

Dynamic Robotic Arm

Pallet Pick & Material Handling Arm

End-to-End Automation

Prime Robotics is a dynamic and innovative manufacturer headquartered in Denver, Colorado. We are driven by our mission to deliver end-to-end robotic solutions that enable fully automated warehouse and fulfillment facilities.

At the core of our product portfolio is the Robotic Control Software (RCS), a powerful platform that enables a highly flexible and scalable range of technologies. Our offerings include AMRs, dynamic picking arms, high-density robotic storage systems, and a wide range of pick stations.

With our suite of robots and software solutions, you can achieve an unmatched return on investment (ROI). Our technologies save time and money at every level of your operation, allowing you to streamline processes, boost productivity, and optimize resource allocation. We are dedicated to helping you achieve operational excellence while driving success in your warehouse and fulfillment operations.

Prime's Dynamic Pick and Palletizing Arm is a versatile, high-speed solution that can fully integrate with our MobilePallet and MobileShelf AMR solutions and software. It is capable of multi-box custom stack pattern picking, handles payloads of up to 290 pounds, and picks cases at a rate of up to 900+ per hour. Sequencing of AMRs and the robotic arm ensures high throughput and a low lag time between picks. The heavy-duty, long-reach robot design provides functionality, flexibility, and efficiency—increasing throughput and production capabilities.



Integration

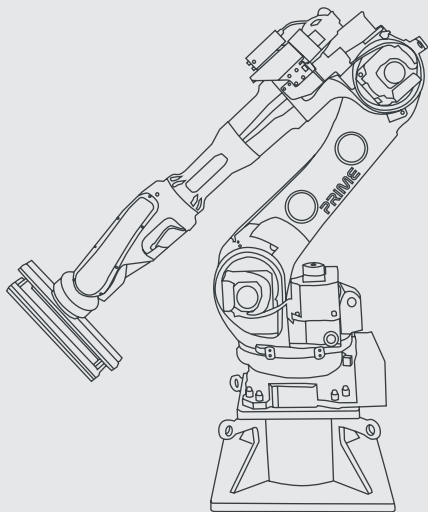
Highly customizable and user-friendly, Prime's automation platform provides an intelligent yet simple and scalable solution. Our solutions can seamlessly integrate with any Warehouse Management System (WMS), Enterprise Resource Planning (ERP), Programmable Logic Controller (PLC), or operations management software—making it easy to operate and highly adaptable to unique requirements.

Safety

At Prime, ensuring robot safety is a top priority. To guarantee a safe working environment, our Autonomous Mobile Robots (AMRs) are equipped with advanced safety and obstacle avoidance features such as LiDAR, bump bars, and emergency stop buttons. These features enable our robots to operate safely and efficiently, minimizing the risk of accidents and ensuring the safety of everyone in the work area.

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Dynamic Arm Standard Specifications

Model		BX100	BX130	BX200
Type		Articulated		
Degree of Freedom (axes)		6	6	7
Payload (kg)		100	130	200
Max. Reach (mm)		2200	2991	3412
Position Repeatability (mm)		±0.06	±0.06	±0.07
Motion Range (°)	Arm rotation (JT1)	±160	±160	±180
	Arm out-in (JT2)	+120 - -65	+76 - -60	+76 - -60
	Arm up-down (JT3)	+90 - -77	+90 - -75	+90 - -110
	Wrist swivel (JT4)	±210	±210	±210
	Wrist bend (JT5)	±125	±125	±125
	Wrist twist (JT6)	±210	±210	±210
Max. Speed (°/s)	Arm rotation (JT1)	135	140	125
	Arm out-in (JT2)	110	105	102
	Arm up-down (JT3)	140	140	85
	Wrist swivel (JT4)	200	220	105
	Wrist bend (JT5)	200	200	120
	Wrist twist (JT6)	300	300	200
Allowable Movement (N•m)	Wrist swivel (JT4)	588.4	855	1,334
	855 Wrist bend (JT5)	588.4	855	1,334
	Wrist twist (JT6)	294.2	445	588
Allowable Moment of Inertia (kg•m ²)	Wrist swivel (JT4)	60	90	199.8
	855 Wrist bend (JT5)	60	90	199.8
	Wrist twist (JT6)	30	50	154.9
Weight (kg)		740	880	1,450
Mounting		Floor		
Installation	Ambient temperature (°C)	0 - 45		
Environment	Relative humidity (%)	35 - 85 (No dew, nor frost allowed)		
Degree of Protection		Wrist: IP67 or equivalent		
		Base axes: IP54 or equivalent		
Controller/Power Requirements		F02/7.5kVA		
*Sample of available dynamic robotic arms				