

# Text for invitation to tender for EC axial fans - HyBlade®

EC axial fans - HyBlade®  
Sizes 500 to 1250

**Direct-drive EC axial fans - HyBlade® with high-performance axial impeller, mounted on a GreenTech EC external rotor motor with integrated control electronics.**

Square full nozzle, pre-galvanised, black plastic-coated RAL 9005, flow-optimised nozzle shape on inlet side, guard grille made of phosphated steel and black plastic-coated.

Sickle-shaped blades; high-strength aluminium alloy or round steel plate; encapsulated in fibre glass-reinforced plastic PP; winglets at the blade tips. Motorised impeller balanced in two planes (static and dynamic) as per DIN ISO 1940 to balance quality G 6.3.

GreenTech EC external rotor motor surpasses efficiency class IE4, magnets without use of rare earths, maintenance-free ball bearings with long-term lubrication, theoretical nominal service life of at least 40,000 operating hours, installation with horizontal and vertical motor shaft; soft start, integrated current limitation, wide input voltage range 1-phase 200-277 V /3-phase 380-480 V, 50/60 Hz, fan suitable for use with all standard power supply systems with no effect on air performance. Designed for operating mode S1 (continuous operation). Refer to data sheet for installation position and temperature range.

Compact electronics; no need to install shielded wiring; extremely low-noise commutation logic; 100% speed control, RS485/MODBUS RTU interface; pre-set operating parameters, no parameterisation work required.

Top-mounted terminal box made of plastic with readily accessible connection area with terminal strip or integrated terminal box in motor electronics with readily accessible connection area with spring terminals, environment-resistant cable glands.

Any work required to prevent the transmission of structure-borne noise is to be performed by the customer.

Fan satisfies the relevant EMC regulations and requirements with regard to circuit feedback; documentation and marking conform to the applicable EU directives.

Reliable performance data, air performance measurements on inlet-side chamber test rig in accordance with ISO 5801 and DIN 24163, noise measurements in low-reflection acoustic test chamber as per 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
- Motor soft start
- Mains undervoltage detection
- Excess temperature protection for electronics and motor
- Short circuit protection
- Motor current limit
- Protection rating: IP 55 (as per EN 60529)

## Optional:

- Different and specific requirements on request

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**Technical data:**

**Fan types**

Air flow	$q_v$	= _____	m <sup>3</sup> /h
Stat. pressure increase	$p_{fs}$	= _____	Pa
Stat. overall efficiency	$\eta_{es}$	= _____	%
Operating speed	$n$	= _____	min <sup>-1</sup>
Motor type		= EC motor	
Type of control		= 0-100% speed control	
Motor efficiency class		= IE4	
Total power consumption	$P_{ed}$	= _____	kW
Specific fan power	SFP	= _____	kW/(m <sup>3</sup> /s)
Nominal voltage range	$U_N$	= _____	V
Mains frequency	$f$	= 50 / 60	Hz
Nominal current	$I_N$	= _____	A
Ingress protection		= IP55	
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)
Perm. ambient temperature	$T$	= _____ to _____	°C
Fan mass	$m$	= _____	kg

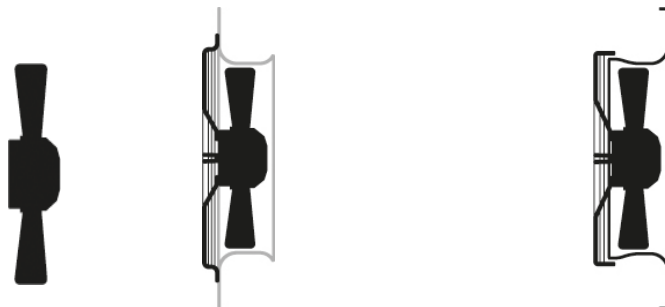
**Product photo**

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**Direction of air flow "V"**

A (without attachments); S (with guard grille for full nozzle); W (with square full nozzle);



Refer to data sheet for dimensions and connections