

## TWIN BOX BD PLUS EEC



DOUBLE CENTRIFUGAL FAN IN SOUNDPROOF BOX WITH SANDWICH PANELS

### MANUFACTURING FEATURES

- Impellers made of polyamide reinforced with fibreglass for models 7/7, 9/9, 10/10 and 12/12, other models made of galvanized steel sheet.
  - BD range fans assembled in soundproof cabinets.
  - Ventilation box with 30 mm aluminum profile structure, nylon corners, galvanized sandwich panels with internal insulation rockwool (25mm thickness) class A1 (non-combustible) of 90kg/m<sup>3</sup> density. All panels are equipped with "fastening system" for the quick assembly and disassembly whenever required, either for cleaning, maintenance or exchanging of panels.
  - Connection gland included.
  - Easy access through lateral panel.
  - Changeable rear, bottom or top inlet cover.
  - Motor fixing with an exclusive system designed by Casals through flexible arms and silent blocks to avoid vibration. Flexible arms in compliance with the ROHS 2002/95/EC Directive (Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipments).
  - PM brushless motor (permanent magnets), synchronous, electronically commutated, high efficiency and low sound level. Specially designed for fans with electronic operation and control in deported box IP65.
- Working range: from 400 to 1200-2000rpm (depending on the models)  
 Motor with IP54 protection and class F insulation. IP 65 drive case  
 Power: 220V ± 10% single phase  
 Power frequency: 50 / 60Hz  
 Operating temperature range: -20°C to 50°C  
 Speed control through signal 0-10V or PWM

- Fans can run separately or simultaneously.

### APPLICATIONS

Designed for inline installation, indoor or outdoor assembly, they are suitable for:

- Air renewal in buildings and industries.
- Maximum working temperature: 50°C.

### UNDER REQUEST

- Impeller made of galvanized sheet.

\* All data are referred to a single working fan. If both fans are working at the same time, data should be twice (x2) except for weight.

## Accessories



INT



REG  
TWIN



REGC



VISC

## Technical data

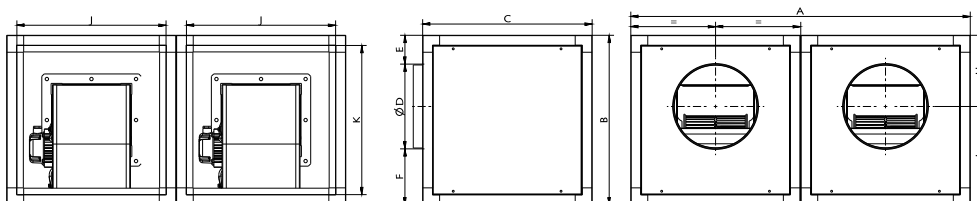
### Single-phase motor / 4 poles

| Code                | Model                      | R.P.M. | Rated I.<br>A 230V | Rated<br>power<br>kW | Max.<br>Airflow<br>m³/h | Sound<br>db (A)** | Weight<br>kg | Connect.<br>diagram |
|---------------------|----------------------------|--------|--------------------|----------------------|-------------------------|-------------------|--------------|---------------------|
| TW251169454EC       | TWIN BOX BD PLUS 7/7 EEC   | 2000   | 5,00               | 0,37                 | 2.870                   | 39                | 51           |                     |
| TW251269454ECV<br>2 | TWIN BOX BD PLUS 9/7 EEC   | 2000   | 5,8                | 0,75                 | 3.940                   | 42                | 64           |                     |
| TW251289454ECV<br>2 | TWIN BOX BD PLUS 9/9 EEC   | 2000   | 5,8                | 0,75                 | 4.280                   | 44                | 74           |                     |
| TW251339454EC       | TWIN BOX BD PLUS 10/8 EEC  | 1800   | 10,00              | 1,50                 | 5.960                   | 48                | 76           |                     |
| TW251379454EC       | TWIN BOX BD PLUS 10/10 EEC | 1800   | 10,00              | 1,50                 | 5.820                   | 45                | 82           |                     |
| TW251529454EC       | TWIN BOX BD PLUS 12/9 EEC  | 1200   | 10,00              | 1,50                 | 6.440                   | 46                | 112          |                     |
| TW251609454EC       | TWIN BOX BD PLUS 12/12 EEC | 1200   | 10,00              | 1,50                 | 7.420                   | 45                | 124          |                     |

**Notes:**

\*\* Total sound pressure level at the point of maximum flow measured in dB(A) in the suction measured in free field at a distance of 6m from the source

## Dimensions



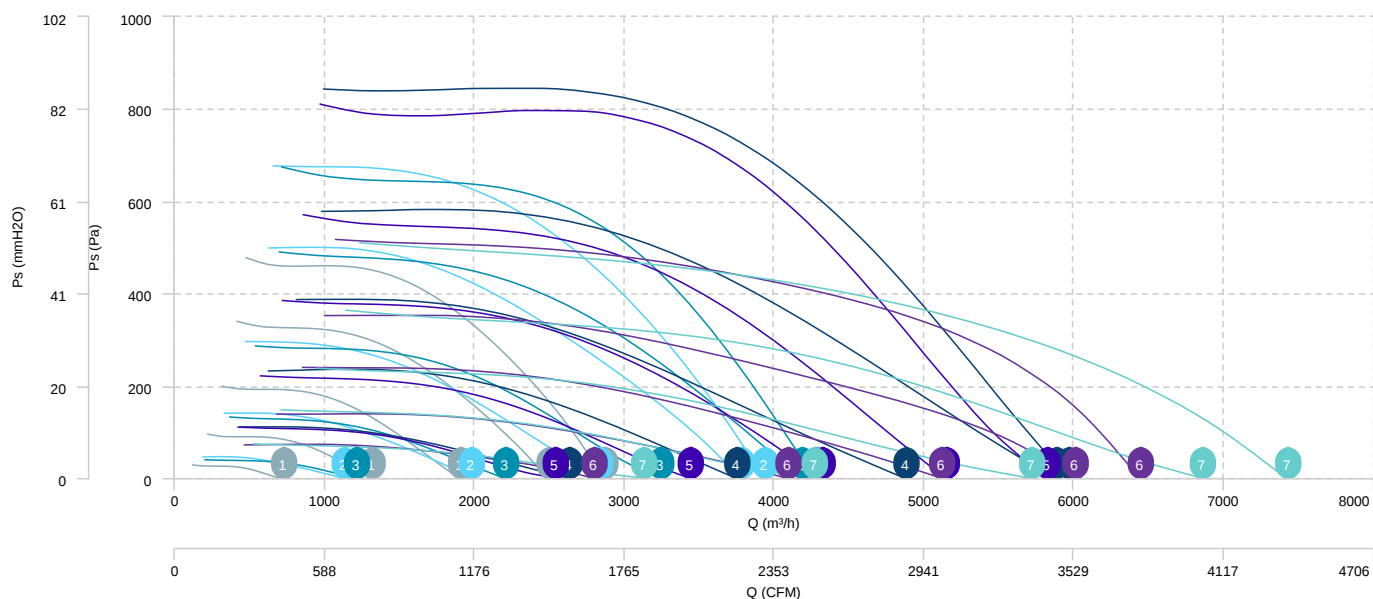
| Model                      | A    | B   | C   | D   | E    | F     | H   | I   | J   |
|----------------------------|------|-----|-----|-----|------|-------|-----|-----|-----|
| TWIN BOX BD PLUS 7/7 EEC   | 1000 | 500 | 500 | 250 | 85   | 165   | 210 | 290 | 440 |
| TWIN BOX BD PLUS 9/7 EEC   | 1100 | 550 | 550 | 315 | 87.5 | 147.5 | 245 | 305 | 490 |
| TWIN BOX BD PLUS 9/9 EEC   | 1100 | 550 | 550 | 355 | 57.5 | 137.5 | 235 | 315 | 490 |
| TWIN BOX BD PLUS 10/8 EEC  | 1200 | 600 | 600 | 355 | 2.5  | 162.5 | 260 | 340 | 540 |
| TWIN BOX BD PLUS 10/10 EEC | 1200 | 600 | 600 | 400 | 50   | 150   | 250 | 350 | 540 |
| TWIN BOX BD PLUS 12/9 EEC  | 1400 | 700 | 700 | 400 | 105  | 195   | 305 | 395 | 640 |
| TWIN BOX BD PLUS 12/12 EEC | 1400 | 700 | 700 | 450 | 80   | 170   | 305 | 395 | 640 |

| Model                      | K   |
|----------------------------|-----|
| TWIN BOX BD PLUS 7/7 EEC   | 440 |
| TWIN BOX BD PLUS 9/7 EEC   | 490 |
| TWIN BOX BD PLUS 9/9 EEC   | 490 |
| TWIN BOX BD PLUS 10/8 EEC  | 540 |
| TWIN BOX BD PLUS 10/10 EEC | 540 |
| TWIN BOX BD PLUS 12/9 EEC  | 640 |
| TWIN BOX BD PLUS 12/12 EEC | 640 |

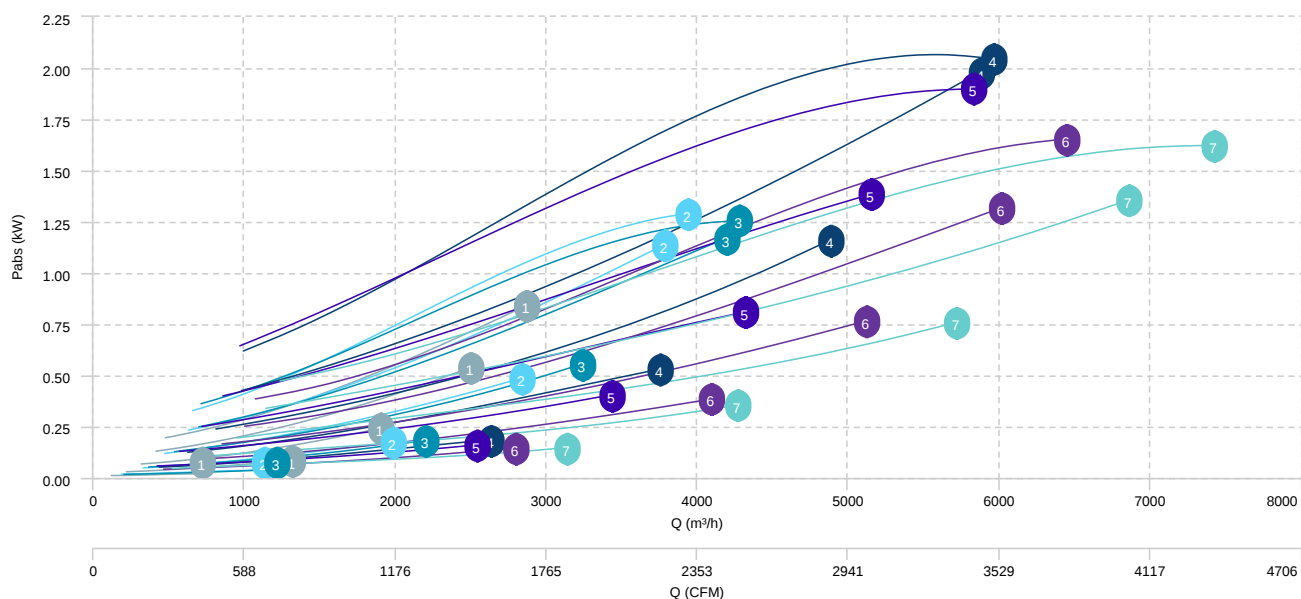
## CHARACTERISTIC CURVE

|   |                               |   |                              |   |                               |   |                              |
|---|-------------------------------|---|------------------------------|---|-------------------------------|---|------------------------------|
| 1 | TWIN BOX BD PLUS 7/7<br>EEC   | 2 | TWIN BOX BD PLUS 9/7<br>EEC  | 3 | TWIN BOX BD PLUS 9/9<br>EEC   | 4 | TWIN BOX BD PLUS 10/8<br>EEC |
| 5 | TWIN BOX BD PLUS 10/10<br>EEC | 6 | TWIN BOX BD PLUS 12/9<br>EEC | 7 | TWIN BOX BD PLUS 12/12<br>EEC |   |                              |

### AIR FLOW - PRESSURE



### AIR FLOW - ABSORBED POWER



## Sound data

### Sound / 4 poles

| Sound power Lw dB (A)                 |       |       |        |        |        |         |         |         |         |       |
|---------------------------------------|-------|-------|--------|--------|--------|---------|---------|---------|---------|-------|
| Model                                 |       | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz | Total |
| TWIN BOX BD PLUS 7/7 EEC (500 (2V))   | Inlet | 18    | 24     | 24     | 25     | 27      | 26      | 22      | 18      | 33    |
| TWIN BOX BD PLUS 9/7 EEC (500 (2V))   | Inlet | 23    | 29     | 28     | 29     | 32      | 30      | 27      | 22      | 37    |
| TWIN BOX BD PLUS 9/9 EEC (500 (2V))   | Inlet | 24    | 30     | 29     | 30     | 33      | 31      | 28      | 23      | 38    |
| TWIN BOX BD PLUS 10/8 EEC (650 (4V))  | Inlet | 34    | 40     | 39     | 41     | 43      | 41      | 38      | 33      | 49    |
| TWIN BOX BD PLUS 10/10 EEC (650 (4V)) | Inlet | 32    | 38     | 37     | 38     | 41      | 39      | 36      | 31      | 46    |
| TWIN BOX BD PLUS 12/9 EEC (500 (3V))  | Inlet | 34    | 40     | 40     | 41     | 43      | 42      | 38      | 33      | 49    |
| TWIN BOX BD PLUS 12/12 EEC (500 (3V)) | Inlet | 30    | 36     | 36     | 37     | 39      | 38      | 34      | 30      | 45    |

#### Notes:

\* To calculate the sound power level at different rpm from those indicated above, use the following formula:

$$Lw \text{ dB(A)}_{rpmA} = Lw \text{ dB(A)}_{rpmB} + 52.5 \cdot \log_{10} \frac{rpmA}{rpmB}$$