

# Square Centrifugal High Performance EC Duct Fans

EC ICQ-B Series





#### Features

- Reduced operating noise compared with other fans
- High efficiency EC motors with integrated power and control electronics
- Infinitely variable speed control via 0–10 V DC signal or 10 k $\Omega$  potentiometer
- Significant energy savings through speed modulation (cube law power reduction)
- Backward curved centrifugal impellers for high static pressure capability
- Suitable for internal or external installation at any mounting angle
- The fans are made with ebm latest technology Radipac 3C for high efficiency and low noise level.
- All ICQ-B are manufactured with flow grid that significantly decreased the noise level.

## Square Centrifugal EC Duct Fans - EC ICQ-B Series

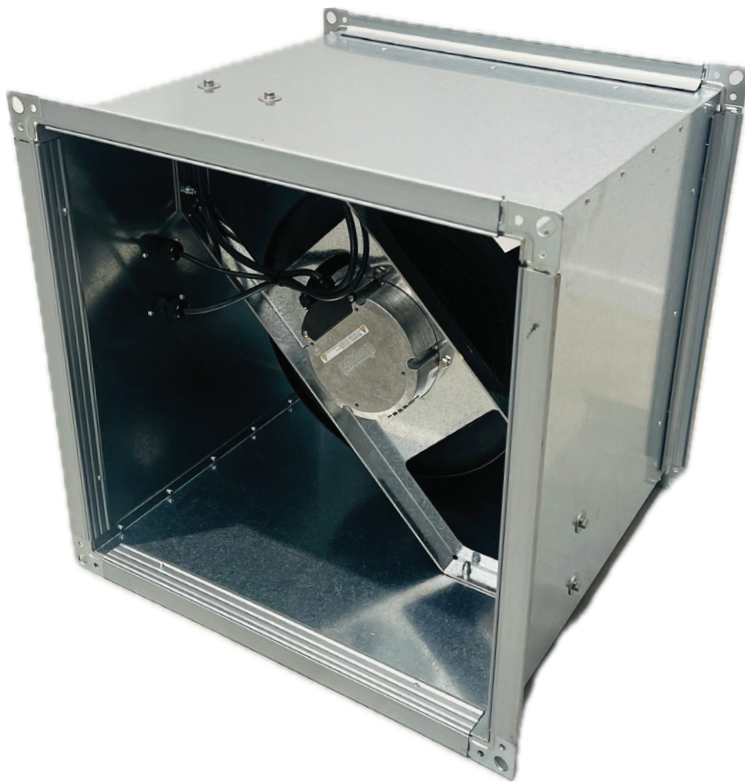
EC ICQ-B Series square centrifugal duct fans designed for optimum sound levels. They are high performance duct mounted units designed for medium to high pressure ventilation applications in commercial and industrial systems. The range incorporates highly efficient electronically commutated (EC) motors with integrated control electronics, delivering precise airflow control, reduced energy consumption, and long service life.

Suitable for supply or exhaust ventilation, the EC ICQ-B series can be installed internally or externally at any orientation and is ideal for applications requiring accurate airflow matching to real time demand.

#### Construction

The EC ICQ-B range features robust casings manufactured from galvanised sheet steel for durability and rigidity. Backward curved centrifugal impellers are dynamically balanced and directly driven by high efficiency EC external rotor motors.

The unit incorporates flow grid for improved noise performance and high performance impeller for high efficiency and quiet operation. The GreenTech EC motor is very compact and has high efficiency and minimum noise emission.



## Wiring

Fans are powered with integrated EC control electronics. Speed control can be achieved via external **0–10 V DC control signal** or **10 k $\Omega$  potentiometer**. Refer to the latest individual model datasheets for detailed wiring diagrams and electrical specifications.

## Energy Efficiency Concept

The EC ICQ-B series is designed around demand based ventilation. By reducing fan speed to match required airflow, power consumption reduces proportionally to the cube of the speed, while airflow reduces linearly. This allows substantial energy savings by eliminating excess fan capacity during part load operation.

## Applications

- Commercial and industrial ducted ventilation systems
- High pressure supply or exhaust applications
- Variable air volume (VAV) systems
- Energy efficient retrofit or new installations

## Suggested Specification

The centrifugal duct fans shall be of the EC ICQ-B series, incorporating backward curved centrifugal impellers driven by high efficiency EC motors with on board variable speed control.

Fans shall be performance tested in accordance with AMCA 210-16 for airflow and AMCA 300-24 for sound.

## Testing & Compliance

*Rated fan performance and sound data have been independently tested in accordance with the following standards:*

- **Airflow performance:**  
*ISO 5801:2007*
- **Sound data:** *ISO 13347:2004*
- **Electrical installation:**  
*AS/NZS 3000*  
*(installation requirement)*

# Technical Data

Model	Phase	Max Power (kW)	Max Current (A)	Max Speed (RPM)
ICQ-B410-250-VEE	1Φ	0.51	2.3	3067
ICQ-B410-310-VEE	1Φ	0.17	1.4	1699
ICQ-B500-355-VEE	1Φ	0.43	1.9	2000
ICQ-B500-310-VEE	1Φ	0.79	3.5	3030
ICQ-B550-400-VEE	1Φ	0.77	3.4	2070
ICQ-B550-355-VDE	3Φ	1.5	2.3	2748
ICQ-B650-450-VDE	3Φ	1.3	2.0	2038
ICQ-B700-500-VDE	3Φ	1.43	2.2	1740
IICQ-B800-560-VDE	3Φ	4.4	6.70	2080
ICQ-B900-630-VDE	3Φ	3.72	5.7	1630

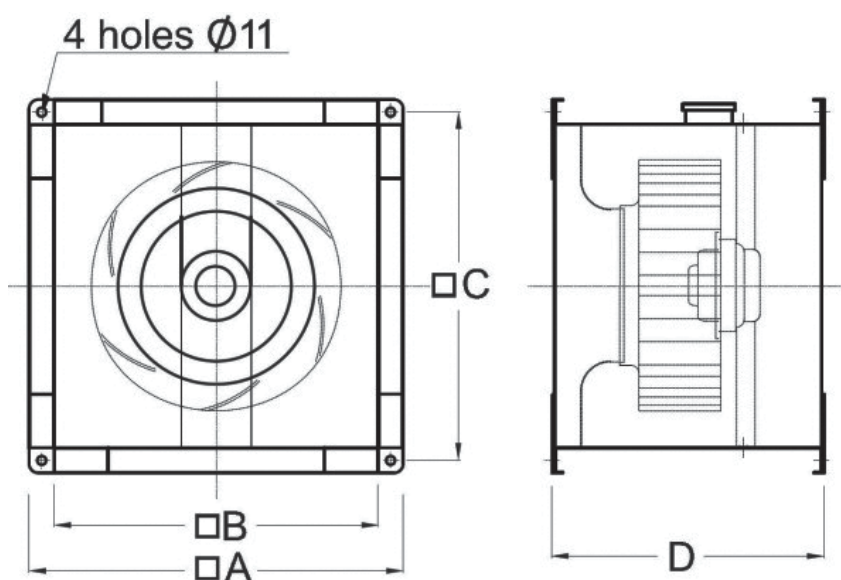
Note: Full airflow, pressure, and sound spectra are available in detailed performance curves.

# Sound Data

Product Code	Inlet Sound Power Level at maximum speed								
	63HZ	125HZ	250HZ	500HZ	1K	2K	4K	8K	dB@3m
ICQ-B410-250-VEE	77	67	74	75	71	69	68	59	56
ICQ-B450-310-VEE	61	58	57	59	56	54	51	43	40
ICQ-B500-355-VEE	62	64	59	59	56	55	52	45	41
ICQ-B500-310-VEE	61	58	71	68	64	61	61	55	49
ICQ-B550-400-VEE	71	73	70	69	67	68	65	55	53
ICQ-B550-355-VDE	67	67	85	76	74	76	73	64	61
ICQ-B650-450-VDE	69	75	71	70	69	69	66	57	54
ICQ-B700-500-VDE	75	77	82	71	70	72	65	58	57
ICQ-B800-560-VDE	80	86	78	79	77	76	72	64	62
ICQ-B900-630-VDE	80	85	77	77	75	74	69	61	60

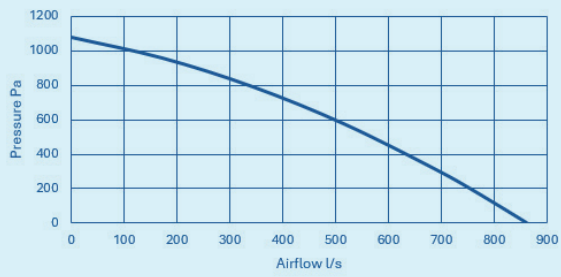
# Dimensions

Size	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)
ICQ-B410-250-VEE	480	410	445	350	13
ICQ-B450-310-VEE	520	450	485	450	19
ICQ-B500-310-VEE	570	500	535	500	25
ICQ-B550-400-VEE	620	550	585	500	26
ICQ-B500-355-VEE	570	500	535	500	24
ICQ-B550-355-VDE	620	550	585	500	24
ICQ-B650-450-VDE	685	650	685	600	34
ICQ-B700-500-VDE	770	700	735	600	38
ICQ-B800-560-VDE	870	800	835	750	62
ICQ-B900-630-VDE	970	900	935	750	68

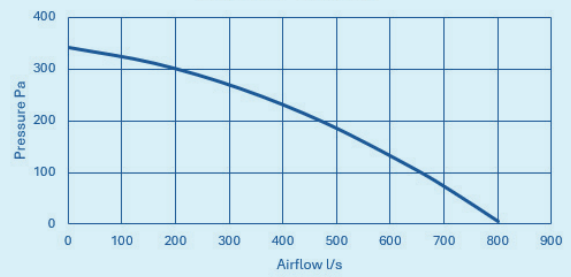


# Fan Curves

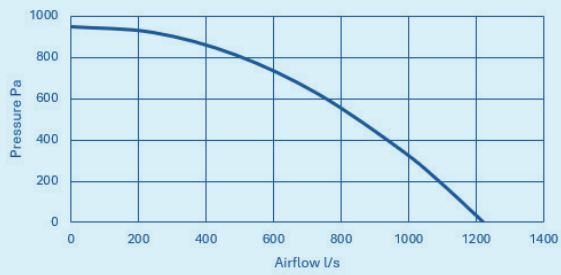
ICQ-B410-250-VEE



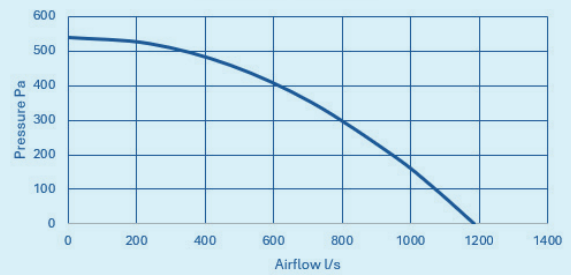
ICQ-B450-310-VEE



ICQ-B500-310-VEE



ICQ-B500-355-VEE



ICQ-B550-400-VEE

