



Dear customer,

Congratulations on choosing the Noctua NH-U12S.

The NH-U12S is the latest version of Noctua's award-winning NH-U12 coolers. First introduced in 2005, the NH-U series has become a standard choice for premium quality quiet CPU coolers and won more than 400 awards and recommendations from leading international hardware websites and magazines.

Enjoy your NH-U12S!

Yours sincerely,


 Roland Mossig, Noctua CEO

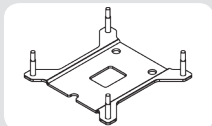
This manual will guide you through the installation process of the SecuFirm2™ mounting system step by step.

Prior to installing the cooler, please consult the compatibility list on our website (www.noctua.at/compatibility) and verify that the cooler is fully compatible with your motherboard. Please also make sure that your PC case offers sufficient clearance for the cooler and that there are no compatibility issues with any other components (e.g. tall RAM modules). Double check that the heatsink and fan clips do not make contact with the VGA card or other PCIe cards. Noctua cannot be held responsible for any damage or losses caused by compatibility issues.

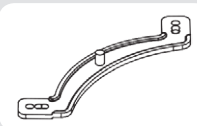
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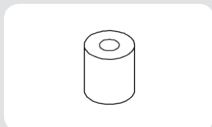
Required mounting parts:



1x NM-IBP2 backplate



2x NM-IMB3 mounting bars



4x NM-IPS1 spacers

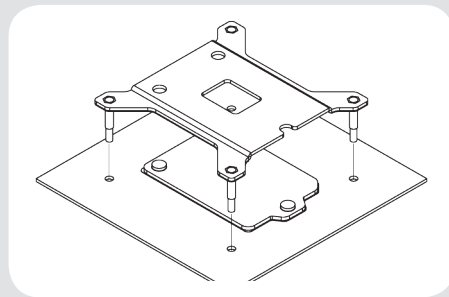


4x NM-ITS1 thumb screws

1 Removing the motherboard

In case you want to use the cooler on an assembled system and your case doesn't have a cut-out at the rear side of the motherboard tray, you first have to remove the motherboard from the case in order to be able to install the supplied backplate.

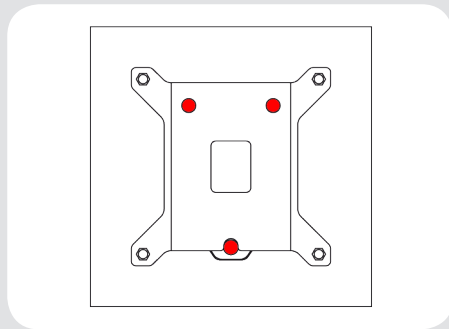
2 Attaching the backplate



Caution: The supplied backplate will install over the motherboard's stock backplate, so the motherboard's stock backplate must not be taken off.

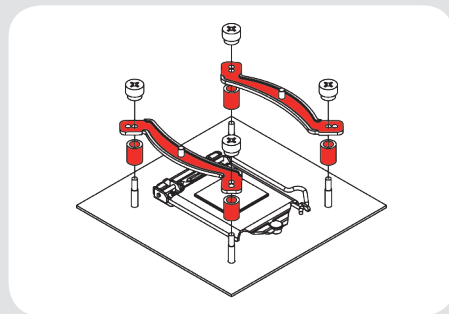
Place the backplate on the rear side of the motherboard so that the bolts stick through the mounting holes.

Caution: Please make sure that the three cut-outs in the supplied backplate align with the screws of the motherboard's stock backplate.



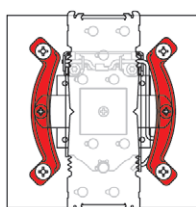
3 Installing the mounting bars

First put the plastic spacers onto the bolts of the backplate, then add the mounting bars.

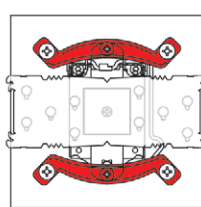


Caution: Choose the alignment of the mounting bars according to the desired final orientation of the cooler:

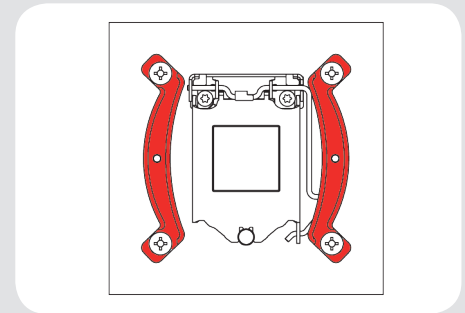
Orientation A



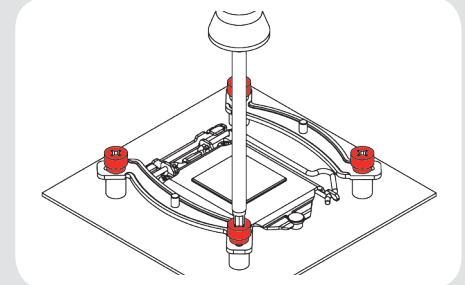
Orientation B



Caution: Make sure that the curved sides of the mounting bars are pointing outwards.



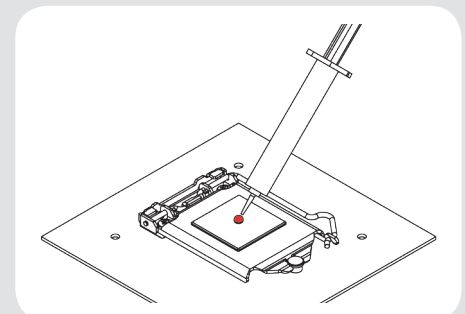
Fix the mounting bars using the 4 thumb screws.



Caution: Gently tighten the screws until they stop, but don't use excessive force (max. torque 0.6 Nm).

4 Applying the thermal paste

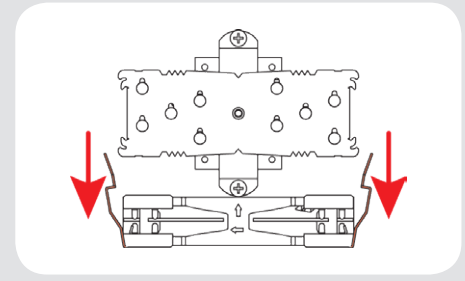
If there are residual traces of thermal paste or thermal pads on your CPU, please clean them off first. Then press a small drop (4-5mm diameter) of NT-H1 onto the centre of the heatspreader.



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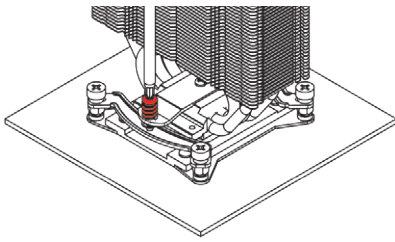
5 Fastening the heatsink to the CPU

Caution: Please first take off the fan as well as the protection cover at the bottom side of the heatsink.





Then put the heatsink onto the CPU and screw it to the screw threads of the mounting bars. Perform 2-3 turns on each screw, then repeat until both are fully tightened

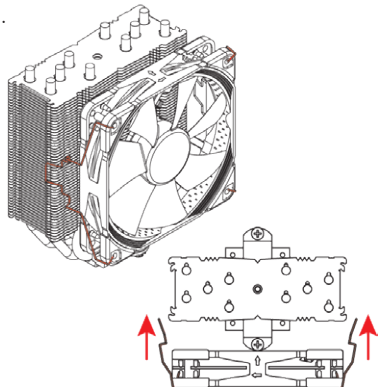


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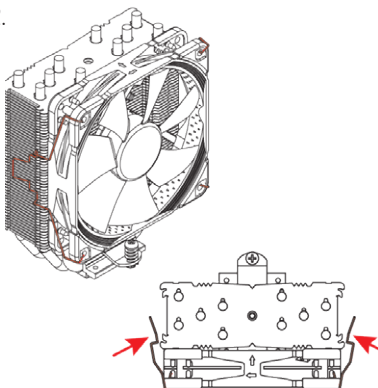
6 Fan Setup

Reattach the fan to the heatsink using the supplied steel clips:

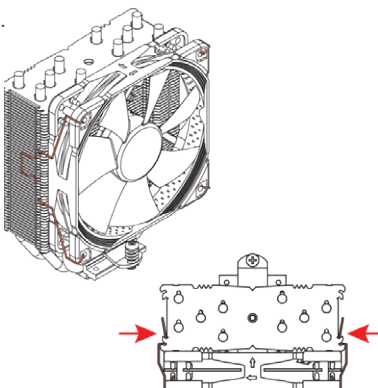
1.



2.



3.



Connect the fan to the motherboard's CPU fan header.

Depending on your CPU and the temperature inside the case, you may interconnect the supplied NA-RC6 Low-Noise Adapter (L.N.A.) in order to further reduce the fan's operating noise.

Caution: When using the L.N.A., check the temperature of your CPU using appropriate software (e.g. the respective applications of your motherboard manufacturer), in order to evade automatic throttling of the CPU due to the increased temperature. If the cooling performance is insufficient, please increase case ventilation or remove the L.N.A.

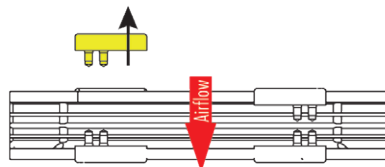
Adding a second fan

The NH-U12S includes an extra set of fan clips and an extra set of thicker anti-vibration pads for installing a second NF-F12 fan in push/pull mode in order to further improve cooling performance.

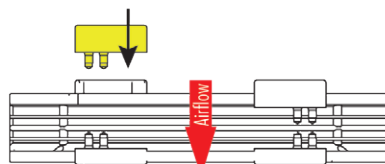
Please use the thicker anti-vibration pads on the rear NF-F12 fan for improved acoustics if space allows.

The y-cable supplied with the retail NF-F12 fan can be used to control the speed of both fans via the same motherboard fan header.

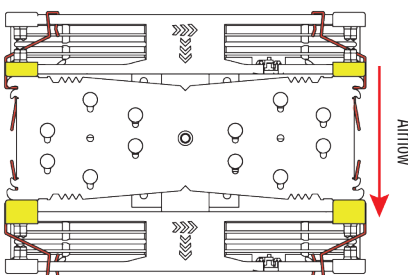
1. Remove standard spacers on rear fan



2. Install thick spacers on rear fan

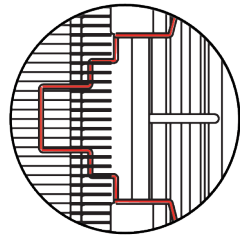


front fan (standard spacers)

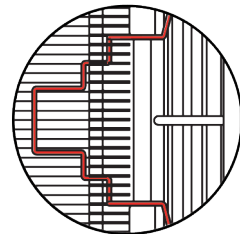


rear fan (thick spacers)

Clip position for thick spacers:



Clip position for standard spacers:



While Noctua recommends using an NF-F12 fan for best results in dual fan mode, the extra set of fan clips can also be used to install most other fans. In this case, please put the supplied self-adhesive anti-vibration strips onto the heatsink to avoid vibrations being transmitted to the cooler.

! Transporting your system

As it is not possible to reliably calculate or control the forces that act upon a system during transport (e.g. in shipping), we generally recommend, for safety reasons, taking the fan off the heatsink in order to reduce the weight below 700g. Noctua cannot be held responsible for any damage that may arise due to excessive stress during transport if you keep the fan installed.

! Warranty, Support and FAQs

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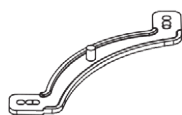
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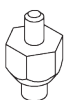
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Required mounting parts:



2x NM-IMB3 mounting bars



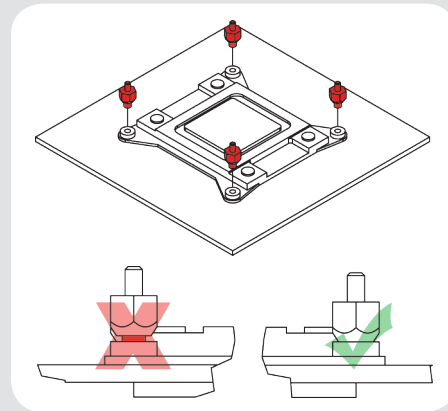
4x NM-IBT2 bolts



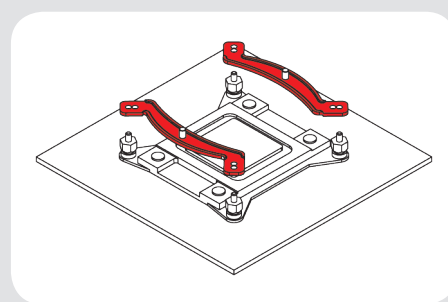
4x NM-ITS1 thumb screws

1 Installing the mounting bars

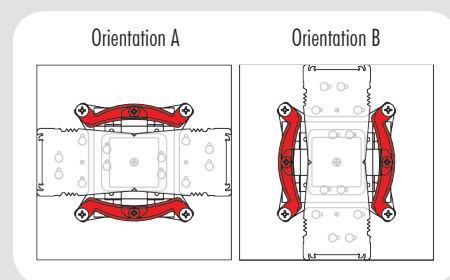
First screw the NM-IBT2 bolts into the screw threads of the LGA20xx socket frame.



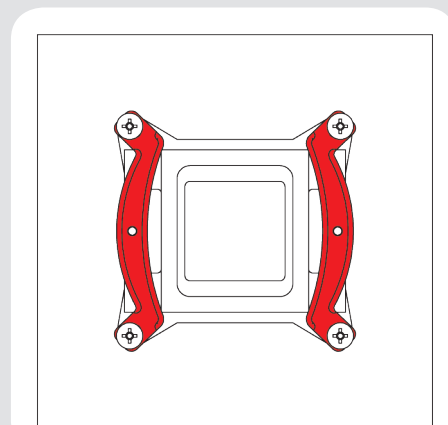
Then put the NM-IMB3 mounting-bars onto the bolts.



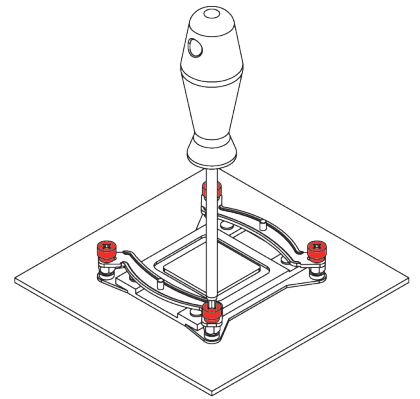
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Caution: Make sure that the curved sides of the mounting bars are pointing outwards.



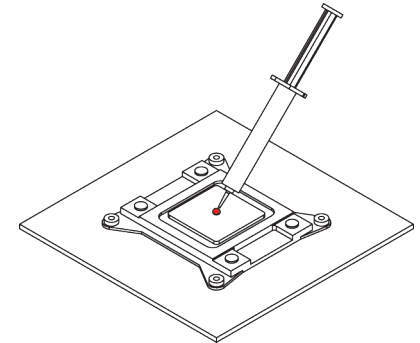
Fix the mounting bars using the 4 thumb screws.



Caution: Gently tighten the screws until they stop, but don't use excessive force (max. torque 0.6 Nm).

2 Applying the thermal paste

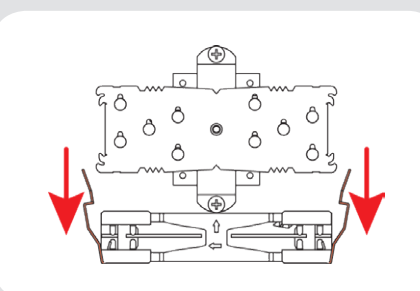
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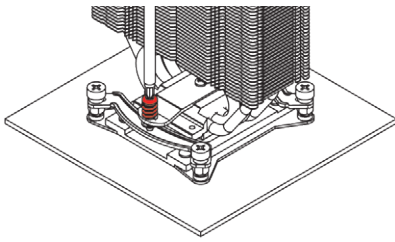
3 Fastening the heatsink to the CPU

Caution: Please first take off the fan as well as the protection cover at the bottom side of the heatsink.





Then put the heatsink onto the CPU and screw it to the screw threads of the mounting bars. Perform 2-3 turns on each screw, then repeat until both are fully tightened.

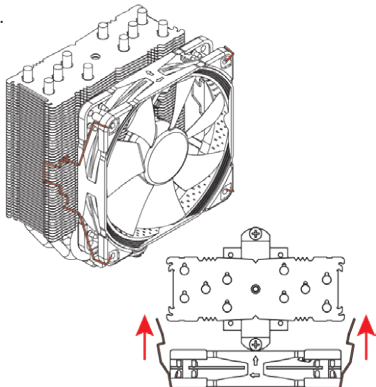


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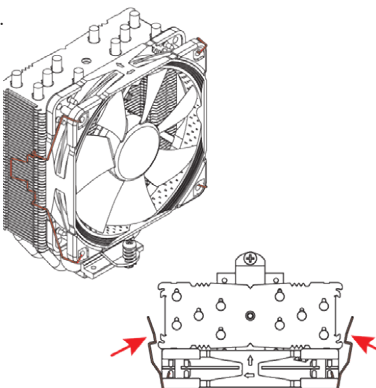
4 Fan Setup

Reattach the fan to the heatsink using the supplied steel clips:

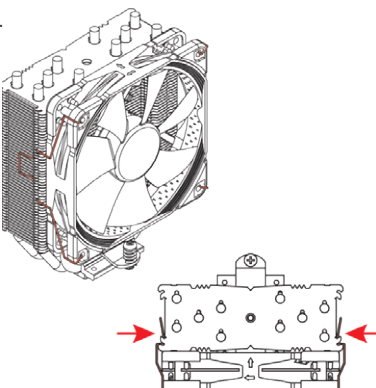
1.



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Connect the fan to the motherboard's CPU fan header.

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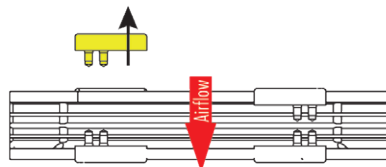
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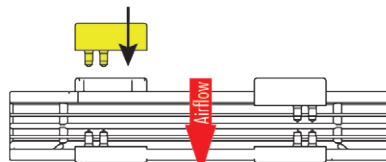
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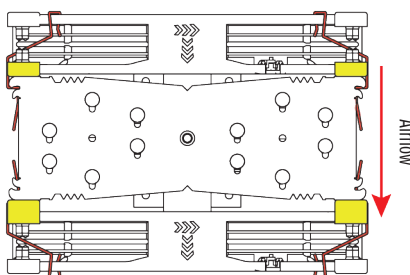
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2. Install thick spacers on rear fan

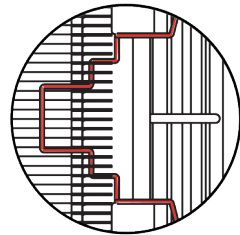


front fan (standard spacers)

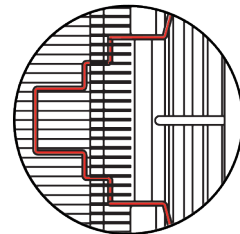


rear fan (thick spacers)

Clip position for thick spacers:



Clip position for standard spacers:



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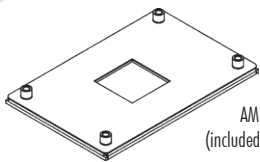
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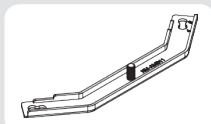
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Required mounting parts:



AMD stock backplate
(included with the motherboard)



2x NM-AMB11 mounting bars



4x NM-APS4
plastic spacers for
AM4



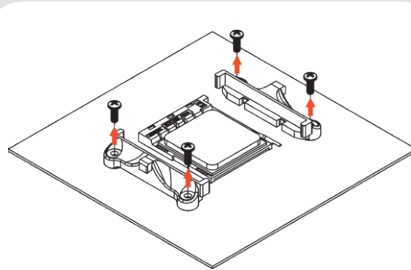
4x NM-APS5
plastic spacers for
AM2(+)/AM3(+)
FM1/FM2(+)



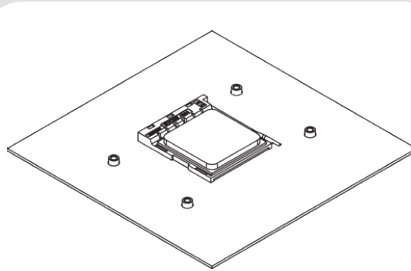
4x NM-ALS1
screws

1 Removing the stock retention module - Putting the backplate in place

If your motherboard comes with a pre-installed CPU cooler retention module, please first remove it by unscrewing it from the backplate. The SecuFirm2™ mounting system will install directly to the stock backplate, so please keep it in place.



If your motherboard does not come with a pre-installed CPU cooler retention module, the AMD stock backplate should be included with the motherboard accessories. Please put the backplate on the rear side of the motherboard so that the screw-threads of the backplate stick through the mounting holes of the motherboard as shown below. If your motherboard does not include a stock backplate, please contact Noctua customer support at support@noctua.at.



2 Attaching the mounting bars

Please first choose the correct set of plastic spacers and the correct set of holes on the mounting bars depending on whether you are using a socket AM4 or a socket AM2(+)/AM3(+)/FM1/FM2(+)

AM4



NM-APS4 (grey)

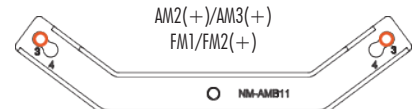
AM2(+)/AM3(+)
FM1/FM2(+)



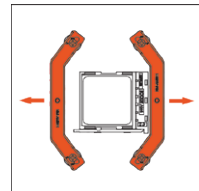
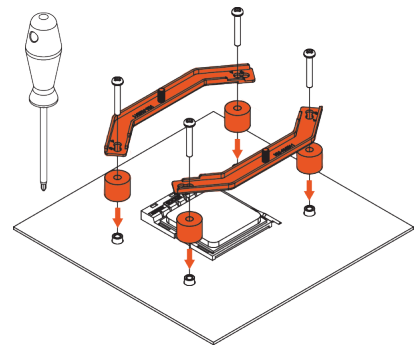
NM-APS5 (white)

Use the grey NM-APS4 spacers for AM4 and the white NM-APS5 spacers for AM2(+)/AM3(+)/FM1/FM2(+).

Use the set of holes marked with "4" for AM4 and the set of holes marked with "3" for AM2(+)/AM3(+)/FM1/FM2(+).



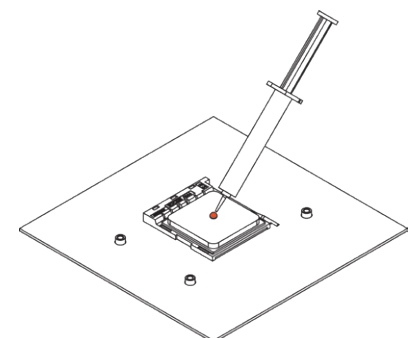
First put the plastic spacers onto the screw threads of the backplate, then fix the mounting bars using the four long screws.



Make sure that the curved sides of the mounting bars are pointing outwards.

3 Applying the thermal paste

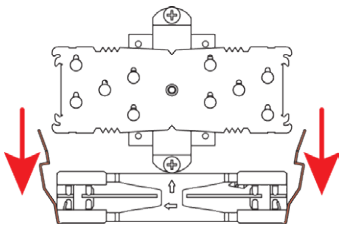
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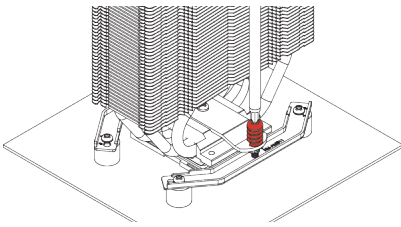


4 Fastening the heatsink to the CPU

Caution: Please first take off the fan as well as the protection cover at the bottom side of the heatsink.



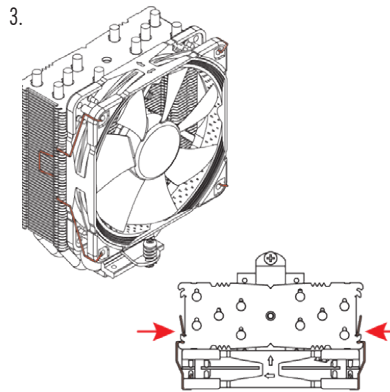
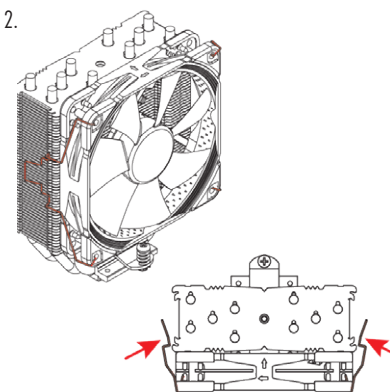
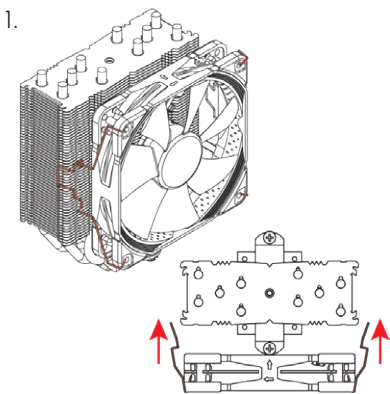
Then put the heatsink onto the CPU and screw it to the screw threads of the mounting bars. Perform 2-3 turns on each screw, then repeat until both are fully tightened.



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Depending on your CPU and the temperature inside the case, you may interconnect the supplied NA-RC6 Low-Noise Adapter (L.N.A.) in order to further reduce the fan's operating noise.

Caution: When using the L.N.A., check the temperature of your CPU using appropriate software (e.g. the respective applications of your motherboard manufacturer), in order to evade automatic throttling of the CPU due to the increased temperature. If the cooling performance is insufficient, please increase case ventilation or remove the L.N.A.

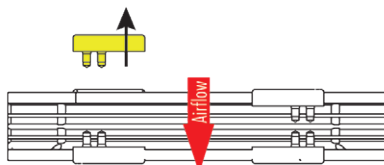
Adding a second fan

The NH-U12S includes an extra set of fan clips and an extra set of thicker anti-vibration pads for installing a second NF-F12 fan in push/pull mode in order to further improve cooling performance.

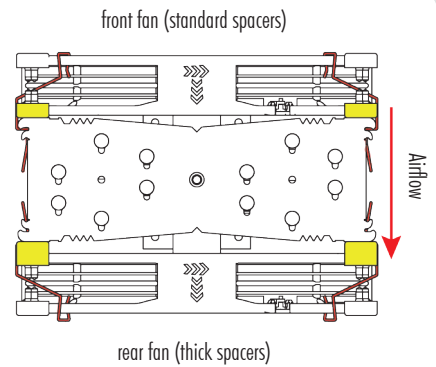
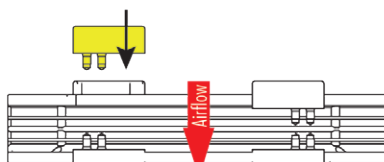
Please use the thicker anti-vibration pads on the rear NF-F12 fan for improved acoustics if space allows.

The y-cable supplied with the retail NF-F12 fan can be used to control the speed of both fans via the same motherboard fan header.

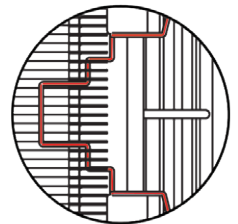
1. Remove standard spacers on rear fan



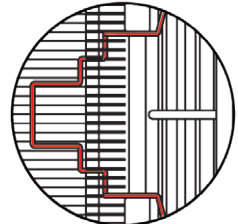
2. Install thick spacers on rear fan



Clip position for thick spacers:



Clip position for standard spacers:



While Noctua recommends using an NF-F12 fan for best results in dual fan mode, the extra set of fan clips can also be used to install most other fans. In this case, please put the supplied self-adhesive anti-vibration strips onto the heatsink to avoid vibrations being transmitted to the cooler.

! Transporting your system

As it is not possible to reliably calculate or control the forces that act upon a system during transport (e.g. in shipping), we generally recommend, for safety reasons, taking the fan off the heatsink in order to reduce the weight below 700g. Noctua cannot be held responsible for any damage that may arise due to excessive stress during transport if you keep the fan installed.

! Warranty, Support and FAQs

Even with high-grade products and strict quality control, the possibility of defects cannot be eliminated entirely. Therefore, we aim at providing the highest possible level of reliability and convenience by offering a warranty period of 6 years and direct, fast and straightforward RMA service.

Should you encounter any problems with your NH-U12S, please don't hesitate to contact our support team (support@noctua.at). Please also consult the FAQ section on our website: www.noctua.at/faqs.