

CL210 rack-and-pinion stage

CL210 · CL rack-and-pinion stage series

Gears and racks are available in different specifications and quality options to suit your requirements.



CL210 product illustration

Selection values

Reduction ratio	Maximum speed (mm/s)	Horizontal load (kg)	Vertical load (kg)	Rated thrust (N)
10:1	830	200	100	961
7:1	1185	180	80	640
5:1	1660	145	60	480
3:1	2766	105	40	240

Reviewed specifications · 750 W motor

Parameter	Value
Permissible overhang moment MP	1034 Nm
Permissible overhang moment MR	908 Nm
Permissible overhang moment MY	1032 Nm
Gear lead	166 mm
Motor power	750 W
Rated torque	2.39 Nm
Stroke interval	100 mm
Movement distance	100-4000 mm
Body width	210 mm
Ordering example (reference)	CL210-L166-S4500-I5-M750W-B
Repeatability	Value to be confirmed

Installation drawings are in the separate dimension atlas.

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Engineering reference

Overhang limits, horizontal

Printed ratio/load condition	0°(mm)	45°(mm)	90°(mm)
ratio 3:1 · 60kg	1051 mm	1620 mm	2300 mm
ratio 3:1 · 83kg	600 mm	188 mm	1430 mm
ratio 3:1 · 105kg	415 mm	630 mm	966 mm
ratio 5:1 · 90kg	458 mm	609 mm	1515 mm
ratio 5:1 · 120kg	334 mm	444 mm	1131 mm
ratio 5:1 · 150kg	260 mm	350 mm	890 mm
ratio 7:1 · 134kg	440 mm	595 mm	2366 mm
ratio 7:1 · 172kg	350 mm	438 mm	1830 mm
ratio 7:1 · 210kg	260 mm	339 mm	1500 mm
ratio 10:1 · 210kg	466 mm	560 mm	3210 mm
ratio 10:1 · 225kg	373 mm	430 mm	2500 mm
ratio 10:1 · 300kg	290 mm	345 mm	2103 mm

Original distance reference(mm);
 no replacement speed, sellable configuration or angular operating rating is inferred. Blank cells are not zero.

Overhang limits, wall

Printed ratio/load condition	0°(mm)	45°(mm)	90°(mm)
ratio 3:1 · 58kg	2530 mm	1954 mm	1270 mm
ratio 3:1 · 80kg	1800 mm	1180 mm	760 mm
ratio 3:1 · 100kg	937 mm	633 mm	410 mm
ratio 5:1 · 88kg	1383 mm	563 mm	308 mm
ratio 5:1 · 119kg	1066 mm	420 mm	264 mm
ratio 5:1 · 148kg	897 mm	355 mm	422 mm
ratio 7:1 · 135kg	2098 mm	530 mm	330 mm
ratio 7:1 · 172kg	1755 mm	416 mm	280 mm
ratio 7:1 · 210kg	1503 mm	349 mm	428 mm
ratio 10:1 · 210kg	2900 mm	503 mm	350 mm
ratio 10:1 · 255kg	2400 mm	414 mm	294 mm
ratio 10:1 · 300kg	2112 mm	348 mm	2103 mm

Original distance reference(mm);
 no replacement speed, sellable configuration or angular operating rating is inferred. Blank cells are not zero.

Overhang limits, vertical

Printed ratio/load condition	0°(mm)	45°(mm)	90°(mm)
ratio 5:1 · 19kg	3511 mm		3511 mm
ratio 5:1 · 24kg	2054 mm		2054 mm
ratio 5:1 · -kg	- mm		- mm
ratio 6:1 · 24kg	1383 mm		563 mm

Printed ratio/load condition	0°(mm)	45°(mm)	90°(mm)
ratio 6:1 · 39kg	1066 mm		420 mm
ratio 6:1 · -kg	- mm		- mm
ratio 10:1 · 32kg	2607 mm		2607 mm
ratio 10:1 · 43kg	1915 mm		1915 mm
ratio 10:1 · 52kg	1510 mm		1510 mm
ratio 20:1 · 43kg	2503 mm		2503 mm
ratio 20:1 · 57kg	1794 mm		1794 mm
ratio 20:1 · 75kg	1998 mm		1998 mm

Original distance reference(mm);
 no replacement speed, sellable configuration or angular operating rating is inferred. Blank cells are not zero.

45° column is blank;

source 6:1 and 20:1 are not in the main 3/5/7/10 ratio list. Two dash rows remain source dashes, not zero ratings.

Application notes

Motor installation reference: BD: motor direct position;

BL: motor outside left;

BR: motor outside right;

BM: motor outside lower. These are source ordering/installation references, not a listed configuration.

Operating condition: Stroke over 600mm may cause resonance. the overhang tables are printed in mm, not mm/s.

Allowable overhang reference: The 0°/45°/90° headings are overhang/use references, not motor mounting direction or replacement speed ratings.