Simple and friendly

Kawasaki Robot

EUROPE

M-SERIES

up to 700 kg payload

»Simple and friendly«
INTO THE FUTURE

Handling, Welding, Mounting and Tending are only four of the countless domains of the M-Series allrounders.

»40 years of experience and state-of-the-art robot technology«

An extremely compact and light-weight design forms the basis for high speeds and rigidity as well as an enormous reach.

»Your goal is our task«

It was Kawasaki's intelligence and flexibility which made them build the most powerful robots in their class. Combined with a high-end control system, they reliably meet the demands of the most varied application fields – now, in the near and far future.

The M-Series

1. Power

With an enormous amount of torque available at each axis these machines are the most powerful robots of the Kawasaki Robot Family. With a payload from 350 to 700 kg and a reach from 2540 up to 3018 mm.

2. Standardisation

The use of interchangeable modular components in different robot models makes these machines cost effective in the sense of maintenance and repair.

3. Reliability

The M-Series robots of the Kawasaki family have over the years had many model upgrades. The end result is a high stability and robustness under maximum load proven in both automotive and general industries.

4. Functions

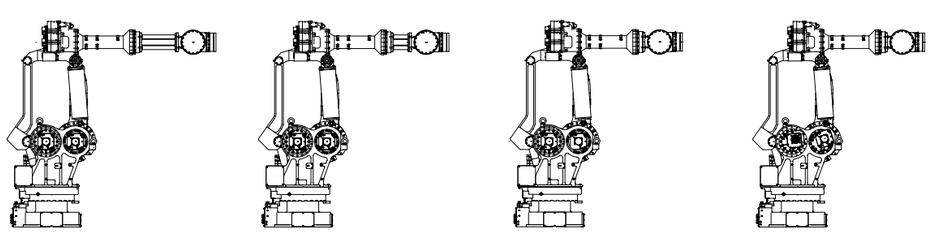
Allow for the direct connection of grippers without additional wiring through the robot arm. Additionally required lines or hoses can be installed at the provided fastening points. The robots of the M-Series are equipped with signal lines and air hoses integrated in the robot arm.

5. Integration

The basic principal for the design of the Kawasaki robot family has also been used for the M-Series development. A small footprint and minimized interference contour, enables space saving application cells and decrease costs.

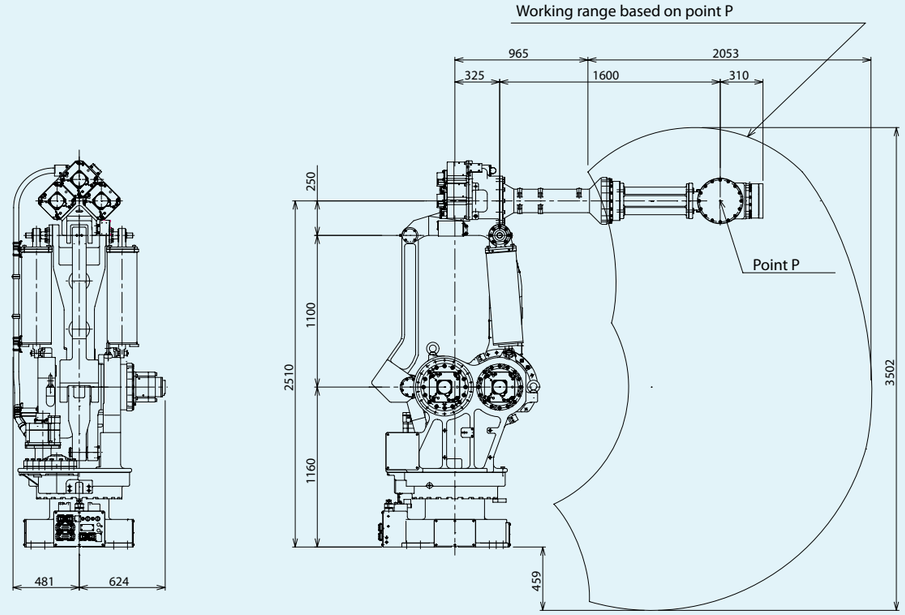
MODEL		MX350L	MX420L	MX500N	MX700N
Degrees of Freedom		6 Axis			
Maximum Reach*1		3018 mm	2778 mm	2540 mm	2540 mm
Maximum Payload		350 kg	420 kg	500 kg	700 kg
Maximum Stroke	Axis 1	±180 °	±180 °	±180 °	±180 °
	Axis 2	+90 ° ~ -45 °	+90 ° ~ -45 °	+90 ° ~ -45 °	+90 ° ~ -45 °
	Axis 3	+20 ° ~ -115 °	+20 ° ~ -125 °	+20 ° ~ -130 °	+20 ° ~ -130 °
	Axis 4	±360 °	±360 °	±360 °	±360 °
	Axis 5	±110 °	±110 °	±110 °	±110 °
	Axis 6	±360 °	±360 °	±360 °	±360 °
Maximum Speed	Axis 1	80 °/s	80 °/s	80 °/s	65 °/s
	Axis 2	70 °/s	70 °/s	70 °/s	50 °/s
	Axis 3	70 °/s	70 °/s	70 °/s	45 °/s
	Axis 4	80 °/s	80 °/s	80 °/s	50 °/s
	Axis 5	80 °/s	80 °/s	80 °/s	50 °/s
	Axis 6	120 °/s	120 °/s	120 °/s	95 °/s
Moment	Axis 4	2740 N·m	3290 N·m	3920 N·m	5488 N·m
	Axis 5	2740 N·m	3290 N·m	3920 N·m	5488 N·m
	Axis 6	1960 N·m	1960 N·m	1960 N·m	2744 N·m
Moment of Inertia	Axis 4	400 kg·m²	400 kg·m²	400 kg·m²	600 kg·m²
	Axis 5	400 kg·m²	400 kg·m²	400 kg·m²	600 kg·m²
	Axis 6	259 kg·m²	259 kg·m²	259 kg·m²	388 kg·m²
Repeatability (Measure Point: Middle of Flange)		± 0,5 mm			
Weight		2.800 kg	2.800 kg	2.750 kg	2.860 kg
Max. linear Speed (Measure Point: Middle of Flange)		2000 mm/s			
Controller		E44			
Color		Munsell 10GY9/1			
Installation		Floor			
Ambient Conditions	Temperature	0 ~ 45 °C			
	Humidity	35 ~ 85 % (no Dew, nor Frost allowed)			
	Others	Installation Ambience must be free of: • Inflammable or corrosive Liquid or Gas • Electric Noise Interferences			
Application Media Upper Arm	Input Signals	12			
	Output Signals	8			
	Air	2 x Ø 12 mm			
IP Code		Wrist Unit: IP67 / Basic Axes: IP65			

*1 Distance between Centre of Axis 1 and Axis 5.

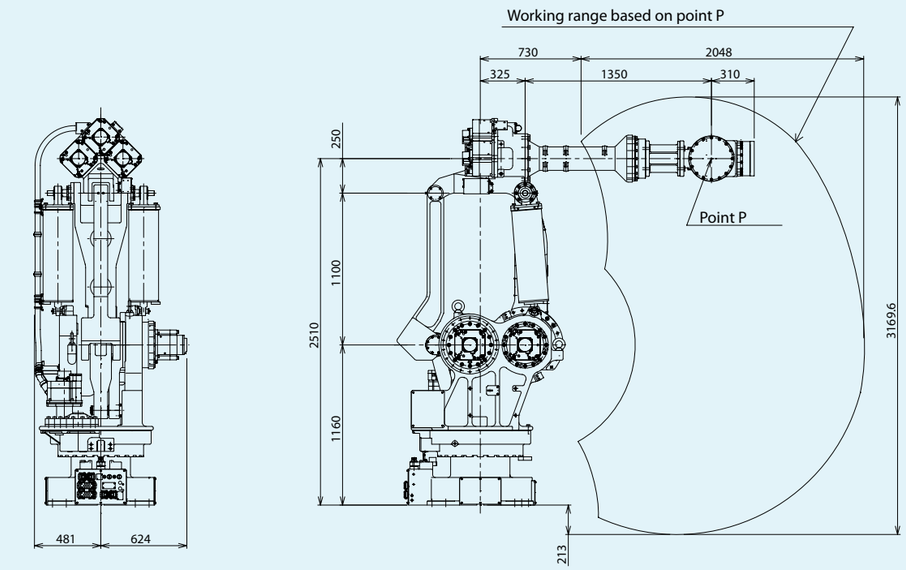


Motion Range & Dimensions

MX350L

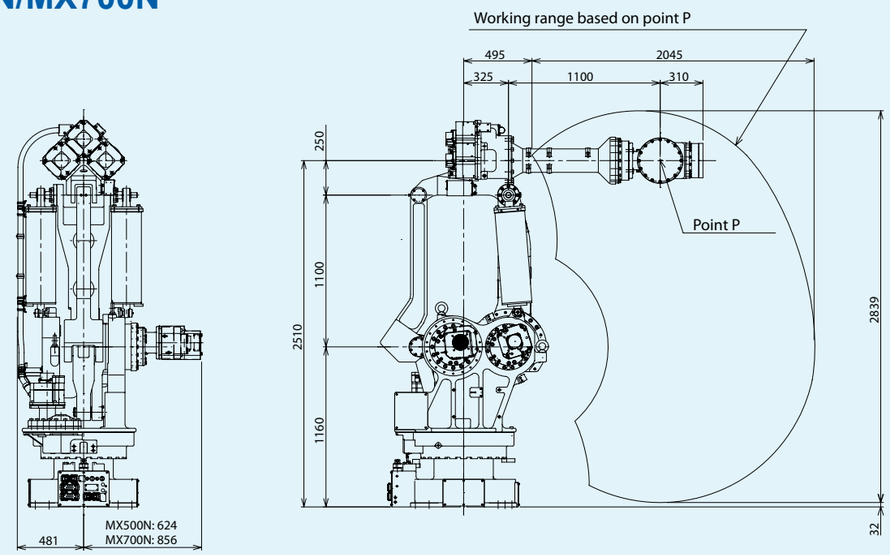


MX420L



Motion Range & Dimensions

MX500N/MX700N



CONTROLLER

The E-Controller – technically mature, easy to operate and powerful

Compact, upgradeable and user-friendly
A maximum of 10 external axes may be integrated, up to three of which in the controller housing (E4x). All established bus systems (Interbus, Profibus, ProfiNet…) are supported. The integrated Soft PLC may be edited via Teach Pendant or even more comfortably at the PC (option). Custom-tailored user interfaces may be programmed and used for the simplified control of the robot and also peripheral devices. Motor voltage ON and program start may be activated directly via the manual control unit. The parallel display of two information screens (e.g. position and signal data) facilitates the process control.

System
Ultra-fast execution of programs, loading and storing processes as well as a precise continuous-path control and much more thanks to the up-to-date processor design and powerful components. 8 MB RAM (80,000 steps) and USB interface as standard.

Maintenance
»Simple and friendly« – Due to the optimized modular configuration of the Kawasaki control, maintenance work is exceptionally user-friendly. Furthermore integrated service and diagnosis tools guarantee increased safety in operation. Remote diagnosis via Ethernet is also included in the standard package.

MODEL		**E44**
Number of Controlled Axes		*6 (optional 16)*
Servo Motors		*Brushless AC Servomotors*
Position Detectors		*Absolute Encoder*
Servo System		*Full Digital Servo System*
Programming		*Block or AS-Language*
Coordinate Systems		*Joint, Base, Tool, external Tool*
Motion Control		*Joint-, Linear- and Circular interpolated*
Signals	External	*Motor Power, Signal Hold, etc.*
	Input	*32 (optional 128)*
	Output	*32 (optional 128)*
	Analogue Input (optional)	*8/16*
	Analogue Output (optional)	*4/8/12/16*
Memory		*8 MB (ca. 80.000 steps)*
External Memory		*2 x USB*
Data Interfaces	PC, Network, etc.	*2 x RS-232C, 2 x Ethernet*
	Fieldbus (optional)	*DeviceNet©, PROFIBUS©, PROFINET©, INTERBUS-S©, Ethernet/IP©, CC-Link©, CANopen©, Modbus TCP©, Control Net©*
Teach Pendant		*6.4“ LCD with Touch Panel, Emergency Stop SW, Teach-Lock, Deadman SW, Motor Power, Program Start, Hold/Run*
Operation Panel		*Emergency Stop SW, Control Power, Teach/Repeat*
Cable Length (Controller – Arm), (Controller – Teach Pendant)		*10 m (Arm: optional up to 40 m), (TP: optional up to 30 m)*
Dimensions (WxDxH mm)		*550x550x1200*
Weight (kg)		*180*
Power Requirements		*AC 380-415V ± 10%, 50/60Hz, 3 Phases, max. 9,9kVA (E44)*
Ground		*<100Ω, Max. Leakage Current 10mA*
Safety Category		*3, Performance Level d (EN ISO13849-1:2008)*
Ambience Temperature / Humidity		*0-45°C / 35-85% (no Dew, nor Frost allowed)*
Color		*Munsell 10GY9/1*

Note: Not all Options can be combined.

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Cautions to be taken to ensure safety

For those persons involved with the operation / service of your system, including Kawasaki Robot, they must strictly observe all safety regulations at all times. They should carefully read the Manuals and other related safety documents.

Products described in this catalogue are general industrial robots. Therefore, if a customer wishes to use the robot for special purposes, which might endanger operators or if the robot has any problems please contact us. We will be pleased to help you.

BE CAREFUL: All photos illustrated in this catalogue are frequently taken after removing safety fences and other safety devices stipulated in the safety regulations from the Robot operation system.

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