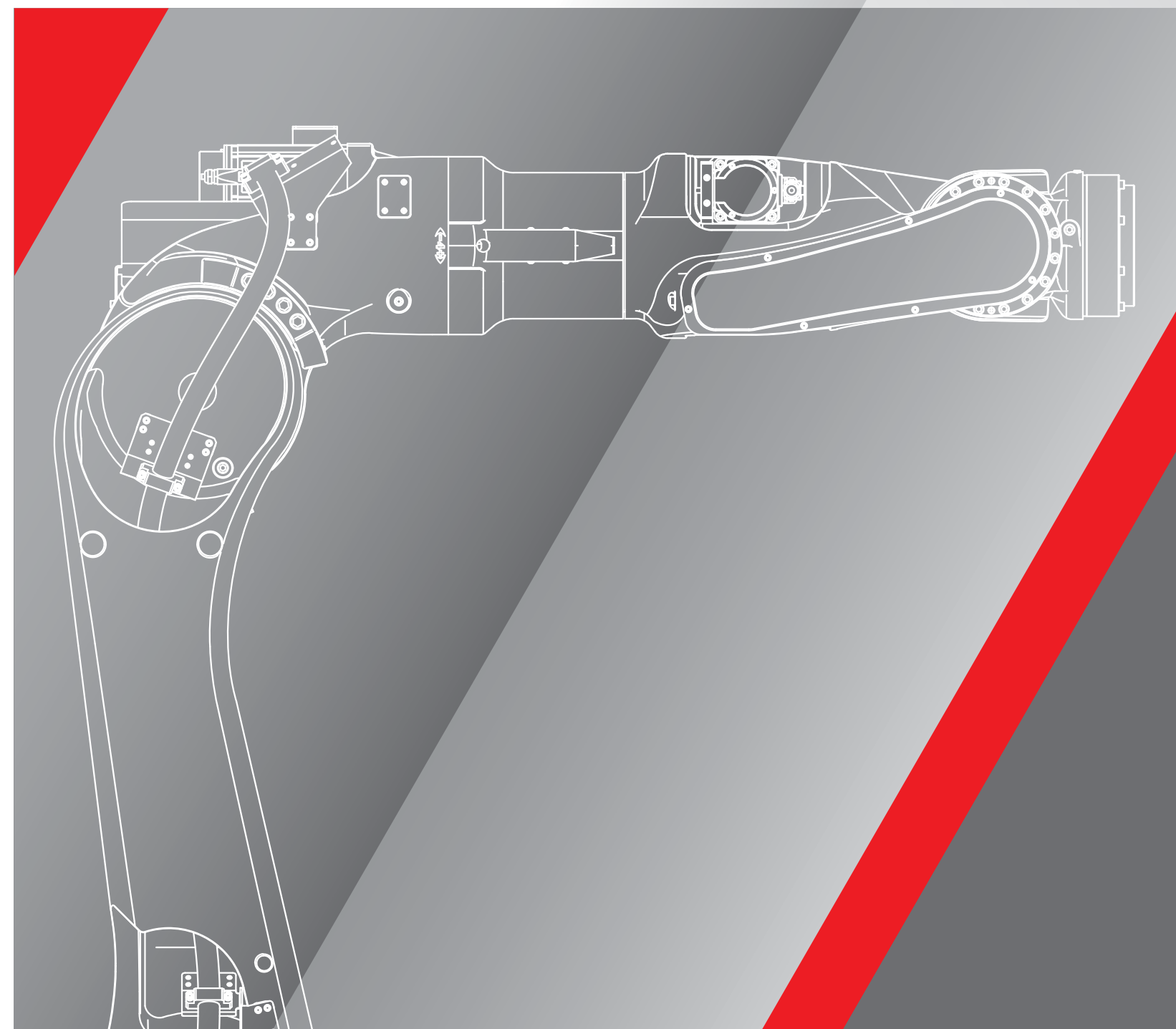


Kawasaki Robot

B series spot welding robots



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Kawasaki Robot



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 as Photographs 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.



ISO certified in Wixom, Michigan U.S.A.

Kawasaki's advanced technology streamlines the spot welding process.

The B series line of spot welding robots were developed using Kawasaki's proven advanced technology and spot welding expertise to take performance to the next level.

Features

High-speed spot welding

Minimized net weight, heavy duty motors, and advanced anti-vibration control technology makes the B series robots champion sprinters. These features help the robots excel at high speed short-pitch movements making them ideal for spot welding. The improved motion sequence by the servo welding guns, as well as the automatic calibration feature to optimize acceleration and deceleration of the gun speed, leads to a significant reduction in cycle time and results in maximum production.

Integrated dress package

The B series line is manufactured using hollow reduction units for the upper arm. This allows for an internal dressing of the robot from the base to the tool mounting plate. With Kawasaki's integrated dress package, the manufacturing line build and digital engineering time is greatly reduced and interference with adjacent robots or peripheral devices is minimized.

Space saving design

Compared to conventional robots with similar payload capacity, the B series robots have a much smaller footprint and narrower body. The small footprint of these slim arm design robots allows for installation in "high-density" applications without impeding performance. In addition, the B series robot line houses the cable harnesses within the robot arm, further reducing the amount of work space required and minimizing potential interference.



BT165L / BT200L

BX100S

BX100N

BX100L

BX130X

BX165N

BX165L / BX200L

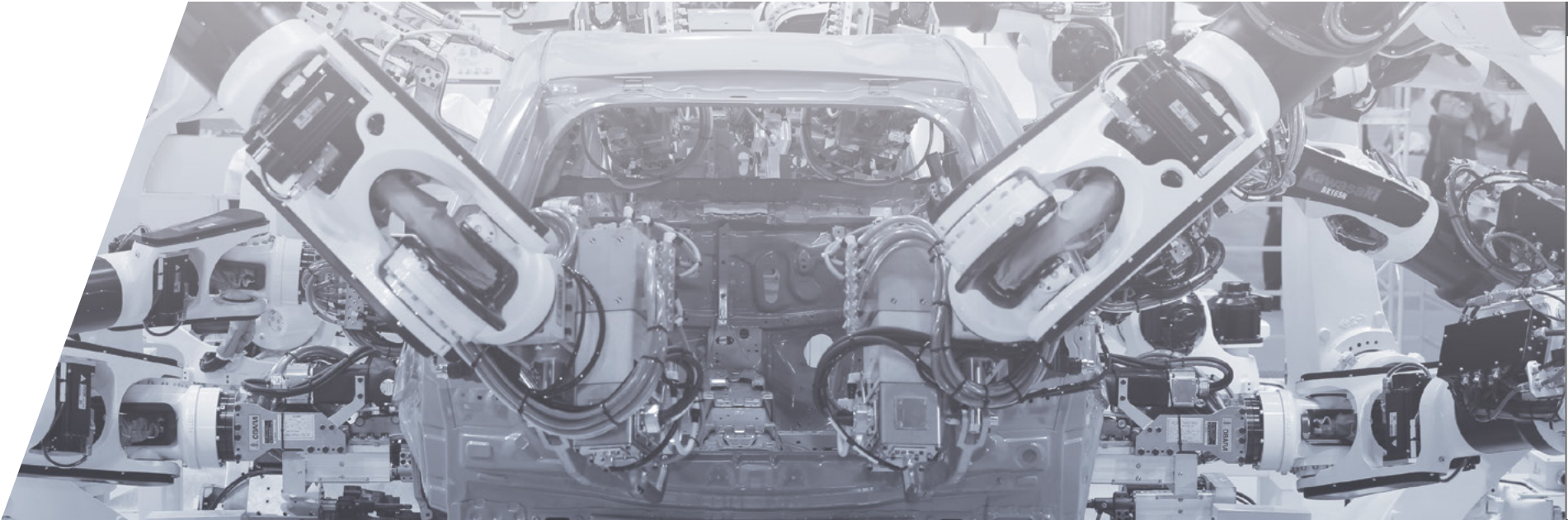
BX200X

BX250L / BX300L

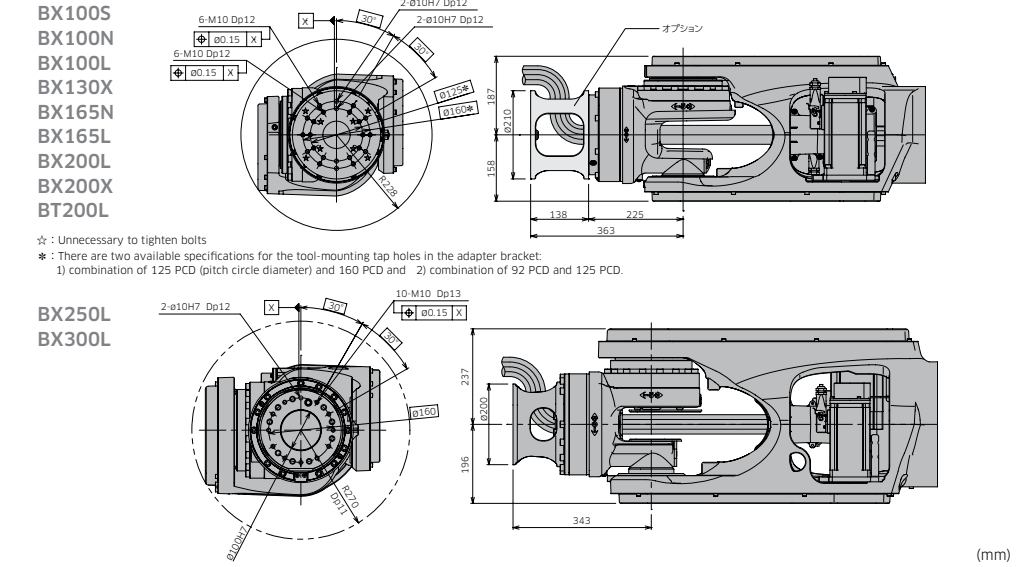
Standard specifications

		BX100S	BX100N	BX100L	BX130X	BX165N		BX165L	BX200L	BX200X	BX250L	BX300L	BT165L	BT200L	
Type		Articulated					Articulated								
Degree of freedom (axes)		6						6					6 (option for 7)	6	
Max. payload (kg)		100	100	100	130	165		165	200	200	250	300	165	200	
Max. reach (mm)		1,634	2,200	2,597	2,991	2,325		2,597	2,597	3,412	2,812	2,812	3,151	3,151	
Positional repeatability (mm) *1		±0.06	±0.06	±0.06	±0.06	±0.06		±0.06	±0.06	±0.07	±0.07	±0.07	±0.08	±0.08	
Motion range (°)	Arm rotation (JT1)	±160	±160	±160	±160	±160		±160	±160	±180	±180	±180	±160	±160	
	Arm out-in (JT2)	+120 - -65	+120 - -65	+76 - -60	+76 - -60	+76 - -60		+76 - -60	+76 - -60	+76 - -60	+76 - -60	+76 - -60	+80 - -130	+80 - -130	
	Arm up-down (JT3)	+90 - -81	+90 - -77	+90 - -75	+90 - -75	+90 - -75		+90 - -75	+90 - -75	+90 - -110	+90 - -120	+90 - -120	+90 - -75	+90 - -75	
	Wrist swivel (JT4)	±210	±210	±210	±210	±210		±210	±210	±210	±210	±210	±210	±210	
	Wrist bend (JT5)	±125	±125	±125	±125	±125		±125	±125	±125	±125	±125	±125	±125	
	Wrist twist (JT6)	±210	±210	±210	±210	±210		±210	±210	±210	±210	±210	±210	±210	
Max. speed (°/s)	Arm rotation (JT1)	135	135	105	105	105		120	105	125	125	125	120	105	
	Arm out-in (JT2)	125	110	130	90	130		110	90	102	120	102	110	85	
	Arm up-down (JT3)	155	140	130	130	130		130	100	85	100	85	130	100	
	Wrist swivel (JT4)	200	200	200	200	120		170	120	105	140	105	170	120	
	Wrist bend (JT5)	160	200	160	160	160		170	120	120	140	110	170	120	
	Wrist twist (JT6)	300	300	300	300	300		280	200	200	200	180	280	200	
Max.Torque (N·m)	Wrist swivel (JT4)	830	588.4	830	830	930		952	1,334	1,334	1,800	2,300	952	1,334	
	Wrist bend (JT5)	830	588.4	830	830	930		952	1,334	1,334	1,800	2,300	952	1,334	
	Wrist twist (JT6)	441	294.2	441	441	490		491	588	588	750	1,000	491	588	
Moment of inertia (kg·m²)	Wrist swivel (JT4)	85	60	85	85	99		99	199.8	199.8	200	240	99	199.8	
	Wrist bend (JT5)	85	60	85	85	99		99	199.8	199.8	200	240	99	199.8	
	Wrist twist (JT6)	45	30	45	45	49.5		49.5	154.9	154.9	165	200	49.5	154.9	
Mass (kg)		720	740	890	920	875		890	890	1,450	1,460	1,460	1,100	1,100	
Body color		Munsell 10GY9/1 equivalent					Munsell 10GY9/1 equivalent								
Installation		Floor					Floor						Shelf		
Environmental conditions	Temperature (°C)	0 - 45					0 - 45								
	Humidity (%)	35 - 85 (no dew, nor frost allowed)					35 - 85 (no dew, nor frost allowed)								
Power requirements (kVA) *2		5.0		7.5			7.5								
Degree of protection		Wrist: IP67 Base axis: IP54					Wrist: IP67 Base axis: IP54								
Controller	America	E02					E02								
	Europe														
	Japan & Asia														

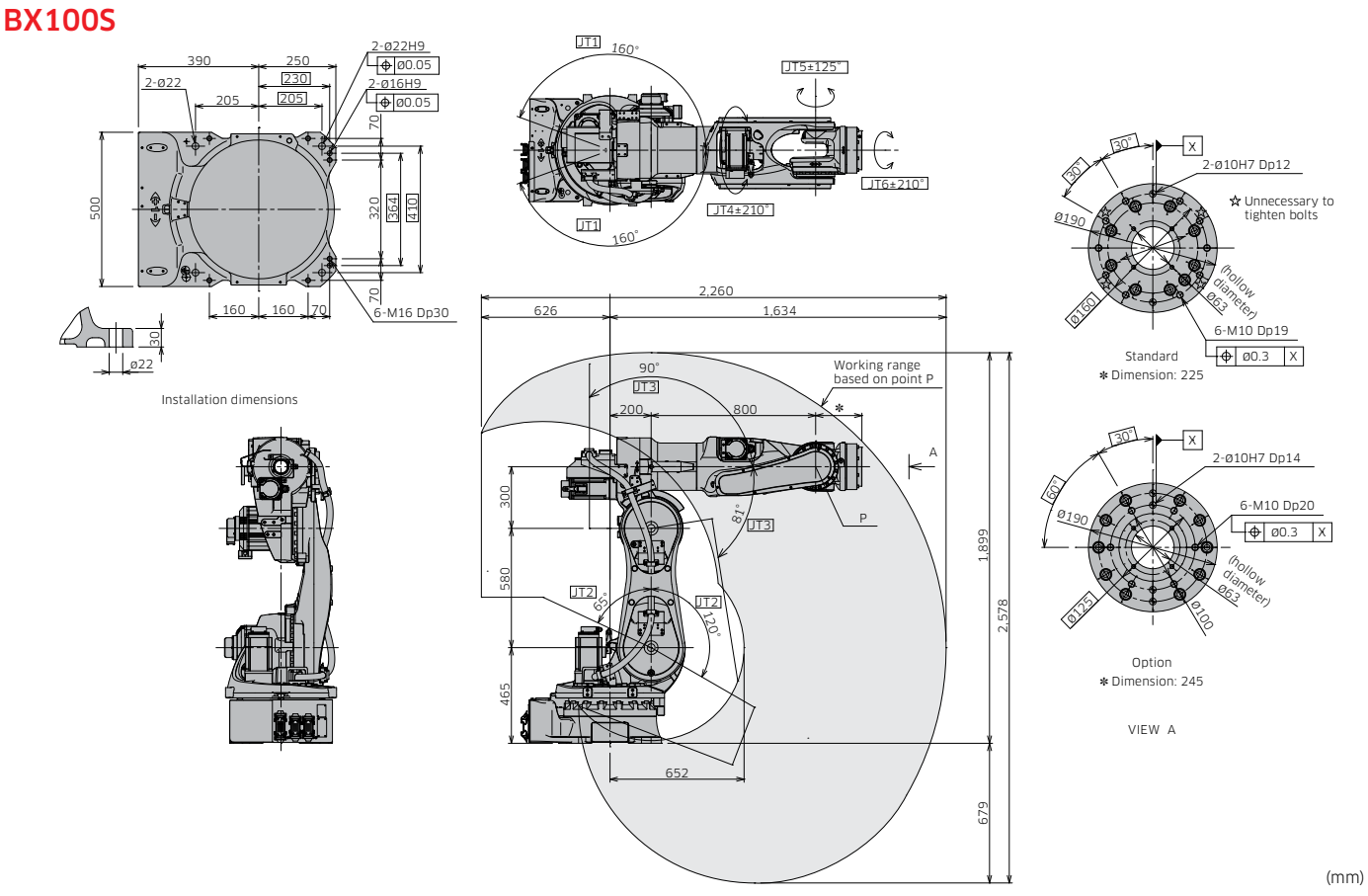
*1: Conforms to ISO9283 *2: Depends on the payload and motion patterns



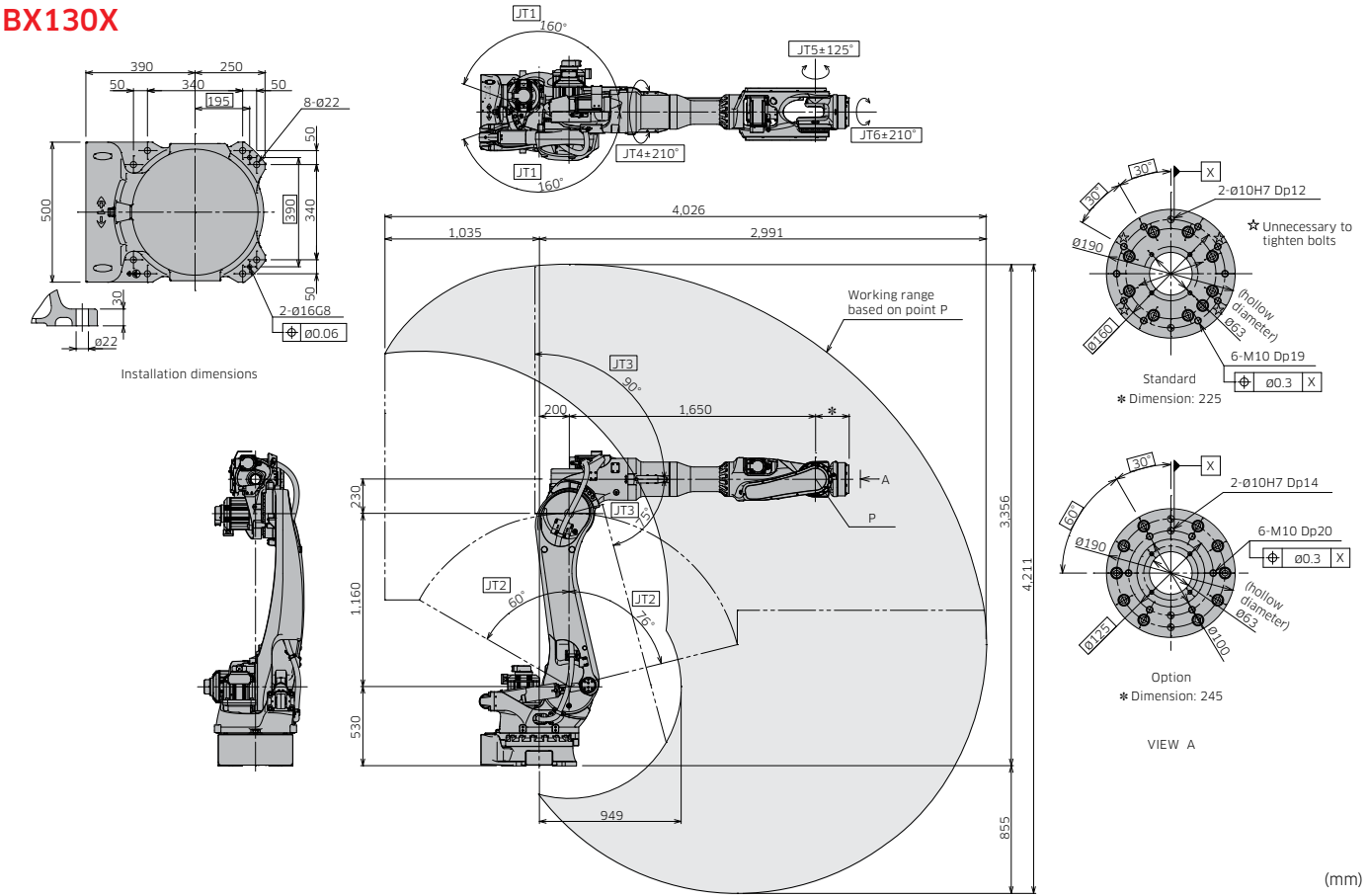
Dimensions of the wrist



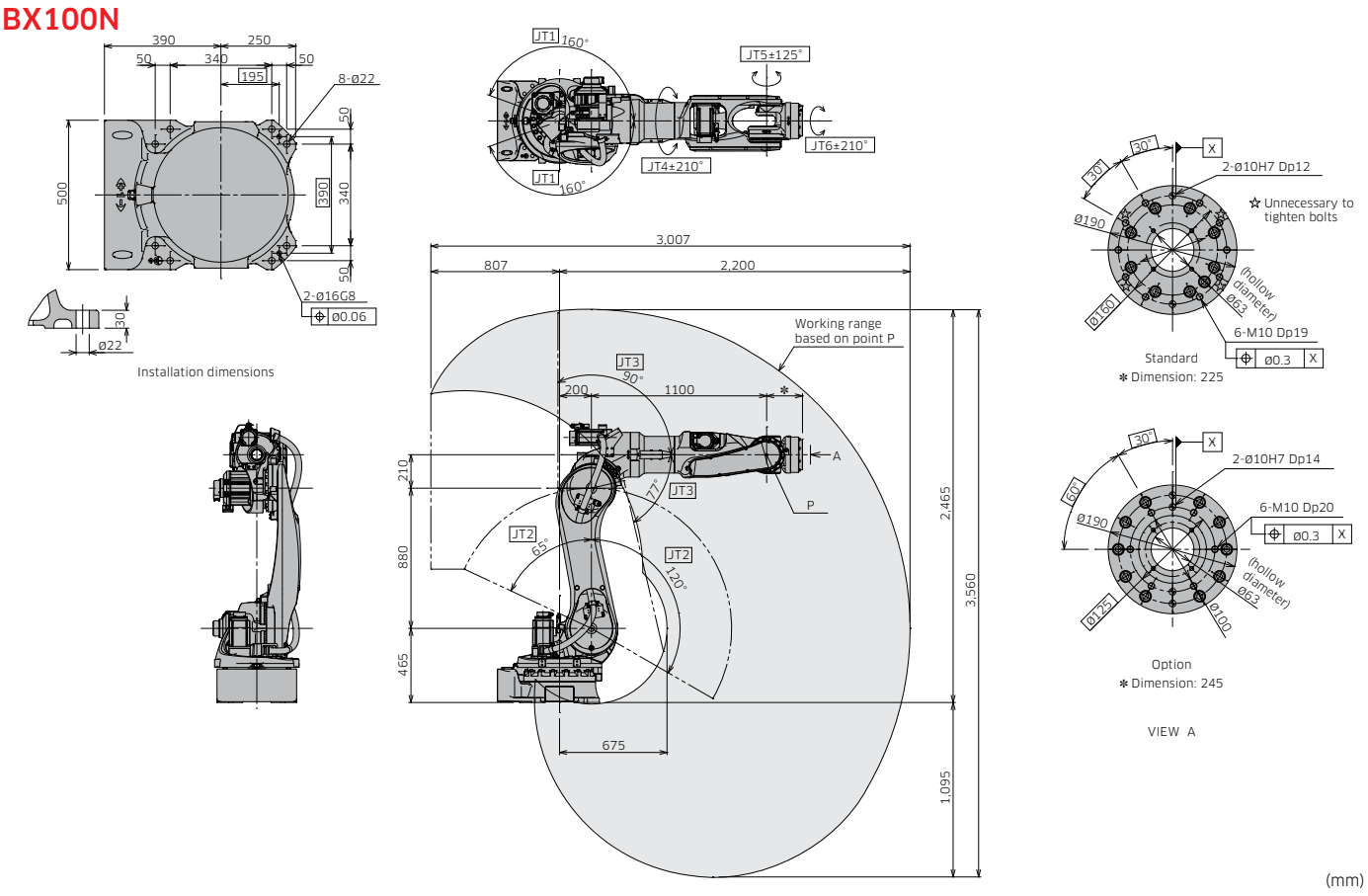
BX100S



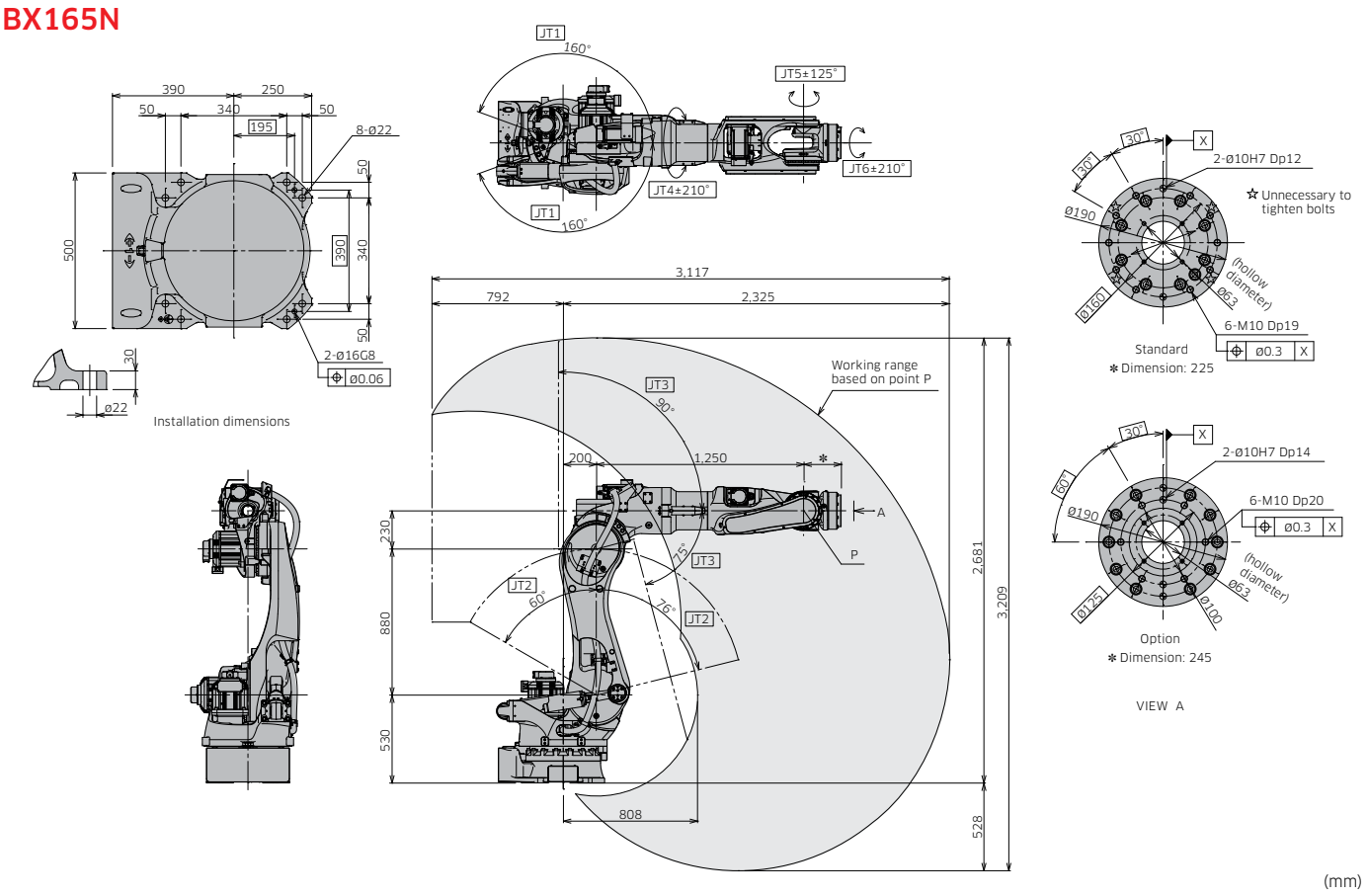
BX130X



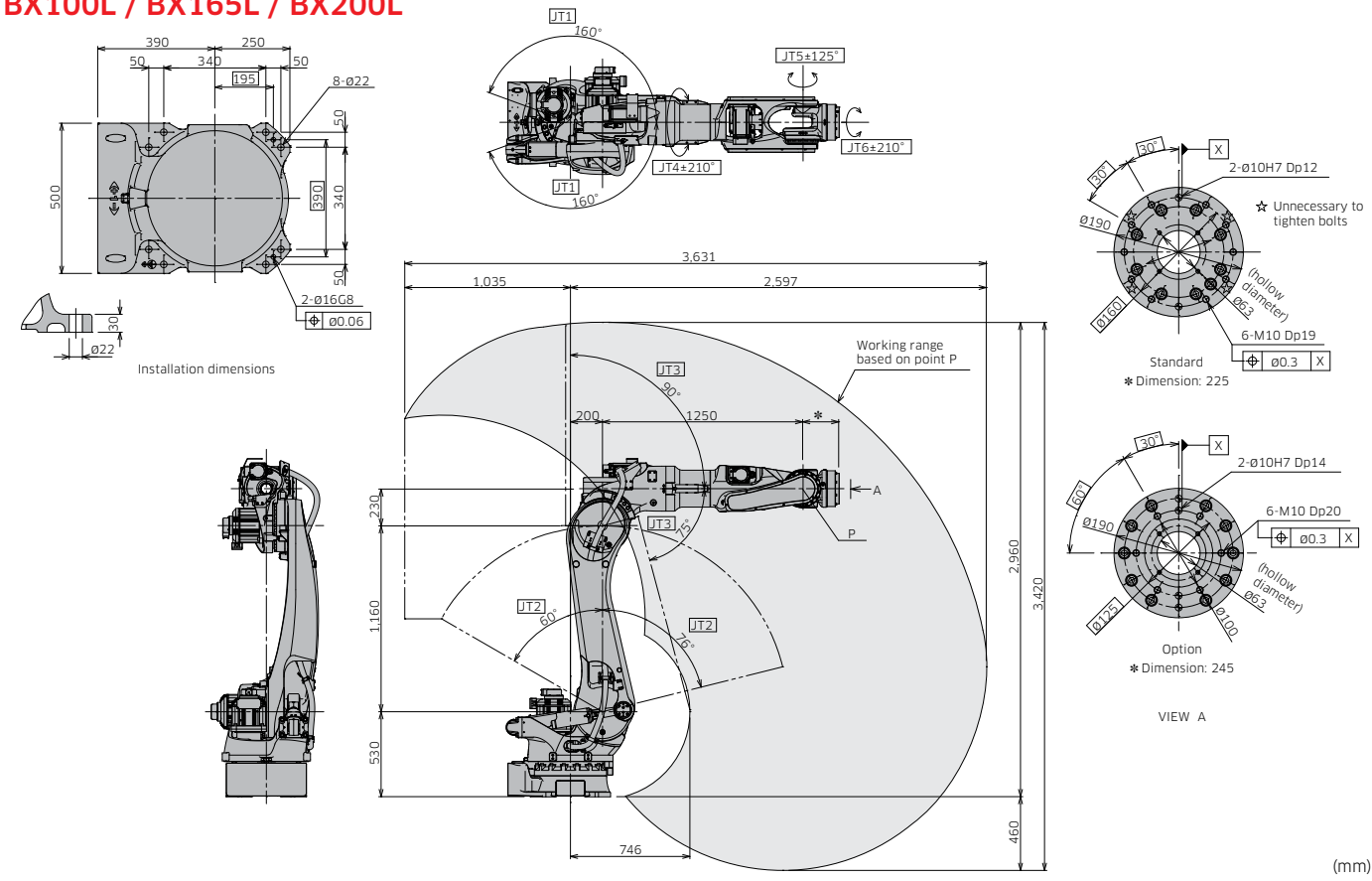
BX100N



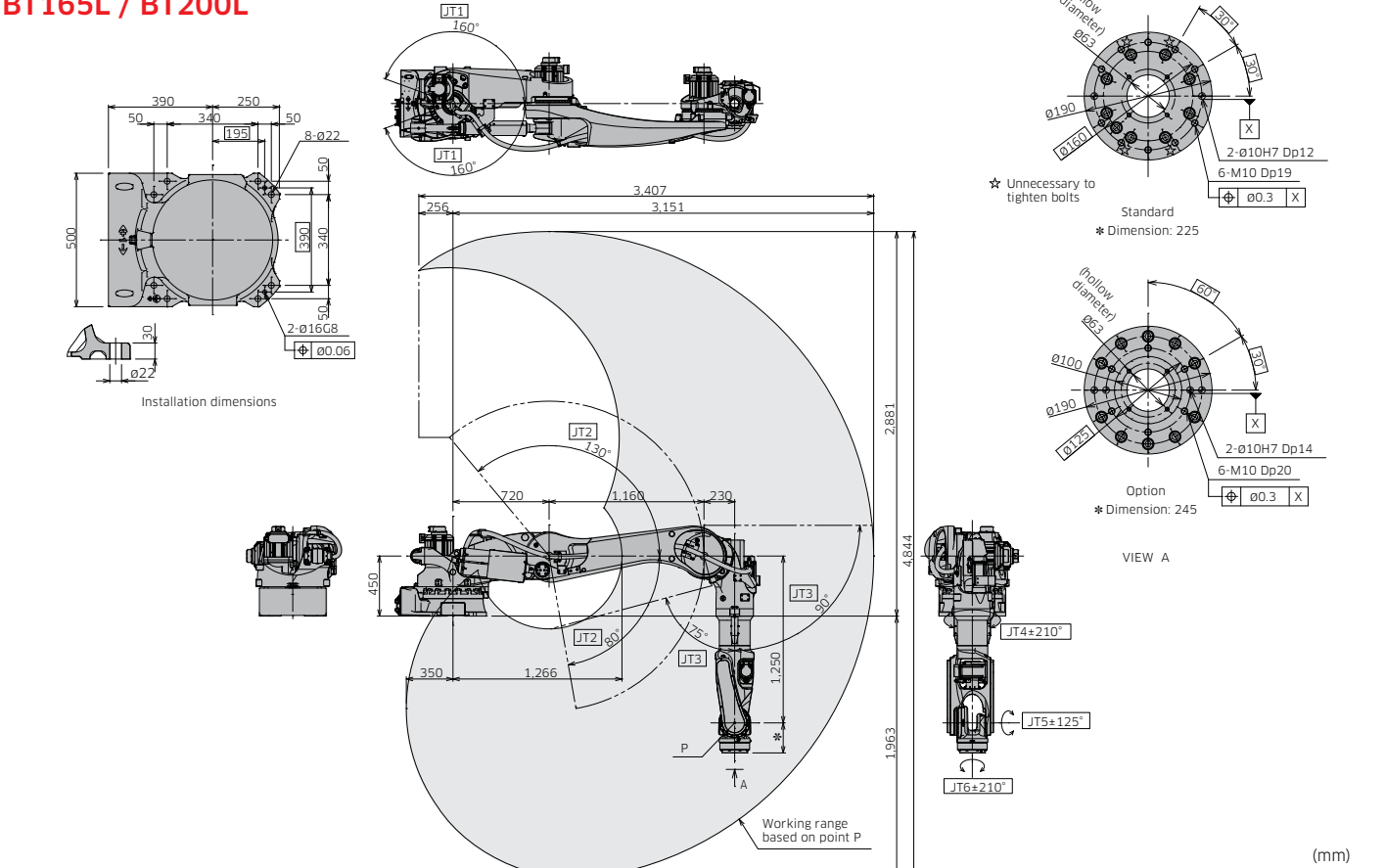
BX165N



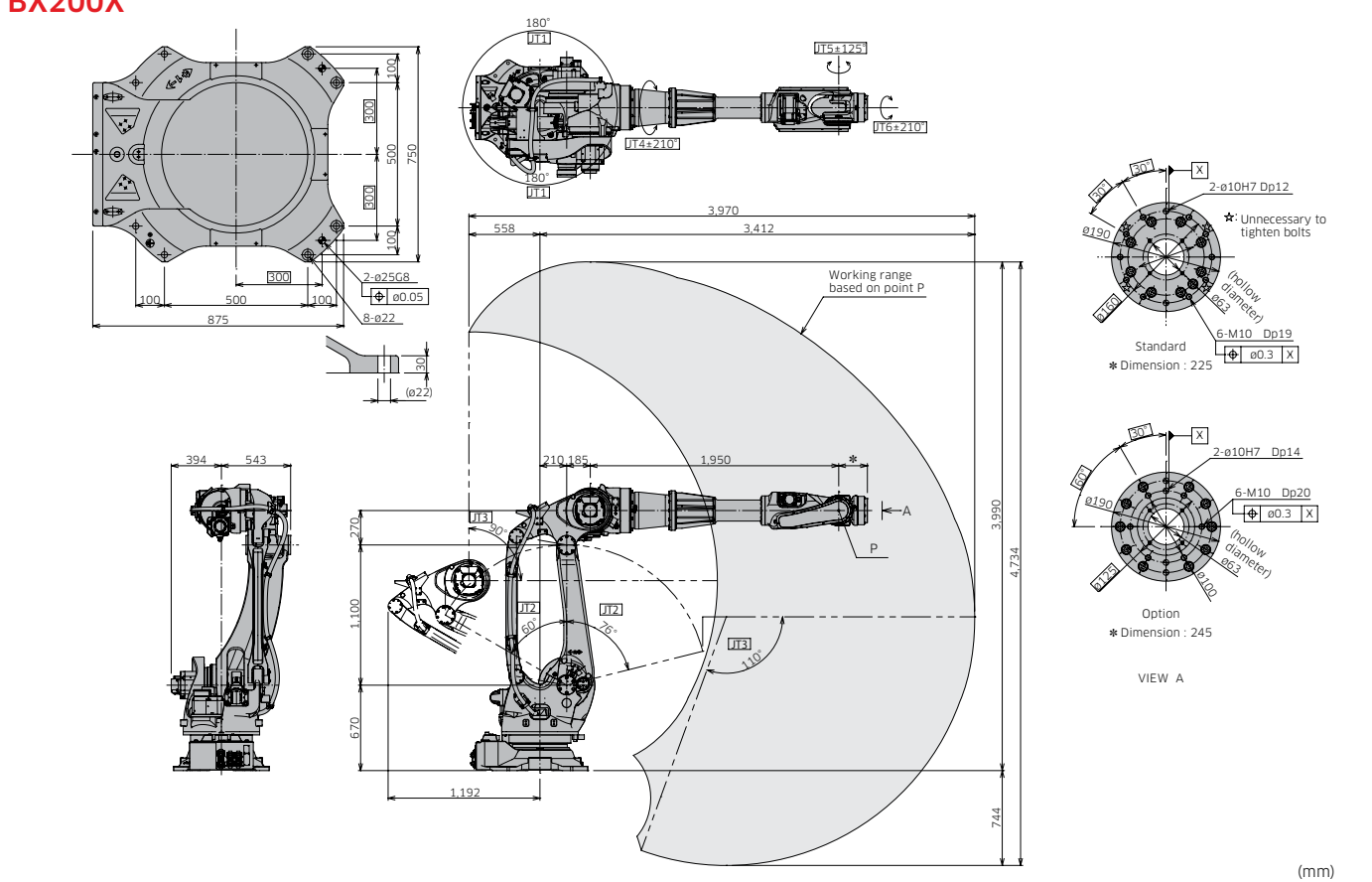
BX100L / BX165L / BX200L



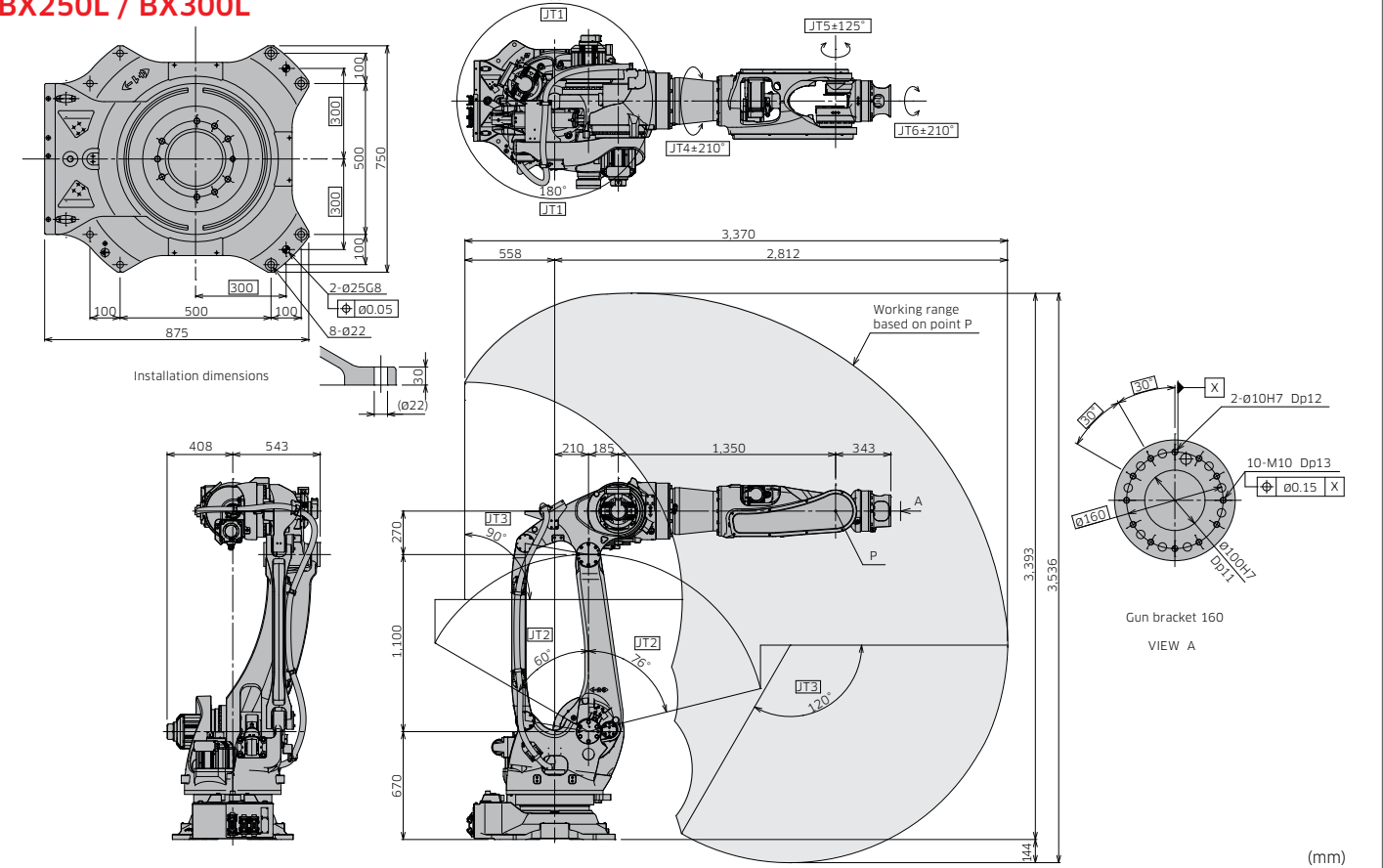
BT165L / BT200L



BX200X



BX250L / BX300L



E series

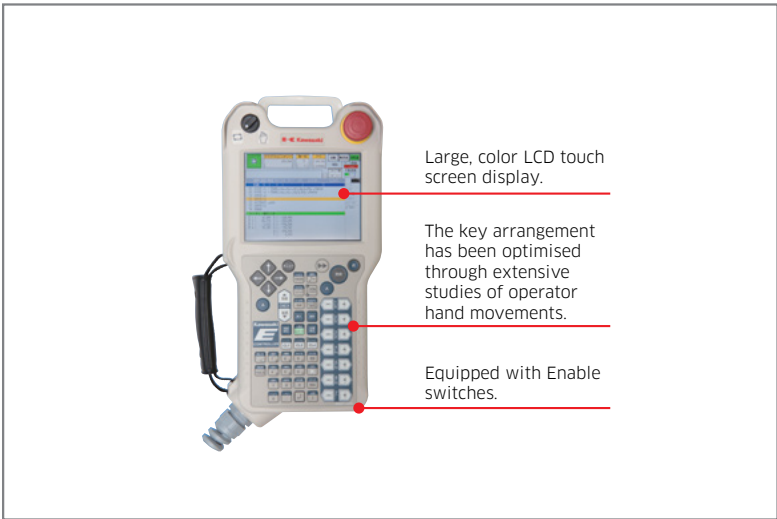
Kawasaki has incorporated 50 years' experience as a robot industry leader into the development of the most technically advanced controller available. The E controller combines high performance, unprecedented reliability, a host of integrated features and simple operation, all in a compact design.



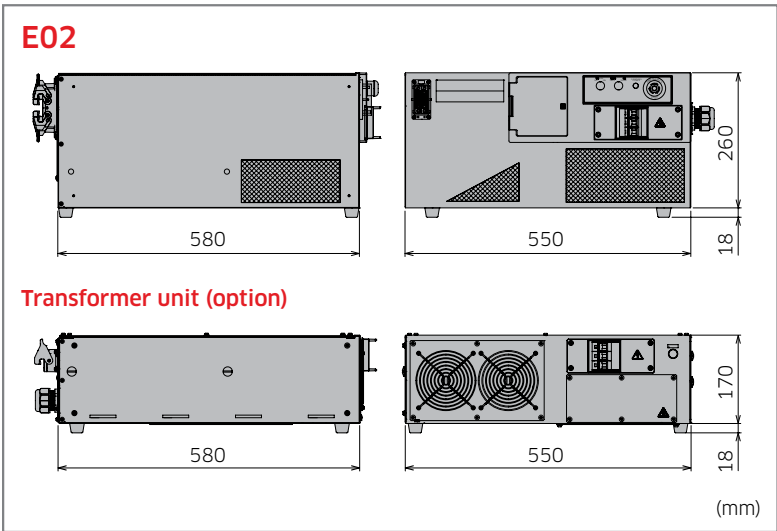
* Option

E02

Teach pendant



External view & dimensions



Features

Compact

The overall volume of the E Controller has been reduced compared with the previous model. The small footprint of this compact controller allows for installation in “high-density” applications. For further space saving options, an upright-position or stacked installation* is possible, without impeding performance. * E0X only

User-friendly operation

The easy-to-use teach pendant now incorporates motor power and cycle start at your fingertips. Multiple information screens can be displayed simultaneously. The intuitive teaching interface is simple to use.

Programming ease & flexibility

A rich set of programming functions come standard with the E Controller to support a wide range of applications. Functions can be combined and easily configured within a system to suit a particular application. Also, the powerful Kawasaki AS Programming Language provides sophisticated robot motion and sequence controls.

Advanced technologies

The enhanced CPU capacity allows for more accurate trajectory control, faster program execution, and quicker loading and saving of files. In addition, memory has been expanded to meet the need for higher program storage capacity. The controller comes equipped with a USB port for external storage devices.

Easy maintenance

Modular components with limited cables translate into easy diagnostics and maintenance. A host of maintenance functions are available, including self-diagnostics on hardware and application errors to minimize troubleshooting and reduce MTTR (Mean Time To Repair). Remote diagnostics via the web server function enables service support from anywhere in the world.

Expandable

Two external axes can be added to the E0X controller for a total of nine controlled axes. Numerous communication fieldbuses are available for controlling peripheral devices. The Kawasaki K-Logic sequencer software can be combined with user customized interface panels on the teach pendant.

Specifications

		Standard	Option
		E02	
America			
Europe			
Japan & Asia			
Dimensions (mm)		W550 × D580 × H278	Transformer unit: W580 × D580 × H178
Structure		Enclosed structure with indirect cooling system	
Number of controlled axes		7	Max. 9
Drive system		Full digital servo system	
Coordinate systems		Joint, Base, Tool	Fixed tool point
Types of motion control		Joint / Linear / Circular interpolated motion	
Programming		Point to point teaching or language based programming	
Memory capacity (MB)		8	
General purpose signals	External operation	Motor power off, Hold	
	Input (channels)	32	Max. 96
	Output (channels)	32	Max. 96
Operation panel		E-Stop switch, Teach/repeat switch, Control power light (Cycle start, motor-on, hold/run, and error reset are activated from the teach pendant)	Rapid-feed check mode switch
Cable length	Teach pendant (m)	5	10, 15
	Robot-controller (m)	5	10, 15
Mass (kg)		40	Transformer unit: 45
Power requirements		AC200-220V ±10%, 50/60Hz, 3ø	Transformer unit: AC380-415V ±10% or AC440-480V ±10% 50/60Hz, 3ø
		Class-D earth connection (Earth connection dedicated to robots), Leakage current: Maximum 100mA	
Environmental conditions	Ambient temperature (°C)	0 - 45	
	Relative humidity (%)	35 - 85 (no dew, nor frost allowed)	
Body color		Munsell 10GY9/1 equivalent	
Teach pendant		TFT color LCD display with touch-panel, E-Stop switch, Teach lock switch, Enable switch	
Auxiliary storage unit		–	USB memory
Interface		USB, Ethernet (100BASE-TX), RS-232C	

System configuration diagram

