

## BD EEC



### CENTRIFUGAL FAN WITH ELECTRONIC MOTOR

#### MANUFACTURING FEATURES

- Galvanised steel sheet housing.
- Polyamide impeller reinforced with fibreglass.
- Double inlet forward curved impeller.
- Supplied with mounting feet (included in price).
- 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).
- Brushless motor made of high efficiency and permanent magnet and low noise level. Specially designed for fans with electronics and control on backside of the motor.
- Switching frequency of 16 KHz.
- Operating range: 300 - 1800 rpm.
- Power supply: 230V + - 10%.
- Power Frequency: 50/60Hz.
- Operating temperature range: -20°C +45°C.
- Enclosed motor IP 54.
- Insulation class H.
- Speed ??control through:
  - 22 kOhms Trimmer.
  - 0-10V external sensor.

### Accessories



#### APPLICATIONS

Designed for assembly in equipment:

- Ventilation boxes and air handling units.
- Centrifugal heaters.
- Industrial and professional kitchen hoods.
- Maximum working temperature: 45°C.

#### UNDER REQUEST

- Galvanized sheet impeller
- assembled

## Technical data

### Single-phase motor / 4 poles

Code	Model	R.P.M.	Rated I. (A) 230V	Rated power kW	Max. Airflow m3/h	Sound db (A)*	Weight	Connect. diagram
251100361	BD 7/7 M4 EEC80	1400	2,93	0,31	2.050	51	9	1
251270361	BD 9/7 M4 EEC80	1400	5,4	0,65	3.000	57	15	1
251220361	BD 9/9 M4 EEC80	1400	5,4	0,65	3.370	61	15	1
251340361	BD 10/8 M4 EEC80	1400	5,5	0,65	3.460	63	22	1
251320361	BD 10/10 M4 EEC80	1400	5,5	0,65	3.860	65	22	1

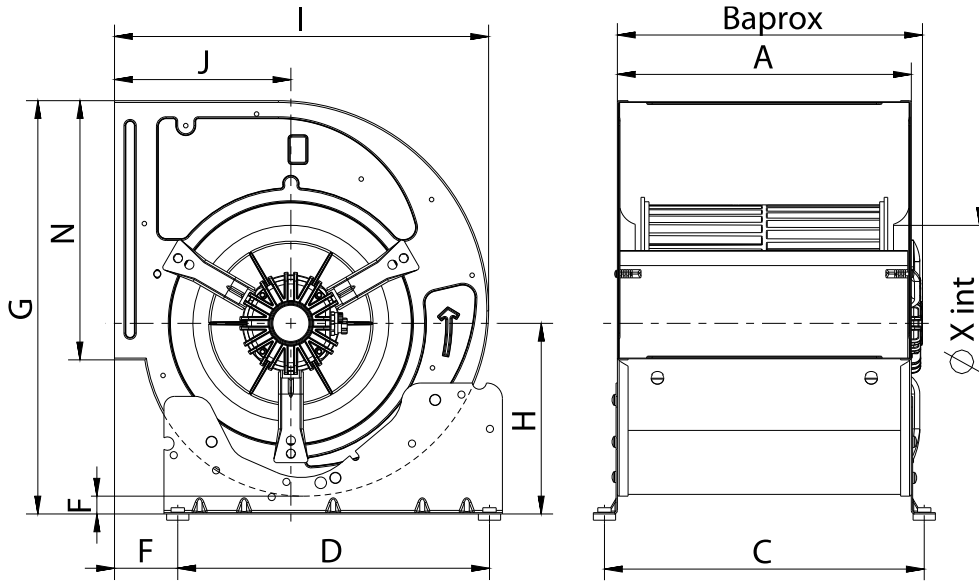
### Single-phase motor / 6 poles

Code	Model	R.P.M.	Rated I. (A) 230V	Rated power kW	Max. Airflow m3/h	Sound db (A)*	Weight	Connect. diagram
251160361	BD 7/7 M6 EEC80	900	0,91	0,09	1.310	41	9	1
251260361	BD 9/7 M6 EEC80	900	5,5	0,24	2.180	47	15	1
251280361	BD 9/9 M6 EEC80	900	5,5	0,27	2.520	51	15	1
251330361	BD 10/8 M6 EEC80	900	4,3	0,50	3.180	54	22	1
251370361	BD 10/10 M6 EEC80	900	4,4	0,50	3.530	57	22	1
251600361	BD 12/9 M6 EEC130	900	7,58	1,04	6.020	61	21	1
251520361	BD 12/12 M6 EEC130	900	8,48	1,17	7.230	64	27	1

**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	G	H	I
BD 7/7 M4 EEC80	230	289,5	259	245	48,5	9,5	337	150	313
BD 7/7 M6 EEC80	230	289,5	259	245	48,5	9,5	337	150	313
BD 9/7 M4 EEC80	233	328	262	245	70	19	407	191	376
BD 9/7 M6 EEC80	233	328	262	245	70	19	407	191	376
BD 9/9 M4 EEC80	301	328	330	245	70	19	407	191	376
BD 9/9 M6 EEC80	301	328	330	245	70	19	407	191	376
BD 10/8 M4 EEC80	265	303	294	350	70,5	20	464	214	420
BD 10/8 M6 EEC80	265	303	294	350	70,5	20	464	214	420
BD 10/10 M4 EEC80	329	343	359	350	70,5	20	464	214	420
BD 10/10 M6 EEC80	329	343	359	350	70,5	20	464	214	420
BD 12/9 M6 EEC130	310	360	339	350	77	17	536	244	490
BD 12/12 M6 EEC130	396	416	425	350	77	17	536	244	490

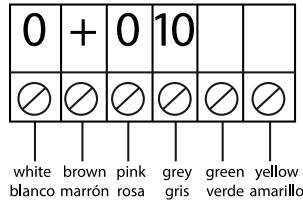
Model	J	N	ØX
BD 7/7 M4 EEC80	153	208	158
BD 7/7 M6 EEC80	153	208	158
BD 9/7 M4 EEC80	184	260	202
BD 9/7 M6 EEC80	184	260	202
BD 9/9 M4 EEC80	184	260	202
BD 9/9 M6 EEC80	184	260	202
BD 10/8 M4 EEC80	198	291	220
BD 10/8 M6 EEC80	198	291	220
BD 10/10 M4 EEC80	198	291	220

Model	J	N	ØX
BD 10/10 M6 EEC80	198	291	220
BD 12/9 M6 EEC130	230	343,5	260
BD 12/12 M6 EEC130	230	343,5	260

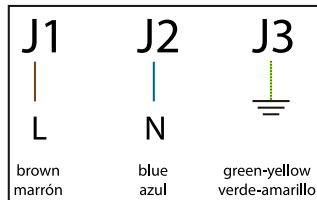
# Wiring diagram

DIAGRAM Nº 1

CONTROL



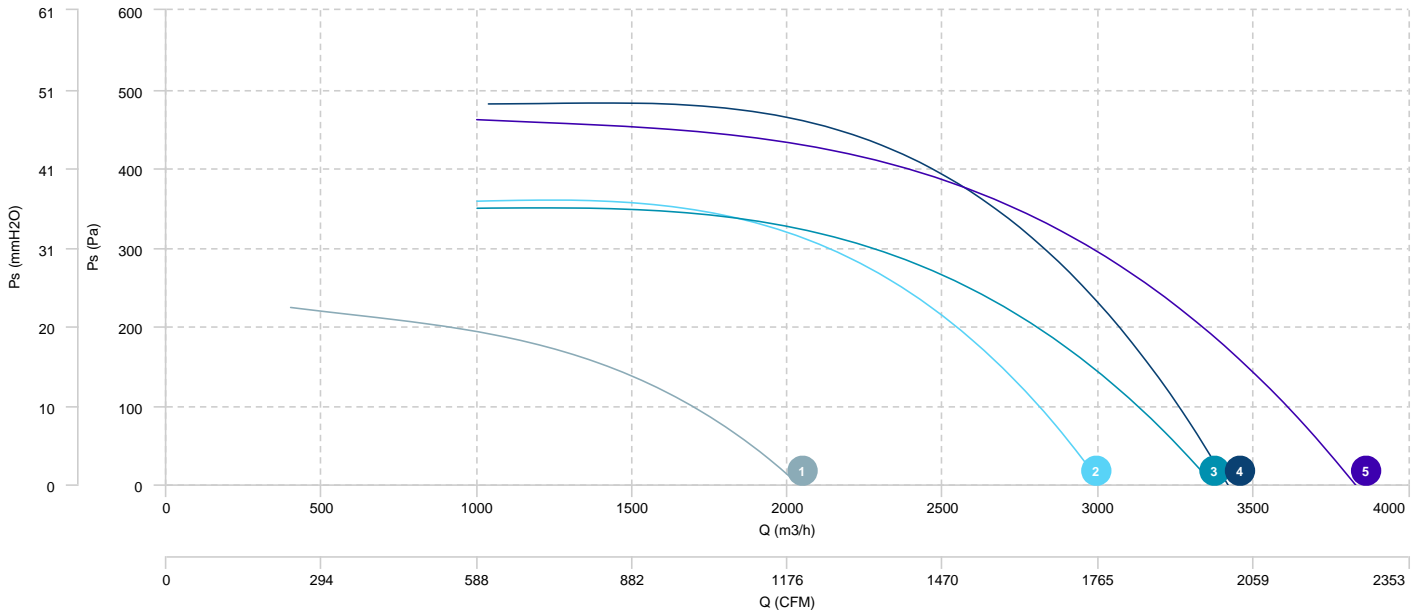
POWER / POTENCIA



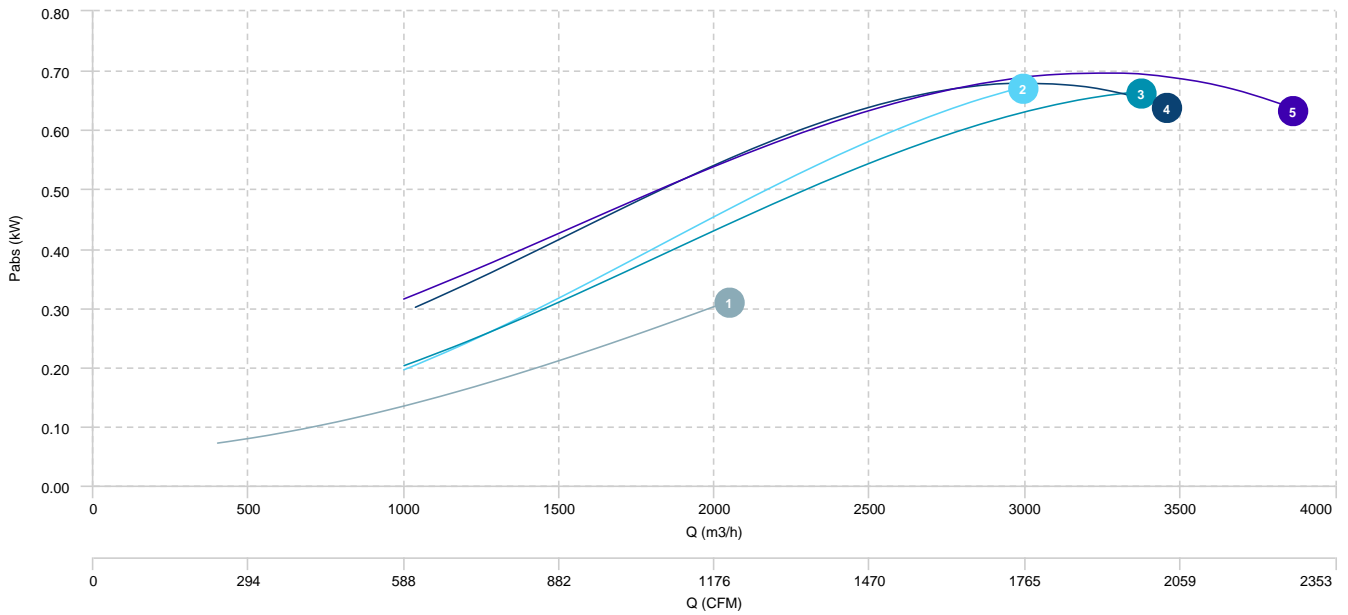
# CHARACTERISTIC CURVE

- 1 BD 7/7 M4 EEC80
- 2 BD 9/7 M4 EEC80
- 3 BD 9/9 M4 EEC80
- 4 BD 10/8 M4 EEC80
- 5 BD 10/10 M4 EEC80

## AIR FLOW - PRESSURE

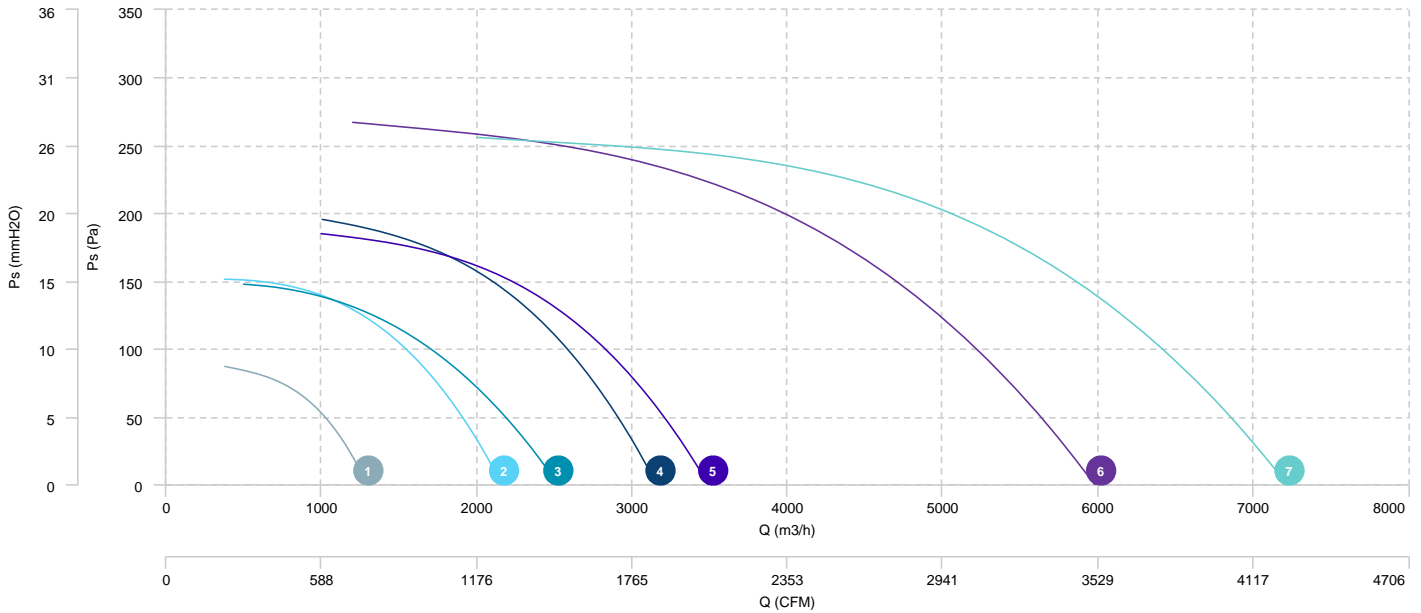


## AIR FLOW - ABSORBED POWER

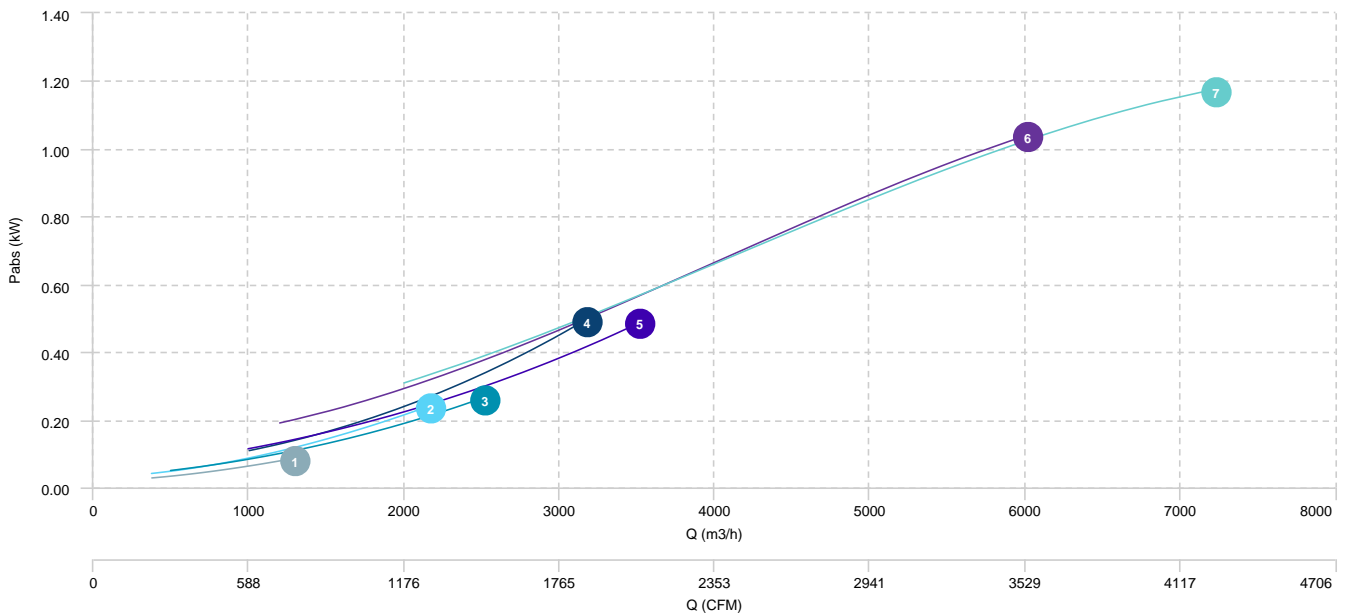


1	BD 7/7 M6 EEC80	2	BD 9/7 M6 EEC80	3	BD 9/9 M6 EEC80	4	BD 10/8 M6 EEC80
5	BD 10/10 M6 EEC80	6	BD 12/9 M6 EEC130	7	BD 12/12 M6 EEC130		

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
BD 7/7 M4 EEC80	Inlet	56	58	66	68	72	72	67	58	77
BD 9/7 M4 EEC80	Inlet	62	64	73	75	79	78	74	64	83
BD 9/9 M4 EEC80	Inlet	66	68	77	79	83	82	78	68	87
BD 10/8 M4 EEC80	Inlet	68	70	79	81	85	84	80	71	89
BD 10/10 M4 EEC80	Inlet	70	72	81	83	87	86	82	73	91

### Sound / 6 poles

Sound power Lw dB (A)										
Model		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
BD 7/7 M6 EEC80	Inlet	46	48	57	59	63	62	58	48	67
BD 9/7 M6 EEC80	Inlet	52	54	62	64	68	67	63	54	73
BD 9/9 M6 EEC80	Inlet	56	58	66	68	72	71	67	58	77
BD 10/8 M6 EEC80	Inlet	59	61	70	72	76	75	71	61	80
BD 10/10 M6 EEC80	Inlet	62	64	72	74	78	77	73	64	83
BD 12/9 M6 EEC130	Inlet	66	68	76	78	82	81	77	68	87
BD 12/12 M6 EEC130	Inlet	69	71	79	81	85	84	80	71	90



erp data

ERP	
Fan type	Centrifugal fan radial or forward blades
Installation category	A
Efficiency category	Static
The fan has to be installed with FSC	No

ERP / 4 poles

Model	Motor power (kW)	Maximum efficiency point data						
		Max. efficiency (%)	Efficiency grade (N) (N)	Air Flow (m3/h)	Ps (Pa)	Pabs (kW)	speed (rpm)	Specific ratio
BD 9/7 M4 EEC80	0,65	53,50	63,65	1.232,30	359,78	0,25	1400	1,00
BD 9/9 M4 EEC80	0,65	51,35	61,07	1.419,47	348,95	0,29	1400	1,00
BD 10/8 M4 EEC80	0,65	53,69	62,21	1.631,43	480,99	0,45	1400	1,00
BD 10/10 M4 EEC80	0,65	49,31	57,58	1.798,10	443,05	0,49	1400	1,00

ERP / 6 poles

Model	Motor power (kW)	Maximum efficiency point data						
		Max. efficiency (%)	Efficiency grade (N) (N)	Air Flow (m3/h)	Ps (Pa)	Pabs (kW)	speed (rpm)	Specific ratio
BD 10/10 M6 EEC80	0,50	49,05	60,62	1.357,51	179,61	0,15	900	1,00
BD 12/9 M6 EEC130	1,04	51,90	61,28	2.233,45	255,18	0,33	900	1,00
BD 12/12 M6 EEC130	1,17	49,33	57,95	2.785,93	250,50	0,43	900	1,00