

**FUKUTA®**



Type  
Transmission

Limita

*Servo Motor*

INNOVATION / ENTHUSIASM / CREDIBILITY

*SF/SA/SBA Series* 感應伺服馬達

[www.fukuta-motor.com.tw](http://www.fukuta-motor.com.tw)

# FUKUTA® Global Market 全球市場

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## High Dynamical Response

The induction-type servomotor doesn't use permanent magnets. The high relation between torque and inertia-together with a low secondary impedance of the rotor enables high dynamical performances with considerable acceleration and deceleration available over all speed ranges.

## Stable Operation Performance

The variation of speed is obtained through absolute stable rotary motion and servo-action by reducing the torque ripple over entire speed range. Since the torque is generated by a high-density flux with perfect magnetic distribution drove from the induced sinusoidal current.

## Excellent Relation Between Maximum And Ratedtorque

The FUKUTA servomotor enables a high relation between peak and rated current, so produces high rates of maximum torque. Furthermore, the servomotor presents an extremely perfect relation between torque and volume/weight which permits compact applications and best use of available space.

## Sturdy & Simple Construction Not Requiring Maintenance

Since the FUKUTA servomotors do not have permanent magnets, there's no risk of demagnetization, of breakage due to fragility from vibrations or impacts, especially for the servomotors used on moving machines. Moreover, the position of magnet poles are unnecessary to be detected for driven because the direction of magnetic flux is determined by the voltage. The use of encoder sets on the motor shaft feedback for controlling of the speed and position with accuracy. The structure, therefore, is extremely simple, sturdy & reliable and does not require any maintenance, since there are no collectors, brushes or magnets.

### Housing

The housing is built according to advanced criteria and technology. Further to the compact size and lighter weight, these servomotors offer an outstanding mechanical accuracy and sturdiness. The housings are made of extrusion and die-cast aluminum for motor-frame sizes up to 132. The body is a square shape. It is provided with internal ventilation channels in order to ensure a high thermal dissipation and to reduce vibration.

### Protection

All the servomotors are built in IP23 / IP54 protection. Superior grades can be supplied on request.

### Stator

It consists of special laminations with low power loss having a special geometry in order to provide good performances and silent run during operation.

### Winding

With double layer of shortened pitch, it determines advantages in the F. E. M. curve due to the effect of elimination of some of the harmonic and damping of others. The structure of FUKUTA servomotors adopts H class insulation and supports the thermal, electrodynamical stress and inrushing current that is supplied by inverter. The choice of these materials and the method of soak permit using of the servomotors in tropical climate with considerable thermal amplitudes at high humidity degrees. Special treatment for very corrosive ambience can be supplied on request.

### Construction Form

The servomotors are built according to construction feature shown in chart in conformity with IEC 34-7 and CEI 2-14 n. 724 publications.

### Rotor

The rotor is of die-cast aluminum design and has been lightened so to reduce the rotor inertia to a minimum. The rotor consists of a cage with inclination, number of slots and a suitable shape to enable perfect operation also at very low speed and to reduce temperature on surface layer and furthermore avoid cogging torque.

### Balancing

Balancing is carried out dynamically with an integer key according to ISO 2373 grade R to suppress vibration also at high speed. On request, for special applications balancing according to grade S can be carried out.

### Bearings

The ball-type bearings are suitable for high speed and lubricated with special greases that offer best response to high speed and temperature.

### Thermal Protections

The servomotors are provided with a thermal protection by means of 1 metallic double-slices thermal switch, which are connected in series and incorporated in the windings. The contact is normally closed (NC), and it opens when the temperature of the windings reaches a temperature which is dangerous for the insulating system.

### Ventilation

Ventilation is obtained by an auxiliary electric fan which generates a constant air-flow and independent of the speed of the servomotors. This ensures an excellent cooling in any operating condition. In this way, low rate & low peak-current servomotors can be chose. Even at low speed, it still can offer a wide constant-torque range without reducing the duty cycle.

### Encoder

The standard configuration provides a hollow shaft and is housed in an appropriate aluminum case to ensure strong mechanical protection. As to the electrical connection, a 10-PIN connector is used.

# 經營理念/公司沿革

## 創新

積極創新，追求顧客滿意及公司永續繁榮。時時刻刻，力求創新，以顧客需求為導向，提供顧客滿意之產品與服務進而有效地創造利潤，促使公司永續繁榮。

## 熱忱

熱忱互助，共同達成顧客、公司與個人三贏之目標。尊重人性，塑造和諧明朗的工作環境；熱忱互助，關懷顧客，關心同事，共創顧客、公司、個人三贏之榮景。

## 誠信

誠信踏實，以優良的產品與服務貢獻社會。因應社會需求本乎誠信踏實之原則，持續致力於提供更好品質，更低成本之產品與服務，以貢獻社會。

**Innovation** is to create aggressively, pursue customers satisfaction and maintain the company's ever-lasting prosperity. We strive for creativity and innovation at all time. Based on the concept of customer-oriented, we provide satisfying products and service to our customers so that we can make profits efficiently and maintain the coampany's substantial prosperity.

**Sincerity** is to help each other enthusiastically and achieve the win-win goals of customers, company, and individuals. We respect humanity and make a harmonious work environment. Helping each other enthusiastically means to care about our customers and colleagues so that we can have prosperous future of customers, company, and individuals.

**Credibility** is to offer the society excellent products and service. In order to meet the demands of society, we continue to make efforts based on the honest principle to provide services and products of best quality and less cost so as to make contributions to the society.





- 1988年 4月公司成立。
- 1990年 投資成立矽鋼片沖壓廠，朝向垂直整合經營模式。
- 1993年 全國第一家投入研發「變頻專用馬達」。
- 1996年 通過ISO-9002國際品質驗證。
- 1997年 全國第一家投入研發「交流感應伺服馬達」。
- 1998年 (1). 取得經濟部工業局主導性新產品「交流感應伺服馬達」之補助案。  
(2). 全系列產品通過 CE MARK 歐洲安規認證。
- 2000年 (1). 「交流感應伺服馬達」榮獲第九屆台灣精品標誌及優良設計標誌。  
(2). 投資成立高精度低背隙減速機製造廠(寰宇精密股份有限公司)，朝向水平整合經營模式。
- 2001年 (1). 「變頻專用馬達」榮獲第十屆台灣精品標誌。  
(2). 「100HP及150HP感應伺服馬達」獲得經濟部技術處SBIR計畫補助。  
(3). 全系列產品通過 CSA 加拿大及美國安規認證。
- 2002年 (1). 「積片式伺服馬達」榮獲第十一屆台灣精品標誌。  
(2). 荣獲台中縣第一屆金手獎表揚。  
(3). 通過ISO-9001國際品質認證。
- 2003年 (1). 「變速鋼索吊車專用馬達」獲得經濟部工業局CITD計畫補助。  
(2). AEEH/AEVH/AMEH/AMVH系列通過中華民國高效率感應馬達認證。  
(3). 「變速鋼索吊車專用馬達」榮獲第十二屆台灣精品標誌。
- 2004年 (1). 「250HP及400HP感應伺服馬達」獲得經濟部技術處SBIR計畫補助。  
(2). 「感應伺服馬達Frame 225」榮獲第十三屆台灣精品標誌。
- 2005年 (1). 與日本、美國客戶分別簽訂「風力發電機、轎跑車馬達(全電式)」技術合作案。  
(2). 投資成立上海鑫永電機科技有限公司(上海市奉賢區柘林鎮)，朝向跨國整合經營模式。
- 2006年 (1). 全系列通過中華人民共和國CCC強制性產品認證。  
(2). 荣獲經濟部技術處SBIR計畫2004年度績優執行廠商表揚。  
(3). 與高雄應用科技大學電機系合辦產業研發碩士專班。  
(4). 荣獲經濟部技術處2006年度產業創新成果表揚。  
(5). 投資成立金富田科技股份有限公司，朝向環保及能源領域整合經營模式。  
(6). 投入高速主軸伺服馬達整合與製造。
- 2007年 與美商Tesla motors汽車公司簽約，正式量產電動車專用馬達。
- 2008年 取得經濟部工業局主導性新產品「5kw垂直風力發電機」之補助案。
- 2009年 (1). 金富田科技股份有限公司購置台中縣豐洲科技園區土地，預計建置電動車動力馬達專業製造廠。  
(2). 金富田科技股份有限公司參與裕隆公司主導電動車(Luxgen)業界科專計畫。
- 2010年 (1). 投資成立矽鋼片沖壓廠(永泰豐科技股份有限公司)，朝向垂直整合經營模式。  
(2). 推動電動車先進動力系統研發聯盟計畫。
- 2011年 (1). 協助Tesla公司新車型Model S核心產品測試量產，預計2012年Q2正式上市。  
(2). 興建EV公司電動車、電動船、電動飛機馬達專用製造廠，預計2013年Q4正式投入生產。  
(3). 荣獲經濟部技術處「第一屆國家產業創新獎」。
- 2012年 (1). 參與台中地方產業創新研發推動計劃。  
(2). 永磁同步伺服開發。
- 2013年 PM永磁同步伺服量產。





# Catalogue Contents

## *SF Series (IP54)*

SF-80 .....	01
SF-90 .....	03
SF-100 .....	05
SF-112 .....	07
SF-132 .....	09
SF-160 .....	11
SF-180 .....	13

## *SA Series (IP23)*

SA-160 .....	15
SA-180 .....	17
SA-225 .....	19
SA-280 .....	21

## *SB Series (Low Inertia)*

SB-180 .....	23
SBA-180 .....	25
SBA-225 .....	27



# SF·SA·SBA

*Series*

FUKUTA SERVO MOTOR

Polaris

01

FUKUTA®

INNOVATION / ENTHUSIASM / CREDIBILITY

**MODEL****SF-80**

FUKUTA SERVO MOTOR

**產品規格 Standard**

輸出 Output(kw)	0.75	1.1
框號 Frame No.	80LA	80LB
效率 Efficiency(%)	82.3%	83.3%
功因 Power Factor	0.824	0.856
R1(Ω) @25°C	6.548	4.500
極數 Poles	4	4
轉動慣量 Rotor Inertial(kg·m²)	0.0020	0.0025
激磁電流 Magnetizing Current(A)	2.0	2.4
額定轉速 Rated Speed (rpm)	2000	2000
最高轉速 Max. Speed (rpm)	8000	8000
重量 Weight(kg)	13.0	14.4
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull	
風扇 Elec.Fan	1φ 230V 50/60Hz 45/39W	
軸承 Bearings	LS:6206C3	OS:6205C3

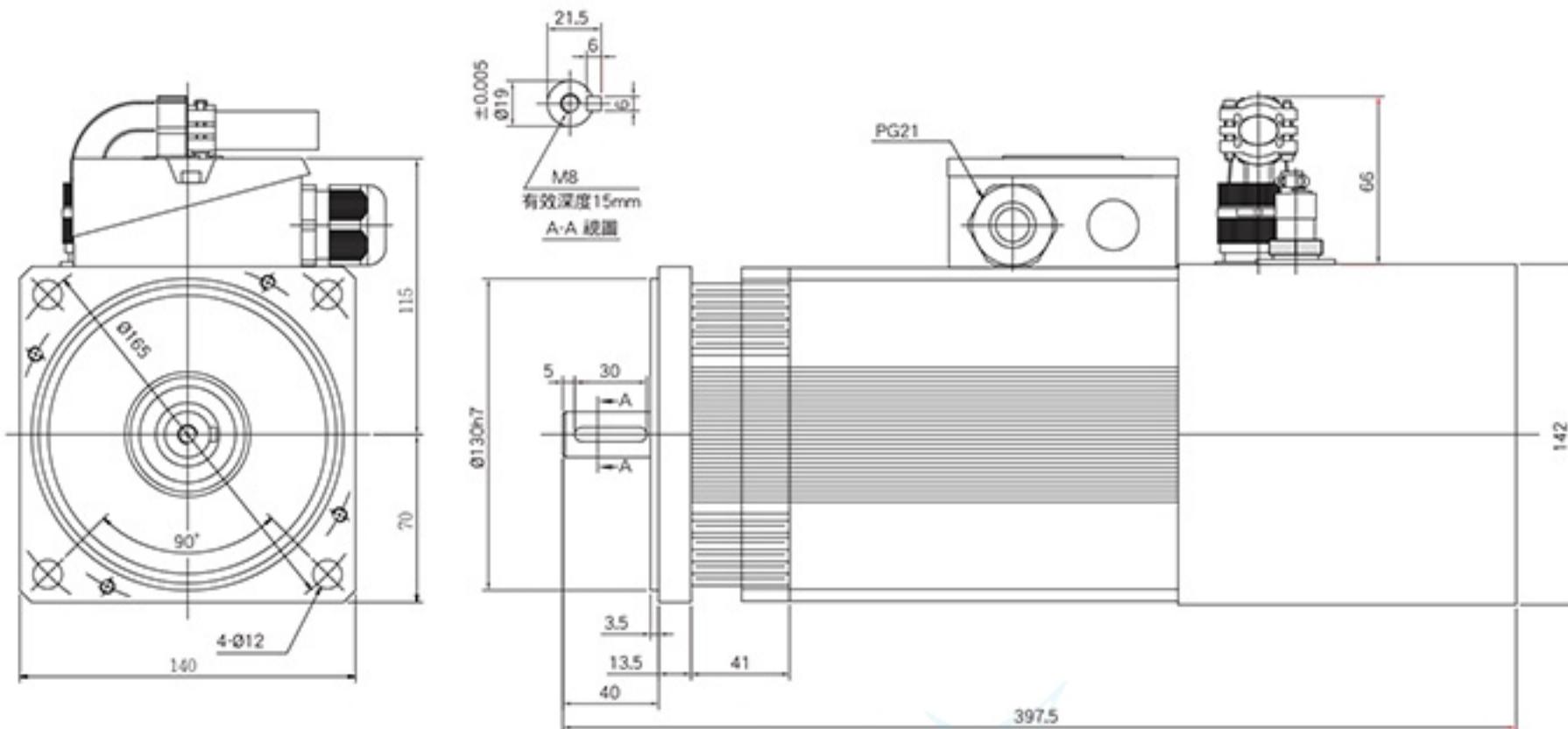
※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 3001(B5)
保護方式 Protection	IP54
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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

FUKUTA®

◎歡迎洽商標準產品以外，專用產業特性之開發和客製



### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current				額定頻率 Rated Frequency				
					kg	RPM	kg-m	kg-m	190V	220V	330V	380V	Hz
	0.75	2000	1.04	0.37			3.4	3.0	1.9	1.7		69.5	
SF-80LA	1.1	3000	1.01	0.36			4.9	4.3	2.9	2.5		102.7	
	1.4	4000	0.97	0.35			6.6	5.1	3.8	3.0		136.0	
SF-80LB	1.1	2000	1.52	0.54			4.7	4.2	2.7	2.4		70.0	
	1.6	3000	1.47	0.52			7.1	6.0	4.1	3.4		102.9	
	2.1	4000	1.45	0.52			8.8	7.8	5.1	4.5		136.6	

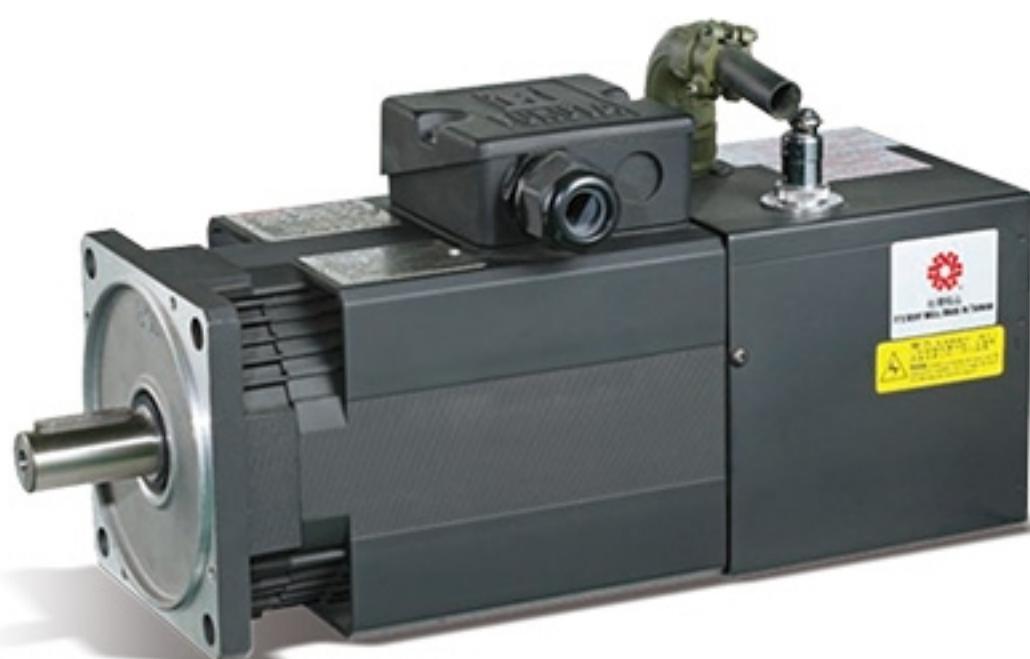
03

FUKUTA®

INNOVATION / ENTHUSIASM / CREDIBILITY

**MODEL****SF-90**

FUKUTA SERVO MOTOR

**產品規格 Standard**

輸出 Output(kw)	1.5	2.2	3.7
框號 Frame No.	90MA	90MB	90L
效率 Efficiency(%)	83.8%	83.7%	84.3%
功因 Power Factor	0.854	0.88	0.894
R1(Ω) @25°C	3.257	2.258	1.321
極數 Poles	4	4	4
轉動慣量 Rotor Inertial(kg·m²)	0.0030	0.0038	0.0059
激磁電流 Magnetizing Current(A)	3.2	3.9	6.1
額定轉速 Rated Speed (rpm)	2000	2000	2000
最高轉速 Max. Speed (rpm)	8000	8000	8000
重量 Weight(kg)	16.4	18.9	26.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull		
風扇 Elec.Fan	1e 230V 50/60Hz 45/39W		
軸承 Bearings	LS:6206C3		OS:6205C3

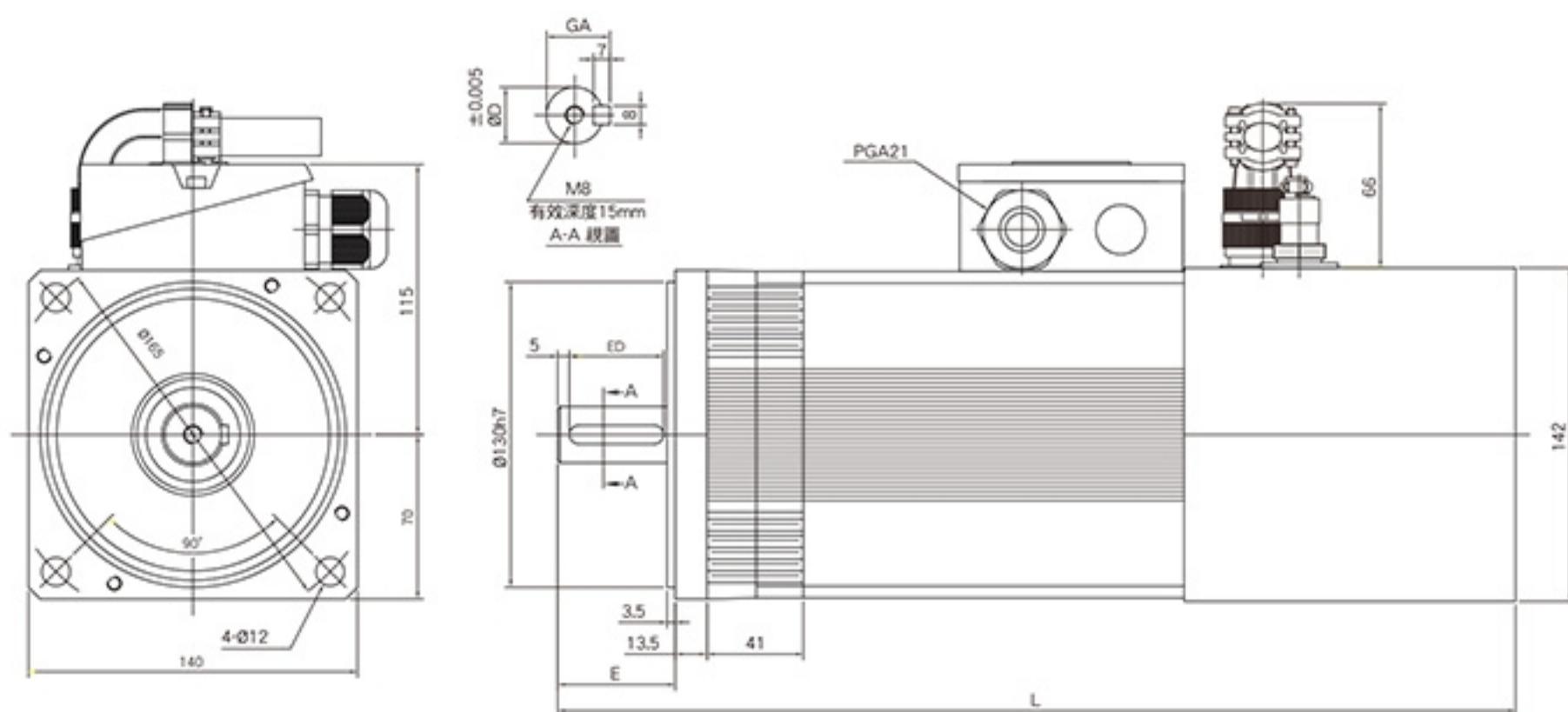
※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 3001(B5)
保護方式 Protection	IP54
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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

**FUKUTA®**

◎歡迎洽商標準產品以外，專用產業特性之開發和客製



	E	ED	D	GA	L
90MA	50	40	24	27	407.5
90MB	50	40	24	27	432.5
90L	60	50	28	31	507.5

### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current				額定頻率 Rated Frequency
					190V	220V	330V	380V	
SF-90MA	kw	RPM	kg-m	kg-m	190V	220V	330V	380V	Hz
	1.1	1500	2.01	0.72	5.1	4.4	3.0	2.6	52.6
	1.5	2000	2.06	0.74	6.4	5.6	3.7	3.2	69.9
	2	3000	1.83	0.65	8.5	7.4	4.9	4.3	102.9
SF-90MB	2.5	4000	1.72	0.61	10.4	9.2	6.0	5.3	136.2
	1.6	1500	2.92	1.04	7.1	6.3	4.1	3.6	53.0
	2.2	2000	3.02	1.08	9.1	8.0	5.2	4.6	70.5
	3	3000	2.88	1.03	12.3	11.3	7.1	6.5	103.3
SF-90L	4.2	4000	2.77	1.02	16.5	14.3	9.5	8.2	137.1
	2.7	1500	4.92	1.76	11.9	10.3	6.9	5.9	52.8
	3.7	2000	5.06	1.81	14.9	13.5	8.6	7.8	70.6
	5.1	3000	4.65	1.66	20.4	18.5	11.8	10.7	103.3
	6.4	4000	4.38	1.56	25.5	21.9	14.7	12.6	136.4

**MODEL****SF-100**

FUKUTA SERVO MOTOR

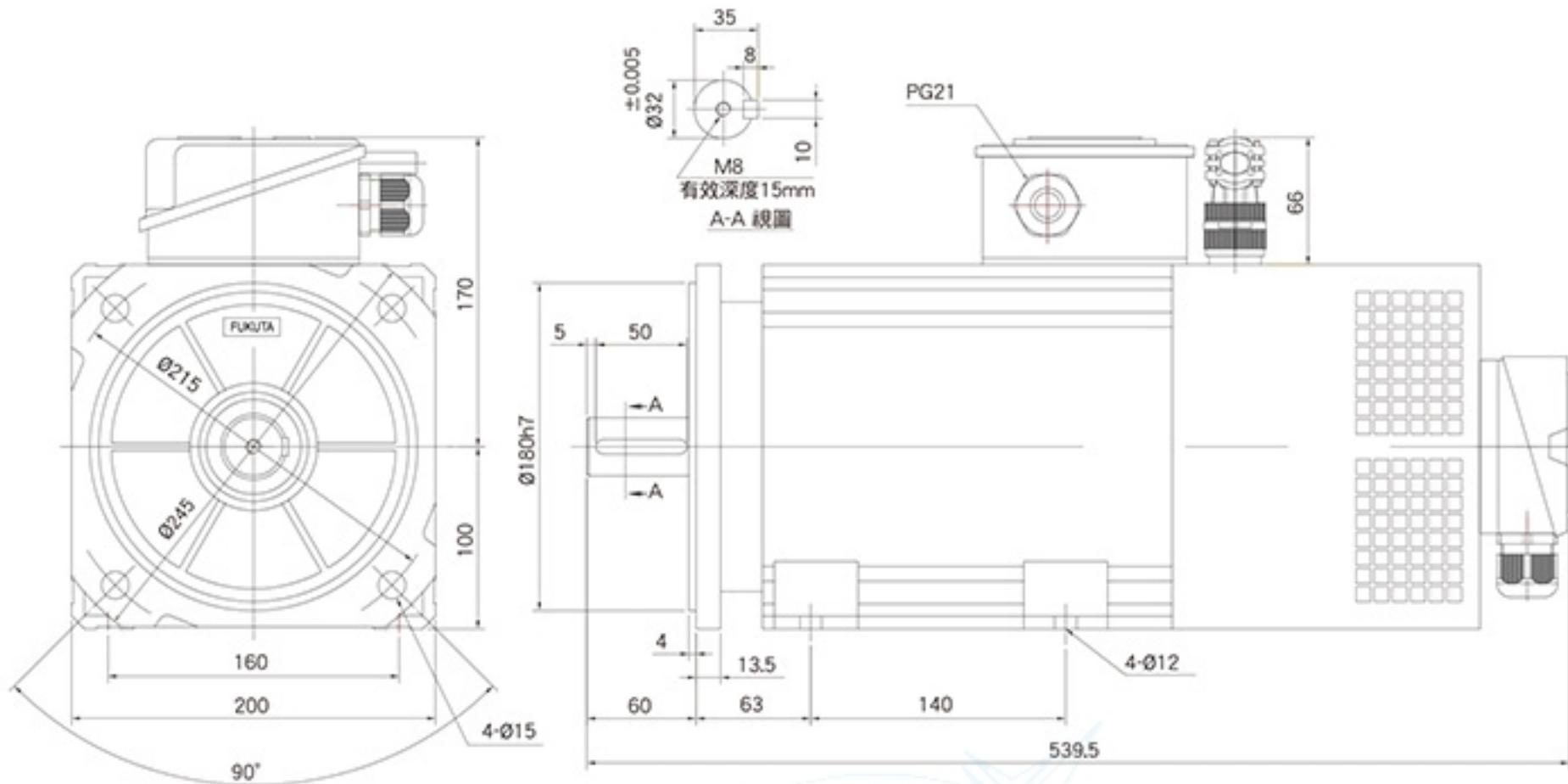
**產品規格 Standard**

輸出 Output(kw)	3.8	5.5
框號 Frame No.	100LA	100LB
效率 Efficiency(%)	86.7%	86.4%
功因 Power Factor	0.864	0.888
R1(Ω) @25°C	0.983	0.659
極數 Poles	4	4
轉動慣量 Rotor Inertial(kg·m²)	0.0061	0.0076
激磁電流 Magnetizing Current(A)	6.5	8.8
額定轉速 Rated Speed (rpm)	2000	2000
最高轉速 Max. Speed (rpm)	8000	8000
重量 Weight(kg)	29.5	33
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull	
風扇 Elec.Fan	1φ 230V 50/60Hz 82/100W	
軸承 Bearings	LS:6307C3	OS:6305C3

※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 2001(B3/B5)
保護方式 Protection	IP54
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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

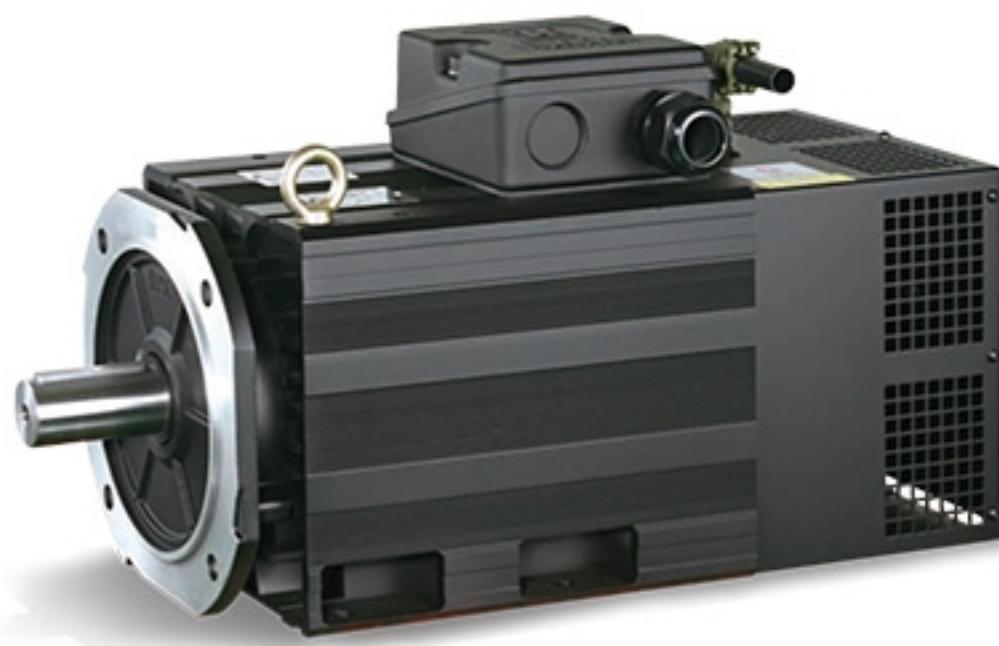


### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current				額定頻率 Rated Frequency			
					kg	RPM	kg-m	kg-m	190V	220V	330V	380V
SF-100LA	2.8	1500	5.1	1.82			11.5	9.9	6.6	5.7	52.9	
	3.8	2000	5.2	1.86			15.4	13.2	8.9	7.6	69.4	
	5.2	3000	4.74	1.69			23.0	17.8	13.3	10.3	102.6	
	6.4	4000	4.6	1.60			24.5	21.9	14.1	12.6	136.6	
SF-100LB	4.0	1500	7.29	2.60			16.1	14.6	9.3	8.4	53.1	
	5.5	2000	7.52	2.69			21.8	18.6	12.6	10.7	69.7	
	7.1	3000	6.74	2.41			31.2	25.0	18.0	14.4	101.8	
	9.0	4000	6.15	2.2			33.7	31.5	19.4	18.2	136.2	

**MODEL****SF-112**

FUKUTA SERVO MOTOR

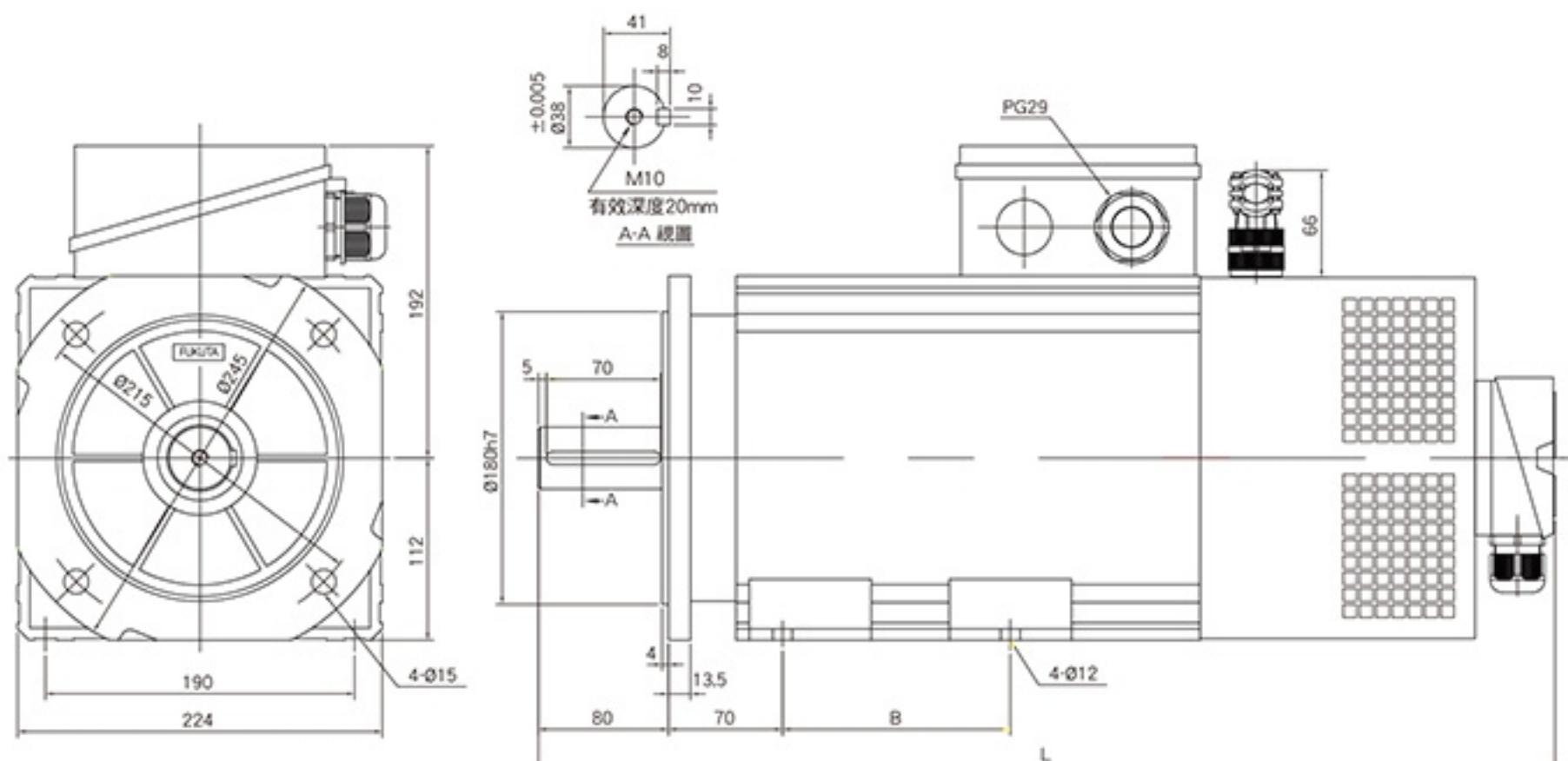
**產品規格 Standard**

輸出 Output(kw)	7.5	11	15
框號 Frame No.	112L	112XA	112XB
效率 Efficiency(%)	90.0%	90.5%	90.5%
功因 Power Factor	0.903	0.895	0.906
R1(Ω) @25°C	0.368	0.233	0.174
極數 Poles	4	4	4
轉動慣量 Rotor Inertial(kg·m²)	0.0153	0.0212	0.0282
激磁電流 Magnetizing Current(A)	11.4	16.3	19.9
額定轉速 Rated Speed (rpm)	2000	2000	2000
最高轉速 Max. Speed (rpm)	7000	7000	7000
重量 Weight(kg)	45.0	65	72.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull		
風扇 Elec.Fan	1φ 230V 50/60Hz 82/100W		
軸承 Bearings	LS:6308C3		OS:6306C3

※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 2001(B3/B5)
保護方式 Protection	IP54
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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	L
112L	140	624.6
112XA	245	734.6
112XB	245	734.6

### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current				額定頻率 Rated Frequency
					190V	220V	330V	380V	
SF-112L	kw	RPM	kg-m	kg-m	190V	220V	330V	380V	Hz
	5.5	1500	10.02	3.58	22.6	19.6	13.0	11.3	52.1
	7.5	2000	10.25	3.66	28.0	25.2	16.2	14.6	69.0
	10.0	3000	9.11	3.25	38.0	33.0	22.0	19.1	102.1
SF-112XA	12.0	4000	8.2	2.93	45.1	39.1	26.0	22.6	135.5
	8.2	1500	14.8	5.3	32.3	27.9	18.7	16.1	52.0
	11.0	2000	15.02	5.37	41.2	39.0	23.8	22.5	69.0
	15.0	3000	13.3	4.7	57.9	50.4	33.4	29.1	102.0
SF-112XB	16.5	4000	10.8	3.8	62.5	54.0	36.1	32.1	133.3
	11.0	1500	20.37	7.27	43.6	37.9	25.2	21.9	52.4
	15.0	2000	20.48	7.31	55.5	48.5	32.0	28.0	69.0
	20.0	3000	18.1	6.5	77.6	67.0	44.8	38.7	102.2
	25.0	4000	17.1	6.1	93.2	80.5	53.8	46.5	133.3

09

FUKUTA®

INNOVATION / ENTHUSIASM / CREDIBILITY

**MODEL****SF-132**

FUKUTA SERVO MOTOR

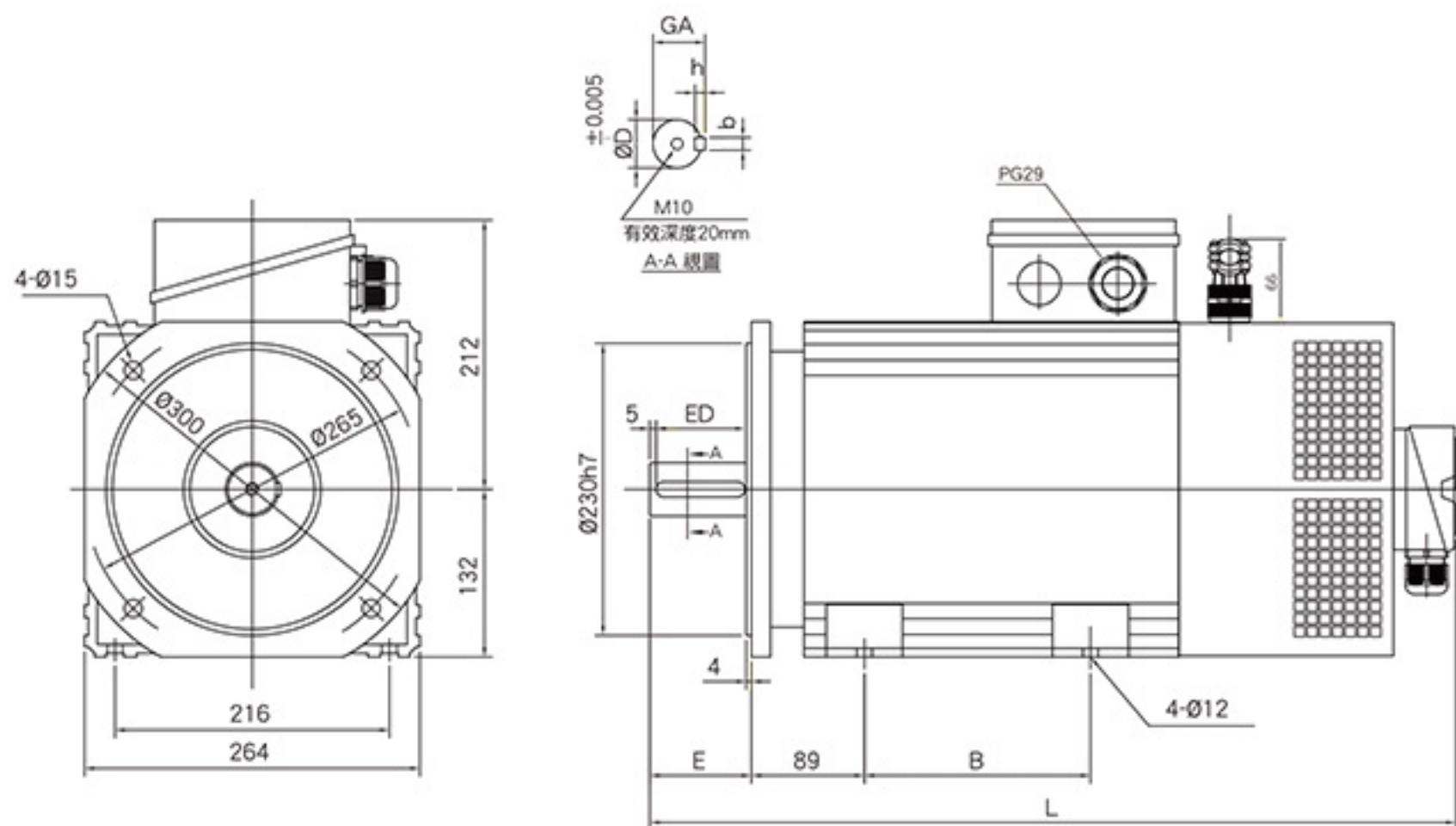
**產品規格 Standard**

輸出 Output(kw)	15	18.5	22	30
框號 Frame No.	132MA	132MB	132L	132LA
效率 Efficiency(%)	90.2%	91.5%	92.1%	91.5%
功因 Power Factor	0.924	0.91	0.90	0.915
R1(Ω) @25°C	0.221	0.146	0.106	0.086
極數 Poles	4	4	4	4
轉動慣量 Rotor Inertial(kg·m²)	0.0404	0.0498	0.0608	0.0735
激磁電流 Magnetizing Current(A)	14.3	20.7	28.1	31.2
額定轉速 Rated Speed (rpm)	2000	2000	2000	2000
最高轉速 Max. Speed (rpm)	6000	6000	6000	6000
重量 Weight(kg)	77.5	87.0	107.0	123.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull			
風扇 Elec.Fan	1φ 230V 50/60Hz 105/145W			
軸承 Bearings	LS:6309C3	OS:6308C3		

※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 2001(B3/B5)
保護方式 Protection	<b>IP54</b>
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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	E	ED	b	h	GA	L
132MA	178	38	80	70	10	8	41	635
132MB	178	42	110	100	12	8	45	665
132L	332	42	110	100	12	8	45	795
132LA	332	42	110	100	12	8	45	795

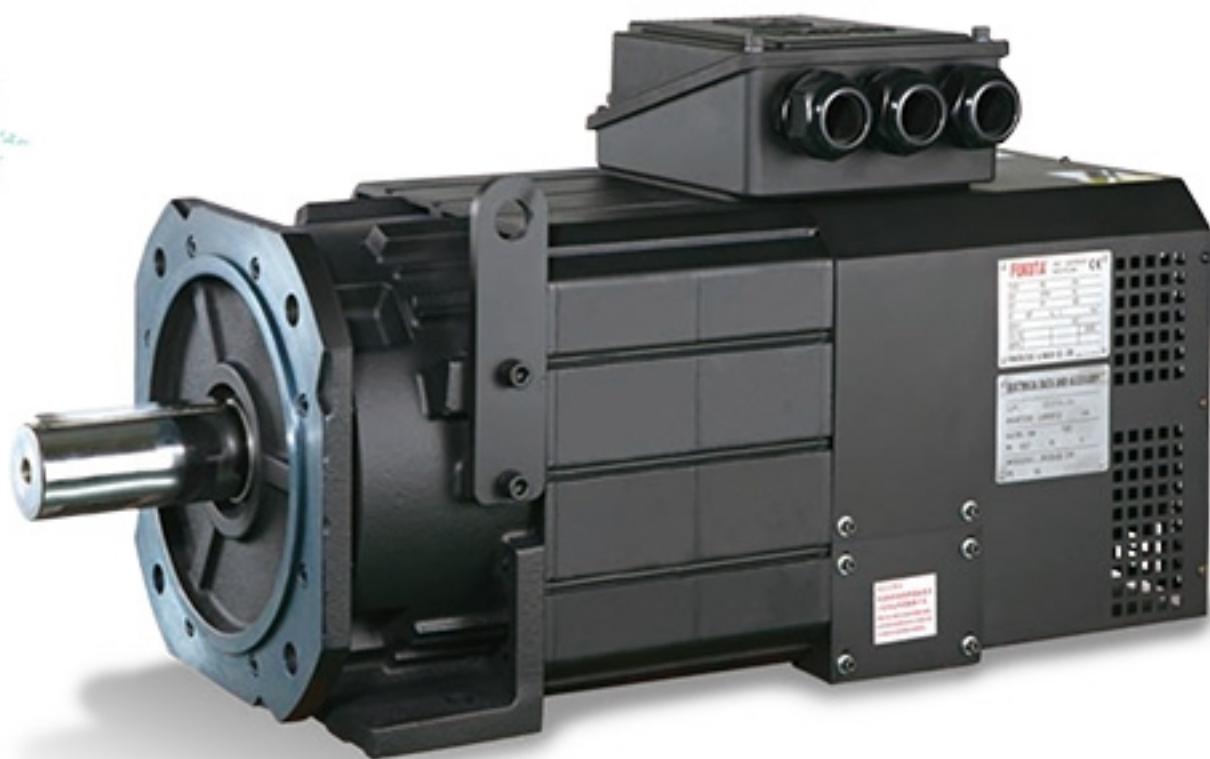
### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current				額定頻率 Rated Frequency	
					kw	RPM	kg-m	kg-m	190V	220V
SF-132MA	11.0	1500	20	7.14	42.0	36.3	24.3	21.0	51.7	
	15.0	2000	20.48	7.31	54.6	48.3	31.5	27.9	68.7	
	20.0	3000	18.21	6.5	76.9	63.5	44.4	36.6	101.7	
	25.0	4000	17.6	6.2	92.5	79.8	53.4	46.1	133.3	
SF-132MB	13.8	1500	25.13	8.97	52.9	45.2	30.5	26.1	51.6	
	18.5	2000	25.25	9.02	67.4	60.0	38.9	34.6	68.4	
	26.0	3000	23.66	8.45	98.3	85.1	56.7	47.4	101.7	
	33.3	4000	23	8.2	121.5	104.9	70.1	60.6	133.3	
SF-132L	16.5	1500	30.3	10.72	63.2	54.6	36.5	31.5	51.5	
	22.0	2000	30.03	10.72	80.6	71.1	46.5	41.1	68.2	
	31.0	3000	28.2	10.07	117.6	99.1	67.9	57.2	101.5	
	37.4	4000	25.7	9.1	136.0	117.4	78.5	67.8	133.3	
SF-132LA	22.0	1500	40	14.2	84.6	73.1	48.9	42.2	51.7	
	30.0	2000	40.94	14.62	108.7	103.6	62.8	59.8	68.5	
	40.0	3000	37.8	13	153.8	132.9	88.8	76.7	101.2	
	50.0	4000	35.2	12.4	184.9	159.7	106.8	92.2	133.3	

**MODEL**

## SF-160

FUKUTA SERVO MOTOR



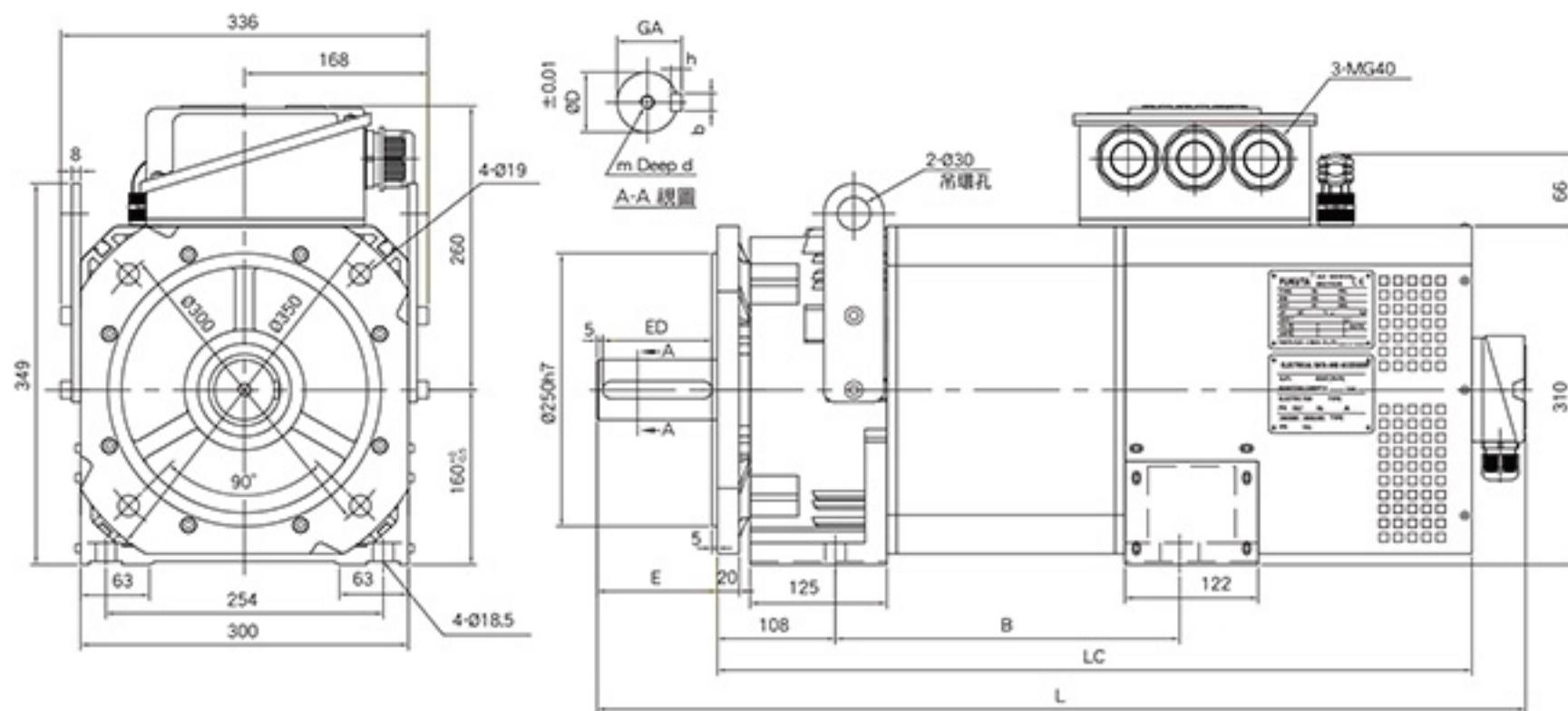
**產品規格 Standard**

輸出 Output(kw)	30	37	45	55
框號 Frame No.	160S	160M	160L	160X
效率 Efficiency(%)	94.6%	95.1%	95.1%	95.2%
功因 Power Factor	0.827	0.854	0.844	0.839
R1(Ω) @25°C	0.045	0.033	0.027	0.020
極數 Poles	4	4	4	4
轉動慣量 Rotor Inertial(kg·m²)	0.1675	0.2054	0.2427	0.3023
激磁電流 Magnetizing Current(A)	46.9	59.2	75.2	78.4
額定轉速 Rated Speed (rpm)	2000	2000	2000	2000
最高轉速 Max. Speed (rpm)	4500	4500	4500	4500
重量 Weight(kg)	220.0	250.0	280.0	330.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull			
風扇 Elec.Fan	1φ 230V 50/60Hz 155/215W			
軸承 Bearings	LS:6313C3	OS:6313C3		

※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 2001(B3/B5)
保護方式 Protection	IP54
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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	E	ED	b <h></h>	mxd	GA	L	LC
160S	315	55	110	100	16x10	M12x35	59	849.7	690.6
160M	365	60	140	130	18x11	M16x40	64	929.7	740.6
160L	415	60	140	130	18x11	M16x40	64	979.7	790.6
160X	495	60	140	130	18x11	M16x40	64	1059.7	870.6

### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque		額定電流 Rated Current			額定頻率 Rated Frequency	
				kg	RPM	kg-m	kg-m	190V	220V	
SF-160S	22	1500	40.08			14.31		87.4	74.1	50.5
	30	2000	41.03			14.63		116.6	100.8	67.3
	40	3000	38.3			13.0		152.8	132.0	88.2
	50	4000	35.6			12.2		191.0	162.7	93.9
SF-160M	28	1500	50.91			18.18		104.5	90.1	52.0
	37	2000	50.47			18.07		138.3	120.1	69.4
	52	3000	47.7			16.9		194.3	167.8	96.9
	63	4000	43.3			15.3		235.4	203.3	117.4
SF-160L	37	1500	61.2			22.16		125.5	108.4	72.1
	45	2000	61.41			21.93		170.3	148.5	98.3
	60	3000	55			19.5		224.2	193.9	129.5
	75	4000	51.6			18.3		280.3	242.1	161.8
SF-160X	45	1500	72.89			29.23		169.1	146.0	97.0
	55	2000	75.27			26.88		206.4	178.4	119.2
	75	3000	68.8			24.3		281.3	242.9	162.4
	90	4000	61.9			21.9		337.5	291.5	194.9

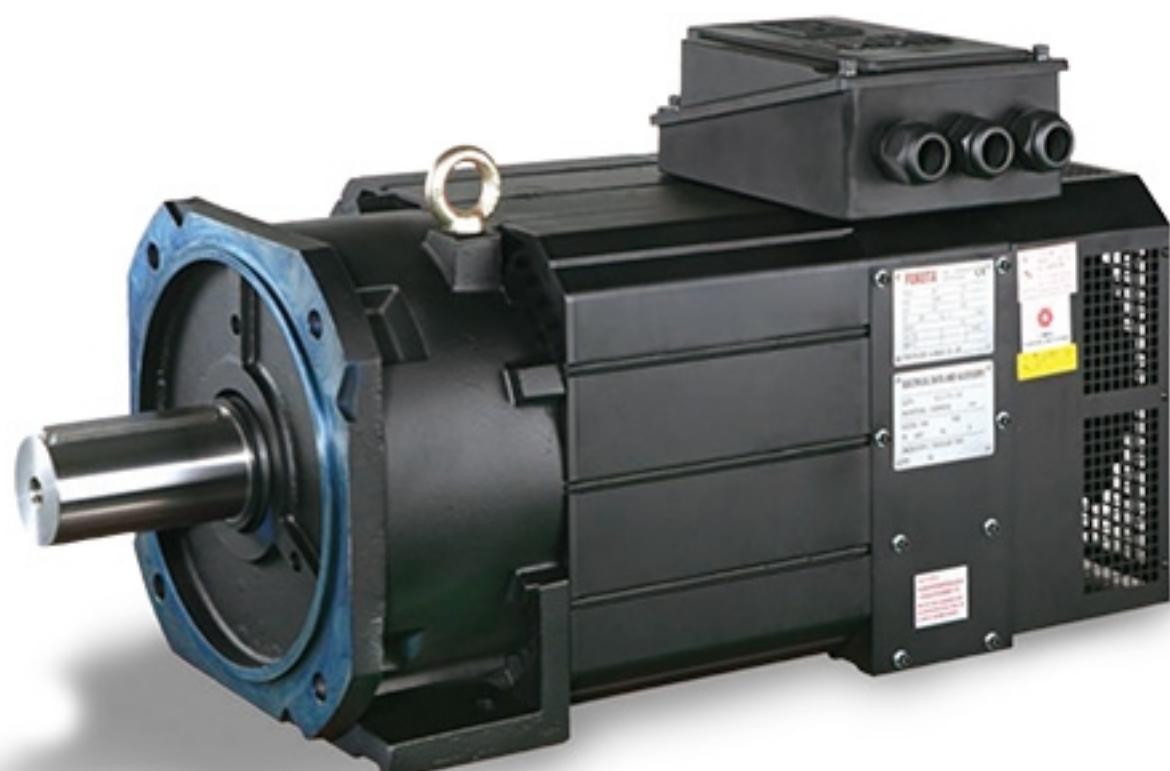
13

FUKUTA®

INNOVATION / ENTHUSIASM / CREDIBILITY

**MODEL****SF-180**

FUKUTA SERVO MOTOR

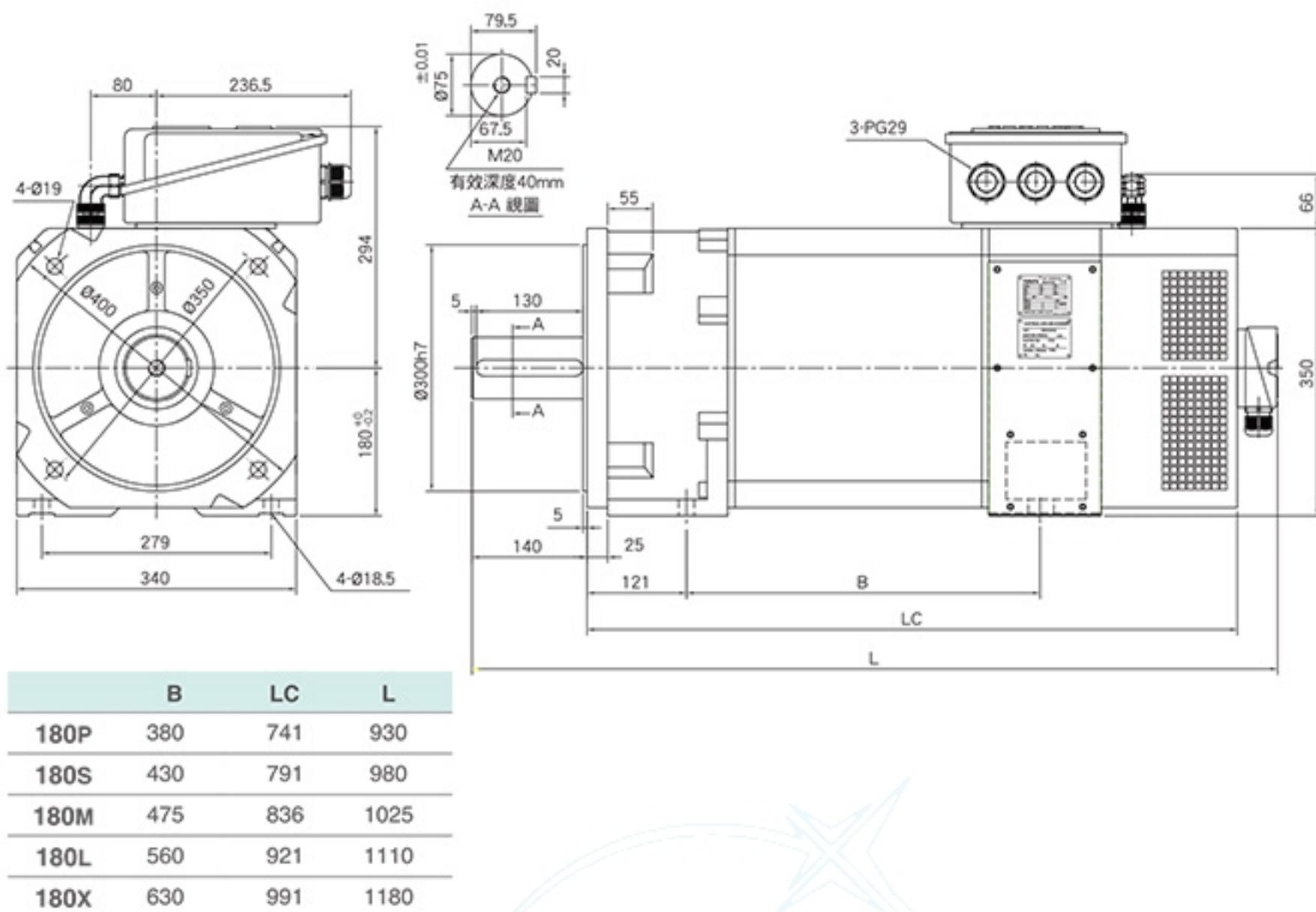
**產品規格 Standard**

輸出 Output(kw)	55	75	90	110	132	
框號 Frame No.	180P	180S	180M	180L	180X	
效率 Efficiency(%)	92.8%	92.7%	93.8%	93.0%	92.8%	
功因 Power Factor	0.831	0.825	0.828	0.808	0.822	
R1(Ω) @25°C	0.084	0.065	0.053	0.038	0.035	
極數 Poles	6	6	6	6	6	
轉動慣量 Rotor Inertial(kg·m²)	0.5463	0.6466	0.7369	0.9075	1.0479	
激磁電流 Magnetizing Current(A)	44.7	62.1	71.6	99.3	107.5	
額定轉速 Rated Speed (rpm)	1500	1500	1500	1500	1500	
最高轉速 Max. Speed (rpm)	3500	3500	3500	3500	3500	
重量 Weight(kg)	315.0	360.0	400.0	478.0	530.0	
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull					
風扇 Elec.Fan	1φ 230V 50/60Hz 155/215W					
軸承 Bearings	LS:6316C3		OS:6315C3			

※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 2001(B3/B5)
保護方式 Protection	IP54
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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



### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current		額定頻率 Rated Frequency					
					kw	RPM	kg-m	kg-m	330V	380V	Hz	
SF-180P	37	1000	90.25	36.1	87.0	75.3	51.1					
	55	1500	87.41	35.8	127.6	108.9	76.0					
	69	2000	83.75	33.5	148.0	135.9	101.2					
	90	3000	73.25	29.3	194.0	168.0	151.2					
SF-180S	50	1000	121.75	48.7	116.6	101.4	51.2					
	75	1500	114.85	48.76	174.7	148.9	76.1					
	94	2000	114.25	45.9	203.0	189.8	101.1					
	124	3000	100.25	40.1	268.0	232.0	151.0					
SF-180M	60	1000	145.08	58.5	139.7	120.7	51.1					
	90	1500	134.86	58.52	210.7	183.2	75.7					
	113	2000	136.15	55.1	241.0	209.0	101.1					
	149	3000	119.54	48.2	317.0	275.0	151.1					
SF-180L	73	1000	177.32	71.5	164.0	142.0	51.1					
	110	1500	174.88	71.47	253.8	221.7	75.7					
	138	2000	166.41	67.1	295.0	256.0	101.1					
	181	3000	146.07	58.9	389.0	337.0	151.1					
SF-180X	90	1000	212.54	85.7	210.9	183.2	51.2					
	132	1500	212.8	85.8	294.0	255.3	76.1					
	165	2000	199.4	80.4	349.0	302.0	101.2					
	217	3000	175.1	70.6	460.0	400.0	151.0					

**MODEL**  
**SA-160**  
 FUKUTA SERVO MOTOR



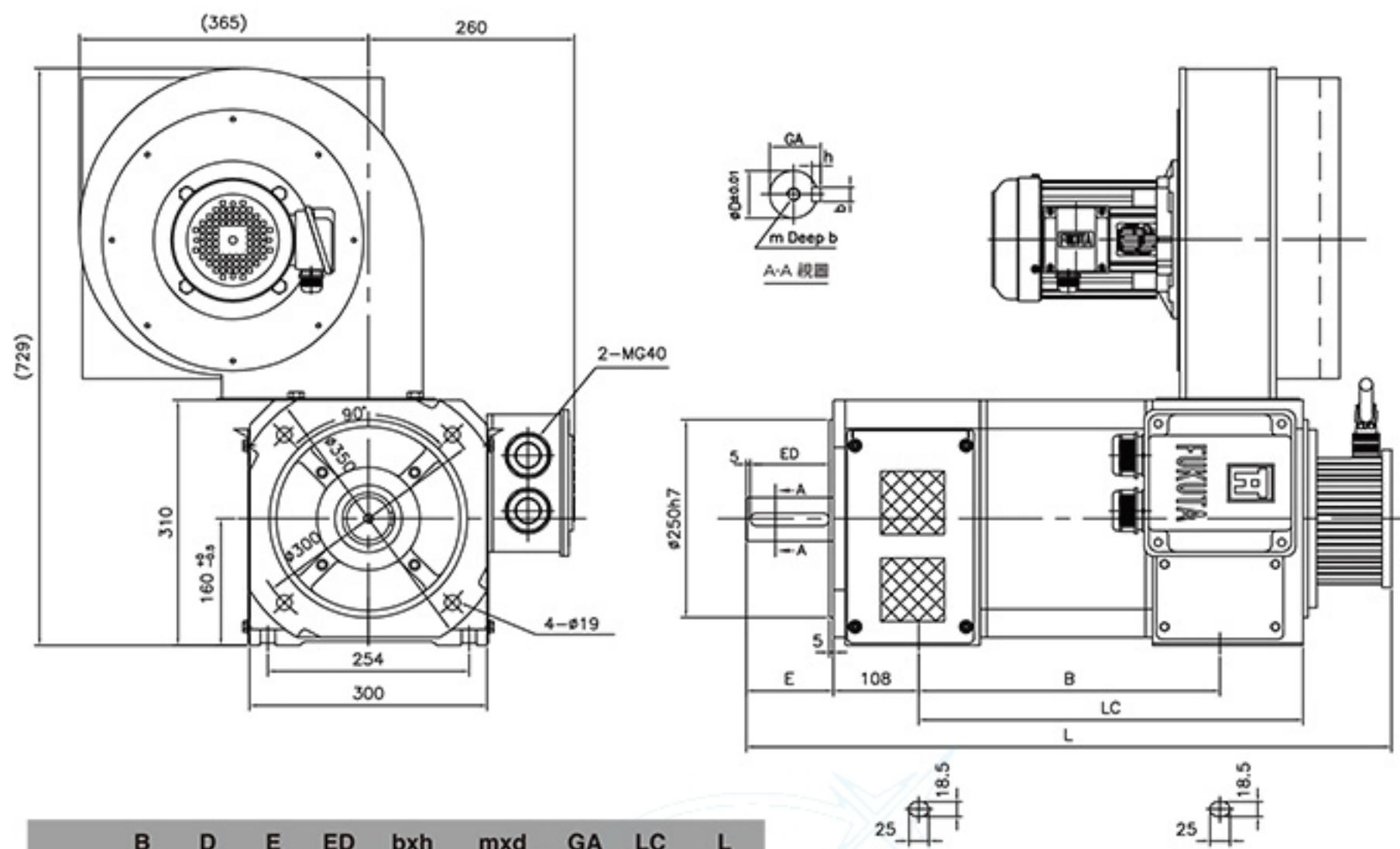
產品規格 Standard

輸出 Output(kw)	30	37	45	55
框號 Frame No.	160S	160M	160L	160X
效率 Efficiency(%)	92.8%	93.2%	93.4%	93.9%
功因 Power Factor	0.843	0.85	0.878	0.845
R1(Ω) @25°C	0.07	0.053	0.043	0.029
極數 Poles	4	4	4	4
轉動慣量 Rotor Inertial(kg·m²)	0.1675	0.2054	0.2427	0.3023
激磁電流 Magnetizing Current(A)	50.2	53.4	59.5	89.3
額定轉速 Rated Speed (rpm)	1500	1500	1500	1500
最高轉速 Max. Speed (rpm)	4500	4500	4500	4500
重量 Weight(kg)	240.0	270.0	300.0	350.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull			
風扇 Elec.Fan	3φ 220/380V 50/60Hz 3.5/2.1A			
軸承 Bearings	LS:6313C3		OS:6312C3	

※編碼器之選用依需求為主

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
絕緣等級 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	E	ED	bxh	mxd	GA	LC	L
160S	380	55	110	100	16x10	M12x35	59	485	814.5
160M	430	60	140	130	18x11	M16x40	64	535	894.5
160L	480	60	140	130	18x11	M16x40	64	585	944.5
160X	560	60	140	130	18x11	M16x40	64	665	1024.5

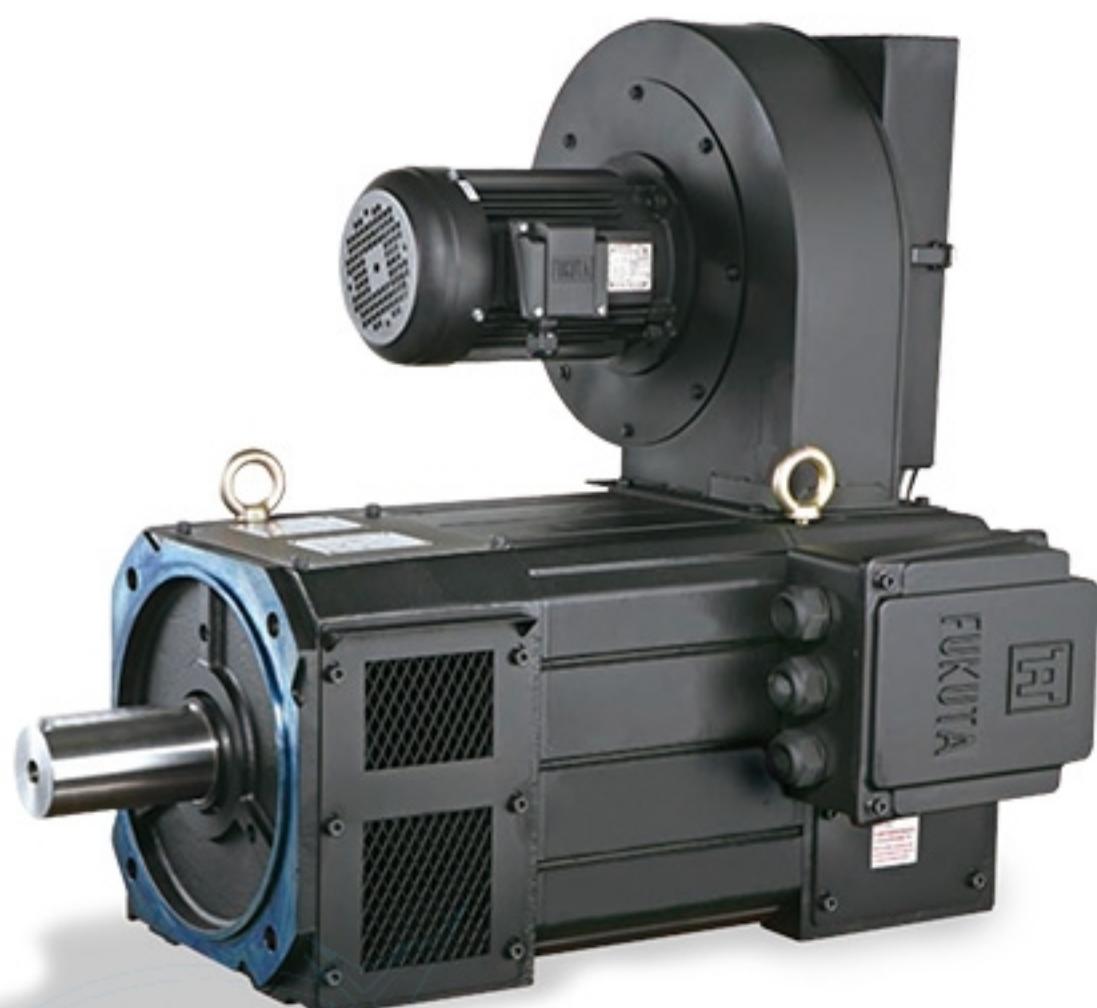
### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current				額定頻率 Rated Frequency	
					kw	RPM	kg-m	kg-m	190V	220V
SA-160S	9	500	42.07	17.53	38.3	33.2	22.1	19.2	17.6	
	18.5	1000	43.32	18.05	72.4	63.7	41.8	36.8	34.3	
	30	1500	46.82	19.51	116.9	103.9	67.5	59.5	51.0	
	37	2000	43.42	18.09	138.1	122.0	79.8	70.4	67.7	
SA-160M	11	500	51.46	21.44	45.5	38.2	26.3	22.0	17.6	
	22	1000	51.46	21.44	85.7	72.6	49.5	41.9	34.3	
	37	1500	57.77	24.07	139.4	118.9	80.5	68.6	51.0	
SA-160L	45	2000	52.70	21.96	164.7	141.4	95.1	81.7	67.7	
	15	500	70.27	29.28	64.7	55.6	37.4	32.1	17.6	
	30	1000	70.27	29.28	113.2	96.7	65.2	55.9	34.4	
SA-160X	45	1500	70.22	29.28	167.0	144.4	96.4	83.4	51.1	
	55	2000	64.54	26.89	197.9	173.7	114.2	100.3	67.7	
	18.5	500	86.66	36.11	78.5	66.3	45.3	38.3	17.6	
SA-160X	37	1000	86.66	36.11	144.9	129.1	83.7	74.5	34.3	
	55	1500	85.87	35.78	211.0	188.3	121.8	108.7	50.9	
	65	2000	76.05	31.69	236.8	203.0	136.7	117.2	67.6	

**MODEL**

## SA-180

FUKUTA SERVO MOTOR



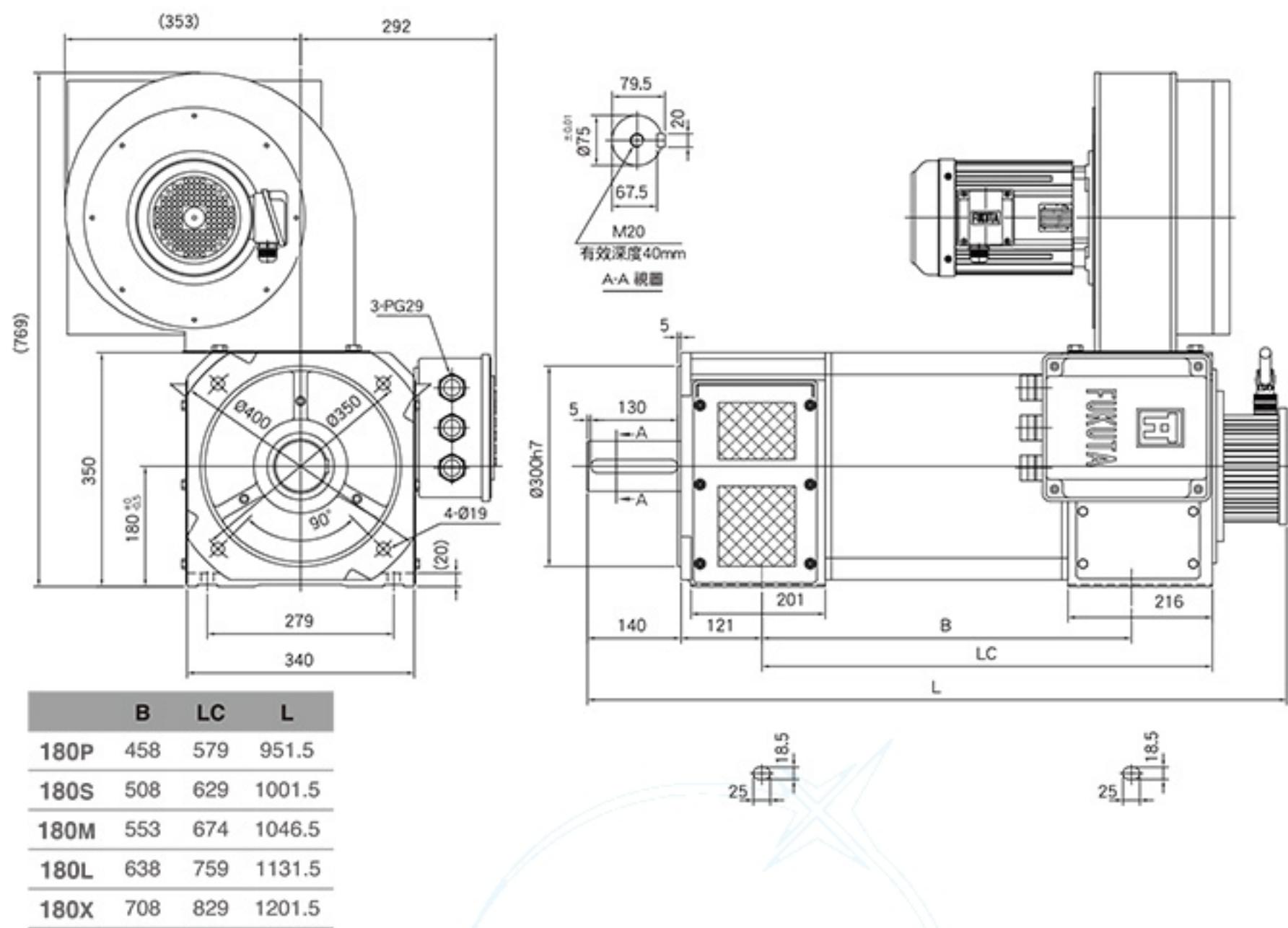
產品規格 Standard

輸出 Output(kw)	75	90	100	132	150	
框號 Frame No.	180P	180S	180M	180L	180X	
效 率 Efficiency(%)	92.3%	92.3%	92.6%	92.8%	92.8%	
功 因 Power Factor	0.84	0.838	0.817	0.824	0.826	
R1( $\Omega$ ) @25°C	0.076	0.063	0.049	0.035	0.03	
極 數 Poles	6	6	6	6	6	
轉動慣量 Rotor Inertial(kg·m <sup>2</sup> )	0.5463	0.6466	0.7369	0.9075	1.0479	
激磁電流 Magnetizing Current(A)	55.9	65.5	84.4	107	117.9	
額定轉速 Rated Speed (rpm)	1500	1500	1500	1500	1500	
最高轉速 Max. Speed (rpm)	3500	3500	3500	3500	3500	
重 量 Weight(kg)	345.0	390.0	430.0	505.0	560.0	
編 碼 器 Encoder	1024PPR RS422(Line-drive)/Push-Pull					
風 扇 Elec.Fan	3φ 220/380V 50/60Hz 5.6/3.2A					
軸 承 Bearings	LS:6316C3		OS:6315C3			

※編碼器之選用依需求為主

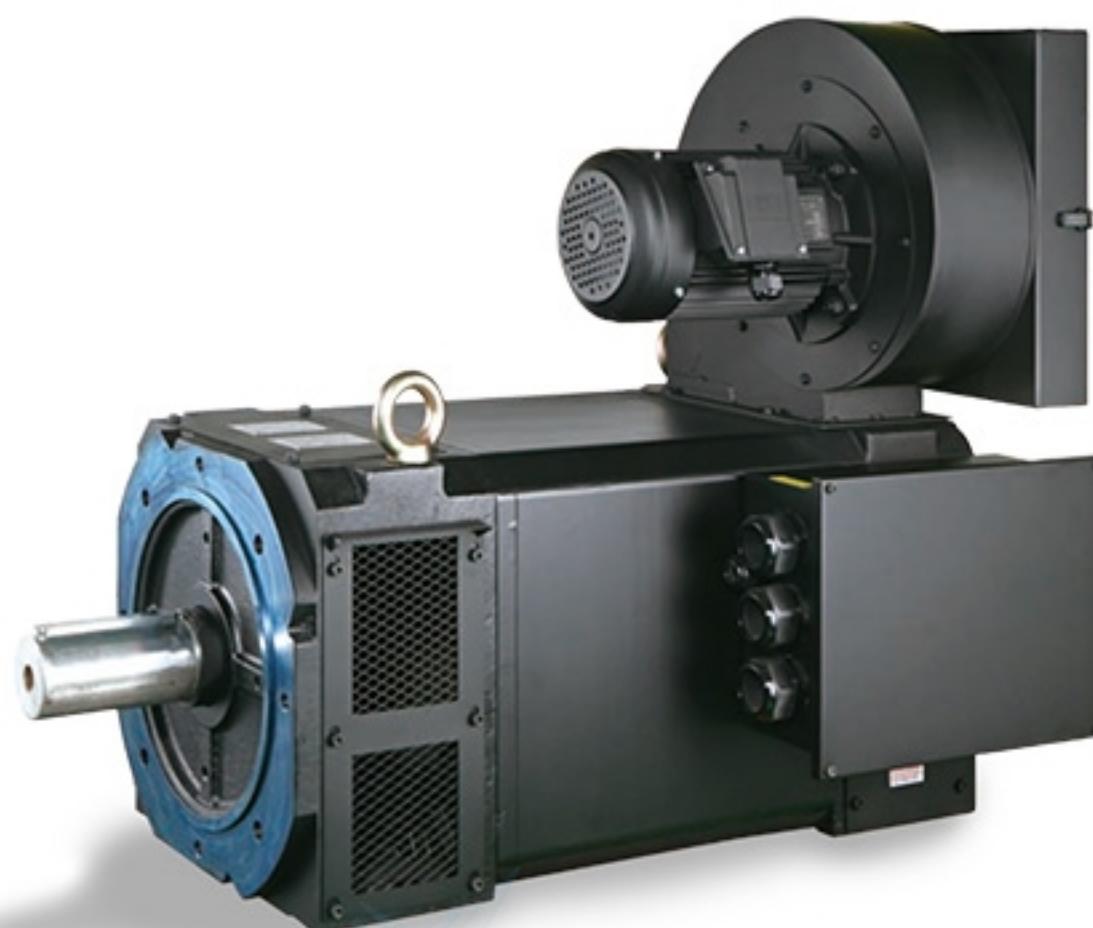
一般條件 General Data

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
絕緣等級 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

**FUKUTA®** 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current		額定頻率 Rated Frequency
					kw	RPM	Hz
SA-180P	25	500	90.42	48.88	64.5	56.0	26.0
	50	1000	90.35	48.84	113.2	98.3	51.1
	75	1500	90.17	48.74	169.6	147.3	76.0
	90	2000	81.16	43.9	197.6	171.6	101.2
SA-180S	30	500	108.33	58.56	76.2	66.2	26.1
	60	1000	108.15	58.46	140.0	121.6	51.2
	90	1500	108.24	58.51	203.8	177.0	76.1
SA-180M	113	2000	101.94	55.1	251.4	218.3	101.1
	37	500	133.66	72.25	96.4	83.7	26.1
	70	1000	126.36	68.3	168.2	146.1	51.1
SA-180L	100	1500	120.25	65	231.6	201.1	75.7
	130	2000	117.23	63.37	291.6	253.2	100.0
	45	500	162.63	87.91	114.3	99.3	26.1
SA-180X	85	1000	153.40	82.92	200.6	174.2	50.0
	132	1500	158.73	85.8	302.6	262.8	76.0
	160	2000	144.36	78.03	359.7	312.4	100.0
	50	500	180.63	97.64	124.5	108.1	26.1
	100	1000	180.49	97.56	238.2	206.9	51.2
	150	1500	180.28	97.45	342.8	297.7	76.1
	187	2000	168.72	91.2	421.2	365.8	100.0

**MODEL**  
**SA-225**  
**FUKUTA SERVO MOTOR**



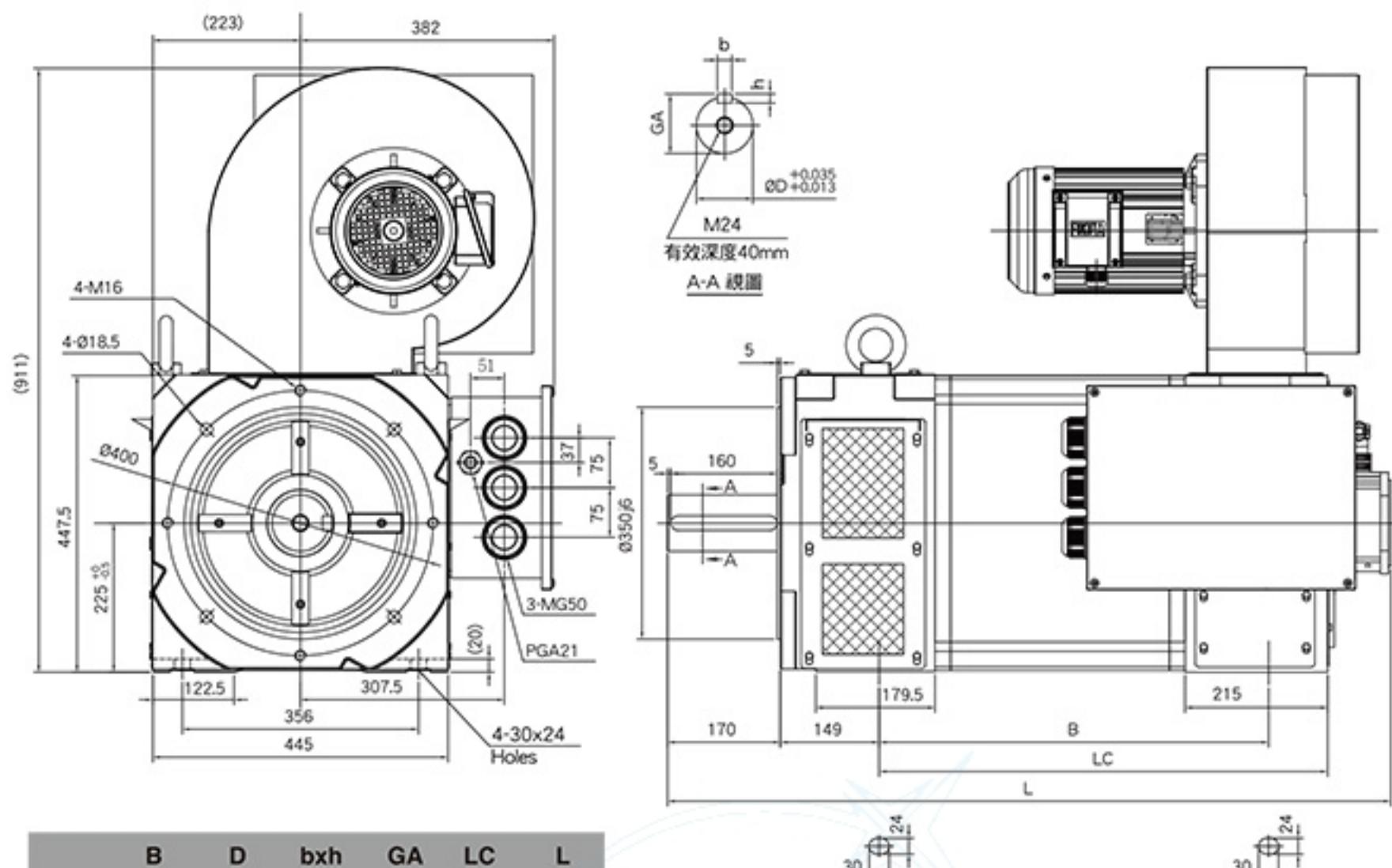
產品規格 Standard

輸出 Output(kw)	115	150	168	200
框號 Frame No.	225S	225M	225L	225X
效率 Efficiency(%)	92.4%	92.4%	93.0%	93.1%
功因 Power Factor	0.845	0.860	0.876	0.876
R1( $\Omega$ ) @25°C	0.0624	0.0480	0.0386	0.0313
極數 Poles	6	6	6	6
轉動慣量 Rotor Inertial( $\text{kg}\cdot\text{m}^2$ )	1.7946	2.1492	2.6569	3.1608
激磁電流 Magnetizing Current(A)	89.6	102.6	103.3	119.1
額定轉速 Rated Speed (rpm)	1000	1000	1000	1000
最高轉速 Max. Speed (rpm)	3000	3000	3000	3000
重量 Weight(kg)	710.0	800.0	870.0	1050.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull			
風扇 Elec.Fan	3φ 220/380V 50/60Hz 8/4.6A			
軸承 Bearings	LS:6320C3		OS:6316C3	

※編碼器之選用依需求為主

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
絕緣等級 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	LC	L
225S	587	85	22x14	90	676	1090
225M	657	85	22x14	90	746	1160
225L	757	95	25x14	100	846	1260
225X	857	95	25x14	100	946	1360

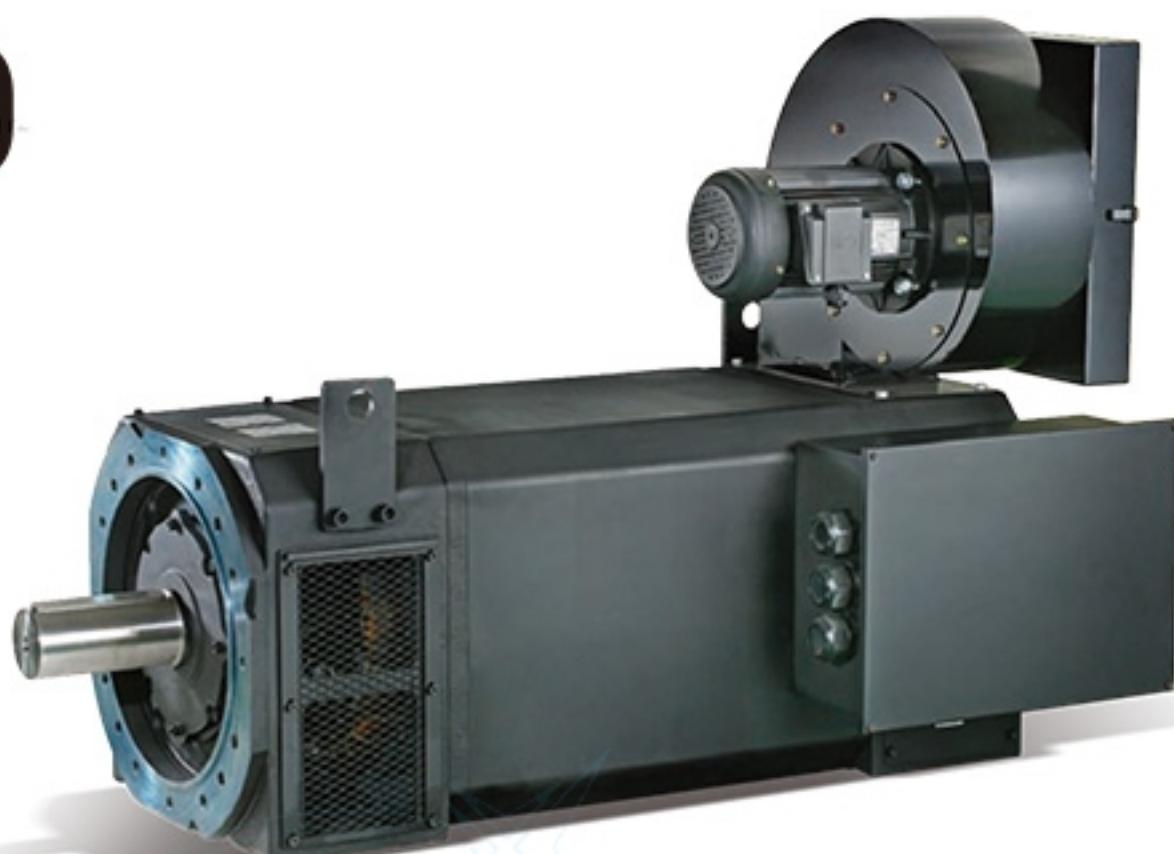
### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current	額定頻率 Rated Frequency
	kw	RPM	kg-m	kg-m	380V	Hz
SA-225S	55	500	267.9	107.14	109.0	25.8
	115	1000	280.2	112.06	224.0	50.8
	168	1500	272.5	109.0	330.0	75.8
	220	2000	268.0	107.2	407.0	100.9
SA-225M	75	500	365.5	146.2	149.0	25.9
	150	1000	365.5	146.2	287.0	50.9
	220	1500	357.3	142.9	414.0	75.9
	300	2000	365.5	146.2	555.0	100.9
SA-225L	84	500	409.25	163.7	163.4	25.8
	168	1000	409.25	163.7	313.0	50.8
	250	1500	406	162.4	464.0	75.8
	330	2000	402	160.8	644.0	100.7
SA-225X	100	500	467.28	194.7	191.2	25.8
	200	1000	467.28	194.7	377.6	50.9
	300	1500	467.28	194.7	541.5	75.8
	375	2000	438.48	182.7	672.3	101.0

**MODEL**

## SA-280

FUKUTA SERVO MOTOR



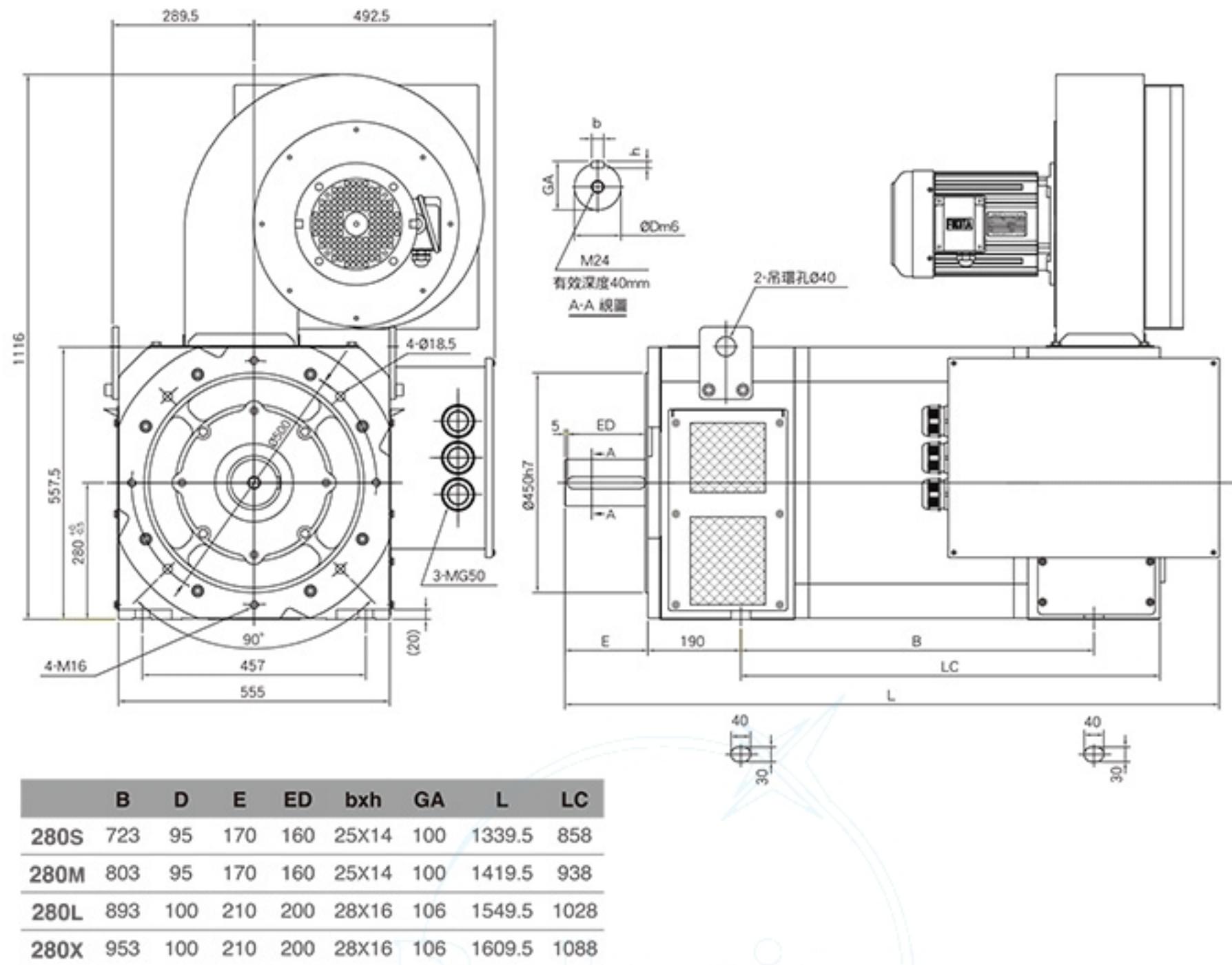
**產品規格 Standard**

輸出 Output(kw)	265	305	360	390
框號 Frame No.	280S	280M	280L	280X
效率 Efficiency(%)	92.9	95.5	96.0	96.1
功因 Power Factor	0.855	0.853	0.854	0.869
R1( $\Omega$ ) @25°C	0.019	0.017	0.012	0.011
極數 Poles	6	6	6	6
轉動慣量 Rotor Inertial(kg·m <sup>2</sup> )	5.2910	6.2986	7.4323	8.1881
激磁電流 Magnetizing Current(A)	106.0	198.4	252.9	246.2
額定轉速 Rated Speed (rpm)	1000	1000	1000	1000
最高轉速 Max. Speed (rpm)	3000	3000	3000	3000
重量 Weight(kg)	1100.0	1300.0	1450.0	1600.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull			
風扇 Elec.Fan	3φ 220/380V 50/60Hz 8/4.6A			
軸承 Bearings	LS:6322C3		OS:6318C3	

※編碼器之選用依需求為主

**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
絕緣等級 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

**FUKUTA® 伺服馬達規格之選用**

框號 Fr. No.	額定輸出 Rated Output		額定轉速 Rated Speed		最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current	額定頻率 Rated Frequency
	kw	RPM	kg-m	kg-m				
SA-280S	132	500	643.18	257.27	247.4	25.5		
	265	1000	645.63	258.25	475.6	50.5		
	400	1500	649.65	259.86	718.8	75.5		
	520	2000	633.43	253.37	899.5	100.5		
SA-280M	150	500	730.88	292.35	287.0	25.5		
	305	1000	743.00	297.2	568.9	50.6		
	450	1500	730.85	292.34	833.1	75.6		
	600	2000	730.85	292.34	1097.5	100.6		
SA-280L	168	500	818.63	327.45	321.8	25.5		
	360	1000	877.08	350.83	667.5	50.5		
	510	1500	812.10	331.33	957.7	75.5		
	650	2000	791.73	316.69	1155.7	100.5		
SA-280X	190	500	925.75	370.3	339.6	25.5		
	390	1000	950.83	380.33	709.8	50.5		
	560	1500	909.53	363.81	1058.3	75.5		
	750	2000	913.58	365.43	1339.7	100.5		

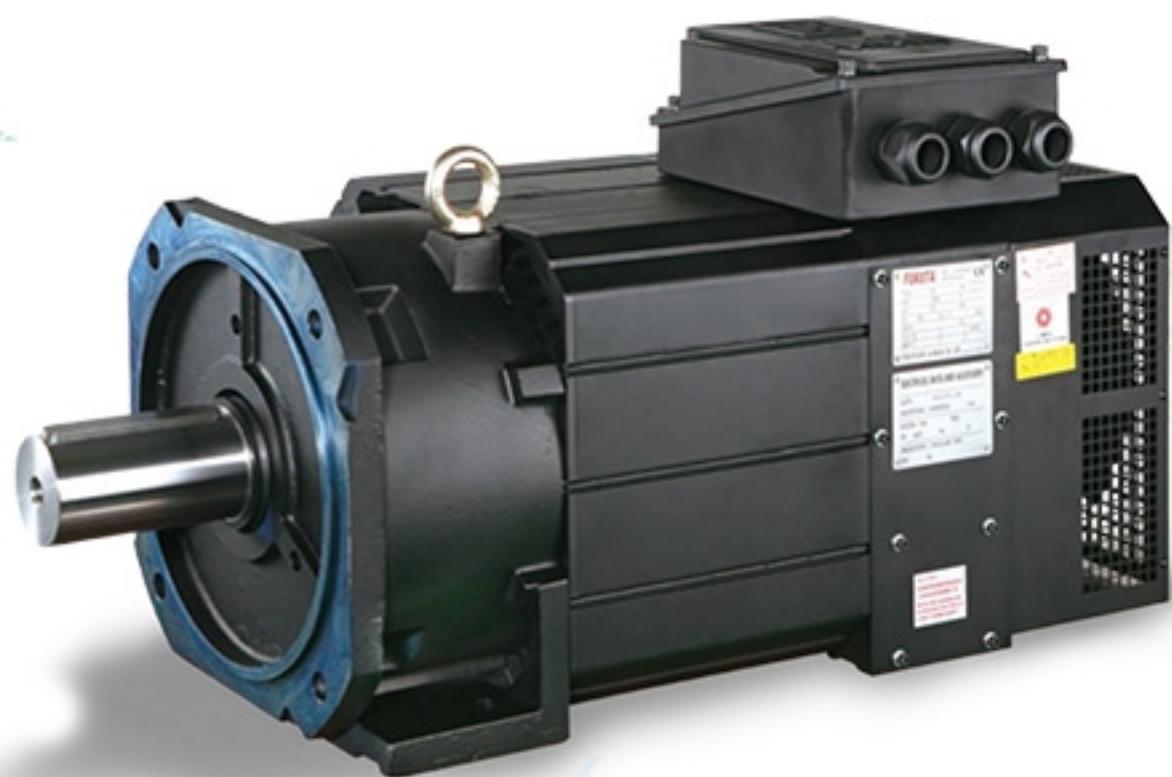
23

FUKUTA®

INNOVATION / ENTHUSIASM / CREDIBILITY

**MODEL****SB-180**

FUKUTA SERVO MOTOR

**IP54 低慣量****產品規格 Standard**

輸出 Output(kw)	55	65	75	90	110	
框號 Frame No.	180P	180S	180M	180L	180X	
效率 Efficiency(%)	94.8%	94.8%	95.0%	95.3%	95.3%	
功因 Power Factor	0.883	0.878	0.887	0.904	0.895	
R1(Ω) @25°C	0.116	0.097	0.079	0.061	0.048	
極數 Poles	4	4	4	4	4	
轉動慣量 Rotor Inertial(kg·m²)	0.4006	0.4807	0.5528	0.6889	0.8010	
激磁電流 Magnetizing Current(A)	36.6	44.5	47.6	49.3	64.5	
額定轉速 Rated Speed (rpm)	1500	1500	1500	1500	1500	
最高轉速 Max. Speed (rpm)	3500	3500	3500	3500	3500	
重量 Weight(kg)	328.0	370.0	408.0	480.0	544.0	
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull					
風扇 Elec.Fan	3φ 220/380V 50/60Hz 5.6/3.2A					
軸承 Bearings	LS:6316C3		OS:6315C3			

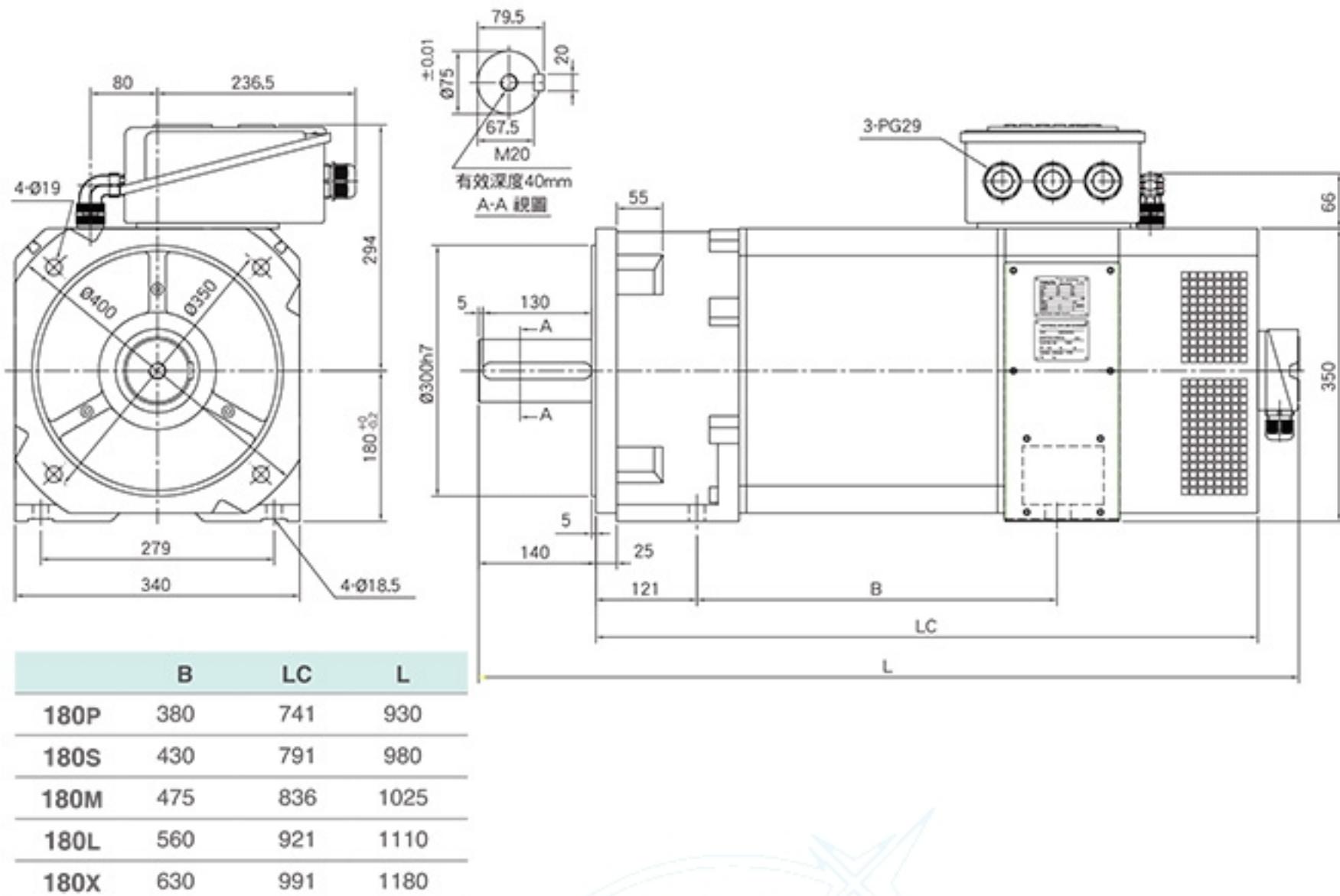
※編碼器之選用依需求為主

**一般條件 General Data**

安裝方式 Mounting	IM 2001(B3/B5)
保護方式 Protection	<b>IP54 低慣量</b>
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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

FUKUTA®

◎歡迎洽商標準產品以外，專用產業特性之開發和客製

**FUKUTA® 伺服馬達規格之選用**

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque		額定轉矩 Rated Torque	額定電流 Rated Current		額定頻率 Rated Frequency	
			kw	RPM	kg-m	kg-m	330V	380V	
SB-180P	37	1000	72.12		36.06		80.2	69.7	34.0
	55	1500	71.47		35.73		114.9	99.8	50.7
	75	2000	73.08		36.54		150.6	130.8	67.4
	100	3000	64.96		32.48		196.5	170.6	100.8
SB-180S	45	1000	87.7		43.85		97.6	84.8	34.0
	65	1500	84.45		42.22		136.7	118.7	50.7
	88	2000	85.76		42.88		180.7	156.9	67.4
	114	3000	74.06		37.03		225.5	195.8	100.8
SB-180M	55	1000	107.18		53.59		120.7	104.8	34.0
	75	1500	97.44		48.72		155.6	135.1	50.7
	100	2000	97.44		48.72		203.2	176.5	67.5
	132	3000	85.74		42.87		259.6	225.4	100.7
SB-180L	60	1000	116.94		58.47		126.2	109.6	34.0
	90	1500	116.94		58.47		182.9	158.8	50.7
	122	2000	118.88		59.44		244.9	212.7	67.4
	160	3000	103.94		51.97		313.9	272.6	100.7
SB-180X	75	1000	146.16		73.08		161.7	140.4	34.0
	110	1500	142.92		71.46		225.4	195.7	50.7
	145	2000	141.3		70.65		287.2	249.4	67.4
	190	3000	123.42		61.71		372.1	323.1	100.7

**MODEL**

# SBA-180

FUKUTA SERVO MOTOR

IP23 低慣量



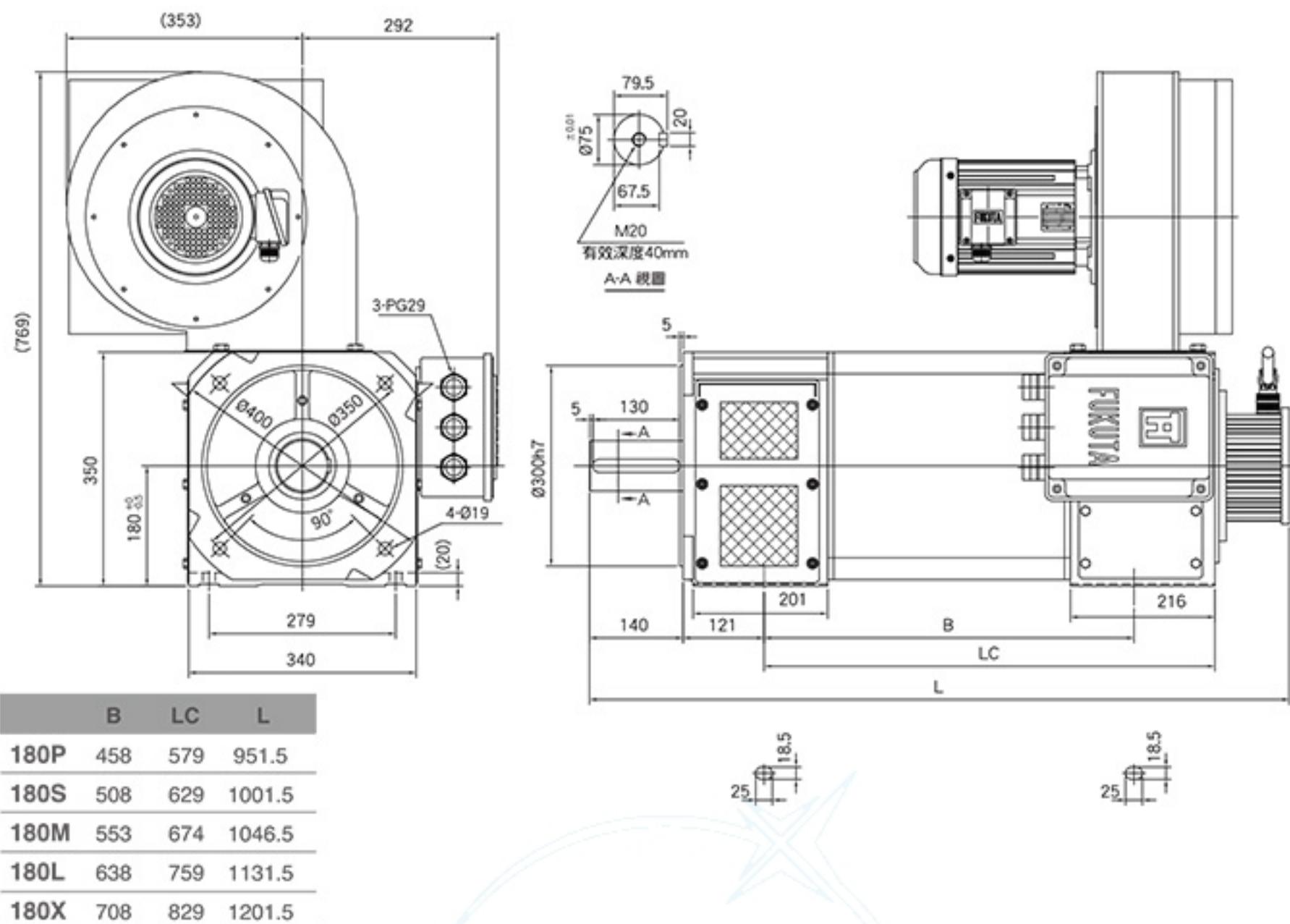
產品規格 Standard

輸出 Output(kw)	80	95	105	130	150
框號 Frame No.	180P	180S	180M	180L	180X
效率 Efficiency(%)	93.8%	93.7%	94.1%	94.4%	94.6%
功因 Power Factor	0.889	0.899	0.900	0.890	0.895
R1( $\Omega$ ) @25°C	0.105	0.092	0.075	0.053	0.044
極數 Poles	4	4	4	4	4
轉動慣量 Rotor Inertial(kg-m <sup>2</sup> )	0.4006	0.4807	0.5528	0.6889	0.8010
激磁電流 Magnetizing Current(A)	46.0	48.3	53.4	72.7	79.6
額定轉速 Rated Speed	1500	1500	1500	1500	1500
最高轉速 Max. Speed (rpm)	3500	3500	3500	3500	3500
重量 Weight(kg)	328.0	370.0	408.0	480.0	544.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull				
風扇 Elec.Fan	3φ 220/380V 50/60Hz 5.6/3.2A				
軸承 Bearings	LS:6316C3 OS:6314C3				

※編碼器之選用依需求為主

一般條件 General Data

安裝方式 Mounting	IM 2001(B3,B5)
保護方式 Protection	IP23 低慣量
轉子平衡 Rotor Balancing	R級 (ISO2373)R Degree
絕緣等級 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



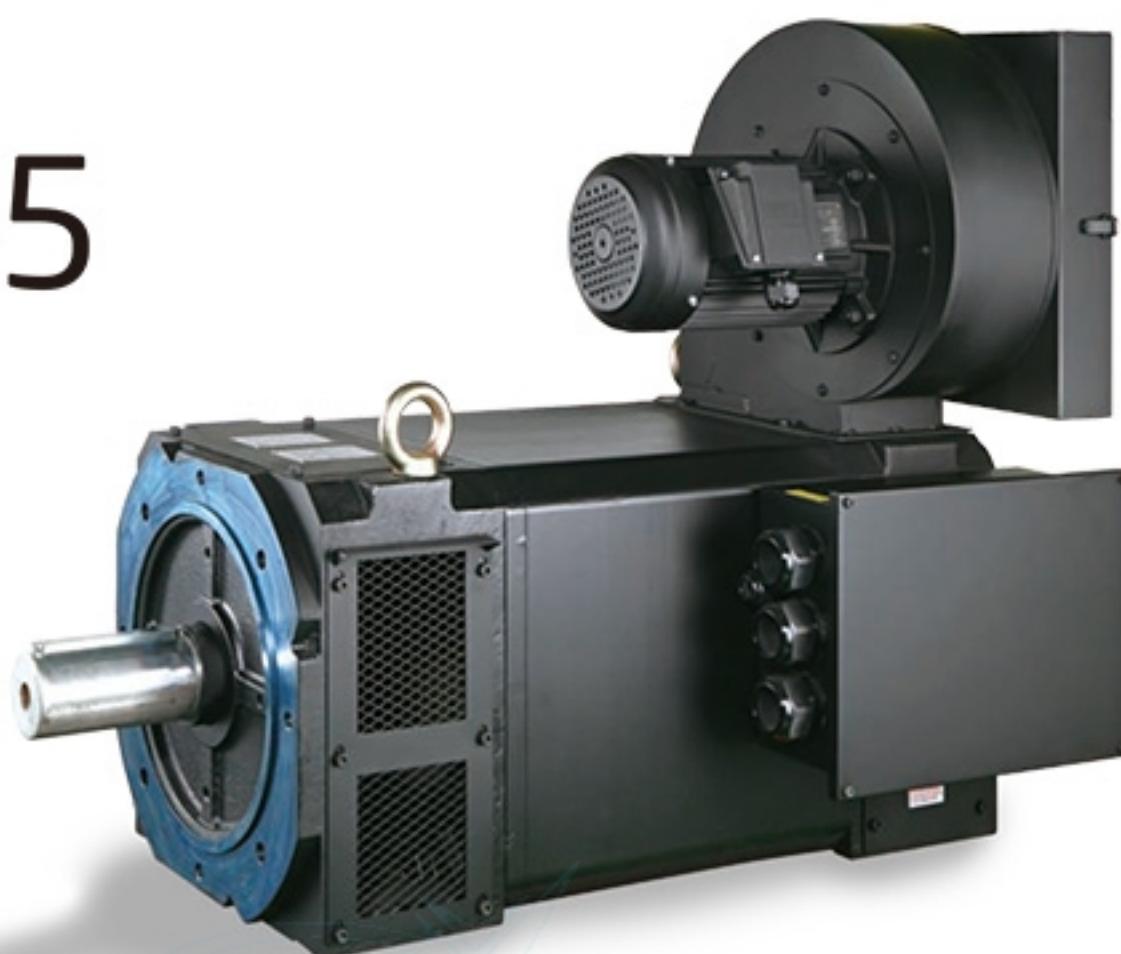
### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current	額定頻率 Rated Frequency	
	kw	RPM	kg-m	kg-m	330V	380V	Hz
SBA-180P	30	500	116.94	58.47	68.4	59.4	17.6
	60	1000	116.94	58.47	135.9	118.0	34.2
	80	1500	103.94	51.97	177.3	154.0	50.9
	110	2000	107.18	53.59	237.6	206.3	67.6
SBA-180S	37	500	144.22	72.11	82.4	71.6	17.6
	70	1000	136.42	68.21	154.1	133.8	34.0
	95	1500	123.44	61.72	197.4	171.4	50.7
	125	2000	121.8	60.9	256.1	222.4	67.4
SBA-180M	40	500	155.92	77.96	89.5	77.7	17.5
	80	1000	155.92	77.96	175.0	152.0	34.0
	105	1500	136.42	68.21	216.9	188.4	50.7
	145	2000	141.3	70.65	295.0	256.2	67.5
SBA-180L	50	500	194.88	97.44	110.2	95.7	17.5
	100	1000	194.88	97.44	214.4	186.2	34.0
	130	1500	168.9	84.45	270.5	234.9	50.7
	180	2000	175.4	87.7	363.0	315.2	67.4
SBA-180X	55	500	214.38	107.19	119.8	104.0	17.5
	110	1000	214.38	107.19	233.6	202.9	34.2
	150	1500	194.88	97.44	309.9	269.1	50.7
	200	2000	194.88	97.44	399.5	346.9	67.4

**MODEL**

# SBA-225

FUKUTA SERVO MOTOR



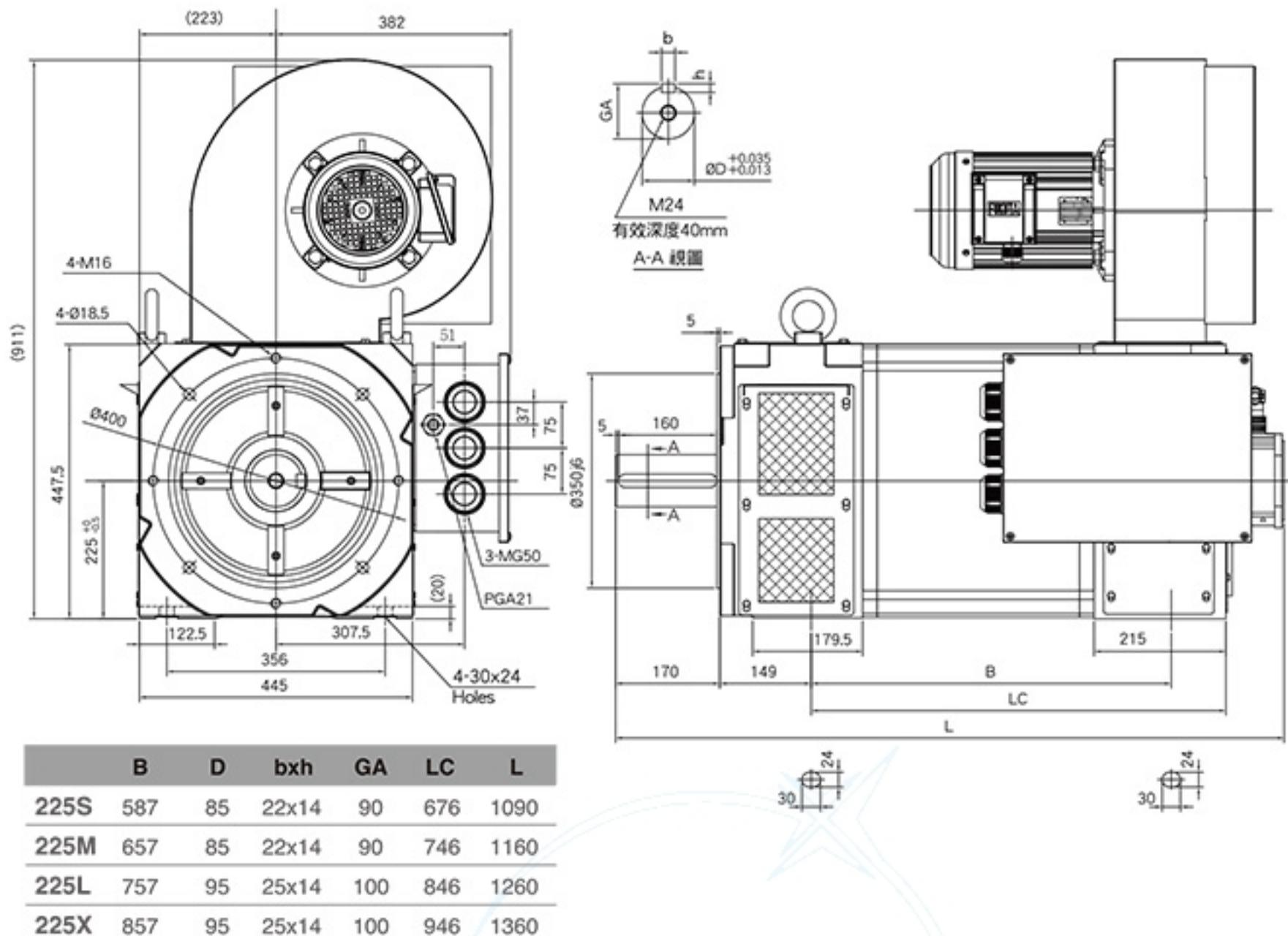
**產品規格 Standard**

輸出 Output(kw)	100	133	167	200
框號 Frame No.	225S	225M	225L	225X
效率 Efficiency(%)	93.6%	93.7%	93.9%	94.3%
功因 Power Factor	0.844	0.833	0.867	0.840
R1(Ω) @25°C	0.074	0.053	0.04	0.029
極數 Poles	4	4	4	4
轉動慣量 Rotor Inertial(kg·m²)	1.2806	1.5522	1.9403	2.3284
激磁電流 Magnetizing Current(A)	65	83	91	128
額定轉速 Rated Speed	1000	1000	1000	1000
最高轉速 Max. Speed (rpm)	3000	3000	3000	3000
重量 Weight(kg)	705.0	795.0	915.0	1040.0
編碼器 Encoder	1024PPR RS422(Line-drive)/Push-Pull			
風扇 Elec.Fan	3φ 220/380V 50/60Hz 8/4.6A			
軸承 Bearings	LS:6320C3 OS:6316C3			

※編碼器之選用依需求為主

**一般條件 General Data**

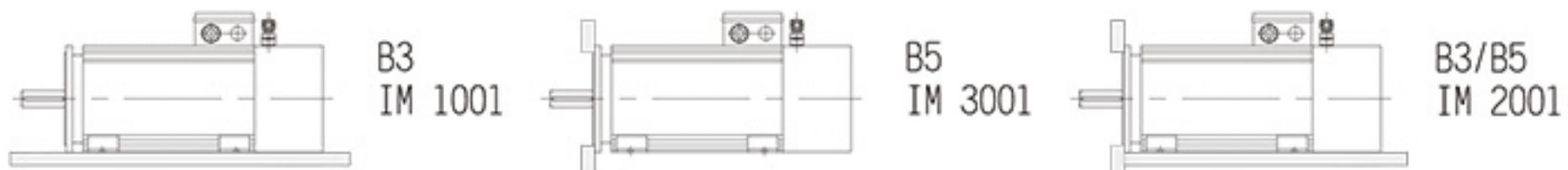
安裝方式 Mounting	IM 2001(B3/B5)
保護方式 Protection	<b>IP23 低價量</b>
轉子平衡 Rotor Balancing	R級 (ISO2373) R Degree
絕緣等級 Insulation	H級 Class H
冷卻系統 Cooling Sys.	強制通風 Forced Air Cooled
熱保護 Thermal Protection	熱保護器 (常閉) Thermal Protector (NC)
噪音 Noise	80dBA
周溫 Ambient Temp.	-15°C~40°C
高度 Altitude	海拔1000米 1000m ASL



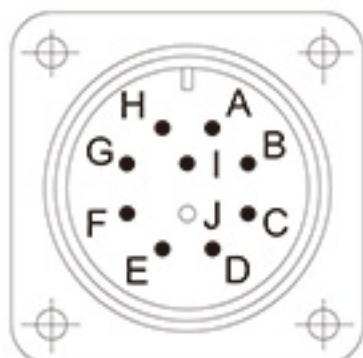
### FUKUTA® 伺服馬達規格之選用

框號 Fr. No.	額定輸出 Rated Output		額定轉速 Rated Speed		最大轉矩 Max. Torque	額定轉矩 Rated Torque	額定電流 Rated Current	額定頻率 Rated Frequency
	kw	RPM	kg-m	kg-m				
SBA-225S	50	500	223.95	97.55	98.7	17.3		
	100	1000	243.06	97.54	188.5	34.5		
	150	1500	258.18	97.44	273	50.6		
	185	2000	251.20	90.18	341.6	67.3		
SBA-225M	67	500	278.00	130.72	130.9	17.4		
	133	1000	304.06	129.77	242	34		
	185	1500	321.93	120.20	353.3	50.6		
	230	2000	307.53	112.08	424.1	67.3		
SBA-225L	84	500	349.57	163.75	162.4	17.4		
	167	1000	370.17	162.78	308.6	34.3		
	220	1500	374.28	142.91	402.1	50.6		
	275	2000	402.04	134.00	524.3	67.2		
SAB-225X	100	500	430.05	195.00	193.4	17.3		
	200	1000	466.78	195.06	376.6	34.6		
	300	1500	489.76	194.90	566.5	50.6		
	375	2000	502.37	182.71	718.8	67.3		

## 安裝及位置 Mountings and Positions

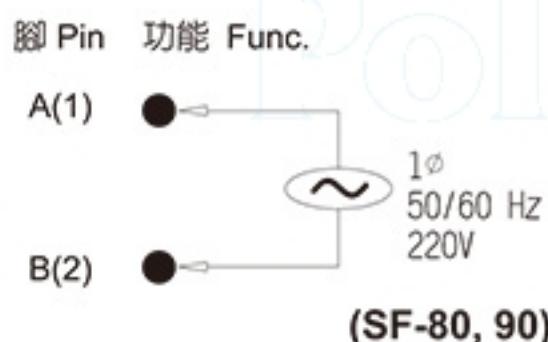
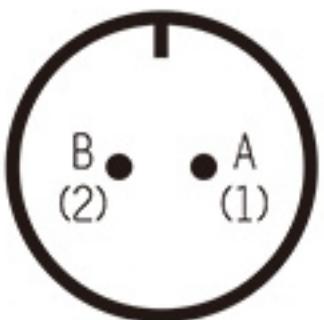


## 編碼器接頭 Encoder Connector

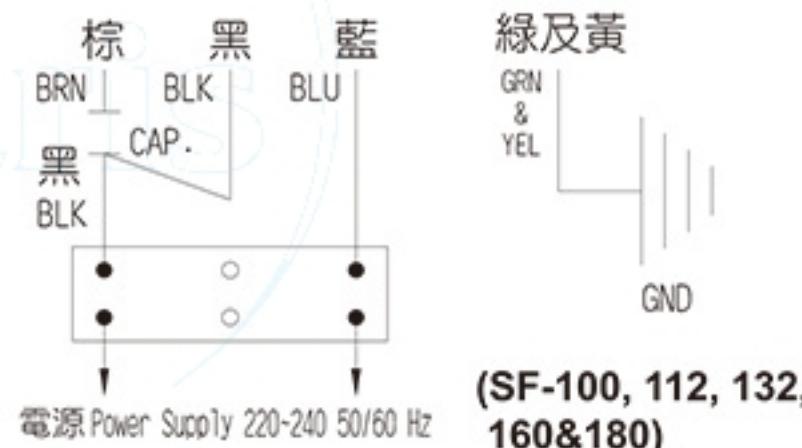
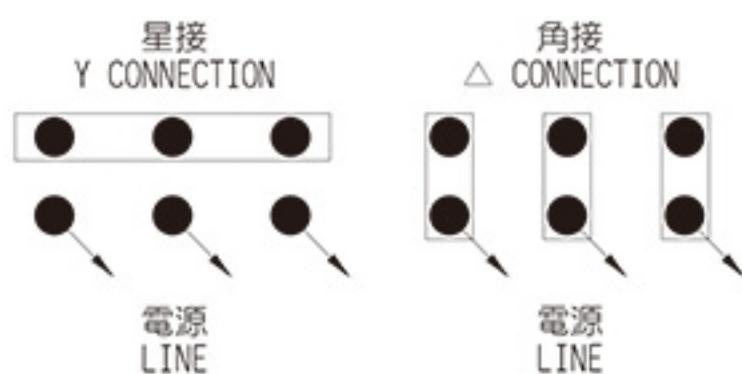


腳 Pin	功能 Func.
A	A
B	B
C	Z
D	<u>A</u>
E	<u>B</u>
F	Z
G	遮蔽 Shield
H	電源 Power
I	COM Common
J	---

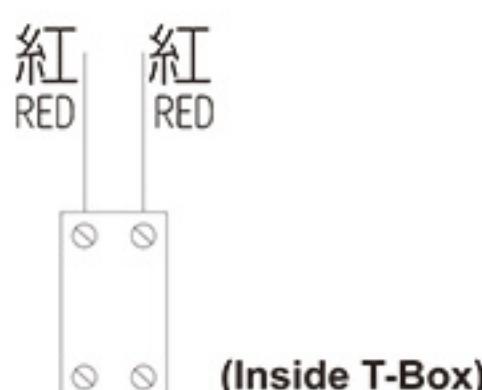
## 風扇接頭 Fan Connector

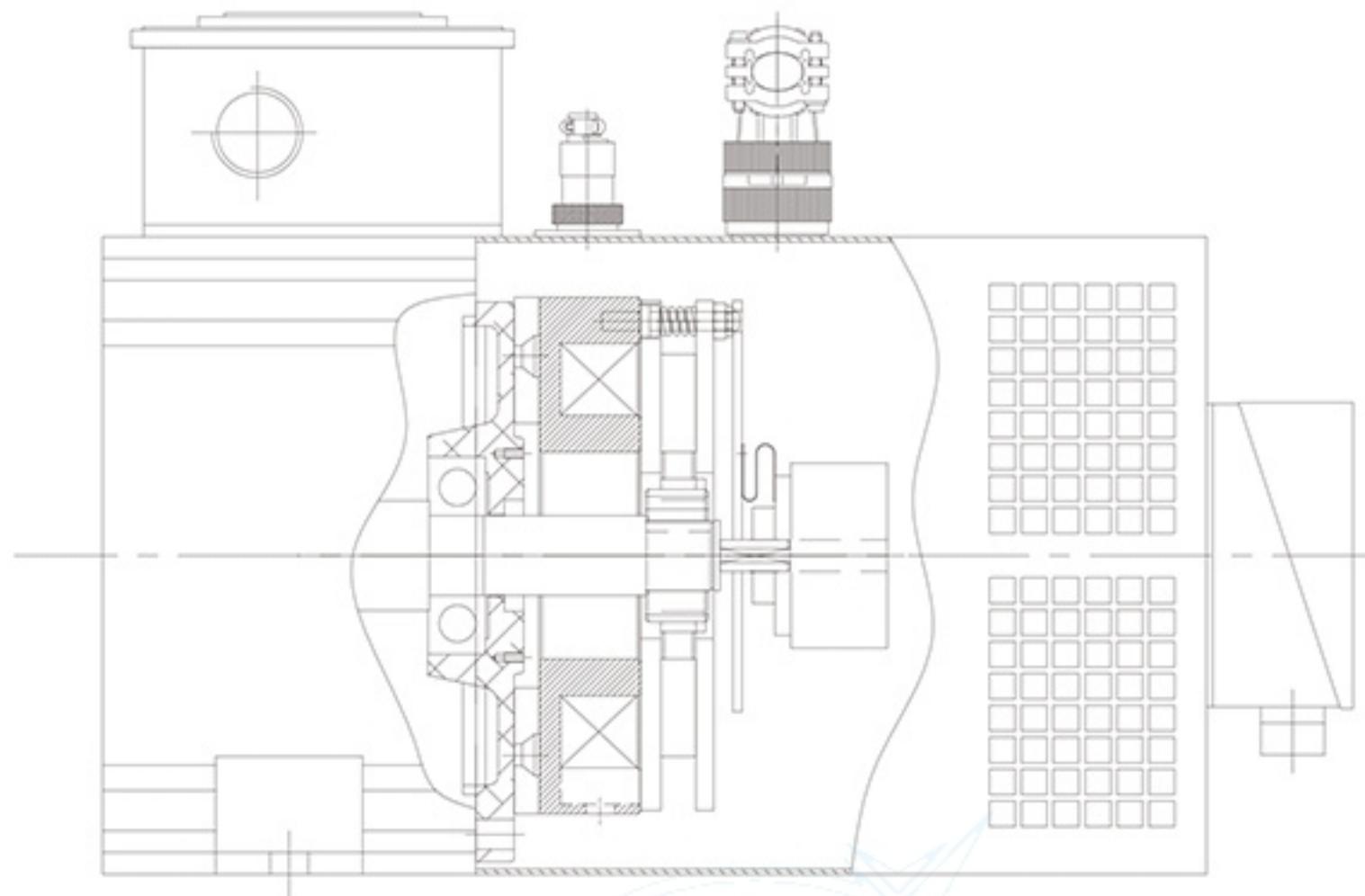


## 風扇端子台 Fan Terminal Board

主電源端子台 Terminal Board for Main Power  
(Include SA series #132~280 Blower Terminal Board)

## 熱保護器 Thermal Protector





**選用配件 Accessories**  
**伺服用煞車規格 Servo Brake fo SF Series**

Frame 框號	80	90	100	112	132	160
Brake Torque 煞車扭力 (KG·M)	0.8	1.6	2.2	3.7	8	16
Max Speed 最高轉速 (RPM)	3000	3000	3000	2800	2000	2000
Power Supply 電壓 (VDC)	90	90	90	90	24	24
Brake Inertia 剎車轉動慣量 (KG·M <sup>2</sup> )	0.0004	0.0009	0.0015	0.0047	0.017	0.049
Input Power 功率 (W)	14.5	35	42.3	45	56	65
Weight 重量 (KG)	1.5	2.4	3.6	5.7	10	13.5

◎此份型錄所載有關產品之細節，包含特性與規格尺寸為交付印刷廠時之正確數據無誤。  
由於對產品持續研發之故，對於產品特性規格，本公司保留有隨時更改之權利。

All detail and specifications are correct at time of going to press. We reserve the right to make changes without notice in the course of continued development.

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