

Model: **SA-160**  
FUKUTA SERVO MOTOR

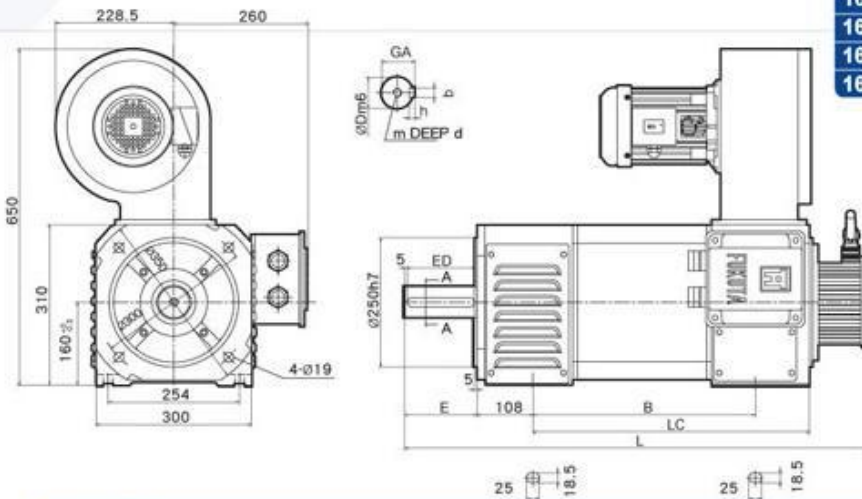


產品規格 Standard

輸出 Output (kw)	30	37	45	55
框號 Frame No	160S	160M	160L	160X
效率 Efficiency(%)	90.2%	91.5%	92.1%	91.5%
功因 Power Factor	0.947	0.950	0.951	0.954
R1 (Ω) @ 25 °C	0.045	0.034	0.027	0.020
極數 Poles	4	4	4	4
轉動慣量 Rotor Inertial (kgm <sup>2</sup> )	0.1675	0.2054	0.2427	0.3023
激磁電流 Magnetizing Current (A)	51.4	61.1	75.2	94.5
最高轉速 Max. Speed (rpm)	4500	4500	4500	4500
重量 Weight (kg)	240	270	300	350
編碼器 Encoder	1024PPR 5Vdc 2CH+Z			
風扇 Elec Fan	3φ 220/380V 50/60Hz 3.5/2.1A			
軸承 Bearings	LS:6313C3		OS:6312C3	

一般條件 General Data

安裝方式 Mounting	IM 2001(B3 B5)
保護方式 Protection	IP23
轉子平衡 Rotor Balancing	R級 (ISO2373) R Degree
絕緣系統 Insulation	H級 Class H
冷卻系統 Cooling Sys.	強制通風 Forced Air Cooled
熱保護 Thermal Protection	熱保護器 Thermal Protector (NC)
噪音 Noise	80dBA
周溫 Ambient Temp.	-15°C~40°C
高度 Altitude	海拔1000米 1000m ASL

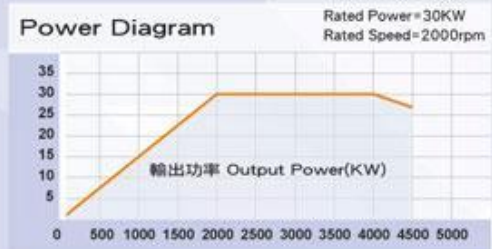


	B	D	E	ED	bxh	mxh	GA	L	LC
160S	380	55	110	100	16x11	M12x25	59	814.5	485
160M	430	60	140	130	18x11	M16x30	64	894.5	535
160L	480	60	140	130	18x11	M16x30	64	944.5	585
160X	560	60	140	130	18x11	M16x30	64	1024.5	665

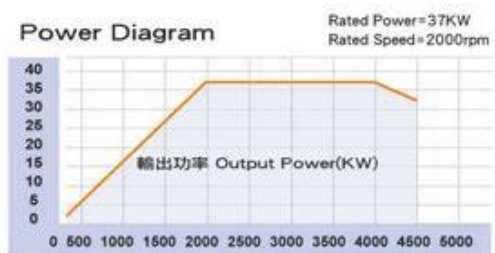
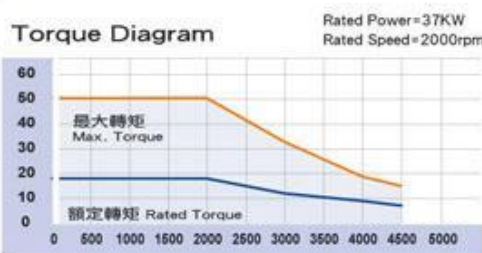
框號 Fr. No.	額定轉速	最大轉矩	額定轉矩	額定輸出	額定電流				額定頻率
	Rated Speed RPM	Max. Torque kg-m	Rated Torque kg-m	Rated Output kw	190V	220V	330V	380V	Rated Frequency Hz
160S	1500	40.08	14.31	22	87.4	74.2	50.5	42.8	50.9
	2000	41.03	14.63	30	114.3	102.7	65.9	59.3	67.5
	3000	38.3	13.0	40	152.8	132.0	55.2	76.2	100
	4000	35.6	12.2	50	191.0	165.0	110.3	95.2	133.3
160M	1500	50.91	18.18	28	108.8	92.4	62.8	53.3	51.0
	2000	50.47	18.07	37	139.5	122.0	80.6	70.4	67.5
	3000	47.7	16.9	52	194.3	167.8	112.2	96.9	100
	4000	43.3	15.3	63	235.4	203.3	135.9	117.4	133.3
160L	1500	61.92	22.12	34	131.9	114.1	76.1	65.9	50.9
	2000	61.41	21.93	45	170.2	151.1	98.3	87.2	67.5
	3000	55.0	19.5	60	224.2	193.7	129.5	111.8	100
	4000	51.6	18.3	75	280.3	242.1	161.8	139.8	133.3
160X	1500	72.89	26.03	40	152.9	134.7	88.2	77.8	50.9
	2000	75.27	26.88	55	209.5	179.9	121	103.9	67.5
	3000	98.8	24.3	75	218.3	242.9	162.4	140.2	100
	4000	61.9	21.9	90	337.5	291.5	194.9	168.3	133.3

### FUKUTA 伺服馬達技術資料 Servo Motor Technical Datasheet

SF/SA-160S		30KW 190V-2000RPM 負載特性 (30KW Load Character)					
△	轉速 Speed (rpm)	5	1000	2000	3000	4000	4500
	電壓 Voltage (V)	6.0	98.1	190.3	190.3	190.3	190.3
	電流 Current (A)	103.29	114.09	114.06	103.57	103.39	92.23
Y	電壓 Voltage (V)	10.5	169.8	329.6	329.7	329.7	329.6
	電流 Current (A)	59.63	65.73	65.86	59.79	59.69	53.24
輸入功率 Input Power (KW)		1.07	16.43	31.66	31.42	31.40	27.98
最大轉矩 Max. Torque Tm (Kg-m)		41.03	41.03	40.91	27.10	15.67	12.53
額定轉矩 Rated Torque Tr (Kg-m)		14.65	14.65	14.61	9.74	7.31	5.81
輸出功率 Output Power (KW)		0.00	15.04	29.99	30.00	30.00	26.84

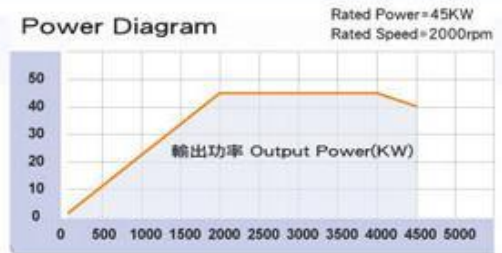


SF/SA-160M		37KW 190V-2000RPM 負載特性 (37KW Load Character)					
△	轉速 Speed (rpm)	5	1000	2000	3000	4000	4500
	電壓 Voltage (V)	5.8	97.9	190.3	190.3	190.3	190.3
	電流 Current (A)	128.1	139.27	139.52	128.41	128.22	114.39
Y	電壓 Voltage (V)	10.1	169.6	329.6	329.7	329.7	329.7
	電流 Current (A)	73.96	80.48	80.55	74.14	74.03	66.04
輸入功率 Input Power (KW)		1.27	20.12	38.94	38.70	38.67	34.47
最大轉矩 Max. Torque Tm (Kg-m)		50.47	50.46	50.46	32.73	18.87	15.08
額定轉矩 Rated Torque Tr (Kg-m)		18.03	18.02	18.02	12.02	9.01	7.17
輸出功率 Output Power (KW)		0.00	18.50	36.99	37.00	37.00	33.10

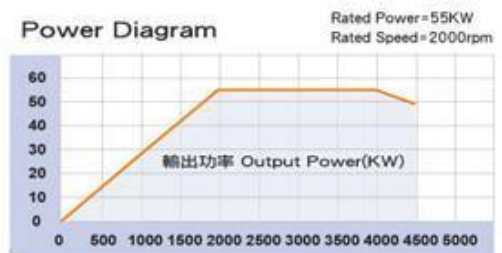


FUKUTA 伺服馬達技術資料 Servo Motor Technical Datasheet

SF/SA-160L		45KW 190V-2000RPM 負載特性 (45KW Load Character)					
轉速 Speed (rpm)		5	1000	2000	3000	4000	4500
	△ 電壓 Voltage (V)	5.7	97.9	190.3	190.3	190.3	190.3
電流 Current (A)	△	156.03	169.94	170.18	156.39	156.13	139.26
	Y 電壓 Voltage (V)	9.8	169.5	329.6	329.7	329.7	329.7
電流 Current (A)	Y	90.08	98.12	98.26	90.28	90.15	80.41
	輸入功率 Input Power (KW)	1.51	24.44	47.32	47.02	46.99	41.86
最大轉矩 Max. Torque Tm (Kg-m)		61.41	61.41	61.38	39.52	22.76	18.17
額定轉矩 Rated Torque Tr (Kg-m)		21.93	21.93	21.92	14.62	10.96	8.71
輸出功率 Output Power (KW)		0.00	22.51	45.00	45.00	44.99	40.23



SF/SA-160X		55KW 190V-2000RPM 負載特性 (55KW Load Character)					
轉速 Speed (rpm)		5	1000	2000	3000	4000	4500
	△ 電壓 Voltage (V)	5.3	97.7	190.3	190.3	190.3	190.3
電流 Current (A)	△	191.17	209.11	208.92	191.95	191.28	170.58
	Y 電壓 Voltage (V)	9.1	169.2	329.6	329.7	329.7	329.7
電流 Current (A)	Y	110.36	120.77	120.63	110.83	110.42	98.48
	輸入功率 Input Power (KW)	1.71	29.81	57.67	57.33	57.29	51.03
最大轉矩 Max. Torque Tm (Kg-m)		75.27	75.26	75.01	49.16	28.24	22.53
額定轉矩 Rated Torque Tr (Kg-m)		26.88	26.88	26.79	17.86	13.40	10.64
輸出功率 Output Power (KW)		0.00	27.58	54.99	54.99	55.00	49.15



Model: **SA-180**  
FUKUTA SERVO MOTOR

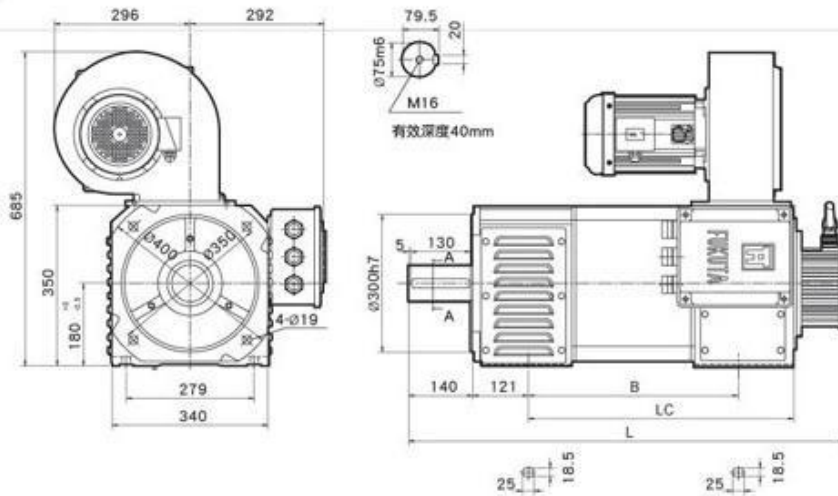


產品規格 Standard

輸出 Output (kw)	75	100	120	150	175
框號 Frame No	180P	180S	180M	180L	180X
效率 Efficiency(%)	92.8%	92.7%	92.6%	93.0%	93.0%
功因 Power Factor	0.826	0.826	0.806	0.81	0.81
R1 (Ω) @ 25 °C	0.084	0.065	0.052	0.036	0.036
極數 Poles	6	6	6	6	6
轉動慣量 Rotor Inertial (kgm <sup>2</sup> )	0.5463	0.6466	0.7369	0.9075	1.0479
激磁電流 Magnetizing Current (A)	45.8	61.8	80.8	98.2	98.2
最高轉速 Max. Speed (rpm)	4500	4500	4500	4500	4500
重量 Weight (kg)	345	390	430	505	560
編碼器 Encoder	1024PPR 5Vdc 2CH+Z				
風扇 Elec.Fan	3ø 220/380V 50/60Hz 5.6/3.2A				
軸承 Bearings	LS:6316C3		OS:6314C3		

一般條件 General Data

安裝方式 Mounting	IM 2001(B3 B5)
保護方式 Protection	IP23
轉子平衡 Rotor Balancing	R級 (ISO2373) R Degree
絕緣系統 Insulation	H級 Class H
冷卻系統 Cooling Sys	強制通風 Forced Air Cooled
熱保護 Thermal Protection	熱保護器 Thermal Protector (NC)
噪音 Noise	80dBA
周溫 Ambient Temp.	-15 °C -40 °C
高度 Altitude	海拔1000米 1000m ASL

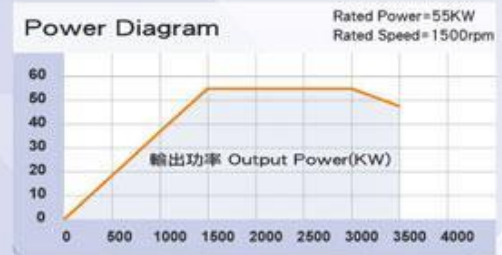


	B	L	LC
180P	458	951.5	579
180S	508	1001.5	629
180M	553	1046.5	674
180L	638	1131.5	759
180X	708	1201.5	829

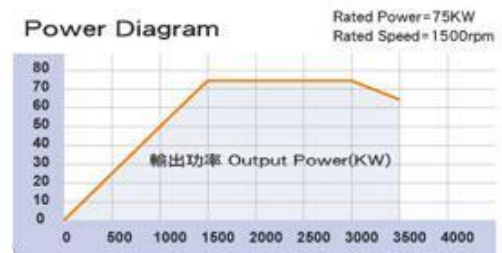
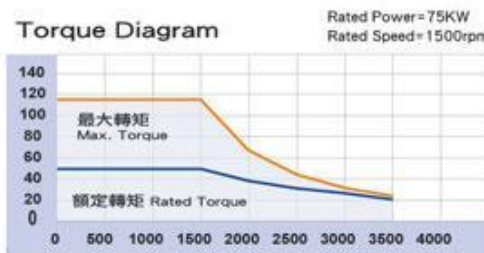
框號 Fr. No.	額定轉速	最大轉矩	額定轉矩	額定輸出	額定電流		額定頻率
	Rated Speed RPM	Max. Torque kg.m	Rated Torque kg.m	Rated Output kw	Rated Current 330V 380V		Rated Frequency Hz
180P	1000	90.25	36.1	37	87	75.4	51.1
	1500	87.41	35.8	55	127.6	109.1	76.0
	2000	83.75	33.5	69	148	128	100
	3000	73.25	29.3	90	194	168	150
180S	1000	121.75	48.7	50	116.6	101.4	51.2
	1500	114.85	48.76	75	174.7	149.0	76.1
	2000	114.25	45.9	94	203	189.8	100
	3000	100.25	40.1	124	268	232	150
180M	1000	145.08	58.5	60	146.7	129.2	51
	1500	134.86	58.52	90	206.3	183.3	76.1
	2000	136.15	55.1	113	241	209	100
	3000	119.54	48.2	149	317	275	150
180L	1000	177.32	71.5	73	164	142	50
	1500	174.88	71.47	110	253.8	221.8	76.0
	2000	166.41	67.1	138	295	256	100
	3000	146.07	58.9	181	389	337	150
180X	1000	212.54	85.7	90	200	175	50
	1500	212.8	85.8	132	299	252	76.3
	2000	199.4	80.4	165	349	302	100
	3000	175.1	70.6	217	460	400	150

### ☛ FUKUTA 伺服馬達技術資料 Servo Motor Technical Datasheet

SF/SA-180P	55KW 380V-1500RPM 負載特性 (55KW Load Character)						
轉速 Speed (rpm)	5	1000	1500	2000	2500	3000	3500
電壓 Voltage (V)	12.3	257.0	380.0	380.0	380.0	380.0	380.0
電流 Current (A)	105.32	108.79	108.94	104.25	104.22	106.09	91.43
輸入功率 Input Power (KW)	2.18	40.14	59.24	59.06	59.04	59.11	50.89
最大轉矩 Max. Torque Tm (Kg-m)	87.41	87.41	87.41	50.38	32.69	22.89	17.00
額定轉矩 Rated Torque Tr (Kg-m)	35.80	35.79	35.71	26.79	21.43	17.86	13.24
輸出功率 Output Power (KW)	0.01	36.73	54.98	54.99	54.99	55.00	47.55



SF/SA-180S	75KW 380V-1500RPM 負載特性 (75KW Load Character)						
轉速 Speed (rpm)	5	1000	1500	2000	2500	3000	3500
電壓 Voltage (V)	13.0	257.2	380.0	380.0	380.0	380.0	380.0
電流 Current (A)	144.14	148.50	148.86	141.44	141.96	145.11	125.09
輸入功率 Input Power (KW)	3.13	54.80	80.92	80.60	80.61	80.71	69.50
最大轉矩 Max. Torque Tm (Kg-m)	114.85	114.85	114.85	66.21	42.97	30.08	22.36
額定轉矩 Rated Torque Tr (Kg-m)	48.76	48.76	48.72	36.53	29.23	24.36	18.06
輸出功率 Output Power (KW)	0.01	50.04	75.00	74.98	74.99	74.99	64.87

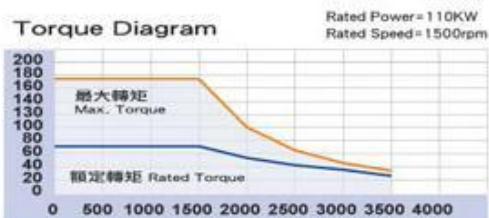


FUKUTA 伺服馬達技術資料 Servo Motor Technical Datasheet

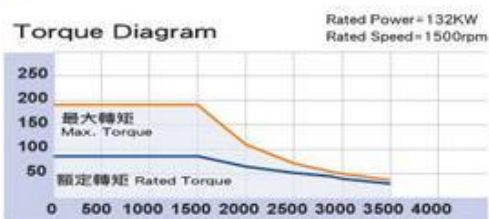
SF/SA-180M	90KW 380V-1500RPM 負載特性 (90KW Load Character)						
轉速 Speed (rpm)	5	1000	1500	2000	2500	3000	3500
電壓 Voltage (V)	13.0	257.2	380.0	380.0	380.0	380.0	380.0
電流 Current (A)	176.08	182.80	183.15	172.43	172.98	177.22	152.75
輸入功率 Input Power (KW)	3.83	65.84	97.12	96.76	96.75	96.89	83.41
最大轉矩 Max. Torque Tm (Kg-m)	134.86	134.86	134.86	77.63	50.33	35.21	26.16
額定轉矩 Rated Torque Tr (Kg-m)	58.52	58.52	58.44	43.85	35.08	29.23	21.67
輸出功率 Output Power (KW)	0.01	60.05	89.96	90.00	90.00	89.99	77.83



SF/SA-180L	110KW 380V-1500RPM 負載特性 (110KW Load Character)						
轉速 Speed (rpm)	5	1000	1500	2000	2500	3000	3500
電壓 Voltage (V)	11.3	256.8	380.0	380.0	380.0	380.0	380.0
電流 Current (A)	209.37	221.11	221.73	206.69	206.92	210.85	181.69
輸入功率 Input Power (KW)	3.94	79.83	118.19	117.68	117.64	117.75	101.37
最大轉矩 Max. Torque Tm (Kg-m)	174.88	174.88	174.88	100.44	65.04	45.47	33.75
額定轉矩 Rated Torque Tr (Kg-m)	71.47	71.47	71.44	53.58	42.87	35.72	26.46
輸出功率 Output Power (KW)	0.00	73.35	109.97	109.98	109.98	109.98	95.03



SF/SA-180X	132KW 380V-1500RPM 負載特性 (132KW Load Character)							
轉速 Speed (rpm)	5	1000	1500	2000	2500	2884	3000	3500
電壓 Voltage (V)	12.9	257.1	380.0	380.0	380.0	380.0	380.0	380.0
電流 Current (A)	253.75	254.58	255.27	247.14	249.78	255.37	232.69	200.50
輸入功率 Input Power (KW)	5.45	96.05	141.97	141.65	141.71	141.91	130.35	112.22
最大轉矩 Max. Torque Tm (Kg-m)	191.29	191.29	191.29	109.93	71.18	53.75	49.95	37.08
額定轉矩 Rated Torque Tr (Kg-m)	85.75	85.76	85.72	64.31	51.44	44.60	39.50	29.26
輸出功率 Output Power (KW)	0.02	88.01	131.96	131.99	131.99	131.99	121.62	105.11



# FUKUTA

## 感應伺服馬達

### Model: SA-225

FUKUTA SERVO MOTOR

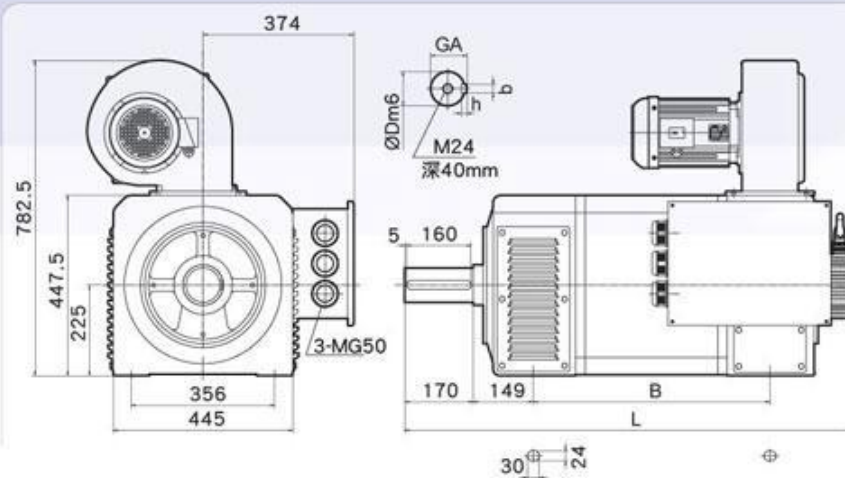


#### 產品規格 Standard

輸出 Output (kw)	150	185	220	300
框號 Frame No.	225S	225M	225L	225X
效率 Efficiency(%)	94.1%	94.3%	94.7%	94.3%
功因 Power Factor	0.876	0.873	0.850	0.878
R1 (Ω) @ 25 °C	0.0326	0.0245	0.0168	0.0148
極數 Poles	6	6	6	6
轉動慣量 Rotor Inertial (kgm <sup>2</sup> )	1.7946	2.1492	2.6569	3.1608
激磁電流 Magnetizing Current (A)	92.5	116.5	165.8	174.5
最高轉速 Max. Speed (rpm)	3000	3000	3000	3000
重量 Weight (kg)	710	800	925	1050
編碼 Encoder	1024PPR 5Vdc 2CH+Z			
風扇 Elec Fan	3φ 220/380V 50/60Hz 8/4.6A			
軸承 Bearings	LS:6320C3		OS:6316C3	

#### 一般條件 General Data

安裝方式 Mounting	IM 1001(B3)
保護方式 Protection	IP23
轉子平衡 Rotor Balancing	R級 (ISO2373) R Degree
絕緣系統 Insulation	H級 Class H
冷卻系統 Cooling Sys.	強制通風 Forced Air Cooled
熱保護 Thermal Protection	熱保護器 (常閉) Thermal Protector (NC)
噪音 Noise	80dBA
周溫 Ambient Temp.	-15°C -40°C
高度 Altitude	海拔1000米 1000m ASL

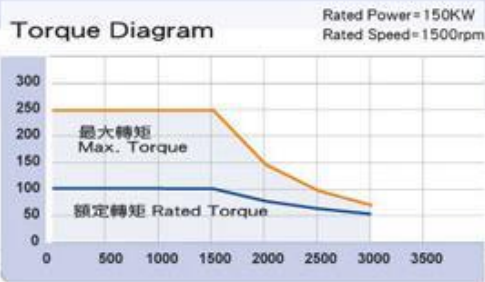


	B	D	bxh	GA	L
225S	587	85	22x14	90	1112
225M	657	85	22x14	90	1182
225L	757	95	25x14	100	1282
225X	857	95	25x14	100	1382

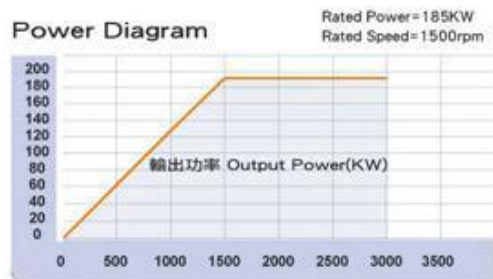
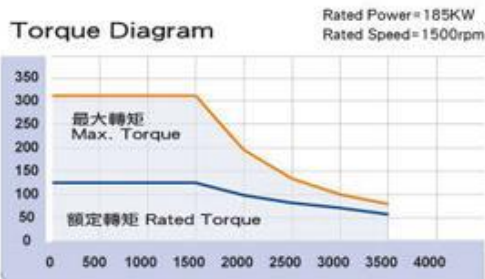
框號 Fr. No.	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定輸出 Rated Output	額定電流 Rated Current	額定頻率 Rated Frequency
	RPM	kg-m	kg-m	kw	A/380V	Hz
225S	500	243.5	97.4	50	97.2	25
	1000	243.5	97.4	100	185.3	50
	1500	248.93	97.44	150	276.0	75.8
	2000	225.3	90.1	185	340.3	100
225M	500	324.8	120.0	67	128.8	25
	1000	324.8	120.0	133	246.9	50
	1500	309.37	120.19	185	341.0	75.8
	2000	304.5	112.0	230	433.0	100
225L	500	406.3	142.0	84	160.6	25
	1000	406.3	142.0	167	313.3	50
	1500	413.94	142.88	220	415.0	75.7
	2000	365.5	127.0	260	496.0	100
225X	500	487.3	194.9	100	191.2	25
	1000	487.3	194.9	200	366.9	50
	1500	487.3	194.9	300	543.7	75
	2000	456.8	182.7	375	672.3	100

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SA-225S	150KW 380V-1500RPM 負載特性 (150KW Load Character)						
轉速 Speed (rpm)	5	500	1000	1500	2000	2500	3000
電壓 Voltage (V)	11.5	133.7	256.8	380.0	380.0	380.0	380.0
電流 Current (A)	275.07	275.95	276.04	276.15	268.07	269.83	275.13
輸入功率 Input Power (KW)	5.37	56.50	107.85	159.26	158.91	158.97	159.15
最大轉矩 Max. Torque Tm (Kg-m)	248.93	248.93	248.93	248.93	143.73	93.39	65.46
額定轉矩 Rated Torque Tr (Kg-m)	97.44	97.44	97.44	97.39	73.06	58.46	48.72
輸出功率 Output Power (KW)	0.0	50.0	100.0	149.9	150.0	150.0	150.0

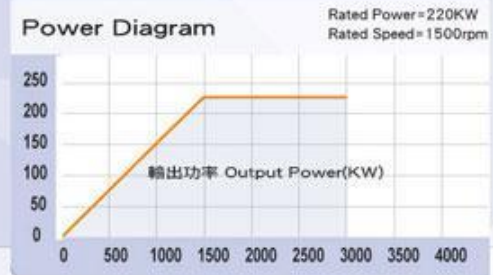
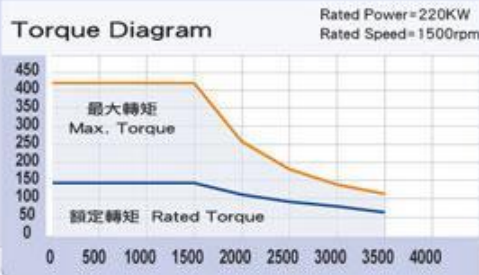


SA-225M	185KW 380V-1500RPM 負載特性 (185KW Load Character)						
轉速 Speed (rpm)	5	500	1000	1500	2000	2500	3000
電壓 Voltage (V)	10.8	133.3	256.6	380.0	380.0	380.0	380.0
電流 Current (A)	338.61	341.02	341.13	341.27	330.11	332.24	338.61
輸入功率 Input Power (KW)	6.22	69.33	132.66	196.06	195.60	195.67	195.86
最大轉矩 Max. Torque Tm (Kg-m)	309.37	309.37	309.37	309.37	178.27	115.69	81.05
額定轉矩 Rated Torque Tr (Kg-m)	120.19	120.18	120.18	120.11	90.10	72.10	60.08
輸出功率 Output Power (KW)	0.0	61.7	123.3	184.9	184.9	185.0	185.0



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SA-225L	220KW 380V-1500RPM 負載特性 (220KW Load Character)						
轉速 Speed (rpm)	5	500	1000	1500	2000	2500	3000
電壓 Voltage (V)	8.9	132.2	256.1	380.0	380.0	380.0	380.0
電流 Current (A)	394.82	414.60	414.76	415.20	390.89	390.68	394.93
輸入功率 Input Power (KW)	5.95	81.42	156.73	232.32	231.50	231.39	231.50
最大轉矩 Max. Torque Tm (Kg-m)	413.94	413.94	413.94	413.94	238.11	154.35	108.06
額定轉矩 Rated Torque Tr (Kg-m)	142.88	142.88	142.88	142.88	107.16	85.73	71.45
輸出功率 Output Power (KW)	0.0	73.3	146.6	219.9	219.9	220.0	220.0



SA-225X	300KW 380V-1500RPM 負載特性 (300KW Load Character)							
轉速 Speed (rpm)	5	500	1000	1500	2000	2500	2802	3000
電壓 Voltage (V)	10.9	133.3	256.7	380.0	380.0	380.0	380.0	380.0
電流 Current (A)	550.19	549.70	549.86	550.05	536.25	542.52	550.32	503.99
輸入功率 Input Power (KW)	10.13	112.37	215.06	317.86	317.28	317.43	317.65	291.62
最大轉矩 Max. Torque Tm (Kg-m)	468.00	468.00	468.00	468.00	269.02	174.30	139.40	122.28
額定轉矩 Rated Torque Tr (Kg-m)	194.94	194.93	194.93	194.82	146.14	116.92	104.31	89.70
輸出功率 Output Power (KW)	0.0	100.0	200.0	299.9	300.0	300.0	299.9	276.2

