SiRUBA® Sew Reach

銀箭牌
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TSA | 简易伺服马达

Simplified Servo Motor

TSA 马达帮助您降低成本，创造利润。

短裁片、精致、复杂车缝工序最有效益。

TSA lowers your cost, and makes you more profit.

Best for sewing of short ply, delicate & complicated process.

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伺服马达的节能原理
The concept of servo motor's energy saving.

在一般车缝作业中，车缝 3~5 秒，拿布料和对准布料 5~10 秒。
离合器马达运转时间 = 车缝时间 + 拿布料的时间 =8~15 秒。
伺服马达运转时间 = 车缝时间 =3~5 秒。
伺服马达实际运转时间，依不同车缝情形，为离合器马达运转时间的 20%~60%。
裁片短的车缝，如内裤、童装或高级服饰，单次的车缝时间短，而每次车缝的准备时间却更长，
马达运转时间比例差异更大。

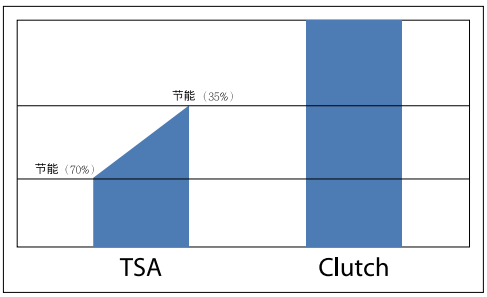
In general sewing operation, it takes 3~5 seconds to sew, and 5~10 seconds to prepare and handle the fabric
The operating time of clutch motor = sewing + material preparing = 8~15 seconds.
The operating time of servo motor = sewing only = 3~5 seconds.
The real operating time of servo motor, depends on different sewing operations, is 20% ~60% of the clutch motor.
For short–ply sewing, such as underwear, children's wear or high class garment, the time of sewing is short but the preparation between each sewing would take longer time, which results in a significant difference of running time.

TSA 简易伺服马达的 5 项利多
5 Advantages of TSA simplified servo motor.

1. 节能比率高 High energy saving

依不同车缝情形，相较於离合器马达有不同的节能效果。以一般车缝应用 (5 秒开 ,5 秒停) 实测，TSA 相对於 250W 离合器马达，节省约 35%。而在模拟短裁片车缝时 (3 秒 ,10 秒停)，TSA 节能比率可高达 70%。

Comparing to clutch motor, different sewing application has different energy-saving ratio. For common sewing (5-sec-sew, 5-sec-stop), TSA saves energy about 35% against 250W clutch motor. For simulated test of short-ply sewing (3secs running, 10secs stop), the energy saving ratio rises to 70%.



相对离合器马马节能比率
Energy saving ratio against clutch motor

2. 待机不耗电 Standby without energy consuming

伺服马达的运转时间 = 车缝时间。车缝时马达运转，停止车缝时马达立即停止，待机时 TSA 马达几乎不耗电（待机功率为 7W）

The operating time of servo motor = sewing time. The motor only runs during sewing, and stops immediately at the end of sewing. There is almost no energy consuming when the motor is under standby status. (Standby power is 7W)

3. 马达温升少 Lower temperature during operation

TSA 在严苛的环境条件 (55°C，RH 90%) 下测试，温升范围在 15°C以下。而在一般环境使用时温升为离合器马达的一半以下，提高工作环境品质，降低空调费用。

TSA has been tested under a strict environment (55°C , RH90%). The working temperature raised lesser than 15°C . When we tested it under common environment, the temperature only raised less than a half of clutch motor. TSA contributes to a better working environment and lowers the A/C energy cost.

4. 车缝操作舒适，快慢自如 Sewing with ease

振动少，噪音小，起动加速快，低速车缝操控性佳（TSA 为 200rpm，他牌为 400rpm)，以优异性能提升车缝工作效率

TSA performs low vibration, low noise, quick starting, and easy to control with low speed. (TSA is minimum 200 rpm while others are 400 rpm) The sewing efficiency is increased by it's outstanding performance.

5. 节省维修时间与成本 **No maintenance time & cost**

相对来看，离合器马达一年要更换刹车片二～三次，更换轴承一～二次。
相较与其他类似产品，TSA 真正具有「过电压」及「堵转保护」之设计，电压变动耐受性为 ±20%（他牌为 ±10%），高电压瞬间可承受达 AC 270V，安全可靠。

In comparison, clutch motor needs to change the brake lining for 2~3 times and the bearing for 1~2 times per year. In comparison to the other similar products, TSA is truly equipped with overvoltage and stuck rotor protection circuit. The voltage fluctuations allowance is ±20% (other brands are ±10%). TSA is reliable that it can bear up to AC 270V of instantaneous voltage.

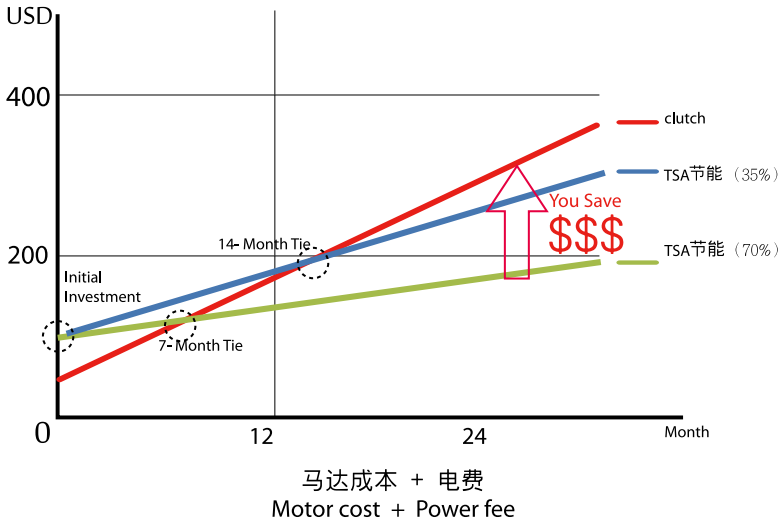
投资回报
Returns on investment

各国电费费率不同，若每度电价为 USD 0.12，以一天工作 8 小时计算，平均而言，TSA 马达每月约比离合器马达节省电费 USD 3.7，最高可省 USD7.5。

- 模拟「5 秒开 5 秒停」的运作，离合器马达为 2.88~3.30 度／天，TSA 马达为 1.875 度／天以下，相差 1.0 度以上，节能比率约 35%。而「3 秒开 10 秒停」时，节能比率约 70%。
- 如图示，最快使用半年後，即可打平。使用二年後，最多可节省将近 USD 120。

Every country has its own power rate, if we calculate it by USD 0.12/KW, 8 hours a day, the TSA could save from USD 3.7 per month, and the highest to USD 7.5 per month against clutch motor.

- By the simulation of “5-sec-sew, 5-sec-stop”, the power consumption of clutch motor is 2.88～3.30 KW/day, and he TSA is lower than 1.875KW/ day, more than 1.0 KW difference, about 35% of energy saving. By the simulation of “3-sec-sew, 10-sec-stop”, the energy saving is up to 70%.
- As the below chart shows, as the most quick situation, the investment can be tied after half year. And you may save almost USD 120 after two years.



定位器（选配）
Synchronizer (Optional)

TSA35-A

外挂式
（包缝，绷缝，多针机适用）

Out-mouted type
(applicable to overlock,interlock,multi-needle)

TSA21-A

内置式
(700K,700FS 专用）

Built-in type
(exclusive for 700K,700FS)

规格表 Specification

	TSA-400	TSA-550	TSA-750
输入电源 Input Power	AC 1Φ 220V ±20% , 50Hz / 60Hz		
马达 Motor	1. 额定轮出 Rated Output : 400W	550W	750W
	2. 额定电流 Rated Current : 1.75A	2.5 A	3.4 A
	3. 额定转速 Rated Speed : 5000 RPM	4000 RPM	4000 RPM
	4. 额定扭力 Rated Torque : 0.764Nm	1.75Nm	2.87 Nm
	5. 编码器解析度 Encoder Resolution : 360 pulse / spin		
	6. 绝缘等级 Insulation Level : class F.		
马达驱动型态 Motor Drive	1. 三相类弦波驱动 3-Phase Sin Wave		
	2. 停针位置误差 Position deviation of indicator: ± 5 degree		
	3. 速度指令值 Speed Value : 200 ~ 5000 RPM	200~4000 RPM	200~4000 RPM
	4. 加速速率值 Accelerate Value: 200 ms		
	5. 编码器解析度 Encoder Resolution : 360 pulse / spin		
速度回馈 Speed Feedback	Encoder (信号源 A & B & Z) & Hall Sensor		
输入装置 Imput	1. 控速器 Speed Controller (+12V)		
	2. 定位器 (+5V) 为选购件 Synchronizer (+5V) is optional		
输出装置 Output	1. LED Power: +12V / 0.04A		
	2. 故障显示 Error Display: Bi-Color LED (Red/ Green)		
设定装置 Setting	1. 指拨开关 DIP switch		
	(1) 4 段最大转速 4 Max. Speed: 5000/ 4000/ 3000/ 2000 RPM	4000, 3500, 3000, 2000 RPM	4000, 3500, 3000, 2000 RPM
	(2) 上 / 下 停针模式 Up/Down needle position mode		
	(3) 马达正 / 反转模式 Forward/ Reverse rotation		
	2. BI 测试模式 : 5 秒开 5 秒停测试功能 BI test mode: 5-second on, 5-second off testing		
	3. 速度微调旋钮 Speed fine tune button		
适用机型 Applicable Sewing Machine	700K, 700FS L818D, L917, L918	C007K, F007K, S007K 757UX, L819, T828	VC008, HF008, Z008

高林股份有限公司
KAULIN MFG. CO., LTD.

由於对产品的改良及更新，本产品型录中之产品规格及外观的修改恕不事先通知！
The specification and/or appearences of the equipment described in this catalogue are subject to change without previous notice because of modification.

TOP 100 TAIWAN BRANDS

ISO 9001:2000
ISO 14001:2004

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