

Specifications

Model name		N2	N6
Model number		N2-A450SR/S	N6-A1000S/SR/SB/SBR N6-A1000C/CR/CB/CBR
Max. motion range	P point: Joint#1-5 center	450 mm	1010 mm
	P point: Joint#1-5 center	532.2mm	1110 mm
Payload* 1	Rated	1.0 kg	3.0 kg
	Max.	2.5 kg	6.0 kg
Repeatability	Joint#1-6	±0.02 mm	±0.04 mm
Allowable moment of inertia* 2	Joint#4	0.2 kg·m ²	0.42 kg·m ²
	Joint#5	0.2 kg·m ²	0.42 kg·m ²
	Joint#6	0.08 kg·m ²	0.14 kg·m ²
Installation environment	Standard	Standard/Cleanroom ** & ESD	
Mounting type	Ceiling / Table top *3	Ceiling / Table top *3	
Weight (cable not included)	19 kg	69 kg	
Applicable Controller	RC700-A	RC700 -A	
Installed wire for customer use	D-sub 15 pin, RJ45 8 pin x 2 (Cat 5e, for Vision and Force sensor)	D-sub 15 pin, RJ45 8 pin x 2 (Cat 5e, for Vision and Force sensor)	
Installed pneumatic tube for customer use	ø6 mm x 2 (0.59 MPa [6 kgf/cm ²])	ø6 mm x 2 (0.59 MPa [6 kgf/cm ²])	
Power Source	AC200-240 V Single phase	AC200-240 V Single phase	
Power Consumption *5	0.6 k VA	2.2 k VA	
cable length	3 m/5 m/10 m/15 m/20 m	3 m/5 m/10 m/15 m/20 m	

*1: Do not apply loads exceeding the maximum payload.

*2: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using the INERTIA command.

*3: For ceiling and table top mounting, select the appropriate configuration settings in the EPSON RC+ software.

*4: Complies with ISO Class 5 cleanroom standard.

*5: Varies according to operating environment and program.

EPSON

Epson Robot

N

Series
6-axis robots



Better Products for a Better Future™

At Epson, we know that planning for the future requires a strong commitment to the environment. That is why we strive to create innovative products that are reliable, recyclable, and energy efficient. Better products that use fewer resources help ensure a better future for us all.

■ Product specifications and appearance are subject to change without notice.

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Safety Precautions

Please read associated manuals carefully before installing or using our robot products. Always use products properly per guidelines in the manuals.

ines in the manuals.

Unique arm mechanism for the ultimate in space-saving productivity

40% smaller installation space*¹

Motion shortcuts for faster cycle times

Unique folding arm mechanism — a world's-first*² in 6-axis robot design — enables complex, high-precision assembly tasks to be performed in extremely limited space, making N2 robots ideal for precision, small-component assembly and other applications that demand high space efficiency.

*¹ Compared to Epson C4 series robots

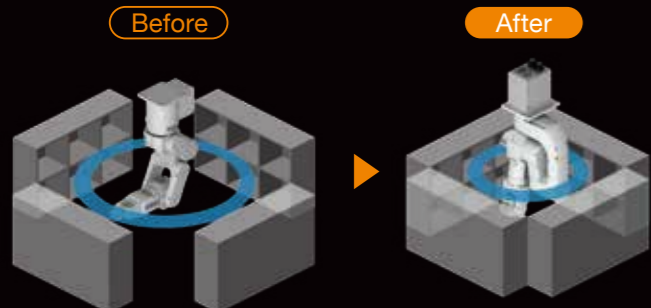
*² Epson research; among 6-axis robots (as of October 2015)



N2 Robots: Before & After

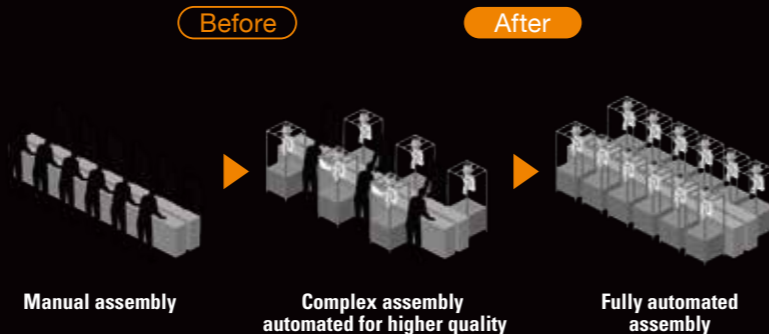
More compact and productive assembly lines

Unique folding arm design and shortcut motions boost factory productivity by enabling more efficient assembly line layout and shorter cycle times.



Automate manual assembly without changing line layout

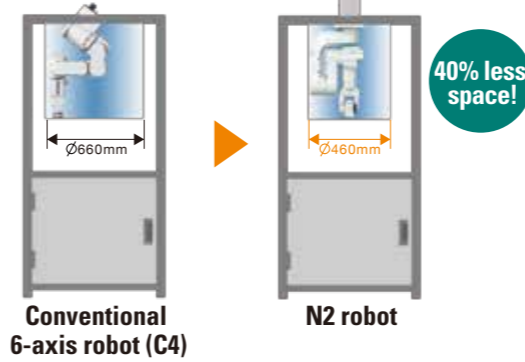
Small installation footprint enables gradual introduction of automation without changing your existing assembly line layout.



Installs in 40% less space

Conventional 6-axis robots require elbow room to operate, and workcells must be large enough to ensure that adjoining units do not interfere with each other when operating. Epson N2 robots, on the other hand, feature a unique folding arm that allows them to operate in 40% less space than C4 series robots.

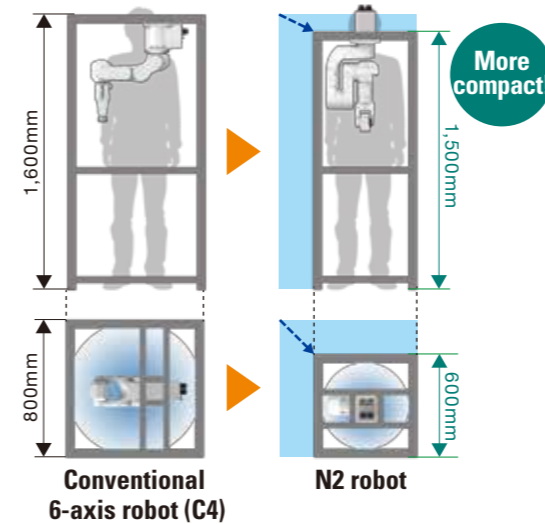
Space requirement comparison



Can operate in areas as small as 600mm x 600mm

N2 robots require no more space than a human worker, so you can automate manual processes without making expensive changes to your current factory and production line layout.

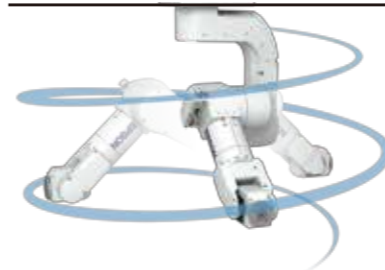
Workcell size comparison



Shortest access with unlimited 360° movement

A series of 90° shortcut motions enables quick access to virtually any point 360° around the central axis. Cycle times are faster because the arm can access shelves and devices anywhere around the robot without performing the full rotation that a conventional 6-axis robot requires.

Even consecutive circular motions over 360° are fast



Motion shortcuts for speedy access

Folding design enables the arm to be rotated 180° and extended in the opposite direction using shortcut motions, reducing startup and cycle times without risk of interference with adjoining workcells.

180° reverse for shortest-path access



Obstacle avoidance with conventional 6-axis design



Shortest-path access with N2 folding-arm design



Higher efficiency!

Easy teaching!
Fast cycle times!

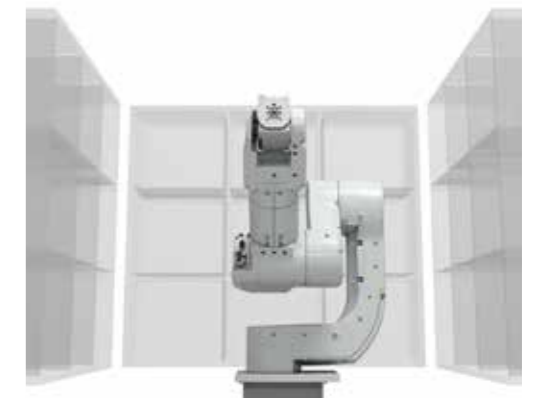
Built-in support for force sensors

Interface ports are provided for easy connection of optional force sensors and associated cabling. Force control is also fully supported by the Epson RC700-A robot controller.



Stand or ceiling mount

EPSON RC+ controller software makes it easy to program N2 robots for either floor or ceiling mounting. Stand mounts can also face either way, allowing even greater freedom in workcell layout.



N6-A1000

Unique arm mechanism for the ultimate in space efficiency

Unique arm mechanism with extended reach

Hollow arm design for easier cabling

Exclusive Epson folding arm design enables N6 robots to operate in spaces that are too small for conventional 6-axis robot installation. N6 robots also offer an extended reach that enables efficient use of high and low spaces.



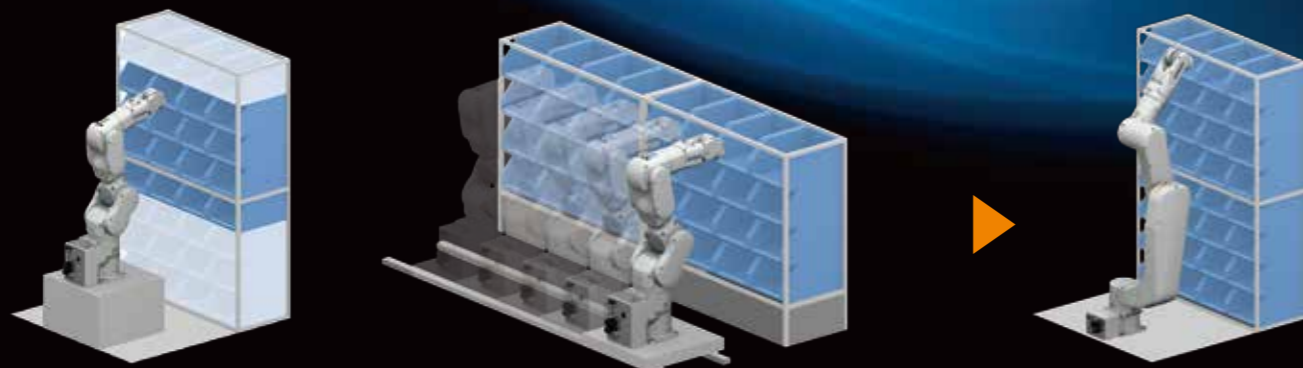
N6 Robots: Before & After

More space-efficient factory layouts

Folding arm with extended high and low reach reduces inaccessible dead space and workcell width requirements to allow more efficient use of factory floor space.

Before

After



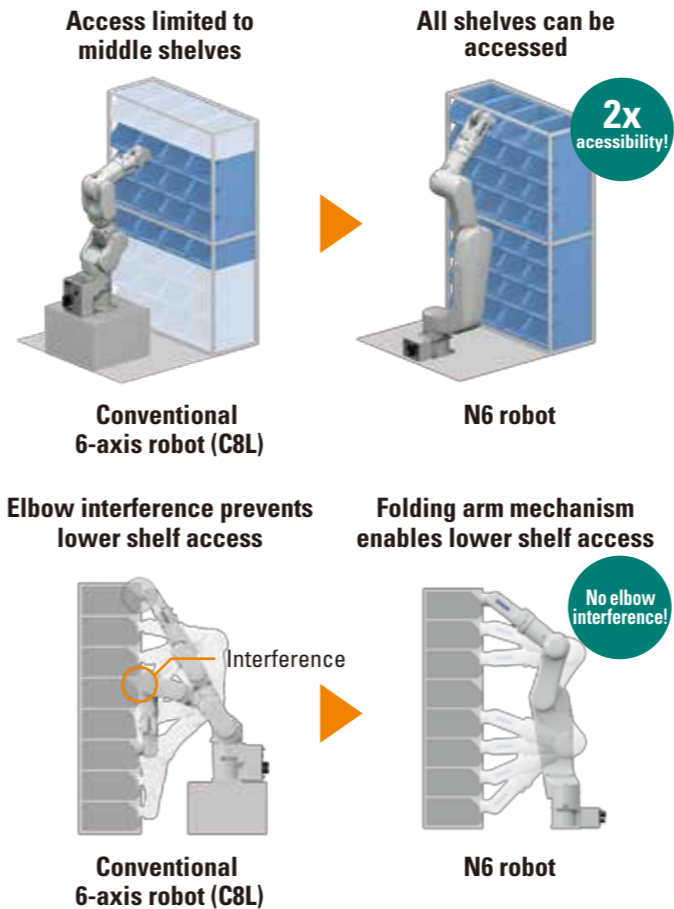
Shorter arms cannot access all shelves...

...so wider workcells are needed to achieve full productivity

N6 robots enable full productivity in limited space

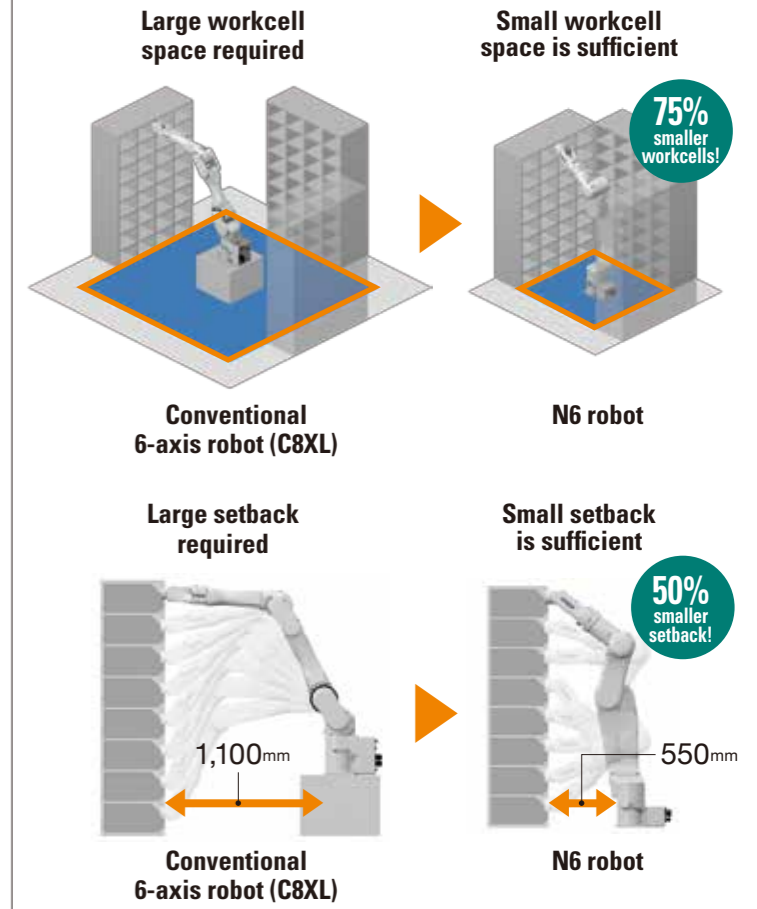
Solves short arm problems

Although conventional 6-axis robots with 900 mm arms can fit in tight spaces, the limit of their reach and need to maintain elbow clearance prevent them from accessing items on upper and lower shelves. N6 robots, however, have a unique folding arm, and can reach both upper and lower shelves when operating in tight spaces.



Solves long arm problems

Although conventional 6-axis robots with 1400 mm arms can reach upper and lower shelves, they require a much larger setback and larger workcells to operate safely. N6 robots, on the other hand, have a unique folding arm that allows them to be placed much closer to shelving, enabling workcells to be 75% smaller for more efficient factory floor space utilization.



Hollow arm simplifies cabling

Hollow arm construction between the J5 and J6 axes allows hand and force sensor cabling to be run internally through the inside of the arm, greatly reducing the chance of cable interference when the arm needs to reach inside narrow spaces.

With external cabling vs With internal cabling

