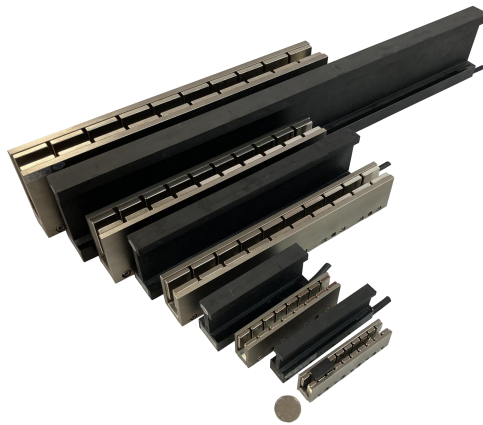


# LSMU5 Series

## Ironless Linear Motor (Natural Cooling)

The LSMU5 series is Han's Motor's ironless linear motor platform, featuring smooth thrust characteristics, low inertia with high acceleration, strong overload capacity, no cogging force or electromagnetic attraction, and a modular design.



### Features

- Optional hall sensor
- Coreless with zero cogging
- compact winding design with patent technology
- High thrust density, high continuous and peak force

### Applications

- 3C Devices
- Display Panels
- Medical Equipment
- Precision Machine Tools
- Suitable for Laser Machine
- PCB Equipment and Other Applications

## Parameters

**HAN'S MOTOR**

LSMU510xxx-x H-NC-N-D00.5	Symbol	Unit	101A-S	201A-S	201A-P	301A-S	301A-P
			Series	Series	Parallel	Series	Parallel
Continuous Force (Tmax)	Fc	N	56	112	112	168	168
Peak Force	Fp	N	317	624	624	936	936
Motor Constant	Km25	N / Sqrt (W)	10.2	14.4	14.4	17.7	17.8
Max.Continuous Power Dissipation	Pc	W	41.4	82.8	82.8	124.2	122.0
Continuous Current (Tmax)	Ic	Arms	2.3	2.3	4.6	2.3	4.6
Peak Current (1S)	Ip	Arms	13.0	13.0	26.0	13.0	26.0
Force Constant (25 °C ± 5 %)	Kf	N / Arms	24.4	48.7	24.4	73.0	36.5
Back EMF Constant (25 °C, ± 5 %)	Ke	Vrms / m / s	8.1	16.2	8.1	24.3	12.2
Electrical Resistance (25 °C, ± 5 %) P-P	R	Ω	3.8	7.6	1.9	11.4	2.8
Inductance (25 °C, ± 20 %) P-P	L	mH	3.6	7.0	1.8	9.5	2.6
Max Coil Temperature	Tmax	°C	120	120	120	120	120
Polar Distance (N-N) (360 °C Electrical Cycle)	2τ	mm	60	60	60	60	60
Magnetic Attraction	Fa	kN	0.0	0.0	0.0	0.0	0.0
Max.DC Bus Voltage	Ubus	V	330	330	330	330	330
Vmax, Fc @ Vbus = 310 Vdc	Vmax, Fc	m / s	14.6	6.9	14.6	4.4	9.5
Vmax, Fp @ Vbus = 310V dc	Vmax, Fp	m / s	10.8	3.4	10.8	0.8	5.9
Vmax, 0 @ Vbus = 310 Vdc	Vmax,0	m/s	15.4	7.7	15.4	5.1	10.3
Mover Mass	Mp	Kg	0.4	0.7	0.7	1.0	1.0
Stator Mass within Unit Length	Ms	Kg/m	15.0	15.0	15.0	15.0	15.0

\* All specifications are typical data and subject to change without notice due to product improvements.

## Parameters

**HAN'S MOTOR**

LSMU510xxx-x H-NC-N-D00.5	Symbol	Unit	402A-S	402A-P	108A-S	501A-S	501A-P
			Series	Parallel	Series	Parallel	Series
Continuous Force (Tmax)	Fc	N	224	224	249	280	280
Peak Force	Fp	N	1248	1248	1387	1560	1560
Motor Constant	Km25	N / Sqrt (W)	20.5	20.4	21.6	22.9	22.9
Max.Continuous Power Dissipation	Pc	W	163.4	165.6	181.9	204.8	204.8
Continuous Current (Tmax)	Ic	Arms	2.3	4.6	2.3	2.3	4.6
Peak Current (1S)	Ip	Arms	13.0	26.0	9.2	13.0	26.0
Force Constant (25 °C ± 5 %)	Kf	N / Arms	96.0	48.0	108.0	120.0	60.0
Back EMF Constant (25 °C, ± 5 %)	Ke	Vrms / m / s	32.0	16.0	36.0	40.0	20.0
Electrical Resistance (25 °C, ± 5 %) P-P	R	Ω	15.0	3.8	16.7	18.8	4.7
Inductance (25 °C, ± 20 %) P-P	L	mH	14.0	3.5	17.2	17.5	4.4
Max Coil Temperature	Tmax	°C	120	120	120	120	120
Polar Distance (N-N) (360 °C Electrical Cycle)	2τ	mm	60	60	60	60	60
Magnetic Attraction	Fa	kN	0.0	0.0	0.0	0.0	0.0
Max.DC Bus Voltage	Ubus	V	330	330	330	330	330
Vmax, Fc @ Vbus = 310 Vdc	Vmax, Fc	m / s	3.1	7.0	2.7	2.3	5.5
Vmax, Fp @ Vbus = 310V dc	Vmax, Fp	m / s	0.0	3.4	0.4	0.0	1.9
Vmax, 0 @ Vbus = 310 Vdc	Vmax,0	m/s	3.9	7.8	3.4	3.1	6.2
Mover Mass	Mp	Kg	1.3	1.3	1.3	1.7	1.7
Stator Mass within Unit Length	Ms	Kg/m	15.0	15.0	15.0	15.0	15.0

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## Parameters

**HAN'S MOTOR**

LSMU510xxx-x H-NC-N-D00.5	Symbol	Unit	601A-S	601A-P	801A-P
			Parallel	Series	Parallel
Continuous Force (Tmax)	Fc	N	336	336	448
Peak Force	Fp	N	1872	1872	2496
Motor Constant	Km25	N / Sqrt (W)	24.9	25.2	28.8
Max.Continuous Power Dissipation	Pc	W	250.6	244.0	331.2
Continuous Current (Tmax)	Ic	Arms	2.3	4.6	4.6
Peak Current (1S)	Ip	Arms	13.0	26.0	26.0
Force Constant (25 °C ± 5 %)	Kf	N / Arms	144.0	72.0	97.6
Back EMF Constant (25 °C, ± 5 %)	Ke	Vrms / m / s	48.0	24.0	32.4
Electrical Resistance (25 °C, ± 5 %) P-P	R	Ω	23.0	5.6	7.6
Inductance (25 °C, ± 20 %) P-P	L	mH	21.0	5.3	7.2
Max Coil Temperature	Tmax	°C	120	120	120
Polar Distance (N-N) (360 °C Electrical Cycle)	2τ	mm	60	60	60
Magnetic Attraction	Fa	kN	0.0	0.0	0.0
Max.DC Bus Voltage	Ubus	V	330	330	330
Vmax, Fc @ Vbus = 310 Vdc	Vmax, Fc	m / s	1.8	4.4	3.1
Vmax, Fp @ Vbus = 310V dc	Vmax, Fp	m / s	0.0	0.9	0.0
Vmax, 0 @ Vbus = 310 Vdc	Vmax,0	m/s	2.6	5.2	3.8
Mover Mass	Mp	Kg	2.0	2.0	2.4
Stator Mass within Unit Length	Ms	Kg/m	15.0	15.0	15.0

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## Mover Dimension

**HAN'S MOTOR**

Mover Model	Mover Length	M	Mover Mounting Hole A
LSMU510101A-S-H-NC-N-D00.5	61	1	3
LSMU510201A-S-H-NC-N-D00.5	121	3	7
LSMU510201A-P-H-NC-N-D00.5			
LSMU510301A-S-H-NC-N-D00.5	181	5	11
LSMU510301A-P-H-NC-N-D00.5			
LSMU510402A-S-H-NC-N-D00.5	241	7	15
LSMU510402A-P-H-NC-N-D00.5			
LSMU510501A-S-H-NC-N-D00.5	301	9	19
LSMU510501A-P-H-NC-N-D00.5			
LSMU510601A-S-H-NC-N-D00.5	361	11	23
LSMU510601A-P-H-NC-N-D00.5			
LSMU510801A-P-H-NC-N-D00.5	481	15	31

\* All specifications are typical data and subject to change without notice due to product improvements.

\* Remarks:

- Standard cable length is 0.5m (with aviation plug), maximum outer diameter of motor cable is 7mm, minimum bending radius is 35mm, the cable length and terminal can be customized if there are special requirements;
- Optional temperature sensor.

## Stator Dimension

Stator Model	Stator Length	N	Stator Mounting Hole B	Stator Mounting Hole C
LSMU5208A	299.5	4	5	5
LSMU5209A	239.5	3	4	4
LSMU5210A	179.5	2	3	3
LSMU5211A	119.5	1	2	2

\* All specifications are typical data and subject to change without notice due to product improvements.

\* Suitable for any mover of this series, and stator installation mode can be selected.

## Laser Dimensions (mm)

