

Compact Gantry Robot

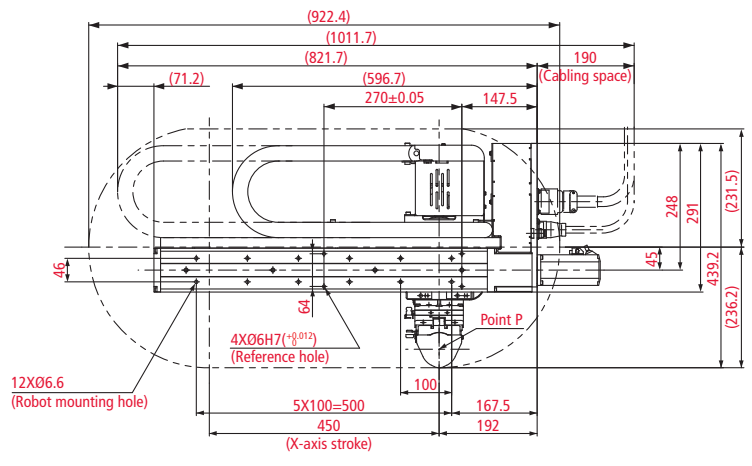
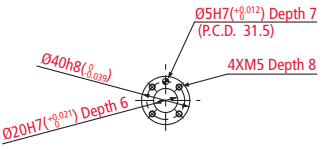
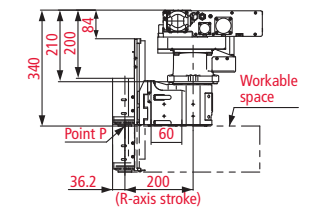
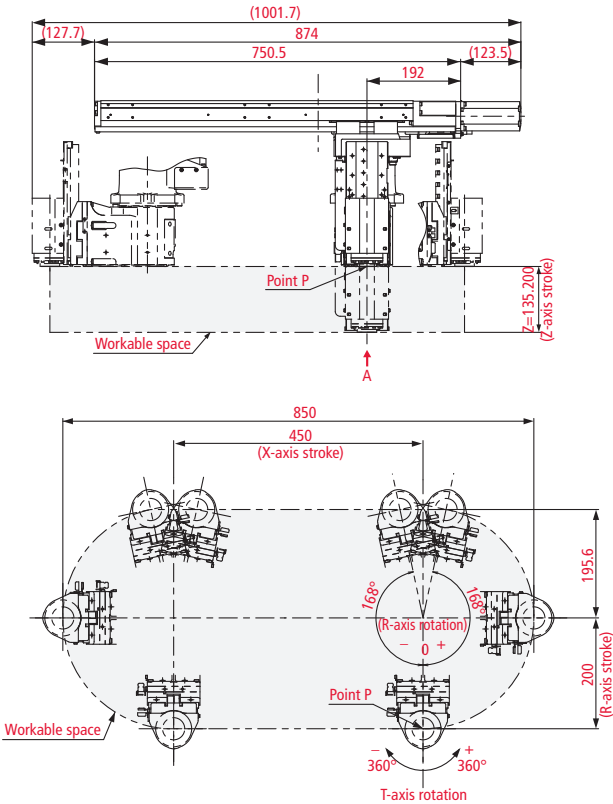
XR Series

The XR-Series four-axis compact gantry robots feature a flexible SCARA robot combined with a ceiling-mounted, long-stroke Cartesian robot. They have a highly efficient, space-saving design yet a wide range of motion.

- Extremely compact, integrated gantry design uses up to 40% less valuable factory floor space than a conventional SCARA
- Ceiling- or wall-mount maximizes work area
- Fast cycle time of 0.53 sec
- Outstanding repeatability of ± 0.015 mm
- Integrated gantry with long X-axis stroke allows conveyorless operation in many applications, saving up to 20% in capital-equipment costs

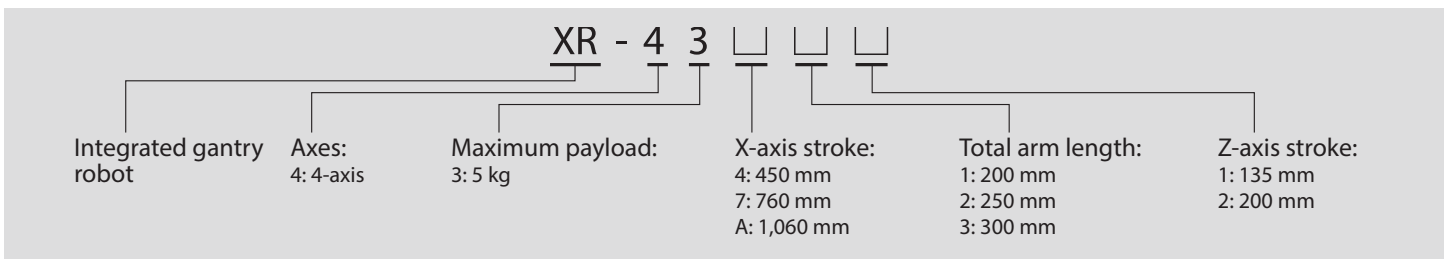


External Dimensions and Workable Space (X-axis = 450 mm)



XR Robot Specifications		XR-43411	XR-43711	XR-43721	XR-43731	XR-43A11	XR-43A21	XR-43A31
Number of axes		4						
Arm length (mm)		200	200	250	300	200	250	300
Axis combination		X axis + R axis + Z axis + T axis						
Maximum payload (kg)		5						
Weight, approx. (kg)		33	45	46	47	51	52	53
Cycle time (sec)		0.53 (with 1 kg weight)						
Range of motion and stroke	X axis (mm)	450	760			1060		
	R axis (°)	±168						
	Z axis (mm)	135						
	T axis (°)	±360						
Maximum composite speed	At center of hand (X + R, mm/sec)	3,650	3,600			3,240		
	Z (mm/sec) and T (°)	Z: 1,500; T: 720						
Maximum joint speed		X: 124–165 mm/sec R: 382–573°/sec Z: 1,500 mm/sec T: 720°/sec						
Repeatability ¹	X and R (mm)	±0.015						
	Z (mm)	±0.010						
	T (°)	±0.005						
Maximum force fit (1 sec or less, N)		98						
Maximum allowable moment of inertia (kg/m ²)		0.05						
Position detection		Absolute encoder						
Drive motors and brakes		AC servo motors for all axes; brake for Z axis						
Brake releasing		Enter brake-release command with Teach Pendant or Mini Pendant						
Air piping (in-arm integrated)		1 system (ø8); 4 systems with optional manifold valve (ø4 × 8)						
Wiring (in-arm integrated)		10 lines (max. 1 A per line)						
Air source (MPa)	Operating pressure	0.05–0.35						
	Maximum allowable pressure	0.59						

Legend (Unit: mm)



DENSO ROBOTICS

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