

Tender specifications for EC centrifugal fan modules – RadiPac

EC centrifugal fans – RadiPac sizes 310 to 630

Direct-drive, single inlet centrifugal fans with backwards-curved high-performance centrifugal impellers made of composite material, based on a GreenTech EC external rotor motor with integrated control electronics.

One-piece impeller made of high-strength, glass-fiber reinforced composite material. 5 backward-curved and twisted 3D blades optimized in terms of strength. Blade inlet with rounded flow contour and profile tapered toward the rear to the blade outlet. Corrugated cover plate for optimum filling level. Flow-optimized inlet ring made of composite material with pressure test nipple.

Motor-impeller in accordance with DIN ISO 21940, statically and dynamically balanced on two planes to balancing grade G 6.3.

GreenTech EC external rotor motors achieve or exceed the efficiency specifications in accordance with efficiency class IE5 (IEC TS 60034-30-2:2016), magnets without the use of rare earths, maintenance-free ball bearings with long-term lubrication, theoretical nominal service life of at least 40,000 operating hours.

Soft start, integrated current limitation, automatic resonance detection (from an input power of 2kW), extended voltage input 1~200-277 V, 50/60 or 3~380-480 V, 50/60 Hz. The fan can be used with all standard power supply networks with unaltered air performance. Integrated control electronics, low-noise commutation logic; 100% speed control; all fans have an RS485/MODBUS RTU interface, no shielded cables are required for the power supply. All 1~ types feature integrated active PFC (Power Factor Correction) to reduce disturbing harmonic content. Terminal box made of aluminum/plastic with easily accessible connection area, environment-resistant cable glands.

Version for wall mounting:

Ready-to-install support bracket intended for wall mounting. Support structure made of bent round steel or steel pipe, welded and coated in black. Mounting plate made of Sendzimir galvanized sheet steel. Inlet ring made of composite material with pressure test nipple. Installation position with horizontal motor shaft and vertical motor shaft with rotor on bottom. Vertical installation position with rotor on top on request.

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

The fan satisfies the applicable EMC guidelines and requirements with regard to harmonic effects (see applicable data sheet for specific figures).

Documentation and marking in accordance with the applicable EU directives.

Reliable performance data, air performance measurements taken on an intake-side chamber test rig in accordance with ISO 5801 and DIN 24163. Noise measurements taken in an anechoic room in accordance with DIN EN ISO 3745.

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Integrated protective devices:

- Alarm relay with floating contacts (250 V AC/2 A, $\cos \varphi = 1$)
- Locked-rotor protection
- Phase failure detection
- Soft start of motors
- Line undervoltage detection
- Thermal overload protection for electronics and motor
- Short circuit protection

Optional:

- **Other and specific requirements on request**
- **FlowGrid air inlet grill:**
FlowGrid air inlet grill tailor-made for the fan, to reduce assembly and system-related noise. FlowGrid made of high-grade composite material in one piece, available ready for installation and also suitable for retrofitting. Ideal solution for confined intake conditions at the fan and/or if upstream turbulence-inducing fittings are unavoidable. The FlowGrid breaks up the turbulence fields and straightens the flow, resulting in distinct noise reduction.

Technical data:

Fan type		= VB _____	
Order number		= _____	
Air flow	q_V	= _____	m ³ /h
Stat. pressure increase	p_{fs}	= _____	Pa
Stat. overall efficiency	η_{esd}	= _____	%
Operating speed	n	= _____	rpm
Motor type		= EC motor	
Type of control		= Speed control, 0-100%	
Motor efficiency class		= IE5	
Total power consumption	P_{ed}	= _____	kW
Specific fan power	SFP	= _____	kW/(m ³ /s)
Nominal voltage	U_N	= _____	V
Line frequency	f	= 50 / 60	Hz
Nominal current	I_N	= _____	A
Protection class		= 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)
Permissible ambient temperature	T	= _____ to _____	°C
Fan weight	m	= _____	kg

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Product photo



RadiPac EC centrifugal fans
Motor-impeller



RadiPac EC centrifugal fans
Support bracket
with FlowGrid



FlowGrid air inlet grill
Optional



RadiPac EC centrifugal fans
Motor-impeller short version



RadiPac EC centrifugal fans
Support bracket short version
with FlowGrid

See data sheet for dimensions and connections