



Noctua NF-F12 industrialPPC 2000 IP67 PWM 120mm Fan

\$31.95

Product Images



Short Description

Conceived for industrial heavy duty applications that require enhanced cooling performance and advanced ingress protection, the NF-F12 industrialPPC (Protected Performance Cooling) is a ruggedised high-speed version of the award-winning retail model. Thanks to the outstanding aerodynamic efficiency of the NF-F12

design and the use of a novel three-phase motor, the industrialPPC version provides superior airflow and pressure capacity while keeping noise levels and power consumption moderate as against comparable high-speed fans.

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While its fibre-glass reinforced polyamide construction and certified water and dust protection make the NF-F12 industrialPPC suitable for operation in challenging environments, the renowned SSO2 bearing technology guarantees an MTBF of over 150.000hrs. Topped off with Noctua's trusted reliability and 6 years manufacturer's warranty, the NF-F12 industrialPPC is an ideal choice for highly demanding applications that require superior flow rates and ultimate dependability.

Features



Award-winning NF-F12 design

Having received more than 150 awards and recommendations from the international press, Noctua's NF-F12 has become a proven premium choice for 120mm cooling needs. Its renowned efficiency has convinced tens of thousands of customers all over the world.



2000rpm industrialPPC version

Thanks to its elevated 2000rpm top speed, the NF-F12 industrialPPC-2000 provides a significant performance boost over the 1500rpm retail version. Combined with the industrialPPC series' robust polyamide construction and advanced protection features, this makes the fan ideal for challenging industrial applications.



Three-phase motor design

While most axial fans use single-phase motors with 4 slots, Noctua's industrialPPC fans feature a three-phase design with 6 slots, which provides smoother transitions between the slots and thus allows for even higher running smoothness, further reduced vibrations and unprecedented energy efficiency.



Class-leading energy efficiency

While the standard NF-F12 is one of the most energy efficient 1500rpm 120mm fans on the market, the industrialPPC version's three-phase motor provides a further 10% reduction in power consumption when compared at 2000rpm.



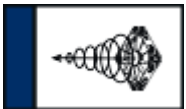
Fibre-glass reinforced polyamide construction

Both the impeller and the frame of Noctua's industrialPPC fans are made entirely from fibre-glass reinforced polyamide. This material can withstand temperatures up to 140°C and makes the fans even more robust and break-proof than Noctua's standard fibre-glass reinforced PBT fans.



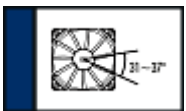
Certified IP67 water- and dust protection

The motor and PCB of the IP67 version are completely cast in a special, highly heat conductive resin that combines thoroughgoing protection and effective motor heat dissipation. Complying with the ingress protection rating IP67, this fan is not only fully dust tight but also completely waterproof up to 1m water depth.



Focused Flow™ Frame

Designed for pressure demanding applications such as heatsinks and radiators, the Focused Flow™ frame features eleven stator guide vanes that straighten, channel and focus the airflow, which allows the NF-F12 to rival the performance of conventional fans running at much faster speeds.



Varying Angular Distance and Vortex Control Notches

The NF-F12's stator guide vanes are set out in Varying Angular Distance and feature Vortex-Control Notches. Both measures help to spread the noise emission over a broader frequency spectrum and thus make the fan's sound pattern more agreeable to the human ear.



Heptaperf™ Impeller

Custom designed for the new Focused Flow™ frame and to work in tandem with the eleven stator guide vanes, the NF-F12's seven blade Heptaperf™ impeller has been carefully optimised to achieve a perfect balance between power and quietness.



AAO Frame

Noctua's AAO (Advanced Acoustic Optimisation) frames feature integrated anti-vibration pads as well as Noctua's proprietary Stepped Inlet Design and Inner Surface Microstructures, both of which further refine the fan's performance/noise efficiency.



Stepped Inlet Design

Noctua's Stepped Inlet Design adds turbulence to the influx in order to facilitate the transition from laminar flow to turbulent flow, which reduces tonal intake noise, improves flow attachment and increases suction capacity, especially in space restricted environments.



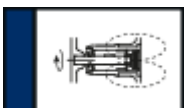
Inner Surface Microstructures

With the tips of the fan blades ploughing through the boundary layer created by the Inner Surface Microstructures, flow separation from the suction side of the blades is significantly suppressed, which results in reduced blade passing noise and improved airflow and pressure efficiency.



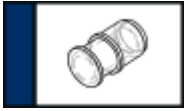
Integrated Anti-Vibration Pads

Integrated Anti-Vibration Pads made from extra-soft silicone minimise the transmission of minute vibrations while maintaining full compatibility with all standard mounting systems and fan clips used on heatsinks.



SSO2 Bearing

The NF-F12 industrialPPC features the further optimised second generation of Noctua's renowned, time-tested SSO bearing. With SSO2, the rear magnet is placed closer to the axis to provide even better stabilisation, precision and durability.



Metal bearing shell

In order to guarantee the highest possible degree of manufacturing precision, minimum tolerance and excellent long-term stability, the NF-F12 industrialPPC sports a CNC milled bearing shell made entirely from brass.



Custom designed PWM IC with SCD

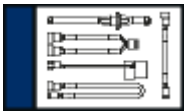
Supporting fully automatic PWM speed control, the NF-F12 industrialPPC uses Noctua's custom designed NE-FD2 PWM IC for three-phase motors. The NE-FD2 integrates Noctua's proprietary Smooth Commutation Drive (SCD) technology, which suppresses PWM switching noises and thus makes the fan quieter at lower speeds.



6 years manufacturer's warranty

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Noctua fans are renowned for their impeccable quality and outstanding longevity. Like all Noctua fans, the NF-F12 industrialPPC features an MTBF rating of more than 150.000 hours and comes with a full 6 years manufacturer's warranty.



Customisable for industry clients

For industry clients, various features, certificates, packaging options and accessories can be customised on requests. For example, we can provide 24V versions, different connectors and speeds, different cable length or UL and TÜV certification. Please feel free to contact us for customised offers!

Specifications

Size	120x120x25mm
Connector	4-Pin PWM
Bearing	SSO2
Blade Geometry	Heptaperf™
Frame Technology	FocusedFlow™
Rotational Speed (+/- 10%)	2000 RPM
Min Rotational Speed (PWM +20%)	450 RPM
AirFlow	121.8 m³/h - 71.7 cfm
Acoustical Noise	29.7 dB(A)
Static Pressure	3.94 mm H ₂ O
Max. Input Power	1.2 W
Max. Input Current	0.1 A
Voltage	12 V

MTBF	>150,000 h
Warranty	6 years
Scope of delivery	<ul style="list-style-type: none"> • Fan • 4 Fan Screws
Warranty	6 years
Ingress Protection	IP67
Material	Fibre-glass reinforced polyamide
Motor Type	Three-phase

Additional Information

Brand	Noctua
SKU	NF-F12-IPPC20PIP67
Weight	0.6000
Color	Black
Fan Dimensions	120mm
Fan Width	25mm
Fan Connection	4-Pin PWM
Fan Voltage	12 VDC
Fan RPM	2000
Fan CFM	72
Fan Noise (dB)	30

