

# Tender specification for EC centrifugal fans – RadiCal

## EC centrifugal fans – RadiCal

Sizes 133 to 630

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

Impeller, sizes 133 to 630 mm, made of high-tech composite material. This permits high circumferential speeds and thus a high power density suitable for a wide range of applications.

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 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% open-loop speed control; all fans have an optional RS485/MODBUS RTU interface, no shielded cables are required for connection.

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, or with brought-out cables.

### Version for wall mounting:

Sizes 133 to 630, designed as ready-to-install support bracket intended for wall mounting. With sizes 133 to 250 the support structure is made of plastic, as of size 250 it is a black-coated, welded structure made of bent round steel bar with mounting plate and inlet ring made of sendzimir galvanized sheet steel.

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.

### Protective devices integrated in the motor:

- 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

Subject to change / Revision date 2018/05/03

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## Technical data:

<b>Fan types</b>		<b>3G-</b> _____ - _____ - _____	
Air flow	q <sub>v</sub>	= _____	m <sup>3</sup> /h
Static pressure increase	p <sub>fs</sub>	= _____	Pa
Overall static efficiency	η <sub>es</sub>	= _____	%
Operating speed	n	= _____	rpm
Motor type		= EC motor	
Type of control		= 0-100% speed control	
Motor efficiency class		= IE4 (equivalent or better)	
Total power consumption	P <sub>ed</sub>	= _____	kW
Specific fan power	SFP	= _____	kW/(m <sup>3</sup> /s)
Nominal voltage range	U <sub>N</sub>	= _____	V
Line frequency	f	= 50 / 60	Hz
Nominal current	I <sub>N</sub>	= _____	A
Protection class		= IP54	
Sound power level	L <sub>W</sub> A(A, in)	= _____ / L <sub>W</sub> A(A, out) = _____	dB(A)
Sound pressure level (at 1 m)	L <sub>p</sub> A(A, in)	= _____ / L <sub>p</sub> A(A, out) = _____	dB(A)
Perm. ambient temperature	T	= _____ to _____	°C
Weight of fan	m	= _____	kg

## Product photo



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Refer to data sheet for technical data, dimensions and connections

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