

Specification template for EC plenum fan modules – RadiPac

Fan sizes 250 to 560 mm with increased corrosion protection

Direct-drive single inlet centrifugal fans with backwards-curved high-performance centrifugal impellers with radial diffusers, mounted on a GreenTech EC external rotor motor with integrated control electronics, with increased corrosion protection. Impeller made of aluminum, with 5 backwards-curved, continuously welded, hollow-profile blades; impeller sizes 250 and 280 made of plastic; flow-optimized inlet ring made of galvanized sheet steel with pressure test nipple; painted black.

Motor impeller statically and dynamically balanced on two planes to balancing grade G 6.3 in accordance with DIN ISO 1940. GreenTech EC external rotor motor surpasses efficiency class IE4, magnets with no rare earths, maintenance-free ball bearings with long-term lubrication, theoretical nominal service life of at least 40,000 hours of operation.

Soft start, integrated current limitation, extended voltage input 1~200-277 V, 50/60 respectively 3~380-480 V, 50/60 Hz. Fan can be used with all standard power supply networks with unaltered air performance.

Integrated electronics, low-noise commutation logic; 100 % open-loop speed control; all fans have an RS485/MODBUS RTU interface, and do not need to be installed with shielded cables.

All 1~ types have an integrated active PFC (Power Factor Correction) to reduce disturbing harmonic content.

Terminal box made of aluminum with easily accessible connection area with spring-loaded terminals, environment-resistant cable glands, or with external variable cable (sizes 250 to 280); painted black.

Any work required for isolation from structure-borne noise to be performed by the customer.

Fan satisfies the applicable EMC guidelines and requirements with regard to circuit feedback (for specific information, see the respective data sheet).

Documentation and marking conform to the applicable EU Directives.

Reliable performance data, air performance measurements on intake-side chamber test rig according to ISO 5801 and DIN 24163, noise measurements in anechoic rooms according to DIN EN ISO 3745.

Integrated protective devices:

- Alarm relay with zero-potential change-over contacts (250 V AC, 2 A, $\cos \varphi = 1$)
- Locked-rotor protection
- Phase failure detection
- Soft start of motors
- Mains under-voltage detection
- Thermal overload protection for electronics and motor
- Short circuit protection

Optional:

- Other and specific requirements on request

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Technical data:

| | | | |
|-------------------------------|----------------|-----------------------------------|------------------------|
| Fan types | | K3G _____ - _____ - _____ | |
| Air flow | q_v | = _____ | m ³ /h, cfm |
| Fan static pressure | p_{fs} | = _____ | Pa, in wg |
| Stat. overall efficiency | η_{es} | = _____ | % |
| Operating speed | n | = _____ | rpm |
| Motor type | | = EC motor | |
| Type of control | | = 0-100% speed control | |
| Motor efficiency class | | = IE4 equivalent or better | |
| Electrical power consumption | P_{ed} | = _____ | kW |
| Specific fan power | SFP | = _____ | kW/(m ³ /s) |
| Nominal voltage range | U_N | = _____ | V |
| Mains frequency | f | = 50 / 60 | Hz |
| Nominal current | I_N | = _____ | A |
| Ingress protection | | = IP54 | |
| Sound power level | L_W A(A, in) | = _____ / L_W A(A, out) = _____ | dB(A) |
| Sound pressure level (at 1 m) | L_p A(A, in) | = _____ / L_p A(A, out) = _____ | dB(A) |
| Ambient temperature range | T | = _____ to _____ | °C |
| Fan mass | m | = _____ | kg |

Refer to data sheet for dimensions and wiring