

ENKELBOX PLUS EEC



CENTRIFUGAL FAN IN SOUNDPROOF BOX WITH EXTERNAL ROTOR EC MOTOR

MANUFACTURING FEATURES

- 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/m3 density. All panels are equipped with "fastening system" for the quick assembly and disassembly whenever required, either for cleaning, maintenance
- Plug-type fan with self-cleaning impeller with back curved blades (backward), high performance and single inlet, direct driven. Dynamically balanced to minimize noise and vibration. Polyamide reinforced impeller for models 155 and 190 and aluminum impellers for the rest.
- High efficiency (IE4 for three phase motors and IE5 for single motors), low noise external rotor EC motor. Speed control through a 0-10V or PWM signal. Single-phase 230V 50/60Hz power supply for models 155 to 310 and three-phase 400V 50/60Hz for sizes 355 and 630. IP54 motor and class B insulation.
- The box is supplied with a safety switch with potentiometer for a total regulation
- Circular suction mouth to facilitate duct connection. Open outlet.

APPLICATIONS

Designed for duct installation, they are indicated for:

- Air renewal in all types of buildings and industries.
- Air renewal in office buildings, shopping centers, ware houses, etc.
- Kitchen hoods.

Working temperature range from -20°C to 60°C.

UNDER REQUEST

- Fan (size between 250 and 450) with k-factor reading.

Accessories



**BOX
FILTER**



REGC



**TBIC
ENKEL
BOX-E
NKELB
OX
PLUS**



**TEJ
ENKEL
BOX
PLUS**



**TEJ
ENKEL
BOX
PLUS +
BOX
FILTER**



**TIC
ENKEL
BOX-E
NKELB
OX
PLUS**



VISC

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 kg	Connect. diagram
ENKBPEC155	ENKELBOX PLUS 155 EEC	3950	0,25	0,06	450	-	10	1
ENKBPEC190	ENKELBOX PLUS 190 EEC	3570	0,6	0,09	740	-	11	1
ENKBPEC250	ENKELBOX PLUS 250 EEC	2500	1,00	0,15	1.590	-	15	1
ENKBPEC310	ENKELBOX PLUS 310 EEC	2350	1,7	0,36	3.060	-	24	2

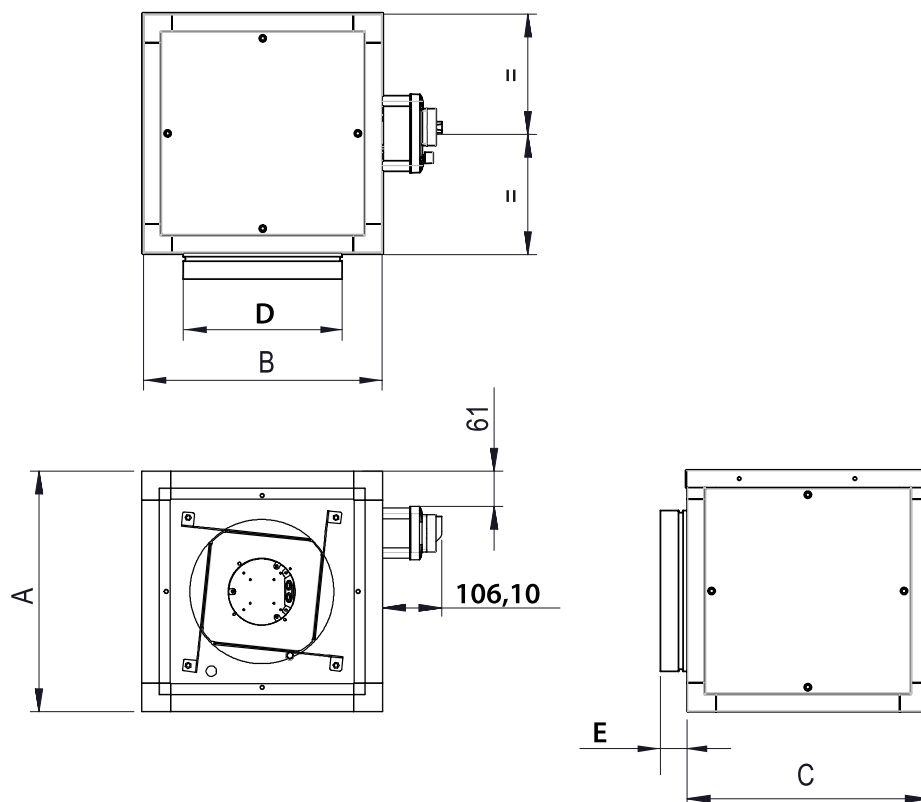
Three-phase motor

Code	Model	R.P.M.	Rated I. A 400V	Rated power kW	Max. Airflow m³/h	Sound db (A)**	Weight kg	Connect. diagram
ENKBPEC355	ENKELBOX PLUS 355 EEC	2100	1,63	0,99	4.750	-	30	3
ENKBPEC450	ENKELBOX PLUS 450 EEC	1450	1,67	1,01	6.730	-	46	3
ENKBPEC500	ENKELBOX PLUS 500 EEC	1800	4,95	3,00	12.300	-	52	4
ENKBPEC560	ENKELBOX PLUS 560 EEC	1520	4,4	2,77	15.300	-	67	4
ENKBPEC630	ENKELBOX PLUS 630 EEC	1250	4,4	2,70	17.000	-	77	4

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
ENKELBOX PLUS 155 EEC	330	330	330	160	46
ENKELBOX PLUS 190 EEC	342	342	342	200	46
ENKELBOX PLUS 250 EEC	417	417	417	280	46
ENKELBOX PLUS 310 EEC	512	512	512	315	46
ENKELBOX PLUS 355 EEC	562	562	562	400	56
ENKELBOX PLUS 450 EEC	692	692	692	500	56
ENKELBOX PLUS 500 EEC	772	772	772	558	57
ENKELBOX PLUS 560 EEC	862	862	862	628	57
ENKELBOX PLUS 630 EEC	962	962	962	708	77

Wiring diagram

Wiring diagram N° 1

Nº	Signal Señal	Colour Color	Specification Especificación
1	L	Brown Marrón	AC 220V/50Hz
2	N	Blue Azul	AC 220V/50Hz
3	Pe	Yellow-Green Amarillo-Verde	

Nº	Signal Señal	Colour Color	Specification Especificación
1	GND	Blue Azul	
2	Vsp	Yellow Amarillo	0-10 V/PWM
3	Vcc	Red Rojo	DC 10V
4	FG	White Blanco	1 Pulse/R

Wiring diagram N° 2

Nº	Signal Señal	Colour Color	Specification Especificación
1	L	Brown Marrón	AC 220V-50/60 Hz
2	N	Blue Azul	AC 220V-50/60 Hz
3	Pe	Yellow-Green Amarillo-Verde	

Nº	Signal Señal	Colour Color	Specification Especificación
1	GND	Blue Azul	
2	Vsp	Yellow Amarillo	0-10 V/PWM
3	Vcc	Red Rojo	DC 10V
4	FG	White Blanco	12 Pulse/R

Wiring diagram N° 3

Nº	Signal Señal	Colour Color	Specification Especificación
1	L1	Black Negro	AC380V-50/60Hz
2	L2	Black Negro	AC380V-50/60Hz
3	L3	Black Negro	AC380V-50/60Hz
4	Pe	Yellow-Green Amarillo-Verde	

Nº	Signal Señal	Colour Color	Specification Especificación
1	Vcc	Red Rojo	DC10V
2	Vsp	Yellow Amarillo	0-10VDC/PWM
3	GND	Blue Azul	
4	FG	White Blanco	12 Pulse/R

Wiring diagram N° 4

Line / Línea

Nº	Signal Señal	Colour Color	Specification Especificación
1	L1	Black Negro	AC380V-50/60Hz
2	L2	Black Negro	AC380V-50/60Hz
3	L3	Black Negro	AC380V-50/60Hz
4	Pe	Yellow-Green Amarillo-Verde	

Control / Control

Nº	Signal Señal	Colour Color	Specification Especificación
1	Vcc	Red Rojo	DC10V
2	Vsp	Yellow Amarillo	0-10VDC/PWM
3	GND	Blue Azul	
4	FG	White Blanco	12 Pulse/R

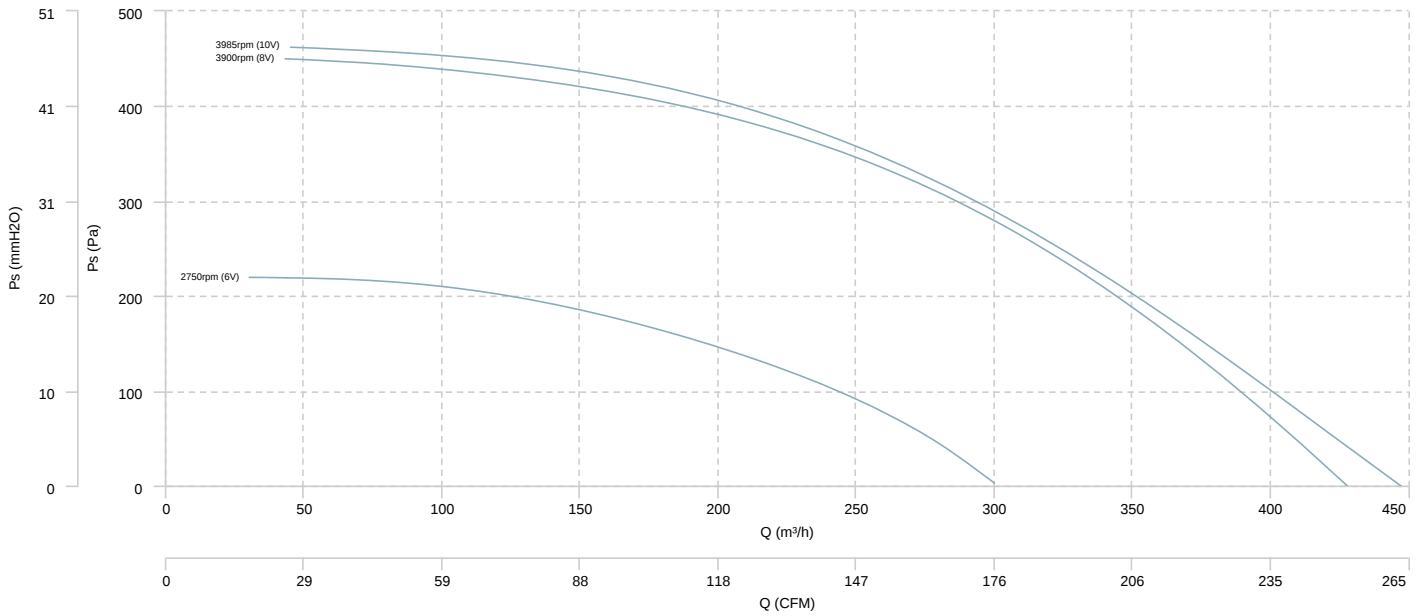
Auxiliary contacts (Alarm) / Contactos auxiliares (Alarma)

Nº	Signal Señal	Colour Color	Specification Especificación
1	NO	Brown Marrón	NO
2	COM	Black Negro	COM
3	NC	Orange Naranja	NC

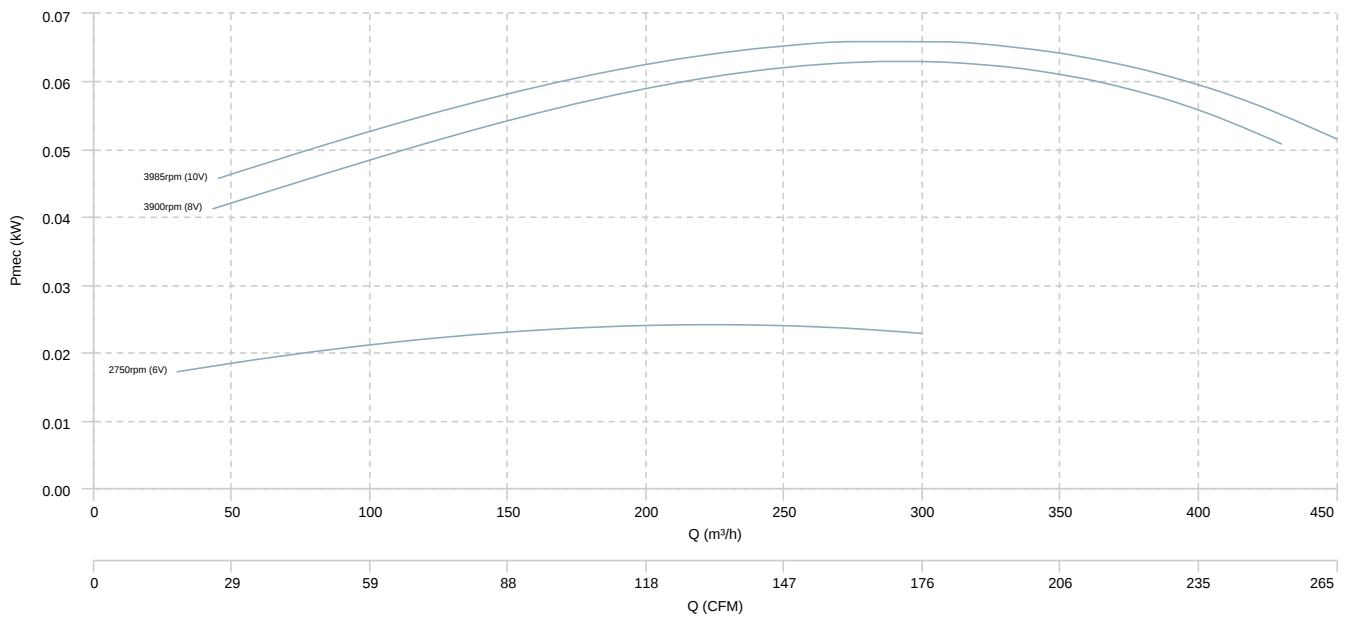
CHARACTERISCTIC CURVE

ENKELBOX PLUS 155 EEC

AIR FLOW - PRESSURE

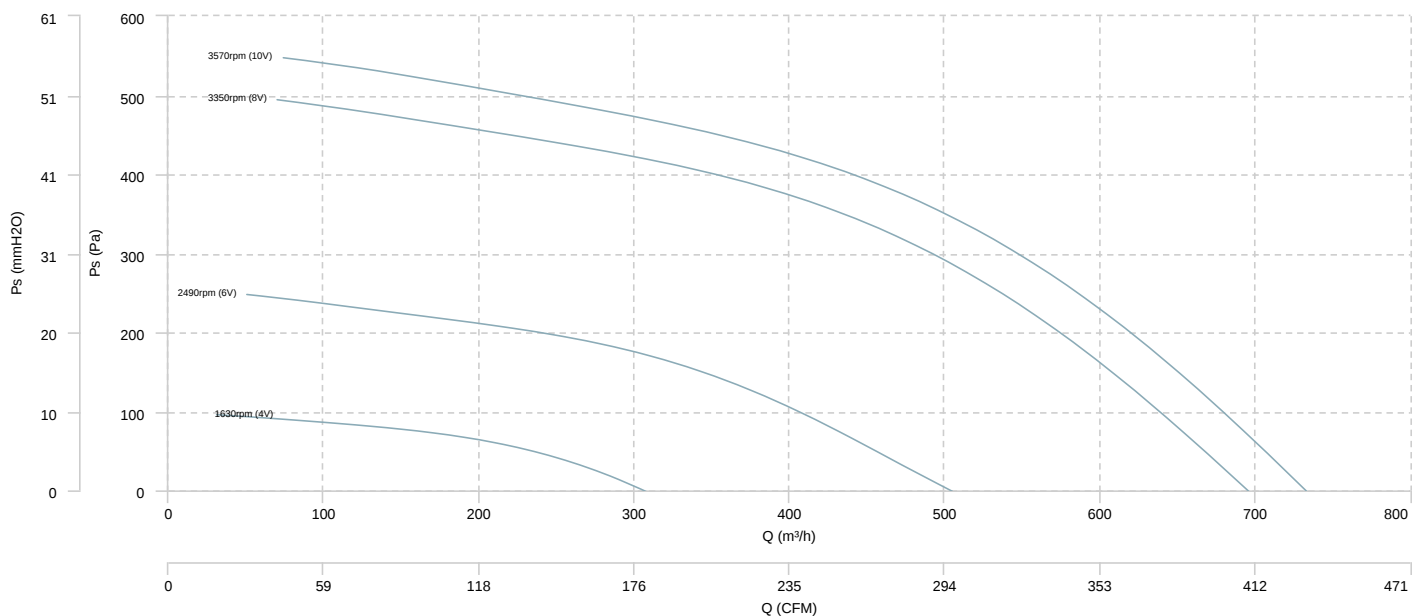


AIR FLOW - MECHANICAL POWER

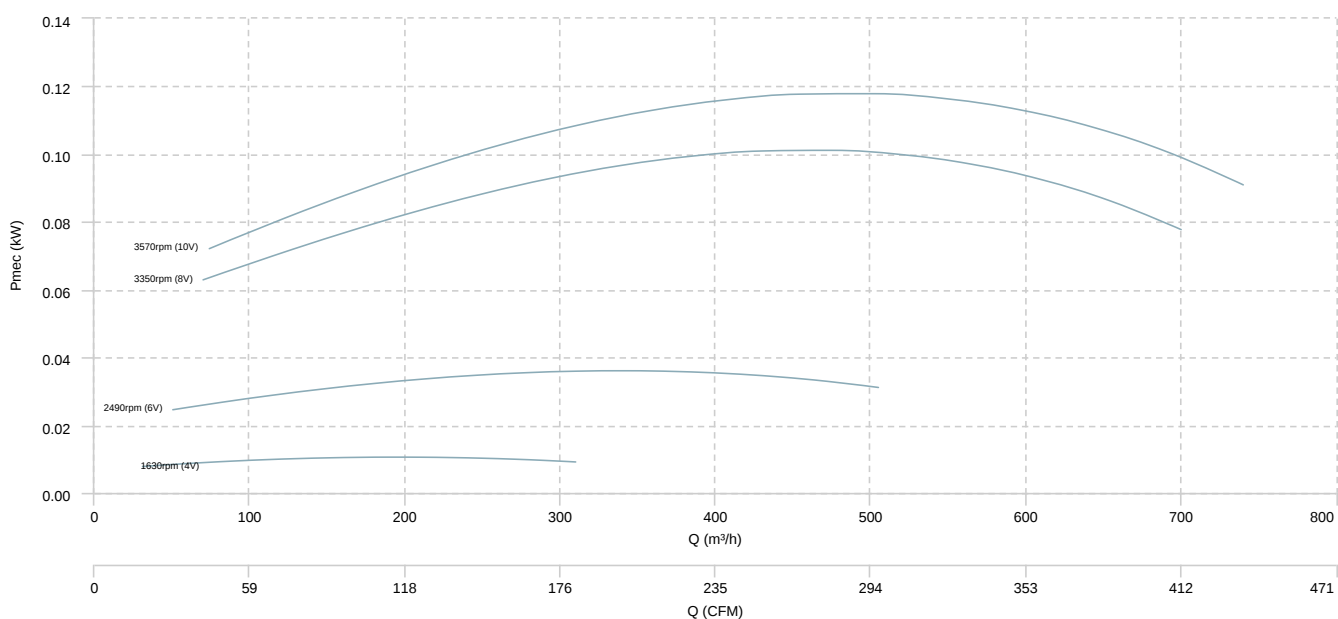


ENKELBOX PLUS 190 EEC

AIR FLOW - PRESSURE

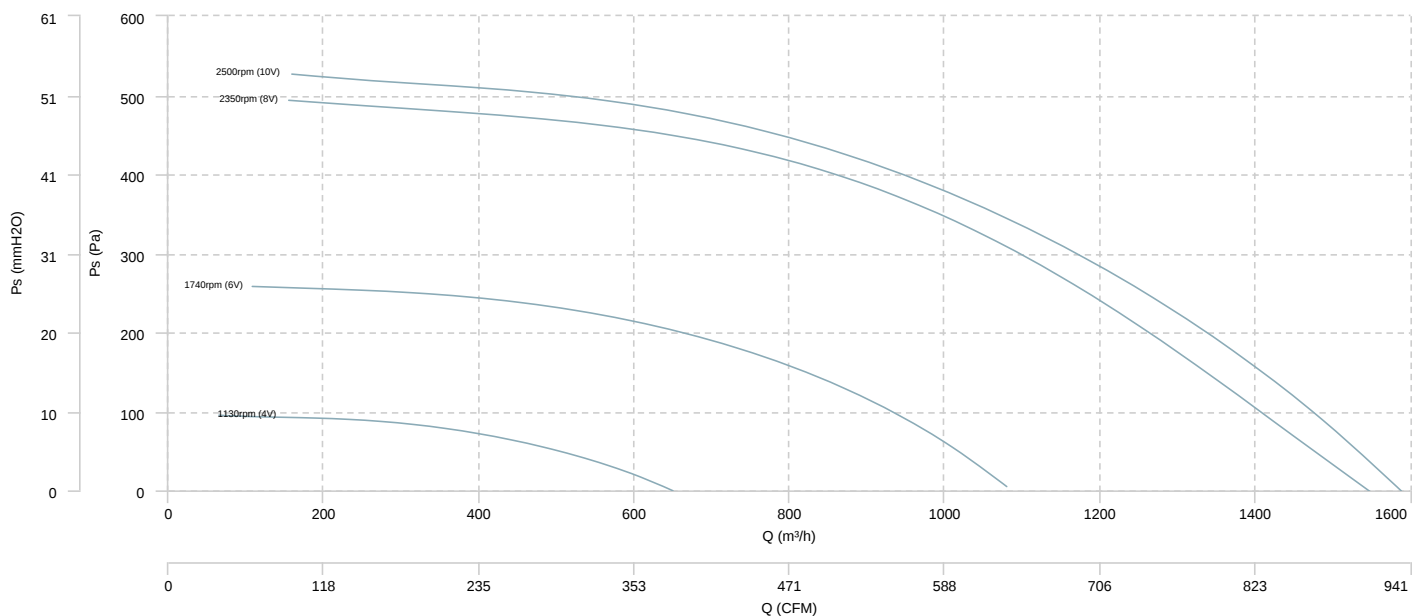


AIR FLOW - MECHANICAL POWER

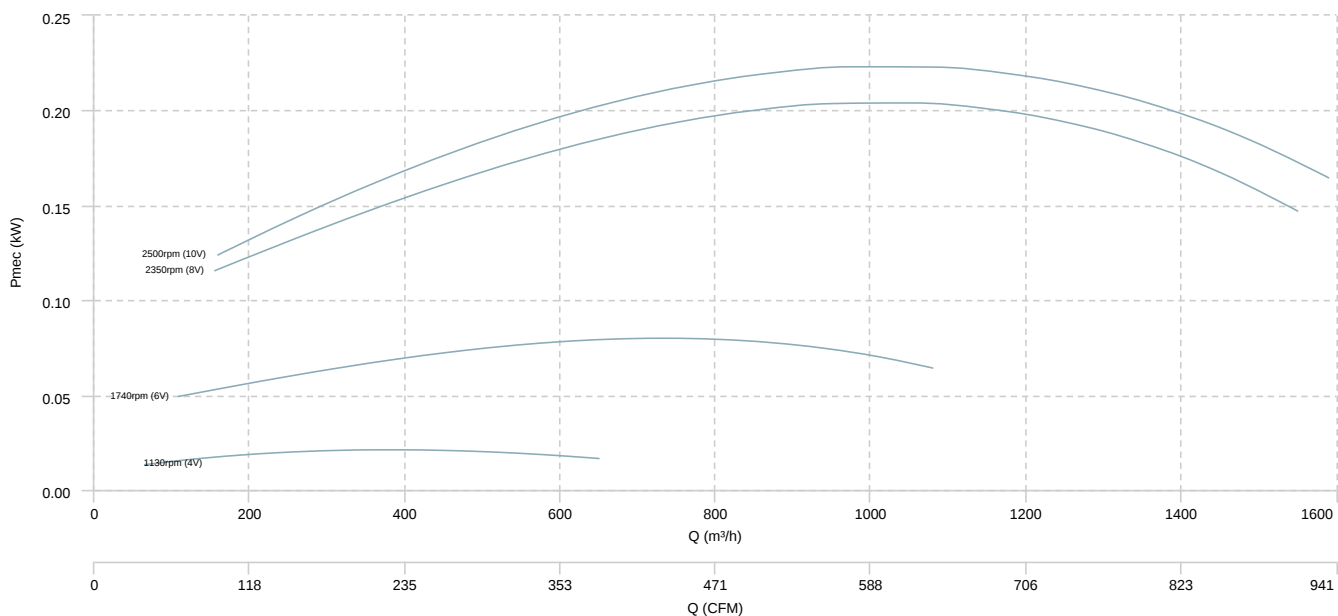


ENKELBOX PLUS 250 EEC

AIR FLOW - PRESSURE

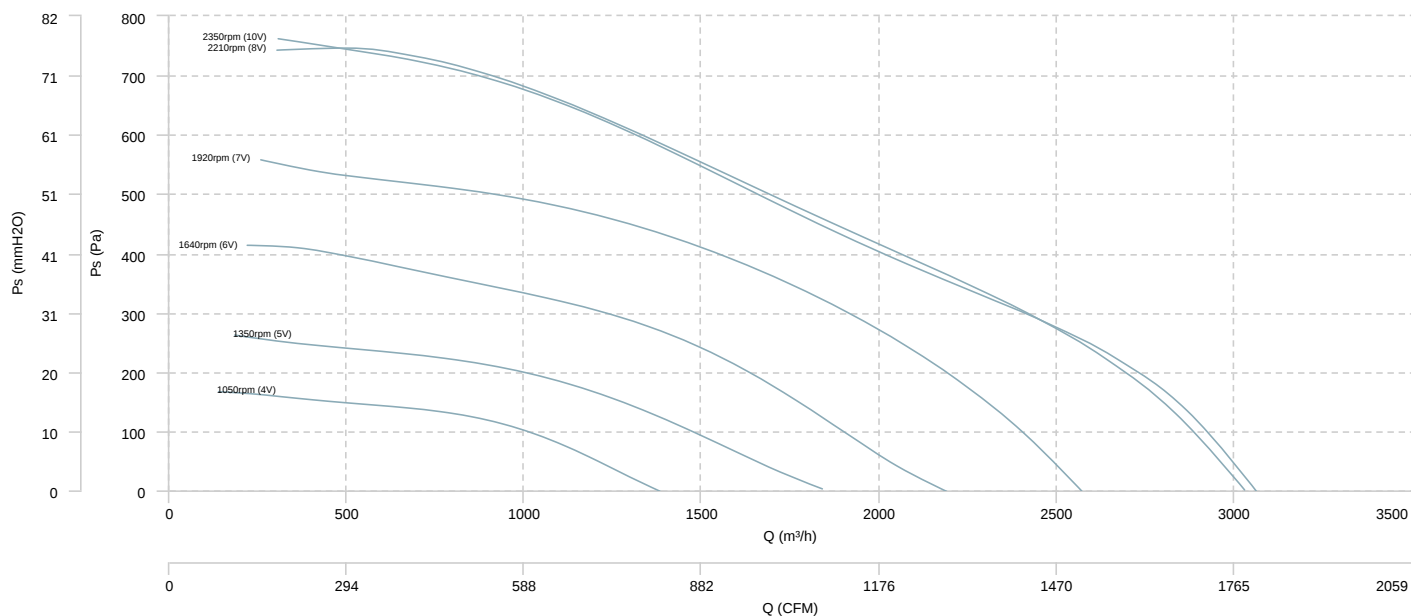


AIR FLOW - MECHANICAL POWER

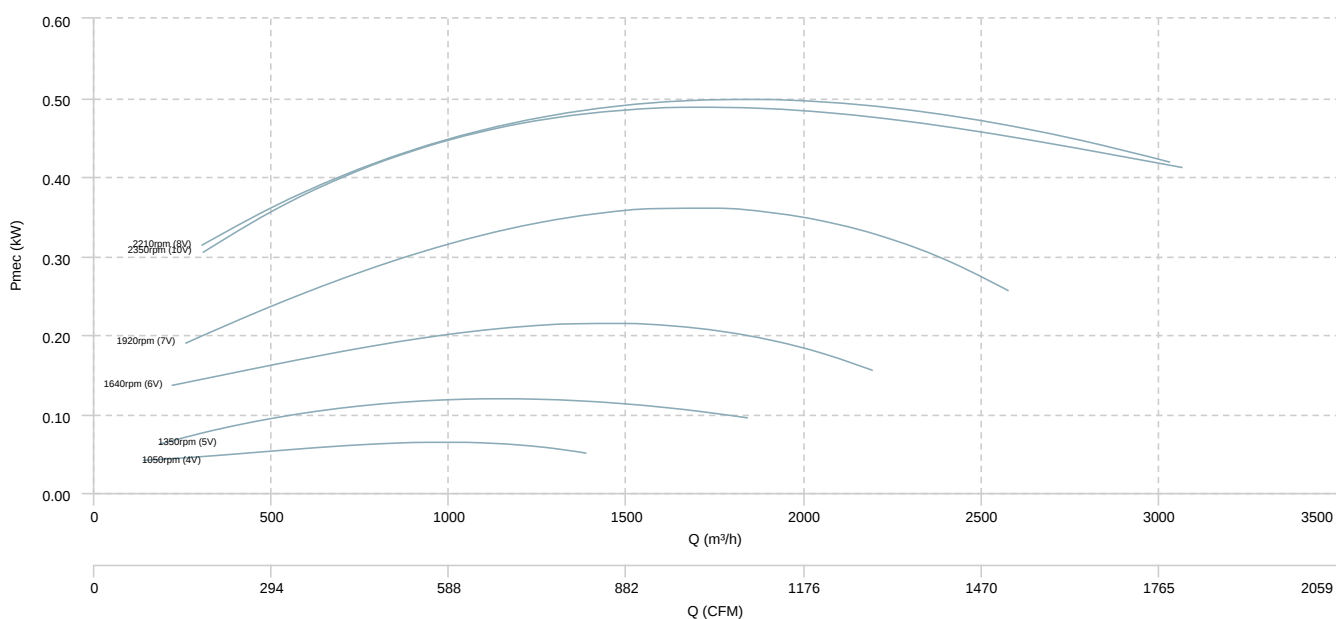


ENKELBOX PLUS 310 EEC

AIR FLOW - PRESSURE

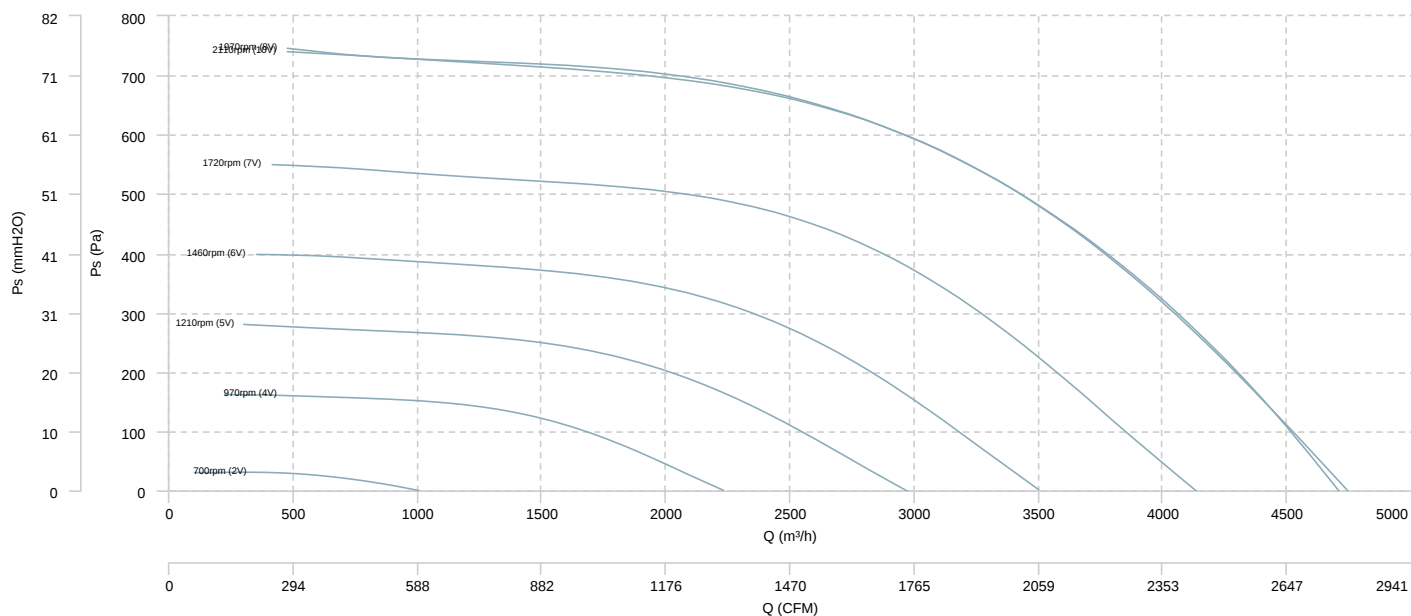


AIR FLOW - MECHANICAL POWER

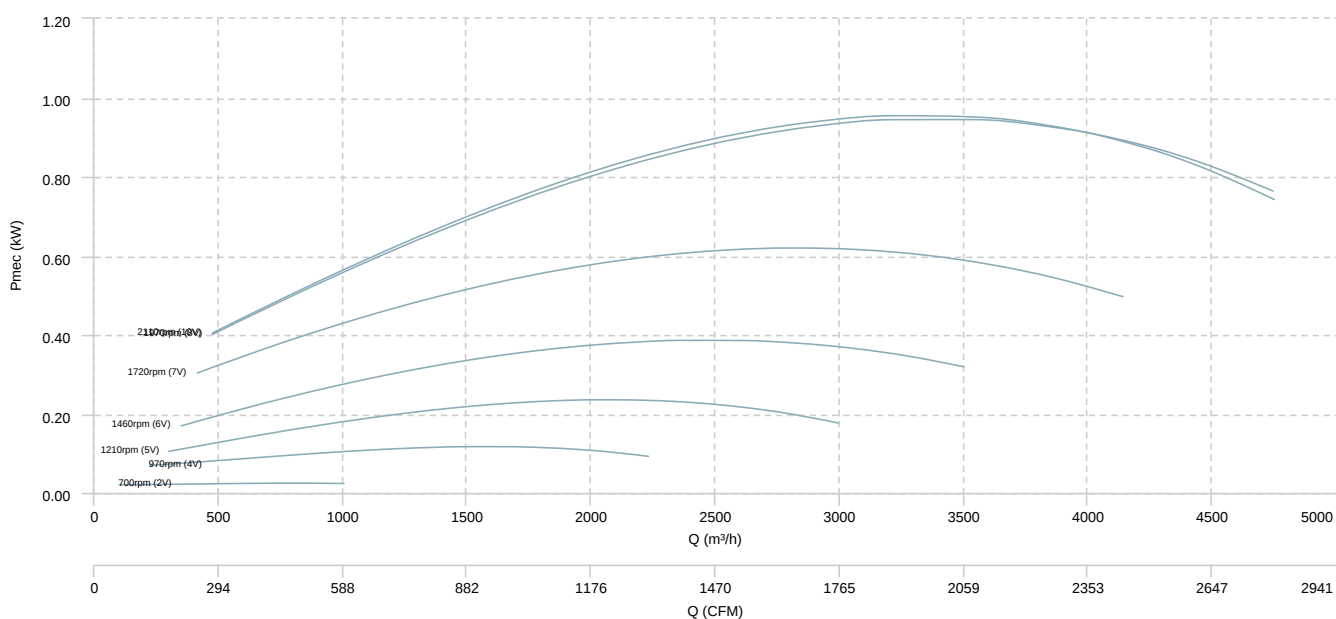


ENKELBOX PLUS 355 EEC

AIR FLOW - PRESSURE

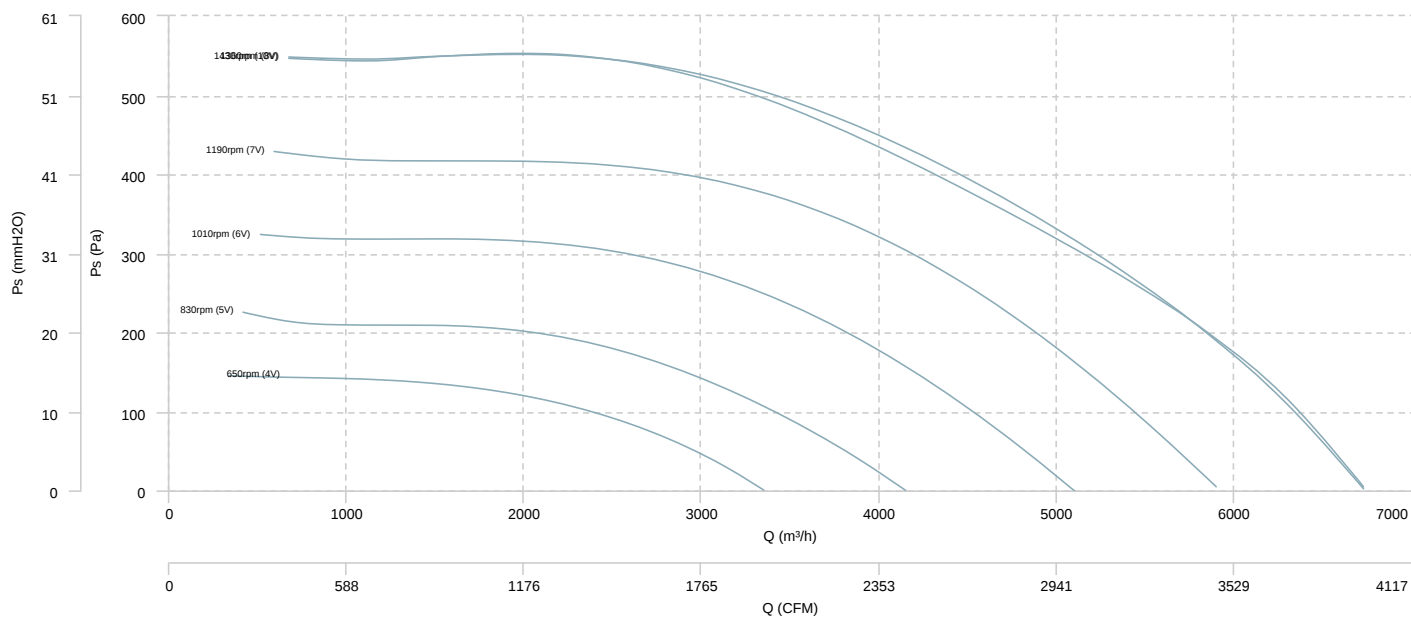


AIR FLOW - MECHANICAL POWER

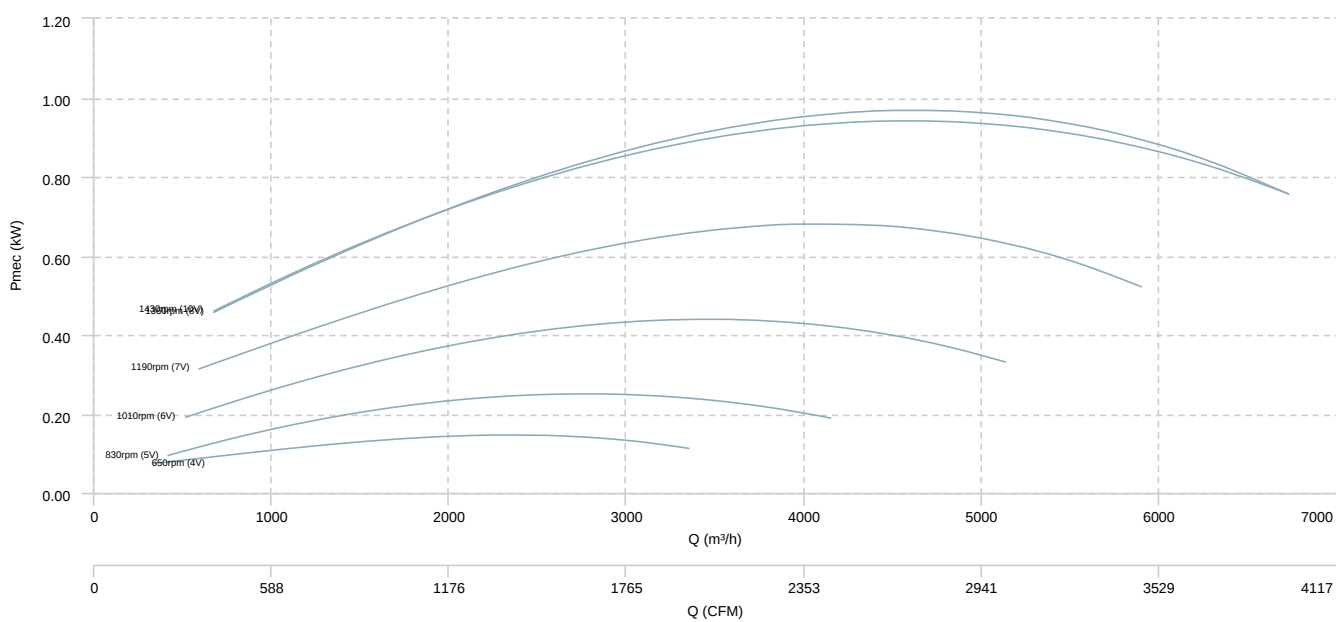


ENKELBOX PLUS 450 EEC

AIR FLOW - PRESSURE

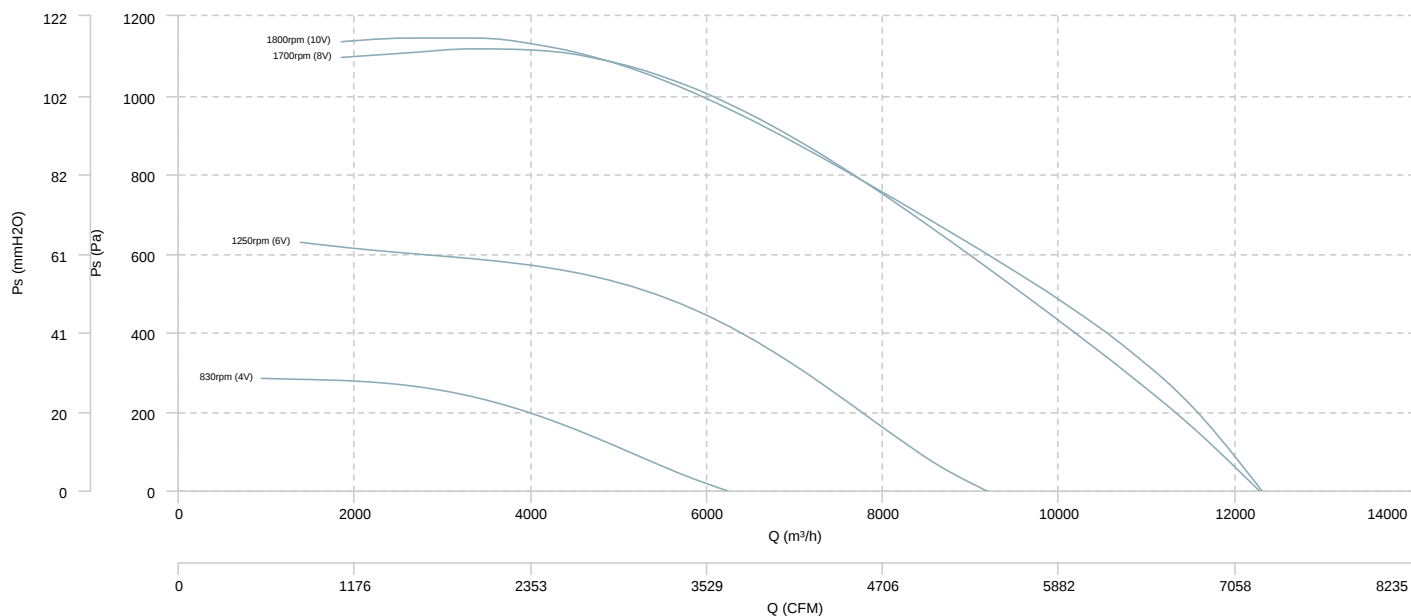


AIR FLOW - MECHANICAL POWER

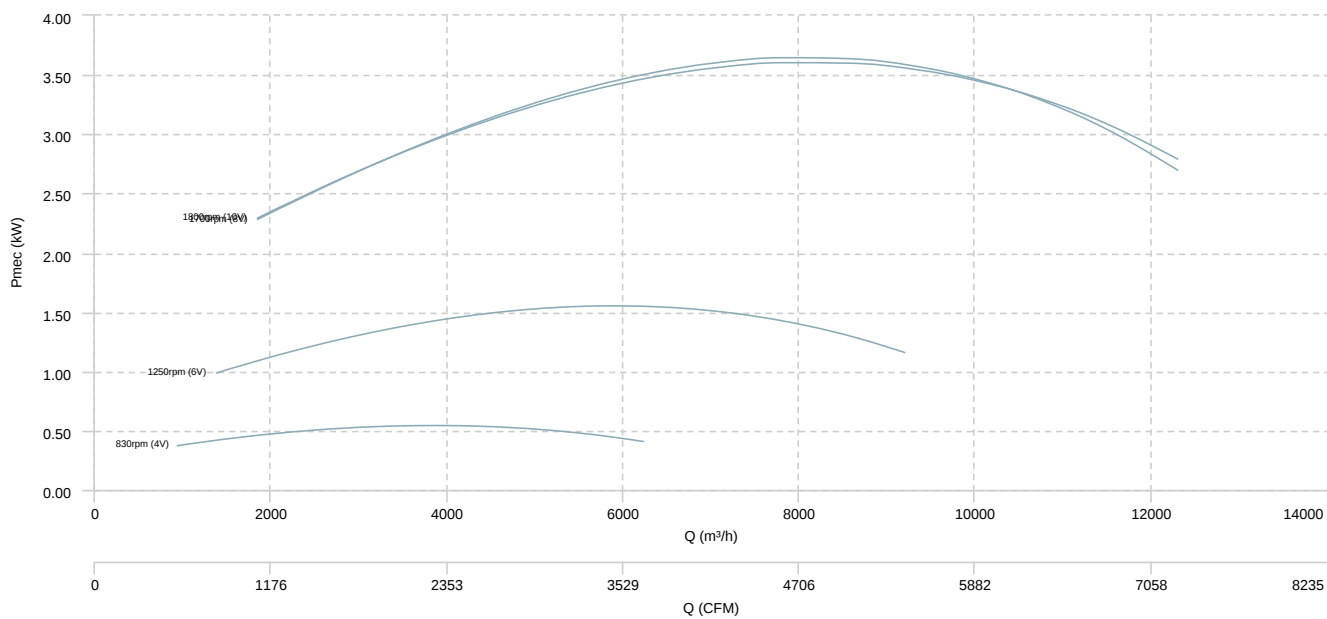


ENKELBOX PLUS 500 EEC

AIR FLOW - PRESSURE

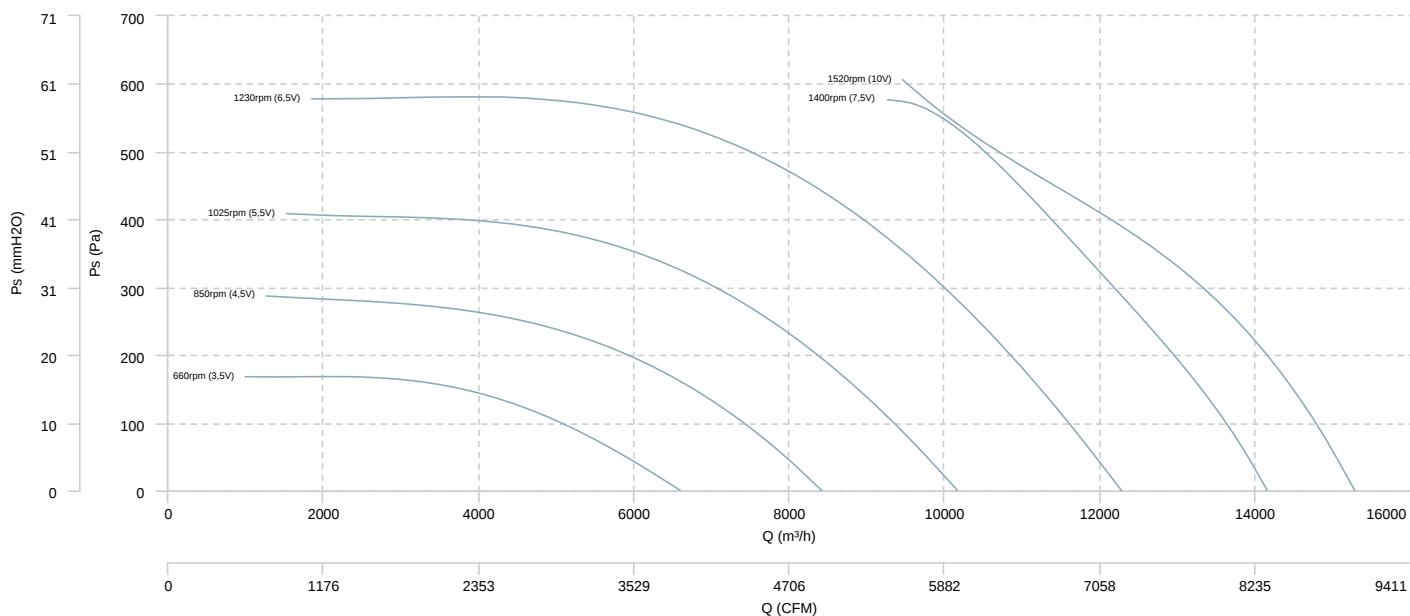


AIR FLOW - MECHANICAL POWER



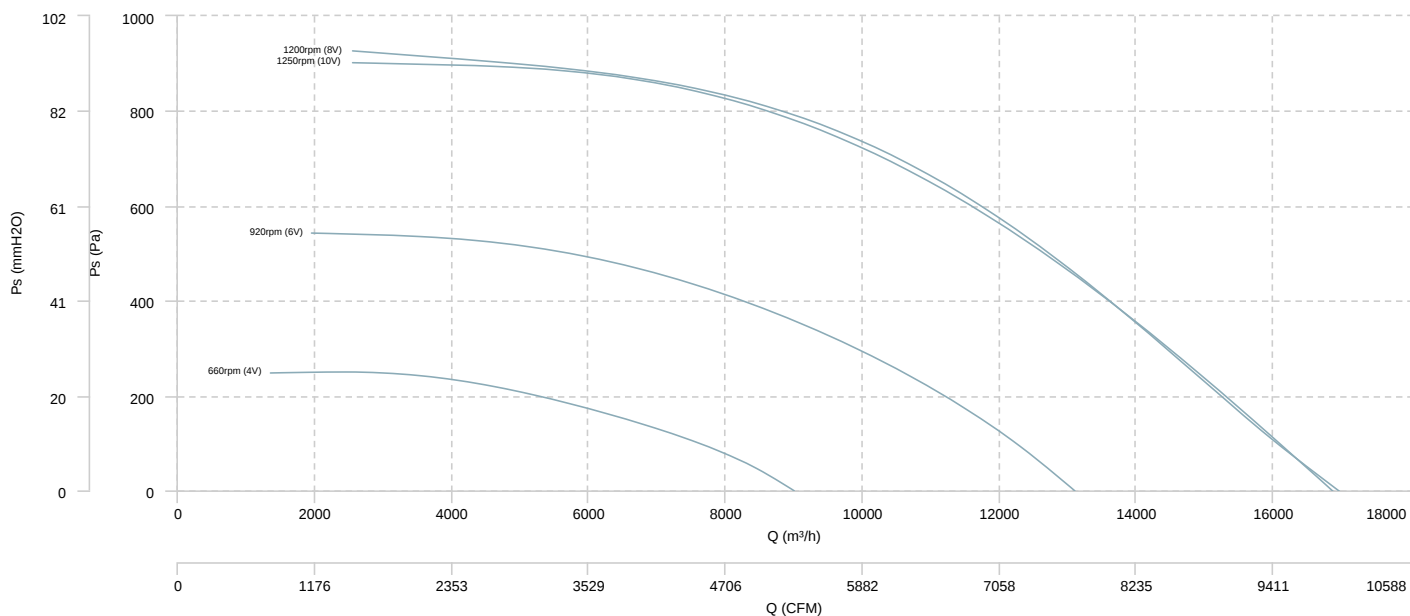
ENKELBOX PLUS 560 EEC

AIR FLOW - PRESSURE

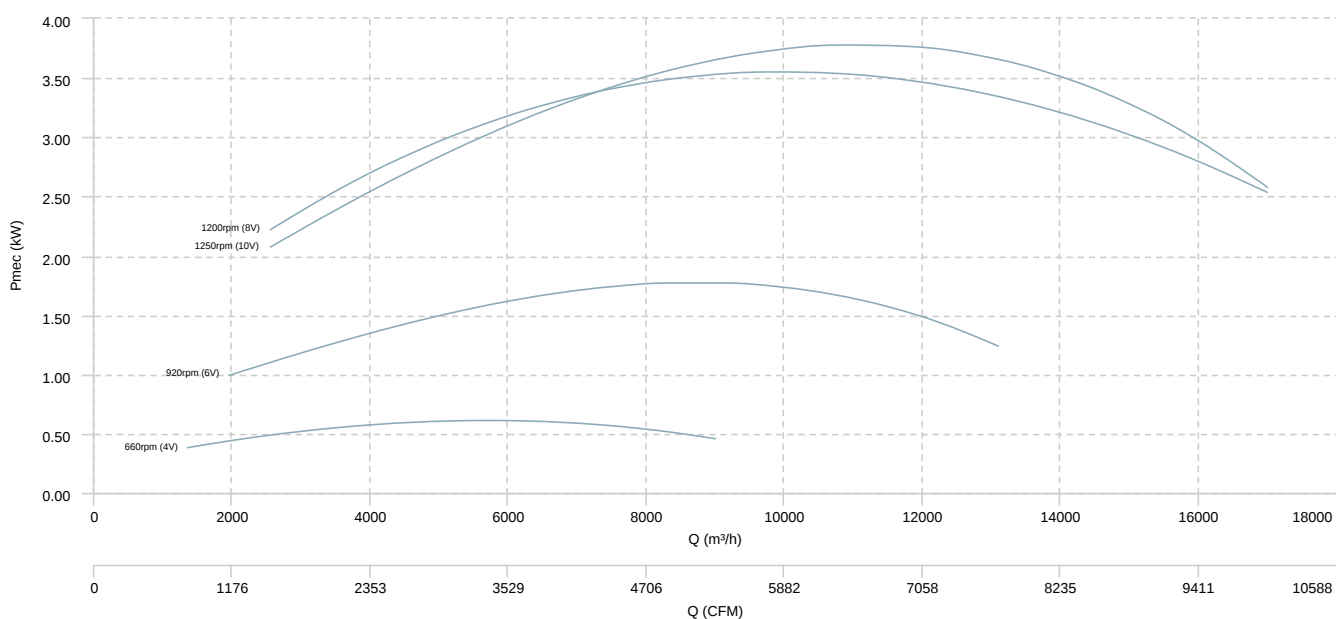


ENKELBOX PLUS 630 EEC

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
ENKELBOX PLUS 155 EEC (2750rpm (6V))	Radiated	27	17	34	46	51	56	46	39	58
ENKELBOX PLUS 190 EEC (1630rpm (4V))	Radiated	3	10	25	38	46	49	42	34	51
ENKELBOX PLUS 250 EEC (1130rpm (4V))	Radiated	1	15	39	46	49	48	40	26	53
ENKELBOX PLUS 310 EEC (1050rpm (4V))	Radiated	-1	18	34	44	45	40	32	24	48
ENKELBOX PLUS 355 EEC (700rpm (2V))	Radiated	6	22	39	44	46	40	32	22	50
ENKELBOX PLUS 450 EEC (650rpm (4V))	Radiated	16	32	36	46	48	41	31	23	50
ENKELBOX PLUS 500 EEC (830rpm (4V))	Radiated	40	41	48	52	56	60	49	36	62
ENKELBOX PLUS 560 EEC (660rpm (3,5V))	Radiated	38	40	43	48	53	56	40	28	59
ENKELBOX PLUS 630 EEC (660rpm (4V))	Radiated	19	37	56	62	59	51	41	41	65

Notes:

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

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