

TPG[®]

MOTORS & DRIVES

- 信頼性ある製品 TECHNOLOGY
- 卓越したの性能 PERFECTION
- 保証したの品質 GUARANTEE



AF-17 傳動系列
直交軸傘齒輪減速馬達

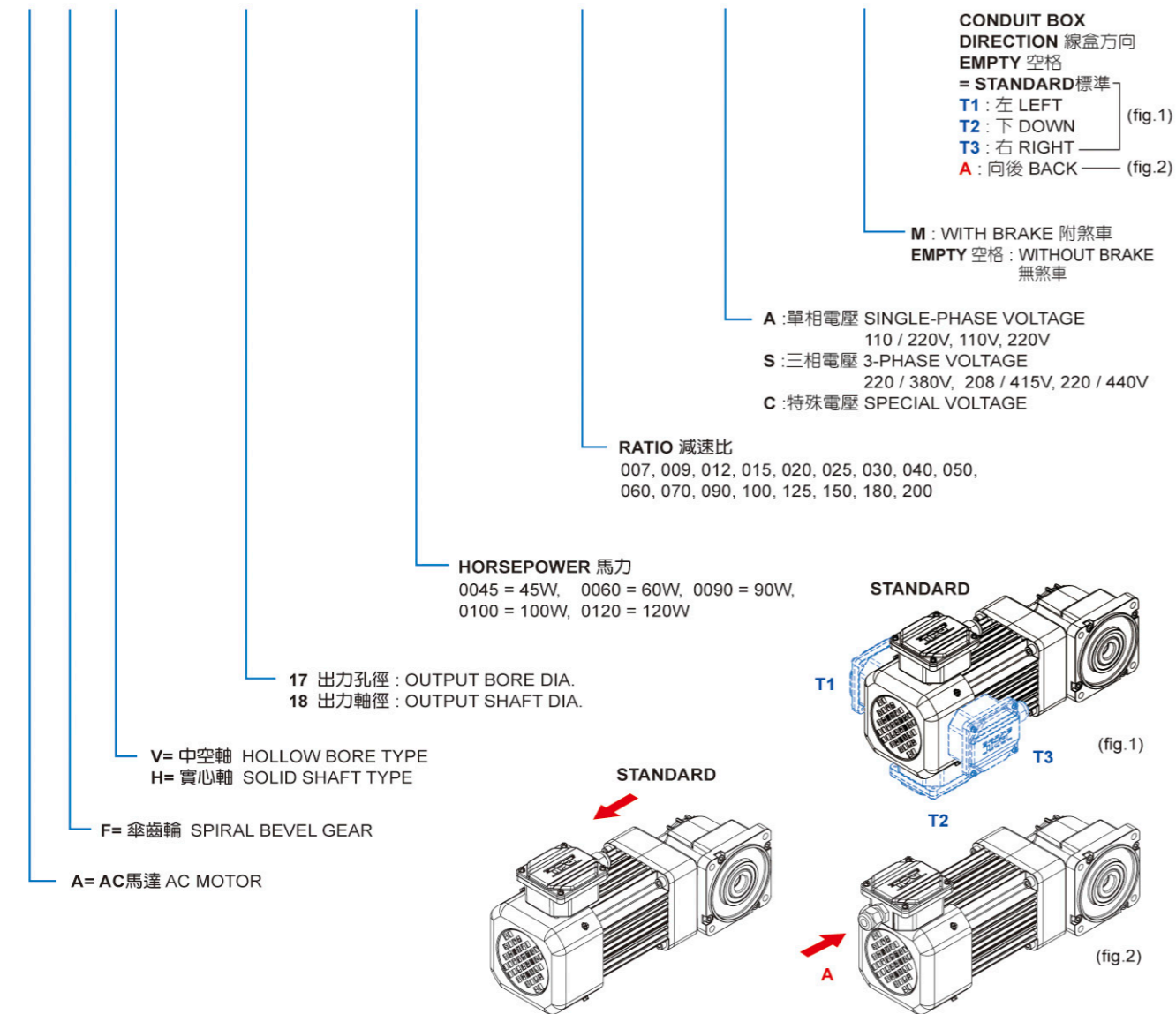
RIGHT ANGLE SPIRAL BEVEL GEAR MOTOR

阪神電機

TPG MOTORS & DRIVES

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A F V - 17 - 0045 - 007 - S - M - T1 A



減速比規格表 Available Spec.

型式 Type	瓦特 Watt	減速比 Gear Ratio
AFV-17 AFH-18	單相 Single Phase	45W 60, 70, 90, 100, 125, 150, 180, 200
		60W 30, 40, 50, 60
		90W 7, 9, 12, 15, 20, 25, 30, 40
	三相 3 Phase	60W 30, 40, 50, 60, 70, 90, 100, 125, 150, 180, 200
		100W 20, 25, 30, 40
		120W 7, 9, 12, 15, 20, 25

註1: 上述減速比為標稱減速比, 實際減速比參照對照表所示。
註2: 以上減速比於4P馬達60HZ, 1800迴轉數, 或50HZ, 1500迴轉數, 為基準。
註3: 上述減速比除外之規格, 請另洽。
註4: 特殊機種, 接受訂製。

1. Above ratio is rated ratio, the actual ratio will be listed in refer chart below.
2. Motor spec. based on 4 pole 60HZ wnder / 1800 rpm, 50HZ wnder / 1500 rpm.
3. Customer-tailer ratio available, please contact the maker.
4. Special motor spec. as requested, pls contact the maker.

單相馬達 Single Motor							三相馬達 3 Phase Motor									
TYPE 型號	W	Rated ratio 標稱 減速比	Actual ratio 實際 減速比	Actual rpm 出力軸實際轉速		Output Torque 出力軸扭矩N.m		TYPE 型號	W	Rated ratio 標稱 減速比	Actual ratio 實際 減速比	Actual rpm 出力軸實際轉速		Output Torque 出力軸扭矩N.m		
				50HZ	60HZ	50HZ	60HZ					50HZ	60HZ			
AFV-17 AFH-18	45W	60	61.7	24.3	29.2	17.68	14.74	AFV-17 AFH-18	60W	30	29.5	50.8	61.0	11.28	9.40	
		70	73.5	20.4	24.5	20.74	17.55			40	38.4	39.0	46.8	14.68	12.23	
		90	88.7	16.9	20.3	20.74	20.74			50	49.8	30.1	36.2	19.02	15.85	
		100	97.3	15.4	18.5	20.74	20.74			60	61.7	24.3	29.2	20.74	19.65	
		125	123.4	12.2	14.6	16.43	16.43			70	73.5	20.4	24.5	20.74	20.74	
		150	147.0	10.2	12.2	16.43	16.43			90	88.7	16.9	20.3	20.74	20.74	
		180	177.3	8.5	10.2	16.43	16.43			100	97.3	15.4	18.5	20.74	20.74	
		200	194.5	7.7	9.3	16.43	16.43			125	123.4	12.2	14.6	16.43	16.43	
	60W	30	29.5	50.8	61.0	11.28	9.40		150	147.0	10.2	12.2	16.43	16.43		
		40	38.4	39.0	46.8	14.68	12.23		180	177.3	8.5	10.2	16.43	16.43		
		50	49.8	30.1	36.2	19.02	15.85		200	194.5	7.7	9.3	16.43	16.43		
		60	61.7	24.3	29.2	20.74	19.65		100W	20	18.7	80.4	96.5	11.88	9.90	
		90W	7	7.2	207.7	249.2	4.14			3.45	25	24.1	62.2	74.7	15.35	12.79
			9	8.9	168.2	201.8	5.11			4.26	30	29.5	50.8	61.0	18.80	15.67
			12	11.8	126.7	152.0	6.79			5.65	40	38.4	39.0	46.8	20.74	20.39
			15	14.8	101.6	121.9	8.46			7.05	120W	7	7.2	207.7	249.2	5.52
	20		18.7	80.4	96.5	10.69	8.91			9		8.9	168.2	201.8	6.81	5.68
	25		24.1	62.2	74.7	13.82	11.51			12		11.8	126.7	152.0	9.05	7.54
	30		29.5	50.8	61.0	16.43	14.10			15		14.8	101.6	121.9	11.28	9.40
	40		38.4	39.0	46.8	20.74	18.35		20	18.7		80.4	96.5	14.26	11.88	
							25		24.1	62.2		74.7	18.42	15.35		

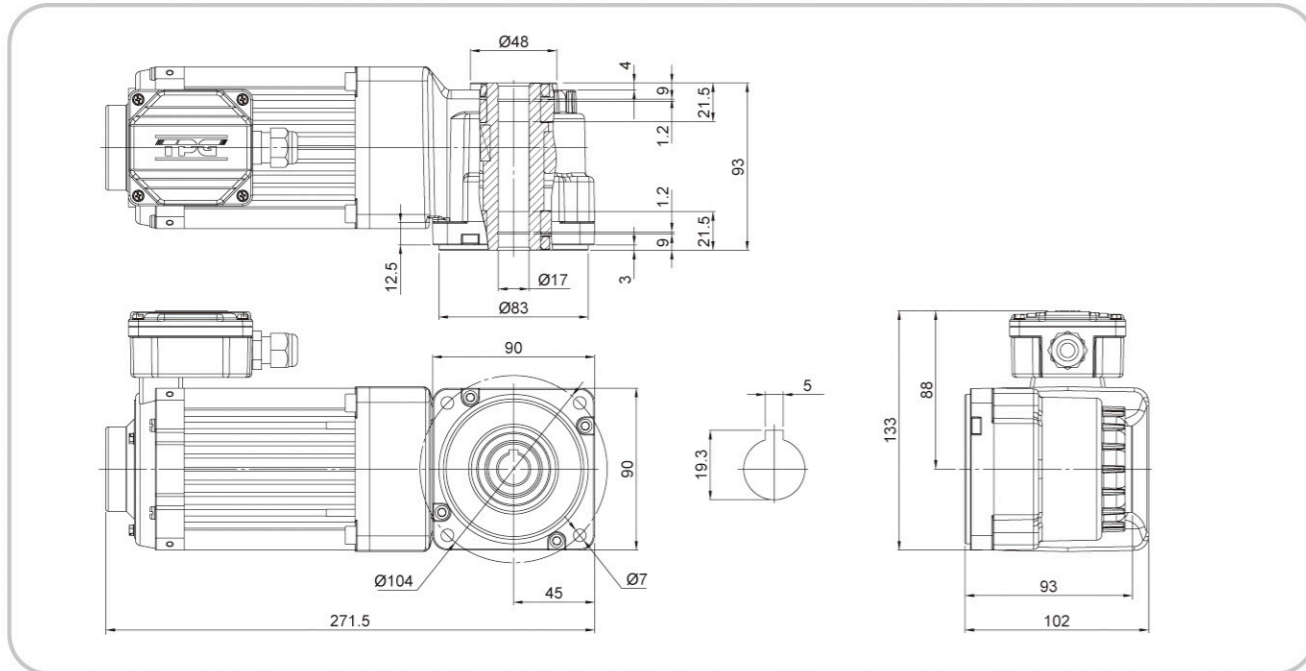
註1: 以上減速比以4P馬達60HZ, 1800迴轉數, 或50HZ, 1500迴轉數, 為計算基準。
註2: 上述出力軸扭矩為理論計算值, 實際應用依據機器不同設計需加上適當安全值。

1. Motor spec. based on 4 pole 60HZ wnder / 1800 rpm, 50HZ wnder / 1500 rpm.
2. The output torque above is the theoretical figure, only for reference purpose.

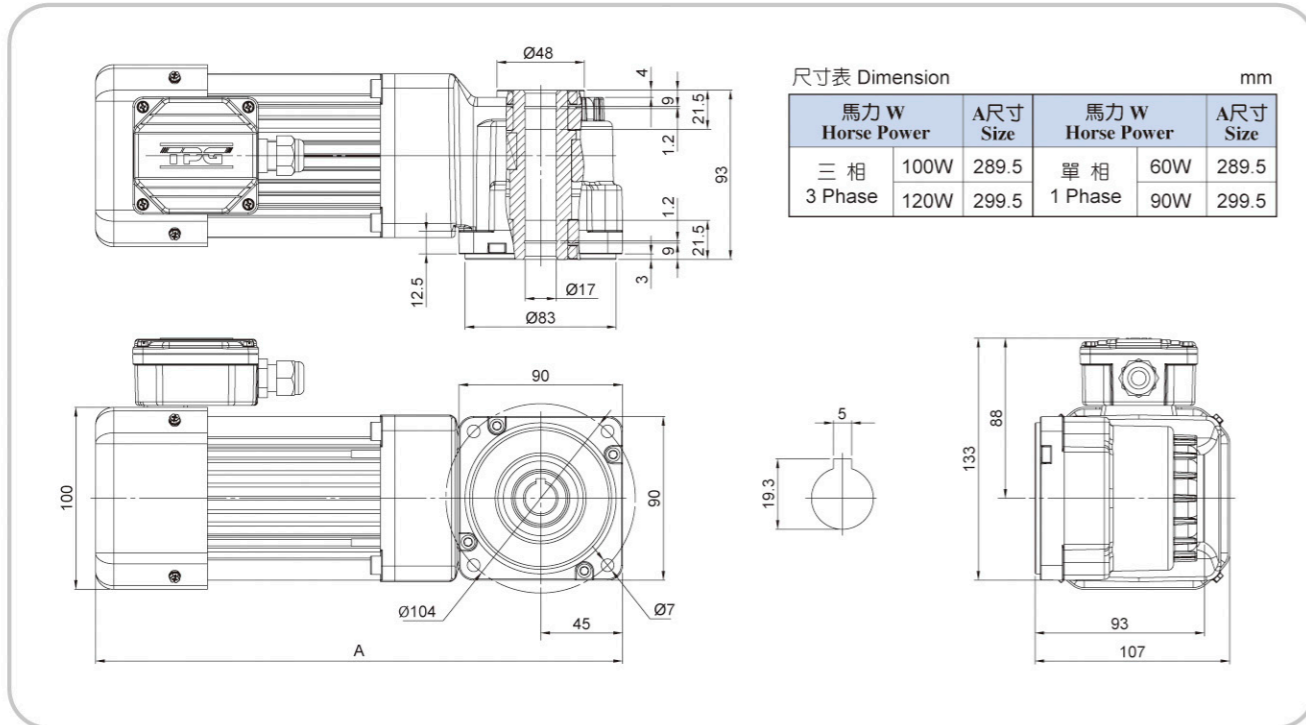


AFV TYPE Dimension

60W 3-Phase, 45W 1-Phase

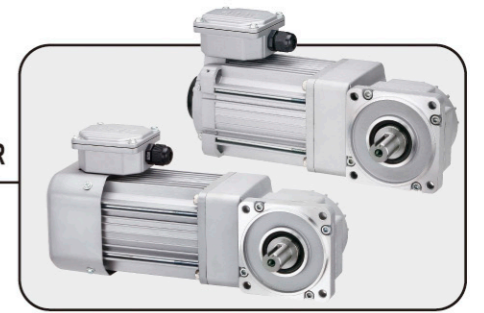


100W, 120W 3-Phase, 60W, 90W 1-Phase



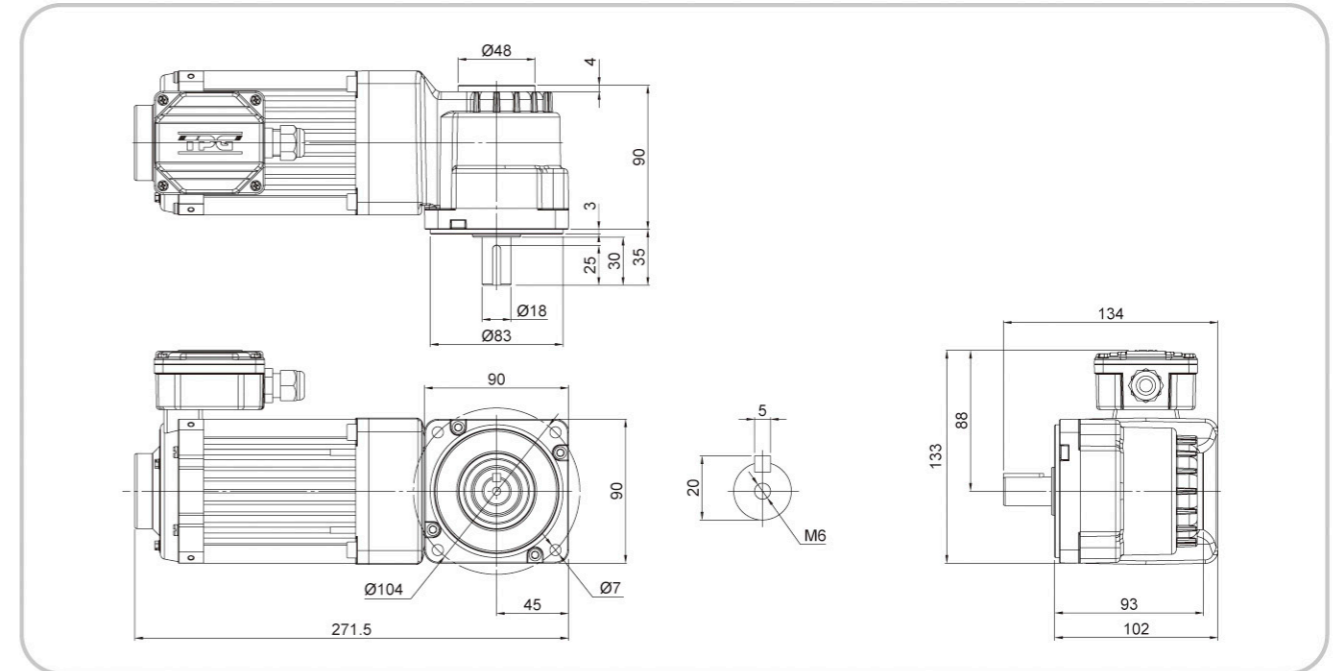
註：1. 60W 3-Phase 和 45W 1-Phase 馬達不附風葉及風蓋。
2. 特殊規格請另洽。

Remark: 1. 60W 3 phase and 45W single phase motor are TENV.
2. Special spec. available.

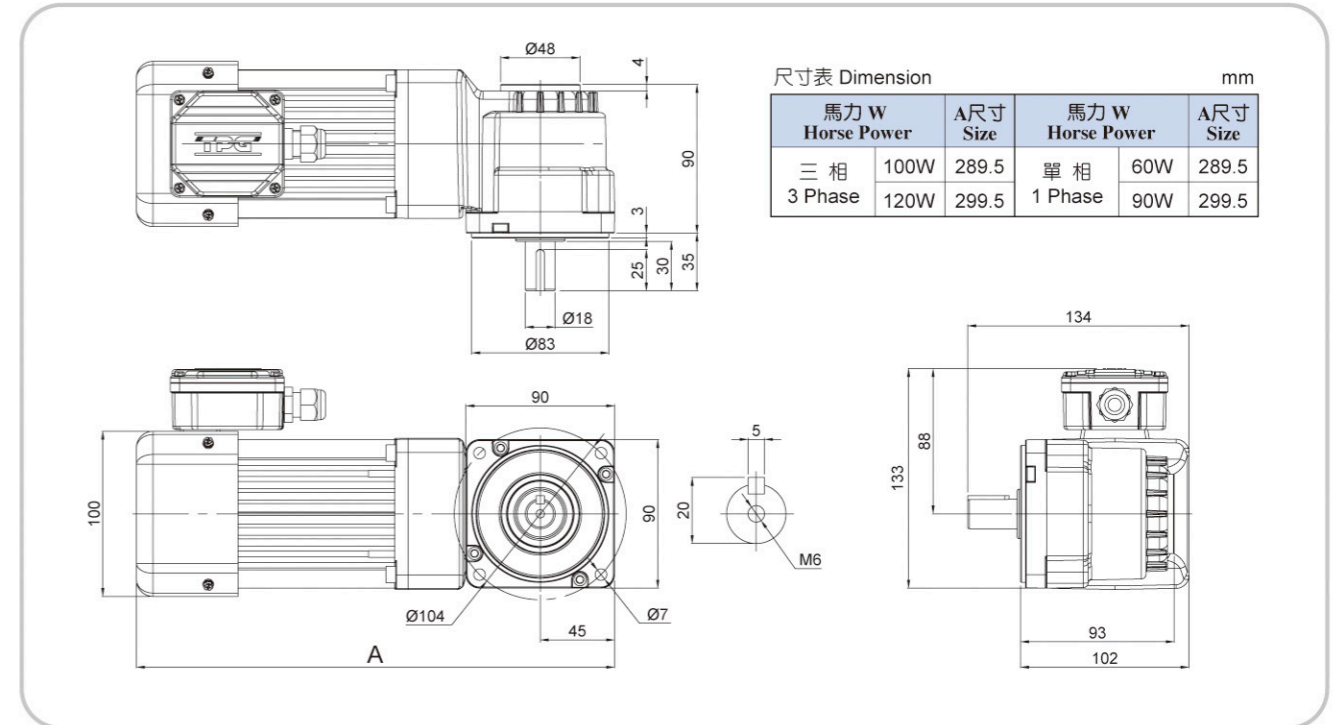


AFH TYPE Dimension

60W 3-Phase, 45W 1-Phase



100W, 120W 3-Phase, 60W, 90W 1-Phase



註：1. 60W 3-Phase 和 45W 1-Phase 馬達不附風葉及風蓋。
2. 特殊規格請另洽。

Remark: 1. 60W 3 phase and 45W single phase motor are TENV.
2. Special spec. available.



AFVM TYPE/AFHM TYPE Dimension

AFVM TYPE 60W, 100W, 120W 3-Phase, 45W, 60W, 90W 1-Phase

馬力 W Horse Power	A尺寸 Size	馬力 W Horse Power	A尺寸 Size
三相 3 Phase 60W, 100W	302	單相 1 Phase 45W, 60W	302
120W	312	90W	312

AFHM TYPE 60W, 100W, 120W 3-Phase, 45W, 60W, 90W 1-Phase

馬力 W Horse Power	A尺寸 Size	馬力 W Horse Power	A尺寸 Size
三相 3 Phase 60W, 100W	302	單相 1 Phase 45W, 60W	302
120W	312	90W	312

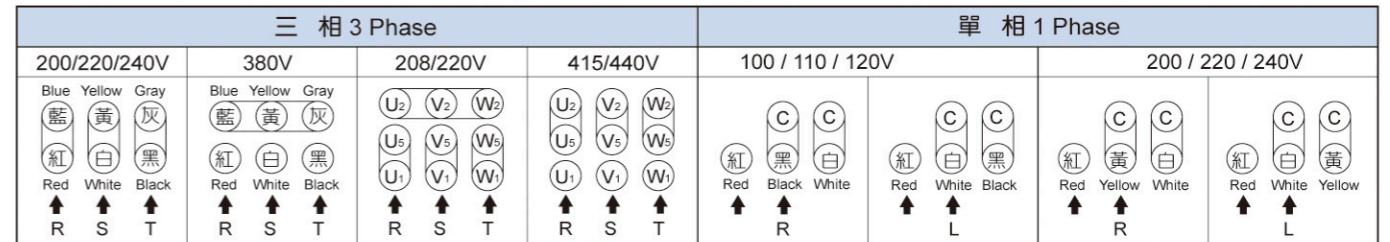
註：
1. 特殊規格請另洽。

Remark:
1. Special spec. available.

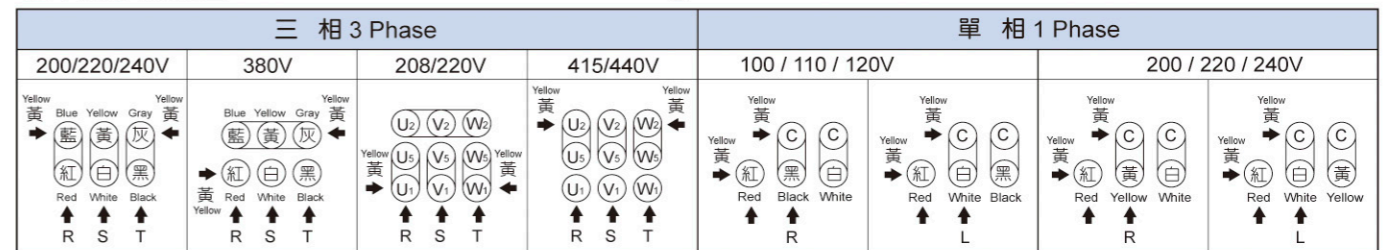
電流資料 Current Data

	馬力 W	頻率 (HZ) Freq	三相 3 Phase		單相 1 Phase					
			200/208/220V	380/408/440V	100 / 110 / 120V		200 / 220 / 240V			
			電流 Current (A)		電流 Current (A)	電容器容量 (uf) Condenser capacity	耐電壓 (V) Max voltage	電流 Current (A)	電容器容量 (uf) Condenser capacity	耐電壓 (V) Max voltage
三相 3-Phase	60W	50/60	0.7	0.4						
	100W		0.85	0.5						
	120W		1.2	0.7						
單相 1-Phase	45W				0.8	10	250	0.5	3	350
	60W		1.4	15	250	0.7	4	350		
	90W		2.0	20	250	1.0	5	350		

馬達結線圖 Motor Connection Diagrams



煞車馬達結線圖 Brake Motor Connection Diagrams



煞車特長

- 斷電時運作---無激磁作動煞車,斷電時自動煞車動作。
- 結線容易---整流器裝於馬達外殼上,接交流電源。
- 小型重量輕---加裝煞車所增加馬達長度極小,體積小,重量輕。
- 組裝容易---加裝煞車不需修改馬達心軸,組裝容易。
- 煞車壽命長---來令片材質耐磨性佳,煞車動作正確,調整方便。
- 煞車電壓---三相輸入AC200/208/220V 50/60HZ輸出DC90/108V。
單相輸入AC100/110V 50/60HZ輸出DC90/108V。

Brake features:

- Power off activation...No exciting brake, power off auto braking.
- Easy to connect...The rectifier is unbolt into the motor house and connect directly to the power source.
- Light weight...Small cut.
- Easy to assemble...Don't need to amend the motor output shaft.
- Long life...The material of brake lining is wearproof. Brake effectively and easy to adjust.
- Brake voltage...3 Phase input AC200/208/220V 50/60HZ output DC90/108V. 1 Phase input AC100/110V 50/60HZ output DC90/108V.

間隙調整方法

- 打開馬達風蓋, 拆掉調整螺絲上兩個固定螺絲。
- 旋轉固定螺絲可調整煞車間隙, 每等距約0.2mm。
- 以厚薄規調整好間隙後, 將調整螺絲上四個或六個孔之其中對角兩孔固定, 將固定螺絲鎖緊即完成調整間隙動作, 其所調整方法及所需間隙以厚薄規為準。
- 非專業技師禁止調整, 於停車中操作。

煞車間隙調整原因

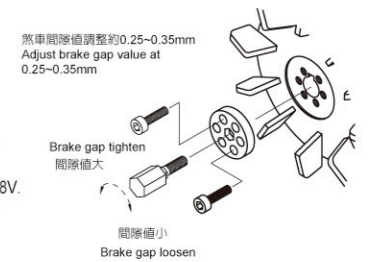
- 每當使用一段時間煞車動作不正確時。
- 至少每年需調整煞車間隙一次。
- 依使用的頻率多寡, 可自行決定調整間隙的次數。
- 請使用厚薄規調整煞車間隙在0.25~0.35mm之間。

The adjust steps:

- Take off the motor fan cover, loose two socket screws.
- Rotate the brake tension screw to adjust brake backlash, turn clockwise direction to decrease the distance, counterclockwise to increase it. Every pitch about 0.2mm.
- After adjustment backlash thickness measurer, put back the fixed screw at opposite point.
- Qualified or trained personnel should adjust this brake under the power off condition.

Brake adjustment need to be done while below situation happened:

- Wrong brake action.
- During annual maintenance.
- Adjust according to the use frequency, you can decide the time of adjust brake.
- Please use the thick measurer to adjust the backlash between 0.25mm to 0.35mm.



CA-201A 125W 變頻器 VARIABLE SPEED AC DRIVE

- Input : 1PH AC200~240V 3A 50/60Hz
- Output : 3PH AC200~240V 1.5A 0.1/400Hz
- 1. With counting ability.
- 2. RS-485 Modbus RTU installed.
- 3. Over-temperature alarm and protection installed.
- 4. Spec. key supplies multifunctional control options.
- 5. Thirteen factors monitor available, such as voltage, current, frequency... etc.

- 溫度管理
- 具計數器功能
- 13種監看畫面
- RS-485 Modbus RTU通訊
- 多功能SPEC鍵可規劃多機能控制



[RIGHT ANGLE SPIRAL BEVEL GEAR MOTOR]

TPG new product AF-17 series adopt impacted house design in alloy light body as our might tiny series did, but with more upgrade spiral bevel gear instead inline gear. The special heat treatment alloy gear material enforces the durable hardness and the right angle moving between gear & shaft presents the close matching, to create the high efficiency as well as the low noise, while running this motor. The max efficiency can reach 90%, which is better than the inline gear or worm gear did. The right angle construction saves much space in installation, alloy die cast body with light, easy installed as well as with good rigidity.

新型AF-17系列，主要將蝸線傘齒輪(spiral bevel gear)結合TPG小金鋼系列齒輪減速馬達，保有小金鋼低噪音、高應力強度...等可靠優點，並由螺旋齒輪帶動傘齒輪，呈直交軸運行，使傳動效力更為強化，在齒輪的傳導下效力可達90%。同時相較於其他機種，此款機體積小、安裝輕巧，相同體積中AF-17能提供更大的機械功率，提昇了小金鋼減速比及轉矩，並將齒輪箱空間優化至最佳承載能力。此外，在直交軸系統中，蝸線傘齒輪完全採用的合金鋼材料打造，相較傳統的蝸輪或直齒斜齒輪(straight-tooth bevel gear)，蝸線傘齒輪更加緊實、堅固、耐久，並且齒合相對緩和，提供更安靜與平順的操作環境，AF-17系列外殼使用輕巧的鋁壓鑄機體，不論重量、體積都連帶創造運輸優勢：使用油脂無需更換，毋需負擔複雜的維護問題，TPG為您實現品質與成本的最佳選擇！

The features as below:

1. Wider gear ratio available from 7 to 200.
2. Higher torque ability for those high gear ratios over 80 to 200 comparisons with might tiny series.
3. Safe factor 1.0 with reasonable purchase cost.
4. Gear efficiency reach 90%.
5. Flexible motor options, which can be in AC power, DC power or Brushless DC power.
6. Output end can be in hollow bore 17mm dia, or solid shaft type 18mm dia.
7. Using high quality grease, no need to be re-filled under normal operation status, saving maintenance cost.
8. Lower noise running, supply quiet & nice operation environment.
9. For AC power 3phase motor 60W-120W, single phase 45W-90W.
10. With nice alloy conduit box, safe & durable.
11. TEFC or TENV available, IP54, F insulation level.
12. Brake function available, as well as many necessary accessories options, such as AC inverter, DC control, and brushless motor control supply.
13. Application: Packing machine, Conveyor, Food processing machine, Frozen food machines...etc.



特性:

1. 提供7-200寬幅的比數範圍選擇。
2. 于80-200的高減速比下，能提供較強的扭力值。
3. 安全系數至少保持1.0，物超所值。
4. 齒輪傳動效率高達90%
5. 彈性的馬達選配，可依需求搭配交流、直流或無刷馬達。
6. 出力端可選擇中空孔或實心出力軸。
7. 採用高品質黃油潤滑，免加油，低維修成本。
8. 低噪音，提供安靜的作業環境。
9. 交流馬達可選用三相60-120W，單相45-90W
10. 鋁合金接線盒，輕巧美觀，安全耐用。
11. 馬達F絕緣等級，IP54，防護等級。
12. 可加裝剎車或配合變頻器與控制器，改變轉速。
13. 應用產業：包裝機，輸送帶，食品處理機，攪拌機、低溫食品機械等。



TPG
MOTORS & DRIVES



ISO 9001 : 2008

MANUFACTURER:

TAIWAN PRECISION GEAR CORP.
TEL: 886-4-25351329 FAX: 886-4-25351467
E-mail: tpg@tpg.com.tw

PARTNER:

(CHINA)

TPG MOTORS & DRIVES (CHINA) CO., LTD.
TEL: 86-769-22335207 FAX: 86-769-22335203
E-mail: cn@tpg.com.tw

(THAILAND)

TPG MOTORS & DRIVES (THAILAND) CO., LTD.
TEL: 66-2-2778878 FAX: 66-2-2779788
E-mail: th@tpg.com.tw

(VIETNAM)

TPG MOTORS & DRIVES (VIETNAM) CO., LTD.
TEL: 84-8-3-8165878 FAX: 84-8-3-8165876
E-mail: vn@tpg.com.tw

(INDIA)

TPG MOTORS & DRIVES (INDIA) PVT. LTD.
TEL: 91-44-23634199 FAX: 91-44-23634299
E-mail: in@tpg.com.tw

(MALAYSIA)

TPG MOTORS & DRIVES (MALAYSIA) SDN BHD
TEL: 60-3-89616916 FAX: 60-3-89641980
E-mail: ma@tpg.com.tw

(INDONESIA)

TPG MOTORS & DRIVES (INDONESIA) CO., LTD.
TEL: 62-21-45846725 FAX: 62-21-45846726
E-mail: ind@tpg.com.tw

(SINGAPORE)

TPG MOTORS & DRIVES (SINGAPORE) PTE LTD.
TEL: 65-62456007 FAX: 65-62456017
E-mail: sg@tpg.com.tw