

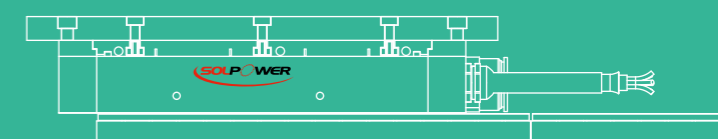
CHENG CHANG MACHINERY

SOL-POWER-LINEAR-SERVO MOTOR
SOL-POWER-LINEAR MOTOR

LPM



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謙虛的態度、專業的服務





Direct Drive LINEAR MOTOR Summary

Water-Cooled

	MAX Continuous Force(N)	Peak Force(N)	Page no.
LPM01-030	260	320	1~2
LPM01-050	440	530	
LPM01-075	655	805	
LPM01-100	870	1055	
LPM01-150	1290	1580	
LPM01-200	1720	2108	

LPM02-030	525	635	3~4
LPM02-050	870	1055	
LPM02-075	1290	1580	
LPM02-100	1720	2110	
LPM02-150	2570	3158	
LPM02-200	3465	4210	

LPM03-030	775	950	5~6
LPM03-050	1290	1580	
LPM03-075	1930	2370	
LPM03-100	2600	3160	
LPM03-150	3855	4730	
LPM03-200	5140	6310	

LPM04-030	1040	1265	7~8
LPM04-050	1715	2105	
LPM04-075	2570	3160	
LPM04-100	3460	4210	
LPM04-150	5140	6310	
LPM04-200	6920	8415	

線性馬達特色：

1. 採用鐵心設計，提高線性馬達效率
2. 由於機械接觸較少，直線電機擁有高響應和長期穩定性
3. 高速的動態響應及較高的速度。與滾珠螺桿相比具有較高的移動速度與定位精度

Characteristic

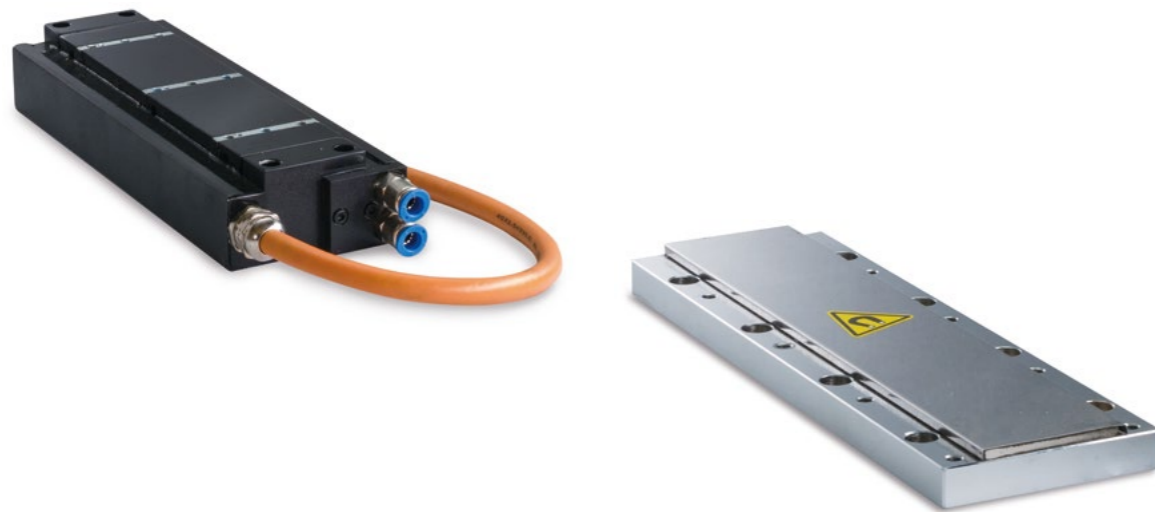
1. With ironcore design, linear motor raise efficiency.
2. Linear motors own higher reflection and long stability because of directly touching less with mechanism
3. Compared higher moving speed and precise position with ball screws, linear motors have high speed's dynamic reflection and precise position.

適用範圍：

- P.C.B 鑽孔機
- 工具機
- 產業機械

Application:

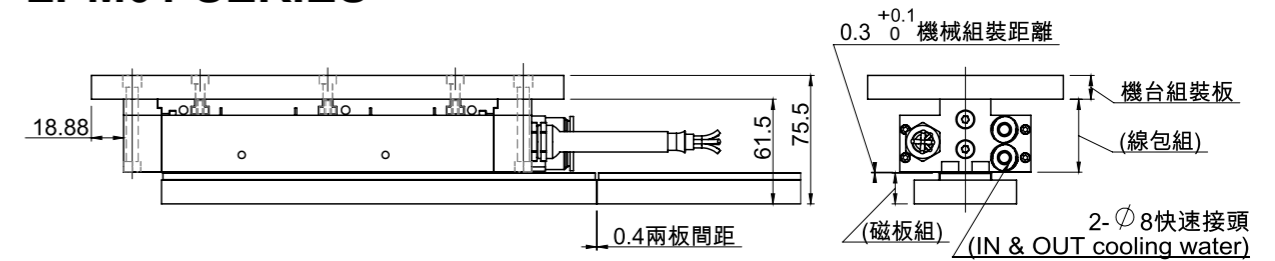
- P.C.B drilling machine
- machine tool
- general industrial machinery



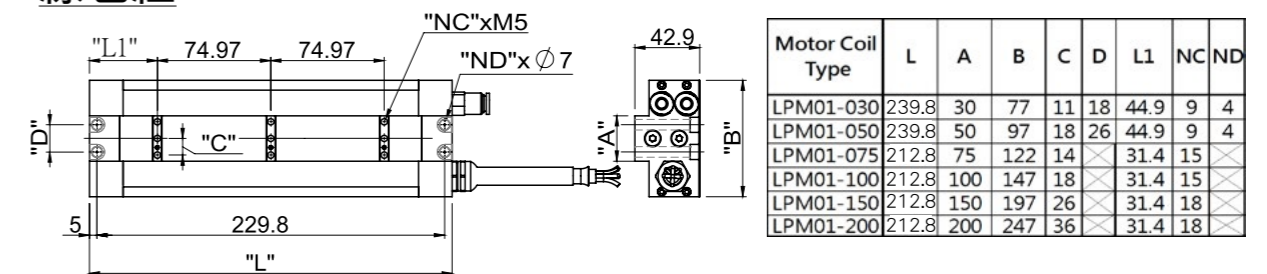
Ironcore Water-Cooled Motors Series

Rated Performance		Symbol	Units	LPM01-030	LPM01-050	LPM01-075	LPM01-100	LPM01-150	LPM01-200				
峰值推力 / Peak Force		FP	N	320	530	805	1055	1580	2108				
連續推力 Continuous Force @ Tmax(1)		FC	N	260	440	655	870	1290	1720				
馬達常數 Motor Constant @25°C		Km	N/√W	19.5	29	37.5	45.5	56	66				
Electrical Specifications(2)													
			Winding Code	A1	B1	A1	B1	A1	B1	A1	B1	A1	B1
反電勢 Back EMF Constant@25°C±10%		Ke	Vpeak/m/s L-L	24.8	14.3	41.4	23.9	62.2	35.9	82.9	47.8	124	71.7
力常數 Force Constant@25°C±10%		Kf	N/Arms	30.4	17.6	50.7	29.3	76.2	44	102	58.6	152	87.9
電阻 Electrical Resistance@25°C±10%		Rm	Ohms L-L	1.6	0.53	2.1	0.7	2.8	0.93	3.5	1.2	5	1.7
電感 Electrical Inductance±20%		L	mh L-L	10.3	3.4	16.5	5.5	24.4	8.1	32.1	10.7	47.7	15.9
峰值電流 / Peak Current		Ip	Arms	13.8	23.9	13.8	23.9	13.8	23.9	13.8	23.9	13.8	23.9
連續電流 Continuous Current @ Tmax		Ic	Arms	9.7	16.9	9.9	17.2	9.9	17.1	9.9	17.2	9.8	17
Mechanical Specifications													
線包重量 Coil Assembly Mass±15%		Mc	kg	2.5	3.6	5	6.5	9.4	12.3				
磁板型號 Magnetic Way Type				MC030	MC050	MC075	MC100	MC150	MC200				
磁板重量 Magnetic Way Mass±15%		Mw	kg/m	5.4	7.5	10.1	12.7	20.7	26.8				
Figures of Merit and Additional Data													
電氣時間常數 Electrical Time Constant		Te	ms	6.4	7.9	8.7	9.2	9.5	9.9				
最大加速度 Max.Theoretical Acceleration(3)		Amax	g's	15.3	17.7	19.2	19.6	20.3	20.7				
磁性吸力 Magnetic Attraction		Fa	kN	1.4	2.4	3.7	4.9	7.3	9.9				
熱電阻系數 Thermal Resistance(4) (coils to external structure)		Rth	°C/Watt	0.33	0.24	0.18	0.15	0.1	0.081				
線圈容許最大溫度 Max.Allowable Coil Temp.(4)		Tmax	°C	130	130	130	130	130	130				

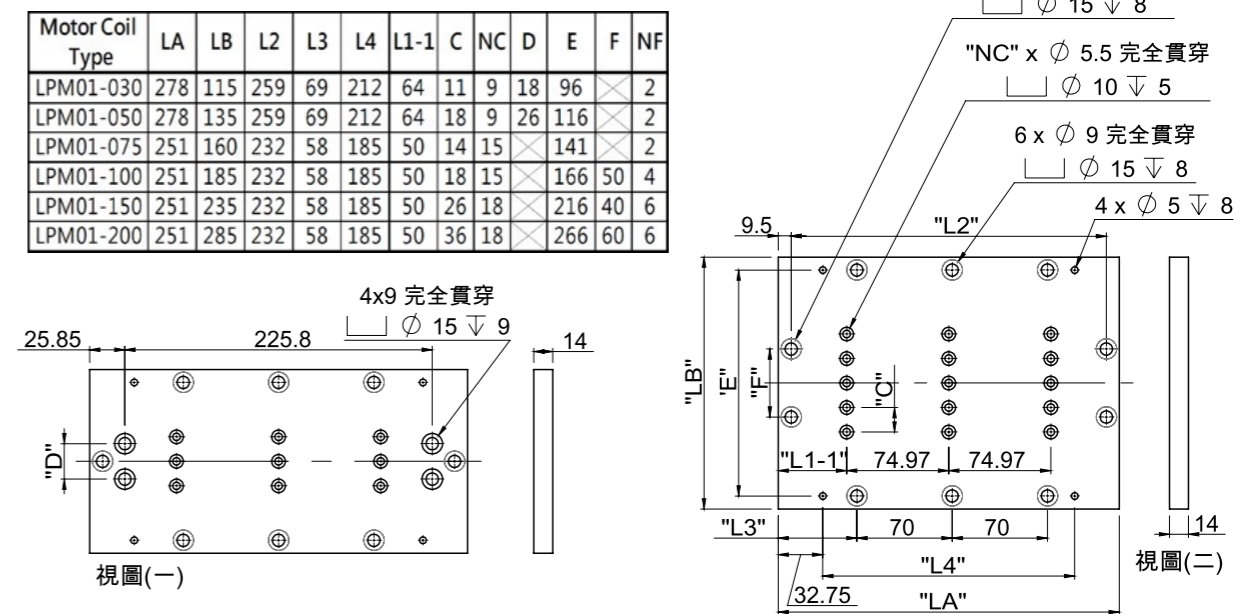
LPM01 SERIES



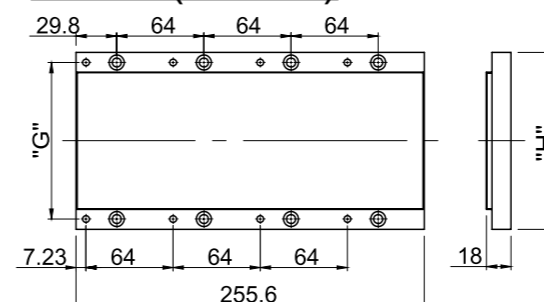
線包組



機台組裝板

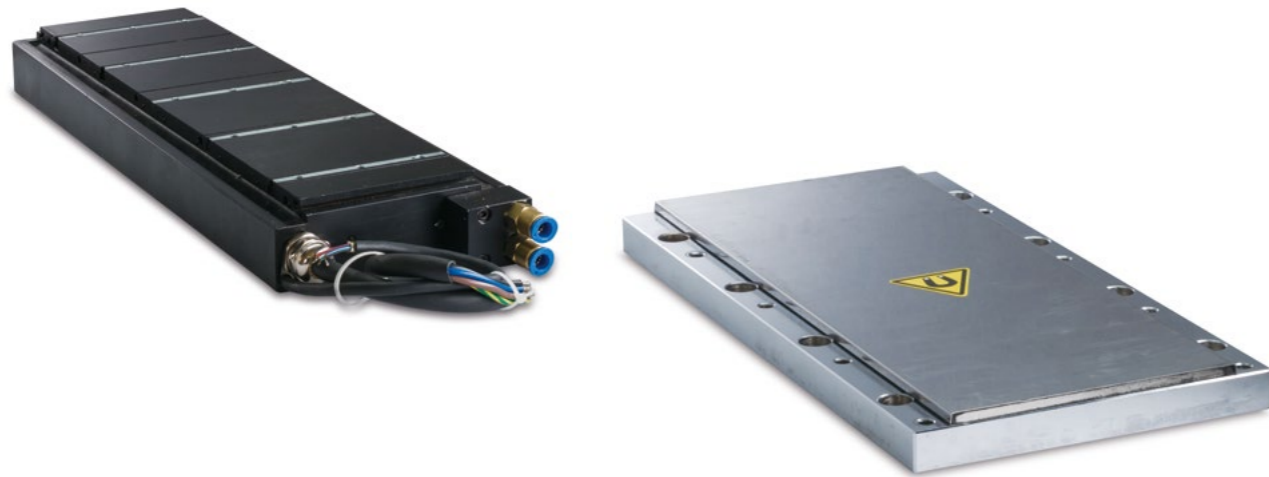


磁板組(共用件)



Motor Coil Type	LPM					
	030	050	075	100	150	200
G	45	65	90	115	165	215
H	60	80	105	130	180	230

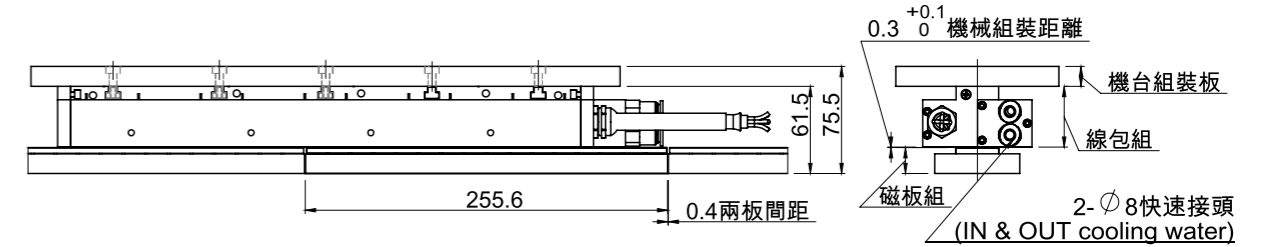
*LPM01、LPM02、LPM03、LPM04共用



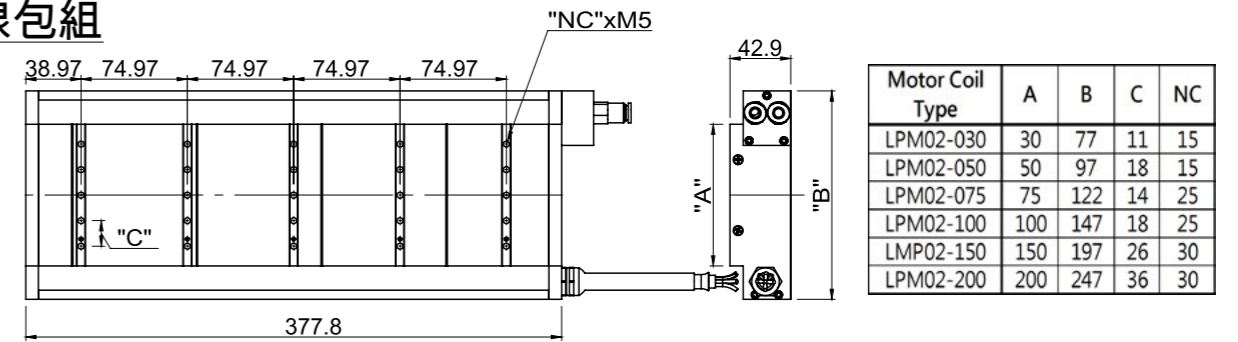
Ironcore Water-Cooled Motors Series

Rated Performance	Symbol	Units	LPM02-030	LPM02-050	LPM02-075	LPM02-100	LPM02-150	LPM02-200
峰值推力 / Peak Force	FP	N	635	1055	1580	2110	3158	4210
連續推力 Continuous Force @ Tmax(1)	FC	N	525	870	1290	1720	2570	3465
馬達常數 Motor Constant @25°C	Km	N/√W	28.5	40.8	52.5	62.8	79.5	93.5
Electrical Specifications(2)								
		Winding Code	A1 A2 B2	A1 A2 B2	A1 A2 B2	A1 A2 B2	A1 A2 B2	A1 A2 B2
反電勢 Back EMF Constant@25°C±10%	Ke	Vpeak/m/s L-L	49.7:24.9:14.4	82.9:41.4:23.9	124:62.2:35.9	166:83.1:48	249:124:71.8	332:166:95.7
力常數 Force Constant@25°C±10%	Kf	N/Arms	60.9:30.5:17.6	102:50.8:29.3	152:76.2:44	203:102:58.7	305:152:87.9	406:203:117
電阻 Electrical Resistance@25°C±10%	Rm	Ohms L-L	3.1:0.78:0.26	4.2:1.1:0.35	5.7:1.4:0.48	7.1:1.8:0.59	9.9:2.5:0.83	12.7:3.2:1.1
電感 Electrical Inductance±20%	L	mh L-L	20.6:5.2:1.7	33:8.3:2.8	48.6:12.2:4.1	64.1:16:5.3	95.4:23.9:8	127:31.6:10.5
峰值電流 / Peak Current	Ip	Arms	13.8:27.6:47.8	13.8:27.6:47.8	13.8:27.6:47.8	13.8:27.6:47.8	13.8:27.6:47.8	13.8:27.6:47.8
連續電流 Continuous Current @ Tmax	Ic	Arms	9.9:19.8:34.3	9.9:19.8:34.3	9.8:19.6:34	9.8:19.6:34	9.8:19.7:34.1	9.9:19.8:34.3
Mechanical Specifications								
線包重量 Coil Assembly Mass±15%	Mc	kg	4.8	6.9	9.6	12.5	18.1	23.7
磁板型號 Magnetic Way Type			MC030	MC050	MC075	MC100	MC150	MC200
磁板重量 Magnetic Way Mass±15%	Mw	kg/m	5.4	7.5	10.1	12.7	20.7	26.8
Figures of Merit and Additional Data								
電氣時間常數 Electrical Time Constant	Te	ms	6.6	7.9	8.5	9	9.6	10
最大加速度 Max.Theoretical Acceleration(3)	Amax	g's	15.9	18.5	19.9	20.4	21.1	21.5
磁性吸力 Magnetic Attraction	Fa	kN	2.9	4.9	7.3	9.8	14.6	19.7
熱電阻系數 Thermal Resistance(4) (coils to external structure)	Rth	°C/Watt	0.16	0.12	0.091	0.073	0.052	0.04
線圈容許最大溫度 Max.Allowable Coil Temp.(4)	Tmax	°C	130	130	130	130	130	130

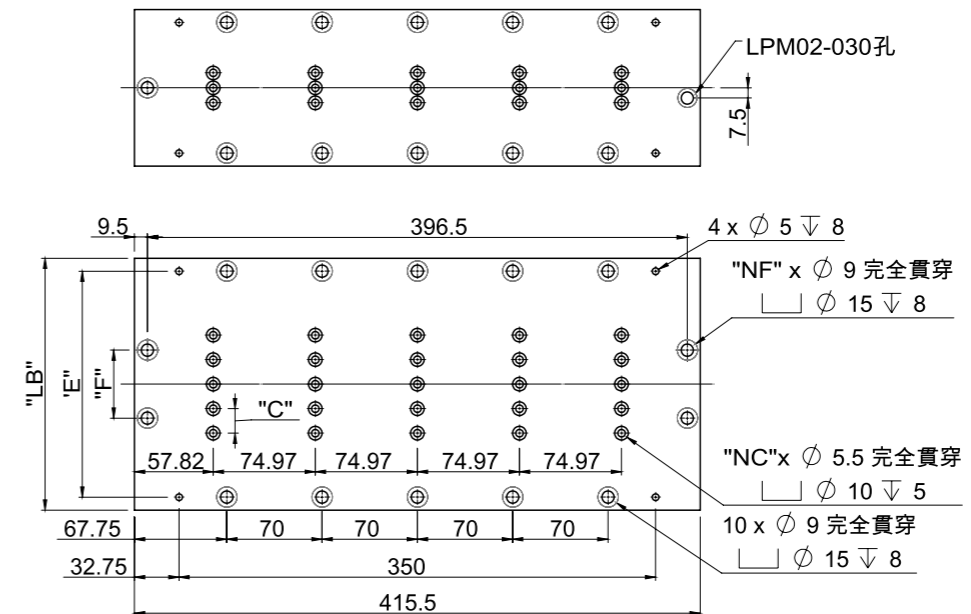
LPM02 SERIES



線包組



機台組裝板



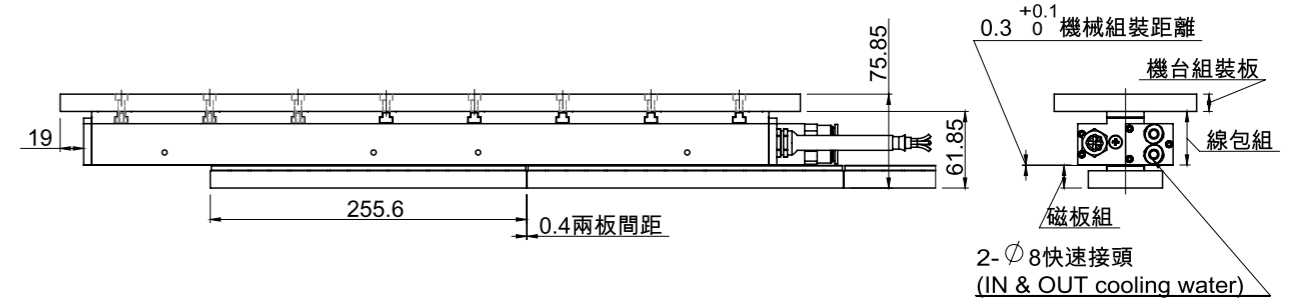
Motor Coil Type	LB	C	NC	E	F	NF
LPM02-030	115	11	15	96		2
LPM02-050	135	18	15	116		2
LPM02-075	160	14	25	141		2
LPM02-100	185	18	25	166	50	4
LPM02-150	235	26	30	216	40	6
LPM02-200	285	36	30	266	60	6



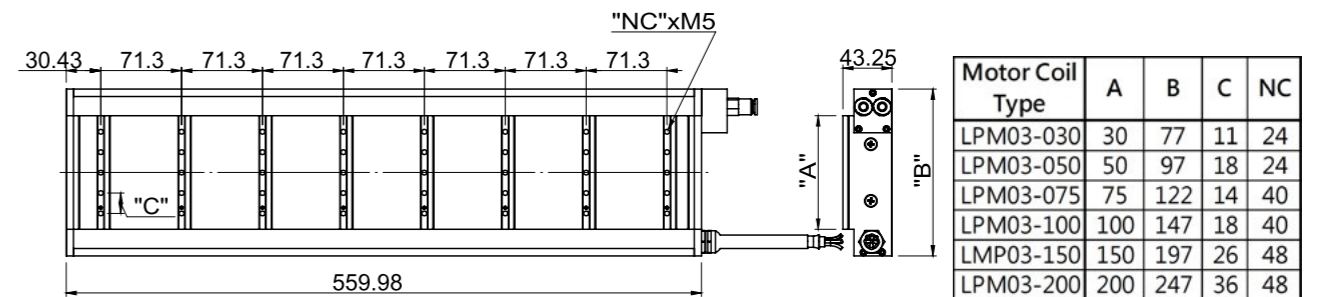
Ironcore Water-Cooled Motors Series

Rated Performance	Symbol	Units	LPM03-030	LPM03-050	LPM03-075	LPM03-100	LPM03-150	LPM03-200																																						
峰值推力 / Peak Force	FP	N	950	1580	2370	3160	4730	6310																																						
連續推力 Continuous Force @ Tmax(1)	FC	N	775	1290	1930	2600	3855	5140																																						
馬達常數 Motor Constant @25°C	Km	N/√W	34.8	49.5	64.5	76.8	97.2	118																																						
Electrical Specifications(2)			Winding Code			A1 A2 B1			A1 A2 B1			A1 A2 B1			A1 A2 B1			A1 A2 B1																												
反電勢 Back EMF Constant@25°C±10%	Ke	Vpeak/m/s L-L	74.5	24.8	43	124	41.4	71.7	187	62.2	108	249	82.9	144	373	124	215	497	166	287																										
力常數 Force Constant@25°C±10%	Kf	N/Arms	91.3	30.4	52.7	152	50.7	87.9	229	76.2	132	304	102	176	457	152	264	609	203	352																										
電阻 Electrical Resistance@25°C±10%	Rm	Ohms L-L	4.7	0.52	1.6	6.4	0.71	2.1	8.5	0.94	2.8	10.6	1.2	3.5	14.9	1.7	5	19.1	2.1	6.4																										
電感 Electrical Inductance±20%	L	mh L-L	31	3.4	10.3	49.5	5.5	16.5	73.1	8.1	24.4	96.2	10.7	32.1	143	15.9	47.7	190	21.1	63.3																										
峰值電流 / Peak Current	Ip	Arms	13.8	41.4	23.9	13.8	41.4	23.9	13.8	41.4	23.9	13.8	41.4	23.9	13.8	41.4	23.9	13.8	41.4	23.9																										
連續電流 Continuous Current @ Tmax	Ic	Arms	9.8	29.5	17	9.8	29.4	17	9.8	29.4	17	9.9	29.7	17.1	9.8	29.3	16.9	9.8	29.5	17																										
Mechanical Specifications			線包重量 Coil Assembly Mass±15%			磁板型號 Magnetic Way Type			磁板重量 Magnetic Way Mass±15%			電氣時間常數 Electrical Time Constant			最大加速度 Max.Theoretical Acceleration(3)			磁性吸力 Magnetic Attraction			熱電阻系數 Thermal Resistance(4) (coils to external structure)			線圈容許最大溫度 Max.Allowable Coil Temp.(4)																						
線包重量 Coil Assembly Mass±15%	Mc	kg	7.3	10.4	14.4	18.9	27.3	35.7	MC030	MC050	MC075	MC100	MC150	MC200	Te	ms	6.6	7.7	8.6	9.1	9.6	9.9	Fa	kN	4.4	7.4	11	14.7	22.1	29.4	Rth	°C/Watt	0.11	0.081	0.061	0.048	0.035	0.027	Tmax	°C	130	130	130	130	130	130
Figures of Merit and Additional Data			電氣時間常數 Electrical Time Constant			最大加速度 Max.Theoretical Acceleration(3)			磁性吸力 Magnetic Attraction			熱電阻系數 Thermal Resistance(4) (coils to external structure)			線圈容許最大溫度 Max.Allowable Coil Temp.(4)																															
電氣時間常數 Electrical Time Constant	Te	ms	6.6	7.7	8.6	9.1	9.6	9.9	最大加速度 Max.Theoretical Acceleration(3)	Amax	g's	15.7	18.4	19.9	20.2	21	21.4	磁性吸力 Magnetic Attraction	Fa	kN	4.4	7.4	11	14.7	22.1	29.4	熱電阻系數 Thermal Resistance(4) (coils to external structure)	Rth	°C/Watt	0.11	0.081	0.061	0.048	0.035	0.027	線圈容許最大溫度 Max.Allowable Coil Temp.(4)	Tmax	°C	130	130	130	130	130	130		

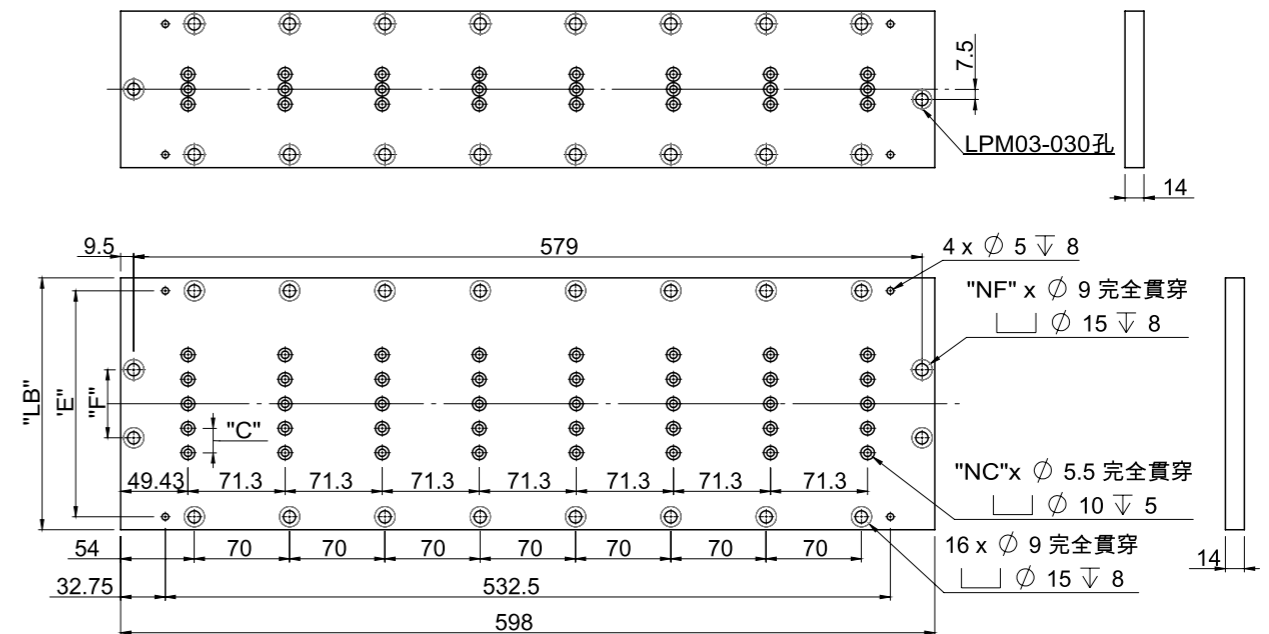
LPM03 SERIES



線包組



機台組裝板



Motor Coil Type	LB	C	NC	E	F	NF
LPM03-030	115	11	24	96	2	2
LPM03-050	135	18	24	116	2	2
LPM03-075	160	14	40	141	2	2
LPM03-100	185	18	40	166	50	4
LPM03-150	235	26	48	216	40	6
LPM03-200	285	36	48	266	60	6

