

FUKUTA®

FUKUTA ELEC. & MACH. CO., LTD.

Innovation
Enthusiasm
Integrity

PSEF Series

**SYNCHRONOUS
SERVO MOTOR**

www.fukuta-motor.com.tw



目錄

- 1 一般條件 General Data
- 2 PNVF-90 同步伺服馬達 400V
- 3 90S • 90M • 90L • 90X
- 4 PSEF-112 同步伺服馬達 400V
- 5 PSEF-112 同步伺服馬達 220V
- 6 112SA / SB • 112M • 112L • 112X • 112XL
- 8 編碼器資料 Encoder information

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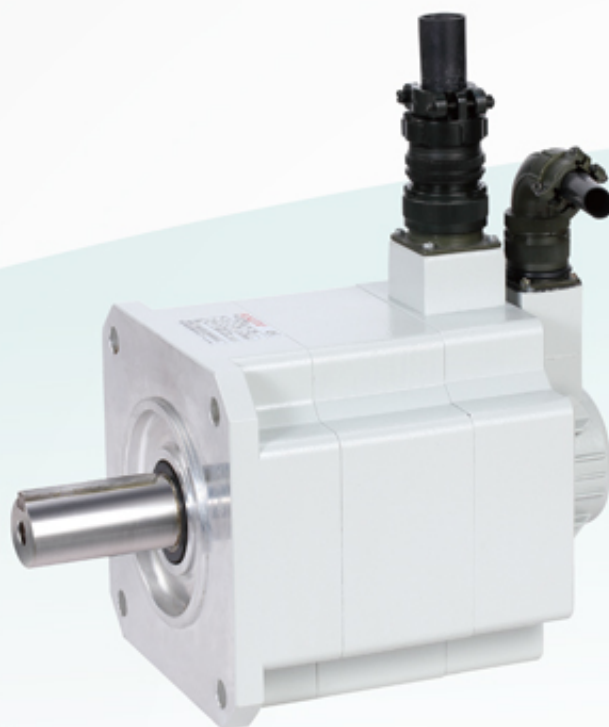
PSEF Series

同步伺服馬達 Synchronous Servo Motor

一般條件 General Data

安裝方式	Mounting	IM 2001(B35)
防護等級	Protection Level	IP54
絕緣等級	Insulation Class	H 級
絕緣耐壓	Voltage Endurance	1500 Vrms/min
絕緣阻抗	Insulation Resistance	ABOVE 500 VDC 10MΩ
冷卻方式	Cooling Method	強制通風 Forced Air Cooled
溫度開關	Thermal Protection	溫度開關 120°C ±5%(常閉) Thermal Protector 120°C ±5% (NC)
噪音	Noise	80dBA
周溫	Ambient Temp.	-15°C ~40°C
高度	Altitude	最高海拔 1000 米 Less than 1000 meter
編碼器	Encoder	標準型：RESOLVER · 可選配 Push pull, Line-driver Standard type: Resolver, optional for Push-pull or Line-driver type
風扇	Elec.Fan	1φ230V 50/60Hz 46/41W (F#112) 1φ230V 50/60Hz 75/70W (F#145)
驅動器	Driver	適用於任何同步馬達驅動器 Apply to any PMS motor drive

PNVF-90



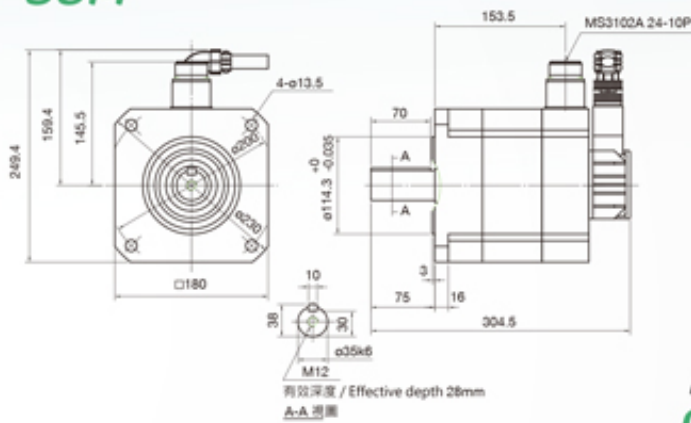
FUKUTA SYNCHRONOUS SERVO MOTOR 400V

產品規格 Standard

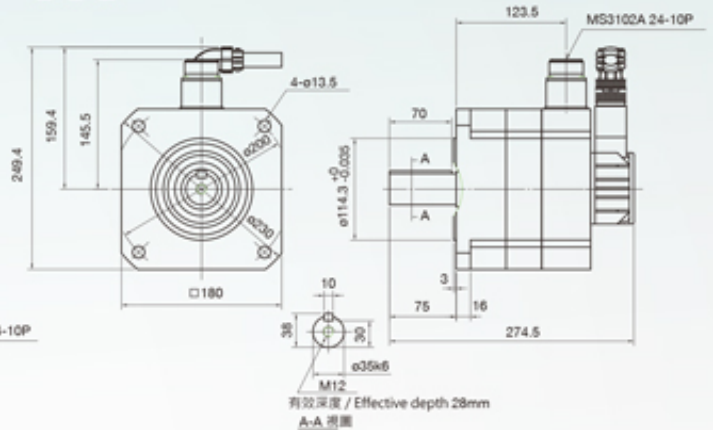
框 號	Frame No.	90S	90M	90L	90X
極 數	Poles	8	8	8	8
轉動慣量	Rotor Inertial (kg- m ²)	0.0035	0.0061	0.0078	0.0096

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	額定電流 Rated Current	額定轉矩 Rated Torque	最大轉矩 Max. Torque	額定頻率 Rated Frequency	Ke (E.M.F) V rms/K rpm	轉矩常數 Kt Nm/A rms	line U to V Resistance ohm@20°C	line U to V Inductance mh	最高轉速 Max Speed rpm	轉動慣量 Inertia kg- m ²	重量 Weight kg
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/A rms	ohm@20°C	mh	rpm	kg- m ²	kg
90S	1	1000	2.1	9.6	19.1	66.7	300.0	4.5	8.440	72.2	2000	0.0035	16
	1.5	1500	3.2	9.6	19.1	100.0	200.0	3.0	3.782	32.3	2500	0.0035	
	2	2000	4.1	9.6	19.1	133.3	150.0	2.3	2.122	18.2	3000	0.0035	
	3	3000	6.4	9.6	19.1	200.0	100.0	1.5	0.936	8.03	4000	0.0035	
90M	1.9	1000	3.7	17.8	35.7	66.7	300.0	4.8	3.772	40.9	2000	0.0061	29
	2.8	1500	5.6	17.8	35.7	100.0	200.0	3.2	1.796	18.1	2500	0.0061	
	3.7	2000	7.5	17.8	35.7	133.3	150.0	2.4	0.970	10.4	3000	0.0061	
	5.6	3000	11.2	17.8	35.7	200.0	100.0	1.6	0.418	4.55	4000	0.0061	
90L	2.3	1000	4.7	21.7	43.4	66.7	300.0	4.6	2.980	31.9	2000	0.0078	37
	3.4	1500	7	21.7	43.4	100.0	200.0	3.1	1.196	14.3	2500	0.0078	
	4.5	2000	9.3	21.7	43.4	133.3	150.0	2.3	0.694	7.99	3000	0.0078	
	6.8	3000	14.1	21.7	43.4	200.0	100.0	1.5	0.292	3.46	4000	0.0078	
90X	2.8	1000	5.6	26.3	52.6	66.7	300.0	4.7	2.146	26.8	2000	0.0096	45
	4.1	1500	8.4	26.3	52.6	100.0	200.0	3.1	0.952	11.6	2500	0.0096	
	5.5	2000	11	26.3	52.6	133.3	150.0	2.4	0.544	6.71	3000	0.0096	
	8.3	3000	16.8	26.3	52.6	200.0	100.0	1.6	0.228	2.81	4000	0.0096	

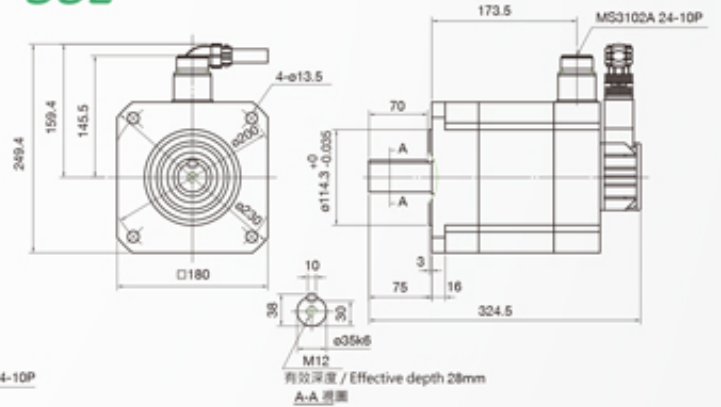
PNVF-90 series
90M



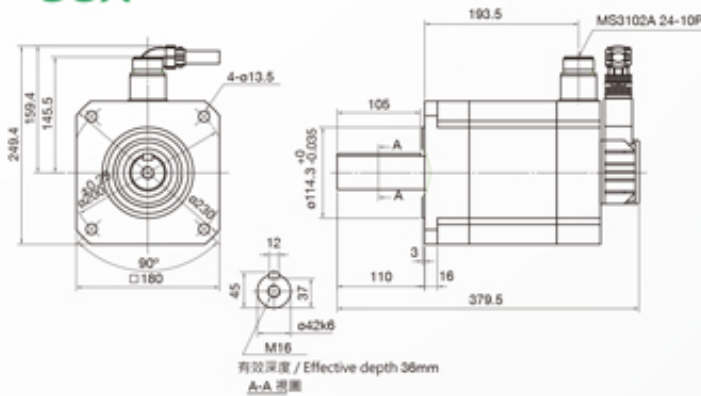
PNVF-90 series
90S



PNVF-90 series
90L



PNVF-90 series
90X



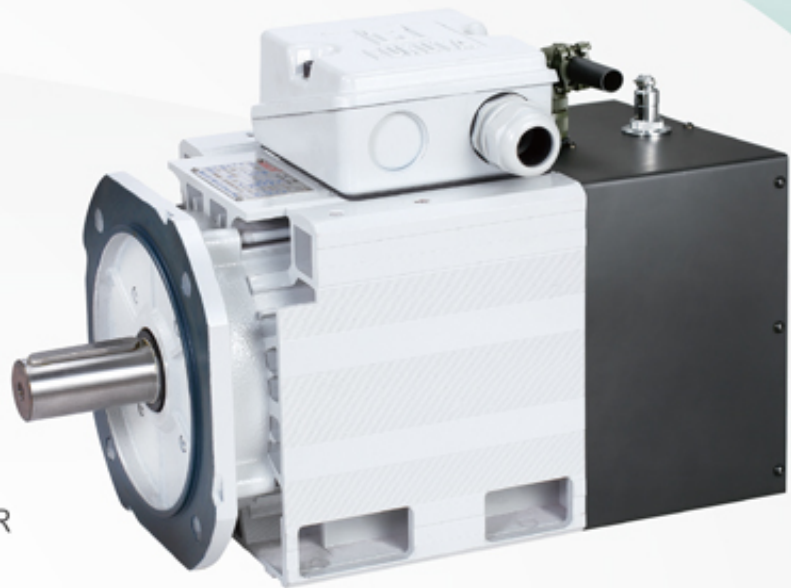
PSEF-112

FUKUTA SYNCHRONOUS SERVO MOTOR 400V

產品規格 Standard

框 號	Frame No.	112SA	112SB	112M	112L	112X	112XL
極 數	Poles	8	8	8	8	8	8
轉動慣量	Rotor Inertial (kg- m ²)	0.0062	0.0074	0.009	0.012	0.014	0.02

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	額定電流 Rated Current	額定轉矩 Rated Torque	最大轉矩 Max. Torque	額定頻率 Rated Frequency	Ke (E.M.F)	轉矩常數 Kt	line U to V Resistance	line U to V Inductance	最高轉速 Max Speed	轉動慣量 Inertial	重量 Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms/K rpm	Nm/A rms	ohm@20°C	mh	rpm	kg- m ²	kg
112SA	4.4	1000	8.7	42.0	117.7	66.7	300.0	4.8	2.070	20.6	2000	0.0062	40
	6.6	1500	13.1	42.0	117.7	100.0	200.0	3.2	1.000	9.36	2500	0.0062	
	8.8	2000	17.5	42.0	117.7	133.3	150.0	2.4	0.516	5.16	3000	0.0062	
	13.2	3000	26.2	42.0	117.7	200.0	100.0	1.6	0.254	2.47	4000	0.0062	
112SB	5.7	1000	11.3	54.0	151.2	66.7	300.0	4.8	1.574	16.6	2000	0.0074	45
	8.5	1500	16.9	54.0	151.2	100.0	200.0	3.2	0.698	7.39	2500	0.0074	
	11.3	2000	22.5	54.0	151.2	133.3	150.0	2.4	0.392	4.15	3000	0.0074	
	17	3000	33.8	54.0	151.2	200.0	100.0	1.6	0.174	1.84	4000	0.0074	
112M	7.8	1000	15.1	74.0	207.2	66.7	300.0	4.9	0.972	11.60	2000	0.009	51
	11.6	1500	22.7	74.0	207.2	100.0	200.0	3.3	0.432	5.19	2500	0.009	
	15.5	2000	30.3	74.0	207.2	133.3	150.0	2.4	0.242	2.92	3000	0.009	
	23.3	3000	45.4	74.0	207.2	200.0	100.0	1.6	0.108	1.29	4000	0.009	
112L	9.4	1000	18.5	89.8	251.4	66.7	300.0	4.9	0.650	8.75	2000	0.012	56
	14.1	1500	27.7	89.8	251.4	100.0	200.0	3.2	0.298	3.97	2500	0.012	
	18.8	2000	36.9	89.8	251.4	133.3	150.0	2.4	0.162	2.19	3000	0.012	
	28.2	3000	55.4	89.8	251.4	200.0	100.0	1.6	0.072	0.93	4000	0.012	
112X	11.3	1000	22.1	107.6	301.3	66.7	300.0	4.9	0.574	7.69	2000	0.014	66
	16.9	1500	33.2	107.6	301.3	100.0	200.0	3.2	0.254	3.25	2500	0.014	
	22.5	2000	44.3	107.6	301.3	133.3	150.0	2.4	0.142	1.92	3000	0.014	
	33.8	3000	66.4	107.6	301.3	200.0	100.0	1.6	0.058	0.81	4000	0.014	
112XL	15.2	1000	30.5	145.2	406.4	66.7	300.0	4.8	0.360	5.34	2000	0.020	73
	22.8	1500	45.8	145.2	406.4	100.0	200.0	3.2	0.150	2.20	2500	0.020	
	30.4	2000	61.1	145.2	406.4	133.3	150.0	2.4	0.094	1.33	3000	0.020	
	45.6	3000	91.6	145.2	406.4	200.0	100.0	1.6	0.038	0.55	4000	0.020	



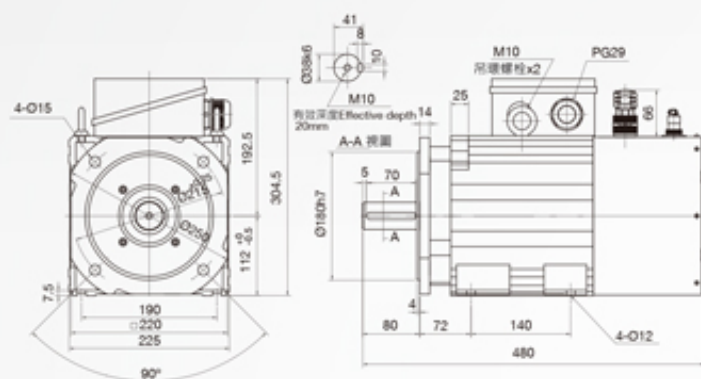
FUKUTA SYNCHRONOUS SERVO MOTOR 220V

產品規格 Standard

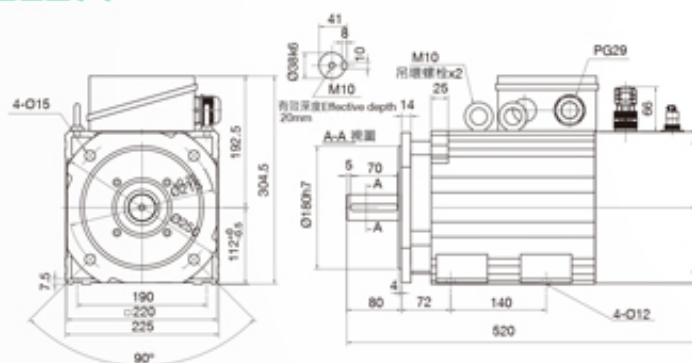
框 號	Frame No.	112SA	112SB	112M	112L	112X	112XL
極 數	Poles	8	8	8	8	8	8
轉動慣量	Rotor Inertial (kg·m ²)	0.0062	0.0074	0.009	0.012	0.014	0.02

框號 Fr. No.	額定輸出	額定轉速	額定電流	額定轉矩	最大轉矩	額定頻率	Ke (E.M.F)	轉矩常數	line U to V	line U to V	最高轉速	轉動慣量	重量
	Rated Output	Rated Speed	Rated Current	Rated Torque	Max. Torque	Rated Frequency	V rms/K rpm	Kt	Resistance	Inductance	Max Speed	Inertial	Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/A rms	ohm@20°C	mh	rpm	kg·m ²	kg
112SA	4.4	1000	15.0	42.0	117.7	66.7	175.0	2.8	0.700	6.87	2000	0.0062	40
	6.6	1500	22.5	42.0	117.7	100.0	115.0	1.9	0.300	3.05	2500	0.0062	
	8.8	2000	30.0	42.0	117.7	133.3	85.0	1.4	0.174	1.72	3000	0.0062	
	13.2	3000	45.0	42.0	117.7	200.0	55.0	0.9	0.078	0.76	4000	0.0062	
112SB	5.7	1000	19.3	54.0	151.2	66.7	175.0	2.8	0.516	5.42	2000	0.0074	45
	8.5	1500	29.0	54.0	151.2	100.0	115.0	1.9	0.224	2.41	2500	0.0074	
	11.3	2000	38.7	54.0	151.2	133.3	85.0	1.4	0.126	1.35	3000	0.0074	
	17	3000	58.0	54.0	151.2	200.0	55.0	0.9	0.056	0.60	4000	0.0074	
112M	7.8	1000	26.5	74.0	207.2	66.7	175.0	2.8	0.306	3.75	2000	0.009	51
	11.6	1500	39.7	74.0	207.2	100.0	115.0	1.9	0.138	1.71	2500	0.009	
	15.5	2000	52.9	74.0	207.2	133.3	85.0	1.4	0.076	0.93	3000	0.009	
	23.3	3000	79.4	74.0	207.2	200.0	55.0	0.9	0.032	0.39	4000	0.009	
112L	9.4	1000	32.1	89.8	251.4	66.7	175.0	2.8	0.212	2.79	2000	0.012	56
	14.1	1500	48.2	89.8	251.4	100.0	115.0	1.9	0.102	1.34	2500	0.012	
	18.8	2000	64.3	89.8	251.4	133.3	85.0	1.4	0.052	0.70	3000	0.012	
	28.2	3000	96.4	89.8	251.4	200.0	55.0	0.9	0.024	0.35	4000	0.012	
112X	11.3	1000	38.5	107.6	301.3	66.7	175.0	2.8	0.184	2.54	2000	0.014	66
	16.9	1500	57.8	107.6	301.3	100.0	115.0	1.9	0.080	1.08	2500	0.014	
	22.5	2000	77.1	107.6	301.3	133.3	85.0	1.4	0.042	0.58	3000	0.014	
	33.8	3000	115.6	107.6	301.3	200.0	55.0	0.9	0.022	0.31	4000	0.014	
112XL	15.2	1000	52.1	145.2	406.4	66.7	175.0	2.8	0.122	1.74	2000	0.020	73
	22.8	1500	78.1	145.2	406.4	100.0	115.0	1.9	0.054	0.82	2500	0.020	
	30.4	2000	104.1	145.2	406.4	133.3	85.0	1.4	0.030	0.43	3000	0.020	
	45.6	3000	156.2	145.2	406.4	200.0	55.0	0.9	0.012	0.17	4000	0.020	

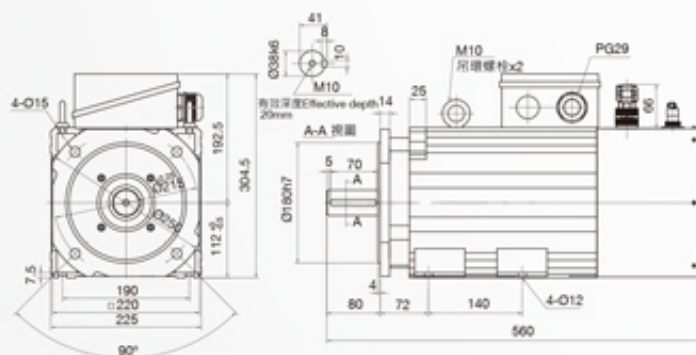
PSEF-112 series
112SA / SB

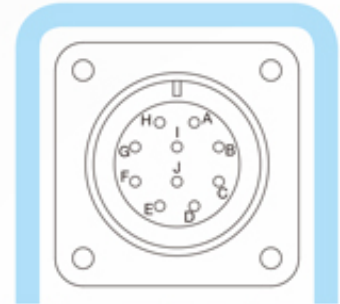


PSEF-112 series
112M



PSEF-112 series
112L





編輯器資料

Type / Connector	Pin A	Pin B	Pin C	Pin D	Pin E	Pin F	Pin G	Pin H	Pin I	Pin J
Resolver	R+	R-	Sin+	Sin-	Cos+	Cos-				
Pushpull	A	B	Z				Shield	+Vcc	COM	
Line-driver	A	B	Z	A-	B-	Z-	Shield	+Vcc	COM	

Connector	Pin A	Pin B	Pin C	Pin D	Pin E	Pin F	Pin G	Pin H	
Line-driver	A	A-	B	B-	Z	Z-	U	U-	
	Pin J	Pin K	Pin L	Pin M	Pin N	Pin P	Pin R	Pin S	Pin T
	V	V-	W	W-	+Vcc	COM	Shield		



★ 編輯器之選用依客戶需求為主。
Encoder selection is depends on customer requirement.

MEMO

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