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Corsair CO-9050161-WW

Corsair SP120 Elite 120mm PWM Hydraulic Bearing Case Fan User Manual

Model: CO-9050161-WW

1. INTRODUCTION

The CORSAIR SP120 ELITE 120mm Performance PWM Fan is designed to provide efficient cooling for your computer system. It features PWM control for adjustable fan speeds, CORSAIR AirGuide Technology for concentrated airflow, and a durable hydraulic bearing for quiet operation and longevity. This manual provides essential information for the proper installation, operation, and maintenance of your SP120 Elite fan.



Figure 1.1: Front view of the Corsair SP120 Elite fan.

2. PRODUCT CONTENTS

Carefully unpack the box and ensure all items are present and in good condition. The package should contain:

- 1x CORSAIR SP120 Elite 120mm PWM Hydraulic Bearing Case Fan
- 4x Mounting Screws



Figure 2.1: The SP120 Elite fan and its packaging.

3. INSTALLATION

Follow these steps to install the CORSAIR SP120 Elite fan into your computer case or onto a radiator/heatsink.

1. **Prepare your system:** Power off your computer and disconnect it from the power source. Open your computer case to access the fan mounting locations.
2. **Identify mounting location:** Determine where you want to install the fan (e.g., front intake, rear exhaust, top exhaust, or on a CPU cooler/radiator). Ensure there is sufficient space.
3. **Mount the fan:** Align the fan with the screw holes on your case or radiator. Use the included mounting screws to secure the fan. Ensure the fan's airflow direction (indicated by arrows on the fan frame) is correct for your desired cooling configuration (intake or exhaust).
4. **Connect the fan cable:** Locate an available 4-pin PWM fan header on your motherboard. Connect the fan's 4-pin cable to this header. Ensure the connector is fully seated.

5. **Cable management:** Route the fan cable neatly to avoid interference with other components and to maintain good airflow within the case.
6. **Close and power on:** Close your computer case, reconnect the power, and power on your system.



Figure 3.1: Rear view of the SP120 Elite fan, showing the model number and cable connection.

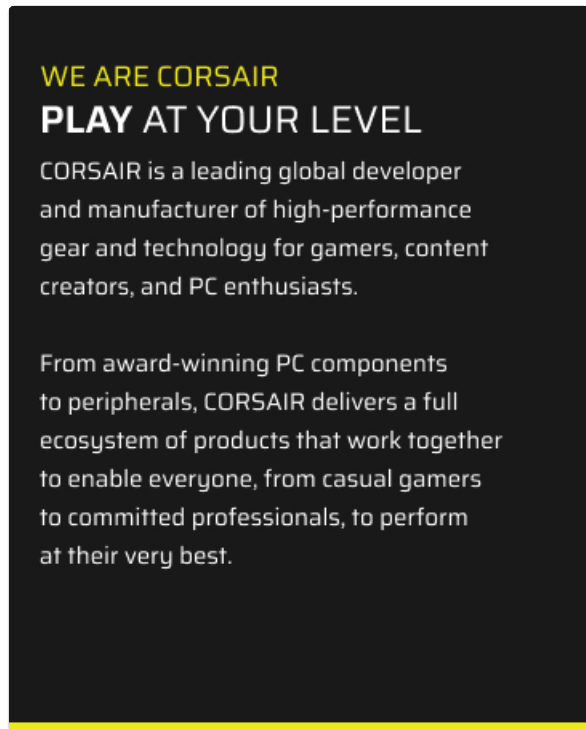


Figure 3.2: Example of the SP120 Elite fan installed in a PC case.

4. OPERATION

The CORSAIR SP120 Elite fan is designed for optimal performance and quiet operation through its advanced features.

4.1. PWM Control

The fan utilizes Pulse Width Modulation (PWM) technology, allowing for precise control over fan speeds. This enables your motherboard or fan controller to adjust the fan's RPM based on system temperature, providing efficient cooling only when needed. Fan speeds can range from 300 RPM up to 1,300 RPM, pushing up to 45.4 CFM of air with 1.23mm-H₂O of static pressure.

KEEP YOUR SYSTEM COOL

Powerful PWM-controlled fan speeds from
300 RPM up to 1,300 RPM.



300–1,300 RPM
Pushing up to 45.4 CFM

Figure 4.1: Fan speed and airflow capabilities.

4.2. CORSAIR AirGuide Technology

The fan incorporates anti-vortex vanes that concentrate airflow. This technology directs air more effectively towards your hottest components, ensuring improved cooling performance whether the fan is used for intake, exhaust, or mounted on a liquid cooling radiator or heatsink.

CORSAIR AIRGUIDE TECHNOLOGY

Channels concentrated airflow to your components for improved cooling performance.



Figure 4.2: Illustration of CORSAIR AirGuide Technology.

4.3. Zero RPM Mode

The SP120 Elite fan supports a 0 RPM PWM signal. When your computer is not under heavy load and temperatures are low, the fan can stop spinning entirely, completely eliminating fan noise. This feature requires a compatible CORSAIR fan controller (sold separately) and CORSAIR iCUE software to set the temperature thresholds for fan activation.

ZERO RPM MODE

Stop the fan entirely, completely eliminating fan noise.*



*CORSAIR fan controller required, sold separately.

Figure 4.3: Zero RPM Mode capability.

4.4. Low-Noise Operation

Thanks to its hydraulic bearing and optimized design, the SP120 Elite operates with minimal noise, spinning as quietly as 24.7 dBA. This ensures a quiet computing experience even when the fan is actively cooling your system.

QUIET OPERATION

Hydraulic bearings deliver long-lasting durability and minimal noise.

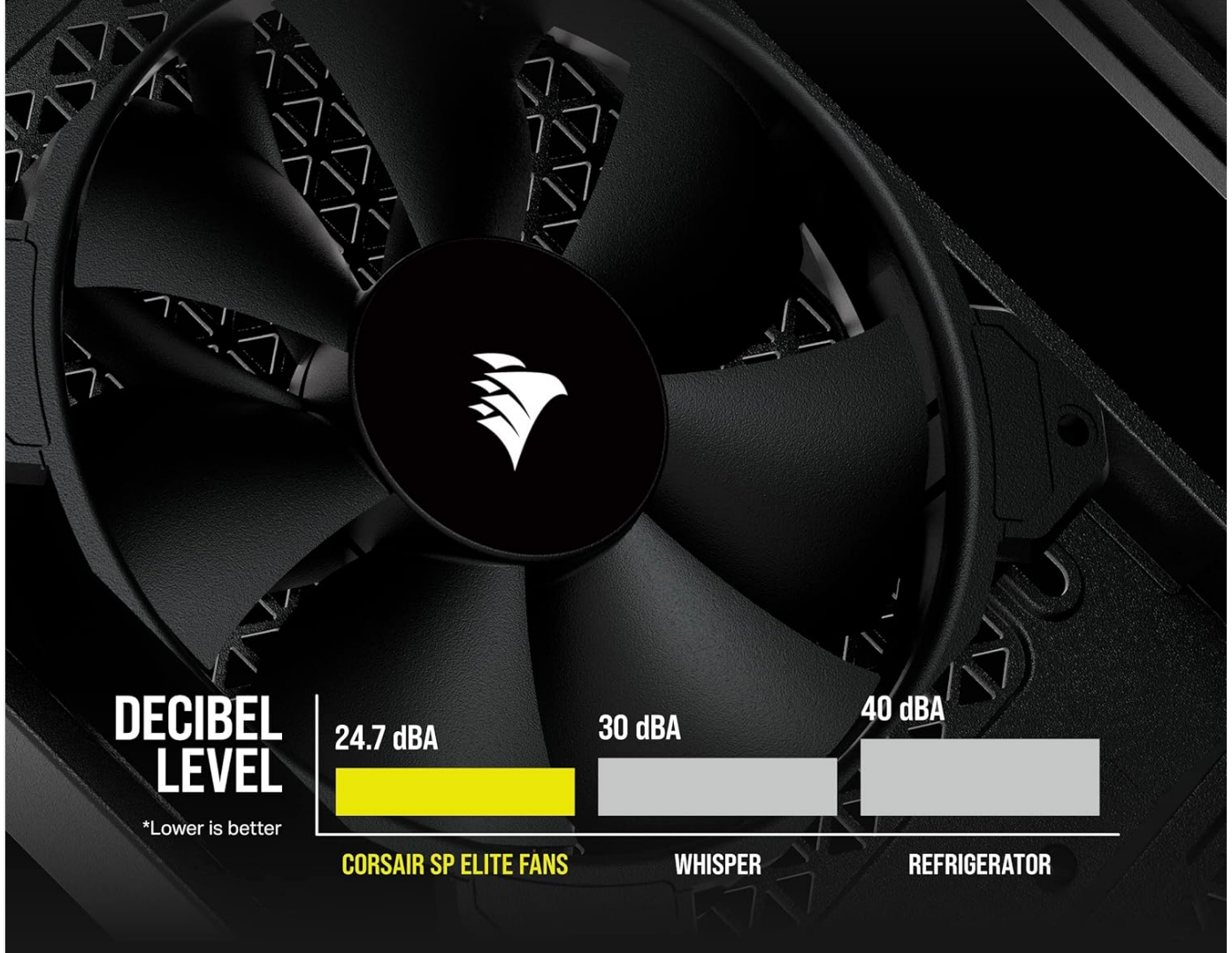


Figure 4.4: Noise level comparison.

5. CARE AND MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your CORSAIR SP120 Elite fan.

- **Dust Removal:** Periodically clean dust from the fan blades and frame using compressed air or a soft, dry cloth. Ensure the fan is powered off and disconnected from the system before cleaning.
- **Avoid Liquids:** Do not use liquid cleaners or immerse the fan in water.
- **Inspect Cables:** Occasionally check the fan cable for any signs of wear or damage.

6. TROUBLESHOOTING

If you encounter issues with your CORSAIR SP120 Elite fan, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Fan not spinning	Loose cable connection, insufficient power, 0 RPM mode active, faulty fan header.	Check fan cable connection to motherboard. Ensure power supply is adequate. Verify if 0 RPM mode is enabled in software (if using a controller). Try connecting to a different fan header.
Excessive noise	Dust accumulation, fan hitting cables, loose mounting screws, high RPM setting.	Clean fan blades. Ensure no cables are obstructing the fan. Tighten mounting screws. Adjust fan speed settings in BIOS/UEFI or fan control software.
Poor cooling performance	Incorrect airflow direction, dust buildup, restricted airflow.	Verify fan is installed with correct airflow direction (arrows on fan frame). Clean fan and case filters. Ensure no obstructions are blocking airflow paths.

7. TECHNICAL SPECIFICATIONS

Detailed specifications for the CORSAIR SP120 Elite 120mm PWM Hydraulic Bearing Case Fan:

Feature	Specification
Model Number	CO-9050161-WW
Fan Size	120mm x 120mm x 25mm (4.72"L x 4.72"W x 0.98"H)
Bearing Type	Hydraulic Bearing
Fan Speed	300 - 1,300 RPM ($\pm 10\%$)
Airflow	45.4 CFM (Cubic Feet Per Minute)
Static Pressure	1.23 mm-H ₂ O
Noise Level	24.7 dBA
Power Connector	4-Pin PWM
Operating Voltage	12 Volts
Material	Copper (referring to internal components/motor, not frame)
Compatible Devices	Desktop Computers

SP120 ELITE

Performance Fan | AirGuide Technology | Hydraulic Bearing

1x 



TECHNICAL SPECIFICATIONS

RATED CURRENT	0.3A
DIMENSIONS	120mm x 25mm
CONNECTION CABLE	4-pin PWM
PWM RANGE	0%, 20% - 100%
SPEED	300 - 1300 RPM \pm 10%
AIRFLOW	6.37 - 45.4 CFM
STATIC PRESSURE	0.07 - 1.23 mm-H ₂ O
SOUND LEVEL	24.7 dBA
BEARING	Hydraulic



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Raccolta differenziata. Verifica le disposizioni del tuo Comune.



Figure 7.1: Technical specifications as listed on the product packaging.

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Corsair website or contact Corsair customer service directly. Keep your proof of purchase for warranty claims.

Online Support: www.corsair.com/support/