

LCS Series

SERVO LIFTING COLUMN

Robot 7th Axis Motion Solution



COMPANY PROFILE



Lonveda specializes in customized electric linear actuators, lifting columns, servo cylinders, and linear motion solutions. Since 2000, we have been dedicated to mechatronic innovation, integrating R&D, manufacturing, and sales as a National High-Tech Enterprise.

Our product lineup covers full-series electric linear actuators, multi-stage lifting columns and intelligent control systems. With strong customization capabilities, we provide tailored solutions to meet diverse requirements in load, stroke, speed, and installation dimensions.

Equipped with advanced manufacturing facilities, including CNC machining centers, automatic winding machines, lead screw processing equipment, and automated assembly lines, we ensure strict quality control with 100% product inspection before shipment.

Supported by an experienced engineering team and an annual production capacity of nearly 400,000 units, Lonveda serves customers in more than 50 countries worldwide. Our products are widely used in industrial automation, smart agriculture, renewable energy, medical equipment, and home automation applications.

ABOUT SERVO LIFT COLUMN

Main Structure

Adopts servo precision lifting column as carrier to realize vertical lifting of the 6-axis industrial robot.

Core Function

Solves the problem of limited vertical travel of standard industrial robots.

Application Scope

Preferred auxiliary equipment for palletizing, loading/unloading, assembly, painting and inspection workstations.

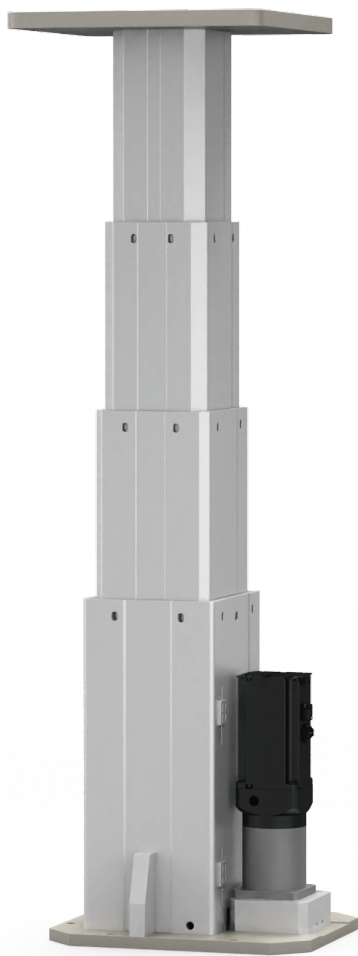
Control Performance

Seamlessly connects with mainstream robot control systems to realize coordinated interpolation and synchronous motion.

Optimization Advantage

Optimizes robot movement posture and expands effective working coverage.

PRODUCT ADVANTAGES



Extend Working Height
Customizable vertical stroke for palletizing, warehousing, and material handling applications.



High-Precision Servo Control
Closed-loop servo control ensures accurate positioning and smooth motion.



Seamless Robot Integration
Compatible with major robot platforms for synchronized 7-axis operation.

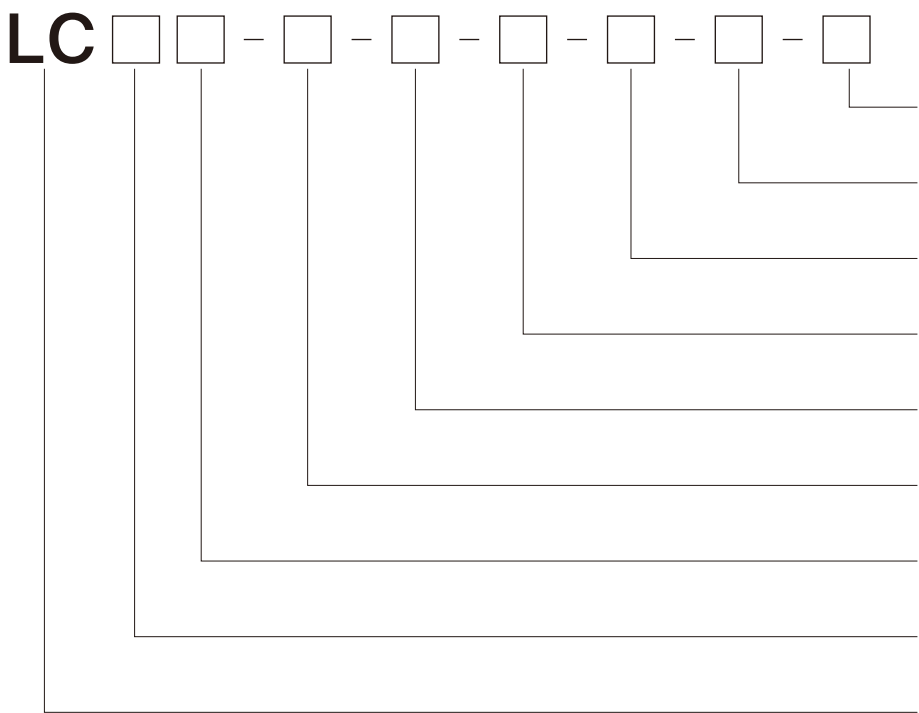


Heavy-Duty Rigid Structure
High load capacity and rigidity for reliable long-term performance.



Comprehensive Safety Protection
Integrated safety features ensure secure and continuous operation.

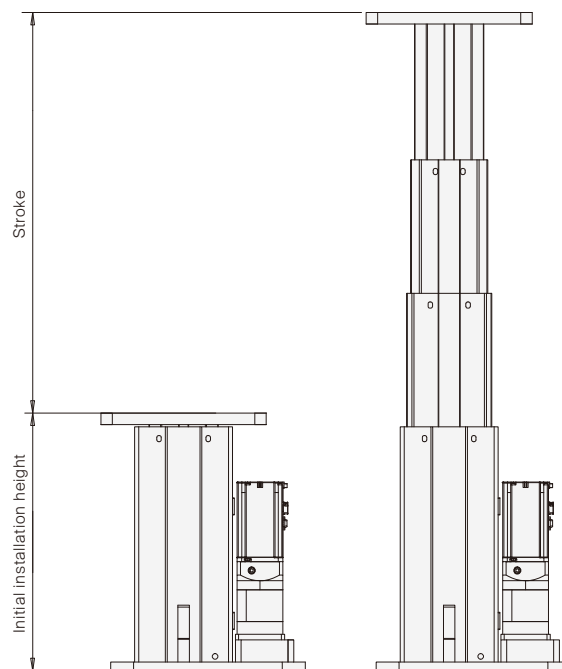
PRODUCT PART NUMBER NAMING RULE



Serial Number:		001-999	
Maximum Stroke:		200	200mm
		500	500mm
Initial Installation Height:		400	400mm
		600	600mm
Load Thrust:		500	500N
		1,000	1,000N
Voltage:		24	24V
		48	48V
Lifting Column Stages:		2	2-Stage
		3	3-Stage
		4	4-Stage
Appearance Size:		132	132mm
		135	135mm
Motor Type:		S	Servo Motor
LC		Lifting Column	

SERVO LIFT COLUMN

LCS SERIES



LCS Series

Rated Voltage (V)	24-48VDC, 220V-380VAC					
Number Of Lifting Columns	2-Stage	2-Stage	3-Stage	3-Stage	3-Stage	4-Stage
Dimension Of Lifting Column (mm)	179*149/165*135	201*171/179*149	104*104/96.4*96.4/ 88.4*88.4	179*149/165*135/151*121	201*171/179*149/165*135	201*171/179*149/ 165*135/151*121
Travel Range (mm)	50-1,000	50-1,000	50-1000	50-2000	50-2000	50-3500
Maximum Thrust (N)	2,000	2,000	500	2000	2000	2000
Maximum Tensile Force (N)	2,000	2,000	500	2000	2000	2000
Static Bending Moment (N.m)	2,000	2,000	50	2000	2000	2000
Dynamic Bending Moment (N.m)	1,000	1,000	50	1000	1000	1000
Minimum Installation Size (mm)	S+200	S+200	S/2+210	S/2+210	S/2+210	S/3+220
Maximum No-load Speed (mm/s)	260	260	400	260	260	260
Duty Cycle (%)	100	100	100	100	100	100
Noise Level (db)	≤75	≤75	≤60	≤75	≤75	≤75
Protection Level	IPX2	IPX2	IPX2	IPX2	IPX2	IPX2
Repetitive Positioning Accuracy (Same Direction, Same Load) (mm)	≤0.5mm	≤0.5mm	≤0.5mm	≤0.5mm	≤0.5mm	≤0.5mm
Color	Black/Silver Grey (Aluminum Natural Color)					
Working Temperature Range (°C)	5-40					
Servo Motor Brand	Huichuan, Delta, Kinco					
Origin Switch	Photoelectric switch, available in built-in, external or non-configured options; default model is Omron EE-Sx671-WR NPN.					
Communication Protocol	EtherCAT、Modbus RTU、CANopen					
Limit Switch	External/not required					
Other	The size of the installation board and installation dimensions can be customized according to customer requirements					

SERVO LIFTING COLUMN CUSTOMIZATION OPTIONS

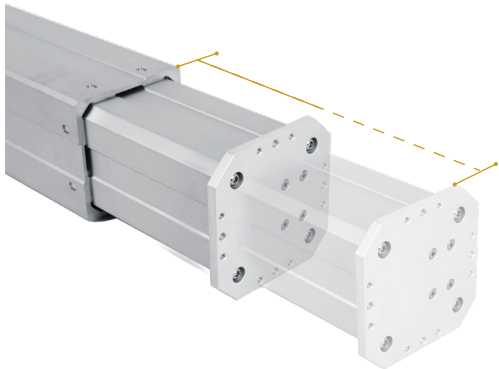
1 Top Mounting Plate Customization

Custom top flange covers tailored for different robot flange standards, enabling direct mounting and precise alignment.



2 Lifting Stroke Customization

Flexible stroke lengths designed to meet site-specific conditions, allowing multi-level height adjustment.



3 Initial Installation Height Customization

Custom initial height to fit diverse equipment layouts and installation constraints.



4 Side Mounting Hole Customization

Side mounting holes can be non-standard arranged to support horizontal, lateral, and versatile mounting schemes.



5 Communication Protocol Customization

Optional industrial communication protocols including EtherCAT, CANopen, Modbus RTU to integrate with various control systems.



6 Bottom Base Customization

Custom bottom base to perfectly match client tooling, fixtures, or frame structures for secure installation.



APPLICATIONS



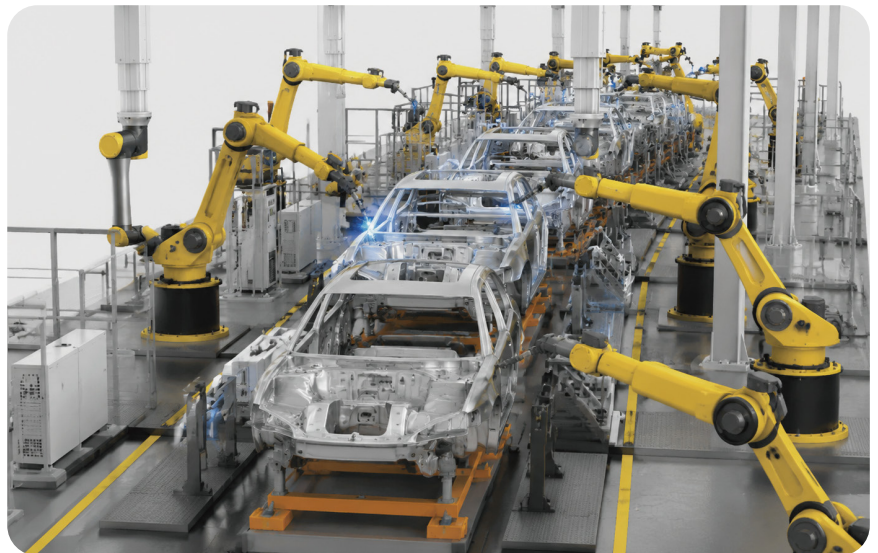
Palletizing Robots

The lift column automatically adjusts to pallet height, extending robot reach and ensuring optimal pick-and-place performance.



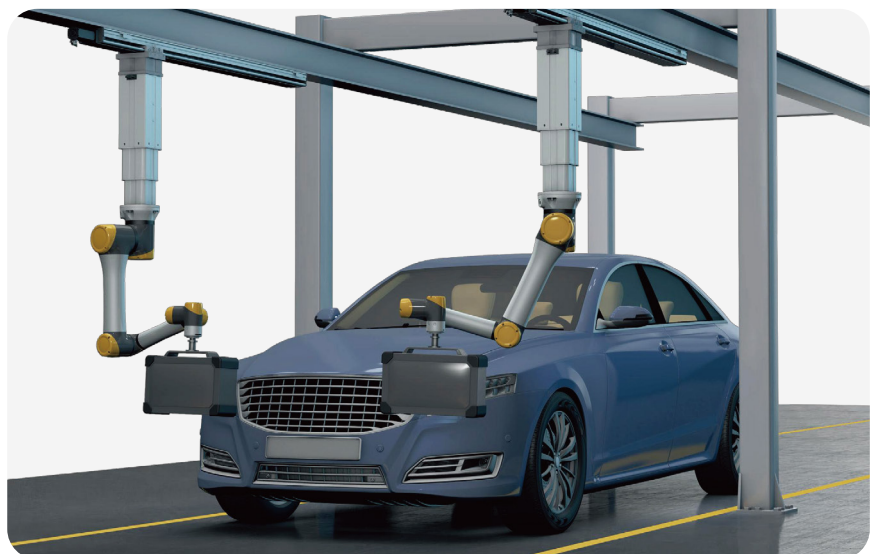
Welding & Cutting

Adaptive height control enables optimal welding and cutting performance across various fixtures, workpieces, and process paths.



Assembly & Inspection

Integrated with vision systems for adaptive positioning, delivering higher accuracy and efficiency in assembly and inspection tasks.





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