

Noctua at Computex Taipei 2019



As usual, we would like to give you a brief glimpse of what we are currently working on by displaying some exclusive prototypes and providing a first sneak preview of upcoming new products:

- Next-generation A-series fans (140, 80, 70, 60, 50mm)
- New chromax.black.swap fans
- White chromax line fans
- Desk fan with Airflow Amplification System
- Next-generation 150mm dual tower heatsink
- Fanless CPU cooler
- chromax.black CPU coolers
- redux line NH-U12 cooler
- chromax heatsink covers for NH-U14S
- 24V voltage converter and 8-way fan hub

Next-generation 140mm A-series fan



- Impeller made from Sterrox® liquid-crystal polymer (LCP)
- Fine-tuned pressure/airflow (P/Q) curve for heatsinks and radiators
- Ultra-tight tip clearance
- Metal-reinforced hub
- Flow Acceleration Channels
- AAO-Frame (Advanced Acoustic Optimisation)
- Stepped Inlet Design
- Integrated anti-vibration pads
- SS02 bearing
- Current ETA: 2021

Slim 140mm A-series fan



- 15mm slim design
- Metal-reinforced hub
- Flow Acceleration Channels
- AAO-Frame (Advanced Acoustic Optimisation)
- Inner Surface Microstructures
- Stepped Inlet Design
- Integrated anti-vibration pads
- SS02 bearing
- Current ETA: 2021

Slim 80mm A-series fan



- 15mm slim design
- Frame adaptor for 20mm profile applications
- Flow Acceleration Channels
- AAO-Frame (Advanced Acoustic Optimisation)
- Inner Surface Microstructures
- Stepped Inlet Design
- Integrated anti-vibration pads
- SS02 bearing
- 5V and 12V versions with and without PWM
- Current ETA: 2021

Slim 70mm A-series fan



- 15mm slim design
- Frame adaptor for 20mm profile applications
- Flow Acceleration Channels
- AAO-Frame (Advanced Acoustic Optimisation)
- Inner Surface Microstructures
- Stepped Inlet Design
- Integrated anti-vibration pads
- SS02 bearing
- 5V and 12V versions with and without PWM
- Current ETA: 2021

Slim 60mm A-series fan



- 15mm slim design
- Flow Acceleration Channels
- AAO-Frame (Advanced Acoustic Optimisation)
- Inner Surface Microstructures
- Stepped Inlet Design
- Integrated anti-vibration pads
- SS02 bearing
- 5V and 12V versions with and without PWM
- Current ETA: 2020

Slim 50mm A-series fan



- 10mm slim design
- Frame adaptor for 15mm profile applications
- Flow Acceleration Channels
- AAO-Frame (Advanced Acoustic Optimisation)
- Inner Surface Microstructures
- Stepped Inlet Design
- Integrated anti-vibration pads
- SS02 bearing
- 5V and 12V versions with and without PWM
- Current ETA: 2021

New chromax.black.swap fans



- Award-winning NF-A20 PWM, NF-A12x25 PWM, NF-A12x15 PWM, NF-A9 PWM, NF-A9x14 PWM and NF-A8 PWM fans
- Attractive all-black design
- Swappable red, white, blue, green, yellow and black anti-vibration pads
- Optional coloured cables and anti-vibration mounts
- Current ETA: Q4 2019 (NF-A20, NF-A9, NF-A9x14, NF-A8) / Q1 2020 (NF-A12x25, NF-A12x15)

White chromax line fans



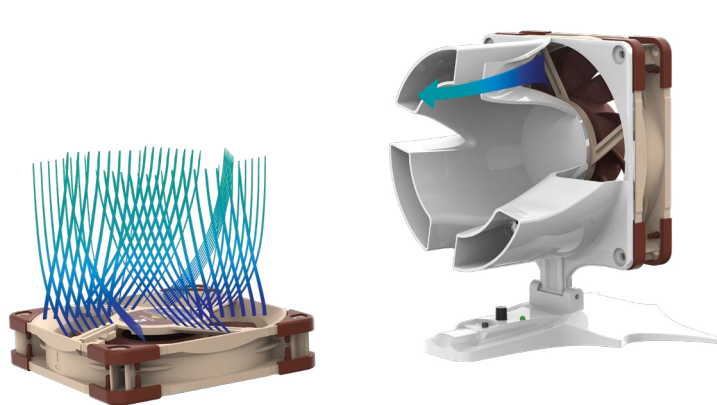
- Award-winning NF-A15 PWM, NF-A14 PWM and NF-F12 PWM fans
- Attractive white design, ideal for all-white or black-and-white builds
- White anti-vibration pads
- White cables
- Optional coloured cables and anti-vibration mounts
- Current ETA: Q2 2020

Desk fan with Airflow Amplification System



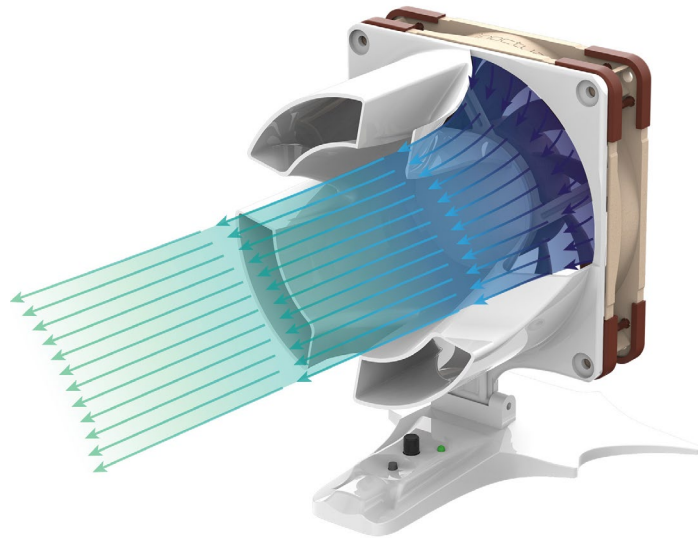
- Strong, focused airflow and exceptional quietness of operation
- Award-winning, next-generation NF-A12x25 120mm fan
- Three-way Airflow Amplification System (AAS) combines helix energy recovery, progressive flow acceleration, and Venturi-effect volume enhancement
- USB powered for easy integration into desk environments and use with power banks
- Current ETA: 2020

AAS step 1: helix energy recovery



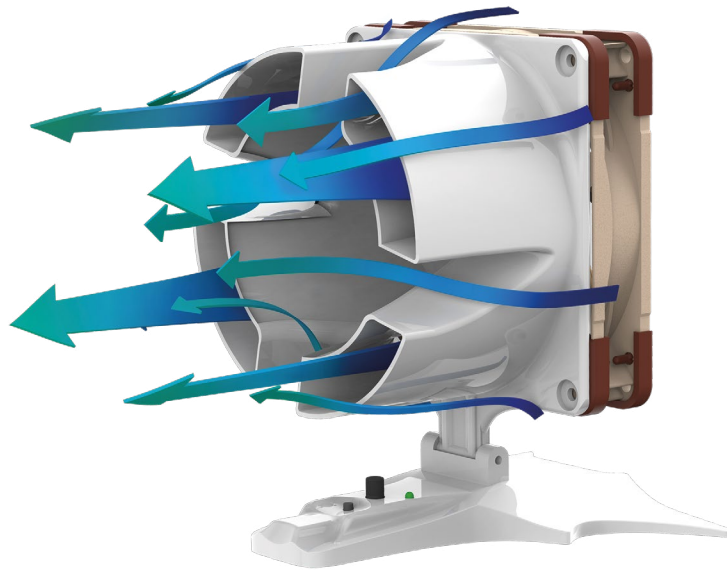
The air that comes out of an axial fan has a high amount of rotational energy, which results in a helix-shaped flow path. The AAS recovers this rotational energy and uses it to accelerate the airflow. With the inside shape of the AAS funnel carefully fine-tuned to the helix structure produced by the NF-A12x25 fan, it achieves an extremely high rate of energy recovery.

AAS step 2: progressive flow acceleration



Following the principle of mass continuity, a fluid's speed increases when it's forced through a reduced cross-sectional area, so when the air is driven through the progressively narrowing AAS funnel, air speed increases continuously until it reaches maximum velocity at the outlet.

AAS step 3: Venturi effect volume enhancement



In accord with the principle of conservation of energy, air pressure must decrease as air velocity increases (Bernoulli's principle). This reduction in pressure that occurs when a fluid flows through a constriction, the so-called Venturi effect, creates a suction force at the outlet, which draws in additional air from the sides and through the cuts of the funnel, thereby enhancing the airflow volume.

$$\text{Bernoulli's equation: } P_{\text{inlet}} + \frac{1}{2} \rho V_{\text{inlet}}^2 + \rho g h_{\text{inlet}} = P_{\text{outlet}} + \frac{1}{2} \rho V_{\text{outlet}}^2 + \rho g h_{\text{outlet}}$$

P_{inlet} – pressure at the inlet

P_{outlet} – pressure at the outlet

V_{inlet} – air velocity at the inlet

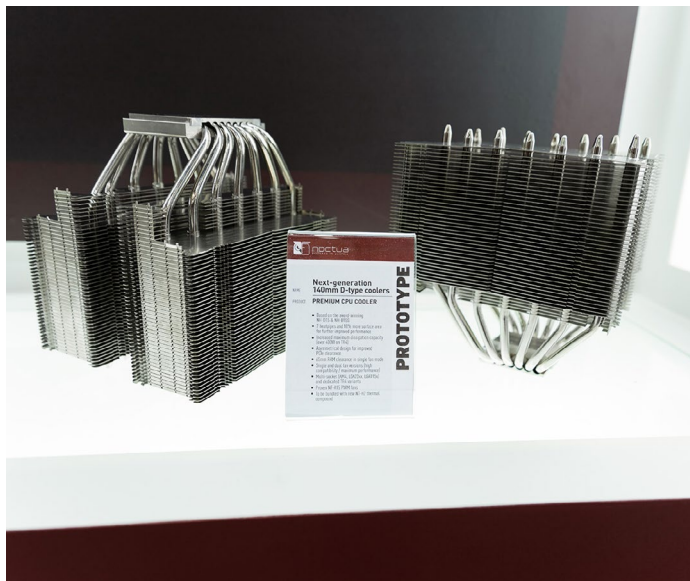
V_{outlet} – Air velocity at the outlet

ρ – density of air

g – gravity

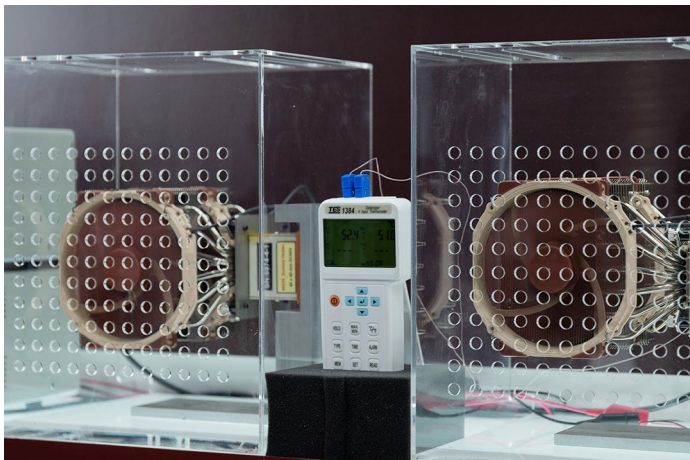
h – elevation head (height difference between inlet and outlet)

Next-generation 140mm D-type coolers



- Based on the award-winning NH-D15 & NH-D15S
- 7 heatpipes and 10% more surface area for further improved performance
- Increased maximum dissipation capacity (over 400W on TR4)
- Asymmetrical design for improved PCIe clearance
- 65mm RAM clearance in single fan mode
- Single and dual fan versions (high compatibility / maximum performance)
- Multi-socket (AM4, LGA20xx, LGA115x) and dedicated TR4 variants
- Proven NF-A15 PWM fans
- To be bundled with new NT-H2 thermal compound
- Current ETA: Q1 2020

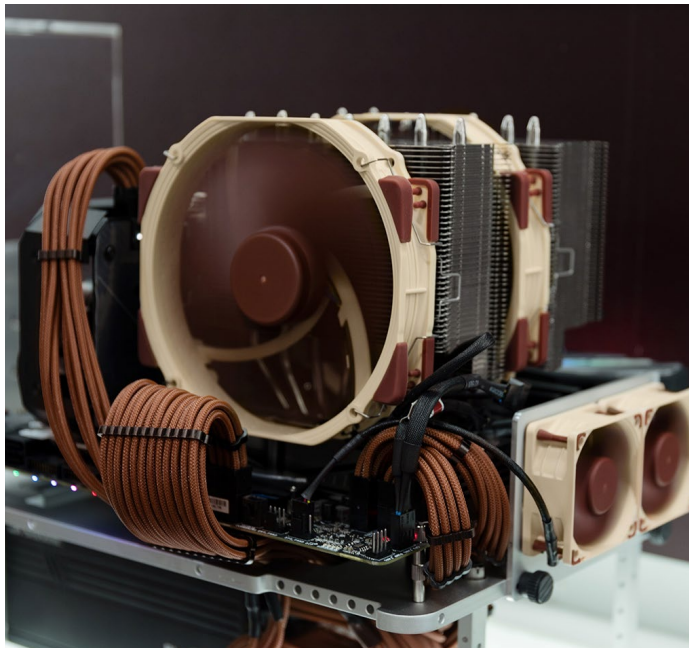
Next-generation 140mm D-type coolers



Further improved cooling performance

The next-generation models use a fine-tuned variant of the original NH-D15's dual tower heatsink design with 10% more surface area and 7 instead of 6 heatpipes. As this demonstration shows, this allows the upcoming dual fan version to provide even better cooling performance than its award-winning predecessor.

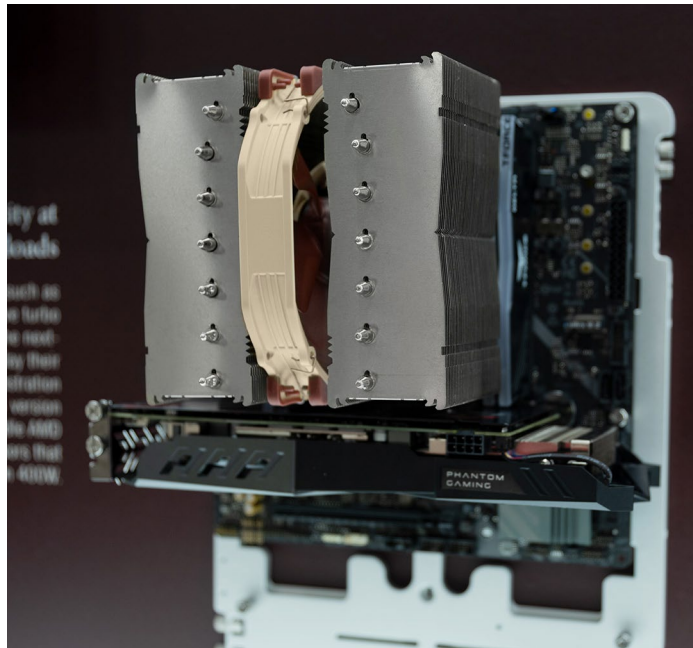
Next-generation 140mm D-type coolers



Enhanced capacity at higher heat loads

It's at demanding heat loads such as with high TDP CPUs, extensive turbo use or overclocking where the next-generation models really play their strengths: As this demonstration shows, the dual fan TR4 version can confidently handle AMD Threadripper processors that put out more than 400W.

Next-generation 140mm D-type coolers



RAM and PCIe compatibility

All versions of the next-generation D-type cooler have inherited the asymmetrical design of the NH-D15S, which allows them to clear the top PCIe slots on most Micro-ATX motherboards. Thanks to the cut-outs for increased RAM clearance, the single fan versions can be used with modules of up to 65mm height.

Fanless CPU cooler



- Completely custom-designed for best natural convection (passive cooling) performance
- Enhanced performance with low-noise case fans or fan mounted on the cooler, ideal for semi-passive setups
- Performance targets: up to 120W in fanless case with good natural convection / up to 180W with quiet case fans or fan directly on the cooler
- Asymmetric design for better PCIe clearance
- 100% RAM compatibility on LGA115x and AM4
- To be bundled with new NT-H2 thermal compound
- Current ETA: 2020

chromax line CPU coolers



- All-black chromax line versions of the award-winning NH-D15, NH-U12S and NH-L9i
- Black heatsink, fan, anti-vibration pads, cables and mounting parts
- Colour-customisable with optional red, blue, white, green and yellow anti-vibration pads and cables as well as chromax line heatsink covers
- Current ETA: Q4 2019

redux line NH-U12 cooler



- Based on the award-winning NH-U12S
- Streamlined redux design and package allows for excellent quiet cooling performance at an attractive price point
- High quality NF-P12 redux fan with PWM
- Premium grade SecuFirm2™ multi-socket mounting system
- Optional second fan kit for further improved performance
- Current ETA: Q1 2020

chromax heatsink covers for NH-U14S



- Compatible with NH-U14S and NH-U14S TR4-SP3
- All-white and all-black covers
- Black cover with exchangeable colour inlays
- Ideal for colour-coordinating NH-U14S heatsinks and individual build themes
- Perfect combination with NF-A15 HS-PWM chromax.black.swap
- Made from high-quality, powder-coated aluminium
- Current ETA: Q3 2019

24V to 12V DC-DC step-down converter



- Allows running any Noctua 12V fan in 24V environments
- Ideal for 24V based 3D printing and industrial applications
- Supports PWM control and RPM monitoring
- Output voltage scales with input voltage to allow voltage-based speed control
- Supports fans with up to 1A and operating temperatures up to 60°C
- Integrated protection against short-circuits, overcurrent and overheating (automatic shutdown)
- Safety fuse prevents eventual damage if the unit is mechanically compromised
- Current ETA: Q4 2019

8 channel PWM fan hub



- Up to 8 fans can be controlled simultaneously
- White status LEDs show connected fans
- Ideal combination with NA-FC1 fan controller
- Power input via 4-pin PWM or S-ATA
- Magnets on the rear side for easy fixture in PC cases
- Current ETA: Q4 2019