

NZXT RF-U28HF-B1

NZXT F280 RGB Core - 280mm Single-Frame Fan Unit User Manual

Model: RF-U28HF-B1

Brand: NZXT

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your NZXT F280 RGB Core Single-Frame Fan Unit. Please read this manual thoroughly before installation and use to ensure proper functionality and longevity of your product.

The NZXT F280 RGB Core is designed to provide efficient cooling and vibrant RGB lighting for your PC system. Its single-frame design simplifies installation and cable management.

2. PRODUCT FEATURES

- **ALL-IN-ONE DESIGN:** Single-frame unit with integrated fans streamlines installation and lighting control—no need to connect individual fans.
- **VERSATILE CONNECTIVITY:** Simply connect to an NZXT controller (sold separately) for lighting and speed control via NZXT CAM software. Or, connect to any motherboard's 5V aRGB header using the included splitter cable.
- **OPTIMAL PERFORMANCE:** Fan blades are designed to boost static pressure to push air through tight spaces while ensuring superior airflow.
- **SILENT & DURABLE:** Fluid dynamic bearings ensure quiet performance and longevity across an exceptional 60,000 hour lifespan.
- **VIBRANT LIGHTING:** Eight individually addressable RGB LEDs per fan hub shine through semi-translucent blades for personalized lighting effects.

3. WHAT'S IN THE BOX

The NZXT F280 RGB Core package includes:

- 1 x NZXT F280 RGB Core Single-Frame Fan Unit
- Mounting Screws
- 5V aRGB Splitter Cable
- User Manual (this document)



Figure 3.1: NZXT F280 RGB Core Fan Unit and Packaging. The package contains the fan unit, mounting screws, and a 5V aRGB splitter cable.

4. SETUP AND INSTALLATION

Follow these steps for proper installation of your NZXT F280 RGB Core fan unit into your PC case.

4.1. Preparation

- Ensure your PC is powered off and disconnected from the main power supply.
- Open your PC case to access the fan mounting locations.
- Identify suitable mounting points for a 280mm fan unit (e.g., front, top, or bottom of the case, depending on your case's compatibility). Refer to your PC case manual for specific fan mounting options.

						
		H9 Flow (2025)	H6 Flow	H7 Flow	H5 Flow	H3 Flow
Front:	Fan Single-Frame Fan	3 × 120 mm / 3 × 140 mm 1 × 360 mm / 1 × 420 mm	3 × 120 mm 1 × 360 mm	3 × 120 mm / 3 × 140 mm 1 × 360 mm / 1 × 420 mm	3 × 120 mm / 3 × 140 mm 1 × 360 mm / 1 × 280 mm	2 × 120 mm / 2 × 140 mm 1 × 240 mm / 1 × 280 mm
Top:	Fan Single-Frame Fan	3 × 120 mm / 3 × 140 mm 1 × 360 mm / 1 × 420 mm	3 × 120 mm / 2 × 140 mm 1 × 360 mm / 1 × 280 mm	2 × 120 mm / 2 × 140 mm 1 × 280 mm / 1 × 360 mm	2 × 120 mm / 2 × 140 mm 1 × 240 mm / 1 × 280 mm	2 × 120 mm / 2 × 140 mm 1 × 240 mm / 1 × 280 mm
Bottom:	Fan Single-Frame Fan	3 × 120 mm / 3 × 140 mm 1 × 360 mm / 1 × 420 mm	2 × 140 mm 1 × 280 mm	2 × 120 mm 1 × 360 mm	2 × 120 mm 1 × 240 mm	2 × 120 mm 1 × 140 mm
Rear:	Fan	1 × 120 mm	1 × 120 mm	1 × 120 mm / 1 × 140mm	1 × 120 mm	1 × 120 mm

Figure 4.1: Fan Compatibility Table for NZXT H-series cases. This table illustrates common mounting locations and sizes for NZXT F-series fans, including the F280, within various NZXT H-series PC cases.

4.2. Mounting the Fan Unit

1. Position the NZXT F280 RGB Core fan unit at your desired mounting location.
2. Align the screw holes on the fan unit with the corresponding holes on your PC case.
3. Secure the fan unit using the provided mounting screws. Tighten them firmly but do not overtighten.



Figure 4.2: Front view of the NZXT F280 RGB Core fan unit. The single-frame design simplifies mounting compared to individual fans.



ALL-IN-ONE DESIGN

Single-frame unit with integrated fans streamlines installation, setup, and lighting control.

Figure 4.3: All-in-One Design. This image highlights the streamlined nature of the single-frame unit compared to installing multiple individual fans.

4.3. Connecting the Fan Unit

The NZXT F280 RGB Core fan unit features a single cable for both power and RGB control, simplifying connectivity.

1. Locate the integrated cable from the fan unit.
2. **Option 1 (Recommended for full control):** Connect the fan unit's cable to an NZXT RGB & Fan Controller (sold separately). This allows for comprehensive speed and lighting control via NZXT CAM software.
3. **Option 2 (Basic RGB control):** If you do not have an NZXT controller, use the included 5V aRGB splitter cable to connect the fan unit to a compatible 5V Addressable RGB header on your motherboard. This will allow motherboard software to control the RGB lighting.
4. Connect the 4-pin PWM connector from the fan unit to an available 4-pin fan header on your motherboard for fan speed control.



VERSATILE CONNECTIVITY

Connect to an NZXT controller (sold separately) for CAM or use the splitter for 5V aRGB motherboard connection.

Figure 4.4: Versatile Connectivity. The fan unit connects via a single cable, with an included splitter for direct motherboard 5V aRGB connection if an NZXT controller is not used.



EFFORTLESS INSTALLATION

Single-frame design simplifies installation and digital control. Connect to an NZXT controller (sold separately) to use CAM software or use the included splitter for 5V aRGB motherboard connection.

Figure 4.5: Effortless Installation. This diagram illustrates the single cable from the fan unit and its various connection points for power and RGB control.

After all connections are made, carefully manage cables to ensure proper airflow and a clean build. Close your PC case.

5. OPERATING INSTRUCTIONS

Once installed, the NZXT F280 RGB Core fan unit operates automatically based on your system's fan control settings. For advanced control and customization, use the NZXT CAM software.

5.1. Fan Speed Control (PWM)

The fan speed is dynamically adjusted based on PC temperatures for optimal efficiency. This requires a PWM connection to your motherboard or an NZXT controller.



PWM CONTROL

Dynamically adjusts fan speeds based on PC temperatures for optimal efficiency*.

*Requires PWM connection to motherboard or controller (sold separately)

Figure 5.1: PWM Control. The fan speed can be dynamically adjusted between 500-2,000 RPM based on system temperatures.

For manual control or to set custom fan curves, use your motherboard's BIOS settings or the NZXT CAM software if connected to an NZXT controller.

5.2. RGB Lighting Control

The NZXT F280 RGB Core features 8 individually addressable RGB LEDs per fan hub, allowing for personalized lighting effects.

8 LEDs
per fan

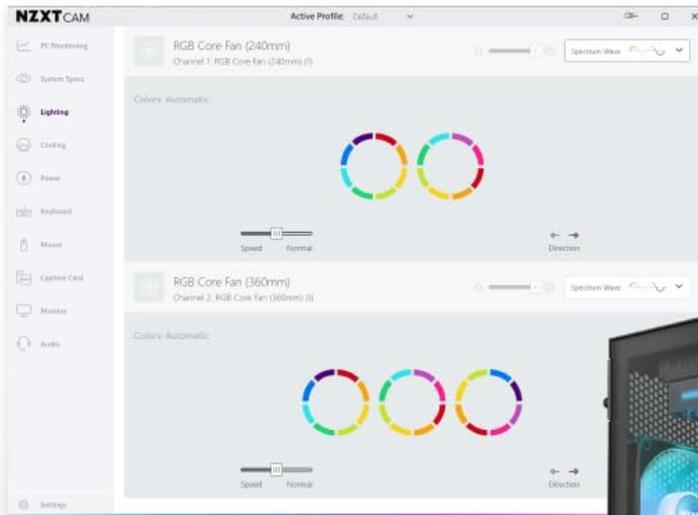


RADIANT RGB LIGHTING

8 aRGB LEDs per fan hub shine through semi-translucent blades and frame side windows.

Figure 5.2: Radiant RGB Lighting. The fan unit displays vibrant, customizable RGB lighting through its semi-translucent blades.

If connected to an NZXT RGB & Fan Controller, use the NZXT CAM software to customize lighting effects, colors, and synchronization with other NZXT products.



POWERED BY
NZXTCAM

DO MORE WITH CAM

Control fan speeds, personalize lighting effects, and sync with other NZXT products*.

*Requires an NZXT controller or NZXT motherboard, each sold separately.

Figure 5.3: Powered by NZXT CAM. The NZXT CAM software allows for comprehensive control over fan speeds and RGB lighting effects, integrating with other NZXT components.

If connected directly to a motherboard's 5V aRGB header, use your motherboard's proprietary RGB software (e.g., ASUS Aura Sync, MSI Mystic Light, Gigabyte RGB Fusion) to control the lighting.

5.3. Optimal Performance and Silent Operation

The fan blades are engineered for high static pressure and superior airflow, ensuring effective cooling even in restrictive environments. Fluid dynamic bearings contribute to quiet operation and extended lifespan.



OPTIMAL PERFORMANCE

Blade design boosts static pressure to push air through tight spaces with superior airflow.

Figure 5.4: Optimal Performance. The fan unit is designed for high static pressure (3.2 mm H₂O per fan) and maximum airflow (98.61 CFM per fan).



FLUID DYNAMIC BEARINGS

Ensures low noise, high rotational stability,
and a 60,000-hour fan lifespan.

Figure 5.5: Fluid Dynamic Bearings. These bearings ensure low noise, high rotational stability, and a long lifespan of 60,000 hours.



SILENT OPERATION

Anti-vibration rubber corners dampen noise and Zero RPM Mode* shuts fans off during light loads.

*Requires an NZXT controller or NZXT motherboard, each sold separately.

Figure 5.6: Silent Operation. The fan unit maintains a maximum noise level of 34.5 dBA, with anti-vibration rubber corners to dampen noise.

Some NZXT controllers or motherboards may support Zero RPM Mode, which shuts off fans during light loads for completely silent operation.

5.4. Product Overview Video

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Video 5.1: NZXT Single Frame Fan Overview. This video provides a visual overview of the NZXT Single Frame Fan series, highlighting its design, simplified setup, and RGB lighting capabilities.

6. MAINTENANCE

Regular maintenance helps ensure optimal performance and extends the lifespan of your NZXT F280 RGB Core fan unit.

- **Dust Cleaning:** Periodically inspect the fan blades and frame for dust accumulation. Use compressed air or a soft brush to gently remove dust. Ensure the fan is not spinning while cleaning.
- **Cable Inspection:** Check all connected cables (power, RGB) to ensure they are securely seated and not pinched or

damaged.

- **Software Updates:** If using NZXT CAM software, regularly check for and install updates to ensure compatibility and access to the latest features and performance optimizations.
- **Environmental Conditions:** Ensure your PC operates in a clean, dry environment with adequate ventilation to prevent excessive dust buildup and maintain optimal operating temperatures.

7. TROUBLESHOOTING

If you encounter issues with your NZXT F280 RGB Core fan unit, refer to the following common troubleshooting steps:

7.1. Fan Not Spinning

- **Check Power Connection:** Ensure the 4-pin PWM connector is securely plugged into the motherboard fan header or NZXT controller.
- **BIOS Settings:** Verify that the fan header in your motherboard's BIOS is enabled and configured correctly (e.g., not set to "disabled" or "manual 0 RPM").
- **NZXT CAM Software:** If using an NZXT controller, open NZXT CAM and check if the fan is detected and if its speed profile is set to an active mode (not Zero RPM if you expect it to spin).
- **Cable Integrity:** Inspect the fan cable for any visible damage or kinks.

7.2. RGB Lighting Not Working or Incorrect

- **Check RGB Connection:** Ensure the RGB cable is securely connected to the NZXT controller or the 5V aRGB header on your motherboard. Note that this fan uses a 5V aRGB header, not a 12V RGB header.
- **Software Control:**
 - If using NZXT CAM, ensure the fan is detected and lighting effects are configured. Try resetting lighting profiles.
 - If using motherboard aRGB software, ensure the correct header is selected and lighting effects are applied. Close any conflicting RGB software.
- **Power Cycle:** Turn off your PC completely, unplug it from the wall, wait 30 seconds, then plug it back in and restart. This can sometimes reset RGB controllers.

7.3. Excessive Noise

- **Check Mounting:** Ensure the fan unit is securely mounted and screws are tightened appropriately. Loose mounting can cause vibrations.
- **Dust Buildup:** Clean the fan blades and motor housing from any dust or debris.
- **Fan Speed:** If the noise is due to high RPM, adjust the fan speed curve in NZXT CAM or your motherboard's BIOS to a quieter profile.
- **Obstructions:** Ensure no cables or other components are touching the fan blades.

8. SPECIFICATIONS

Feature	Specification
Model Number	RF-U28HF-B1

Feature	Specification
Fan Size	280mm Single-Frame (2 x 140mm fans)
Dimensions	11.02 x 11.02 x 11.02 inches
Weight	15.1 ounces
Fan Speed	500 - 2,000 ± 200 RPM
Airflow	Up to 98.61 CFM (per 140mm fan)
Static Pressure	Up to 3.2 mm H ₂ O (per 140mm fan)
Noise Level	34.5 dB (Maximum)
Bearing Type	Fluid Dynamic Bearing (FDB)
Lifespan	60,000 hours
LEDs	8 aRGB LEDs per fan hub
Power Connector	8-Pin (integrated)
Voltage	12 Volts
Wattage	7.08 watts
Material	Copper (likely referring to motor windings)
Manufacturer	NZXT
Country of Origin	China

9. WARRANTY AND SUPPORT

NZXT products are designed and manufactured to the highest quality standards. For detailed warranty information, please refer to the official NZXT website or the warranty card included with your product. Keep your proof of purchase for warranty claims.

For technical support, troubleshooting assistance, or to download the latest NZXT CAM software, please visit the official NZXT support website:

www.nzxt.com/support

You can also contact NZXT customer service directly through their website for further assistance.

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NZXT F Series F280 RGB Core - Single frame fan unit
140 mm - Mattes Weiß

Gruppe: Lüfter
Hersteller: NZXT
Hersteller Art. Nr.: RF-U28HF-B1
EAN/UPC: 5056547204413

Beschreibung

Die NZXT F Series F280 RGB Core verbessert die Kühlleistung und die ästhetische Anpassung Ihres Desktops. Dieser Lüfter ist ideal für Enthusiasten und Gamer und bietet einen hohen Luftdurchsatz, leisen Betrieb und lebendige RGB-Beleuchtung in einem kompakten Frame. Mit einem Luftdurchsatz von 98,61 cfm und einem Geräuschpegel von 34,5 dBA hat er Ihr System selbst bei intensiven Gaming-Sessions kühl und leise. Die F280 RGB Core ermöglicht eine individuelle Gestaltung des Systems mit 8 adressierbaren RGB-LEDs, die bei geringem Stromverbrauch über PWM-Steuerung die Lüfter und das Case-SPM-Modul leuchten. Flexibilität bei der Kühlung und Geräuschkontrolle und sorgen dafür, dass die Leistung auf Ihre Bedürfnisse zugeschnitten ist. Mit einer MTBF von 80.000 Stunden und auslänglichen Messungen von PCB-Kunststoff und Gummis ist die NZXT F280 RGB Core eine zuverlässige Komponente für jedes Hochleistungs-System.

Hauptmerkmale

Produktbeschreibung	NZXT F Series F280 RGB Core - single frame fan unit
Produkttyp	Single frame fan unit
Produktinhalt	1 x Ventilator-Rabattgitter
Farbe	Mattes Weiß
Gehäusematerial	Stahl
Lüfterdurchmesser	140 mm
Gehäusethicke	28 mm
Lager	Dynamisches Fluid-Lager
Drehgeschwindigkeit	500-2000 U/min
Luftstrom	(98,61 cfm)
Geräuschpegel	34,5 dBA
Netzspannung	Lüfteranschluss: 8-polig
Netzspannung	12 V
Mechanik	RGB-LED-PWM-Steuerung, 8 einzeln adressierbare RGB-LEDs, Anti-Vibrations-GummifüÙ, Lüftertemperatursensoren, Lüfter-Cable-SPM-Lüftersteckdose
Produktmaterial	Kunststoff, Gummi, PCB
Abmessungen (Breite x Tiefe x Höhe)	14 cm x 2,8 cm x 2,8 cm

Ausführliche Details

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Datenblatt NZXT F Series F280 RGB Core Single frame fan unit Der verbessert die Kühlleistung und ästhetische Anpassung Ihres Desktops Dieser Lüfter ist ideal für Enthusiasten Gamer RF-U28HF-B1 DB DE cdn reichelt.de/documents/datenblatt/E910||| NZXT F Series F280 RGB Core - Single frame fan unit 140 mm - Mattes Weiß Gruppe Hersteller Hersteller Art. Nr. EAN/UPC Khler NZXT **RF-U28HF-B1** 5056547204413 Beschreibung Der NZXT F Series F280 RGB Core verbessert die Kheffizienz und die sthetische Anpassung Ihres Desktops. Dieser Lfter ist ideal f... lang:de score:40 filesize: 235.77 K page_count: 2 document date: 2025-01-07

Wentylator NZXT F280 RGB Core PWM Czarny
Indeks: 547640 Producent: NZXT kod producenta: RF-U28HF-B1
Cena: 209.08 zł

Opis

Wentylator NZXT F280 RGB Core PWM Czarny

Parametry

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[pdf] Confidentiality Request Letter

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NZXT

F SERIES RGB CORE

240MM | 280MM | 360MM
SINGLE-FRAME RGB FAN UNIT



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Cooling Fans Unibody fan Salestool DE 240306 V1 f series rgb core 6 giu 2024 — Die RGB Core Single Frame Lüfter der F Serie von NZXT vereinen mehrere in einem Design für optimale Montage Kühlung und Steuerung Series Singleframe 2 igorslab de 06 |||

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