

## BD EEC



### DOUBLE INLET CENTRIFUGAL FAN WITH ELECTRONIC MOTOR EEC

#### MANUFACTURING FEATURES

- Galvanised steel sheet housing.
- Polyamide impeller reinforced with fibreglass in models 7/7, 9/9, 10/10 and 12/12. Galvanised steel sheet impeller for all range.
- 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).
- 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

#### APPLICATIONS

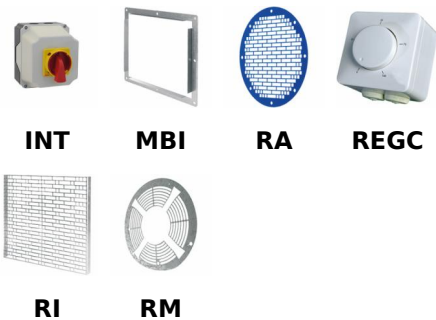
Designed for assembly in equipment:

- Ventilation boxes and air handling units.
- Centrifugal heaters.
- Industrial and professional kitchen hoods.
- Maximum working temperature: 50°C.

#### UNDER REQUEST

- Galvanized sheet impeller
- MBI assembled

## Accessories



## Technical data

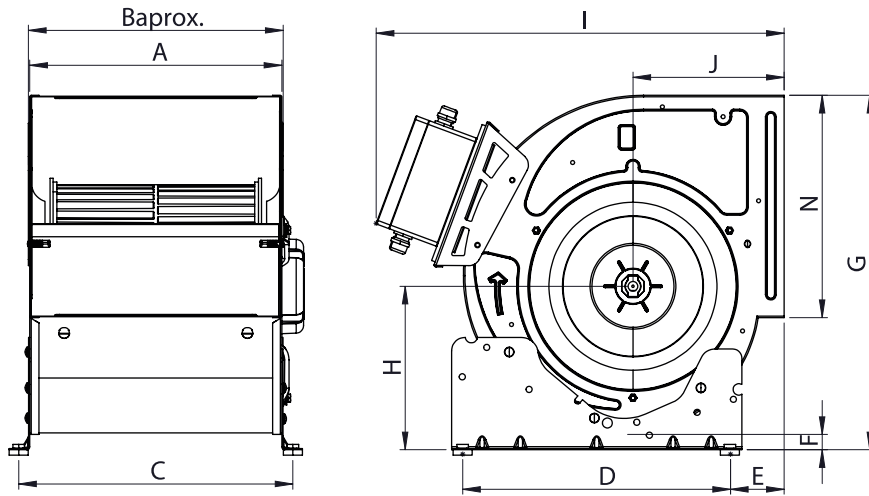
### Single-phase motor

Code	Model	R.P.M.	Rated I. (A) 230V	Rated power kW	Max. Airflow w m3/h	Sound db (A)**	Weight t	Connect. diagram
251109261C200	BD 7/7 EEC	2000	5	0,37	2.970	45	10	1
251269261C200V2	BD 9/7 EEC	2000	6	0,75	3.900	51	14,50	1
251289261C200V2	BD 9/9 EEC	2000	6	0,75	4.250	52	15	1
251339261C180	BD 10/8 EEC	1800	10	1,5	5.860	55	20	1
251379261C180	BD 10/10 EEC	1800	10	1,5	6.200	54	21	1
251529261C120	BD 12/9 EEC	1200	10	1,5	6.320	54	25	1
251609261C120	BD 12/12 EEC	1200	10	1,5	7.110	53	34	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

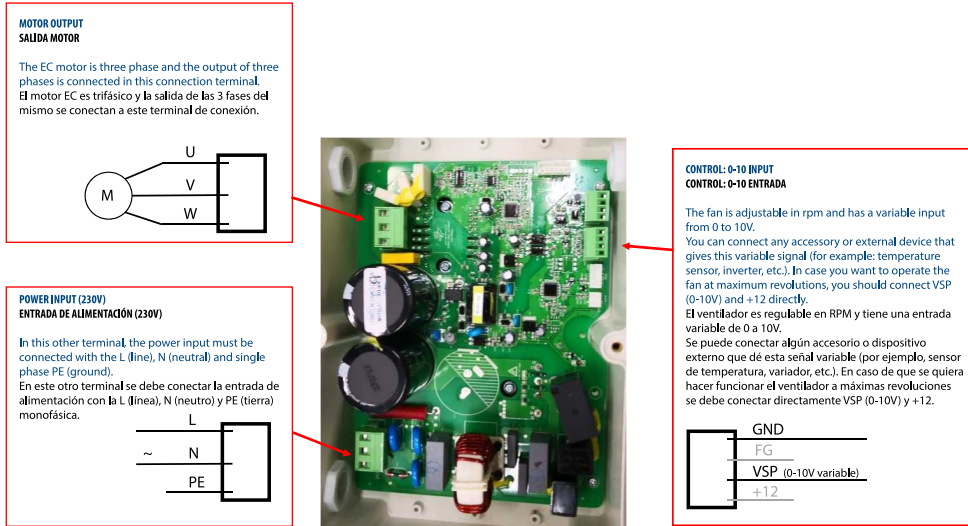


Model	A	B	C	D	E	F	G	H	I
BD 7/7 EEC	230	290	259	245	48.5	9.5	337	150	436
BD 9/7 EEC	233	328	262	245	70	19	407	191	495
BD 9/9 EEC	301	328	330	245	70	19	407	191	495
BD 10/8 EEC	265	303	294	350	70.5	20	464	214	534
BD 10/10 EEC	329	343	359	350	70.5	20	464	214	534
BD 12/9 EEC	310	360	339	350	77	17	536	244	590
BD 12/12 EEC	396	416	425	350	77	17	536	244	590

Model	J	N
BD 7/7 EEC	153	208
BD 9/7 EEC	184	260
BD 9/9 EEC	184	260
BD 10/8 EEC	198	291
BD 10/10 EEC	198	291
BD 12/9 EEC	230	343.5
BD 12/12 EEC	230	343.5

# Wiring diagram

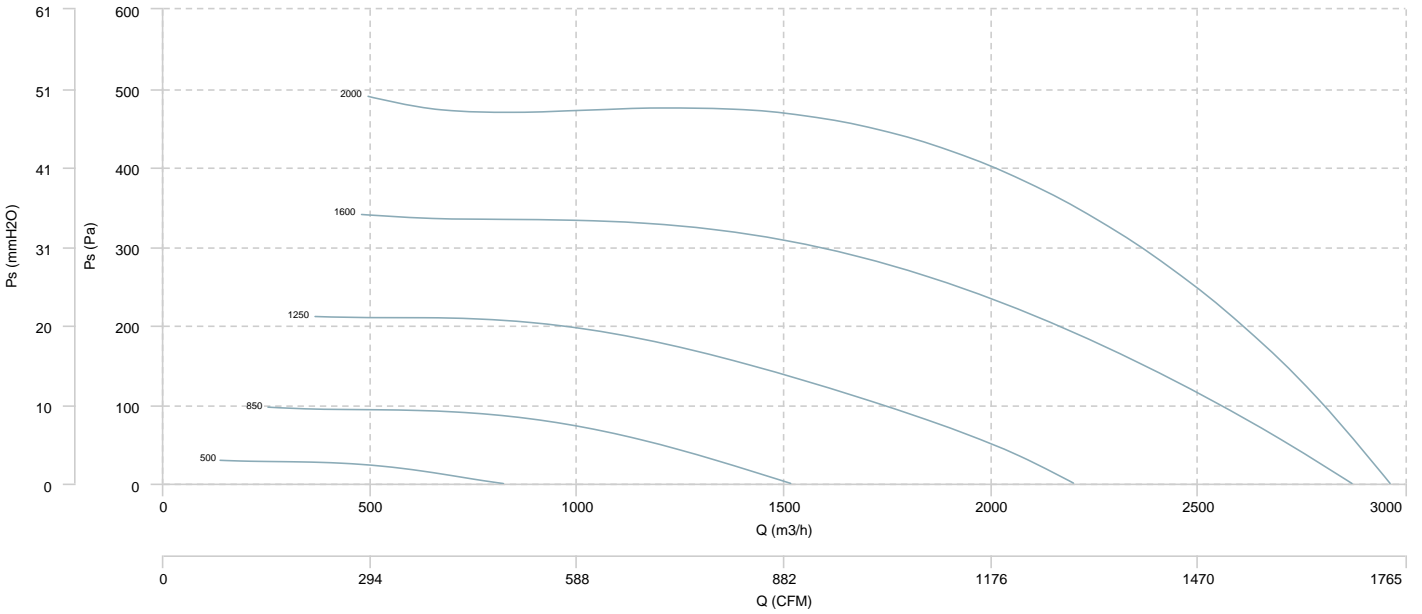
DIAGRAM N° 1



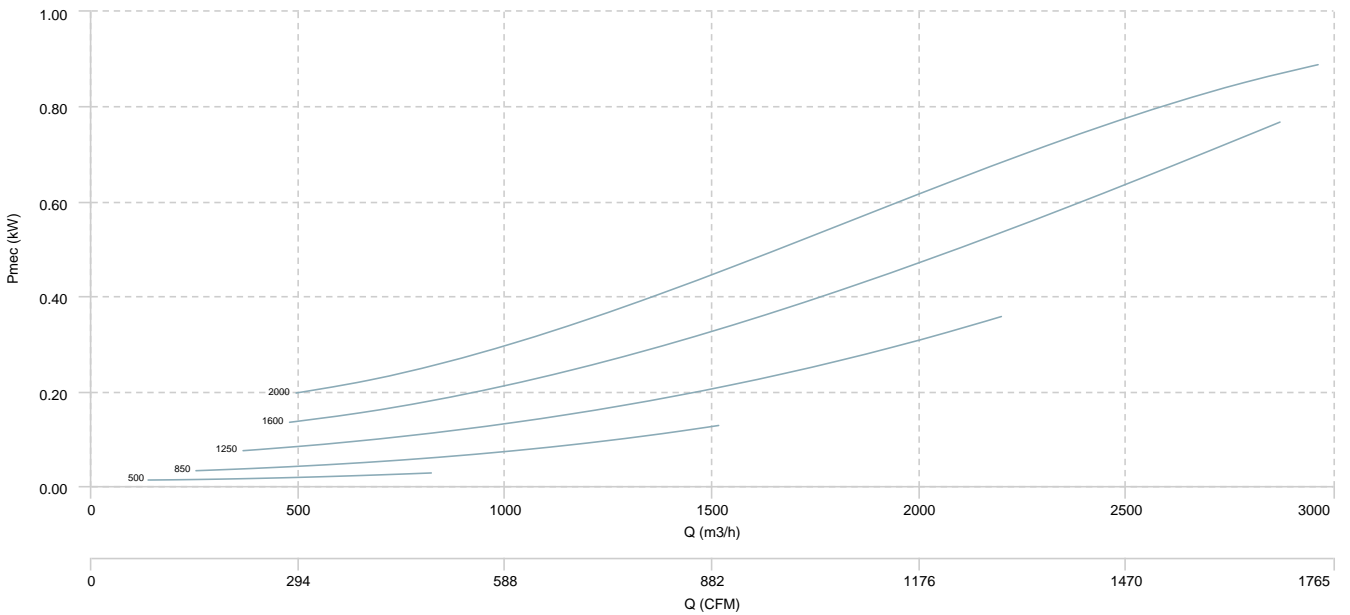
# CHARACTERISTIC CURVE

BD 7/7 EEC

## AIR FLOW - PRESSURE

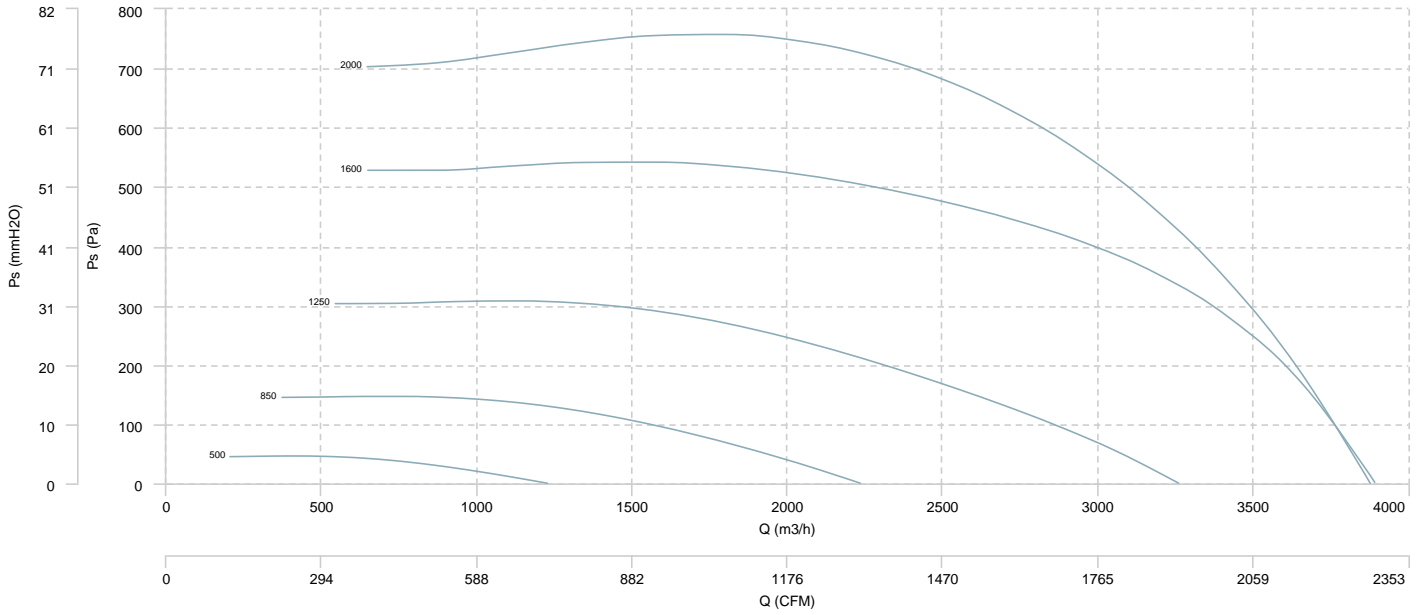


## AIR FLOW - MECHANICAL POWER

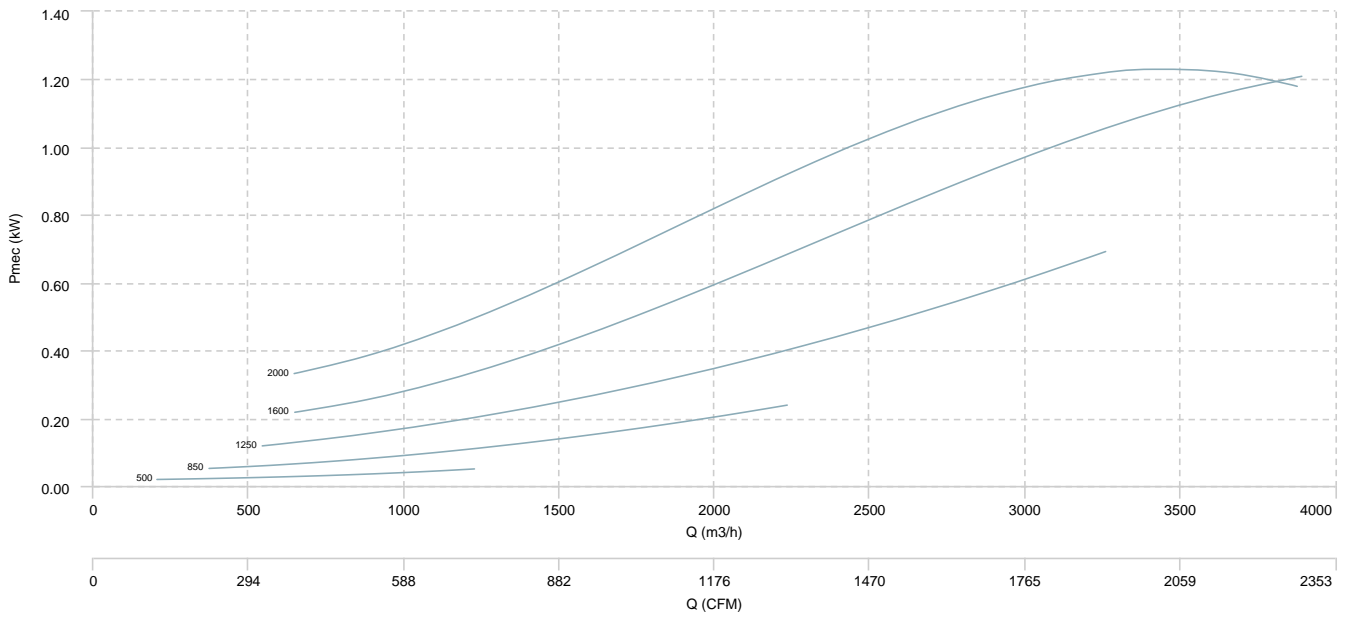


BD 9/7 EEC

**AIR FLOW - PRESSURE**

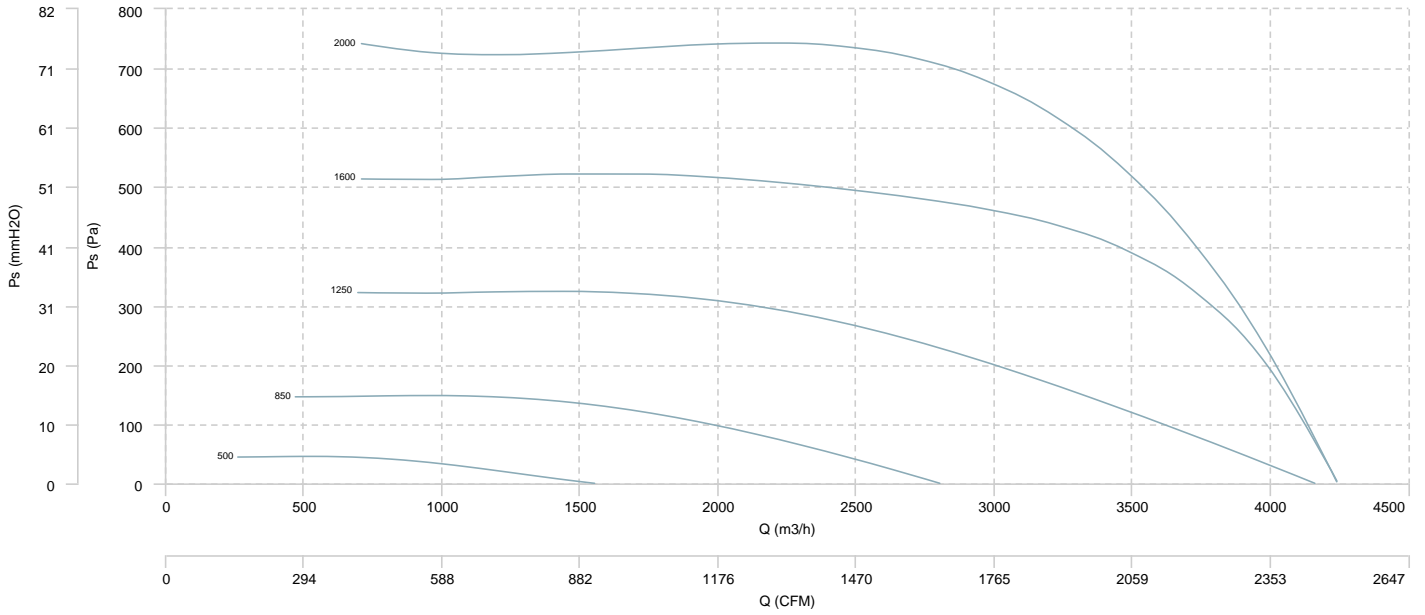


**AIR FLOW - MECHANICAL POWER**

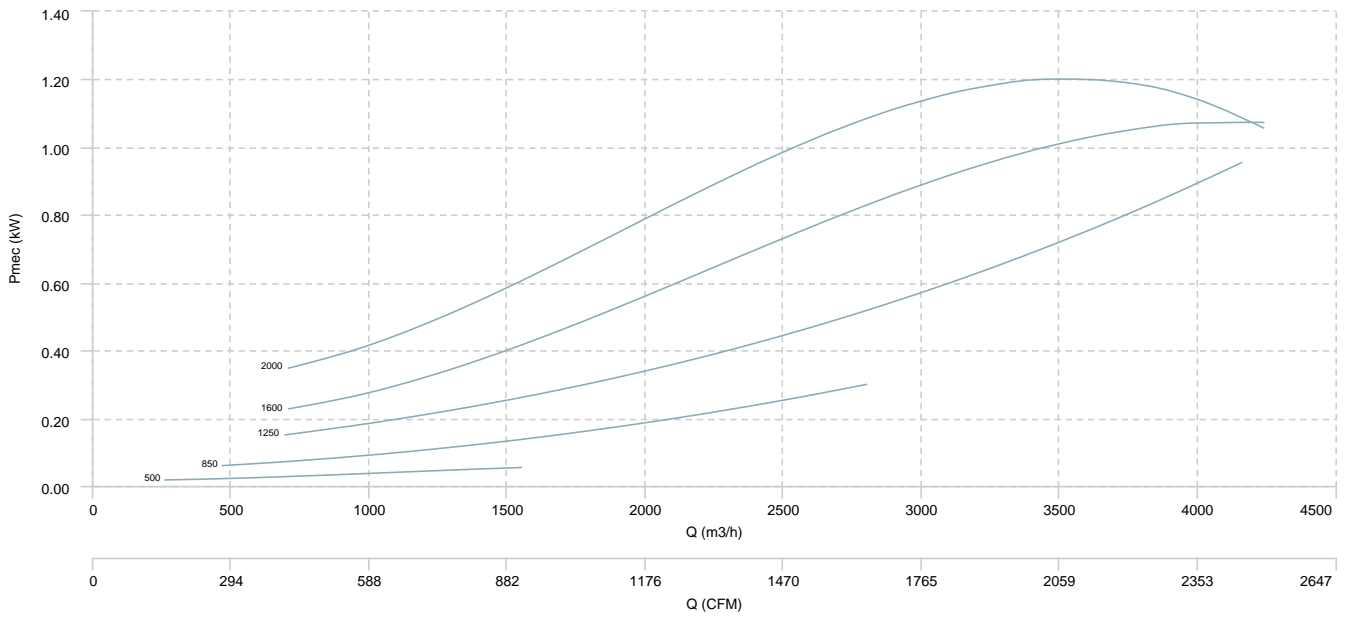


BD 9/9 EEC

**AIR FLOW - PRESSURE**

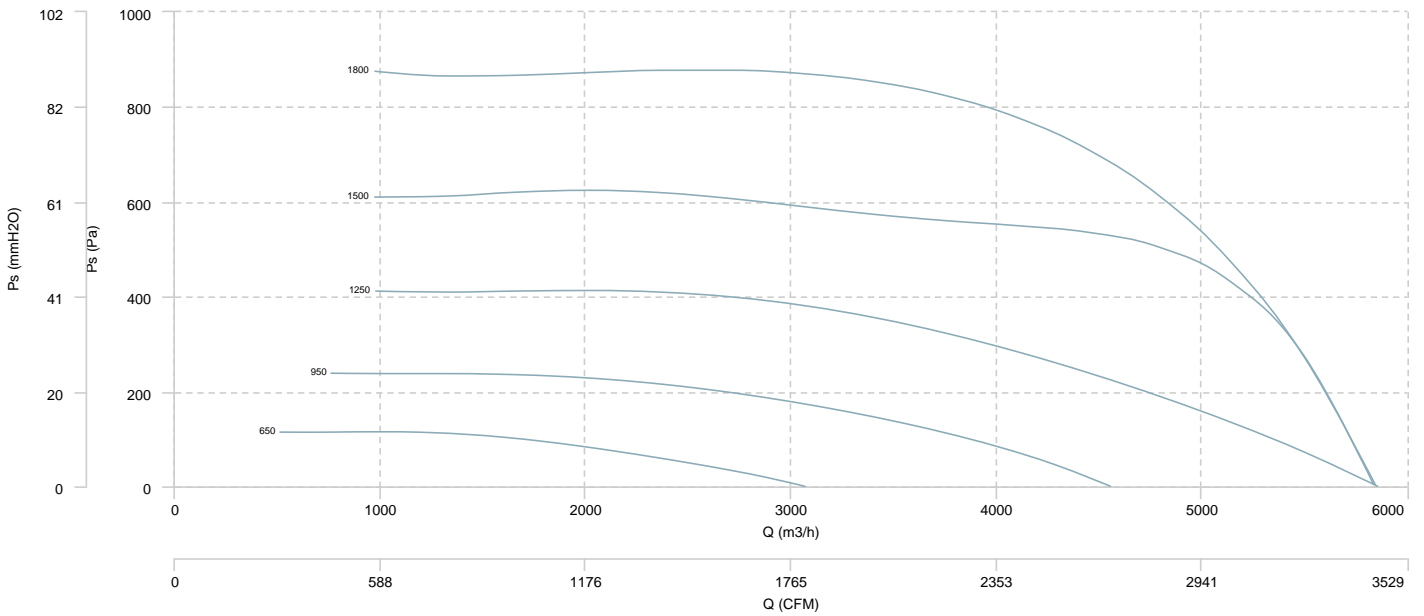


**AIR FLOW - MECHANICAL POWER**

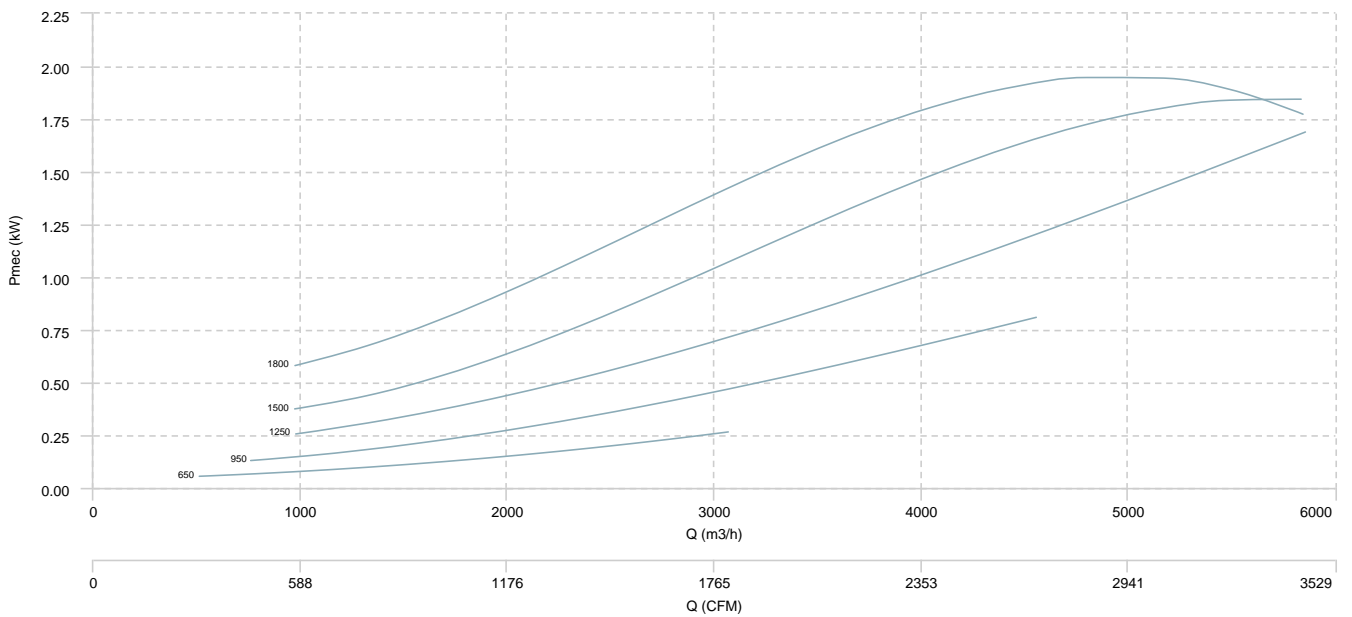


BD 10/8 EEC

**AIR FLOW - PRESSURE**



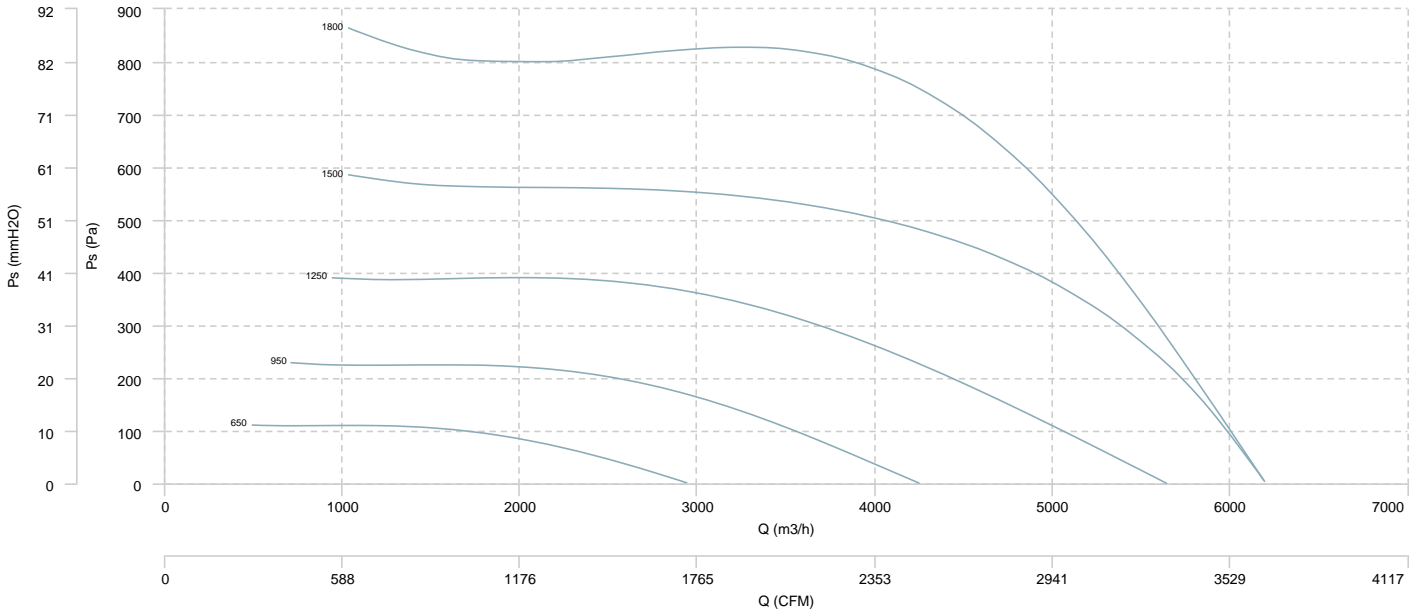
**AIR FLOW - MECHANICAL POWER**



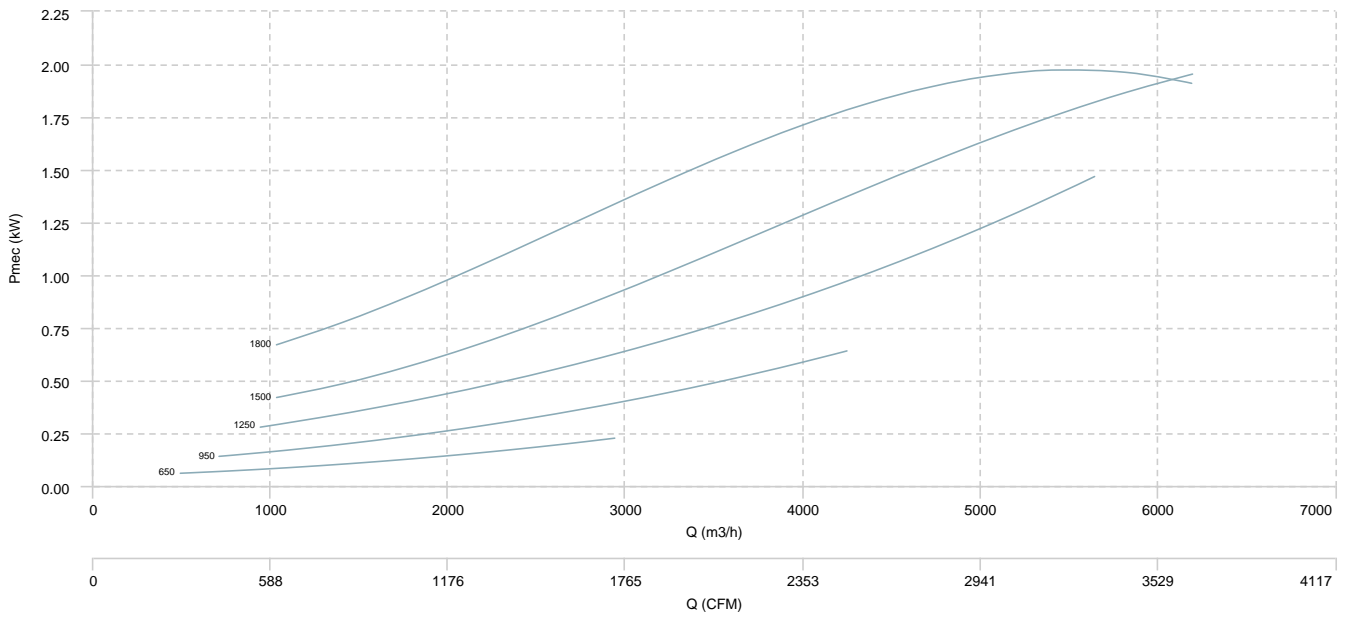


BD 10/10 EEC

**AIR FLOW - PRESSURE**

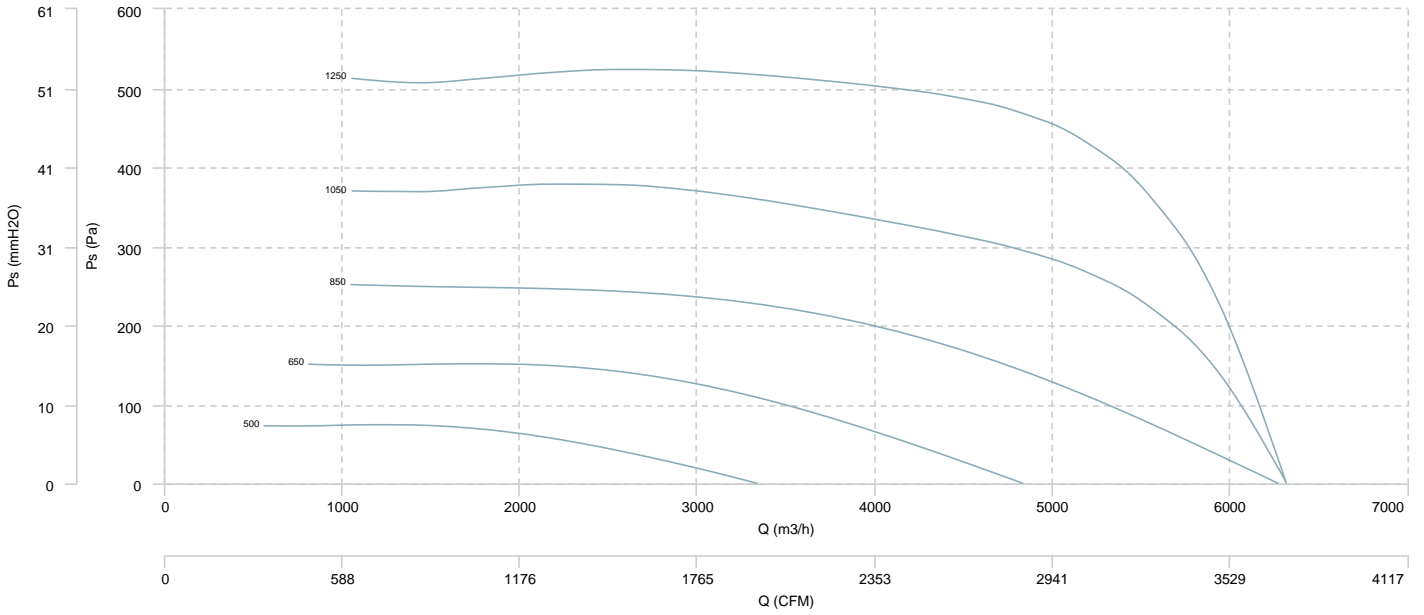


**AIR FLOW - MECHANICAL POWER**

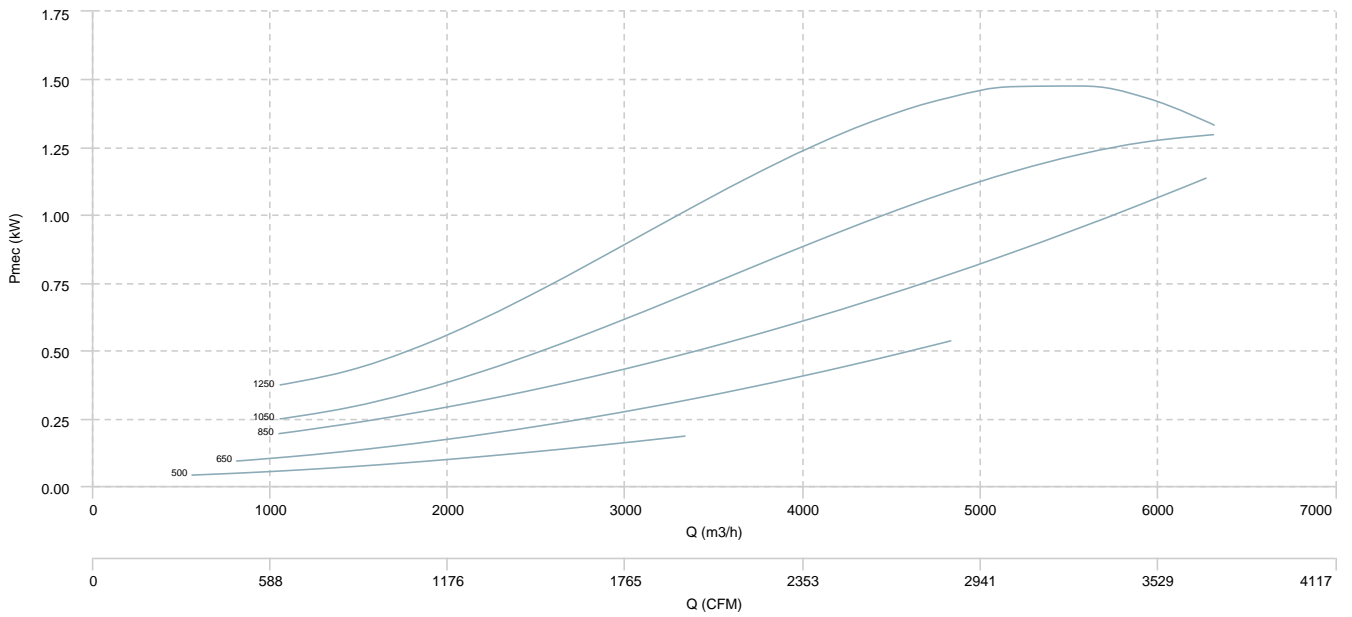


BD 12/9 EEC

AIR FLOW - PRESSURE

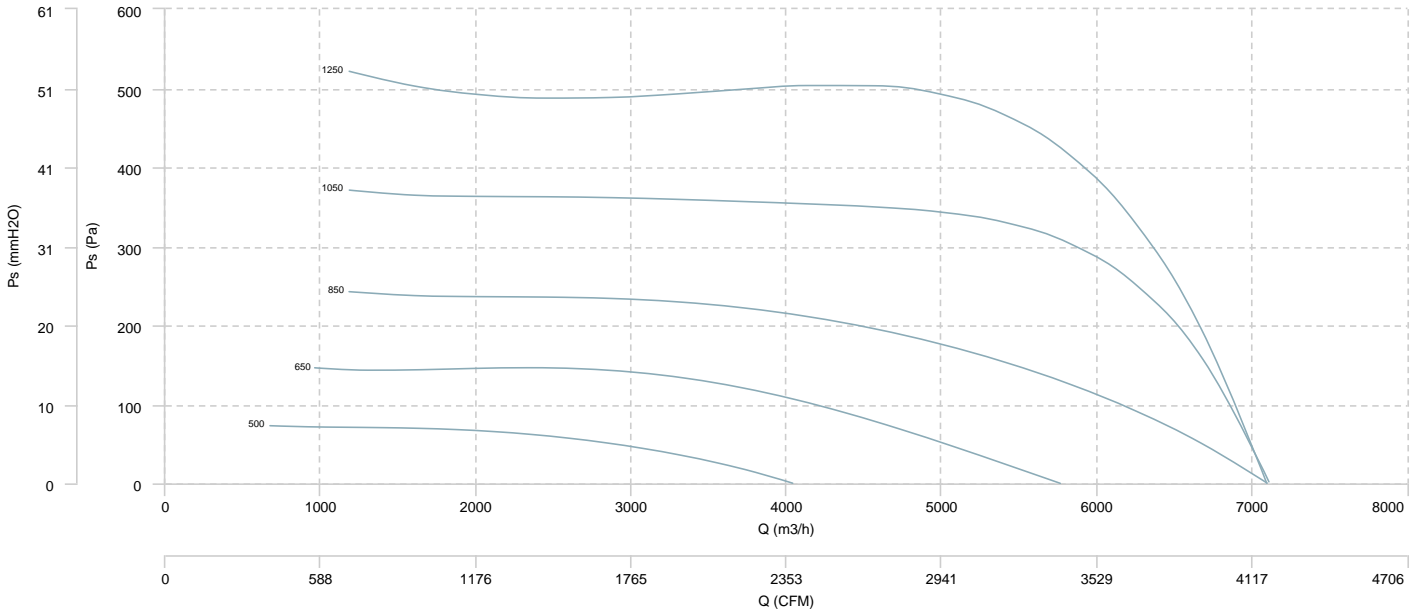


AIR FLOW - MECHANICAL POWER

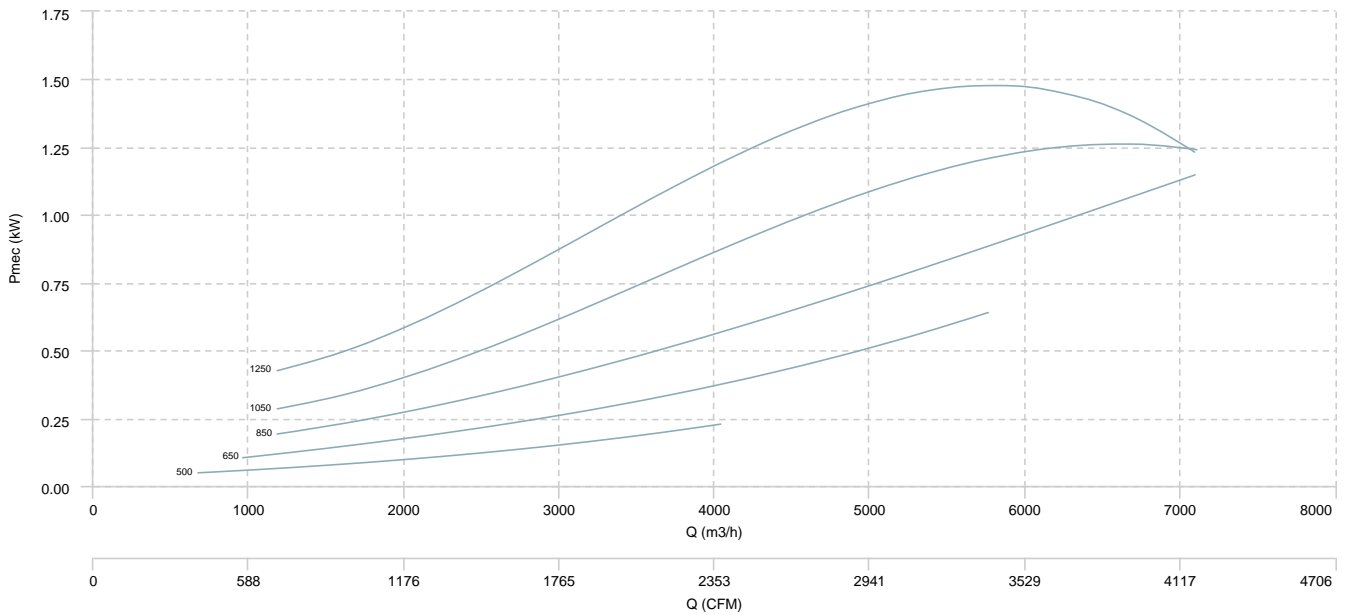


BD 12/12 EEC

**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
BD 7/7 EEC (500 RPM)	Inlet	22	28	28	29	31	29	26	21	37
BD 9/7 EEC (500 RPM)	Inlet	30	36	36	37	39	38	34	29	45
BD 9/9 EEC (500 RPM)	Inlet	27	33	33	34	36	34	31	26	42
BD 10/8 EEC (650 RPM)	Inlet	41	47	46	48	50	48	45	40	55
BD 10/10 EEC (650 RPM)	Inlet	42	48	48	49	51	49	46	41	57
BD 12/9 EEC (500 RPM)	Inlet	38	44	44	45	47	45	42	37	53
BD 12/12 EEC (500 RPM)	Inlet	40	46	45	46	49	47	44	39	54

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

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 7/7 EEC	0,37	45,50	57,44	980,55	198,35	0,13	1250	1,00
BD 7/7 EEC	0,37	47,86	57,91	1.215,65	327,48	0,26	1600	1,00
BD 7/7 EEC	0,37	49,38	58,09	1.421,52	472,42	0,42	2000	1,00
BD 9/7 EEC	0,75	54,98	65,41	1.364,37	302,84	0,22	1250	1,00
BD 9/7 EEC	0,75	57,14	65,24	1.807,42	535,38	0,52	1600	1,01
BD 9/7 EEC	0,75	56,49	63,37	1.995,13	749,66	0,82	2000	1,01
BD 9/9 EEC	0,75	56,47	66,28	1.671,32	321,08	0,28	1250	1,00
BD 9/9 EEC	0,75	58,15	65,79	2.174,21	509,80	0,62	1600	1,01
BD 9/9 EEC	0,75	59,30	65,84	2.340,28	741,25	0,93	2000	1,01
BD 10/8 EEC	1,5	54,07	64,02	1.961,37	229,95	0,27	950	1,00
BD 10/8 EEC	1,5	57,32	65,33	2.432,45	408,33	0,54	1250	1,00
BD 10/8 EEC	1,5	58,71	64,77	3.145,60	585,89	1,11	1500	1,01
BD 10/8 EEC	1,5	60,76	65,90	3.340,55	857,73	1,54	1800	1,01
BD 10/10 EEC	1,5	51,40	61,40	2.009,84	220,94	0,26	950	1,00
BD 10/10 EEC	1,5	54,17	62,27	2.460,90	385,20	0,52	1250	1,00
BD 10/10 EEC	1,5	56,29	62,71	3.105,89	549,68	0,97	1500	1,01
BD 10/10 EEC	1,5	57,19	62,29	3.564,11	821,75	1,57	1800	1,01
BD 12/9 EEC	1,5	54,21	65,20	2.117,61	149,66	0,18	650	1,00
BD 12/9 EEC	1,5	54,15	63,02	2.762,35	240,26	0,40	850	1,00
BD 12/9 EEC	1,5	57,72	65,24	3.114,24	366,82	0,65	1050	1,00
BD 12/9 EEC	1,5	57,32	63,31	3.670,75	510,65	1,13	1250	1,01
BD 12/12 EEC	1,5	52,24	62,68	2.594,50	145,58	0,22	650	1,00
BD 12/12 EEC	1,5	54,12	62,78	3.177,51	231,27	0,43	850	1,00
BD 12/12 EEC	1,5	57,16	63,85	4.051,83	354,39	0,88	1050	1,00
BD 12/12 EEC	1,5	57,55	63,21	4.360,88	504,33	1,28	1250	1,01