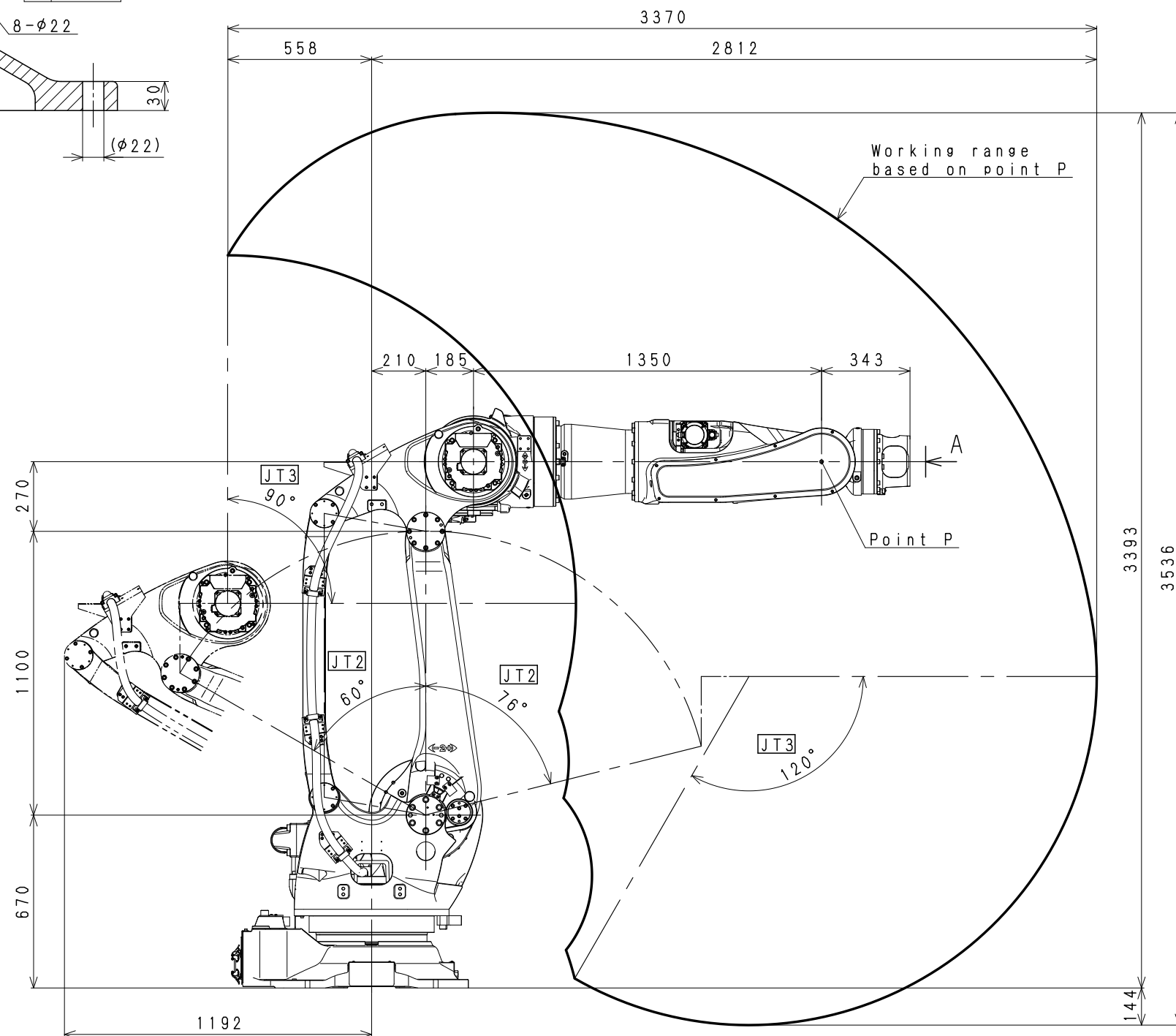
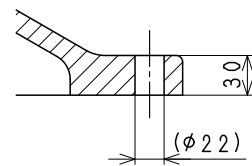
# 1. Specification of Robot

## [1] Robot Arm

|   |   |                      |                       |
|---|---|----------------------|-----------------------|
| 1. Model  | BX300L-B  |                      |                       |
| 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 °      | 125 °/s               |
|   | Arm out-in (JT2)  | +76 ° ~ -60 °        | 102 °/s               |
|   | Arm up-down (JT3)   | +90 ° ~ -120 °       | 85 °/s                |
|   | Wrist swivel (JT4)  | +210 ° ~ -210 °      | 105 °/s               |
|   | Wrist bend (JT5)  | +125 ° ~ -125 °      | 110 °/s               |
|   | Wrist twist (JT6)   | +210 ° ~ -210 °      | 180 °/s               |
| 5. Repeatability  | ±0.2 mm (at the tool mounting surface)  |                      |                       |
| 6. Max. payload   | 300 kg  |                      |                       |
| 7. Max. linear interpolation speed  | 5000 mm/s   |                      |                       |
| 8. Load capacity of wrist   |   |                      |                       |
|   |   | Max. torque          | Moment of inertia *   |
|   | JT4   | 2300 N·m             | 240 kg·m <sup>2</sup> |
|   | JT5   | 2300 N·m             | 240 kg·m <sup>2</sup> |
|   | JT6   | 1000 N·m             | 200 kg·m <sup>2</sup> |
| 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  | 1460 kg (without options)   |                      |                       |
| 12. Color   | Munsell 10GY9/1 equivalent  |                      |                       |
| 13. Installation  | Floor mounting  |                      |                       |
| 14. Environment cond.   | (Temperature) 0 ~ 45 ° C, (Humidity) 35 ~ 85 %, no dew, nor frost allowed                                     |                      |                       |
| 15. Dressing  | Cable length between flange and tool is 1.5m.<br>Consult Kawasaki when non-standard dressing will be applied. |                      |                       |
| 16. Options   | Adjustable mechanical stoppers JT1/JT2/JT3  |                      |                       |
|   | Adapter bracket for tool  |                      |                       |
|   |   |                      |                       |
|   |   |                      |                       |
|   |   |                      |                       |
|   |   |                      |                       |
|   |   |                      |                       |
|   |   |                      |                       |
|   |   |                      |                       |
|   |   |                      |                       |
| 17. Others  | Consult Kawasaki about maintenance parts and spare parts.   |                      |                       |

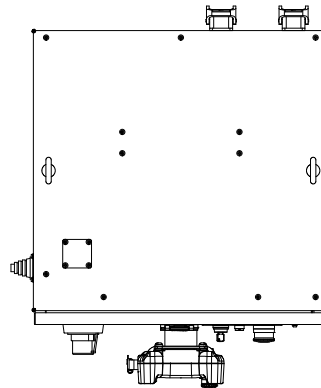
| [2] Controller                    |  |   |
|-----------------------------------|--|---|
| 1. Model                          | E40/E42/E43/E44  |   |
| 2. Enclosure                      | Enclosed structure / Indirect cooling system   |   |
| 3. Dimensions                     | See attached drawing   |   |
| 4. Number of controlled axes      | 6 axes for E40/E42/E44, 5 axes for E43 (depends on number of axes of arm)<br>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,<br>Max 4.9 kVA(E40), Max 9.9 kVA(E42/E43/E44)   |   |
| 15. Ground                        | Less than 100 $\Omega$ (robot dedicated ground)<br>Leakage current: max. 100 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<br>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.

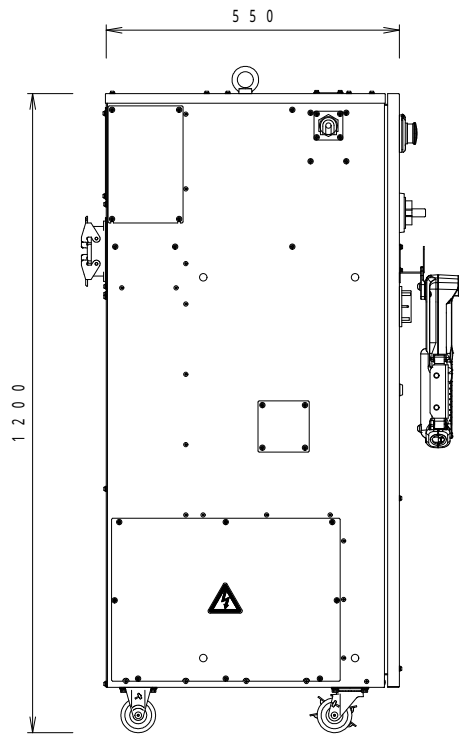


E 4 0   C O N T R O L L E R

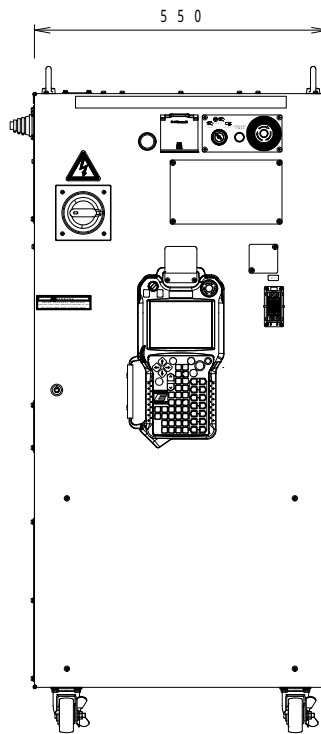
M A S S : 1 4 5 K g



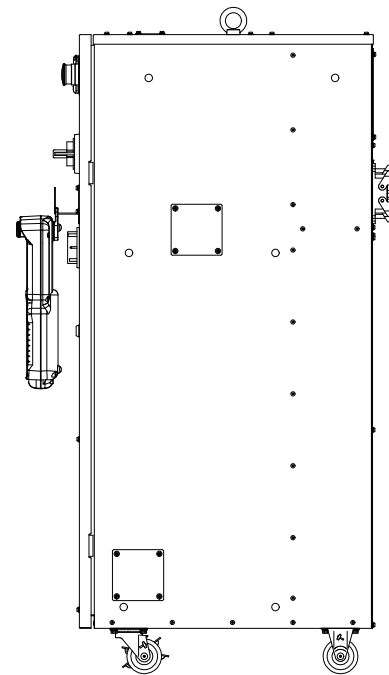
T O P   V I E W



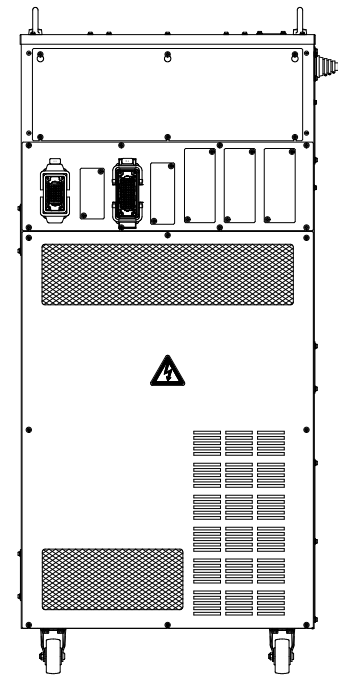
S I D E   V I E W



F R O N T   V I E W



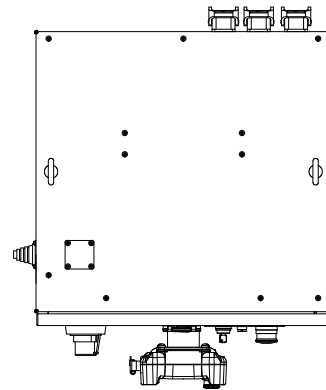
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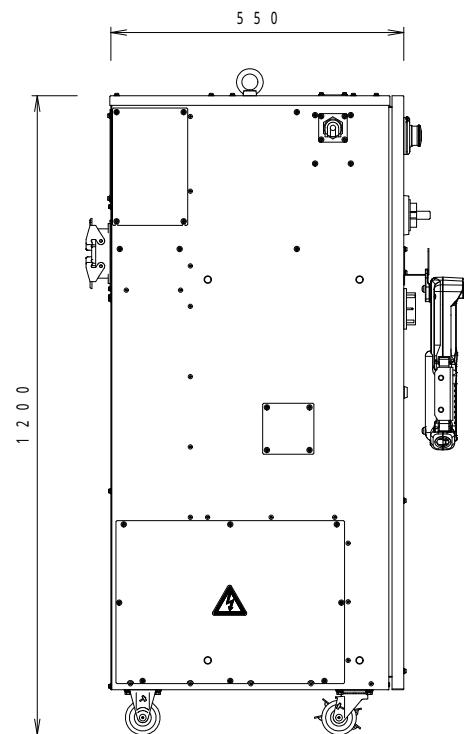
R E A R   V I E W

E 4 2   C O N T R O L L E R

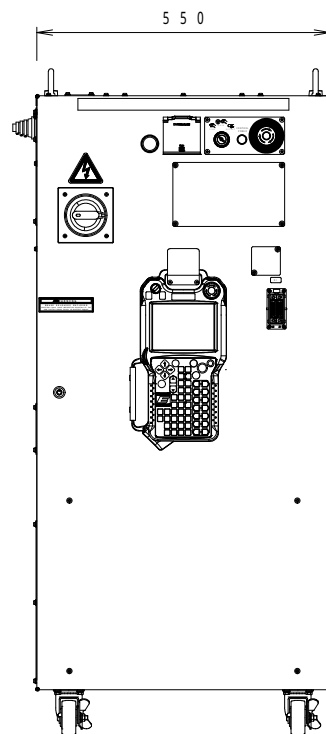
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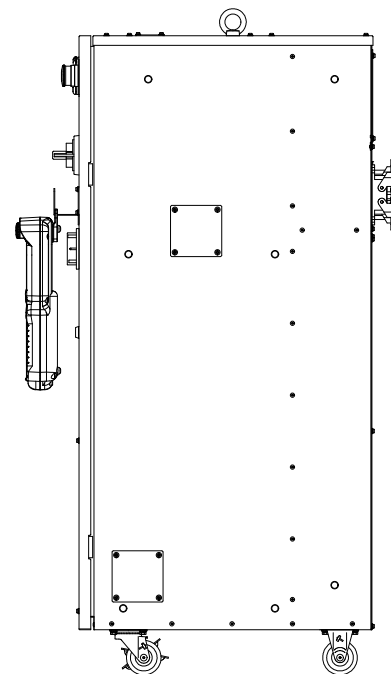
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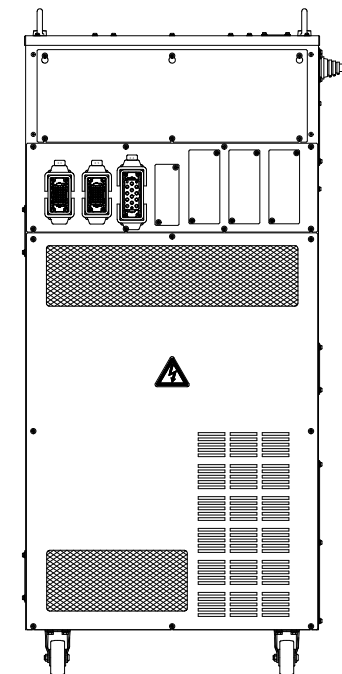
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F R O N T   V I E W



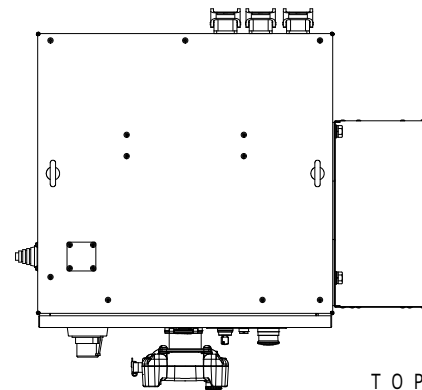
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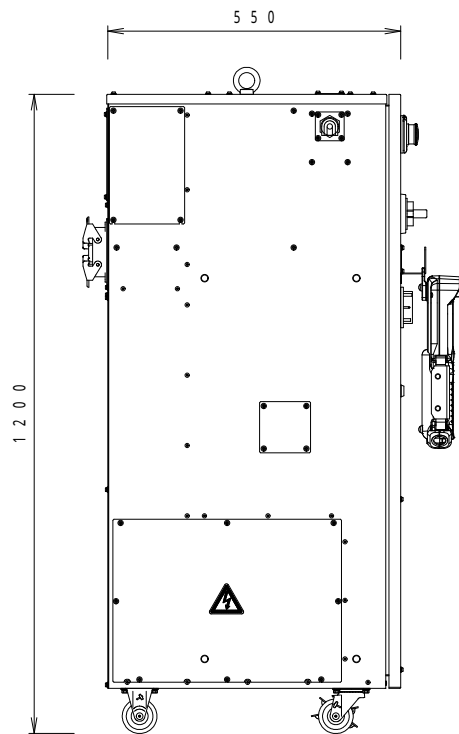
R E A R   V I E W

E 4 3   C O N T R O L L E R

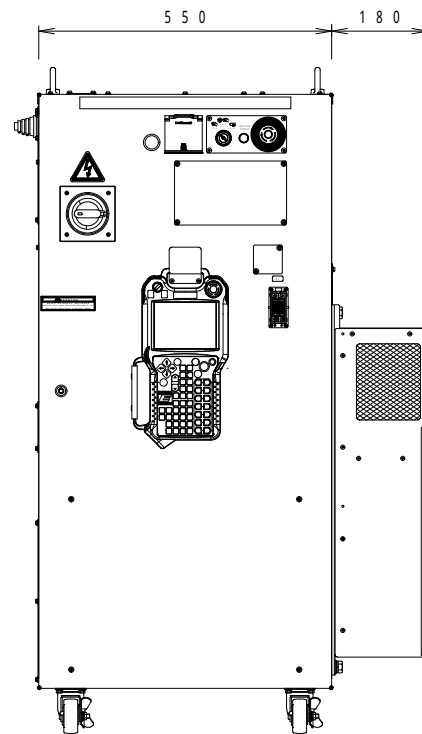
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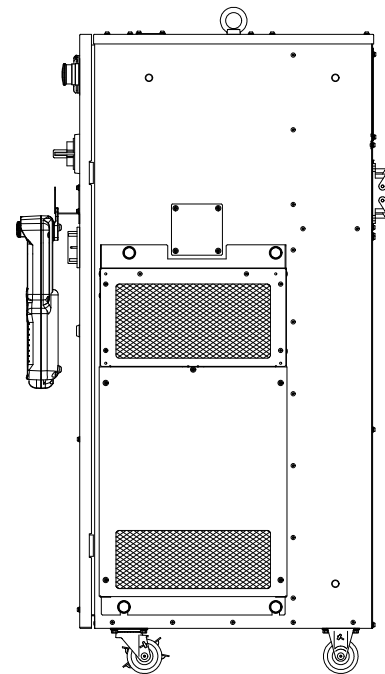
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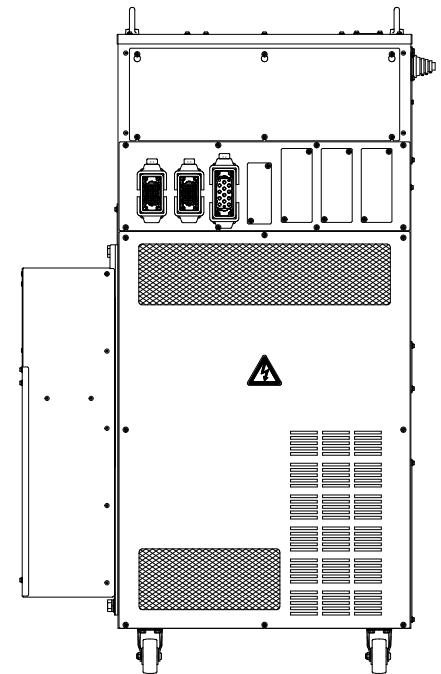
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F R O N T   V I E W



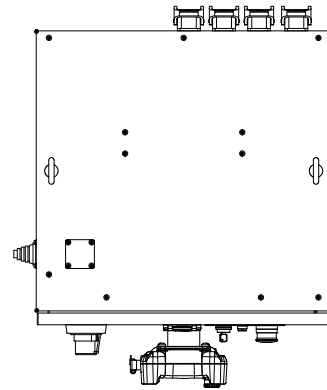
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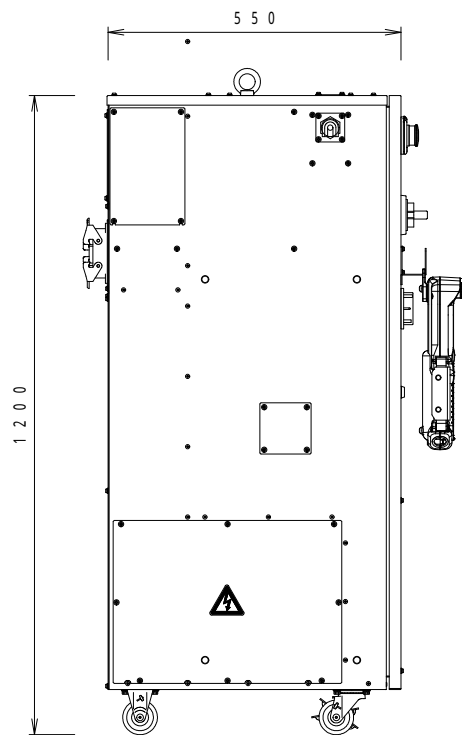
R E A R   V I E W

E 4 4   C O N T R O L L E R

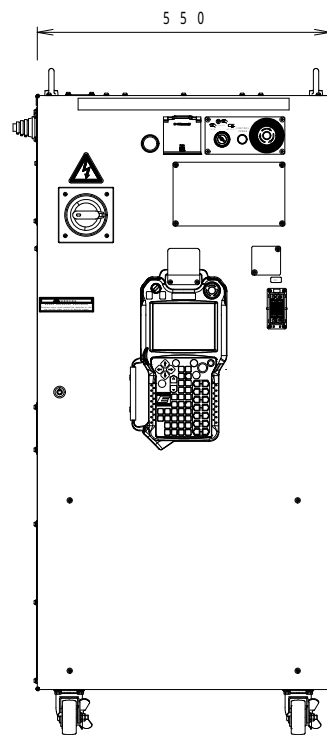
M A S S : 1 8 0 K g



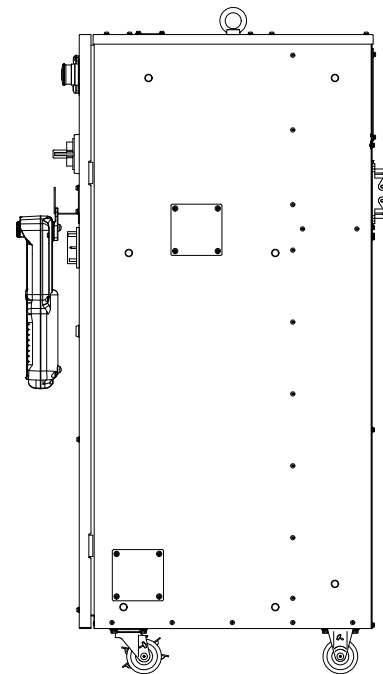
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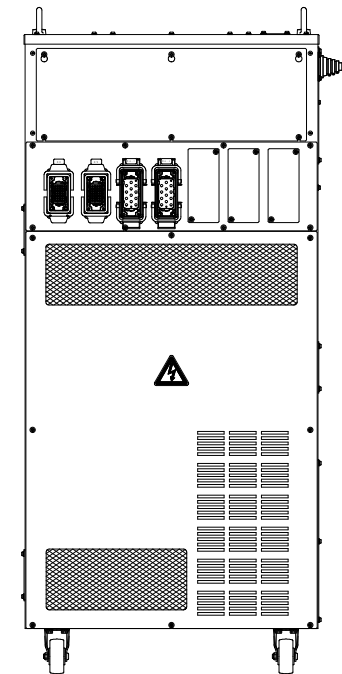
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F R O N T   V I E W



S I D E   V I E W



R E A R   V I E W