

TESTING MODE

測試模式

跑合模式Running Mode：均速分段跑合Running in different speed section.

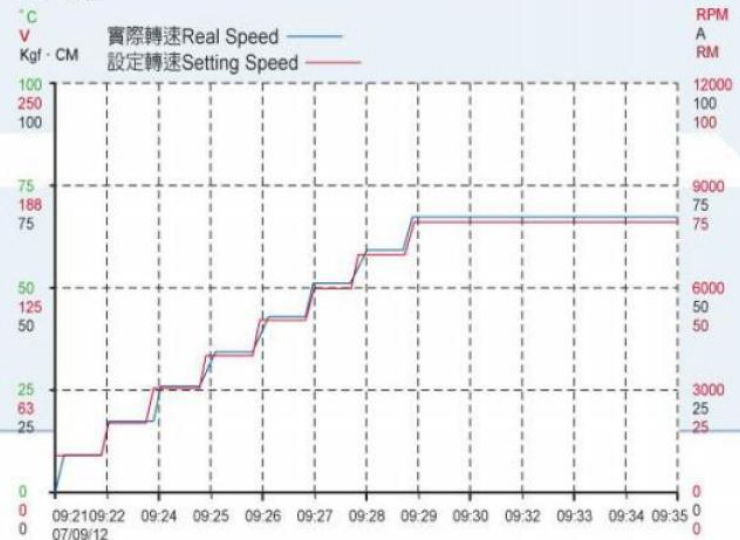
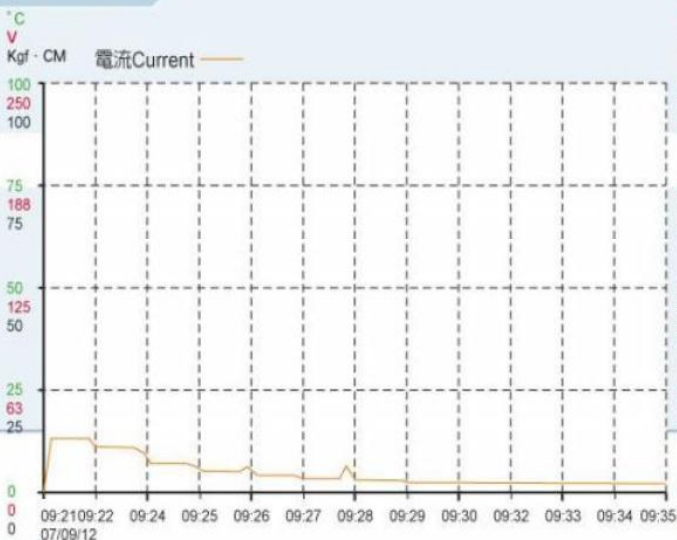
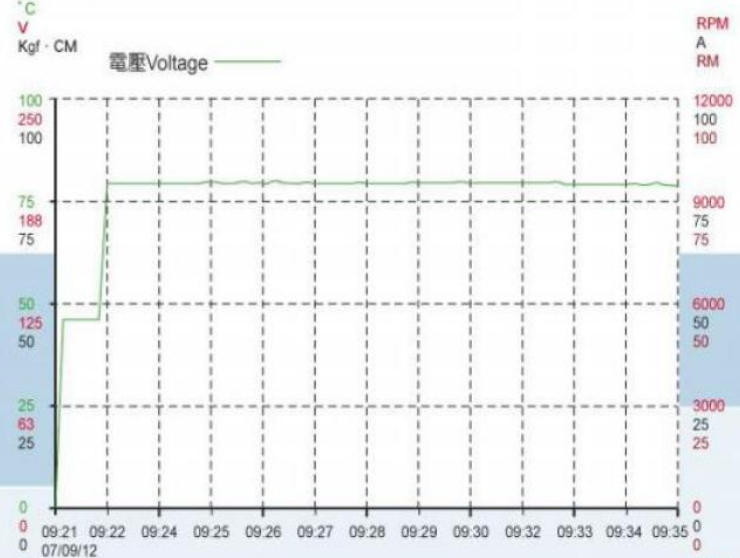
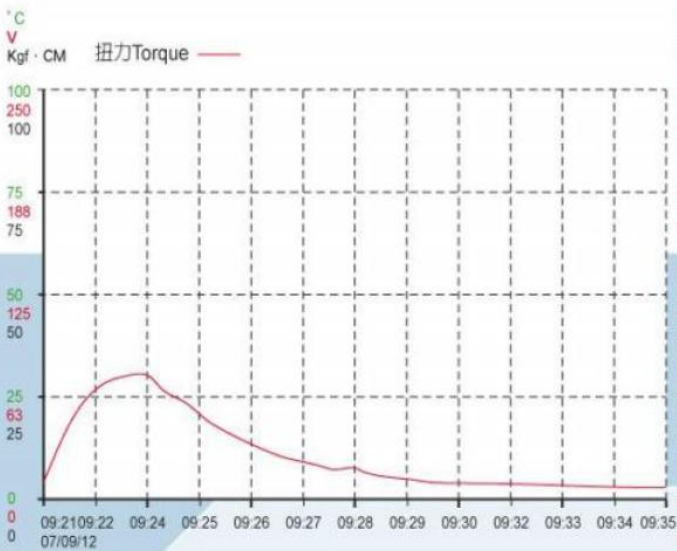
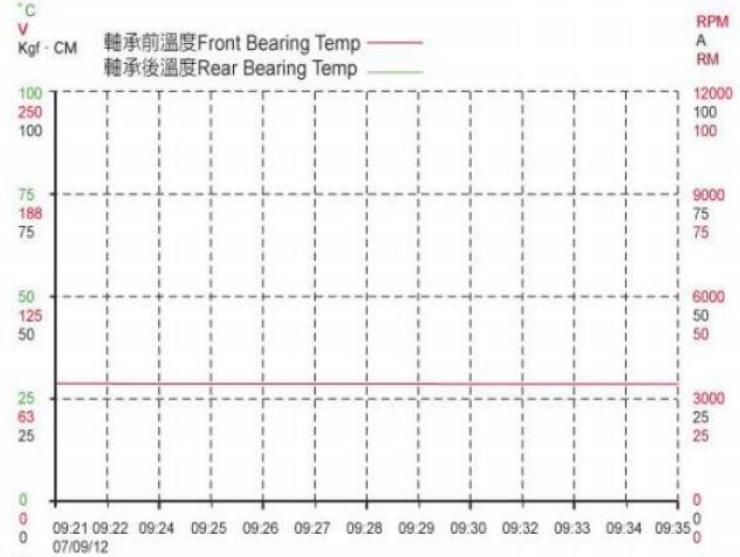
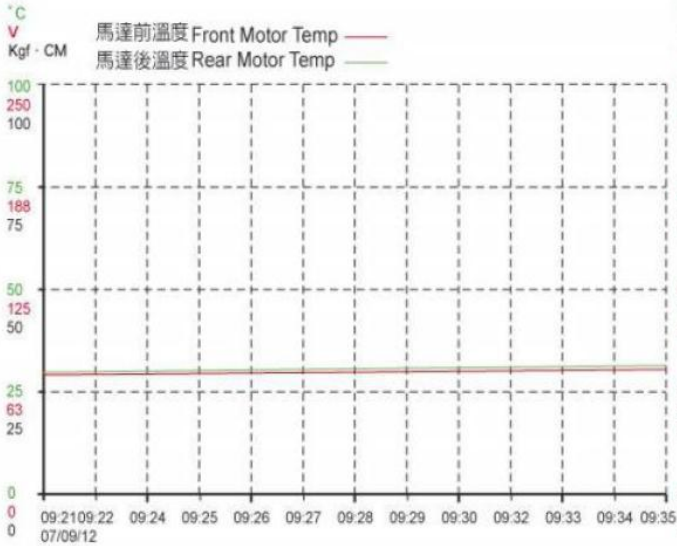
最高轉速Top Speed：8000RPM

軸承前溫度溫升Front Bearing Temp $\frac{28.4}{24.8} = 3.8$

軸承後溫度溫升Rear Bearing Temp $\frac{28.3}{24.6} = 3.7$

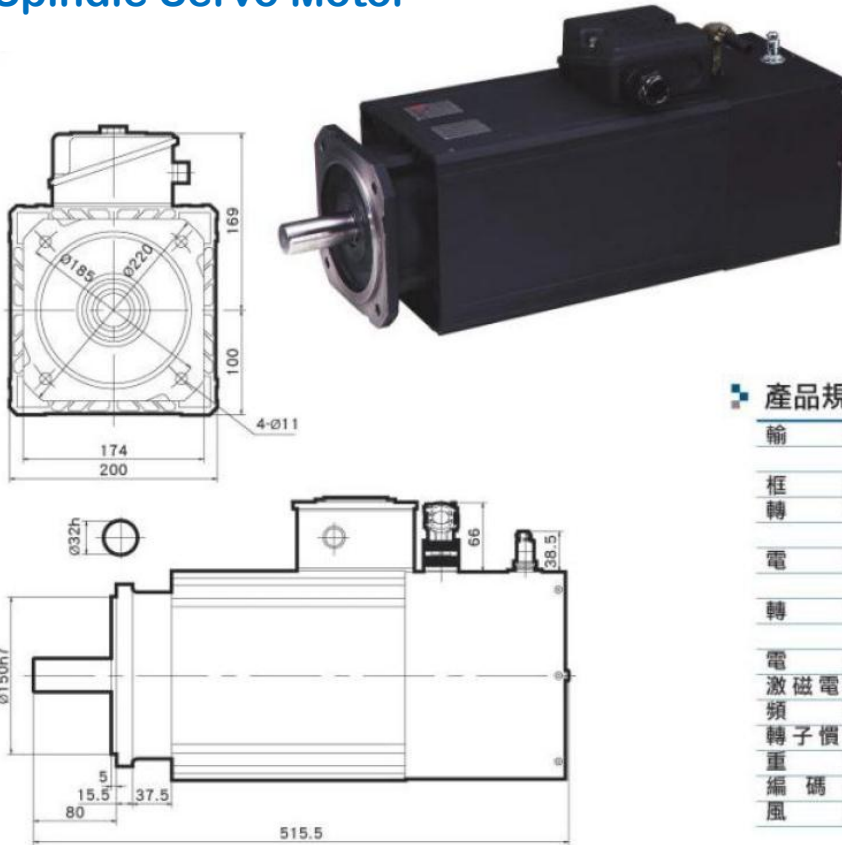
累計跑合時間Total time：0時13分46秒 13min 46sec

傳動比例Velocity Ratio：1



RESP3A

Spindle Servo Motor



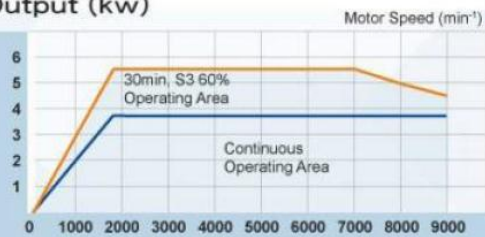
一般條件 General Data

安裝方式 Mounting	IM 3001 (B5)
保護等級 Protection	IP55
絕緣等級 Insulation	Class H
冷卻系統 Cooling system	Forced air cooled
熱保護 Thermal protection	Thermal protector (NC)
軸承潤滑 Bearing lubrication	Grease
噪音 Noise dB(A)	80
周溫 Ambient temperature	-15°C ~ 40°C
高度 Altitude	1000m ASL

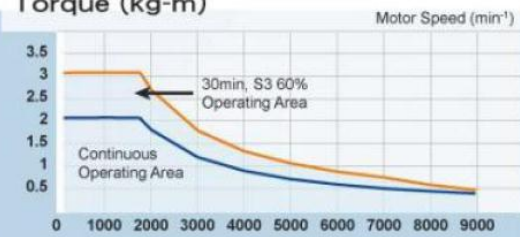
產品規格 Standard

輸出 Output	Continuous rated	kw	3.7
	30min rated, S3 60%	kw	5.5
框號 Frame No.	100L		
	轉數 RPM	Base speed	min ⁻¹ 1750
電流 Current	Maximum speed	min ⁻¹	9000
	3.7 kw Continus rated	A	20.7
轉矩 Torque	5.5 kw 30min rated	A	30.5
	3.7 kw Continus rated	Kg-m	2.06
電壓 Voltage	5.5 kw 30min rated	Kg-m	3.06
	V 170		
激磁電流 Magnetising Current	A 13.9		
頻率 Frequency	Hz 60		
轉子慣量 Rotor inertia (I)	Kg-m ² 0.0076		
重量 Weight	Kg 45		
編碼器 Encoder	ppr 1024		
風扇 Cooling fan	230v 50/60Hz W 45/45		

Output (kw)



Torque (kg-m)



主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP3		3.7KW S1 / 5.5KW 30min, S3 60% 負載特性 (Load Character)										
轉速 RPM		0	1000	1750	2000	3000	4000	5000	6000	7000	8000	9000
3.7kw S1	電壓 Voltage V	19.1	103.2	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	19.9	20.70	20.72	19.13	17.08	16.47	16.34	16.48	16.85	17.60	19.93
	額定轉矩 T Kg-m	2.06	2.07	2.06	1.80	1.20	0.90	0.72	0.60	0.51	0.45	0.40
	輸出功率 Output KW	0.00	2.12	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
5.5kw 30min, S3 60%	電壓 Voltage V	22.0	119.6	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	23.67	30.47	30.49	25.17	22.42	21.81	21.87	22.41	23.71	21.03	18.89
	額定轉矩 T Kg-m	3.06	3.07	3.06	2.68	1.79	1.34	1.07	0.89	0.77	0.60	0.49
	輸出功率 Output KW	0.00	3.15	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.94	4.48

※特性使用依各種工具機專用設計而有所不同
 ※Character can be designed by different purpose.

RESP6A / RESP8A

Spindle Servo Motor

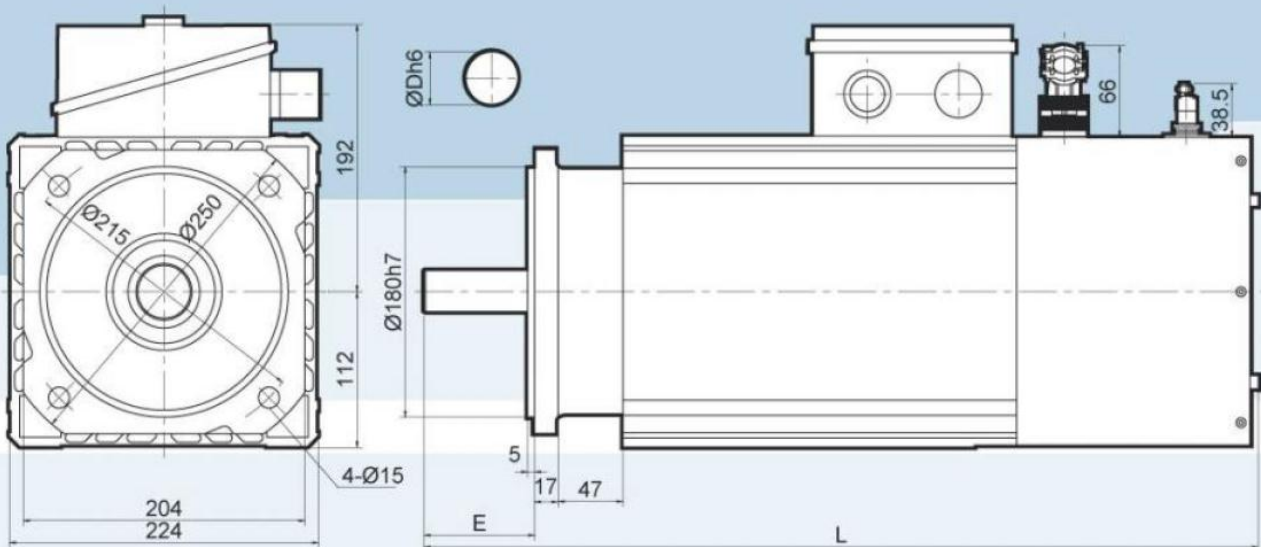


產品規格 Standard

			SP6	SP8
輸出 Output	Continuous rated	kw	5.5	7.5
	30min rated, S3 60%	kw	7.5	11
框號 Frame No.			112L	112X
	轉數 RPM	Base speed	min ⁻¹ 1750	1750
電流 Current	3.7 kw Continuous rated	A	28.9	39.8
	5.5 kw 30min rated	A	35.9	51.6
轉矩 Torque	3.7 kw Continuous rated	Kg-m	3.06	4.18
	5.5 kw 30min rated	Kg-m	4.18	6.13
電壓 Voltage		V	170	170
激磁電流 Magnetising Current		A	19.1	27.1
頻率 Frequency		Hz	60	60
轉子慣量 Rotor inertia (I)		Kg-m ²	0.0171	0.0282
重量 Weight		Kg	65	87
編碼器 Encoder		ppr	1024	1024
風扇 Cooling fan	230v 50/60Hz	W	45/45	45/45

一般條件 General Data

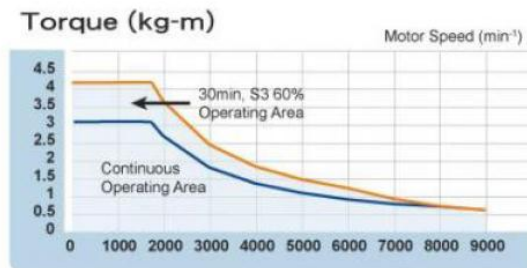
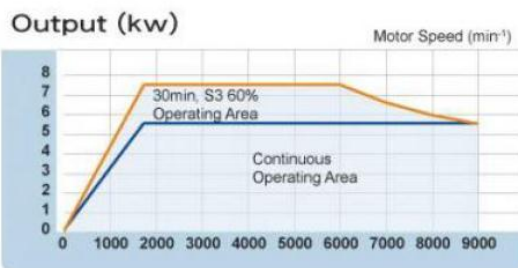
安裝方式 Mounting	IM 3001 (B5)
保護等級 Protection	IP55
絕緣等級 Insulation	Class H
冷卻系統 Cooling system	Forced air cooled
熱保護 Thermal protection	Thermal protector (NC)
軸承潤滑 Bearing lubrication	Grease
噪音 Noise dB(A)	80
周溫 Ambient temperature	-15°C ~ 40°C
高度 Altitude	1000m ASL



	D	E	L
SP6	38	80	604
SP8	48	110	744

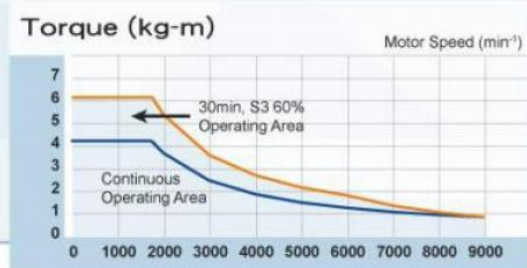
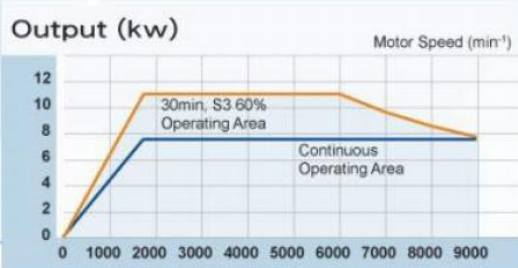
主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP6		5.5KW S1 / 7.5KW 30min, S3 60% 負載特性 (Load Character)										
轉速 RPM		0	1000	1750	2000	3000	4000	5000	6000	7000	8000	9000
5.5kw S1	電壓 Voltage V	13.0	119.1	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	24.83	28.92	28.95	26.73	24.04	23.24	23.01	23.02	23.49	23.95	24.85
	額定轉矩 T Kg-m	3.06	3.07	3.06	2.68	1.79	1.34	1.07	0.89	0.77	0.69	0.60
	輸出功率 Output KW	0.00	3.15	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
7.5kw 30min, S3 60%	電壓 Voltage V	17.9	120.9	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	34.32	35.86	35.90	34.33	32.48	32.31	32.92	34.35	29.81	26.34	23.57
	額定轉矩 T Kg-m	4.17	4.18	4.18	3.65	2.44	1.83	1.46	1.22	0.92	0.71	0.60
	輸出功率 Output KW	0.00	4.29	7.50	7.50	7.50	7.50	7.50	7.50	6.58	5.94	5.50



主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP8		7.5KW S1 / 11KW 30min, S3 60% 負載特性 (Load Character)										
轉速 RPM		0	1000	1750	2000	3000	4000	5000	6000	7000	8000	9000
7.5kw S1	電壓 Voltage V	9.7	115.1	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	32.15	39.77	39.81	37.12	32.92	31.52	31.01	30.92	31.10	31.51	32.17
	額定轉矩 T Kg-m	4.18	4.18	4.18	3.65	2.44	1.83	1.46	1.22	1.04	0.91	0.81
	輸出功率 Output KW	0.00	4.29	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
11kw 30min, S3 60%	電壓 Voltage V	14.7	117.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	48.84	51.60	51.64	49.70	46.95	46.59	47.26	48.87	42.32	37.33	33.38
	額定轉矩 T Kg-m	6.13	6.13	6.13	5.36	3.57	2.68	2.14	1.79	1.34	1.04	0.83
	輸出功率 Output KW	0.00	6.29	11.00	11.00	11.00	11.00	11.00	11.00	9.62	8.55	7.69



※特性使用依各種工具機專用設計而有所不同
 ※Character can be designed by different purpose.

RESP12A

Spindle Servo Motor

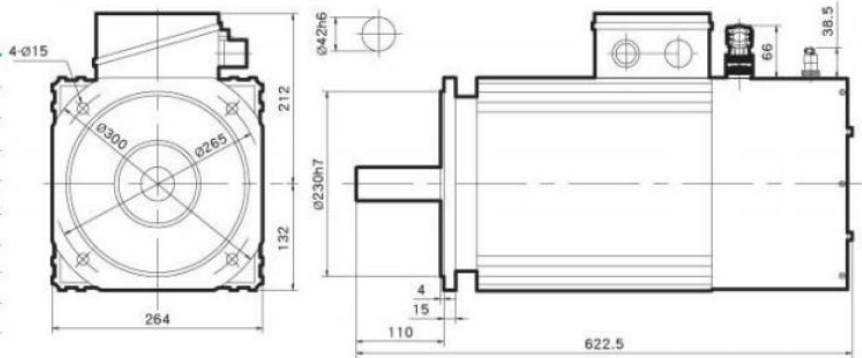
產品規格 Standard

輸出 Output	Continuous rated	kw	11
	30min rated, S3 60%	kw	15
框號 Frame No.			132M
轉數 RPM	Base speed	min ⁻¹	1750
	Maximum speed	min ⁻¹	9000
電流 Current	3.7 kw Continuous rated	A	50.2
	5.5 kw 30min rated	A	66.6
轉矩 Torque	3.7 kw Continuous rated	Kg-m	6.13
	5.5 kw 30min rated	Kg-m	8.35
電壓 Voltage		V	170
激磁電流 Magnetising Current		A	27.9
頻率 Frequency		Hz	60
轉子慣量 Rotor inertia (I)		Kg-m ²	0.0498
重量 Weight		Kg	87
編碼器 Encoder		ppr	1024
風扇 Cooling fan	230v 50/60Hz	W	45/45



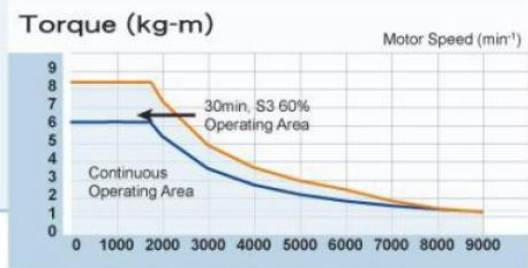
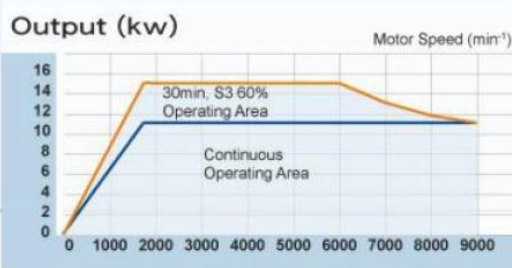
一般條件 General Data

安裝方式 Mounting	IM 3001 (B5)
保護等級 Protection	IP55
絕緣等級 Insulation	Class H
冷卻系統 Cooling system	Forced air cooled
熱保護 Thermal protection	Thermal protector (NC)
軸承潤滑 Bearing lubrication	Grease
噪音 Noise dB(A)	80
周圍溫度 Ambient temperature	-15° C ~ 40° C
高度 Altitude	1000m ASL



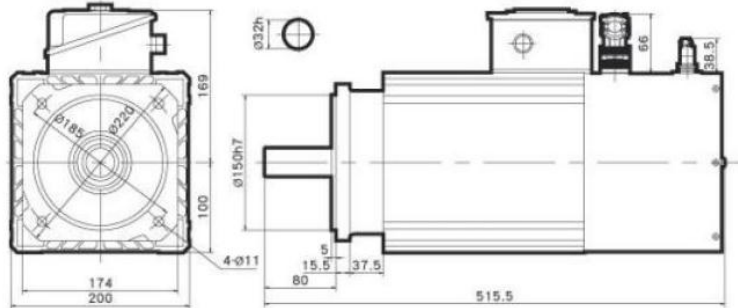
主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP12		11KW S1 / 15KW 30min, S3 60% 負載特性 (Load Character)										
轉速 RPM		0	1000	1750	2000	3000	4000	5000	6000	7000	8000	9000
11kw S1	電壓 Voltage V	9.3	114.8	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	48.09	50.11	50.19	45.85	43.56	43.14	43.30	43.81	44.67	45.99	48.11
	額定轉矩 T Kg-m	6.13	6.13	6.13	5.36	3.57	2.68	2.14	1.79	1.53	1.34	1.19
	輸出功率 Output KW	0.00	6.29	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
15kw 30min, S3 60%	電壓 Voltage V	0	11.9	118.8	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
	電流 Current A	63.86	66.51	66.60	61.87	60.05	60.34	61.59	63.91	55.23	48.63	43.43
	額定轉矩 T Kg-m	8.36	8.36	8.35	7.31	4.87	3.65	2.92	2.44	1.82	1.41	1.19
	輸出功率 Output KW	0.00	8.58	15.00	15.00	15.00	15.00	15.00	15.00	13.06	11.77	11.04



RESP3B

Spindle Servo Motor



產品規格 Standard

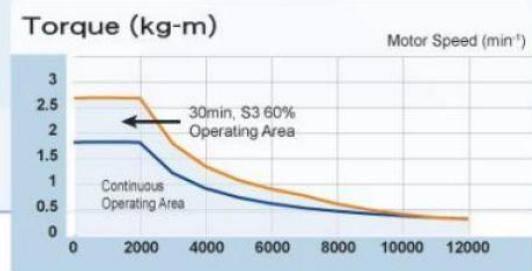
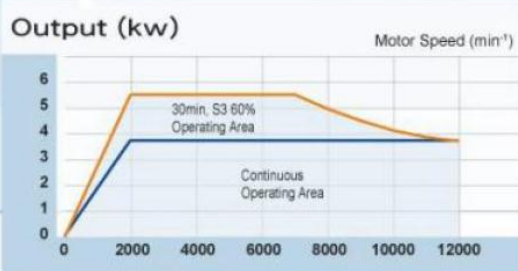
輸出 Output	Continuous rated	kw	3.7
	30min rated, S3 60%	kw	5.5
框號 Frame No.			100L
轉數 RPM	Base speed	min ⁻¹	2000
	Maximum speed	min ⁻¹	12000
電流 Current	3.7 kw Continuous rated	A	18.5
	5.5 kw 30min rated	A	23.8
轉矩 Torque	3.7 kw Continuous rated	Kg-m	1.80
	5.5 kw 30min rated	Kg-m	2.68
電壓 Voltage		V	200
激磁電流 Magnetising Current		A	13.4
頻率 Frequency		Hz	68.6
轉子慣量 Rotor inertia (I)		Kg-m ²	0.0076
重量 Weight		Kg	45
編碼器 Encoder		ppr	1024
風扇 Cooling fan	230v 50/60Hz	W	45/45

一般條件 General Data

安裝方式 Mounting	IM 3001 (B5)
保護等級 Protection	IP55
絕緣等級 Insulation	Class H
冷卻系統 Cooling system	Forced air cooled
熱保護 Thermal protection	Thermal protector (NC)
軸承潤滑 Bearing lubrication	Grease
噪音 Noise	dB(A) 80
周溫 Ambient temperature	-15° C ~ 40° C
高度 Altitude	1000m ASL

主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP3		3.7KWS1 / 5.5KW 30min, S3 60% 負載特性 (Load Character)												
轉速 RPM		0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
3.7kw S1	電壓 Voltage V	15.8	106.3	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	電流 Current A	15.50	18.48	18.50	15.06	14.10	13.69	13.54	13.52	13.61	13.80	14.10	14.58	15.51
	額定轉矩 T Kg-m	1.81	1.81	1.80	1.20	0.90	0.72	0.60	0.51	0.45	0.40	0.36	0.33	0.30
	輸出功率 Output KW	0.00	1.86	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
5.5kw 30min, S3 60%	電壓 Voltage V	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
	電流 Current A	23.4	109.6	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	額定轉矩 T Kg-m	23.21	23.82	23.83	21.53	21.07	21.21	21.81	23.25	20.63	18.54	16.83	15.41	14.21
	輸出功率 Output KW	2.68	2.69	2.68	1.79	1.34	1.07	0.89	0.77	0.60	0.49	0.40	0.34	0.30



RESP6B / 8B Spindle Servo Motor

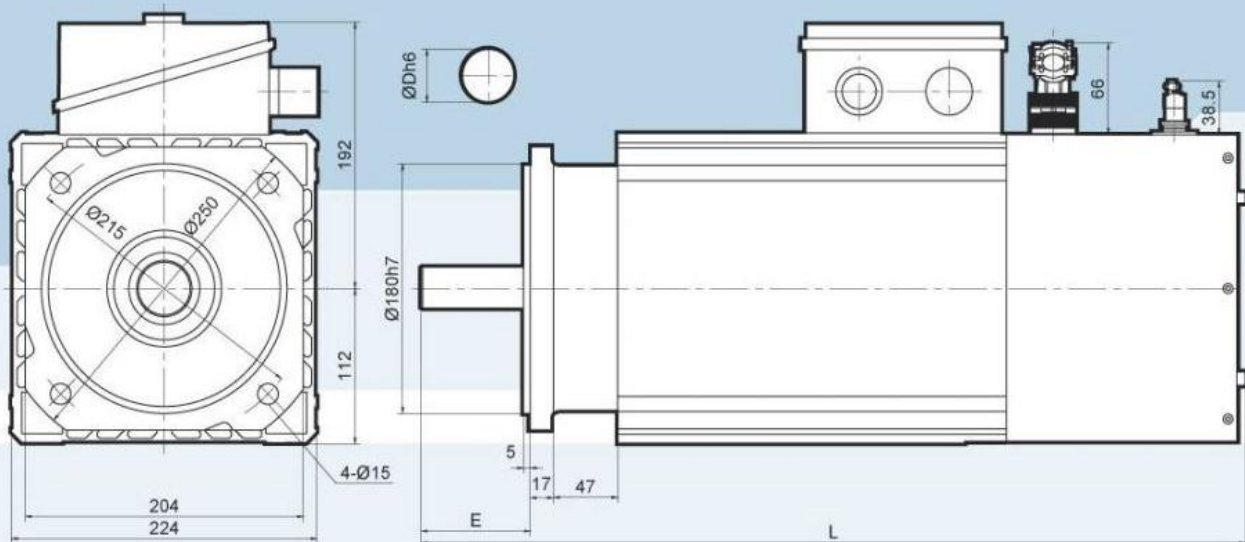


產品規格 Standard

				SP6	SP8
輸出 Output	Continuous rated	kw		5.5	7.5
	30min rated, S3 60%	kw		7.5	11
框號 Frame No.				112L	112X
	轉數 RPM	Base speed	min ⁻¹	2000	2000
電流 Current	3.7 kw Continuous rated	A		23.8	38.5
	5.5 kw 30min rated	A		29.4	47.1
轉矩 Torque	3.7 kw Continuous rated	Kg-m		2.68	3.65
	5.5 kw 30min rated	Kg-m		3.65	5.36
電壓 Voltage		V		200	200
激磁電流 Magnetising Current		A		15.4	29.5
頻率 Frequency		Hz		67.9	67.7
轉子慣量 Rotor inertia (I)		Kg-m ²		0.0171	0.0282
重量 Weight		Kg		65	87
編碼器 Encoder		ppr		1024	1024
風扇 Cooling fan	230v 50/60Hz	W		45/45	45/45

一般條件 General Data

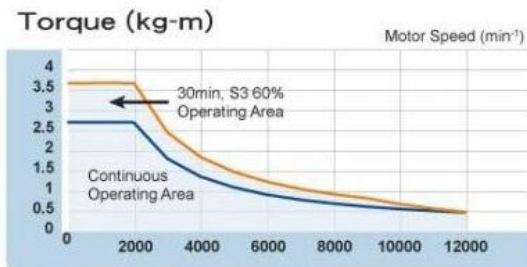
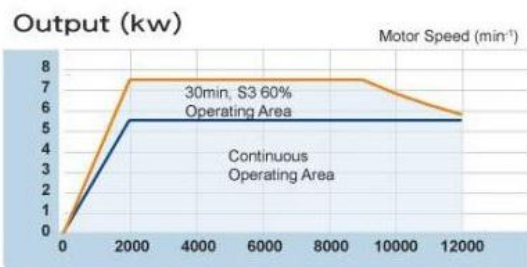
安裝方式 Mounting	IM 3001 (B5)
保護等級 Protection	IP55
絕緣等級 Insulation	Class H
冷卻系統 Cooling system	Forced air cooled
熱保護 Thermal protection	Thermal protector (NC)
軸承潤滑 Bearing lubrication	Grease
噪音 Noise dB(A)	80
周溫 Ambient temperature	-15°C ~ 40°C
高度 Altitude	1000m ASL



	D	E	L
SP6	38	80	604
SP8	48	110	744

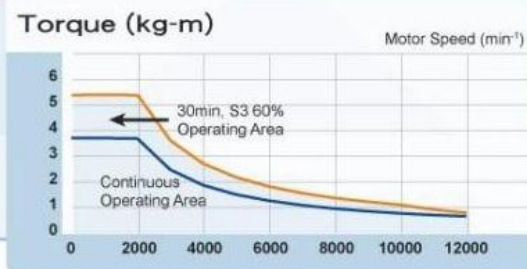
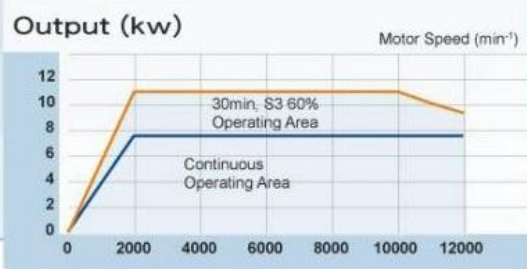
主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP6		5.5KW S1 / 7.5KW 30min, S3 60% 負載特性 (Load Character)												
轉速 RPM		0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
5.5kw S1	電壓 Voltage V	8.9	103.8	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	電流 Current A	20.08	23.70	23.75	19.59	18.87	18.60	18.53	18.57	18.69	18.89	19.17	19.55	20.09
	額定轉矩 T Kg-m	2.68	2.68	2.68	1.79	1.34	1.07	0.89	0.77	0.67	0.60	0.54	0.49	0.45
	輸出功率 Output KW	0.00	2.75	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
7.5kw 30min, S3 60%	電壓 Voltage V	12.8	105.3	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	電流 Current A	28.79	29.32	29.37	26.28	25.83	25.85	26.12	26.62	27.44	28.82	26.10	23.84	21.94
	額定轉矩 T Kg-m	3.65	3.66	3.65	2.44	1.83	1.46	1.22	1.04	0.91	0.81	0.67	0.56	0.47
	輸出功率 Output KW	0.00	3.76	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	6.83	6.27



主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP8		7.5KW S1 / 11KW 30min, S3 60% 負載特性 (Load Character)												
轉速 RPM		0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
7.5kw S1	電壓 Voltage V	6.9	103.2	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	電流 Current A	26.53	38.40	38.45	30.49	28.03	26.89	26.31	26.03	25.92	25.94	26.06	26.25	26.54
	額定轉矩 T Kg-m	3.66	3.66	3.65	2.44	1.83	1.46	1.22	1.04	0.91	0.81	0.73	0.66	0.61
	輸出功率 Output KW	0.00	3.76	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
11kw 30min, S3 60%	電壓 Voltage V	11.3	104.7	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	電流 Current A	42.58	47.01	47.08	41.03	39.35	38.80	38.78	39.11	39.77	40.83	42.61	38.91	35.81
	額定轉矩 T Kg-m	5.36	5.36	5.36	3.57	2.68	2.14	1.79	1.53	1.34	1.19	1.07	0.89	0.76
	輸出功率 Output KW	0.00	5.50	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.09	9.33



※特性使用依各種工具機專用設計而有所不同
 ※Character can be designed by different purpose.

RESP12B Spindle Servo Motor

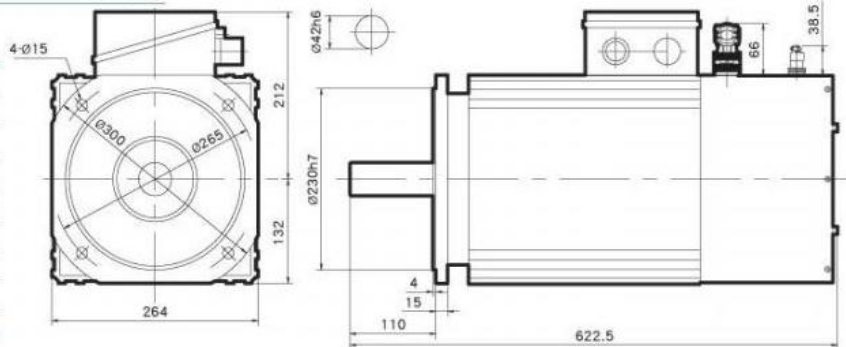
產品規格 Standard

輸出 Output	Continuous rated	kw	11
	30min rated, S3 60%	kw	15
框號 Frame No.			132M
轉數 RPM	Base speed	min ⁻¹	2000
	Maximum speed	min ⁻¹	12000
電流 Current	3.7 kw Continuous rated	A	44.3
	5.5 kw 30min rated	A	56.0
轉矩 Torque	3.7 kw Continuous rated	Kg-m	5.36
	5.5 kw 30min rated	Kg-m	7.31
電壓 Voltage		V	200
激磁電流 Magnetising Current		A	26.3
頻率 Frequency		Hz	67.6
轉子慣量 Rotor inertia (I)		Kg-m ²	0.0498
重量 Weight		Kg	87
編碼器 Encoder		ppr	1024
風扇 Cooling fan	230v 50/60Hz	W	45/45



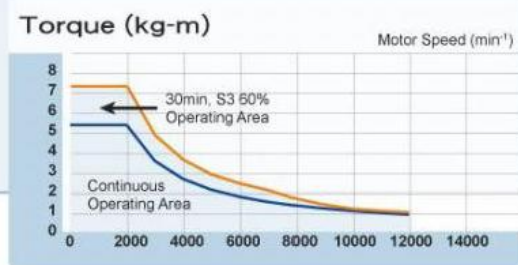
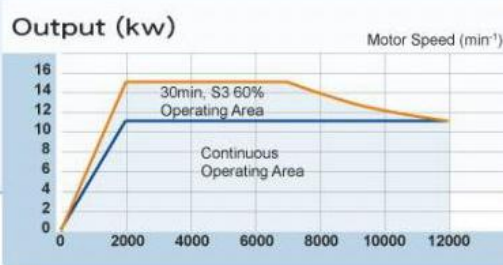
一般條件 General Data

安裝方式 Mounting	IM 3001 (B5)
保護等級 Protection	IP55
絕緣等級 Insulation	Class H
冷卻系統 Cooling system	Forced air cooled
熱保護 Thermal protection	Thermal protector (NC)
軸承潤滑 Bearing lubrication	Grease
噪音 Noise dB(A)	80
周溫 Ambient temperature	-15°C ~ 40°C
高度 Altitude	1000m ASL



主軸伺服馬達技術資料 Spindle Servo Motor Technical Datasheet

SP12		11KW S1 / 15KW 30min, S3 60% 負載特性 (Load Character)												
轉速 RPM		0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
11kw S1	電壓 Voltage V	8.7	103.4	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	電流 Current A	42.97	44.27	44.34	38.82	37.57	37.16	37.13	37.35	37.77	38.41	39.31	40.66	42.98
	額定轉矩 T Kg-m	5.36	5.36	5.36	3.57	2.68	2.14	1.79	1.53	1.34	1.19	1.07	0.97	0.89
	輸出功率 Output KW	0.00	5.51	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
15kw 30min, S3 60%	電壓 Voltage V	10.7	104.8	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	電流 Current A	54.24	55.92	56.00	52.03	51.47	51.78	52.69	54.28	47.81	42.71	38.60	35.20	32.35
	額定轉矩 T Kg-m	7.31	7.31	7.31	4.87	3.65	2.92	2.44	2.09	1.71	1.41	1.19	1.03	0.89
	輸出功率 Output KW	0.00	7.50	15.00	15.00	15.00	15.00	15.00	15.00	15.00	13.60	12.43	11.71	11.20



Torque-Speed HP-Speed curve

轉矩-速度，馬力-速度曲線

$$P_{out} = T \times N$$

P_{out} = 輸出功率 Output Power
 T = 輸出轉矩 Output Torque
 N = 同步轉速 Synchronous Speed
 P = 馬達極數 Poles
 f = 頻率 Frequency

$$N = \frac{120 \times f}{P}$$

※臥式為選購機種

編碼器接頭 Encoder Connector

腳Pin	功能Func.
A	A
B	B
C	Z
D	A
E	B
F	Z
G	遮蔽 Shield
H	電源 Power
I	COM Common
J	---

安裝及位置 MOUNTINGS AND POSITIONS

B3 IM 1001	B5 IM 3001	B3/B5 IM 2001
V6 IM 1031	V3 IM 3031	V3/V6 IM 2031
V5 IM 1011	V1 IM 3011	V1/V5 IM 2011

風扇接頭 Fan Connector

腳Pin 功能Func.
 A (1)
 B (2)
 B (2)
 1ø
 50/60Hz
 220v
 (F# 80,90)

風扇端子台 Fan Terminal Board

棕 BRN, 黑 BLK, 藍 BLU, 綠及黃 GRN & YEL, GND
 CAP.
 電源 Power Supply 220~240 50/60Hz
 (F#100,112,&132, 160&180)

主電源端子台 Terminal Board for Main Power

星接 Y CONNECTION, 角接 Δ CONNECTION
 電源 LINE

熱保護器 Thermal Protector

紅 RED, 紅 RED
 (Inside T-Box)

附件：

下列之附件可依要求裝於伺服馬達上：

熱敏電阻

特殊軸(如尺寸、不需鍵...等)

IP55保護(依安裝之封環，要對速度作限制)

對直接耦合狀況，可對凸緣作特殊精密加工

接線箱及連接頭置於不同位置(依馬達機械結構)

Optionals

On request, the following accessories can be mounted on the servomotors.

- Thermistors
- Special shaft (dimensions, without key, etc.)
- IP55 protection (with maximum speed limit for packing ring)
- Flange with extra precision machining for direct coupling
- Different position of the terminal box and connectors (according to the motor mechanical structure)