

# Tender specification for EC centrifugal fan modules – RadiPac

## EC centrifugal fan modules – RadiPac with motor enclosure and hose for food service sector

Fan sizes 400 to 500

**Direct-drive, single inlet centrifugal fans with backwards-curved high-performance centrifugal impellers with radial diffusor, based on a GreenTech EC external rotor motor with integrated control electronics and a motor enclosure.**

Impeller made of aluminum, with 7 backwards-curved, continuously welded blades; flow-optimized inlet ring made of galvanized sheet steel 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.

FlowGrid air-inlet grille, for reducing mounting-related and system-related noise. 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.

GreenTech EC external rotor motors achieve or exceed the efficiency specifications in accordance with efficiency class IE5 (IEC TS 60034-30-2:2016), permanent 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 3~380-480 V, 50/60 Hz. The fan can be used with all standard power supply networks with unaltered air performance.

The motor and control electronics have been removed from the contaminated air flow in accordance with VDI 2052 and EN 16282. Motor and control system in accordance with EN 60335-1.

Electronics integrated in motor enclosure, 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.

Terminal box made of aluminum integrated into housing, cover made of PA66, with easily accessible connection area, environment-resistant cable glands. Robust, corrosion-resistant motor enclosure, completely sealed (IP54), made of CDP-coated sheet steel.

Support structure, ready to install, for wall mounting. Struts made of extruded aluminum profile. Mounting plate made of galvanized sheet steel. Ready-made intake nozzle for external air supply DN 100. Pre-installed, flexible air hose between motor capsule and nozzle plate; easily replaceable; good mechanical resistance, flame retardant in accordance with UL 94 V-0. Easy cleaning and inspection in accordance with EN 16282.

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 in intake-side chamber test rig according to ISO 5801 and DIN 24163, sound measurements in an anechoic test chamber in accordance with DIN EN ISO 3745.

### 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

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## Optional:

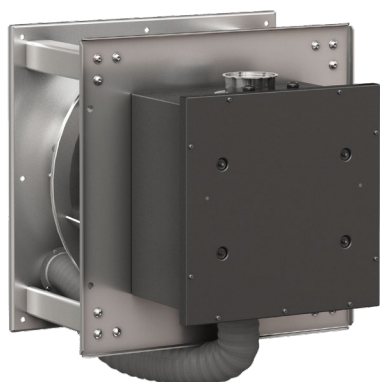
- Other and specific requirements on request

## Technical data:

### Fan type

Air flow	$q_v$	= _____	m <sup>3</sup> /h, cfm
Stat. pressure increase	$p_{fs}$	= _____	Pa, in WG
Stat. overall efficiency	$\eta_{es}$	= _____	%
Operating speed	$n$	= _____	rpm
Motor type		= EC motor	
Type of control		= Speed control, 0-100%	
Motor efficiency class		= IE4	
Total power consumption	$P_{ed}$	= _____	kW
Specific fan power	SFP	= _____	kW/(m <sup>3</sup> /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

## Product photo:



**EC centrifugal fans – RadiPac**  
**with motor enclosure and hose for food service sector**  
 Fan sizes 400, 450, and 500

See data sheet for dimensions and connections