

BOX BD PLUS EEC

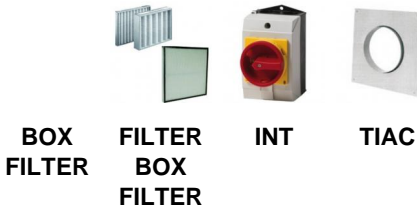


CENTRIFUGAL FAN IN SOUNDPROOF BOX WITH SANDWICH PANELS AND ELECTRONIC MOTOR

MANUFACTURING FEATURES

- Impellers made of polyamide reinforced with fibreglass (models 7/7, 9/9, 10/10 and 12/12). Other models made of galvanised steel sheet.
- BD EEC range fans assembled in soundproof cabinets.
- Structure profile made of aluminium 30 mm.
- Casing made of galvanized sandwich panel, with inner rock wool A1 class (100% noncombustible), density 90Kg/m3.
- Connection gland included.
- Easy access through lateral panel.
- Fan can be placed in any position by exchanging panels.
- 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: -20°C +60°C.
- Enclosed motor IP 55.
- Insulation class F.
- Speed ??control through:
- 22 kOhms Trimmer.
- 0-10V external sensor.

Accessories



BOX
FILTER

FILTER
BOX
FILTER

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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.

Technical data

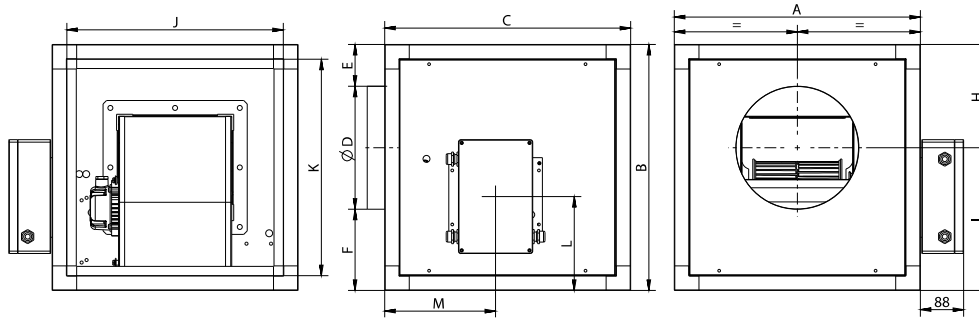
Single-phase motor

Code	Model	R.P.M.	Rated I. (A) 230V	Rated power kW	Max. Airflow m3/h	Sound db (A)**	Weight	Connect. diagram
251169454EC	BOX BD PLUS 7/7 EEC	2000	5	0,37	2.860	39	24	1
251269454EC	BOX BD PLUS 9/7 EEC	2000	6	0,75	3.940	42	30,50	1
251289454EC	BOX BD PLUS 9/9 EEC	2000	6	0,75	4.280	44	35	1
251339454EC	BOX BD PLUS 10/8 EEC	1800	10	1,50	5.960	48	36	1
251379454EC	BOX BD PLUS 10/10 EEC	1800	10	1,50	5.820	45	39	1
251529454EC	BOX BD PLUS 12/9 EEC	1200	10	1,50	6.440	46	53	1
251609454EC	BOX BD PLUS 12/12 EEC	1200	10	1,50	7.420	45	59	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

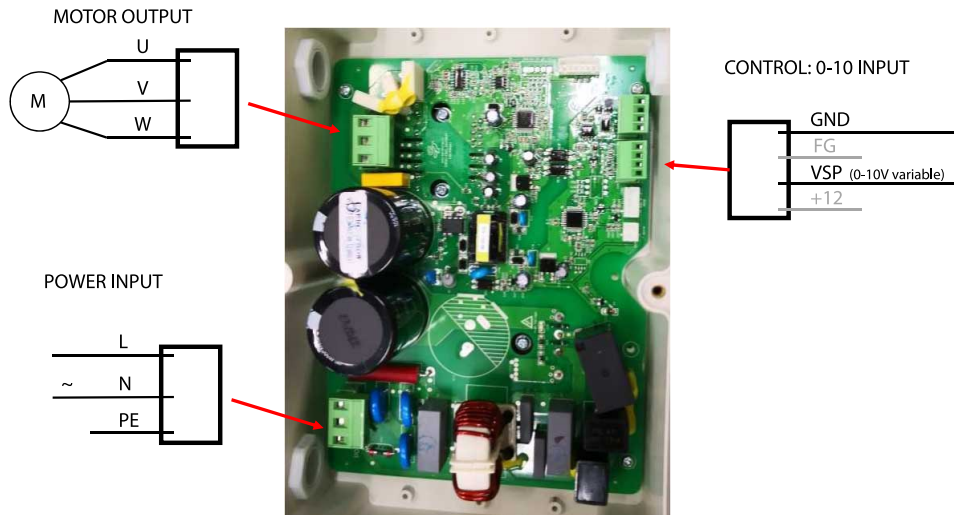


Model	A	B	C	E	F	H	I	J	K
BOX BD PLUS 7/7 EEC	500	500	500	85	165	210	290	440	440
BOX BD PLUS 9/7 EEC	550	550	550	87.5	147.5	245	305	490	490
BOX BD PLUS 9/9 EEC	550	550	550	57.5	137.5	235	315	490	490
BOX BD PLUS 10/8 EEC	600	600	600	82.5	162.5	260	340	540	540
BOX BD PLUS 10/10 EEC	600	600	600	50	150	250	350	540	540
BOX BD PLUS 12/9 EEC	700	700	700	105	195	305	395	640	640
BOX BD PLUS 12/12 EEC	700	700	700	80	170	305	395	640	640

Model	L	M	ØD
BOX BD PLUS 7/7 EEC	190.7	225.4	250
BOX BD PLUS 9/7 EEC	215.7	250.4	315
BOX BD PLUS 9/9 EEC	215.7	250.4	355
BOX BD PLUS 10/8 EEC	240.7	275.4	355
BOX BD PLUS 10/10 EEC	240.7	275.4	400
BOX BD PLUS 12/9 EEC	290.7	325.4	400
BOX BD PLUS 12/12 EEC	290.7	325.4	450

Wiring diagram

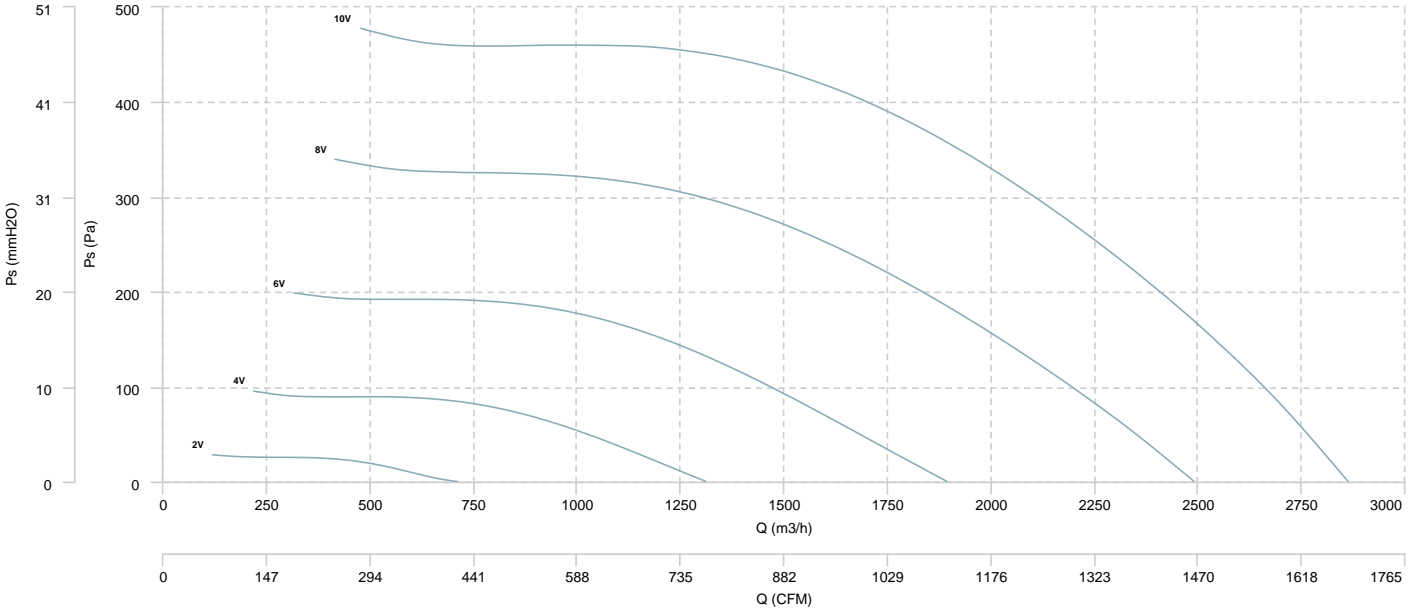
DIAGRAM N° 1



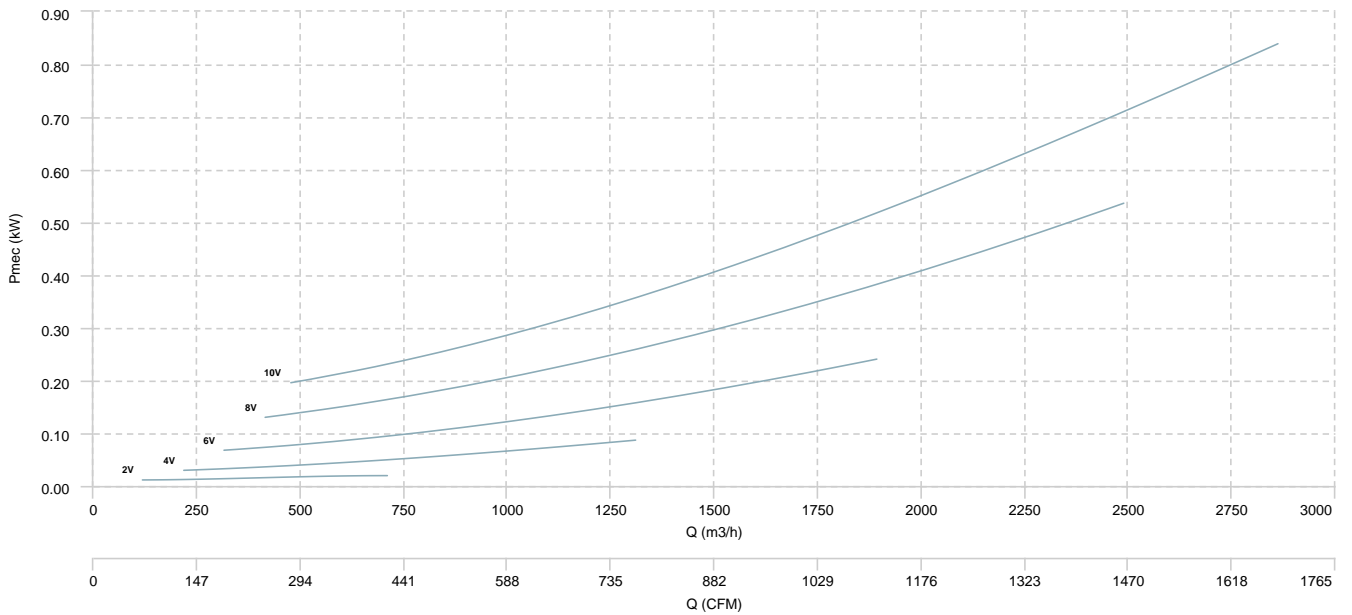
CHARACTERISTIC CURVE

BOX BD PLUS 7/7 EEC

AIR FLOW - PRESSURE

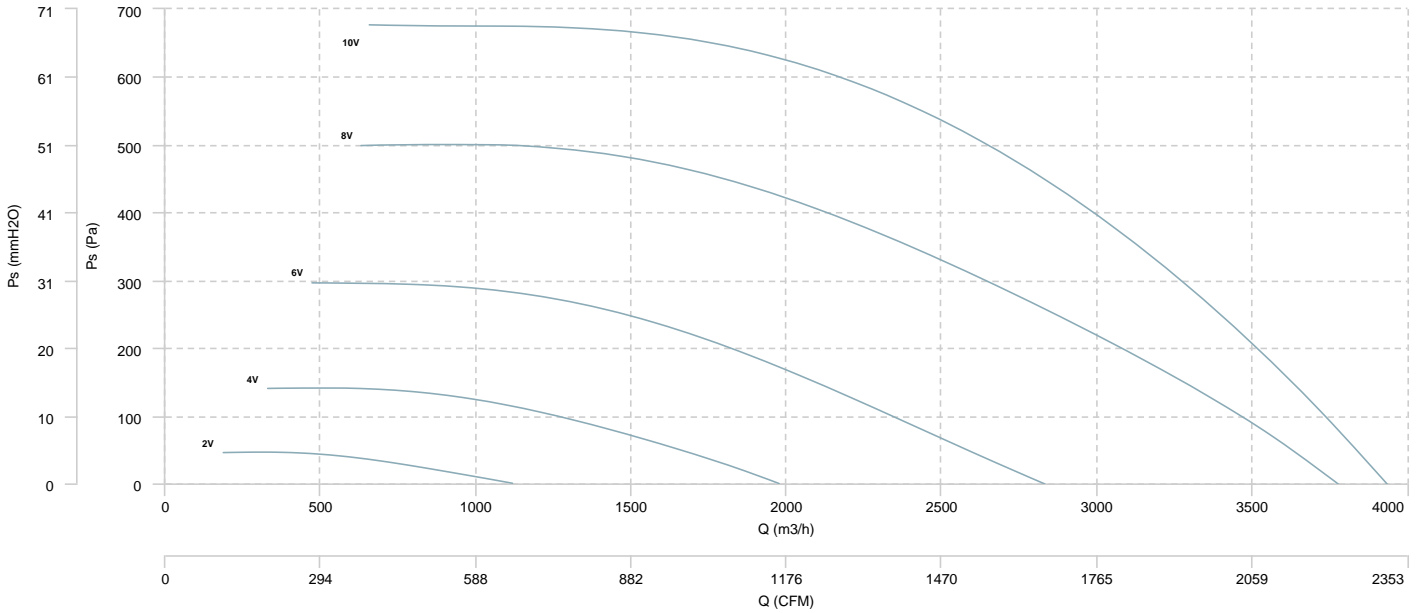


AIR FLOW - MECHANICAL POWER

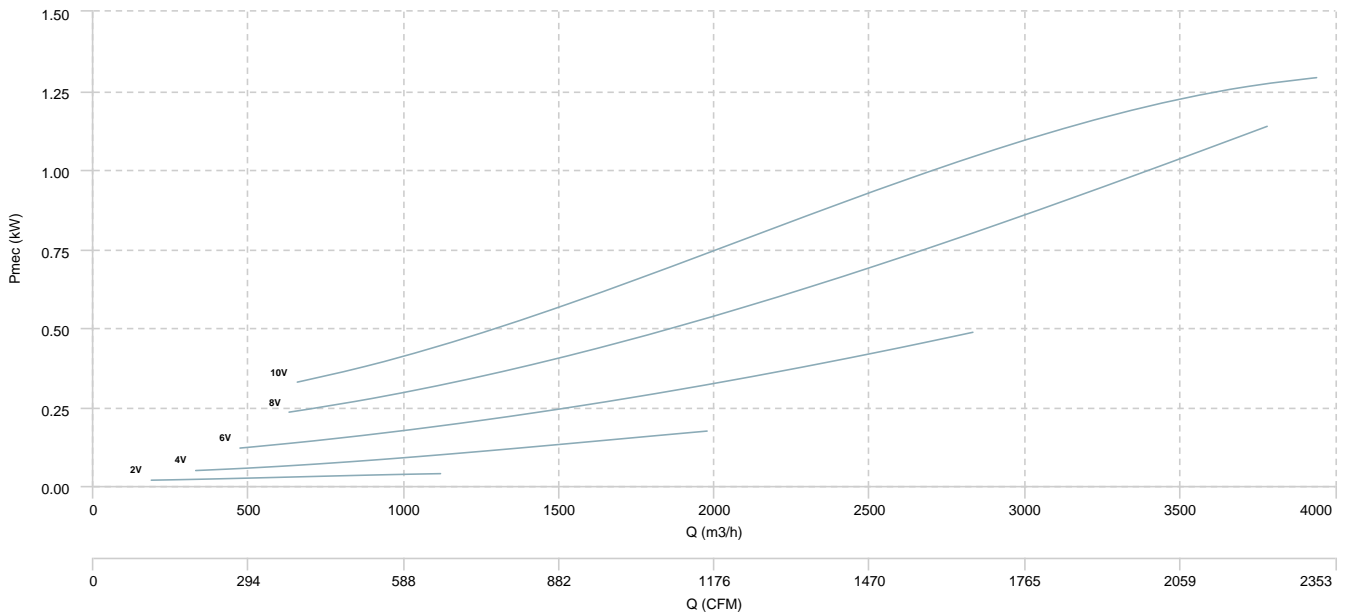


BOX BD PLUS 9/7 EEC

AIR FLOW - PRESSURE

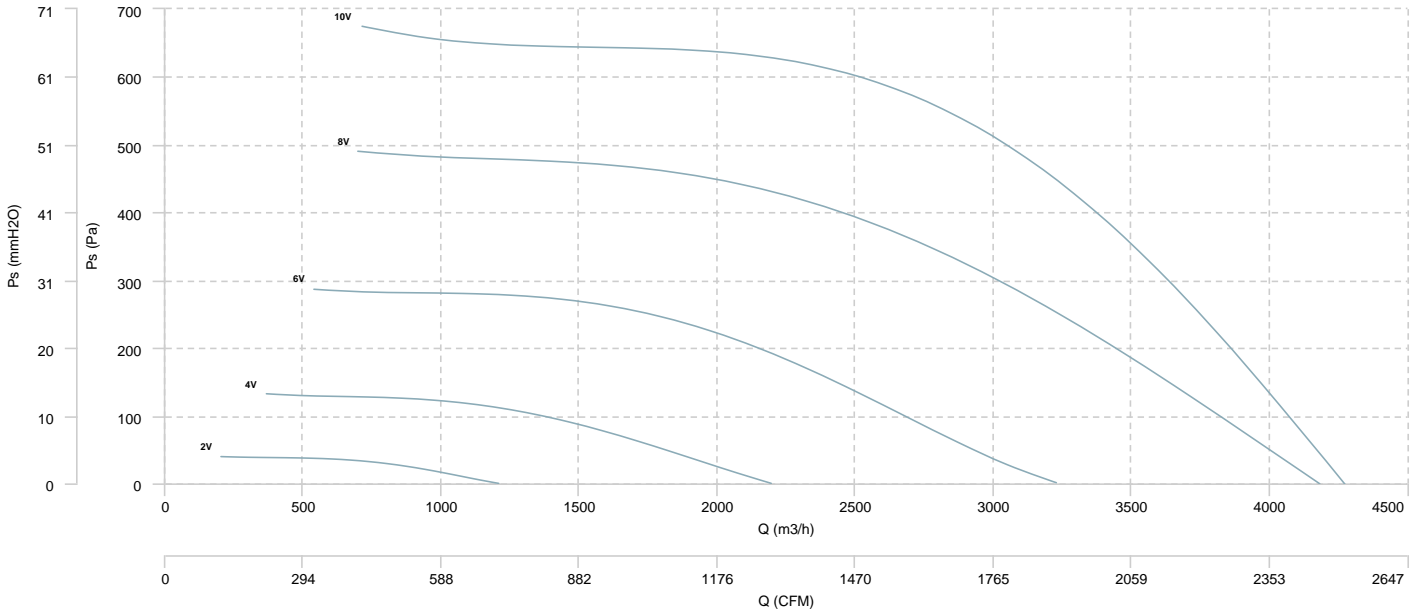


AIR FLOW - MECHANICAL POWER

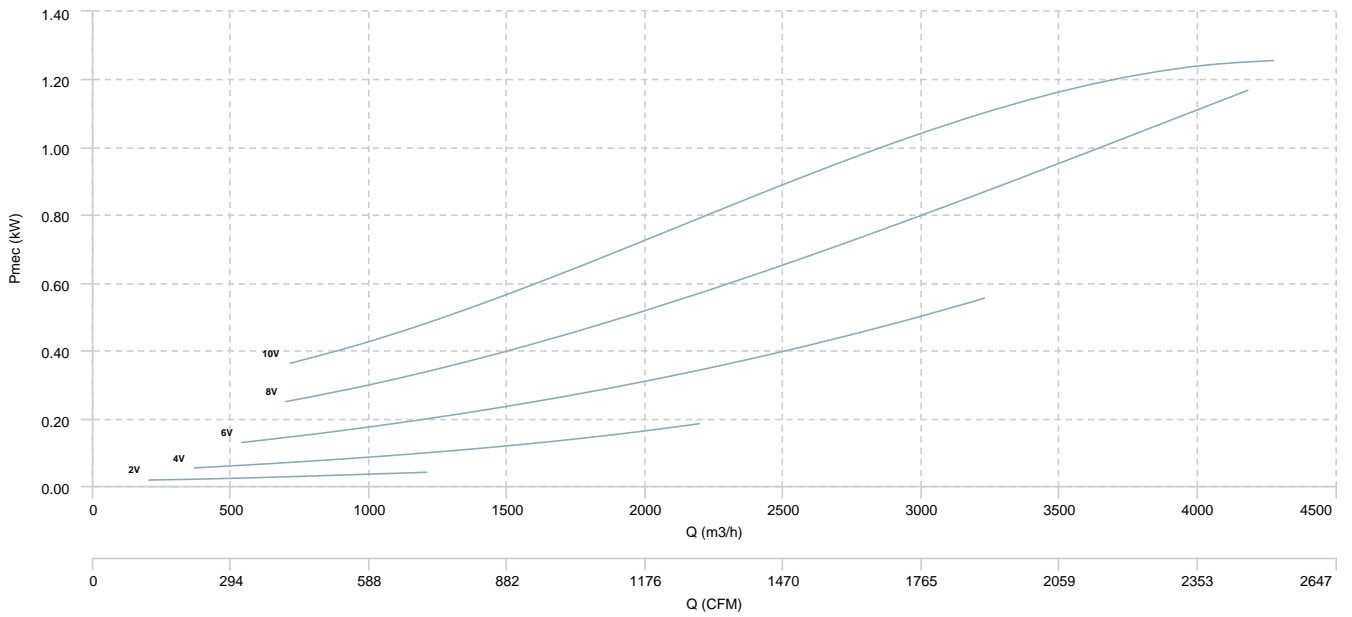


BOX BD PLUS 9/9 EEC

AIR FLOW - PRESSURE

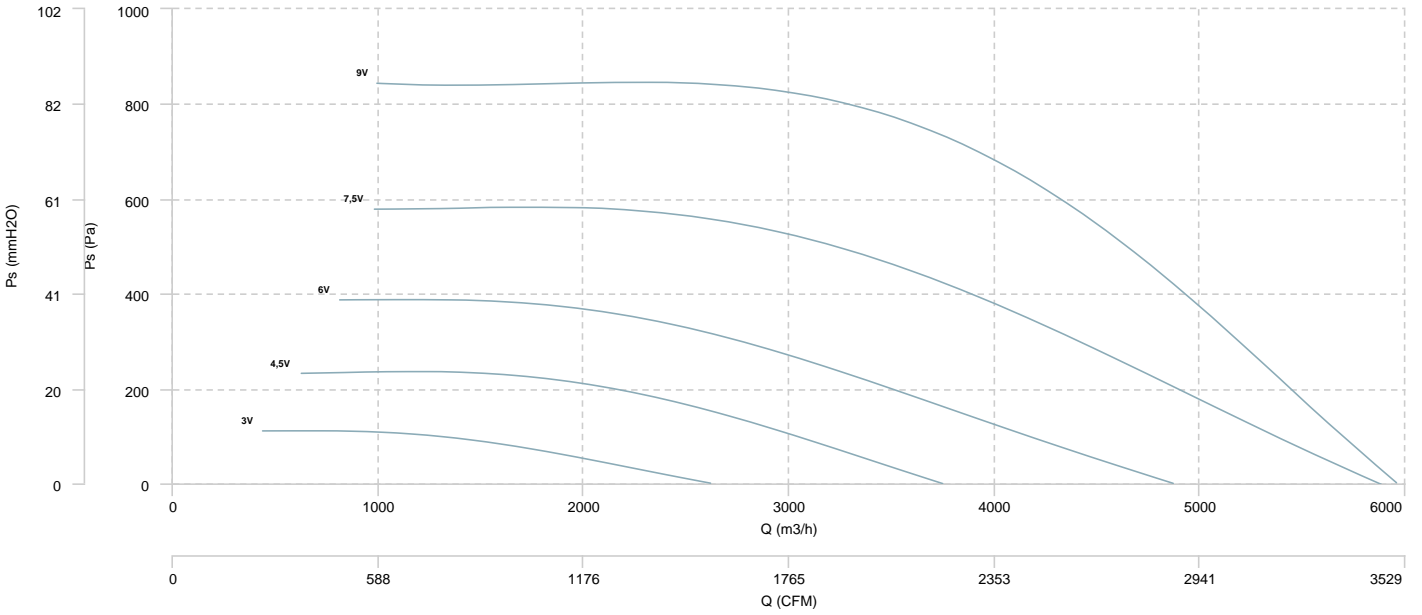


AIR FLOW - MECHANICAL POWER

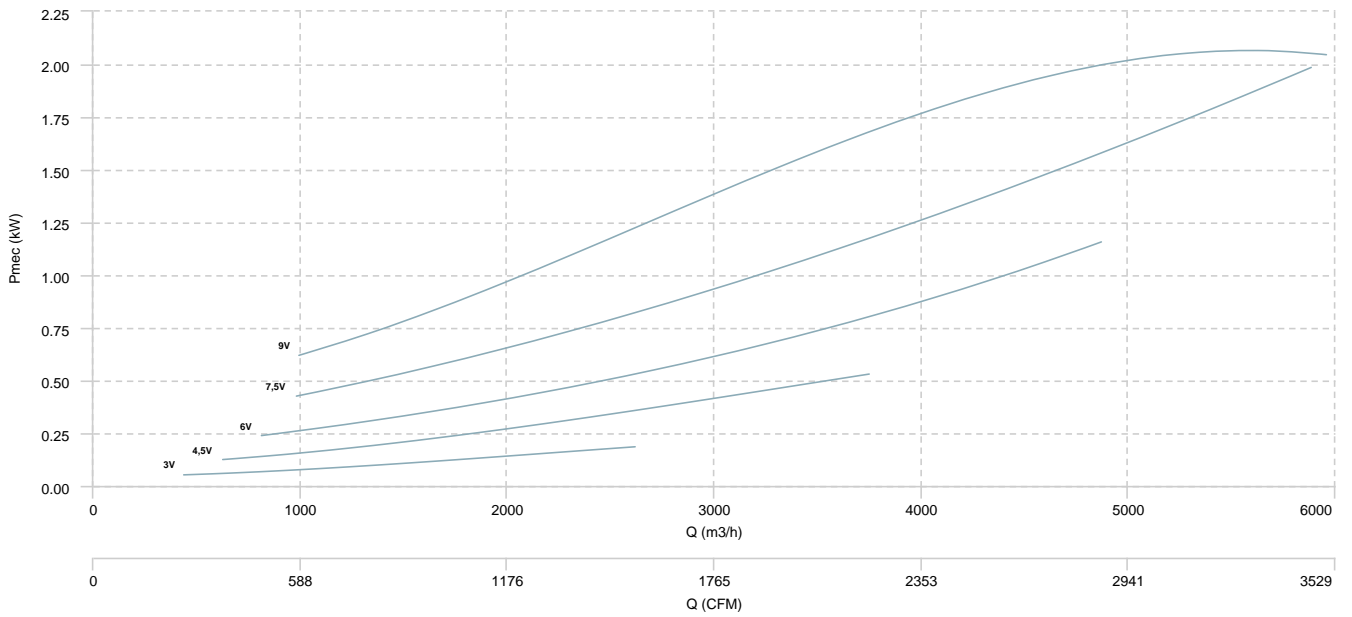


BOX BD PLUS 10/8 EEC

AIR FLOW - PRESSURE

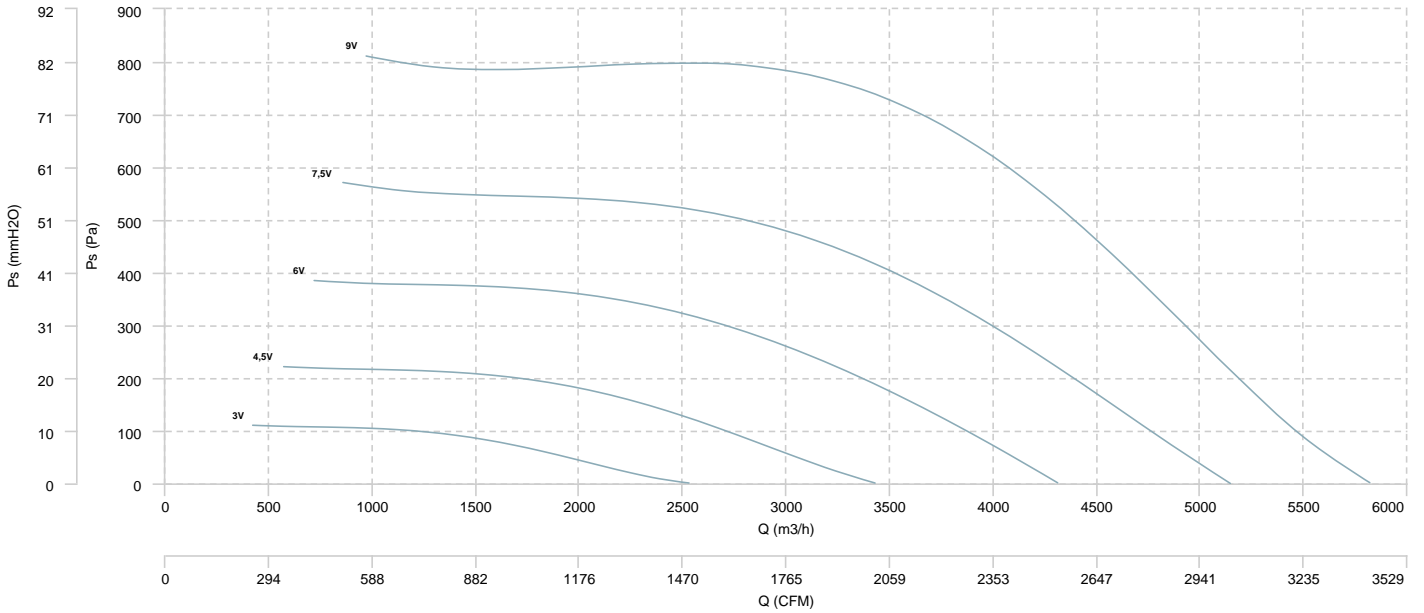


AIR FLOW - MECHANICAL POWER

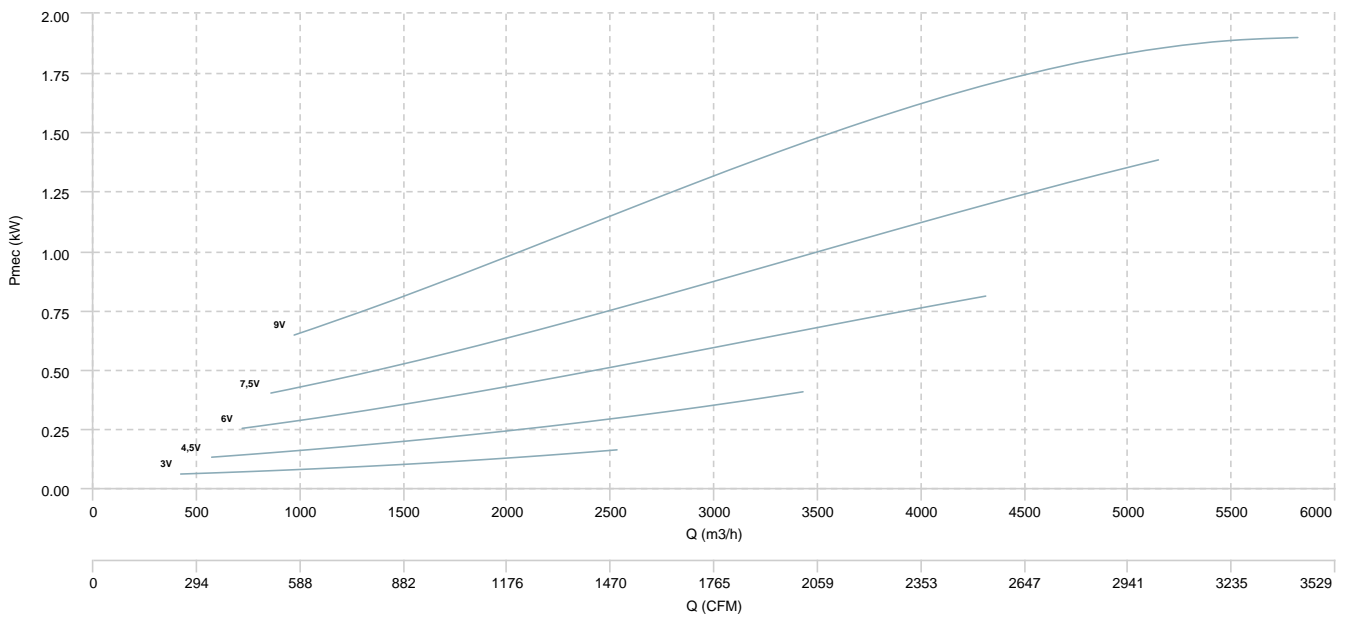


BOX BD PLUS 10/10 EEC

AIR FLOW - PRESSURE

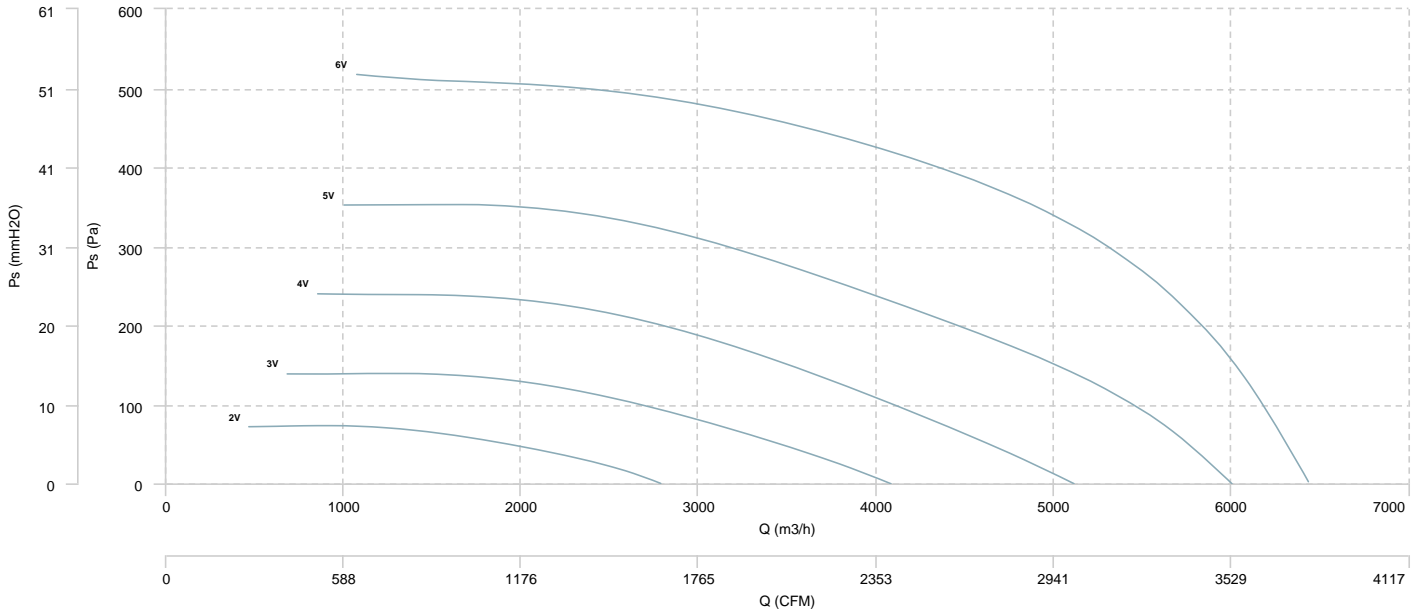


AIR FLOW - MECHANICAL POWER

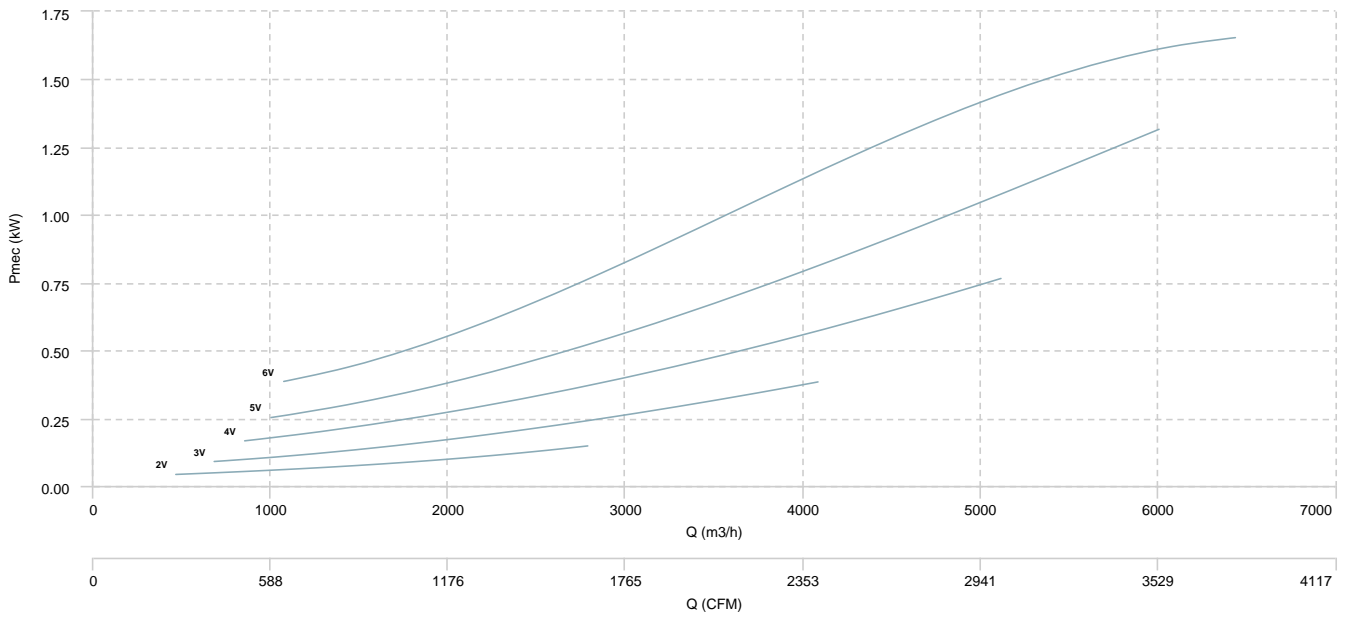


BOX BD PLUS 12/9 EEC

AIR FLOW - PRESSURE

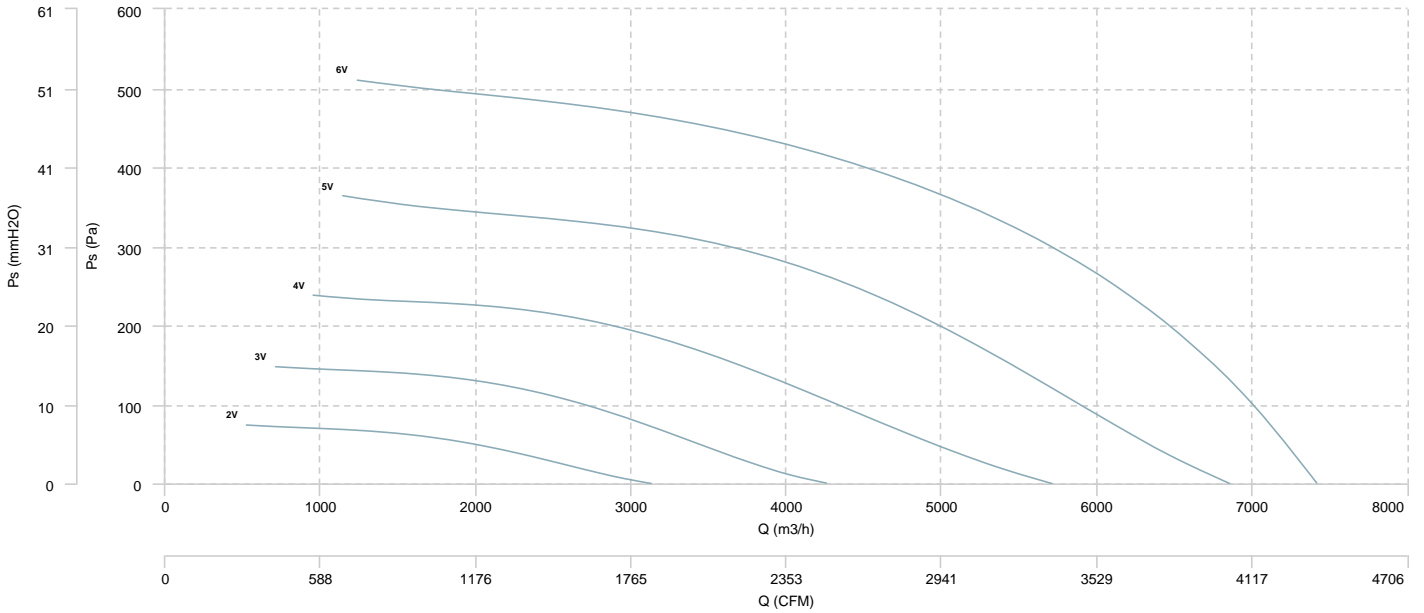


AIR FLOW - MECHANICAL POWER

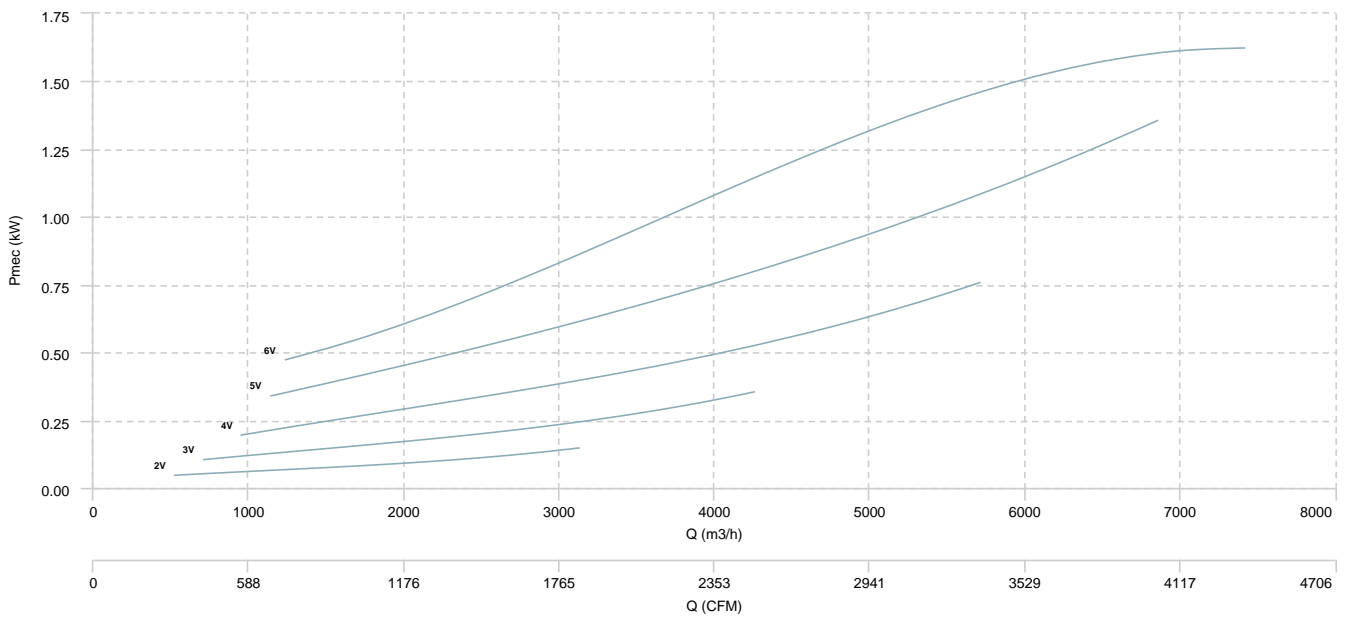


BOX BD PLUS 12/12 EEC

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 PLUS 7/7 EEC (2000 RPM)	Inlet	50	56	56	57	59	58	54	49	65
BOX BD PLUS 9/7 EEC (2000 RPM)	Inlet	54	60	59	61	63	61	58	53	68
BOX BD PLUS 9/9 EEC (2000 RPM)	Inlet	55	61	60	62	64	62	59	54	70
BOX BD PLUS 10/8 EEC (1800 RPM)	Inlet	59	65	65	66	68	66	63	58	74
BOX BD PLUS 10/10 EEC (1800 RPM)	Inlet	57	63	62	63	66	64	61	56	71
BOX BD PLUS 12/9 EEC (1200 RPM)	Inlet	58	64	63	64	67	65	62	57	72
BOX BD PLUS 12/12 EEC (1200 RPM)	Inlet	56	62	62	63	65	63	60	55	71

Notes:

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

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

erp data
ERP

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

Model	Motor power (kW)	Maximum efficiency point data						
		Eff.Heat recovery (%)	Max. efficiency (%)	Pabs (kW)	Air Flow (m3/h)	Ps (Pa)	Speed (m/s)	SFP (W/m3/s)
BOX BD PLUS 7/7 EEC (2000 RPM)	0,37	-	45,75	0,34	1.222,32	456,43	7.1	989,73
BOX BD PLUS 7/7 EEC (1600 RPM)	0,37	-	43,30	0,21	1.052,97	319,81	6.11	989,73
BOX BD PLUS 9/7 EEC (2000 RPM)	0,75	-	49,87	0,62	1.645,48	658,88	7.55	1.347,89
BOX BD PLUS 9/7 EEC (1600 RPM)	0,75	-	49,57	0,39	1.427,99	485,85	6.55	1.347,89
BOX BD PLUS 9/7 EEC (1200 RPM)	0,75	-	46,14	0,19	1.105,22	282,90	5.07	1.347,89
BOX BD PLUS 9/9 EEC (2000 RPM)	0,75	-	51,08	0,71	1.959,62	638,44	6.96	1.308,75
BOX BD PLUS 9/9 EEC (1600 RPM)	0,75	-	50,68	0,43	1.645,96	468,69	5.84	1.308,75
BOX BD PLUS 9/9 EEC (1200 RPM)	0,75	-	48,07	0,21	1.280,64	277,16	4.55	1.308,75
BOX BD PLUS 10/8 EEC (1800 RPM)	1,50	-	51,88	1,23	2.634,94	841,58	9.49	1.683,53
BOX BD PLUS 10/8 EEC (1500 RPM)	1,50	-	50,32	0,72	2.241,65	575,76	8.07	1.683,53
BOX BD PLUS 10/8 EEC (1200 RPM)	1,50	-	49,49	0,38	1.797,38	377,30	6.47	1.683,53
BOX BD PLUS 10/8 EEC (900 RPM)	1,50	-	46,61	0,21	1.501,22	232,42	5.41	1.683,53
BOX BD PLUS 10/10 EEC (1800 RPM)	1,50	-	49,67	1,22	2.711,36	795,93	7.87	1.619,15
BOX BD PLUS 10/10 EEC (1500 RPM)	1,50	-	48,89	0,70	2.281,97	533,21	6.62	1.619,15
BOX BD PLUS 10/10 EEC (1200 RPM)	1,50	-	47,08	0,42	1.945,95	362,35	5.65	1.619,15
BOX BD PLUS 10/10 EEC (900 RPM)	1,50	-	43,78	0,20	1.524,74	207,23	4.42	1.619,15
BOX BD PLUS 12/9 EEC (1200 RPM)	1,50	-	51,82	0,76	2.790,44	487,83	7.28	985,42
BOX BD PLUS 12/9 EEC (1000 RPM)	1,50	-	51,21	0,42	2.263,20	343,89	5.9	985,42
BOX BD PLUS 12/9 EEC (800 RPM)	1,50	-	47,59	0,27	1.952,81	233,29	5.09	985,42
BOX BD PLUS 12/9 EEC (600 RPM)	1,50	-	43,10	0,15	1.656,35	136,50	4.32	985,42
BOX BD PLUS 12/12 EEC (1200 RPM)	1,50	-	49,19	0,90	3.298,74	459,41	6.74	986,73
BOX BD PLUS 12/12 EEC (1000 RPM)	1,50	-	46,59	0,56	2.737,34	329,67	5.59	986,73
BOX BD PLUS 12/12 EEC (800 RPM)	1,50	-	44,21	0,31	2.193,44	222,25	4.48	986,73
BOX BD PLUS 12/12 EEC (600 RPM)	1,50	-	41,93	0,16	1.750,81	135,91	3.58	986,73