BOX BD EEC

Accessories

BAC

INT

PI

TCA

TIAC

VIS

CENTRIFUGAL IN SOUNDPROOF CABINET WITH ELECTRONIC MOTOR

MANUFACTURING FEATURES:

• Impellers made of polyamide reinforced with fiberglass.
•BD EEC range fans assembled in soundproof cabinets with thermo-acoustic insulation, Bs1d0 fire class.
• Fan assembled on antivibration mountings.
• Connection gland included.
• 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: from 400 to 1200 or 2000rpm (depending on the models).
• Power supply: 220V + - 10%.
• Power Frequency: 50/60Hz.
• Operating temperature range: -20ºC +60ºC.
• Enclosed motor IP 55.
• Insulation class F.
• Speed ??control through:
• 22 kOhms Trimmer.
• 0-10V external sensor.

APPLICATIONS:

Designed for inline installation, indoor or outdoor assembly, they are suitable for:
• Air renewal in buildings and industries.
• Industrial and professional kitchen hoods.
• Maximum working temperature: 50ºC.

UNDER REQUEST:

• LG0 position.
• Impellers made of galvanised steel sheet.

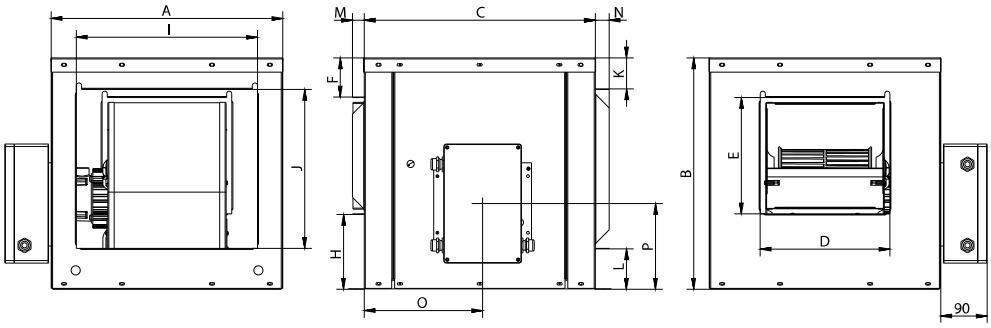
Technical data

Single-phase motor

Code	Model	R.P.M.	Rated I. (A) 230V	Rated power kW	Max. Airflow m3/h	Sound db (A)**	Weight	Connect. diagram
251169554EC	BOX BD 7/7 EEC	2000	5	0,37	2.860	41	19	1
251289554EC	BOX BD 9/9 EEC	2000	6	0,75	4.280	46	32	1
251379554EC	BOX BD 10/10 EEC	1800	10	1,50	5.820	47	31	1
251529554EC	BOX BD 12/12 EEC	1200	10	1,50	7.420	47	54	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

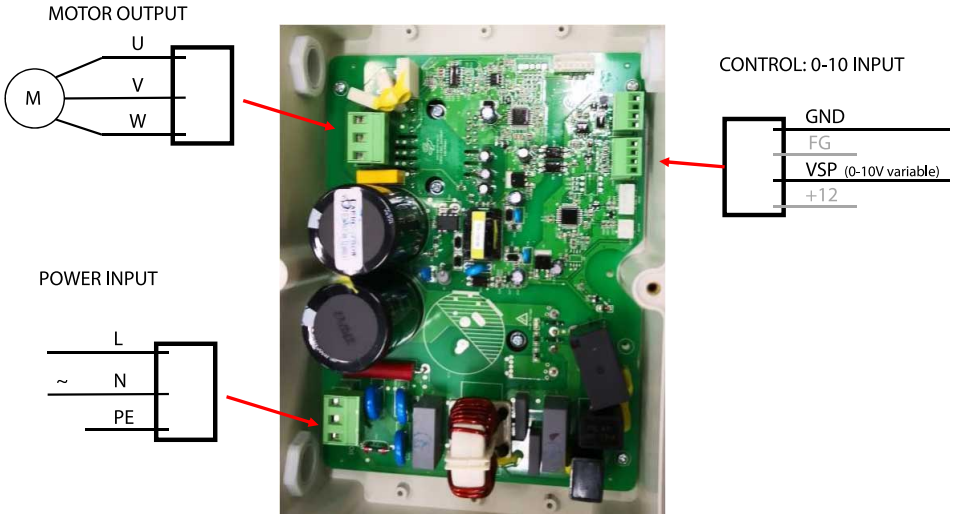


Model	A	B	C	D	E	F	H	I	J
BOX BD 7/7 EEC	450	450	450	252	226	76	145	352	309
BOX BD 9/9 EEC	535	535	535	321	278	91	164	418	359
BOX BD 10/10 EEC	580	580	580	352	309	79	190	418	421
BOX BD 12/12 EEC	650	650	650	418	359	78	211	576	500

Model	K	L	M	N	O	P
BOX BD 7/7 EEC	60	78	23	27	230	166.5
BOX BD 9/9 EEC	78	96	23	27	240	216.5
BOX BD 10/10 EEC	69	88	23	27	240	241.6
BOX BD 12/12 EEC	65	83	23	27	240	241.6

Wiring diagram

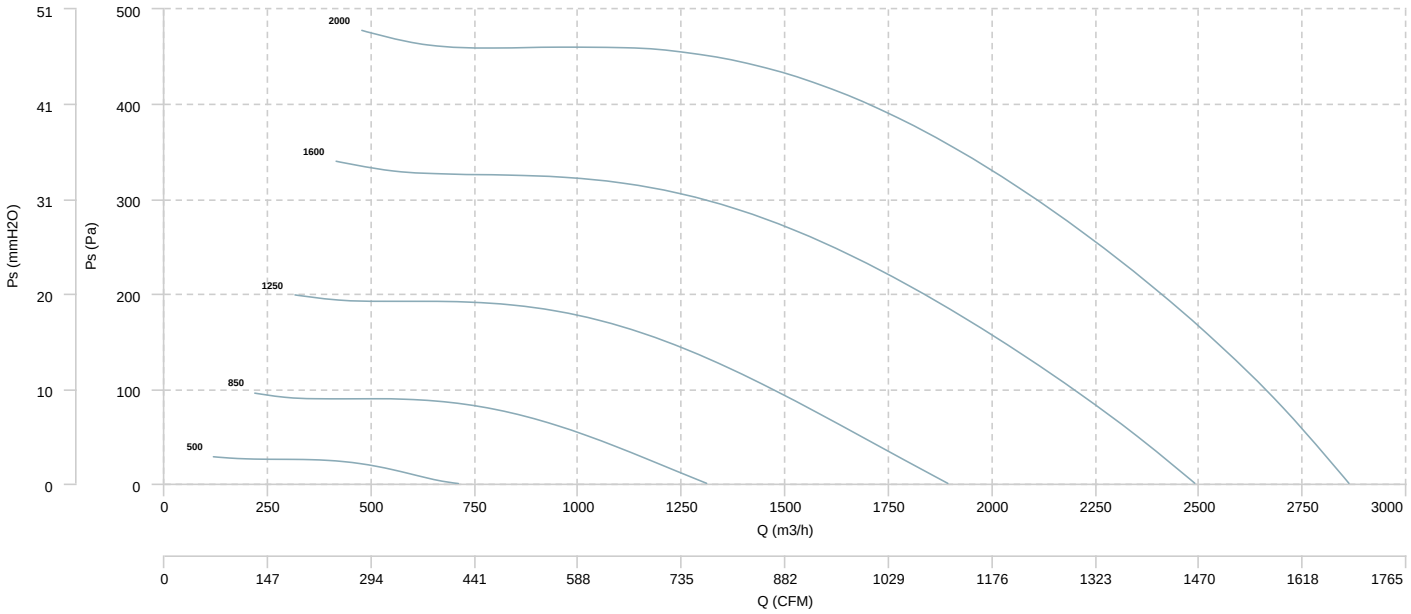
DIAGRAM Nº 1



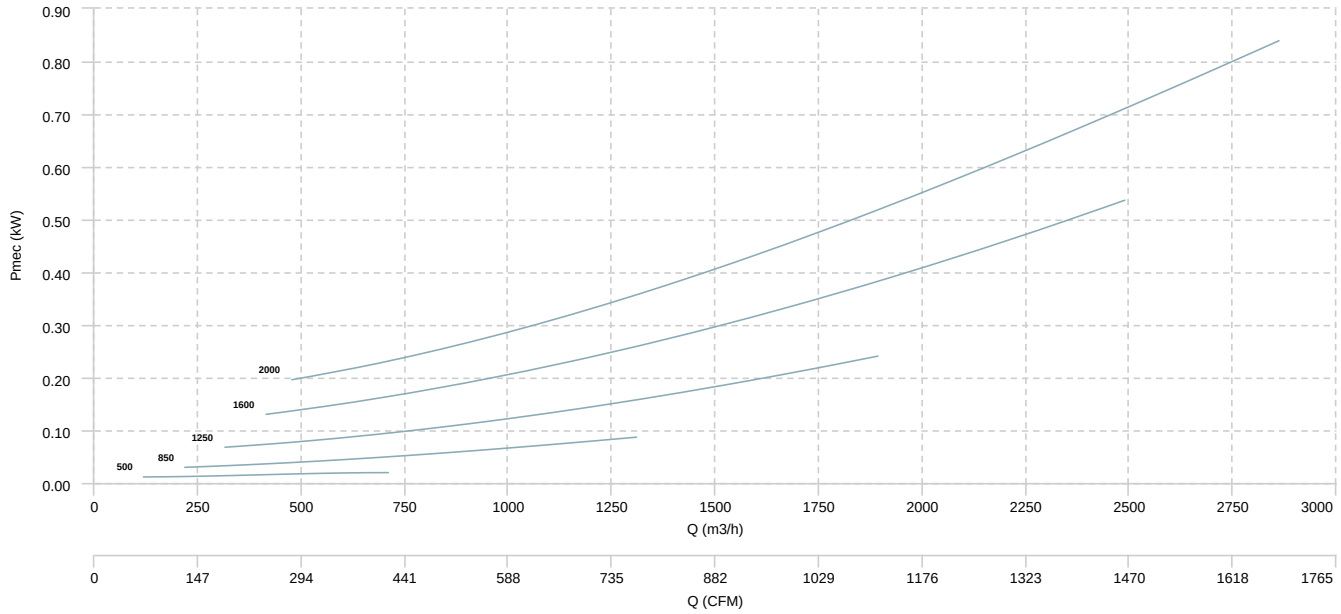
CHARACTERISCTIC CURVE

BOX BD 7/7 EEC

AIR FLOW - PRESSURE

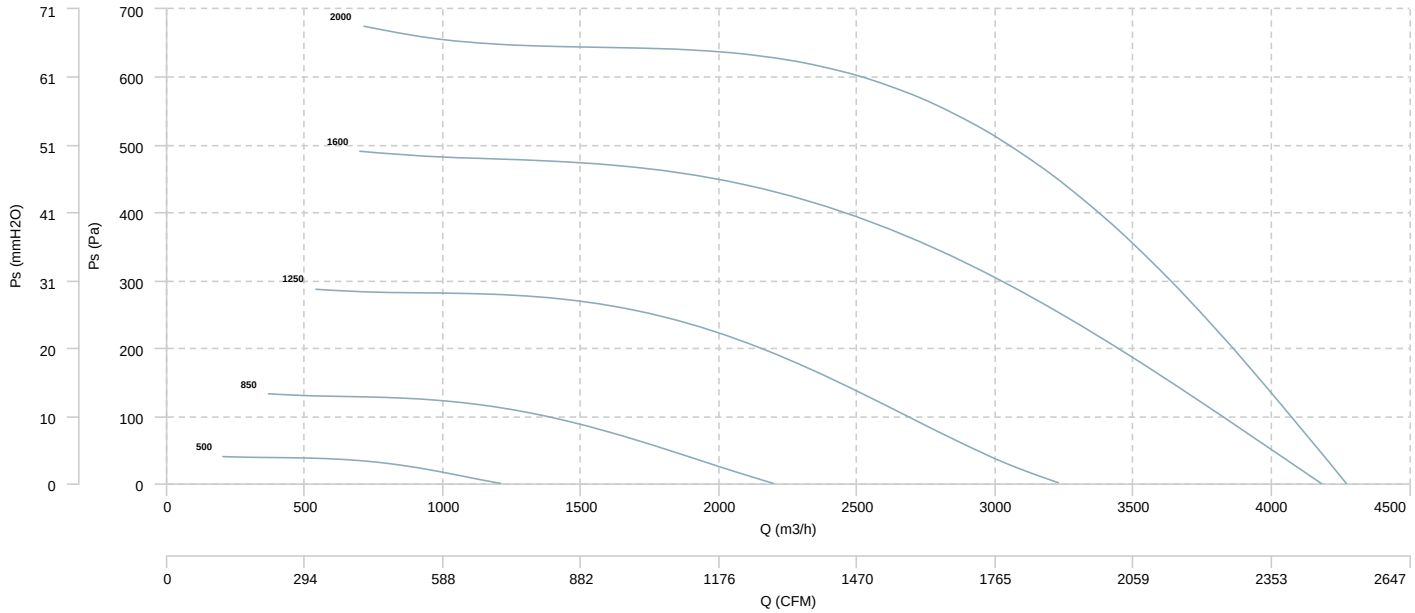


AIR FLOW - MECHANICAL POWER

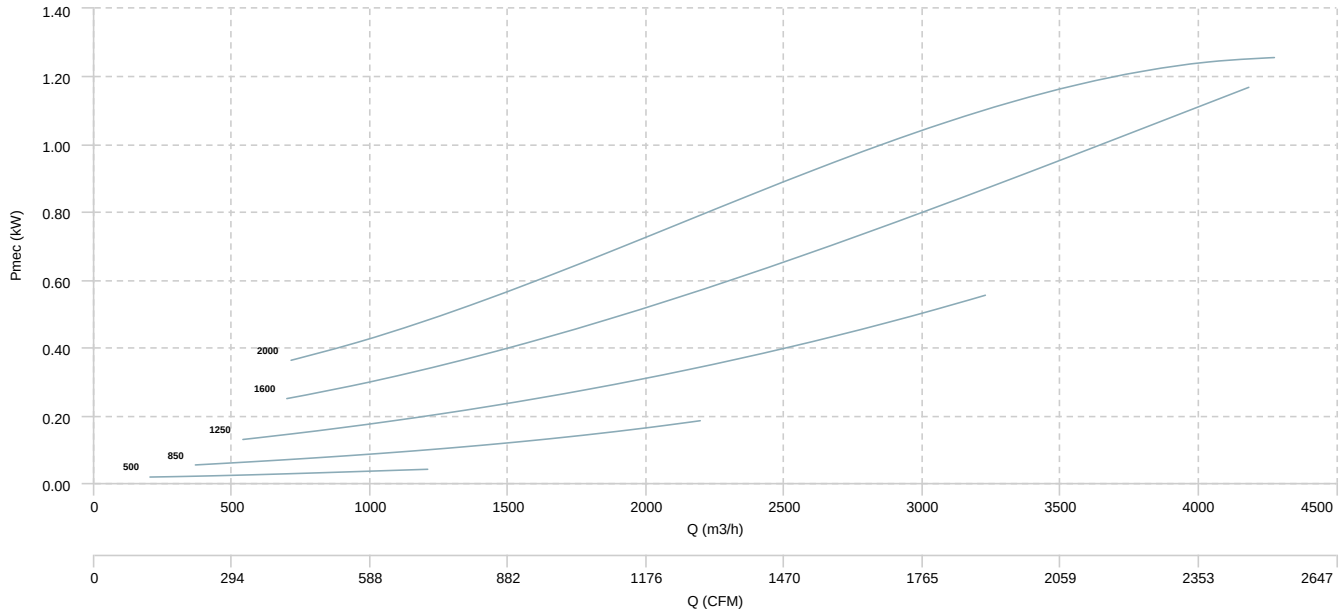


BOX BD 9/9 EEC

AIR FLOW - PRESSURE

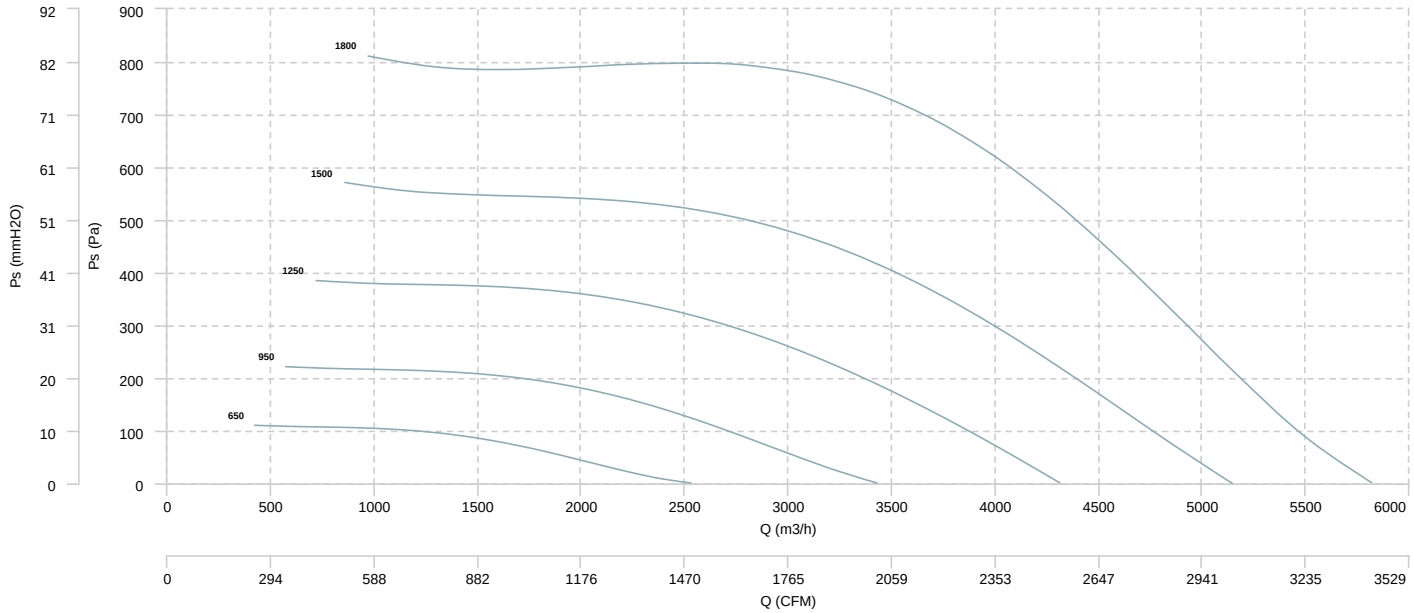


AIR FLOW - MECHANICAL POWER

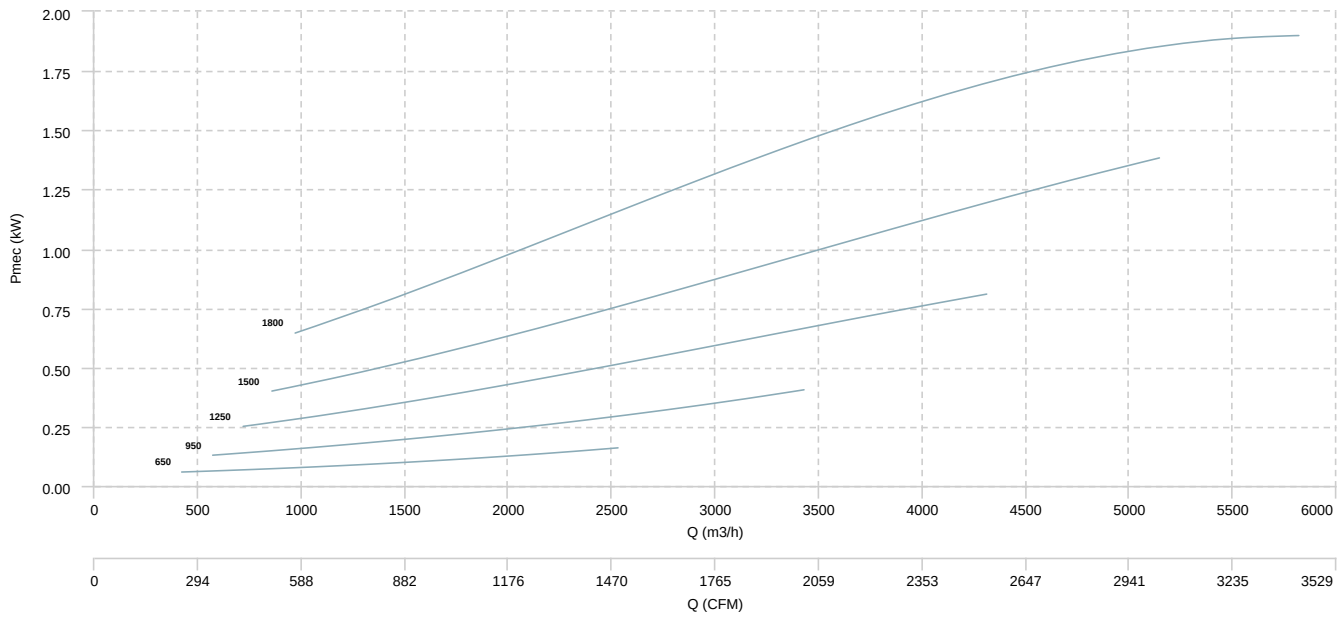


BOX BD 10/10 EEC

AIR FLOW - PRESSURE

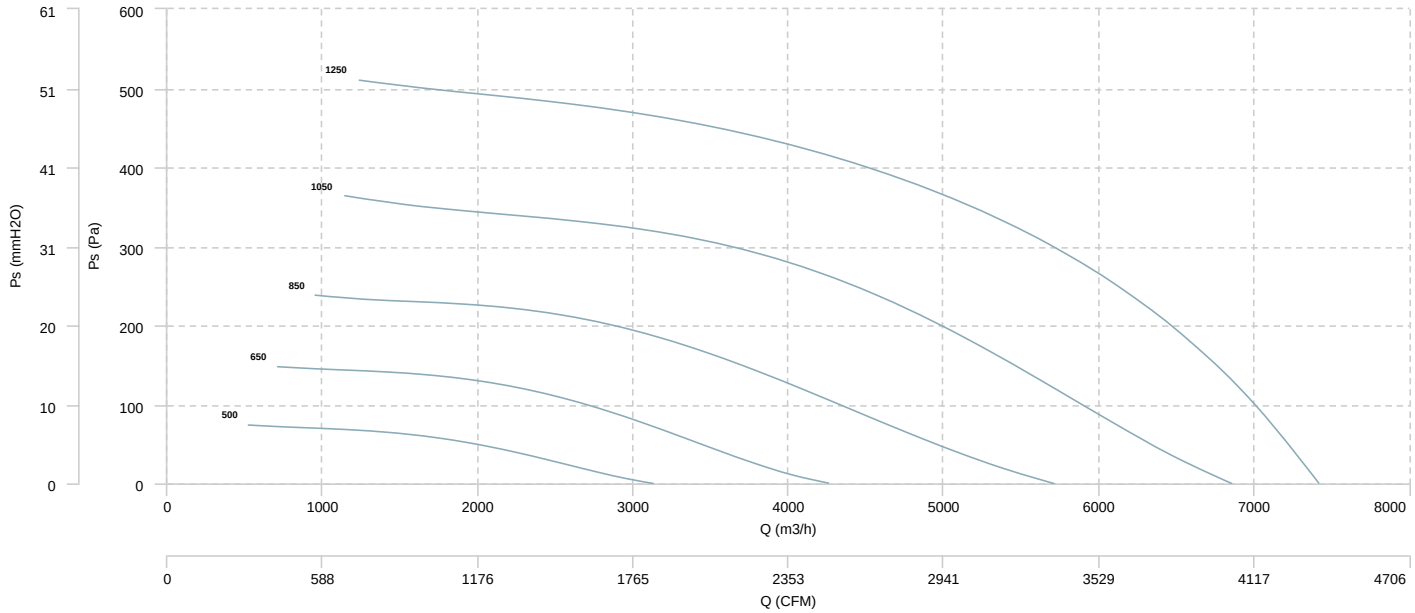


AIR FLOW - MECHANICAL POWER

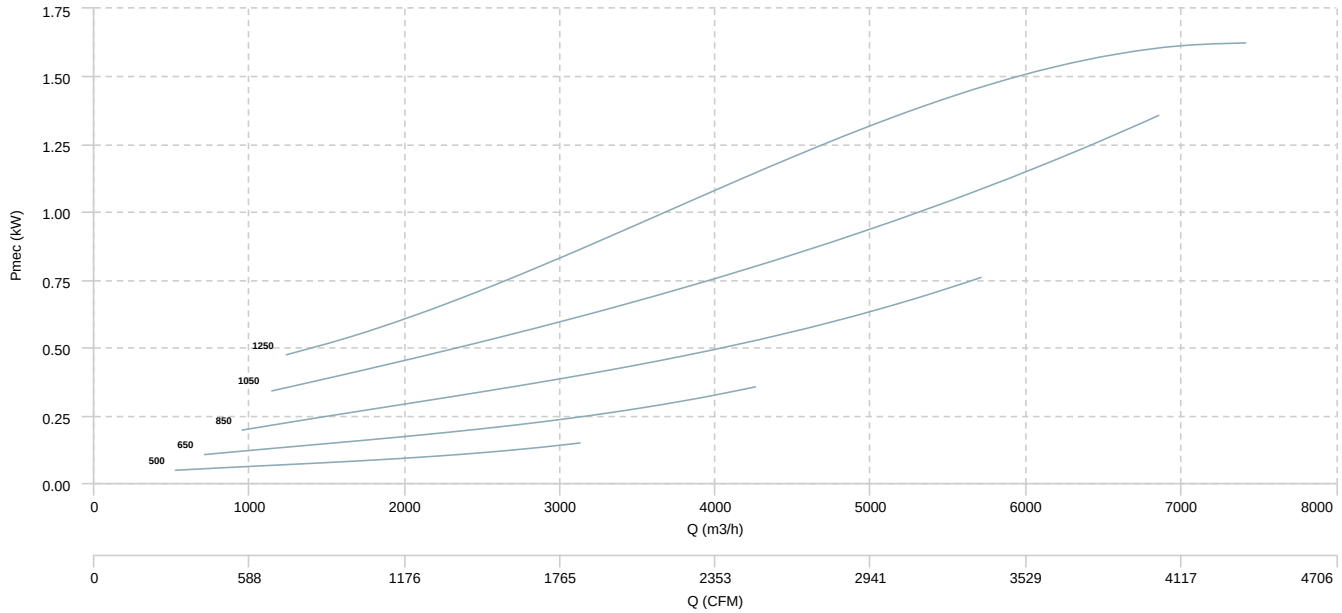


BOX BD 12/12 EEC

AIR FLOW - PRESSURE



AIR FLOW - MECHANICAL POWER



Sound data

Sound power Lw dB (A)										
Model		**63 Hz**	**125 Hz**	**250 Hz**	**500 Hz**	**1000 Hz**	**2000 Hz**	**4000 Hz**	**8000 Hz**	**Total**
BOX BD 7/7 EEC (2000 RPM)	Inlet	52	58	58	59	61	60	56	51	67
BOX BD 9/9 EEC (2000 RPM)	Inlet	57	63	62	64	66	64	61	56	72
BOX BD 10/10 EEC (1800 RPM)	Inlet	59	65	64	65	68	66	63	58	73
BOX BD 12/12 EEC (1250 RPM)	Inlet	58	64	64	65	67	65	62	57	73

Notes:

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

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

erp data

ERP	
Fan type	Unit for non-residential ventilation (LOT 6)
Typology	Unidirectional
Others	None
Type of driver	VSD (multiple speed)

		Maximum efficiency point data						
Model	Motor power (kW)	Eff.Heat recovery (%)	Max. efficiency (%)	Pabs (kW)	Air Flow (m3/h)	Ps (Pa)	Speed (m/s)	SFP (W/m3/s)
BOX BD 7/7 EEC (2000 RPM)	0,37	-	45,75	0,34	1.222,32	456,43	7.1	989,73
BOX BD 7/7 EEC (1600 RPM)	0,37	-	43,30	0,21	1.052,97	319,81	6.11	989,73
BOX BD 9/9 EEC (2000 RPM)	0,75	-	51,08	0,71	1.959,62	638,44	6.96	1.308,75
BOX BD 9/9 EEC (1600 RPM)	0,75	-	50,68	0,43	1.645,96	468,69	5.84	1.308,75
BOX BD 9/9 EEC (1250 RPM)	0,75	-	48,07	0,21	1.280,64	277,16	4.55	1.308,75
BOX BD 10/10 EEC (1800 RPM)	1,50	-	49,67	1,22	2.711,36	795,93	7.87	1.619,15
BOX BD 10/10 EEC (1500 RPM)	1,50	-	48,89	0,70	2.281,97	533,21	6.62	1.619,15
BOX BD 10/10 EEC (1250 RPM)	1,50	-	47,08	0,42	1.945,95	362,35	5.65	1.619,15
BOX BD 10/10 EEC (950 RPM)	1,50	-	43,78	0,20	1.524,74	207,23	4.42	1.619,15
BOX BD 12/12 EEC (1250 RPM)	1,50	-	49,19	0,90	3.298,74	459,41	6.74	986,73
BOX BD 12/12 EEC (1050 RPM)	1,50	-	46,59	0,56	2.737,34	329,67	5.59	986,73
BOX BD 12/12 EEC (850 RPM)	1,50	-	44,21	0,31	2.193,44	222,25	4.48	986,73
BOX BD 12/12 EEC (650 RPM)	1,50	-	41,93	0,16	1.750,81	135,91	3.58	986,73