



MACRON DYNAMICS, INC.

www.macrondynamics.com

LINEAR ROBOTICS
AUTOMATION COMPONENTS
MOTION ACCESSORIES

ABOUT MACRON

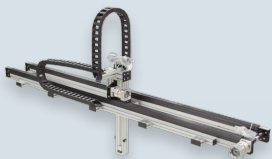
Macron Dynamics, Inc. is a manufacturer of linear robotic systems and mechanical motion components, providing automation solutions for applications found around the globe.

For more than 25 years, Macron has refined each component and every product through time-tested installations and experience. Macron products are built with the highest quality materials, assembled in the USA, and engineered to withstand the abuses of rigorous, daily usage. The result is a combination of versatility, positioning repeatability, durability, and virtually maintenance-free operation.

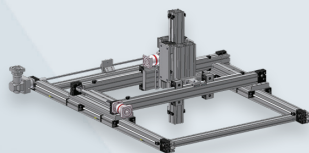
The trademarks of a Macron automation system include long travel capabilities, smooth, fast and repeatable belt driven motion, easy configuration, and extreme high quality.

LINEAR ROBOTICS

Motion so versatile, you won't believe it's linear. Available in 2 and 3 axis designs, Macron linear robotic systems are built to meet the specifications of any time, space, or size necessary to your unique application.



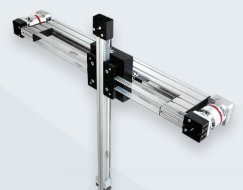
X/Z HD Robot



X/Y/Z Robot



H-Bot



T-Bot

Our gantry and cartesian systems are available standard or configured to meet your specs. Motor mounting flexibility, cable management solutions, and plug and play functionality are just a few added bonuses to our proven experience in belt and screw driven technology.

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LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC1

MGS-UC1



MGS-UC1 OPTIONS

X AXIS NOMINAL STANDARD TRAVEL (MM)

1000	1500	2000	2500	3000	3500	4000
4500	5000	5250	Custom			

Z AXIS NOMINAL STANDARD TRAVEL (MM)

250	500	Custom
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OPTIONS FOR:

Sensors Gearbox Ratios

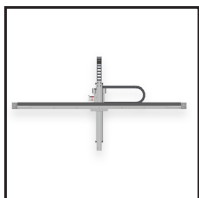
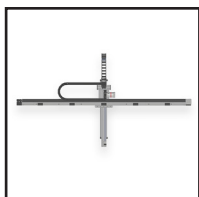
HOW TO BUILD YOUR MGS-UC1:

MGS - UC1 - **X** - x - **X**

X Axis Nominal Standard Travel

Z Axis Nominal Standard Travel

Note: See mounting notes below for mounting relationship to payloads.



Macron Solutions Since 1987

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Macron Guarantee

All Macron actuators and belt drives are covered by our
1-Year Warranty



LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC1

MGS-UC1

MOUNTING NOTES AND PAYLOAD RELATIONSHIP TABLE

X Axis Travels (mm)	Mounting Style	Acceptable Payload (lbs)
1000	'X' Axis Beams Mounted At Ends of Actuators	275
1500		190
2000		105
2500		20
3000	'X' Axis Beams Require Supporting Structure Over Actuator Length	275
4000		
4500		
5000		
5250		

SPECIFICATIONS

Specifications	
Maximum Speed - mm/sec - X Axis [Z Axis]	5080 [10160]
Unsupported X Axis Travels - mm (in steps of 500mm)	1000 to 2500
Unsupported Payload - lbs. (Dependant on X Axis travel)	275 to 20
Supported X Axis Travels - mm (in steps of 500mm)	3000 to 5500
Maximum Payload - lbs.	275
Z Axis Travels - mm (in steps of 250mm)	250 to 500
Repeatability - mm	+/-0.025
Positional Accuracy - mm / meter	+/-0.4
Acceleration Max. - G's (dependant on payload)	1 to 10

SPECIFICATIONS

Motor Sizing Information	
Weight of single shafted 40-25 drive pulley- 11.3oz.	X & Z axis
Weight of double shafted 40-25 drive pulley- 17oz.	X axis
Weight of 40-25 idler pulley - 7.7oz.	X axis
Weight of single shafted 40-50 drive pulley- 28.4oz.	N/A
Weight of 40-50 idler pulley - 26.4oz.	N/A
Weight of Z Axis Beam - lbs. (dependant on travel)	16.5 to 30
Weight of Complete Z Axis - lbs. (dependant on travel)	31.5 to 45
Travel per Revolution - mm	150
Pulley Pitch Diameter - mm	47.74
Pulley Material / Width - mm	steel / 25
Rolling Resistance - lbs. (worst case with max payload)	0.32
Weight	
Weight - lbs. (dependant on travels)	91.5 to 135
Sizing - See mounting notes and payload relationship table for guidance	
X Axis Nominal Length Standard Unsupported - m	**2.5
X Axis Nominal Standard Travels - mm	*1000 to 5250
Z Axis Nominal Standard Travels - mm	*250 to 500
* note: axes may be configured in lengths shorter or longer than standard	
** note: for lengths longer than standard contact Macron for a MacBUILT option	

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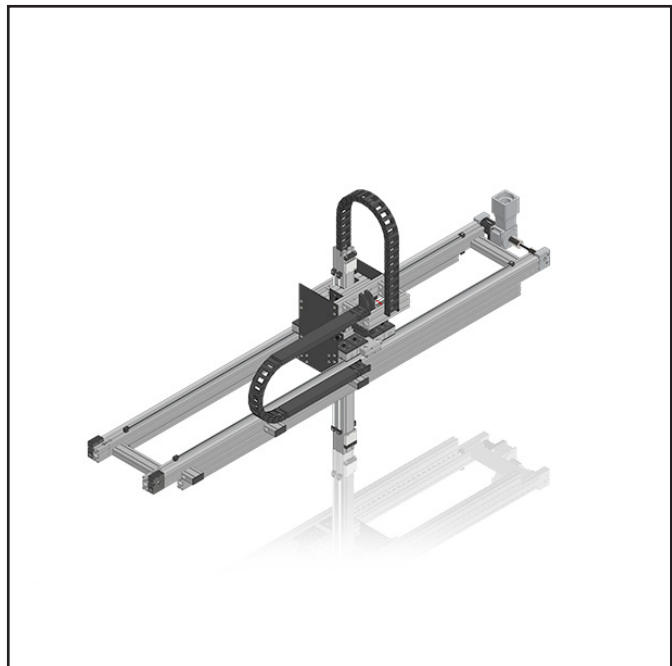
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LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC2

MGS-UC2



MGS-UC2 OPTIONS

X AXIS NOMINAL STANDARD TRAVEL (MM)

1000	1500	2000	2500	3000	3500	4000
4500	5000	5250	Custom			

Z AXIS NOMINAL STANDARD TRAVEL (MM)

250	500	Custom
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OPTIONS FOR:

Sensors Gearbox Ratios

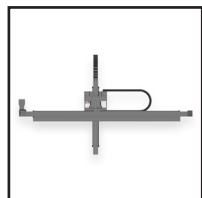
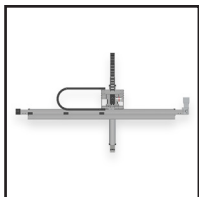
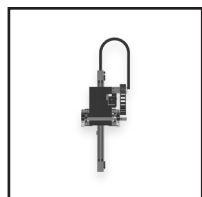
HOW TO BUILD YOUR MGS-UC2:

MGS - UC2 - **X** - x - **X**

X Axis Nominal Standard Travel

Z Axis Nominal Standard Travel

Note: See mounting notes below for mounting relationship to payloads.



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LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC2

MGS-UC2

MOUNTING NOTES AND PAYLOAD RELATIONSHIP TABLE

X Axis Travels (mm)	Mounting Style	Acceptable Payload (lbs)
1000	'X' Axis Beams Mounted At Ends of Actuators	700
1500		530
2000		360
2500		190
3000		20
4000	'X' Axis Beams Require Supporting Structure Over Actuator Length	700
4500		
5000		
5250		

SPECIFICATIONS

Specifications	
Maximum Speed - mm/sec - X Axis [Z Axis]	10160 [10160]
Unsupported X Axis Travels - mm (in steps of 500mm)	1000 to 3000
Unsupported Payload - lbs. (Dependant on X Axis travel)	700 to 20
Supported X Axis Travels - mm (in steps of 500mm)	3500 to 5250
Maximum Payload - lbs.	700
Z Axis Travels - mm (in steps of 250mm)	250 to 500
Repeatability - mm	+/-0.025
Positional Accuracy - mm / meter	+/-0.4
Acceleration Max. - G's (dependant on payload)	1 to 4

SPECIFICATIONS

Motor Sizing Information	
Weight of single shafted 40-25 drive pulley- 11.3oz.	X axis
Weight of double shafted 40-25 drive pulley- 17oz.	N/A
Weight of 40-25 idler pulley - 7.7oz.	X axis
Weight of single shafted 40-50 drive pulley- 28.4oz.	Z axis
Weight of 40-50 idler pulley - 26.4oz.	N/A
Weight of Z Axis Beam - lbs. (dependant on travel)	26 to 32
Weight of Complete Z Axis - lbs. (dependant on travel)	145 to 154
Travel per Revolution - mm	150
Pulley Pitch Diameter - mm	47.74
Pulley Material / Width - mm	steel / 25 & 50
Rolling Resistance - lbs. (worst case with max payload)	0.85
Weight	
Weight - lbs. (dependant on travels)	200 to 403
Sizing - See mounting notes and payload relationship table for guidance	
X Axis Nominal Length Standard Unsupported - m	**3
X Axis Nominal Standard Travels - mm	*1000 to 5250
Z Axis Nominal Standard Travels - mm	*250 to 500
* note: axes may be configured in lengths shorter or longer than standard ** note: for lengths longer than standard contact Macron for a MacBUILT option	

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LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC3

MGS-UC3



MGS-UC3 OPTIONS

X AXIS NOMINAL STANDARD TRAVEL (MM)

1000	1500	2000	2500	3000	3500	4000
4500	4750	Custom				

Z AXIS NOMINAL STANDARD TRAVEL (MM)

250	500	750	Custom
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OPTIONS FOR:

Sensors Gearbox Ratios

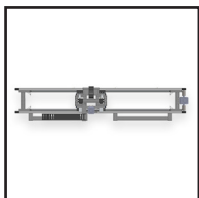
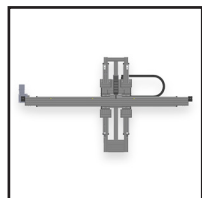
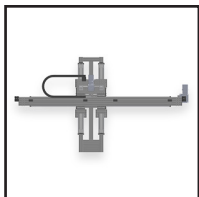
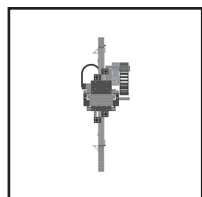
HOW TO BUILD YOUR MGS-UC3:

MGS - UC3 - **X** - **x** - **X**

X Axis Nominal Standard Travel

Z Axis Nominal Standard Travel

Note: See mounting notes below for mounting relationship to payloads.



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LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC3

MGS-UC3

MOUNTING NOTES AND PAYLOAD RELATIONSHIP TABLE

X Axis Travels (mm)	Mounting Style	Acceptable Payload (lbs)
1000	'X' Axis Beams Mounted At Ends of Actuators	1400
1500		950
2000		500
2500		50
3000	'X' Axis Beams Require Supporting Structure Over Actuator Length	1400
4000		
4500		
5000		
5250		

SPECIFICATIONS

Specifications	
Maximum Speed - mm/sec - X Axis [Z Axis]	10161 [10161]
Unsupported X Axis Travels - mm (in steps of 500mm)	1000 to 2500
Unsupported Payload - lbs. (Dependant on X Axis travel)	1400 to 50
Supported X Axis Travels - mm (in steps of 500mm)	3000 to 4750
Maximum Payload - lbs.	1400
Z Axis Travels - mm (in steps of 250mm)	250 to 750
Repeatability - mm	+/-0.025
Positional Accuracy - mm / meter	+/-0.4
Acceleration Max. - G's (dependant on payload)	1 to 2

SPECIFICATIONS

Motor Sizing Information	
Weight of single shafted 40-25 drive pulley- 11.3oz.	X axis
Weight of double shafted 40-25 drive pulley- 17oz.	N/A
Weight of 40-25 idler pulley - 7.7oz.	X axis
Weight of single shafted 40-50 drive pulley- 28.4oz.	Z axis
Weight of 40-50 idler pulley - 26.4oz.	N/A
Weight of Z Axis Beam - lbs. (dependant on travel)	108 to 138
Weight of Complete Z Axis - lbs. (dependant on travel)	343 to 373
Travel per Revolution - mm	150
Pulley Pitch Diameter - mm	47.74
Pulley Material / Width - mm	steel / 25 & 50
Rolling Resistance - lbs. (worst case with max payload)	1.8
Weight	
Weight - lbs. (dependant on travels)	544 to 844
Sizing - See mounting notes and payload relationship table for guidance	
X Axis Nominal Length Standard Unsupported - m	**2.5
X Axis Nominal Standard Travels - mm	*1000 to 4750
Z Axis Nominal Standard Travels - mm	*250 to 750
* note: axes may be configured in lengths shorter or longer than standard ** note: for lengths longer than standard contact Macron for a MacBUILT option	

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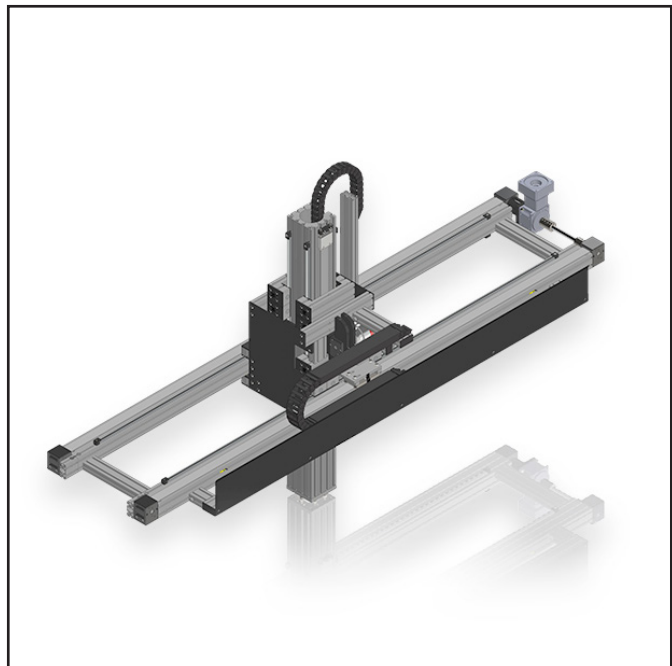
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LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC4

MGS-UC4



MGS-UC4 OPTIONS

X AXIS NOMINAL STANDARD TRAVEL (MM)

1000 1500 2000 2500 3000 3250 Custom

Z AXIS NOMINAL STANDARD TRAVEL (MM)

250 500 750 1000 Custom

OPTIONS FOR:

Sensors Gearbox Ratios

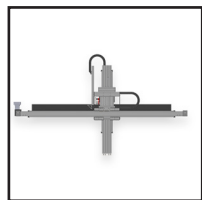
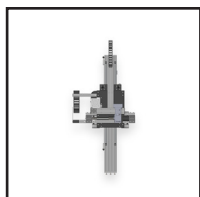
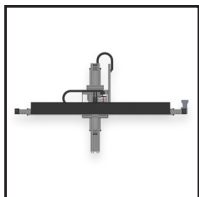
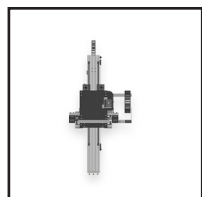
HOW TO BUILD YOUR MGS-UC4:

MGS - UC4 - **X** - x - **X**

X Axis Nominal Standard Travel

Z Axis Nominal Standard Travel

Note: See mounting notes below for mounting relationship to payloads.



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LINEAR ROBOTICS > X/Z HEAVY DUTY GANTRY ROBOTS > MGS-UC4

MGS-UC4

MOUNTING NOTES AND PAYLOAD RELATIONSHIP TABLE

X Axis Travels (mm)	Mounting Style	Acceptable Payload (lbs)
1000	'X' Axis Beams Mounted At Ends of Actuators	400
1500		20
2000		
2500	'X' Axis Beams Require Supporting Structure Over Actuator Length	600
3000		
3250		

SPECIFICATIONS

Specifications	
Maximum Speed - mm/sec - X Axis [Z Axis]	10162 [10160]
Unsupported X Axis Travels - mm (in steps of 500mm)	1000 to 1500
Unsupported Payload - lbs. (Dependant on X Axis travel)	400 to 20
Supported X Axis Travels - mm (in steps of 500mm)	2000 to 3250
Maximum Payload - lbs.	600
Z Axis Travels - mm (in steps of 250mm)	250 to 1000
Repeatability - mm	+/-0.025
Positional Accuracy - mm / meter	+/-0.4
Acceleration Max. - G's (dependant on payload)	1 to 2

SPECIFICATIONS

Motor Sizing Information	
Weight of single shafted 40-25 drive pulley- 11.3oz.	N/A
Weight of double shafted 40-25 drive pulley- 17oz.	N/A
Weight of 40-25 idler pulley - 7.7oz.	N/A
Weight of single shafted 40-50 drive pulley- 28.4oz.	X & Z axis
Weight of 40-50 idler pulley - 26.4oz.	X axis
Weight of Z Axis Beam - lbs. (dependant on travel)	58 to 100
Weight of Complete Z Axis - lbs. (dependant on travel)	224 to 266
Travel per Revolution - mm	150
Pulley Pitch Diameter - mm	47.74
Pulley Material / Width - mm	steel / 50
Rolling Resistance - lbs. (worst case with max payload)	0.86
Weight	
Weight - lbs. (dependant on travels)	385 to 535
Sizing - See mounting notes and payload relationship table for guidance	
X Axis Nominal Length Standard Unsupported - m	**1.5
X Axis Nominal Standard Travels - mm	*1000 to 3250
Z Axis Nominal Standard Travels - mm	*250 to 1000
* note: axes may be configured in lengths shorter or longer than standard	
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