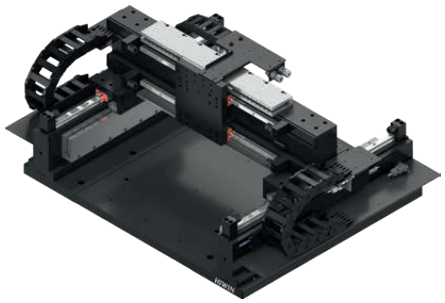
10. LMG precision gantry



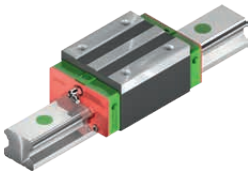
10.1 Properties of LMG precision gantry

HIWIN LMG precision gantries meet the highest requirements for precision and dynamics. Depending on the ambient conditions and the requirements, gantries that are driven on both sides or on one side are available. They are made of either aluminium or granite. The HIWIN standard offers different series with a wide variety of options. Customised solutions can also be developed with these options. Different drive options (linear motor or shaft) are also available for the Z-axis.

- Equipped with ironless linear motors
- No cogging torque
- Rigid overall system
- Seamlessly integrated into your system

Linear guideway

A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on two parallel, high-precision profile rails. SynchMotion™ technology with ball chain also ensures good synchronisation and very smooth running in all sizes.



Distance measuring systems

The distance measuring system is integrated into the inside of the axis to save space and determines the repeatability. Different measuring systems are available depending on the requirements for measuring method, interface and resolution.

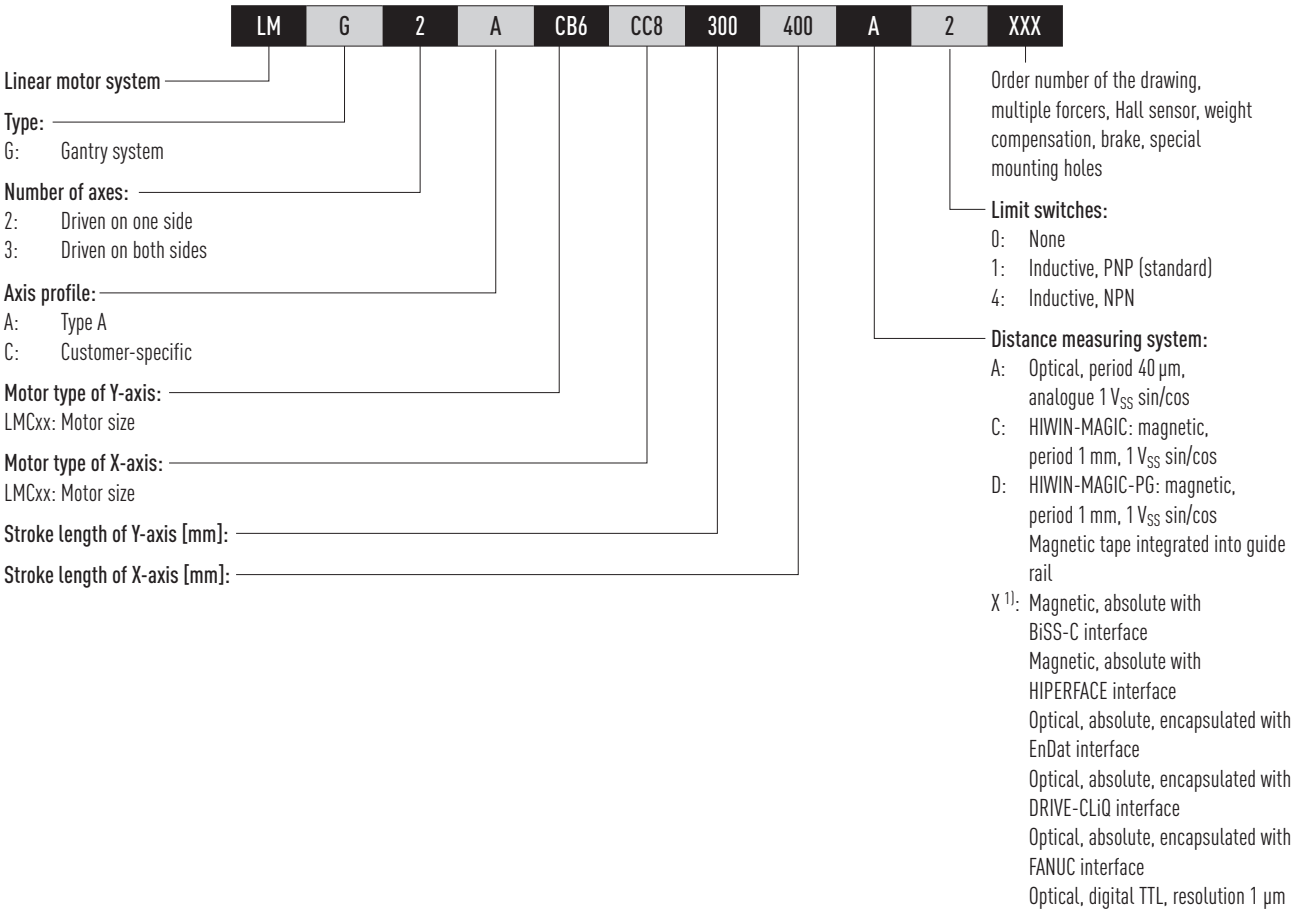
Linear motor

Integrated HIWIN linear motors of the ironless LMC series are the first choice for applications with the highest requirements for synchronisation.

Energy chain

Generously dimensioned energy chains in both axial directions provide space for safely carrying the supply lines.

10.2 Order code of LMG precision gantry



1) Incomplete enumeration

10.3 Dimensions and specifications for LMG precision gantry
10.3.1 Technical data for LMG precision gantry
10.3.2 Dimensions for LMG precision gantry driven on one side

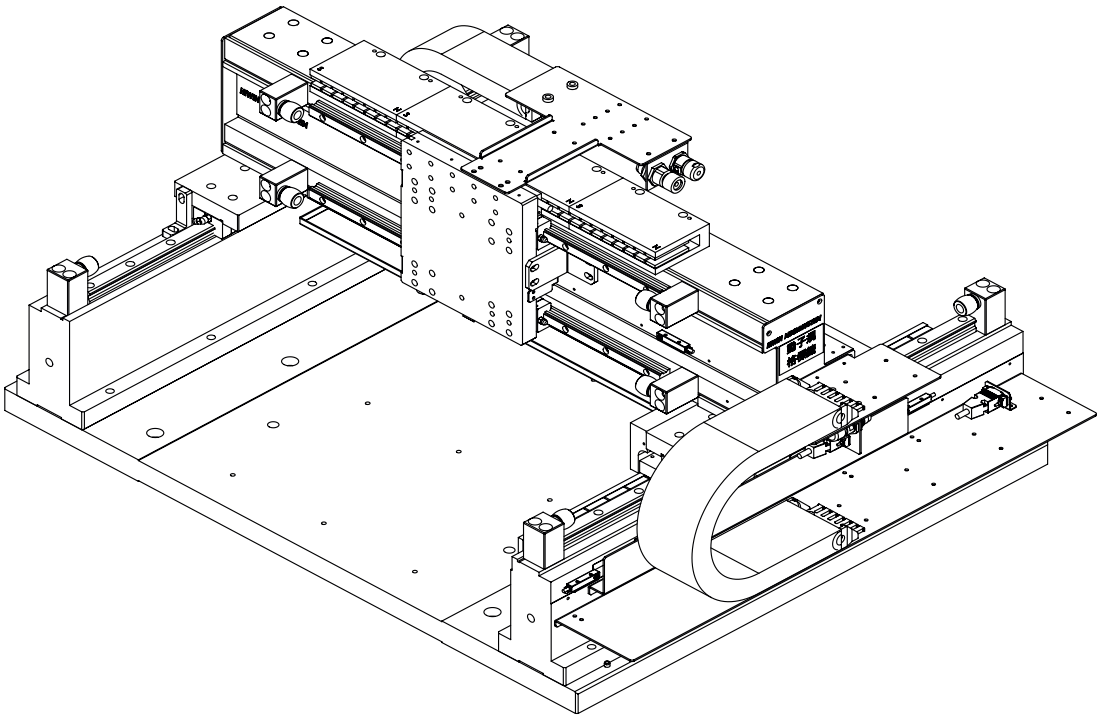


Table 10.1 **Technical overview of LMG2**

	Symbol	Unit	LMG2A-CB5-CEFE4-300-300-X10C	LMG2A-CB5-CEFE4-600-300-X10C	LMG2A-CB5-CEFE4-600-600-X10C
Stroke of Y-axis		mm	300	600	600
Stroke of X-axis		mm	300	300	600
Total length Y	W_y	mm	804	1,230	1,230
Total length X	W_x	mm	700	700	1,000
Total height	H	mm	427		
Motor type of Y-axis			LMCB5		
Motor type of X-axis			LMCEFE4		
Continuous force of Y-axis	F_{cy}	N	91		
Continuous force of X-axis	F_{cx}		200		
Peak force of Y-axis	F_{py}		364		
Peak force of X-axis	F_{px}		800		
Max. speed[1)]	v_{max}	m/s	0.5		
Max. acceleration[1)]	a_{max}	m/s^2	5		
Max. load capacity		Kg	10		
Distance measuring system			Absolute, BiSS-C, 26 bits		
Repeatability		µm	±2		
Absolute precision		µm	±3		
Straightness		µm	±10 / 300 mm		
Flatness		µm	±10 / 300 mm		
Orthogonality		arc sec	10 (200 × 200 mm^2)		
Yaw		arc sec	±10 / 300 mm		
Pitch		arc sec	±10 / 300 mm		
Weight		Kg	140	170	210
Energy chain of Y-axis			1400.068.075.0		
Energy chain of X-axis			1400.050.048.0		
Article number			80090091	80090092	80090093

[1)] With maximum load capacity

10.3.3 Dimensions for LMG precision gantry driven on both sides

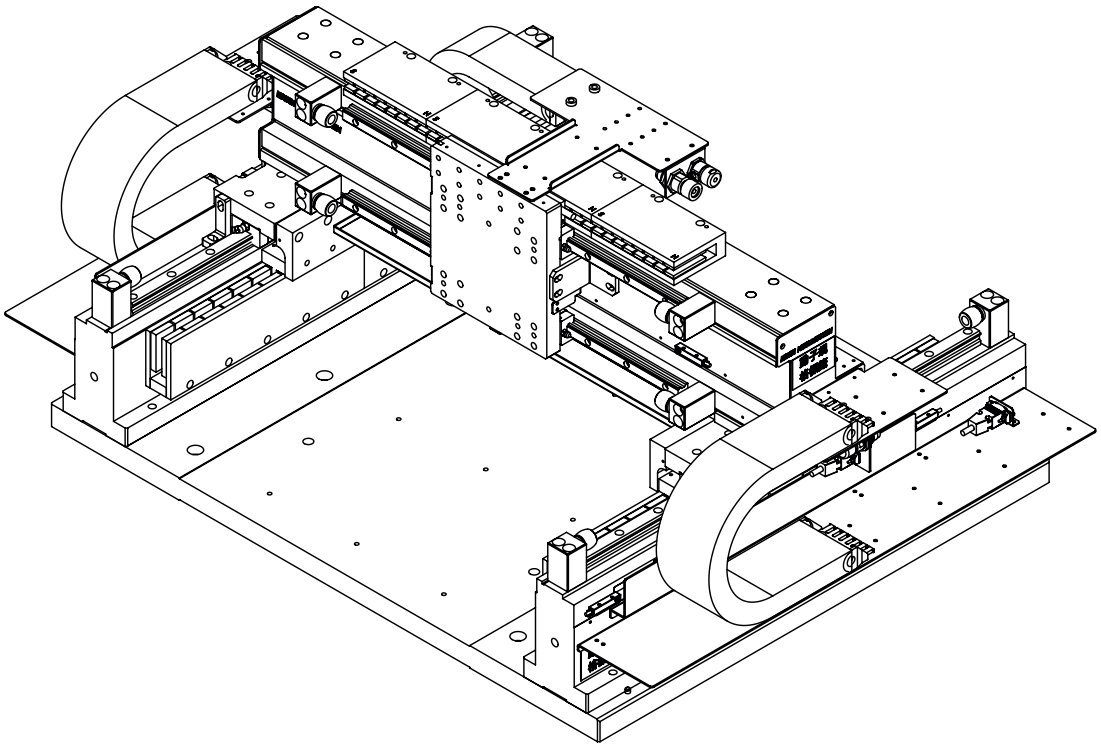


Table 10.2 **Technical overview of LMG3**

	Symbol	Unit	LMG3A-CB5-2CEFE4-300-300-X10C	LMG3A-CB5-2CEFE4-600-300-X10C	LMG3A-CB5-2CEFE4-600-600-X10C
Stroke of Y-axis		mm	300	600	600
Stroke of X-axis		mm	300	300	600
Total length Y	W_y	mm	1,010	1,310	1,310
Total length X	W_x	mm	700	700	1,000
Total height	H	mm	427		
Motor type of Y-axis			LMCB5		
Motor type of X-axis			2x LMCEFE4		
Continuous force of Y-axis	F_{cy}	N	91		
Continuous force of X-axis	F_{cx}		400		
Peak force of Y-axis	F_{py}		364		
Peak force of X-axis	F_{px}		1,600		
Max. speed[1)]	v_{max}	m/s	0.5		
Max. acceleration[1)]	a_{max}	m/s^2	5		
Max. load capacity		Kg	10		
Distance measuring system			Absolute, BiSS-C, 26 bits		
Repeatability		µm	±1		
Absolute precision		µm	±3		
Straightness		µm	±10 / 300 mm		
Flatness		µm	±10 / 300 mm		
Orthogonality		arc sec	10 (200 × 200 mm^2)		
Yaw		arc sec	±10 / 300 mm		
Pitch		arc sec	±10 / 300 mm		
Weight		Kg	150	180	230
Energy chain of Y-axis			1400.068.075.0		
Energy chain of X-axis			1400.050.048.0		
Article number			80090065	80090083	80090089

[1)] With maximum load capacity