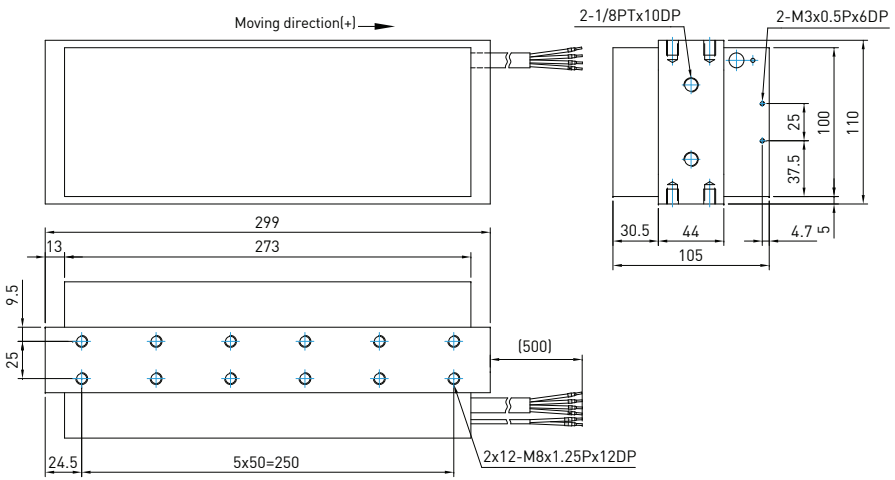
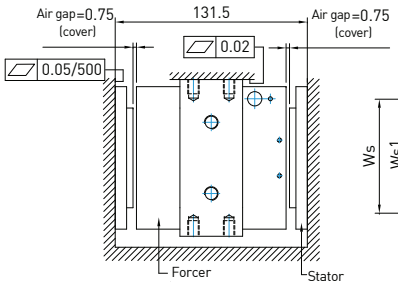
2.3.2 LMSC series forcers and stators dimensions

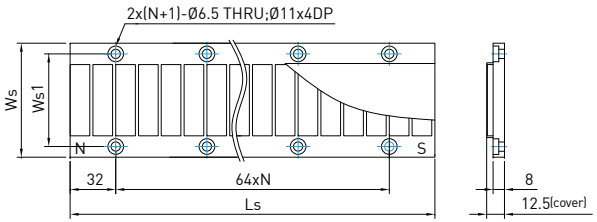
Dimensions of LMSC7 forcer



Mounting tolerances

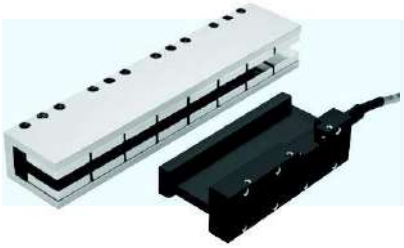


Dimensions of LMSC7 stator



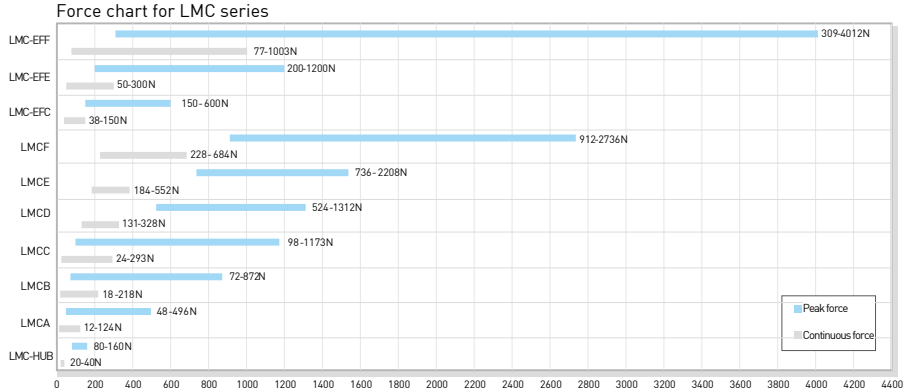
2.4 LMC series Linear motor

The HIWIN LMC coreless U-shaped linear motor has no cogging, an excellent low velocity ripple and excellent dynamic characteristics. With no attraction between forcers and stators and a very low-profile structure, the motor can be applied to the installation platform without deformation and has a light load demand for continuous movement curve. For example: high-speed, light-load automation equipment, dust-free environment automation equipment, flat panel equipment, optical detection equipment, scanning electron microscope equipment, semiconductor equipment.



- Three-phase
- Excellent dynamic characteristics
- Excellent synchronization and high speed coordination
- Small inertia, high acceleration
- Low installation height
- No cogging
- No attraction between force
- Same movement axis can use with multiple forcers

Force chart for LMC series



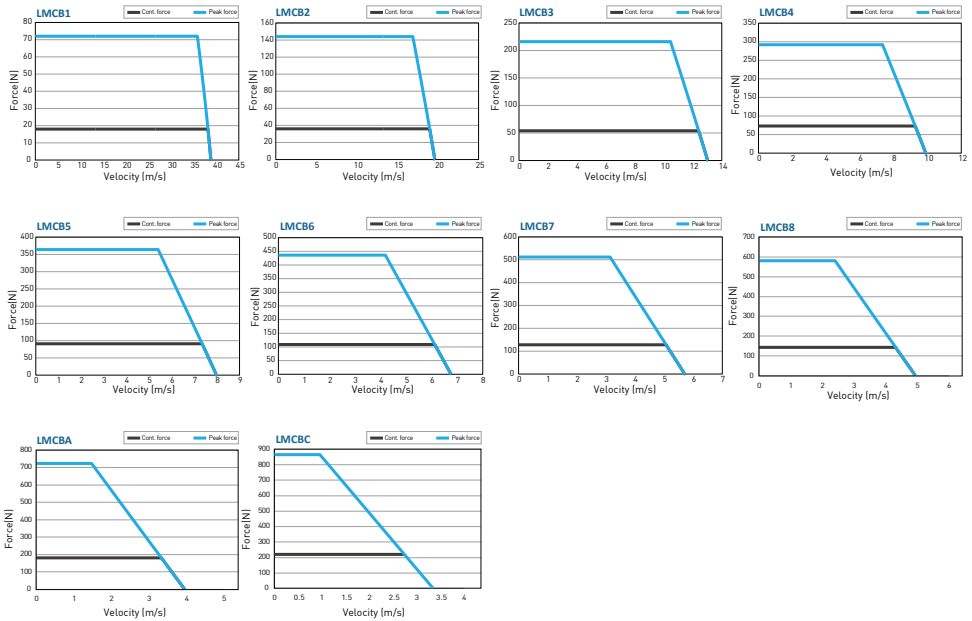
2.4.2 LMCB series

Table 2-5 LMCB series specifications

	Symbol	Unit	LMCB1	LMCB2	LMCB3	LMCB4	LMCB5	LMCB6	LMCB7	LMCB8	LMCBA	LMCBC
Continuous force	F_c	N	18	36	54	73	91	109	128	145	181	216
Continuous current	I_c	A_{rms}	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
Peak force (1s)	F_p	N	72	144	216	292	364	436	512	580	724	864
Peak current (1s)	I_p	A_{rms}	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.2
Force constant	K_f	N/A_{rms}	9.1	18.1	27.2	36.3	45.4	54.5	63.5	72.5	90.6	109.0
Maximum winding temperature	T_{max}	℃	100									
Electrical time constant	K_e	ms	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
Resistance (line to line,25℃)	R_{25}	Ω	1.8	3.6	5.4	7.1	9.0	10.7	12.6	14.6	17.9	21.0
Inductance (line to line)	L	mH	0.7	1.4	1.9	2.6	3.2	3.8	4.4	5.0	6.2	8.0
Pole pair pitch	2τ	mm	32									
Minimum bending radius of cable	R_{bend}	mm	37.5									
Back emf constant (line to line)	K_v	V_{rms}/(m/s)	5.1	10.1	15.2	20.0	24.8	29.3	34.7	40.0	50.0	59.0
Motor constant(25℃)	K_m	$N/\sqrt{W}$	5.5	7.7	9.5	11.2	12.4	13.6	14.7	15.5	17.5	21.4
Thermal resistance	R_{TH}	℃/W	5.55	2.77	1.85	1.41	1.11	0.93	0.79	0.68	0.56	0.58
Thermal switch			PTC									
Maximum DC bus voltage		V_{DC}	330									
Mass of forcer	M_f	kg	0.10	0.20	0.29	0.38	0.48	0.58	0.68	0.72	0.88	1.16
Unit mass of stator	M_s	kg/m	12									
Length of forcer/dimension n	L_f	mm	34	66/2	98/3	130/4	162/5	194/6	226/7	258/8	322/10	386/12
Length of stator/dimension N	L_s	mm	128mm/N=2, 192mm/N=3, 320mm/N=5									

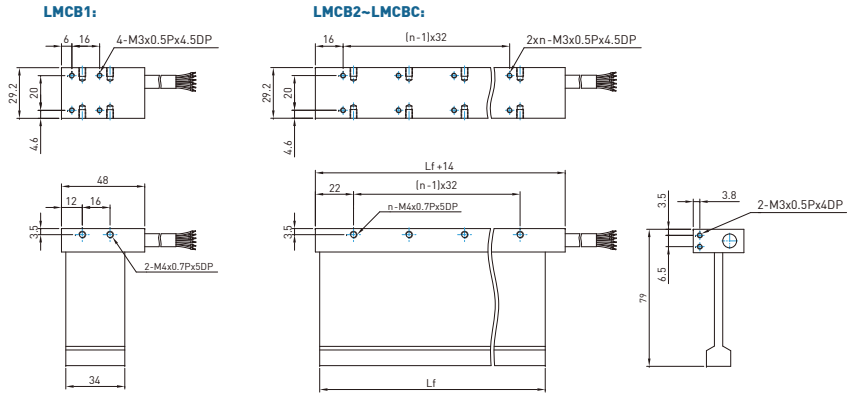
Note: 1. Values in this table are motor at 25°C ambient temperature and no forced cooling.
2. Except diemensions, the electrical specifications are in ±10% of tolerance.
3. We reserve the right of changes, please follow customer recognition drawings.

■ Force and velocity curve(DC bus voltage = 330 V_{DC})



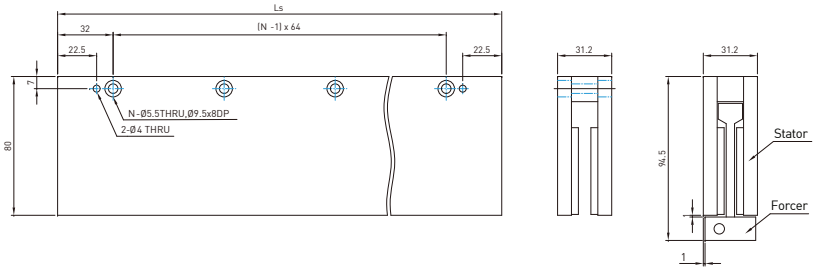
LMCB series forcers and stators dimensions

■ **Dimensions of LMCB forcers**
(Value for L_f and n：see Table2-5)



■ **Dimensions of LMCB stators**
(Value for Ls and N：see Table2-5)

■ **Mounting tolerances**



Order code of magnet track (stator)

Series	Height of stator	Model	Length of stator
LMC	B	S	3
	B:80mm	S: Standard	0:128mm 1:192mm 3:320mm

LMC series