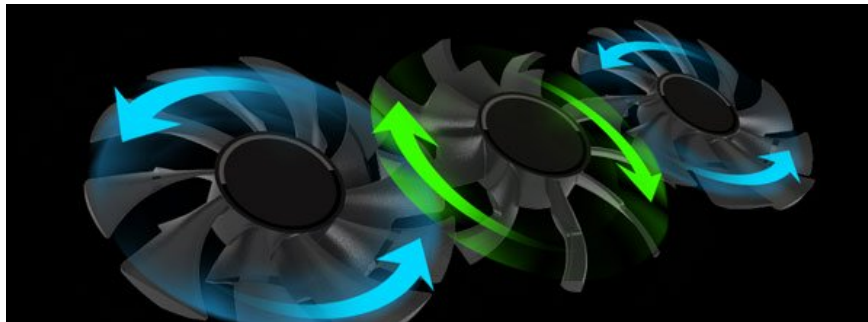


Decode the super exclusive cooling fan design from the world famous graphics card brands

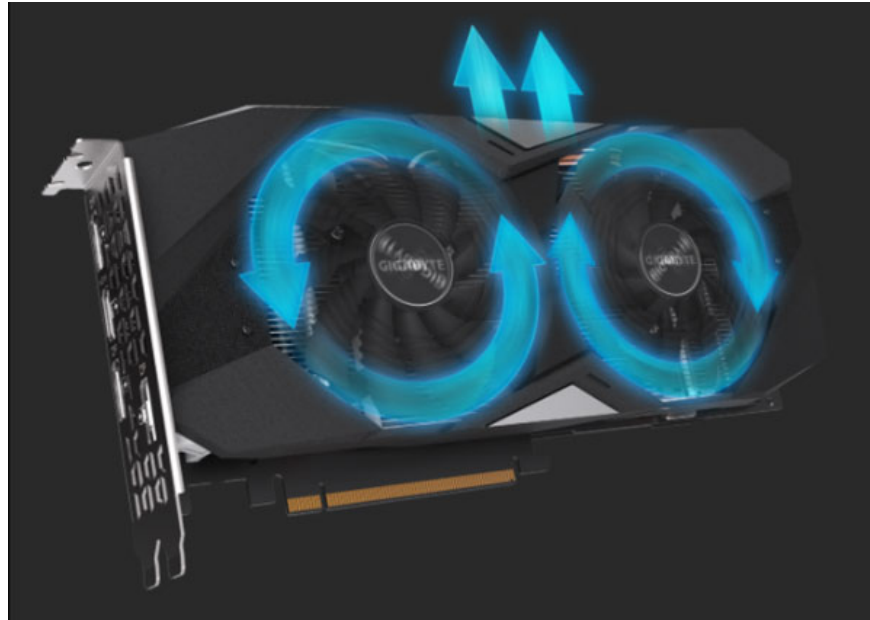
Here is the information about proprietary propeller technology of major hardware companies Asus, MSI and Gigabyte, inviting you to explore.

Each hardware vendor has its own proprietary cooling fan design. This is not only to make a difference, but also the dedication of hardware development engineers to bring the highest efficiency. Here is the information about proprietary propeller technology of major hardware companies Asus, MSI and Gigabyte, inviting you to explore.

Gigabyte WINDFORCE - Propeller rotated in the opposite direction

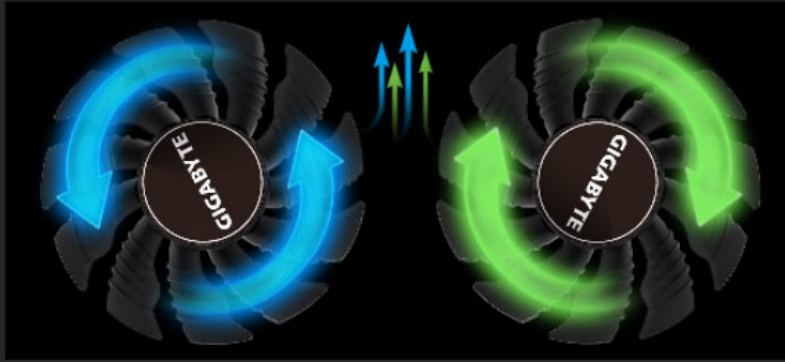


Fans on Gigabyte's new card models placed side by side always rotate in opposite directions. The purpose of this design is to take advantage of the airflow at this undesirable propeller edge to expel hot air away from the heatsink area.



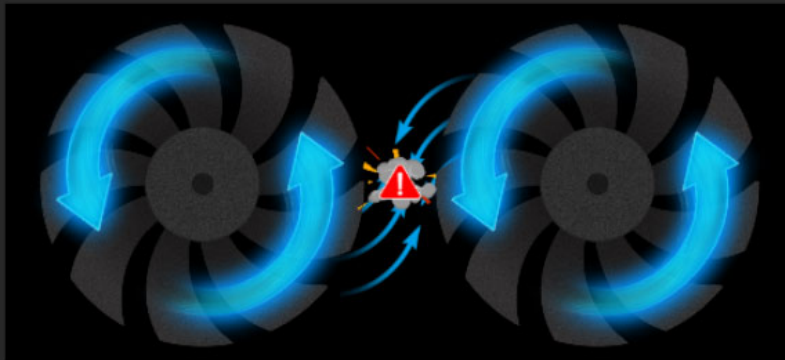
As the blades rotate, the direction of rotation of the blades will draw the air to follow and at the edge of the blades reach the fastest rotation speed. By placing the blades in the opposite direction, the airflow at the center of the two blades will merge into one and be pushed away from the heatsink, if turned in the same direction this airflow will be 'torn off'. This keeps the air constantly refreshed, thereby increasing heat dissipation.

ALTERNATE SPINNING



Smooth Airflow : better heat dissipation

STANDARD SPINNING



Turbulent Airflow : worse heat dissipation

Axial-tech of Asus ROG - Impeller with bezel



When the fan rotates, the airflow will have diffusion and turbulence, creating vortices due to the impact of the rotor itself. Air flow after passing through the propeller will always spread out around, causing loss of speed and pressure.

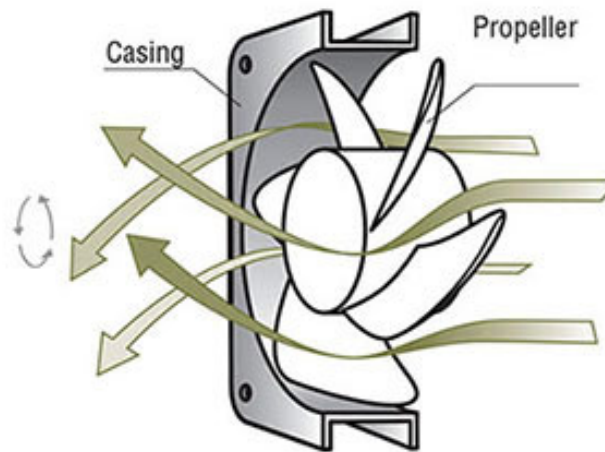
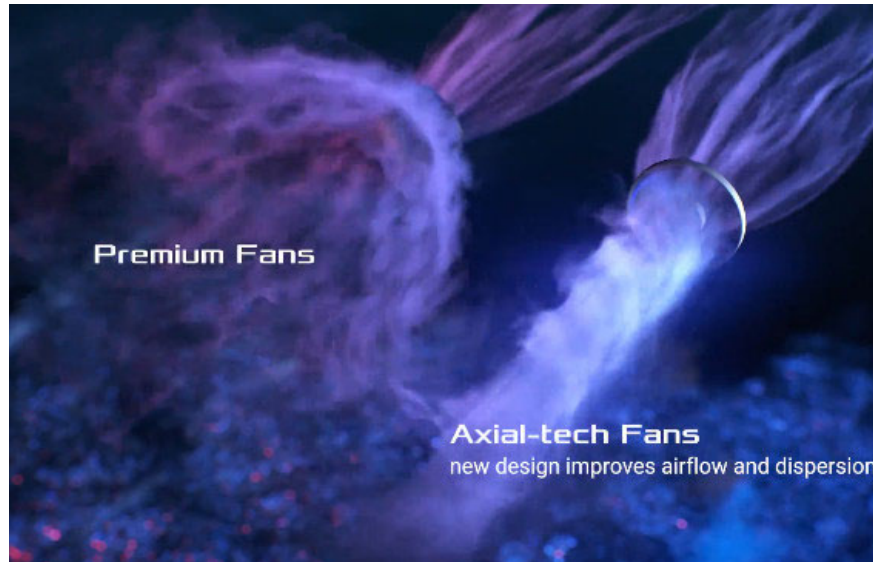


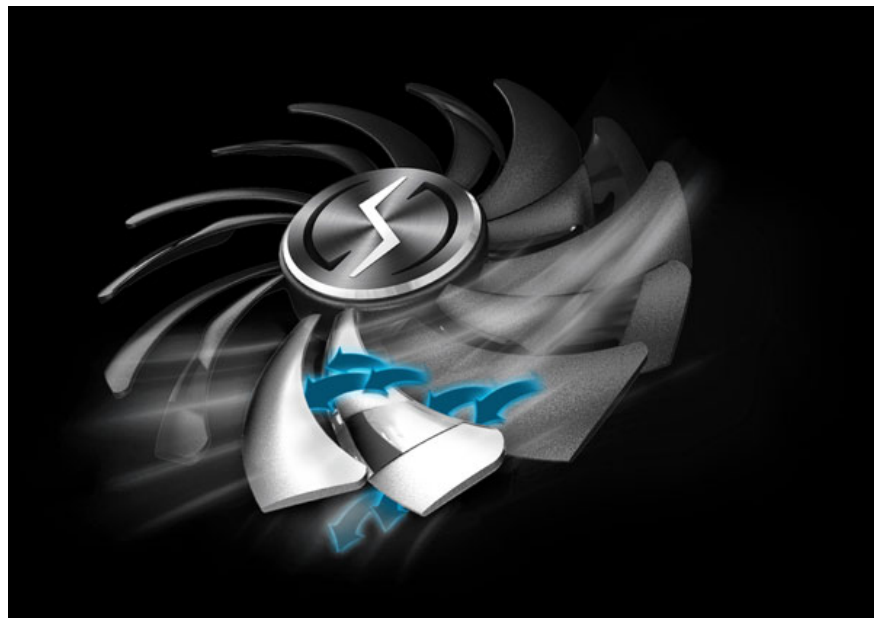
Figure 1 Structure and Air Flow Mechanism of Axial Fans

Asus calls the unique cooling fan design on the Turing series of cards as Axial-tech Fans. The fan blades are contoured, acting as an air duct that directs the air in the most straight line possible. The contour also prevents air loss, which helps reduce air noise at the fan blade.

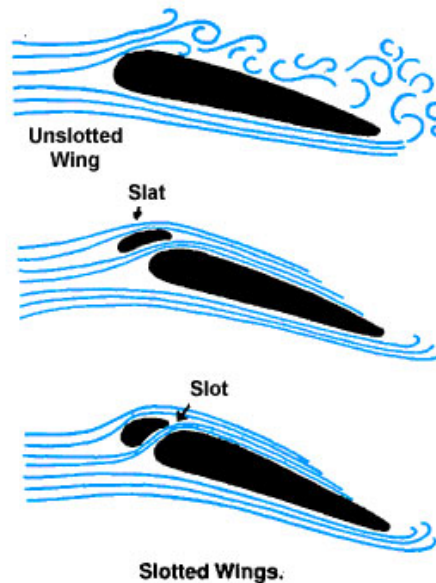


The shape of each fan also contributes significantly to 'gathering' air. As a result, after passing through the Axial-tech propeller, the air will move more straight, parallel to the propeller shaft, keeping better speed and giving better pressure.

MSI TORX - Dual Propellers



No matter how well designed, the blades leave some noise when passing through the air, causing noise and reducing the suction power of the blades.



In order to reduce this noise to a minimum, MSI engineers designed the company's propellers based on the same principle as the way the aircraft's front flaps work.

The front wing of the aircraft is used to direct the air flow above the wing, effectively reducing noise extremely effectively, helping to stabilize and lift the wing.



Similarly, MSI TORX blades are designed in pairs to help reduce air noise significantly. This design helps reduce noise and increase suction pressure for fan blades.

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