


# SUNON

## SPECIFICATION FOR APPROVAL

**CUSTOMER** :

**MOTOR TYPE** : 

**MODEL NO** : TC014-06001

**P/N** :

**DESCRIPTION** : WATURBO CPU COOLER

**DIMENSIONS** : 98X98X80 mm

**SUNON SPEC. NO.** : C03000010G-00

**APPROVAL NO.** :

**APPROVED BY** :

**(AUTHORIZED)**

<b>DRAWN</b>  <i>Anne 8/24</i>	<b>CHECKED</b>  <i>Tim Lin 8/28</i>	<b>APPROVED</b>  <i>M. Fukuda 8/28</i>	<b>SPEC. NO</b>	<b>C03000010G-00</b>
			<b>ISSUED DATE</b>	<b>07. 18. 2006</b>
			<b>EDITION</b>	<b>2</b>
			<b>REVISION DATE</b>	<b>08. 24. 2006</b>

建準電機工業股份有限公司

SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO., LTD.

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## WATURBO CPU COOLER

MODEL : TC014-06001

P/N :

## 1. SPECIFICATIONS

1. Application	Intel Socket LGA775 CPU AMD Socket K8, AM2 CPU
2. Heat Sink Dimension	95x95x50mm
3. Heat Sink Material	Copper Base + Aluminum Fin
4. Cooling Method	Air + Liquid Cooling
5. Thermal Grease	Shin-Etsu X-23-7762
6. Fan Dimension	92x92x25mm
7. Fan Speed	3500 RPM(max.)
8. Fan Airflow	56 CFM/3500 RPM
9. Fan Rating Voltage	12 V
10. Fan Rating Current ( with Heat Sink )	0.41 A
11. Fan Power Consumption ( with Heat Sink )	4.9 W
12. Fan Bearing Type	2 Ball
13. Fan Connector	3 pin
14. Cooling Module Noise	23 dB(A)/2000RPM, 39Db (A)/3500RPM at 1M
15. Fan Operating Voltage Runge	4.5~13.8 V
16. Operating Temperature	-20~70° C
17. Storage Temperature	-40~70 C
18. Weight	645g
19. Life Expectance	30000 hrs

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## 2. Performance Test

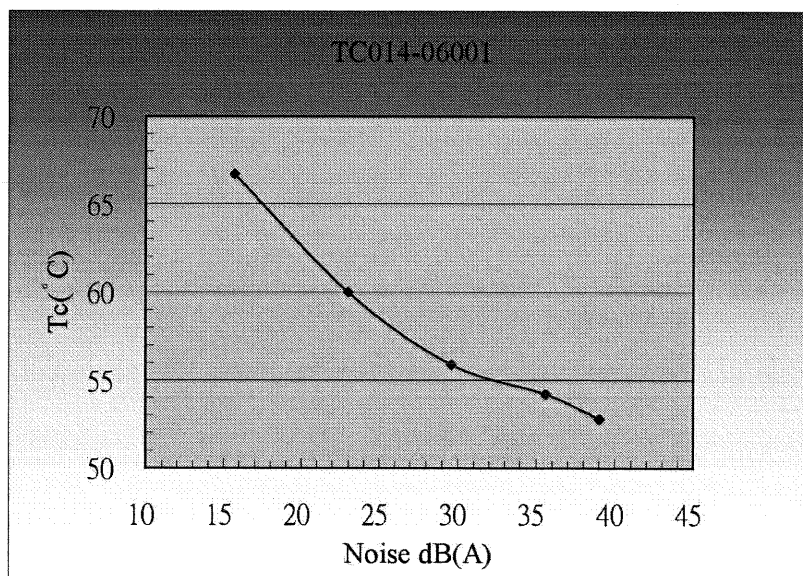
Hardware	
CPU	Intel Pentium 4 660 3.6GHz, 800MHz FSB, Socket 775
Motherboard	ASUS P5LD2 Intel 945P
BIOS	American Megatrends V0603
RAM	RAMI DD0-667 1GB
VGA	PixelView NVIDIA Geforce 7800 GTX 439MHz 256MB PCI-E 16X
HD	80GB 7200RPM 16MB
DVD ROM	16X
Power Supply	CHENNEL WELL 550W
Software	
OS	Windows XP Professional SP2
CPU Test Software	3DMark06 Pro / CPU Test (3 times auto repeat)

The temperatures were measured after 3 times of auto repeat running 3Dmark06 CPU test.

Tc = CPU temperature measured by thermocouple in ATX chassis

Ta = Ambient temperature of fan inlet measured by thermocouple in ATX chassis

TC014-06001				
點數	轉速 rpm	Ta °C	Tc °C	噪音 1M dB(A)
1	3500	30	52.8	39.0
2	3000	30	54.2	35.6
3	2500	30	55.9	29.6
4	2000	30	60.0	23.0
5	1500	30	66.7	15.7

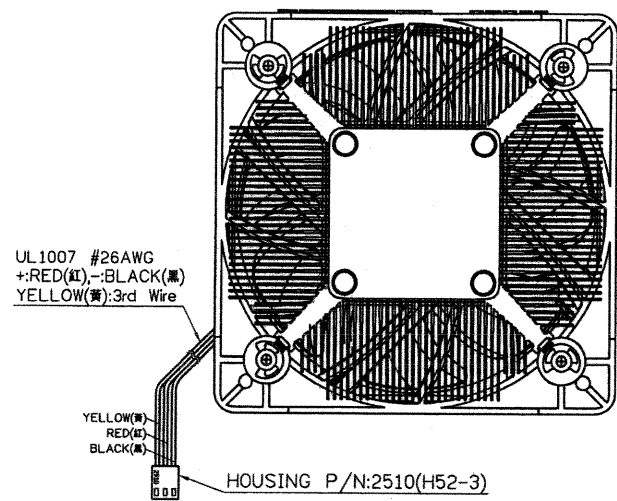
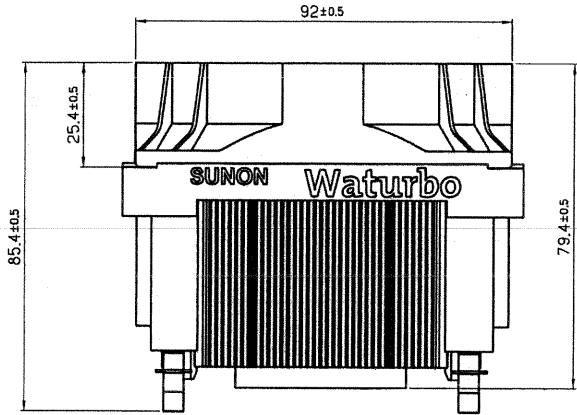
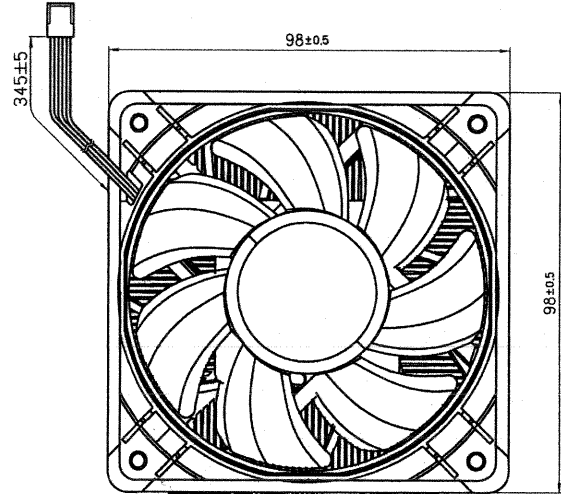


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**3.DIMENSION**



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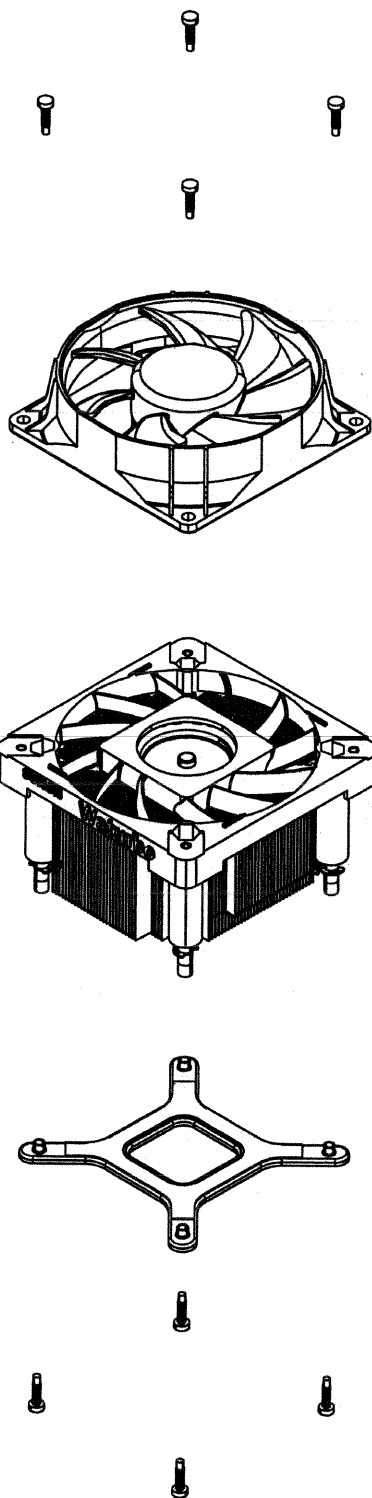
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**DIMENSION**

● Intel Socket LGA775



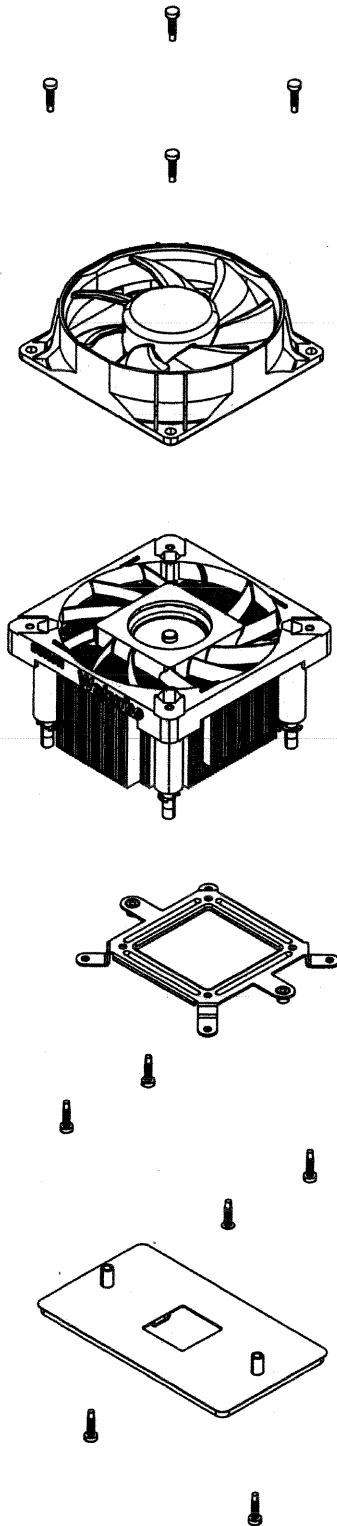
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**DIMENSION**

● AMD Socket K8



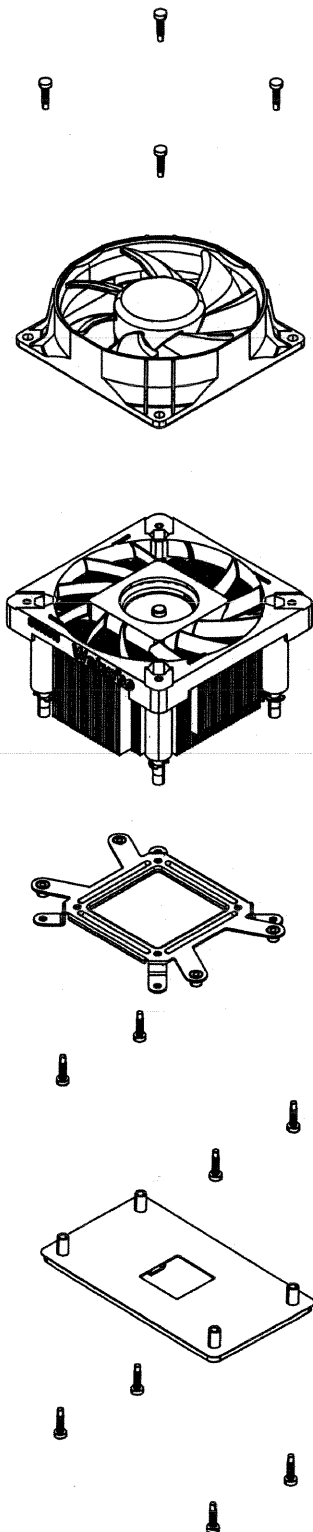
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**DIMENSION**

● **AMD Socket AM2**



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**4. NOTES**

1. SUNON will not guarantee the products if the application conditions exceed those set out in this specification.
2. A written request should be submitted to SUNON prior to acceptance if deviation from this specification is required.
3. Caution should be exercised when handling the fan. Damages may be resulted when apply pressure to the impeller or hold the fan by the lead wires.
4. No guarantee on the products against the safety problem or failure caused by powder dust, drop of water or insect.
5. This specification sheet precedes all other information and should be used as the principal reference for the product to which it refers.
6. To satisfy the SUNON Management Information System, please indicate SPEC. NO. on every order.
7. It is important that the correct polarity is established before connecting the fan to the electrical supply. Black (0V), Red (+V). If cautions is not taken, immediate damage may occur on fans that do not have polarity protection.
8. SUNON fans are not suitable to be used in an environment that contains aggressive or corrosive fluids.
9. Always ensure that fans are stored according to the storage temperatures specified. Do not store in an environment with a high humidity level. If the fans were stored for longer than 6 months, it is highly recommended to apply functional testing before shipping.
10. Not all fans incorporate the Lock Rotor Protection feature. For fans that do not incorporate this feature it is important not to prevent the rotation of the impeller. Doing so, will lead to failure.
11. During installation, caution should be taken when mounting the fan. Incorrect mounting can cause excess resonance, vibration and noise.
12. During testing it is important to consider safety at all times. A suitable guard should be fitted to the fan to prevent personal injury.
13. Unless otherwise stated, all tests are carried out at relative temperature and humidity conditions of 25°C, 65%.

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**5. Declaration of RoHS**

Control declaration of environment- related substances/ materials

1. In accordance with the Restriction of Hazardous Substances (RoHS) Directive, Sunon product with P/N: GN models have complied with law and discipline not to employ the forbidden substances, and restrict the allowable concentration of some limited substances deliberately in our components.

No	Substance	Criteria
1	Halogens & its compounds (Substances depleting the ozone layer)	Forbidden
2	Chlorinated Organic Solvent	Forbidden
3	Lead and its compounds	Plastic (Frame, Impeller, wire harness, etc.) <100ppm
		Solder <1000ppm
		Iron Alloy <3500ppm
		Aluminium Alloy <4000ppm
		Copper Alloy <4wt%
4	Cadmium and its compounds	Solder <20ppm
		Parts composed of metals containing zinc (e.g. brass, zinc for die casting) <100ppm
		Plastic <5ppm
5	PBB and PBDE Category	Forbidden
6	PCB and PCT Category	Forbidden
7	CP	Forbidden
8	Mirex	Forbidden
9	PCN category	Forbidden
10	Hexavalent Chromium Compounds	<100ppm
11	Mercury and its compounds	Forbidden
12	Asbestos	Forbidden
13	Organic Tin Compounds	Forbidden
14	Azo Compounds	Forbidden

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