

BOX BD PLUS



CENTRIFUGAL FAN IN SOUNDPROOF BOX WITH SANDWICH PANELS

MANUFACTURING FEATURES

- Impellers made of polyamide reinforced with fibreglass.
- BD 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.
- Closed motors specially designed by Casals. Extruded aluminium motor housing. Totally enclosed wiring box IP-65. IP-54 motor protection and rated class F insulation. Standard voltages 230V 50Hz for single phase and 230/400V 50Hz for three phase motors.

Accessories



**BOX
FILTER**



**FILTER
BOX
FILTER**



INT



REG



**REG
VMC**



REGD-1



SFC



TEJ



TIAC

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

- 3 speed fans.
- Impeller made of galvanized sheet.

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
251100450	BOX BD PLUS 7/7 M4 0,12kW	1370	1,5	0,12	1.725	47	24	1
251100451	BOX BD PLUS 7/7 M4 0,13kW	1370	1,55	0,13	1.850	52	24	1
251270450	BOX BD PLUS 9/7 M4 0,35kW	1375	2,7	0,35	2.400	53	32	1
251220450	BOX BD PLUS 9/9 M4 0,35kW	1375	2,7	0,35	2.670	54	33	1
251340450	BOX BD PLUS 10/8 M4 0,59kW	1340	4,5	0,59	3.260	56	40	1
251320450	BOX BD PLUS 10/10 M4 0,59kW	1340	4,5	0,59	3.790	57	42	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
251160450	BOX BD PLUS 7/7 M6 0,04kW	885	0,6	0,04	1.020	37	24	1
251280450	BOX BD PLUS 9/9 M6 0,12kW	925	1,2	0,12	2.030	47	32	1
251280451	BOX BD PLUS 9/9 M6 0,13kW	940	1,3	0,13	2.130	46	33	1
251370450	BOX BD PLUS 10/10 M6 0,19kW	880	2,1	0,19	2.870	53	40	1
251370451	BOX BD PLUS 10/10 M6 0,21kW	945	2,1	0,21	2.720	50	42	1
251600452	BOX BD PLUS 12/9 M6 0,76kW	950	6,7	0,76	5.540	52	51	1
251600450	BOX BD PLUS 12/9 M6 0,79kW	945	6,2	0,79	5.640	57	51	1
251520451	BOX BD PLUS 12/12 M6 0,76kW	950	6,7	0,76	5.960	53	54	1
251520450	BOX BD PLUS 12/12 M6 0,79kW	945	6,2	0,79	6.170	60	54	1

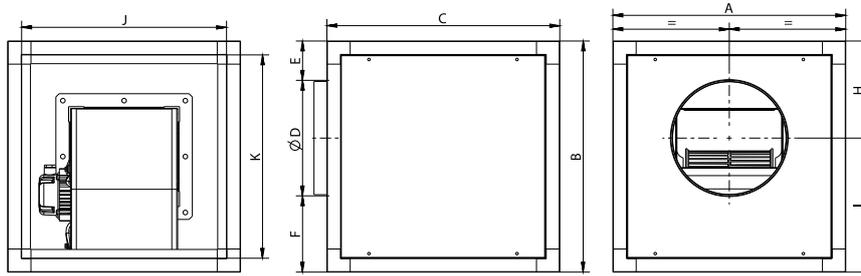
Three-phase motor / 6 poles

Code	Model	R.P.M.	Rated I. (A) 400V	Rated power kW	Max. Airflow m3/h	Sound db (A)*	Weight	Connect. diagram
251600451	BOX BD PLUS 12/9 T6 1,1kW	945	3,78	1,10	5.480	52	53	2
251520453	BOX BD PLUS 12/12 T6 1,1kW	945	3,78	1,10	6.090	52	54	2

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 PLUS 7/7 M4 0,12kW	500	500	500	250	85	165	210	290	440
BOX BD PLUS 7/7 M4 0,13kW	500	500	500	250	85	165	210	290	440
BOX BD PLUS 7/7 M6 0,04kW	500	500	500	250	85	165	210	290	440
BOX BD PLUS 9/7 M4 0,35kW	550	550	550	315	87,5	147,5	245	305	490
BOX BD PLUS 9/9 M4 0,35kW	550	550	550	355	57,5	137,5	235	315	490
BOX BD PLUS 9/9 M6 0,12kW	550	550	550	355	57,5	137,5	235	315	490
BOX BD PLUS 9/9 M6 0,13kW	550	550	550	355	57,5	137,5	235	315	490
BOX BD PLUS 10/8 M4 0,59kW	600	600	600	355	82,5	162,5	260	340	540
BOX BD PLUS 10/10 M4 0,59kW	600	600	600	400	50	150	250	350	540
BOX BD PLUS 10/10 M6 0,19kW	600	600	600	400	50	150	250	350	540
BOX BD PLUS 10/10 M6 0,21kW	600	600	600	400	50	150	250	350	540
BOX BD PLUS 12/9 M6 0,76kW	700	700	700	400	105	195	305	395	640
BOX BD PLUS 12/9 M6 0,79kW	700	700	700	400	105	195	305	395	640
BOX BD PLUS 12/9 T6 1,1kW	700	700	700	400	105	195	305	395	640
BOX BD PLUS 12/12 M6 0,76kW	700	700	700	450	80	170	305	395	640
BOX BD PLUS 12/12 M6 0,79kW	700	700	700	450	80	170	305	395	640
BOX BD PLUS 12/12 T6 1,1kW	700	700	700	450	80	170	305	395	640

Model	K
BOX BD PLUS 7/7 M4 0,12kW	440
BOX BD PLUS 7/7 M4 0,13kW	440
BOX BD PLUS 7/7 M6 0,04kW	440
BOX BD PLUS 9/7 M4 0,35kW	490
BOX BD PLUS 9/9 M4 0,35kW	490
BOX BD PLUS 9/9 M6 0,12kW	490
BOX BD PLUS 9/9 M6 0,13kW	490
BOX BD PLUS 10/8 M4 0,59kW	540
BOX BD PLUS 10/10 M4 0,59kW	540
BOX BD PLUS 10/10 M6 0,19kW	540
BOX BD PLUS 10/10 M6 0,21kW	540

Model	K
BOX BD PLUS 12/9 M6 0,76kW	640
BOX BD PLUS 12/9 M6 0,79kW	640
BOX BD PLUS 12/9 T6 1,1kW	640
BOX BD PLUS 12/12 M6 0,76kW	640
BOX BD PLUS 12/12 M6 0,79kW	640
BOX BD PLUS 12/12 T6 1,1kW	640

Wiring diagram

DIAGRAM Nº 1

SINGLE PHASE MOTOR
MOTOR MONOFÁSICO

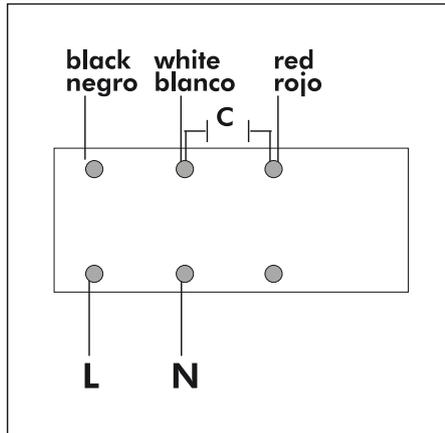
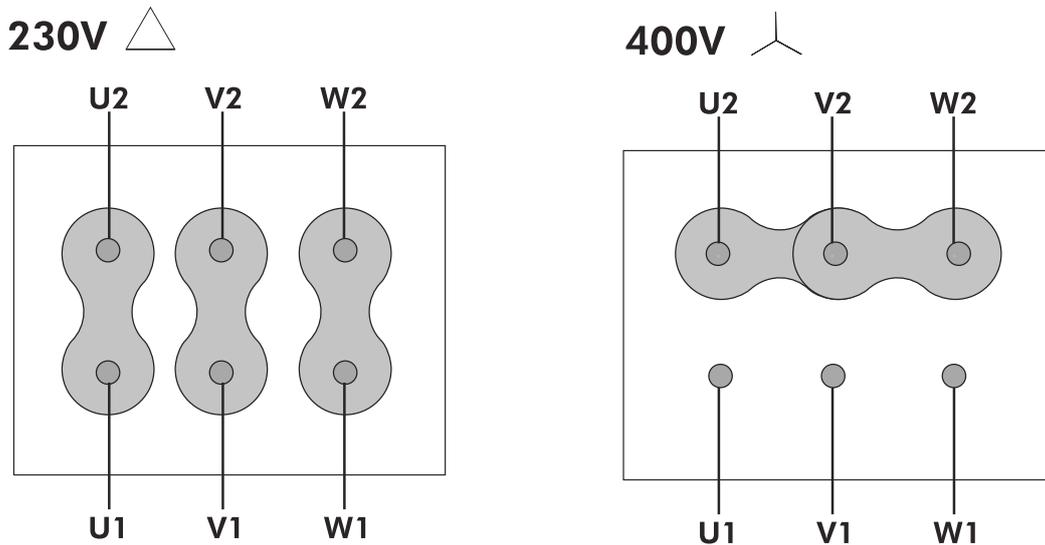


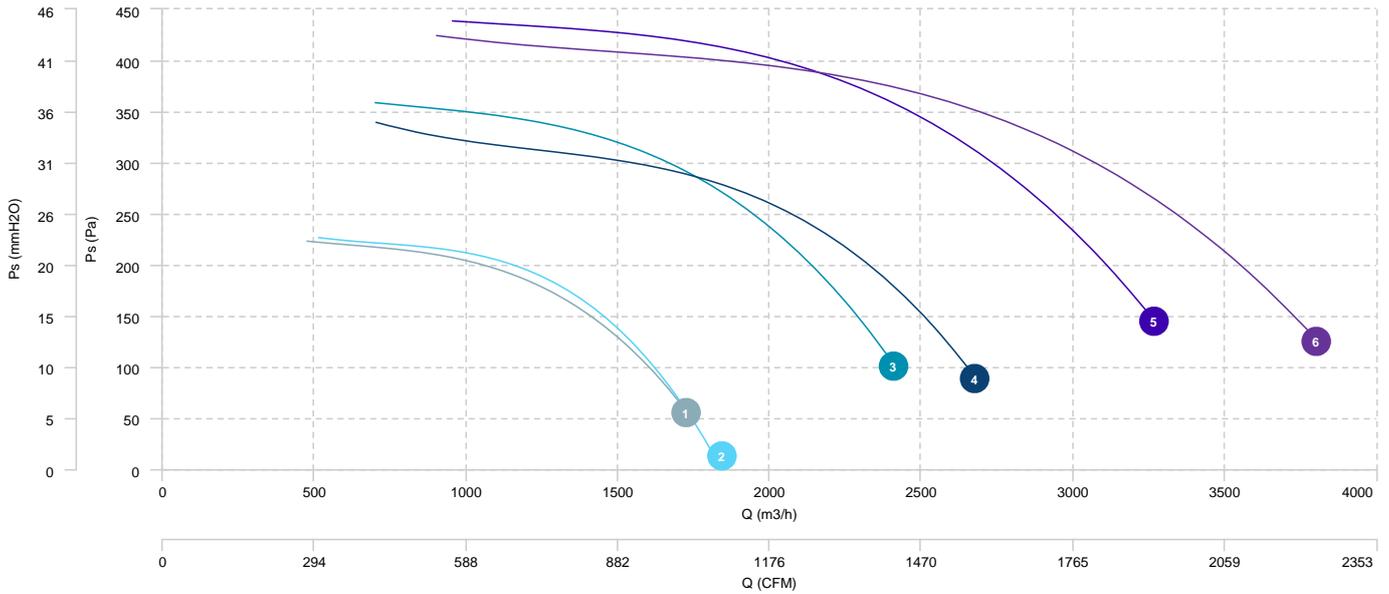
DIAGRAM Nº 2



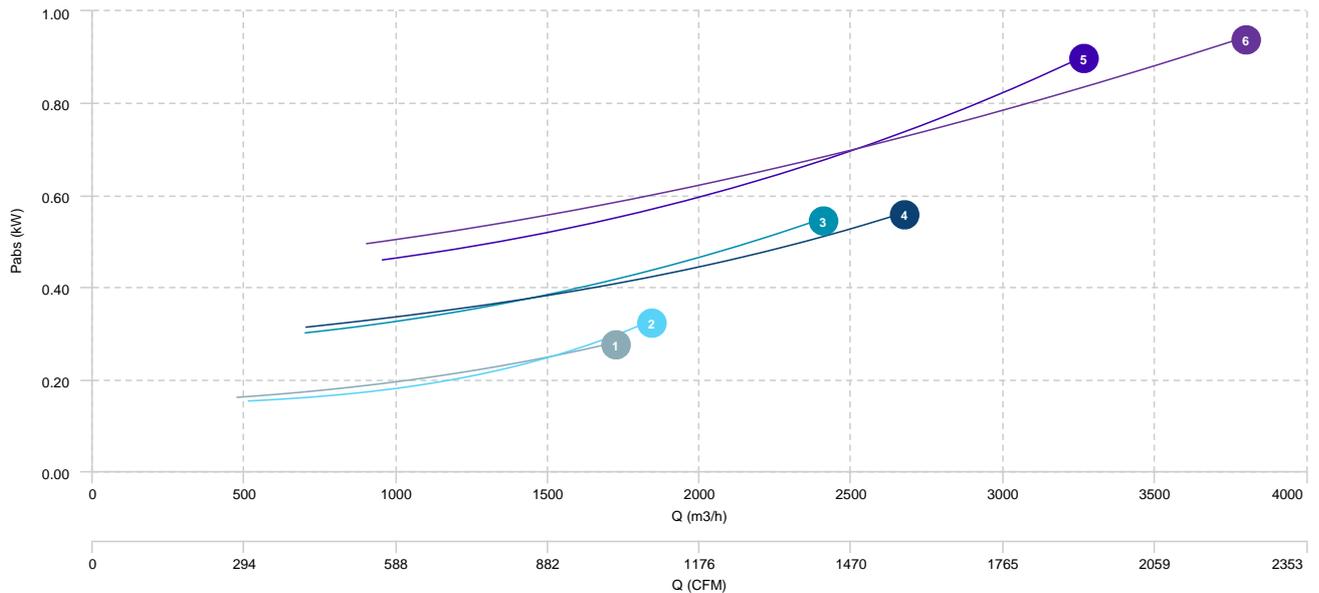
CHARACTERISTIC CURVE

1	BOX BD PLUS 7/7 M4 0, 12kW	2	BOX BD PLUS 7/7 M4 0, 13kW	3	BOX BD PLUS 9/7 M4 0, 35kW	4	BOX BD PLUS 9/9 M4 0, 35kW
5	BOX BD PLUS 10/8 M4 0, 59kW	6	BOX BD PLUS 10/10 M4 0, 59kW				

AIR FLOW - PRESSURE

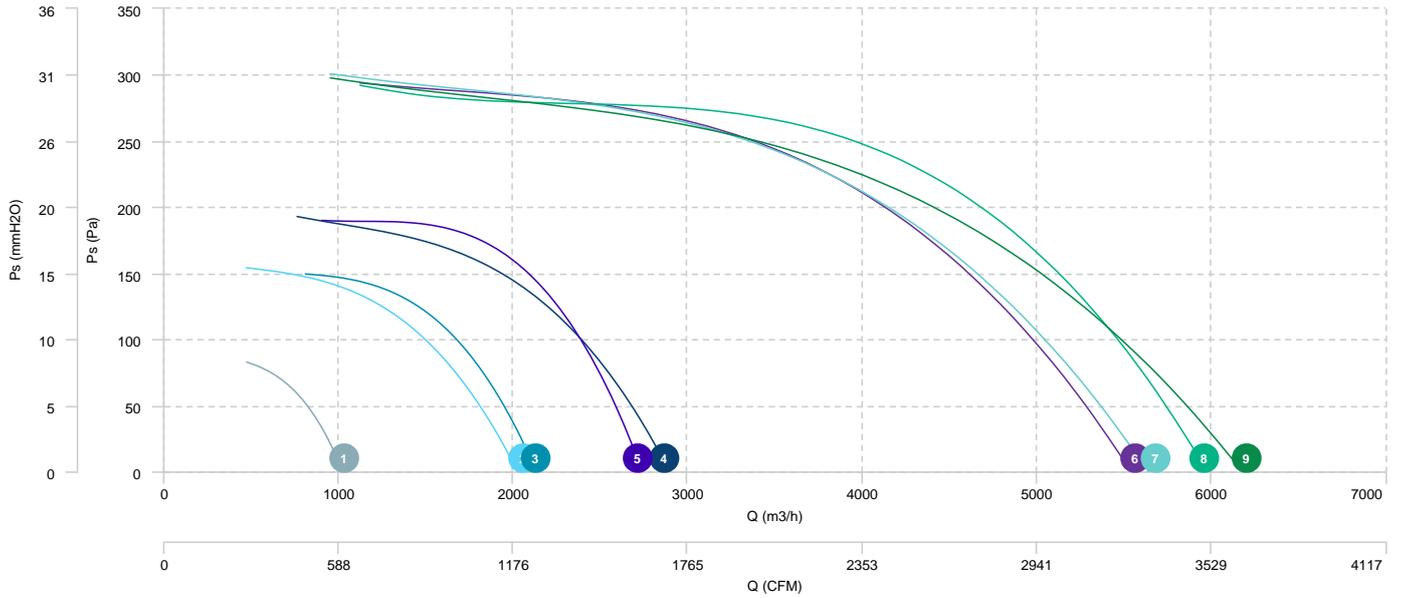


AIR FLOW - ABSORBED POWER

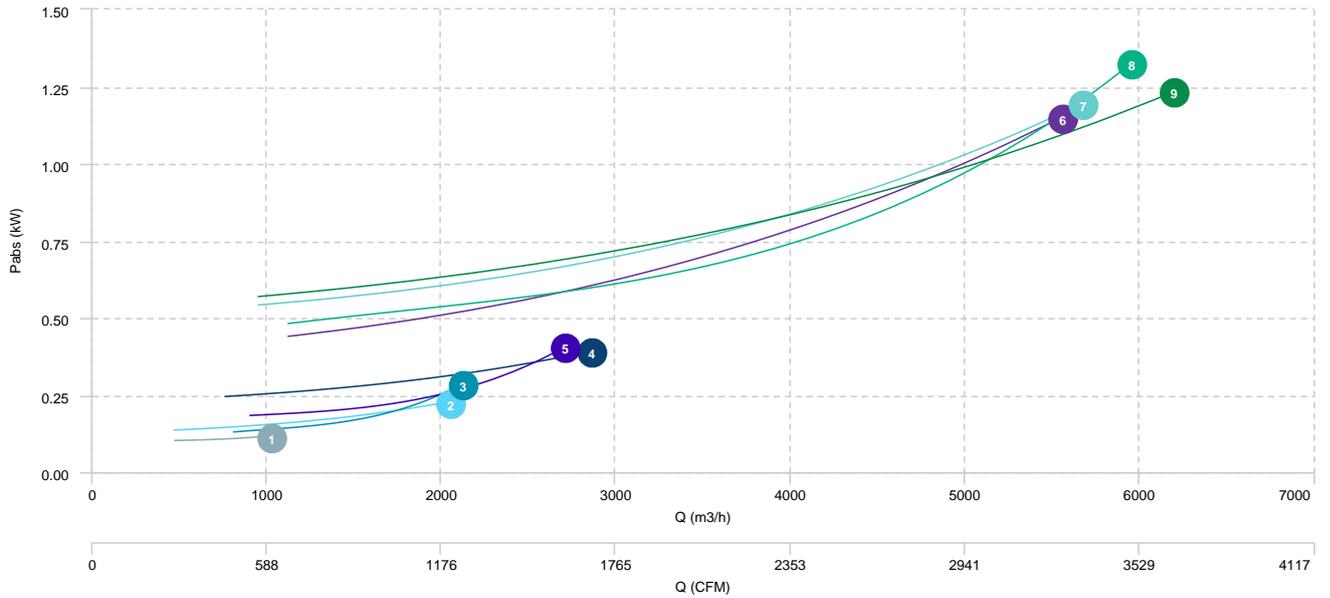


1	BOX BD PLUS 7/7 M6 0, 04kW	2	BOX BD PLUS 9/9 M6 0, 12kW	3	BOX BD PLUS 9/9 M6 0, 13kW	4	BOX BD PLUS 10/10 M6 0, 19kW
5	BOX BD PLUS 10/10 M6 0, 21kW	6	BOX BD PLUS 12/9 M6 0, 76kW	7	BOX BD PLUS 12/9 M6 0, 79kW	8	BOX BD PLUS 12/12 M6 0, 76kW
9	BOX BD PLUS 12/12 M6 0, 79kW						

AIR FLOW - PRESSURE



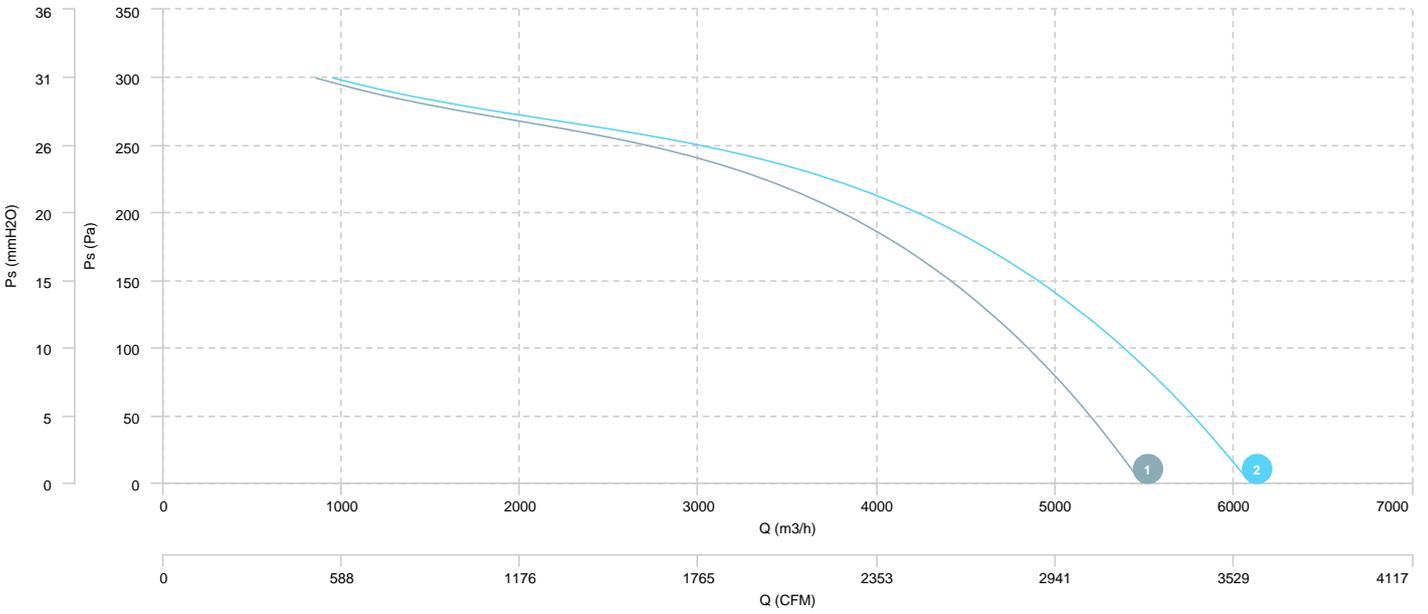
AIR FLOW - ABSORBED POWER



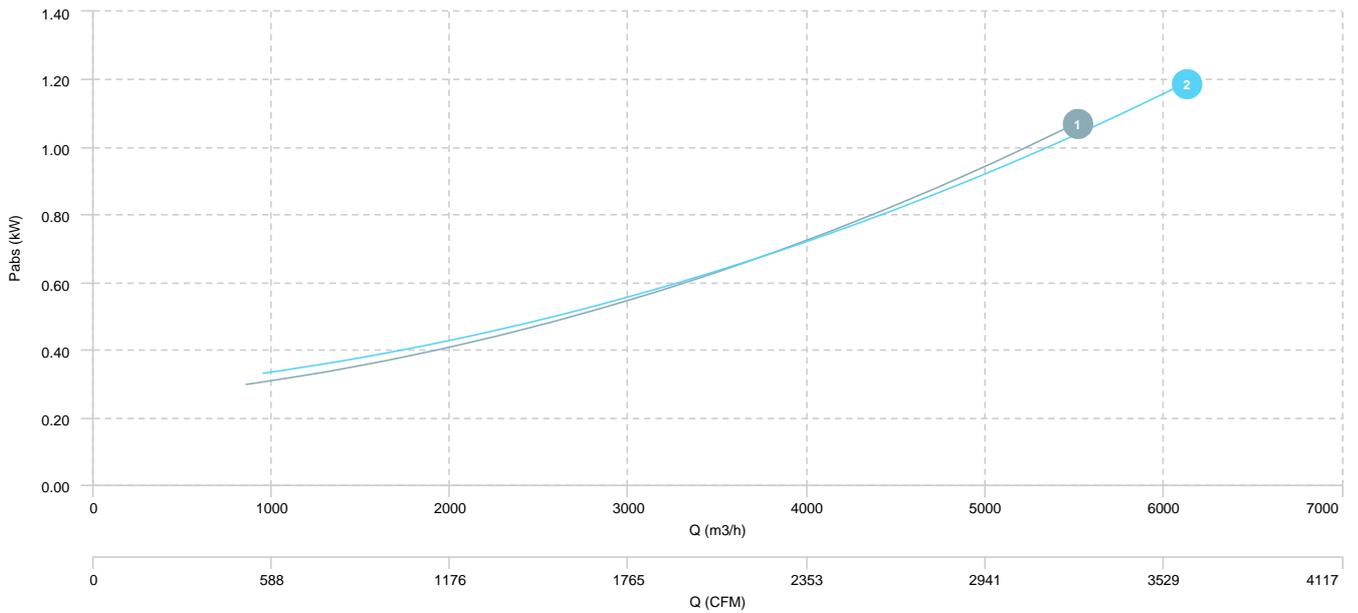
1 BOX BD PLUS 12/9 T6 1, 1kW

2 BOX BD PLUS 12/12 T6 1, 1kW

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
BOX BD PLUS 7/7 M4 0,12kW	Inlet	52	54	62	64	68	68	63	54	73
BOX BD PLUS 7/7 M4 0,13kW	Inlet	57	59	68	70	74	73	69	59	78
BOX BD PLUS 9/7 M4 0,35kW	Inlet	58	60	69	71	75	74	70	60	79
BOX BD PLUS 9/9 M4 0,35kW	Inlet	59	61	70	72	76	75	71	61	80
BOX BD PLUS 10/8 M4 0,59kW	Inlet	61	63	72	74	78	77	73	63	82
BOX BD PLUS 10/10 M4 0,59kW	Inlet	62	64	73	75	79	78	74	64	83

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
BOX BD PLUS 7/7 M6 0,04kW	Inlet	42	44	53	55	59	58	54	44	63
BOX BD PLUS 9/9 M6 0,12kW	Inlet	52	54	62	64	68	67	63	54	73
BOX BD PLUS 9/9 M6 0,13kW	Inlet	51	53	62	64	68	67	63	53	72
BOX BD PLUS 10/10 M6 0,19kW	Inlet	58	60	68	70	74	73	69	60	79
BOX BD PLUS 10/10 M6 0,21kW	Inlet	55	57	66	67	71	71	66	57	76
BOX BD PLUS 12/9 M6 0,76kW	Inlet	57	59	68	70	74	73	69	59	78
BOX BD PLUS 12/9 M6 0,79kW	Inlet	62	64	72	74	78	77	73	64	83
BOX BD PLUS 12/9 T6 1,1kW	Inlet	57	59	68	70	74	73	69	59	78
BOX BD PLUS 12/12 M6 0,76kW	Inlet	58	60	69	70	74	74	69	60	79
BOX BD PLUS 12/12 M6 0,79kW	Inlet	65	67	75	77	81	80	76	67	86
BOX BD PLUS 12/12 T6 1,1kW	Inlet	57	59	68	70	74	73	69	59	78

erp data

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

ERP / 4 poles

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 M4 0,12kW	0,12	-	26,10	0,19	998,80	204,21	5.65	699,19
BOX BD PLUS 7/7 M4 0,13kW	0,13	-	32,01	0,19	1.104,78	204,54	6.25	618,38
BOX BD PLUS 9/7 M4 0,35kW	0,35	-	33,71	0,39	1.546,83	314,95	5.51	908,66
BOX BD PLUS 9/9 M4 0,35kW	0,35	-	33,71	0,42	1.790,28	283,45	5.02	836,25
BOX BD PLUS 10/8 M4 0,59kW	0,59	-	36,86	0,61	2.064,92	397,33	5.8	1.059,56
BOX BD PLUS 10/10 M4 0,59kW	0,59	-	36,49	0,69	2.454,37	370,83	5.43	1.013,09

ERP / 6 poles

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 9/9 M6 0,12kW	0,12	-	26,09	0,17	1.219,44	126,97	3.42	486,43
BOX BD PLUS 9/9 M6 0,13kW	0,13	-	31,01	0,15	1.243,12	138,90	3.49	433,15
BOX BD PLUS 10/10 M6 0,21kW	0,21	-	36,51	0,22	1.713,03	180,33	3.79	465,94
BOX BD PLUS 12/9 M6 0,76kW	0,76	-	34,73	0,63	3.017,28	264,53	6.67	747,17
BOX BD PLUS 12/9 T6 1,1kW	1,10	-	36,33	0,49	2.633,77	251,77	5.82	670,85
BOX BD PLUS 12/12 M6 0,76kW	0,76	-	36,78	0,66	3.479,52	266,56	6.08	686,45
BOX BD PLUS 12/12 T6 1,1kW	1,10	-	37,19	0,53	2.847,62	253,74	4.97	675,25