

Delta BLDC Motor

Telecom & Automobile Fans Business Unit
Fans & Thermal Management Business Group

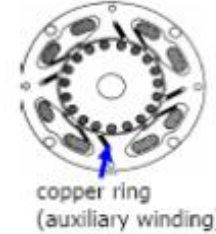
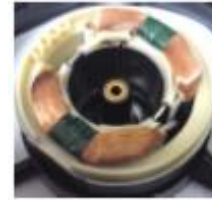
Feb . 2013



	MH09012RBA	MH092D3RB	MH096D3RD	MH092D3RG	MH112D3RF	MH112D3RF-A
Rated Voltage (Vdc)	12/24	310	310	310	310	310
Efficiency (%)	75	83	84	85	86	86
Noise(dB-A)	40	40	45	45	50	50
Isolation Level	Class E	Class E	Class E	Class E	Class E	Class E
Weight (g)	550	750	1250	2000	2800	3000
Photos						

1. AC Shaded-Pole Motor

- Low efficiency→15%
- Limited range for speed control
- Low starting torque



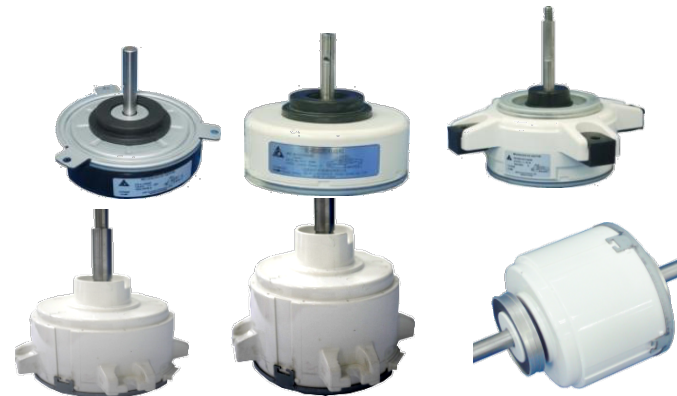
2. AC Capacitor Motor

- Low efficiency→35%
- Low starting torque



3. DC Brushless Motor

- High efficiency→75%
- High starting torque
- Lighter/smaller than AC motor
- Long operation life



1. 感應馬達依使用之電源可分為兩種

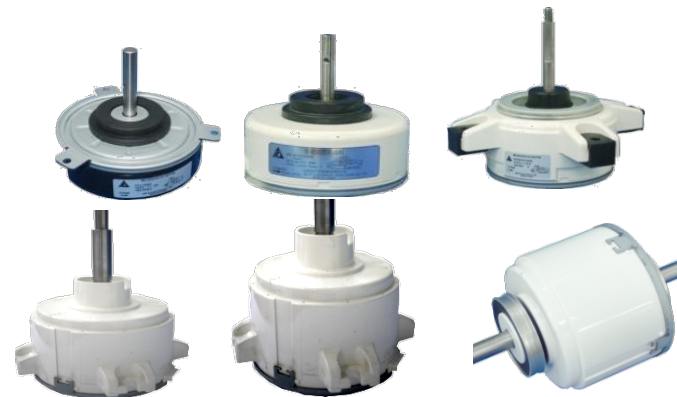
- 單相感應馬達
- 三相感應馬達

2. 單相感應馬達依動作原理可分為三種

- 分相繞組啟動：分相馬達無法提供啟動所需的轉矩,這時就需要電容器型繞組啟動
- 電容啟動：a)永久分相電容式 & b)電容啟動電容運轉式
- 蔽極啟動式

3. AC感應馬達效率差的原因

- 無效啟動(分相)線圈,磁場無法90度相位
- 功率因素 <1
- 繞線無法100%使用



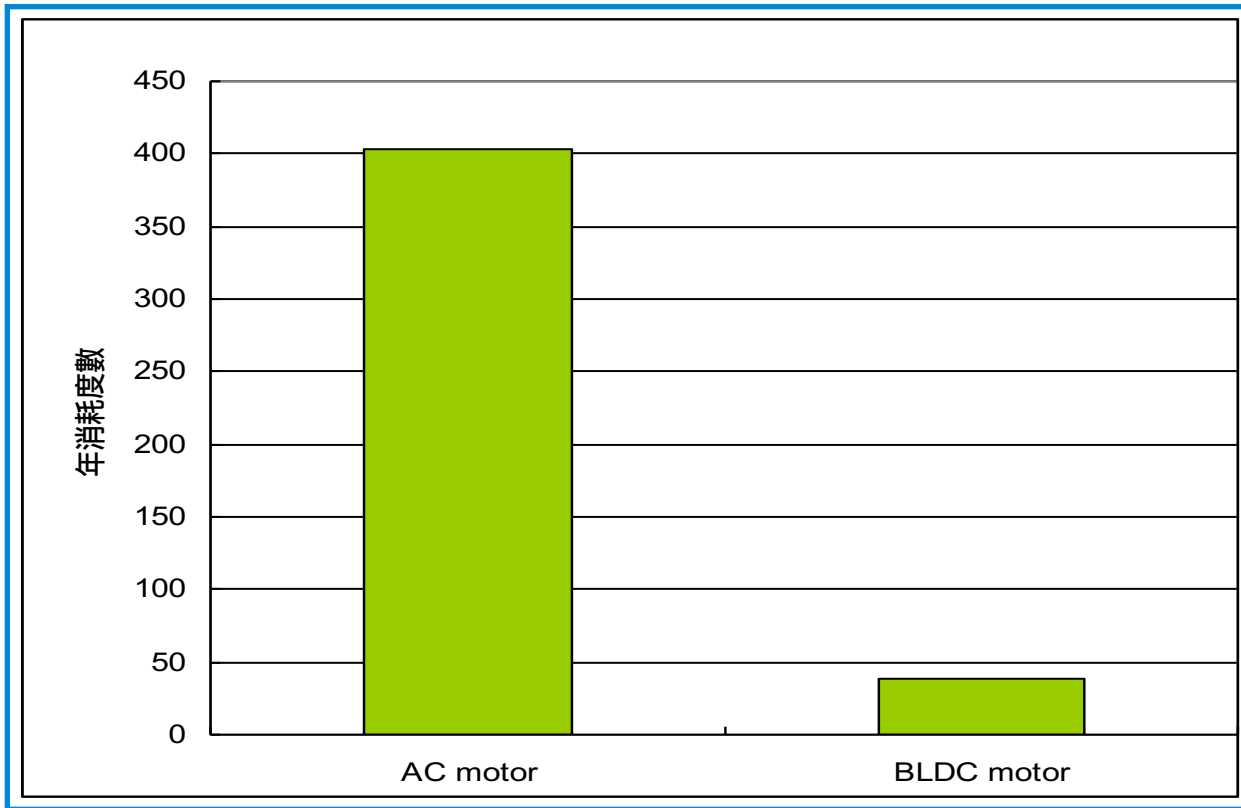
BLDC Motor vs. AC Motor

	Delta BLDC Motor	AC Induction Motor
體積與重量	○	X
壽命	○	△
效率	○	X
可調速	○	X
線性輸出/輸入控制性	○	△

○: Good △: Normal X: Poor



Power Saving with Delta BLDC Motor



Note: Annual power consumption is calculated based on 24 hours/365 days at low speed.

10%

Power consumption by using BLDC Motor year-round at low speed than AC motor

Smarter. Greener. Together.

To learn more about Delta, please visit www.deltaww.com.

