

# Product Manual

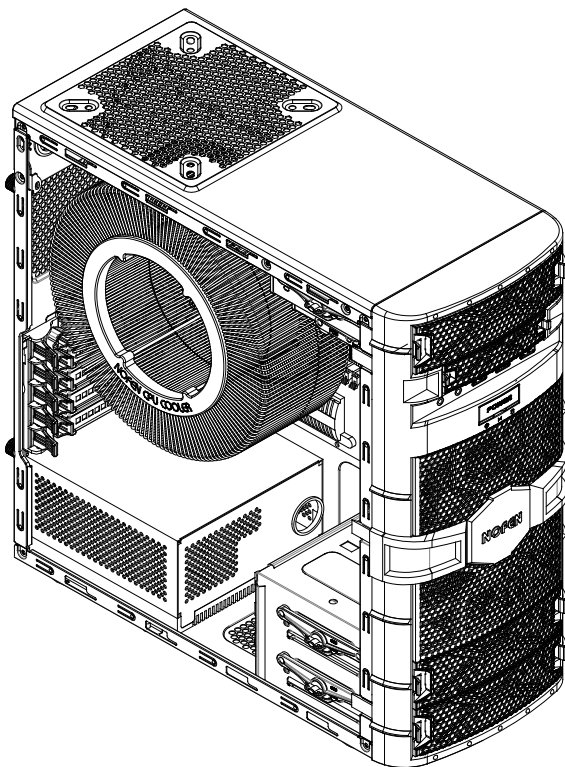
# NOFAN Set A43

① NOFAN CR-100A

② NOFAN P-400A

③ NOFAN CS-60

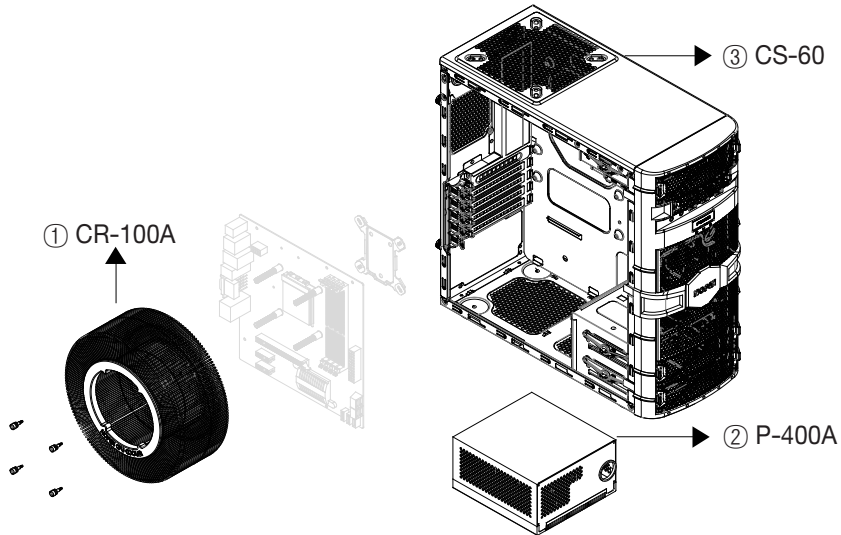
: Dragon Slayer case by IN WIN customized to NOFAN natural convection air cooled specification.



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# 1. NOFAN Set A43 Components



① : Fanless CPU Cooler(CR-100A)

② : Fanless Power Supply(P-400A)

③ : Fanless Case(CS-60) : Dragon Slayer case by IN WIN customized to NOFAN natural convection air cooled specification.

※ For details regarding components, please refer to their respective manual sections.

# 2. NOFAN Set A43 Features

1. NOFAN's patented FDP(Fluid Dynamic Pressure) technology eliminates noise and vibration.
2. All components are fanless, allowing systems optimized for natural convection cooling.
3. Built only with ICEPIPEs and heat pipes, both super thermal conductors, heat generated in the system is effectively transferred out of the system.
4. Absolutely no fans are utilized, significantly reducing internal dust accumulation and making it possible to maintain system cleanliness.
5. Significant reduction in the accumulation of dust also reduces the chances for accumulation of bacteria that may cause skin or respiratory problems.
6. Always silent, making it ideal for those that are sensitive to noise.

### 3. CPU Cooler NOFAN CR-100A



#### CR-100A Features

1. NOFAN's patented FDP(Fluid Dynamic Pressure) technology eliminates noise and vibration.
2. The entirely fanless, patented technology based, tunnel-type CPU cooler is optimized for natural convection cooling.
3. Designed for fast cooling through the 4 heat pipes and 160 ICEPIPES.
4. The wide spacing of ICEPIPES prevents dust accumulation related maintenance.
5. The world's first absolutely silent cooler with no cooling fan.

#### CR-100A Specifications

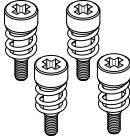

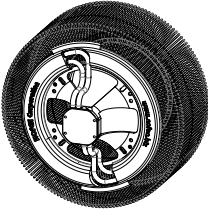
Spec.	Model	CR-100A
Materials		Pure copper, Aluminum
Weight (g) – CPU Cooler		763 g
Resistance (°C/W @ 100W)		0,48
Dimensions(mm)		226(D) X 136,6(H)
Heat Dissipation Area (cm <sup>2</sup> )		2,829 cm <sup>2</sup>

#### CR-100A Patent Information


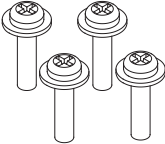
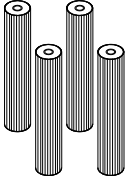
- ⊙ Patent registered in Korea.
- ⊙ Patent pending in 20 countries including the US, EU, China, and Japan.

# CR-100A Components

## 1. Common Components for INTEL & AMD

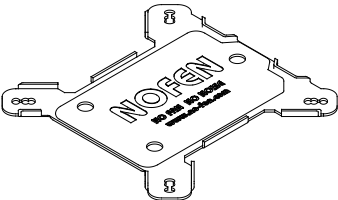
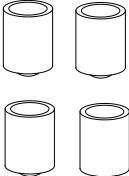


① CPU Cooler (CR-100A) x 1    ② Thermal Grease x 1    ③ CPU Fixing Bolts x 4



④ Nipples x 4    ⑤ Nipples Fixing Bolts x 4    ⑥ Product Manual x 1

## 2. Components for INTEL Only

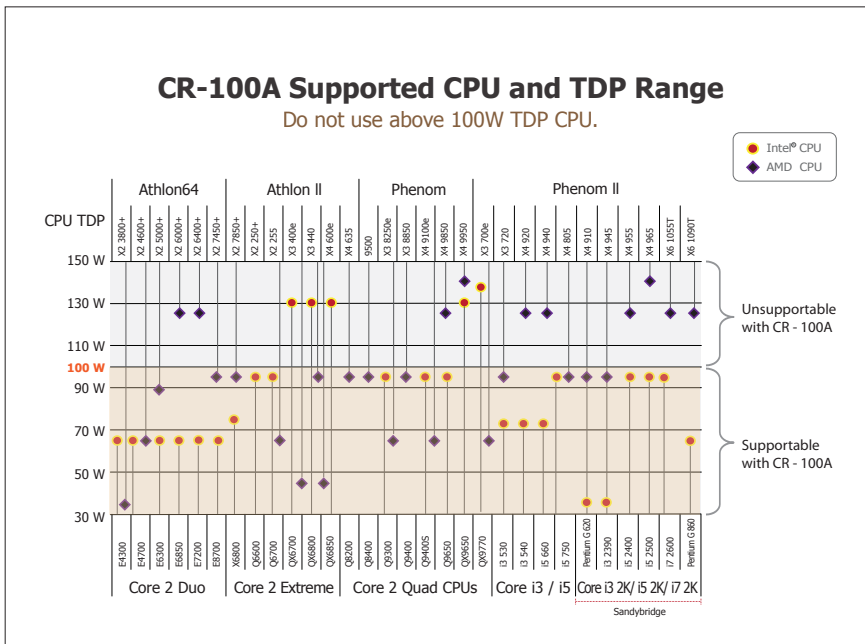


⑦ Guide Bushings x 4    ⑧ Backplate x 1

## ⚠️ CR-100A Precautions

1. During installation, if excessive force is applied on the heatsink, the excessive pressure applied on the heatsink and motherboard may cause damage to the product and/or system.
2. Store and use in an environment away from the reach of children.
3. Check the condition of the product and its components before installation, and if there are any problems, contact the retailer for a replacement or refund.
4. NOFAN is not responsible for any damages that result from improper product installation or use of products in applications other than their inherent purpose.
5. Read the installation instructions that pertain to the product thoroughly before installation, for incorrect installation may result in damages of the CPU and motherboard.

## CR-100A Supported CPU and TDP Range



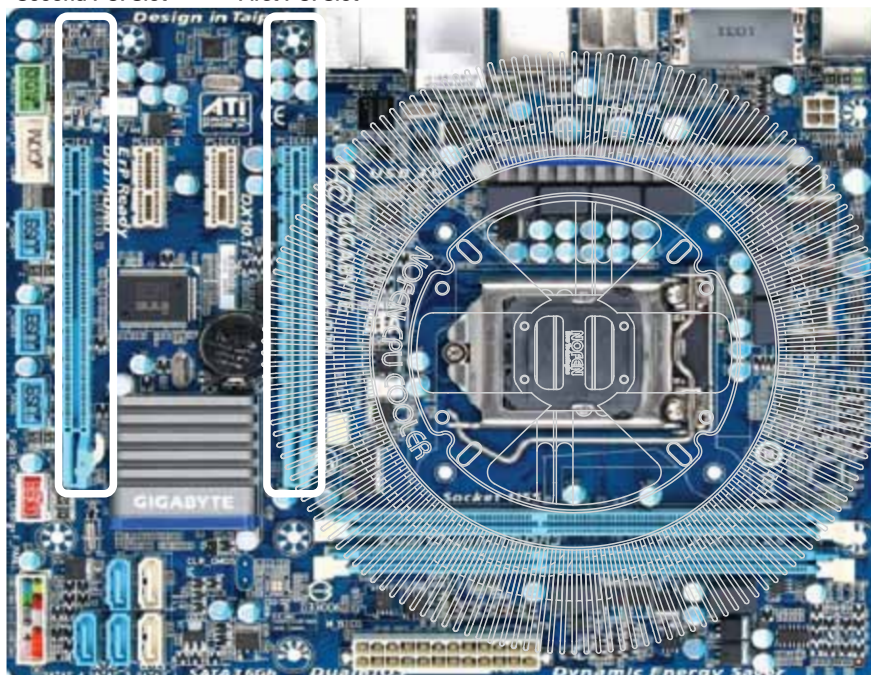
## CR-100A Supported Sockets and CPUs

	SOCKET	CPU
INTEL Sockets	1155	Pentium G CORE i7 2K CORE i5 / i5 2K
	1156	CORE i3 / i3 2K
	775	CORE 2 Duo / Quad / Extreme Pentium D / Celeron D
AMD Sockets	939, 940	PHENOM II PHENOM
	AM2, AM2+	ATHLON64 ATHLON X2
	AM3	ATHLON FX ATHLON 64 FX
		SEMPRON

## CR-100A Installation Condition

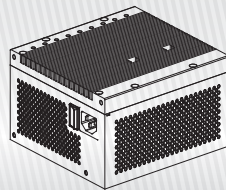
NOFAN CR-100A is designed to not use the First PCI Express Slot. but can use second PCI Express Slot.

Second PCI Slot      First PCI Slot



## 4. Power Supply

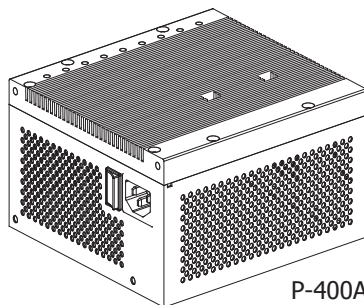
### NOFAN P-400A



#### P-400A Features

1. Fanless power supply for absolute silent operation.
2. 80PLUS BRONZE certified high efficiency performance.
3. Stable operation reinforced by 560W-class components.
4. Large aluminum heatsink customized for natural convection.

#### P-400A Components



P-400A Fanless Power Supply

#### P-400A Precautions

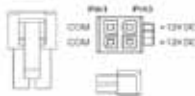
1. The motherboard can be damaged if the Main Output Connector(P1) is connected to the motherboard while the AC power is ON.
2. While connecting the DC output connectors, be sure to connect them in the correct directional orientation.
3. After installation, press the case's power button then check if the Power LED lights ON, for if it does not, it may be necessary to check for incorrect connections or motherboard problems.



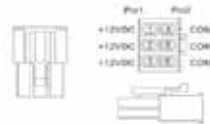
## P-400A Connectors



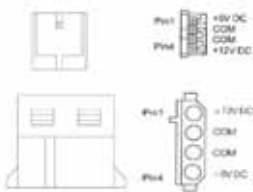
Main Power Connector (P1)



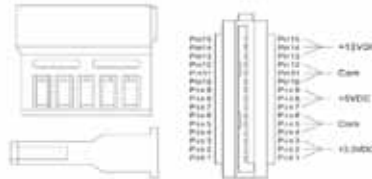
+12V Power Connector



+12V PCI Express Connector



Peripheral Power Connector



Serial ATA Power Connector

## P-400A Specifications

AC Input Range	Voltage	110 – 240 VAC		Output Voltage Stability	Output Voltage	Safety Range							
	Frequency	50 – 60 Hz			+ 3.3 V	3.76 – 4.8 V							
PFC Type	ACTIVE PFC				+ 5 V	5.6 – 7.0 V							
Efficiency(%)	TYPICAL LOAD(50%)	86 %			+ 12 V1	13.0 – 16.5 V							
	FULL LOAD (100%)	85 %			- 12 V2	13.0 – 16.5 V							
DC Output	Output Voltage	Output Load Range			Total Output	Safety Features							
		Imin	Inor			Imax	Over Current Protection (OVP)						
	+3.3 V	0.0 A	10 A	20.0 A	130 W	Over Current Protection (OVP)							
	+5 V	0.0 A	7.0 A	14.0 A		Short Circuit Protection (SCP)							
	+12 V1	0.2 A	7.0 A	14.0 A	324 W	External temperature		External moisture					
	+12 V2	0.2 A	6.5 A	13.0 A		Operation	Storage	Operation	Storage				
	-12 V	0.0 A	0.25 A	0.5 A	18.5 W	0 – 45°C		-20 – 60°C		5 – 95%RH		5 – 95%RH	
	+5 Vsb	0.0 A	1.25 A	2.5 A		Dimensions	160 x 150 x 86 mm						

## P-400A Certification and EMI



## P- 400A Warning and Cautionary Notices

### **WARNING**

**Neglecting the following may cause serious injury or death.**

- ▶ Do not disassemble the cover while the AC power is connected, for it may lead to electrical shock or fatal product damage.
- ▶ Do not touch the power plug with wet hands, for it may lead to electrical shock.
- ▶ Do not insert fingers or metal objects into vents.

### **Caution**

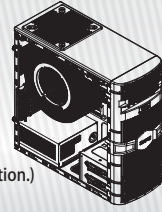
**Neglecting the following may cause minor injuries, degrade product conditions or cause malfunctions.**

- ▶ Operating the product in an extremely cold or hot environment can degrade product performance and lifespan.
- ▶ Do not insert water or liquids inside the product.
- ▶ Operation in a humid or non-ventilated environment may reduce product lifespan.

## 5. Case

### NOFAN CS-60

(Dragon Slayer case by IN WIN customized to NOFAN natural convection air cooled specification.)



#### CS-60 Features

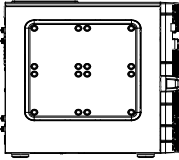
1. Optimized for fanless natural convection cooling.
2. Significantly reduces dust accumulation in the system.
3. Significantly reduces vibration during system operation.
4. Convertible Bays (5.25"/3.5"/2.5") for additional HDD & SSD drives.

#### CS-60 Specifications

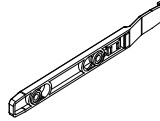
Category	NOFAN CS-60
Dimensions ( W x D x H )	180mm x 410mm x 425mm
Weight	4.2 kg
Materials	Plastic, steel(SECC)
Supported Form Factors	Micro ATX
Color	Dark Gray
VGA	Second PCI-Express
Expansion Slots	5
5.25" Bays	1(3)
3.5" Bays	3(1)
2.5" Bays	1
Front I/O Port	Mic x 1, Headphones x 1, USB 2.0 x 2, USB 3.0 x 1

※ CS-60 is IN WIN made Dragon Slayer case best customized to accomodate NOFAN natural convection air cooling system.

## CS-60 Component



① CS-60 Case



② HDD fixing anti-vibration pad x 6  
(Angular Connector)



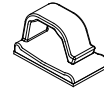
③ HDD fixing screws x 12  
(UNC 3 32x12)



④ SSD fixing screws x 4  
(M3.0x8)

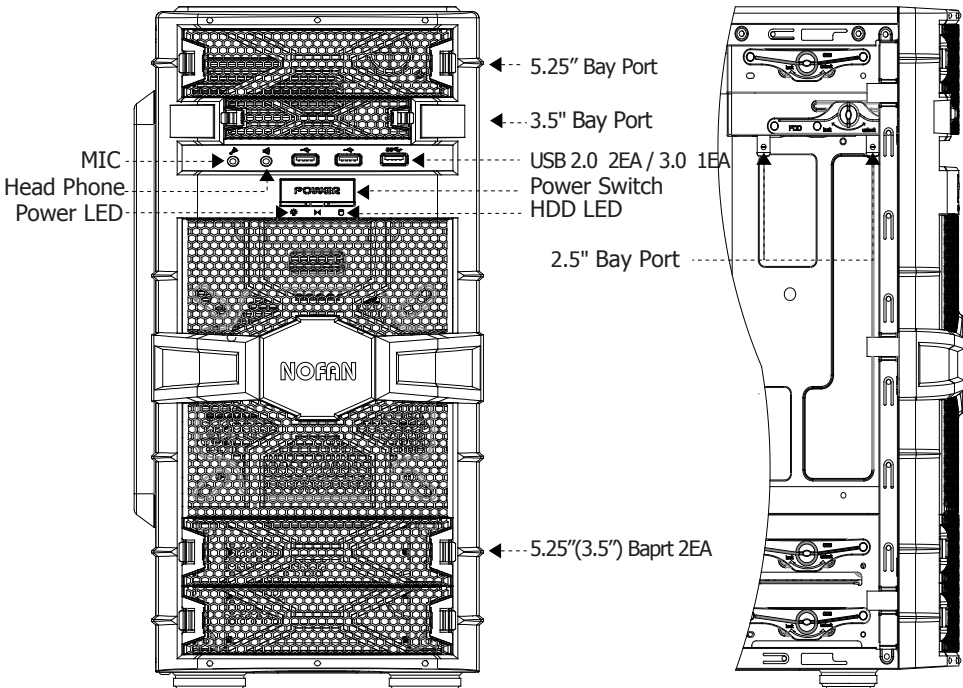


⑤ Motherboard fixing screws  
x 8(M3.0x6)



⑥ Cable management clips x 3

## CS-60 Front I/O Port and 3.5"/2.5" HDD/SSD Bay Port

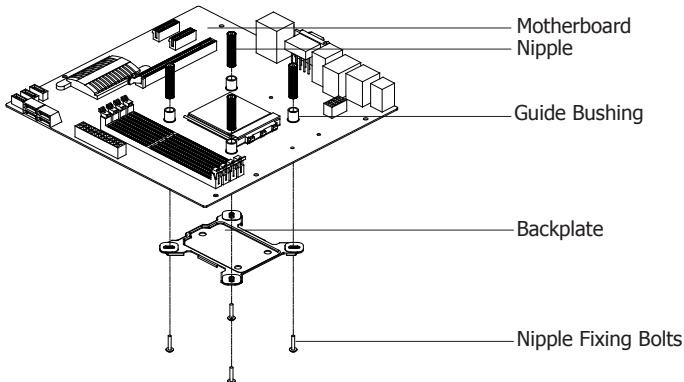


## 6. Installation Nipple and Backplate on M/B

Please refer to flash video at "[www.nofancomputer.com](http://www.nofancomputer.com)" for the detailed explanation.

### 1. Intel CPUs

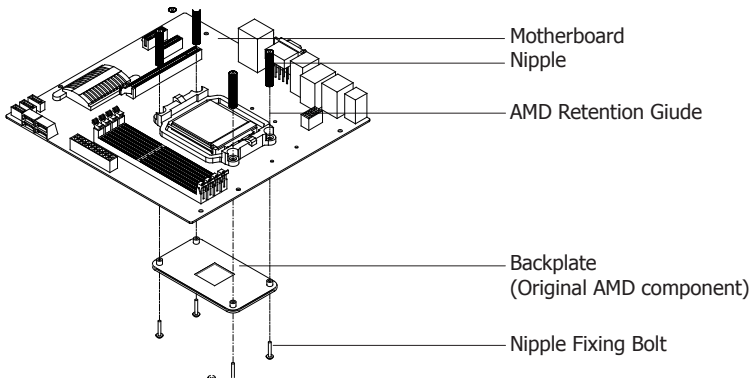
1. Align the Nipples, Guide Bushings, and Backplate with the motherboard's CPU cooler installation holes as shown in the diagram.
2. Fasten the Nipples, Guide Bushings, and Backplate to the motherboard by screwing in each of the Nipple Fixing Bolts through the assembly to their respective Nipples.



- Nipple Installation on INTEL CPU-Motherboard -

### 2. AMD CPUs

1. Remove the original screws of the motherboard's retention guide.
2. Align the Nipples, retention guide, and backplate with the motherboard's retention guide installation holes as shown in the diagram.
3. Fasten the Nipples, retention guide, and backplate to the motherboard by screwing in each of the Nipple Fixing Bolts through the assembly to their respective Nipples.

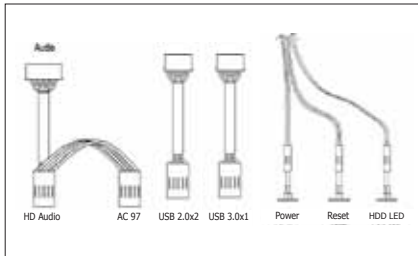


- Nipple Installation on AMD CPU-Motherboard -

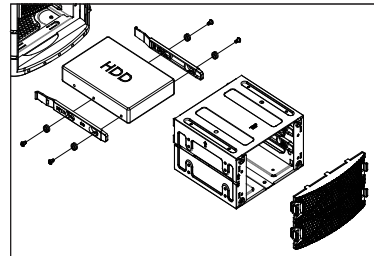
## 7. Motherboard Installation into Case

1. Install the motherboard into the case and connect the Main Power and CPU Power on to the motherboard.
2. Connect the wires/connectors of the Power Switch, I/O Port, USB, and Audio according to the motherboard's manual.

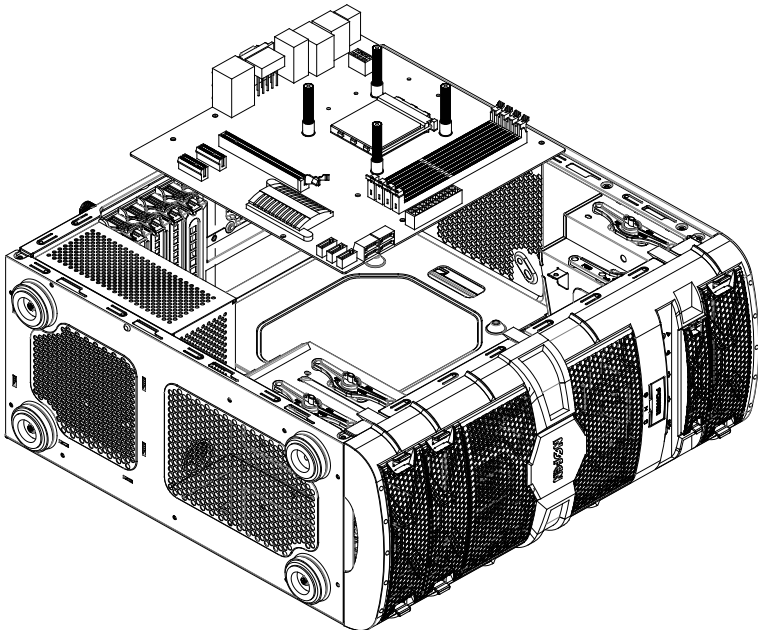
**\* For a list of supported graphics cards, please refer to NOFEN's website.  
([www.nofancomputer.com](http://www.nofancomputer.com))**



Front Panel Device Connection to M/B

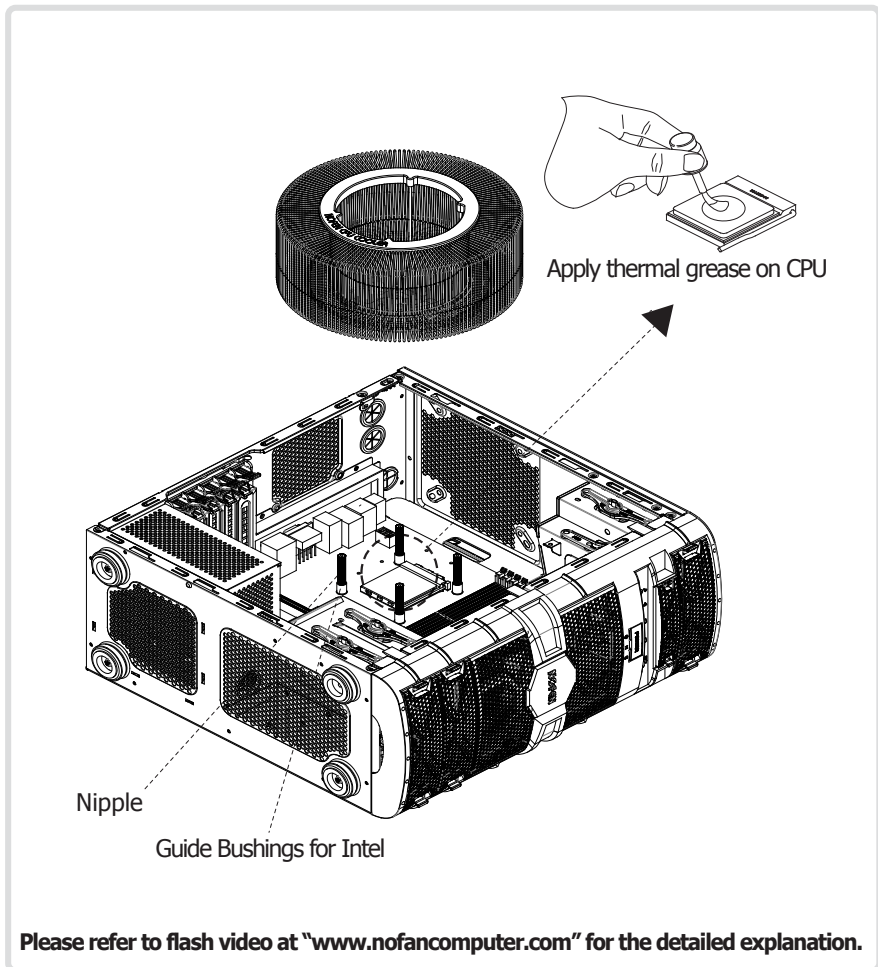


Installation 3.5" HDD in the 5.25" HDD bay port



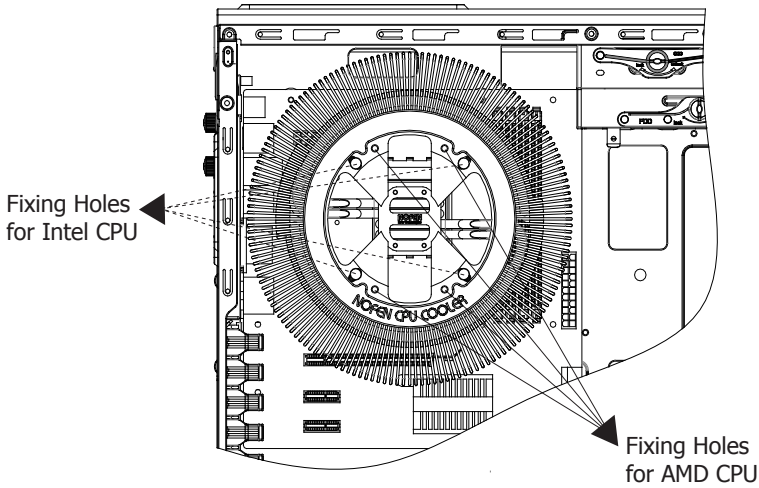
## 8. Installing the CPU Cooler

1. Remove any foreign materials from the surface of the CPU.
2. Apply a thin layer of the included Thermal Grease on the surface of the CPU.
3. Align the 4 Fixing Holes(refer to p.14) of the CPU Cooler with the 4 Nipples.
4. Install the CPU Fixing Bolts to fix the CPU Cooler on the motherboard.

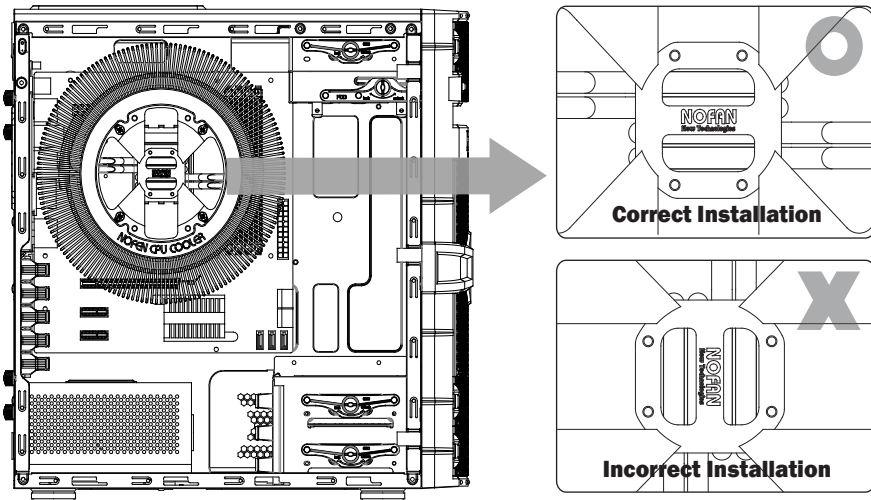


Please refer to flash video at "[www.nofancomputer.com](http://www.nofancomputer.com)" for the detailed explanation.

## 9. INTEL and AMD CPU Fixing Holes

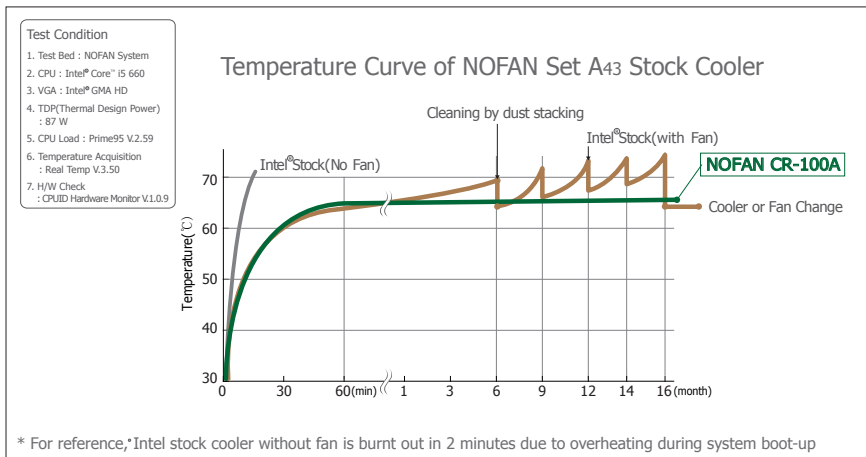


## 10. CPU Cooler Installation Direction





## 11. Cooler Performance Comparison Chart



## 12. Solution for CPU Fan Error During Booting : AMI BIOS

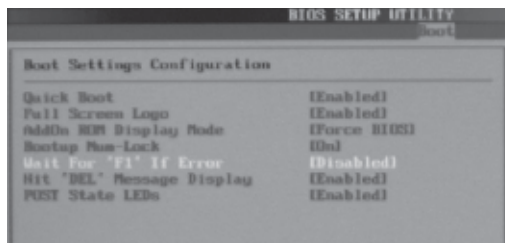
### Solution 1.

Power – Set “CPU Fan Speed” to “Ignored” in the Hardware Monitor menu.



### Solution 2.

Boot – Set “Wait For ‘F1’ If Error” to “Disabled” in the Boot Settings Configuration menu.



※ Pictures may be different from each BIOS version.

# 13. Recommended Noise-Free Components

## ► Intel System

For the latest updated information, please refer to NOFAN's website

Recommend Component	Manufacturer	Model
1,CPU	Intel Corporation	Intel®Core™ i5 2500(Sandybridge) / Core™ i7 2600(Sandybridge)
2,CPU Cooler	NOFAN Corporation	CR-100A
3,Chassis	NOFAN Corporation	CS-60
4,Motherboard	Giga-Byte Technology Co., Ltd.	GA-H67MA-UD2H
5,VGA Card	Giga-Byte Technology Co., Ltd.	Radeon HD 5750 UDV D5 1GB Silent-Cell
6,Power Supply	NOFAN Corporation	P-400A
7,Solid State Disk	Samsung Electronics Co., Ltd.	S-470 series 2.5" 64GB SSD(MZ-5PA640/000)

### Optimal Components for Building a NOFAN Computer System



1,CPU



2,CPU Cooler



3,Chassis



4,Motherboard



5,VGA Card



6,Power Supply



7,Solid State Disk

## ► AMD System

For the latest updated information, please refer to NOFAN's website

Recommend Component	Manufacturer	Model
1,CPU	Advanced Micro Devices, Inc.	Phenom II-X6 1055T (Thuban 95W)
2,CPU Cooler	NOFAN Corporation	CR-100A
3,Chassis	NOFAN Corporation	CS-60
4,Motherboard	Giga-Byte Technology Co., Ltd.	GA-880GMA-UD2H
5,VGA Card	Sapphire Technology Limited	Radeon HD 5750 UDV D5 1GB Silent-Cell
6,Power Supply	NOFAN Corporation	P-400A
7,Solid State Disk	Samsung Electronics Co., Ltd.	S-470 series 2.5" 64GB SSD(MZ-5PA640/000)

### Optimal Components for Building a NOFAN Computer System



1,CPU



2,CPU Cooler



3,Chassis



4,Motherboard



5,VGA Card



6,Power Supply



7,Solid State Disk

## 14. Warranty and Servicing

1. Warranty Period : 2 year from date of purchase

2. Free Servicing : Free Servicing will be provided for defects reported within the Warranty Period.

However, Free Servicing is not provided in the following cases:

- Problems caused by neglecting the warnings and notices of this manual.
- Damages or deformations caused by the user's intent, fault, or lack of caution.
- Deformations or malfunctions caused by the user's modification of the product.
- Damages to the computer or its components caused by excessive over-clocking.

3. Charged Servicing : Charged Servicing is available for problems reported beyond the Warranty Period.

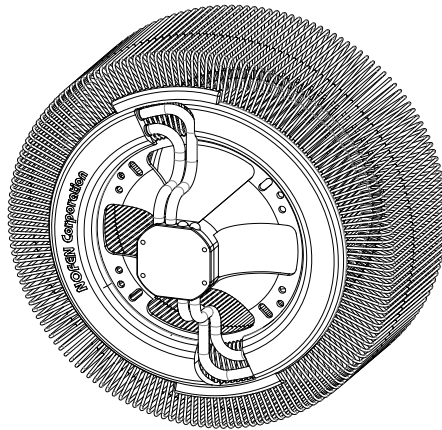
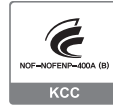
### 4. Refund and Exchange

- 1) Refund : A Refund is only available if returned to the original retailer with a valid sales receipt within 10 days of purchase, and the product/packaging are not damaged.
- 2) Exchange : If the product shows deterioration or malfunctions within 30 days of purchase, the product can be exchanged for a new product.

### © Company Headquarters

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## NOFAN CR-100A