

## BVFC F400



### BOX FAN WITH FORWARD IMPELLER AND BELT TRASMISSION - 400°C/2h

#### MANUFACTURING FEATURES:

- Fans in thermal and soundproofing cabinets.
- Double inlet forward curved impeller.
- Transmission set outside the airstream including the belts protection grid.
- Standard asynchronous squirrel-cage motor with IP-55 protection and Class F insulation. Manufactured with standard voltages: 230/400V 50Hz in three phase motors up to 4kW and 400/690V 50Hz for higher powers. 2 speed motors 400V 50Hz

#### APPLICATIONS:

Designed for inline installation, indoor or outdoor assembly, they are suitable for:

- Smoke emergency exhaust with motor outside the hazardous area.
- Industrial and professional kitchen hoods.
- Maximum working temperature: carried air: 110°C, ambient: 60°C.

#### UNDER REQUEST:

- 60Hz fans and special voltages.
- Vertical discharge.
- 2 Speed

Official homologation by the European laboratory APPLUS according to EN 12101-3:2015  
 Certification Nr: 0370-CPR-0723

## Accessories



## Technical data

### Three-phase motor

Code	Model	RPM	Min. Rated power kW	Max. Rated power kW	Max. Airflow m <sup>3</sup> /h	Sound db (A)**	Weight kg	Connect. diagram
	BVFC 9/9	950 - 1600	0,37	1,10	5.220	53	33	1
	BVFC 10/10	800 - 1500	0,37	1,50	6.630	56	40	1
	BVFC 12/12	550 - 1300	0,37	2,20	10.050	59	62	1
	BVFC 15/15	500 - 1000	0,55	4,00	14.300	57	81	1
	BVFC 18/18	450 - 900	1,10	5,50	21.170	64	115	1
	BVFC 20/20	500rpm - 1000rpm	1,50	9,20	24.150	58	226	1
	BVFC 22/22	400rpm - 850rpm	2,00	11,00	31.000	64	251	1
	BVFC 25/25	350rpm - 750rpm	2,20	11,00	37.500	65	295	1
	BVFC 30/28	300rpm - 600rpm	2,20	15,00	49.100	67	376	1

### 2 speed motor

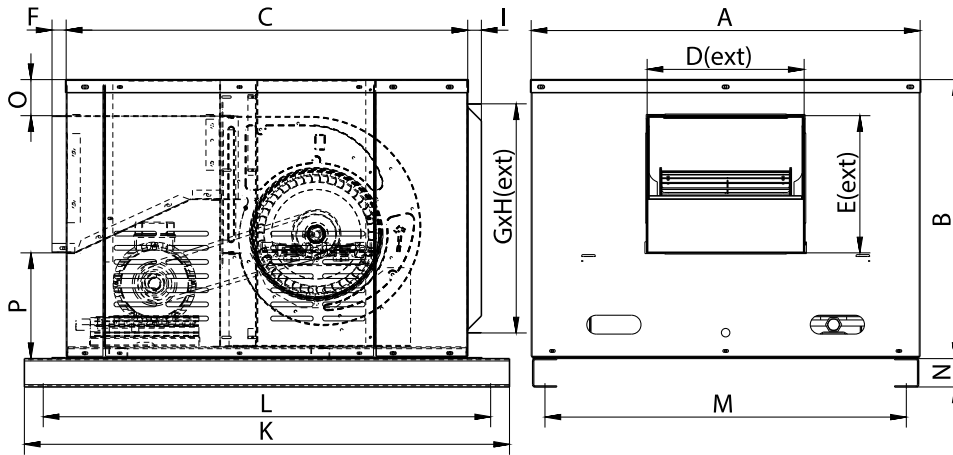
Code	Model	RPM	Min. Rated power kW	Max. Rated power kW	Max. Airflow w m <sup>3</sup> /h	Sound db (A)**	Weight kg	Connect. diagram
	BVFC 9/9 2V	950(8P) - 1600	0,30	1,10	5.220	53	33	2
	BVFC 10/10 2V	800(8P) - 1500	0,30	1,50	6.630	56	40	2
	BVFC 12/12 2V	550(8P) - 1300	0,30	2,20	10.050	59	62	2
	BVFC 15/15 2V	500(8P) - 1000	0,55	4,00	14.300	57	81	2
	BVFC 18/18 2V	450(8P) - 900	1,10	5,50	21.170	64	115	2
	BVFC 20/20 2V	250rpm - 1000rpm	1,50	9,20	24.150	58	226	2
	BVFC 22/22 2V	200rpm - 850rpm	2,00	11,00	31.000	64	251	2
	BVFC 25/25 2V	180rpm - 750rpm	2,20	11,00	37.500	65	295	2
	BVFC 30/28 2V	150rpm - 600rpm	2,20	15,00	4.900	67	376	2

**Notes:**

\* The motor is not included in fan weight

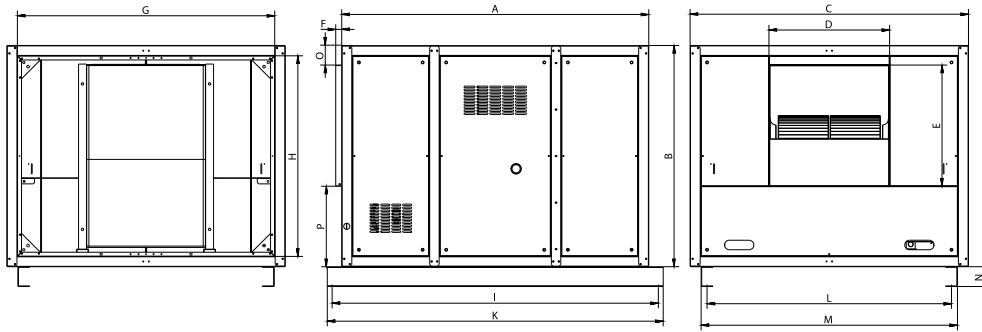
\*\* Total sound pressure level at the point of maximum flow measured in dB(A) in the suction measured in free field at a distance of 6m from the source

## Dimensions



Model	A	B	C	D	E	F	G	H	I
BVFC 9/9	780	562	792.5	304	262	30	680	456	29
BVFC 9/9 2V	780	562	792.5	304	262	30	680	456	29
BVFC 10/10	825	592	852	333	291	30	725	486	29
BVFC 10/10 2V	825	592	852	333	291	30	725	486	29
BVFC 12/12	951	678	970,5	400	345	30	851	573	29
BVFC 12/12 2V	951	678	970,5	400	345	30	851	573	29
BVFC 15/15	1100	802	1103,5	483	404,5	30	1009	702	29
BVFC 15/15 2V	1100	802	1103,5	483	404,5	30	1009	702	29
BVFC 18/18	1270	922	1279,5	561,5	479,5	30	1178,6	822	29
BVFC 18/18 2V	1270	922	1279,5	561,5	479,5	30	1178,6	822	29

Model	K	L	M	N	O	P
BVFC 9/9	970	890	721.5	60	80,5	219,3
BVFC 9/9 2V	970	890	721.5	60	80,5	219,3
BVFC 10/10	1029	949	766.5	60	76,5	224,3
BVFC 10/10 2V	1029	949	766.5	60	76,5	224,3
BVFC 12/12	1147	1067	891.5	60	72,5	260
BVFC 12/12 2V	1147	1067	891.5	60	72,5	260
BVFC 15/15	1280	1200	1041.5	60	102,8	295
BVFC 15/15 2V	1280	1200	1041.5	60	102,8	295
BVFC 18/18	1456	1376	1211	60	92	350,5
BVFC 18/18 2V	1456	1376	1211	60	92	350,5

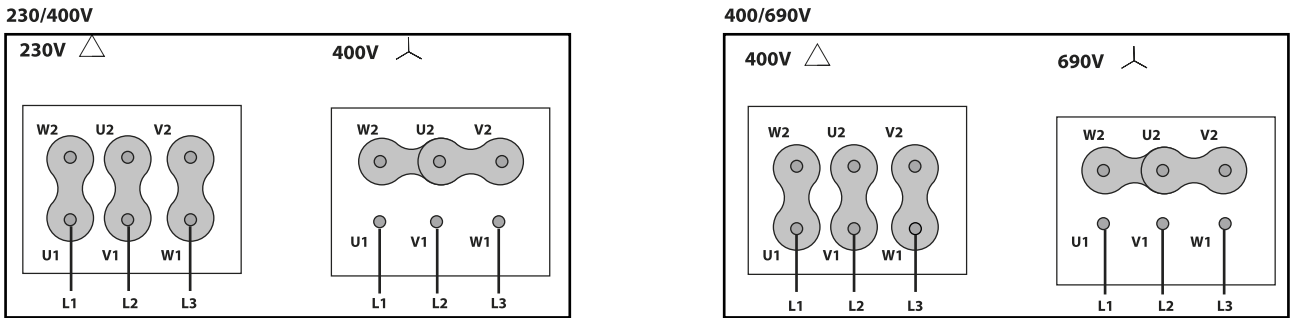


Model	A	B	C	D	E	F	G	H	I
BVFC 20/20	1551	1117,5	1406	608	612	30	1300	1013	1648
BVFC 20/20 2V	1551	1117,5	1406	608	612	30	1300	1013	1648
BVFC 22/22	1801	1201,5	1499	658,5	696	30	1393	1097	1948
BVFC 22/22 2V	1801	1201,5	1499	658,5	696	30	1393	1097	1948
BVFC 25/25	1901	1326,5	1709	772	793	30	1603	1222	2048
BVFC 25/25 2V	1901	1326,5	1709	772	793	30	1603	1222	2048
BVFC 30/28	2108	1556,5	1906	898	933	30	1800	1452	2255
BVFC 30/28 2V	2108	1556,5	1906	898	933	30	1800	1452	2255

Model	K	L	M	N	O	P
BVFC 20/20	1697	1235	1295	100	100,5	406,5
BVFC 20/20 2V	1697	1235	1295	100	100,5	406,5
BVFC 22/22	1997	1328	1388	100	99	406
BVFC 22/22 2V	1997	1328	1388	100	99	406
BVFC 25/25	2097	1538	1598	100	101	432.5
BVFC 25/25 2V	2097	1538	1598	100	101	432.5
BVFC 30/28	2304	1735	1795	100	99,5	524
BVFC 30/28 2V	2304	1735	1795	100	99,5	524

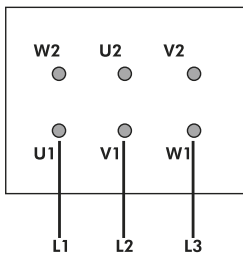
## Wiring diagram

### Wiring diagram N° 1

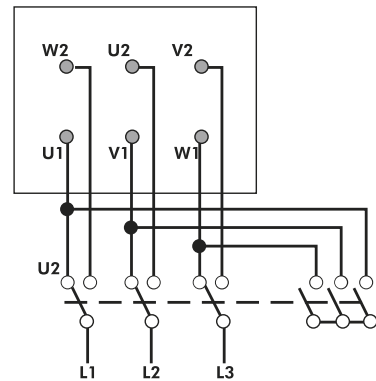
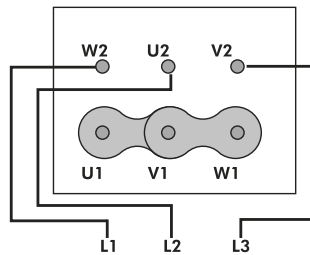


### Wiring diagram N° 2

LOW SPEED  
 VELOCIDAD BAJA



HIGH SPEED  
 VELOCIDAD ALTA

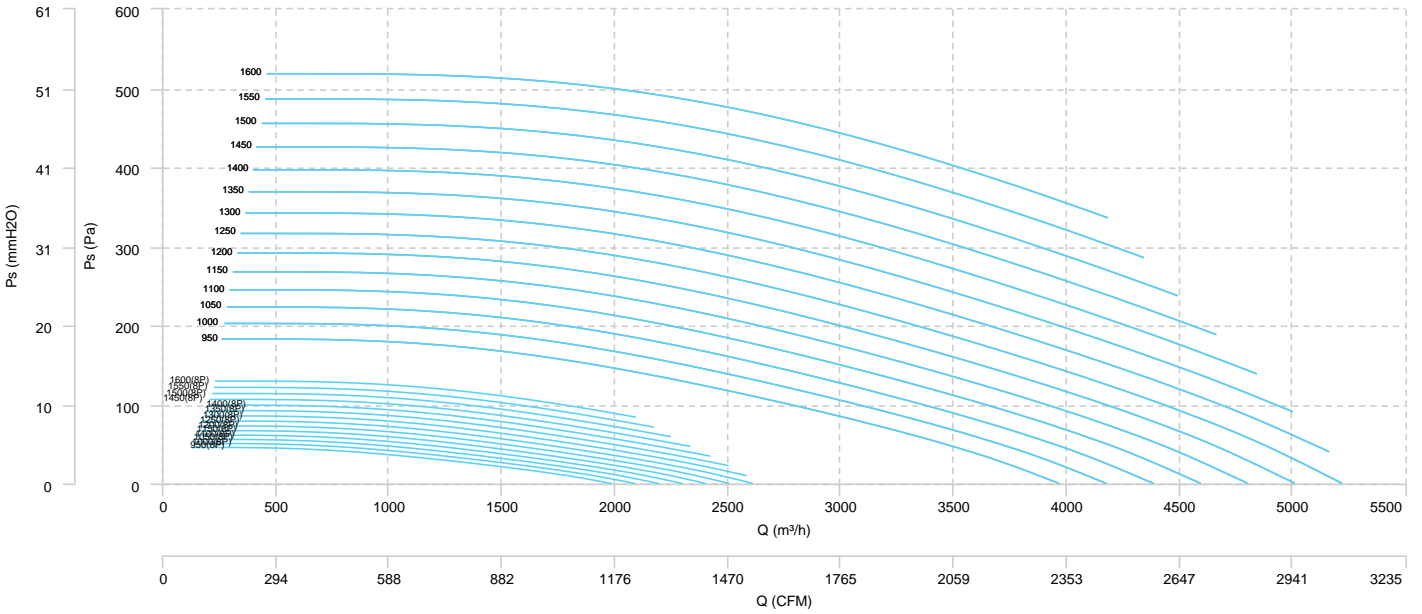


# CHARACTERISTIC CURVE

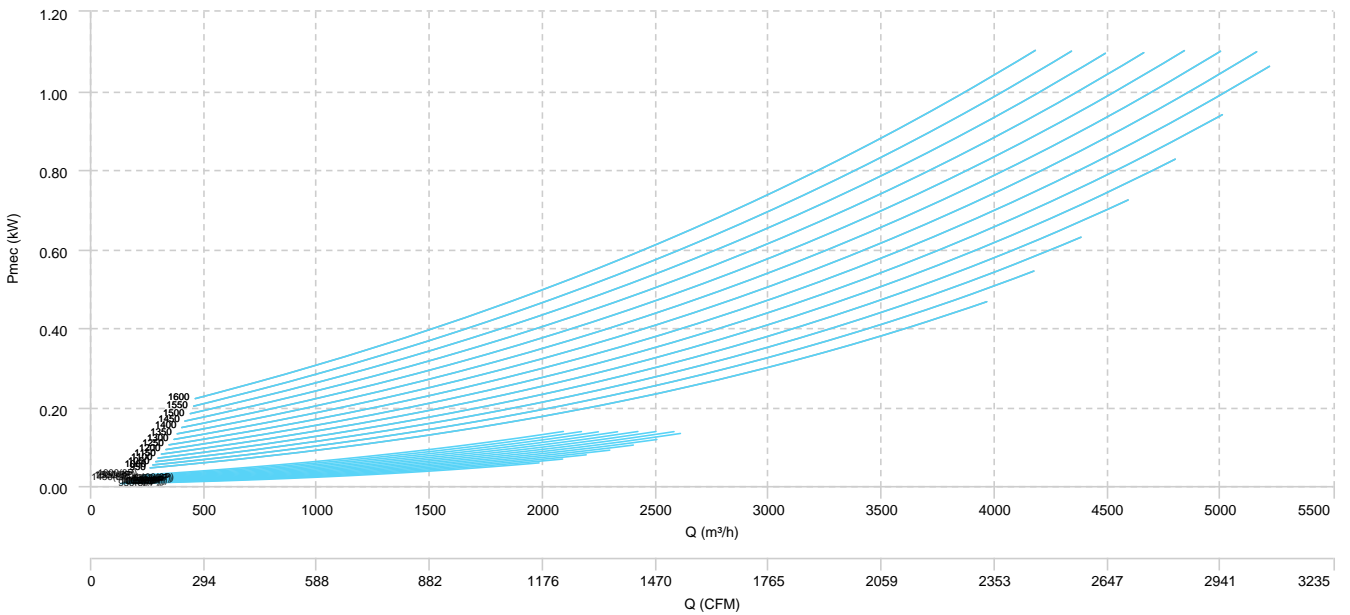
BVFC 9/9

BVFC 9/9 2V

## AIR FLOW - PRESSURE



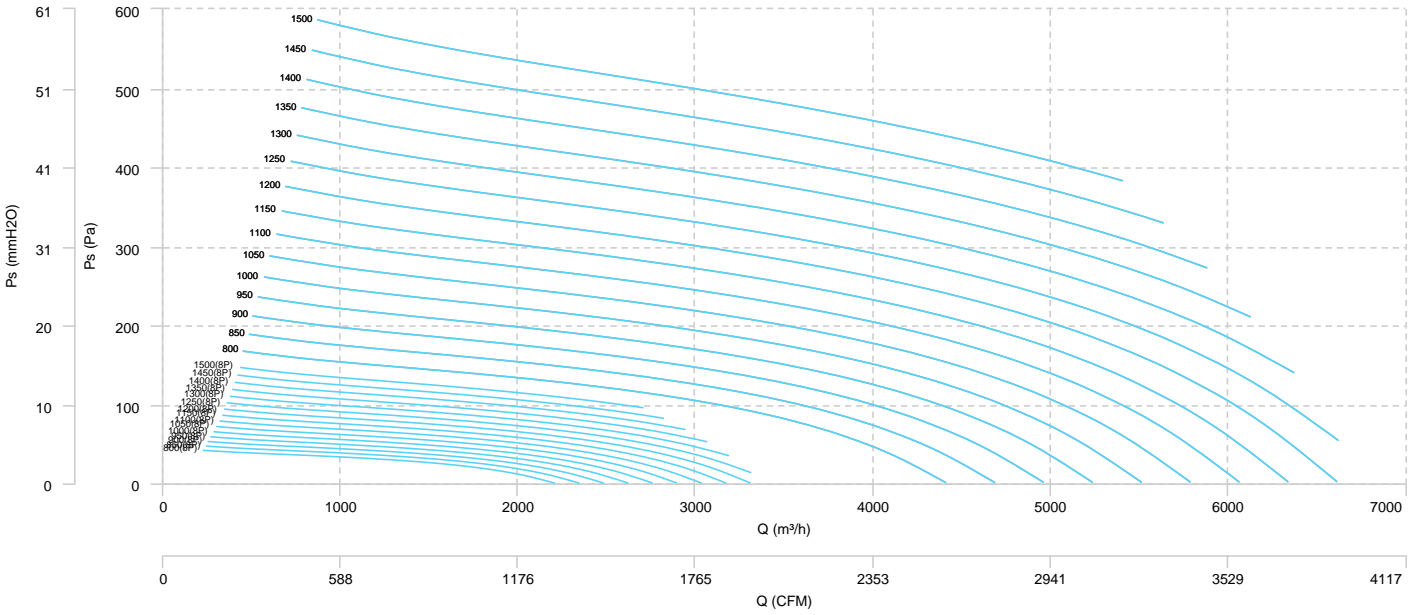
## AIR FLOW - MECHANICAL POWER



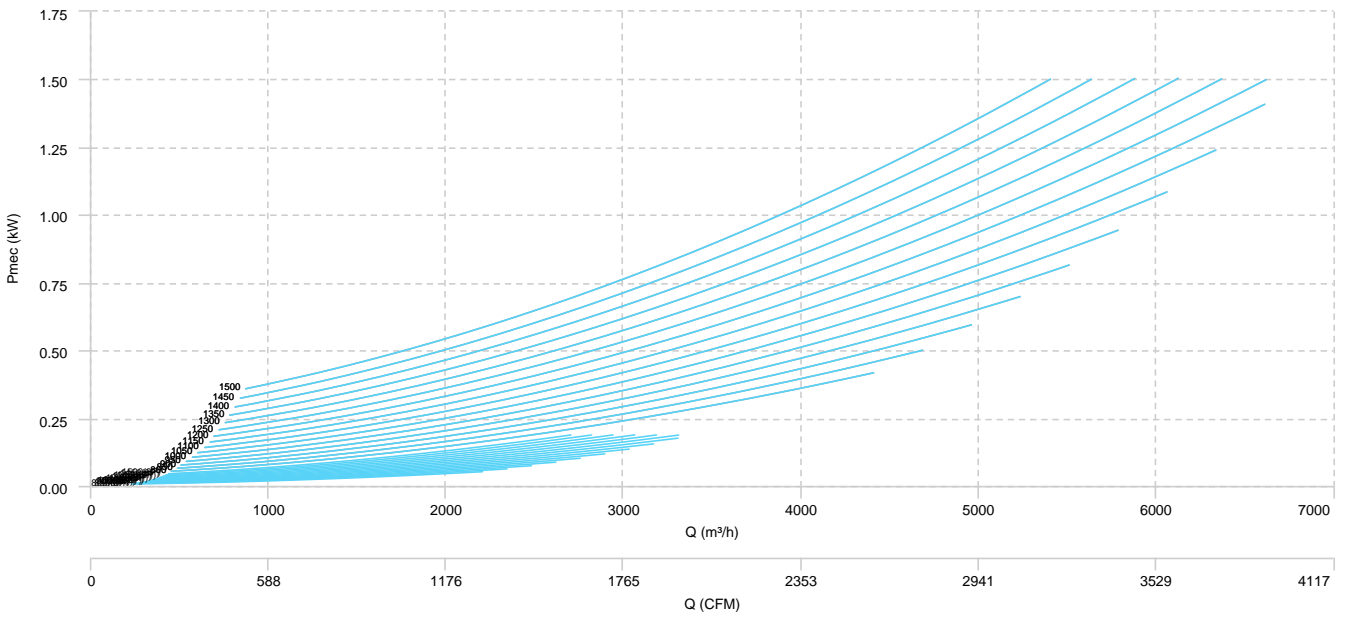
BVFC 10/10

BVFC 10/10 2V

**AIR FLOW - PRESSURE**



**AIR FLOW - MECHANICAL POWER**

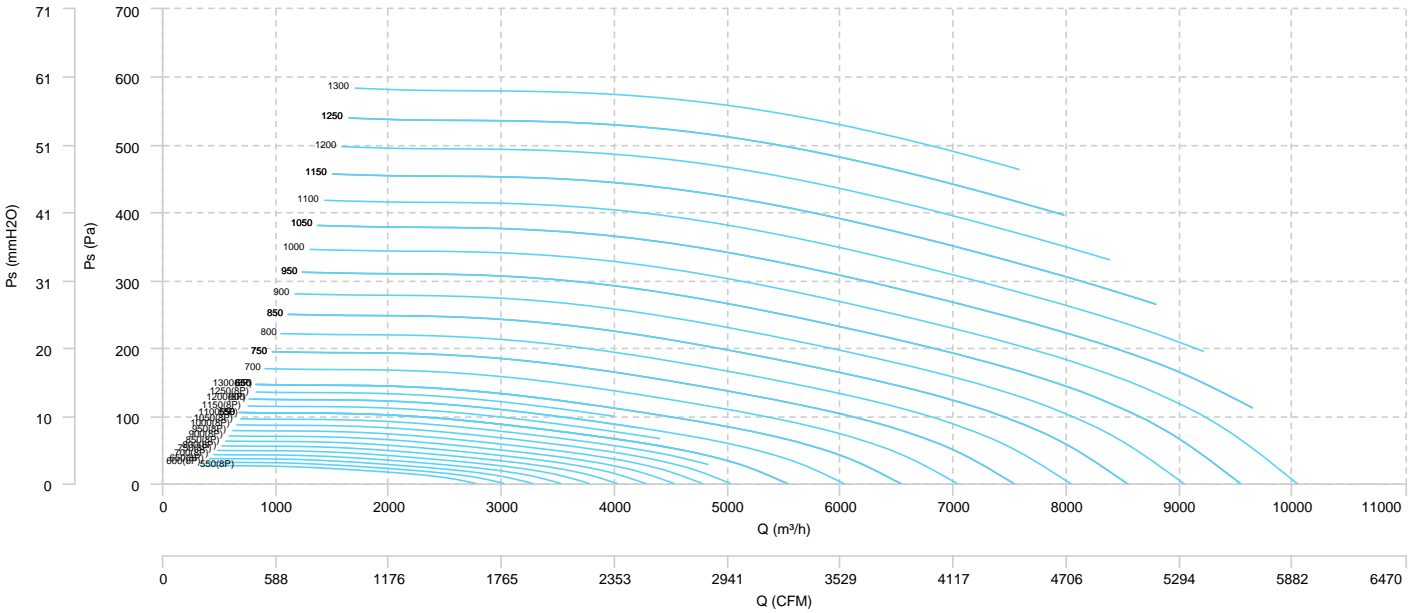




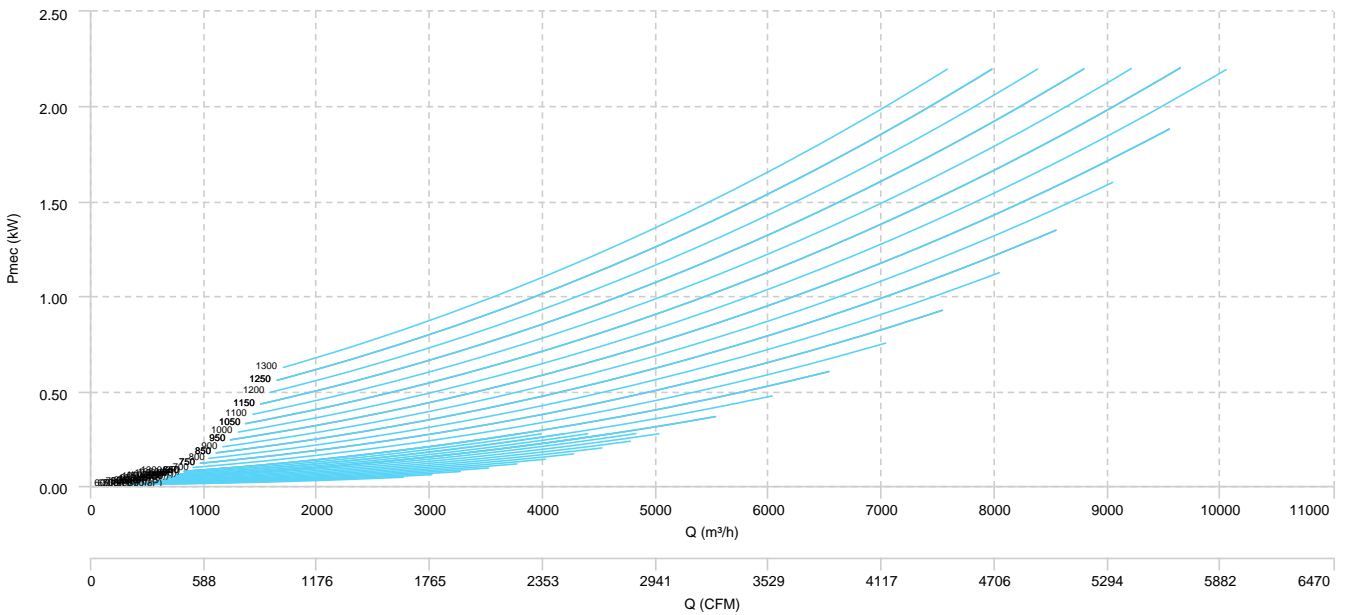
BVFC 12/12

BVFC 12/12 2V

**AIR FLOW - PRESSURE**



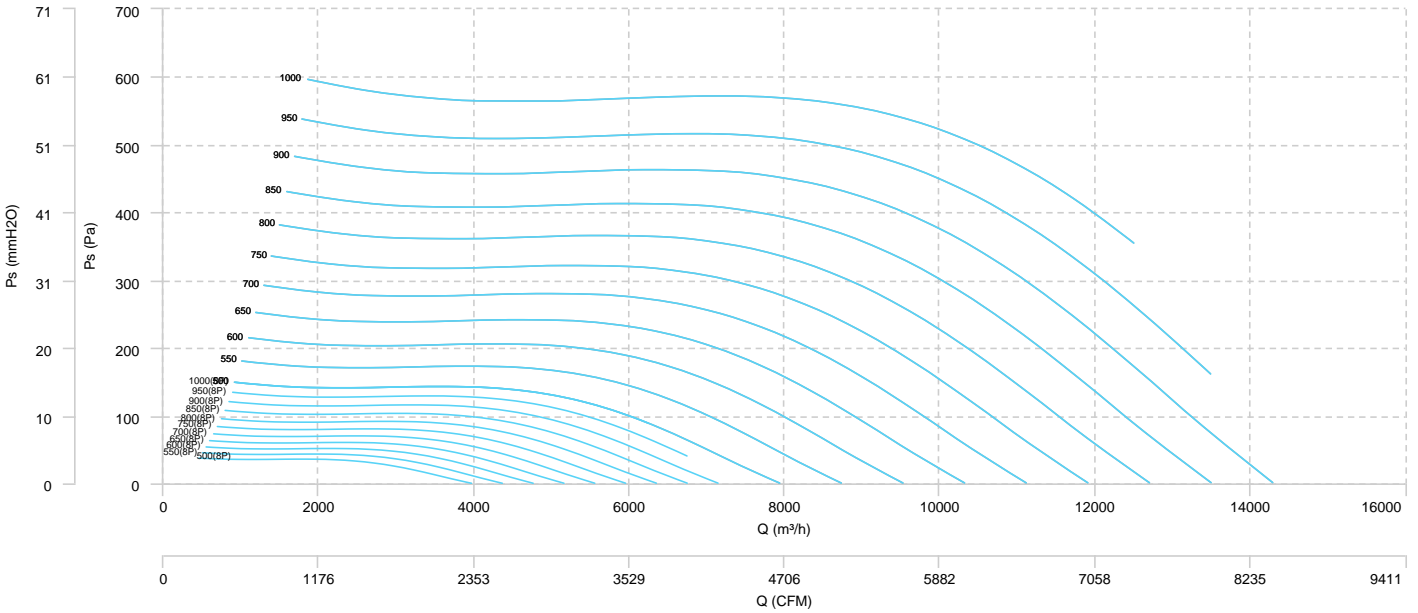
**AIR FLOW - MECHANICAL POWER**



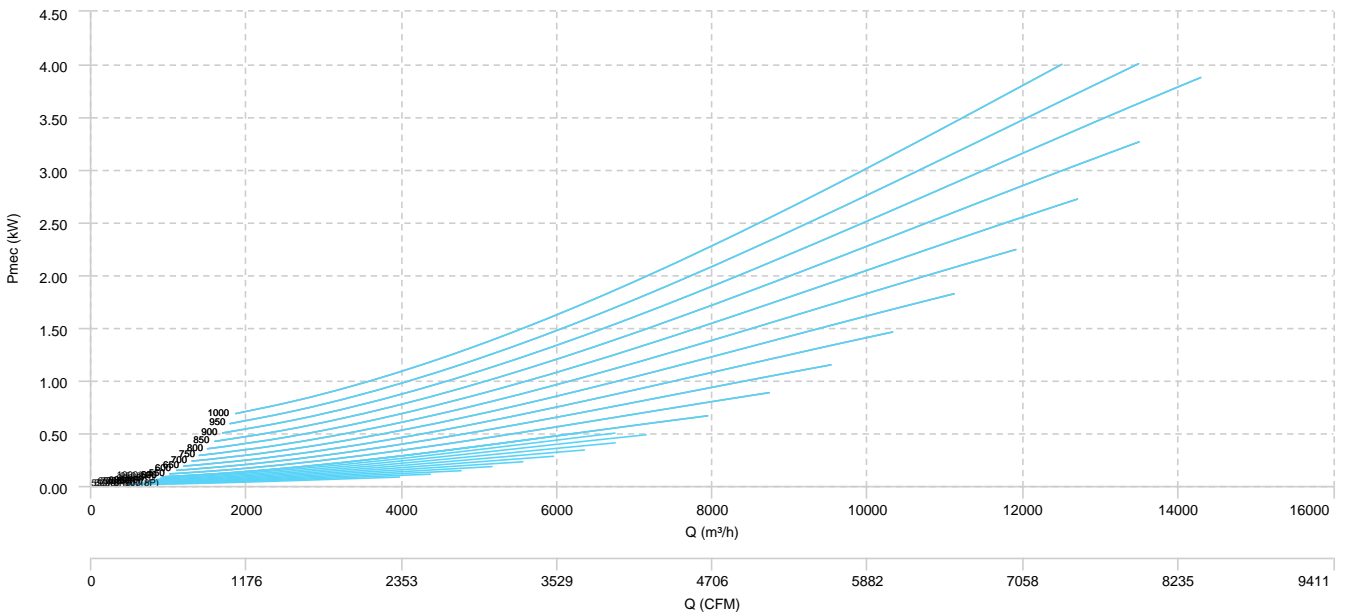
BVFC 15/15

BVFC 15/15 2V

**AIR FLOW - PRESSURE**



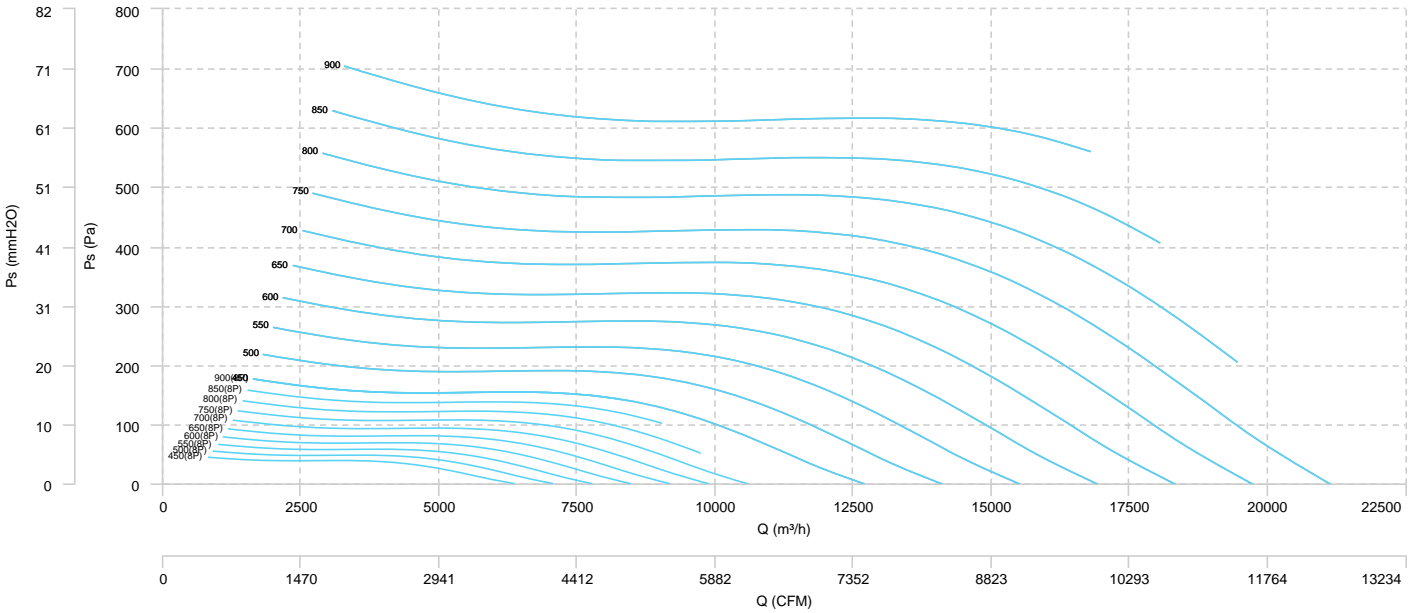
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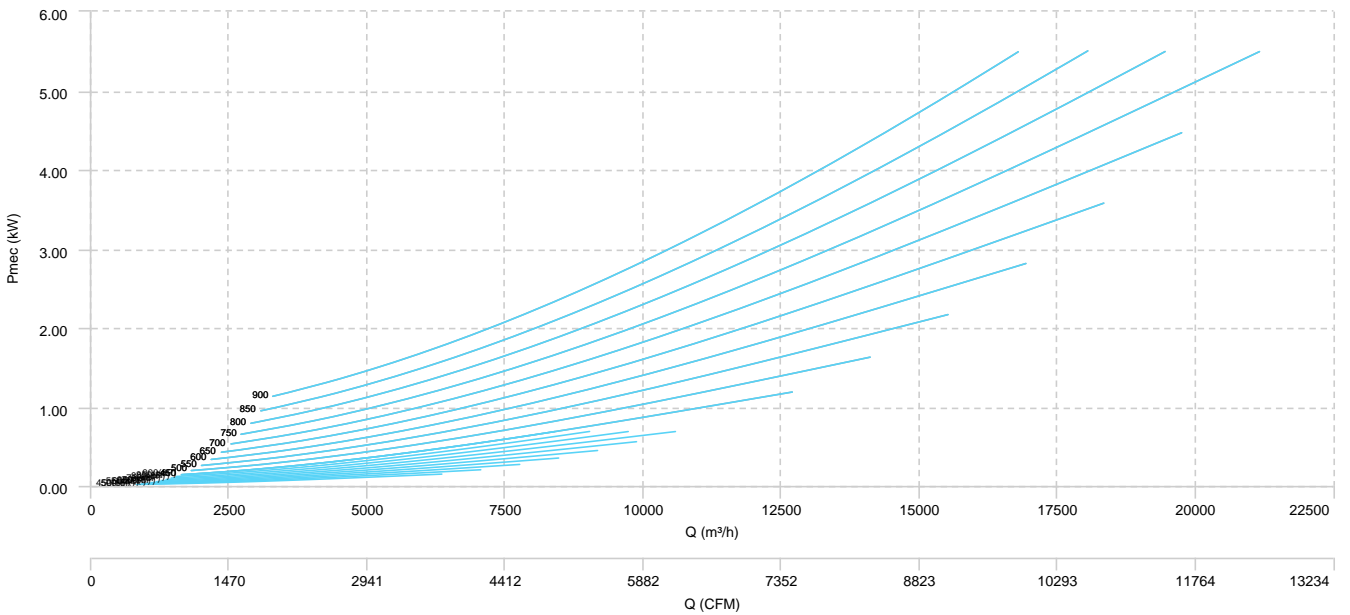
BVFC 18/18

BVFC 18/18 2V

**AIR FLOW - PRESSURE**



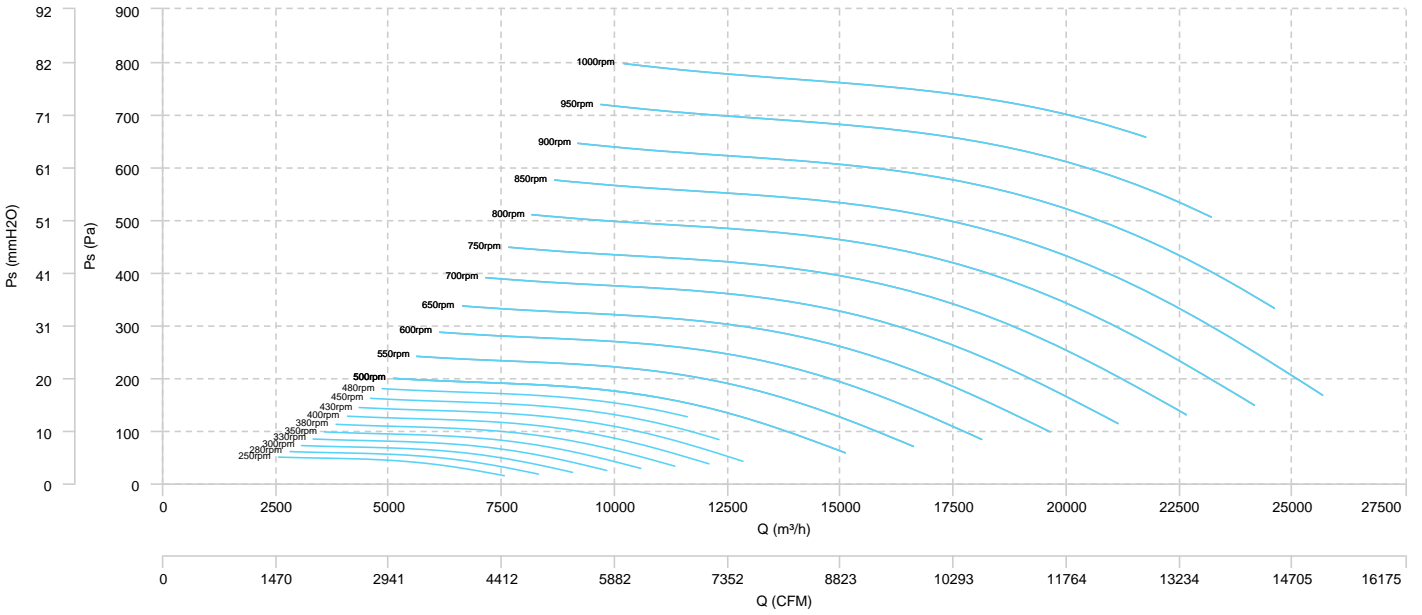
**AIR FLOW - MECHANICAL POWER**



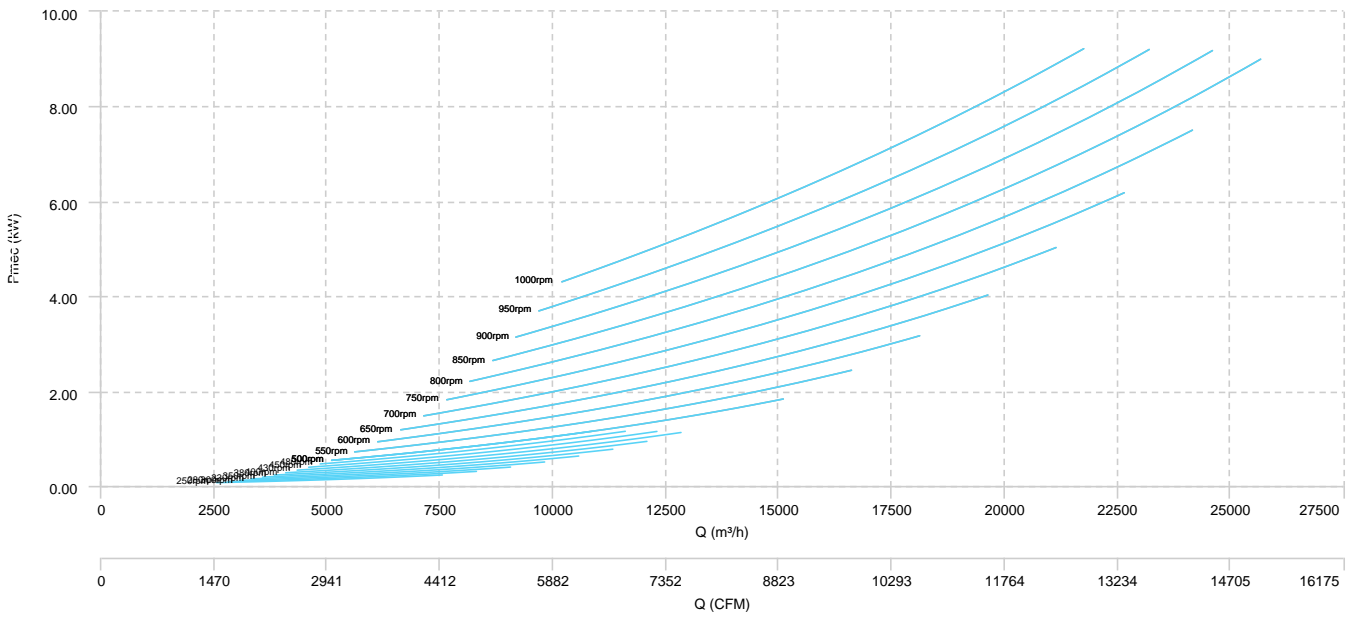
BVFC 20/20

BVFC 20/20 2V

**AIR FLOW - PRESSURE**



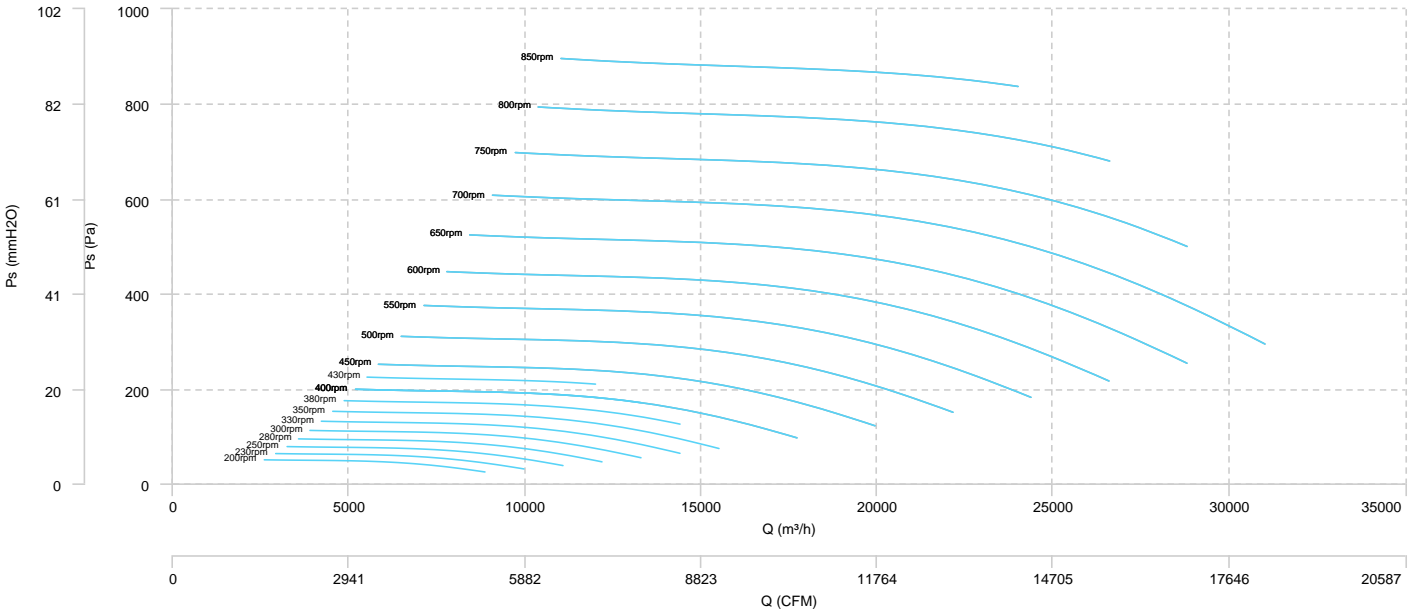
**AIR FLOW - MECHANICAL POWER**



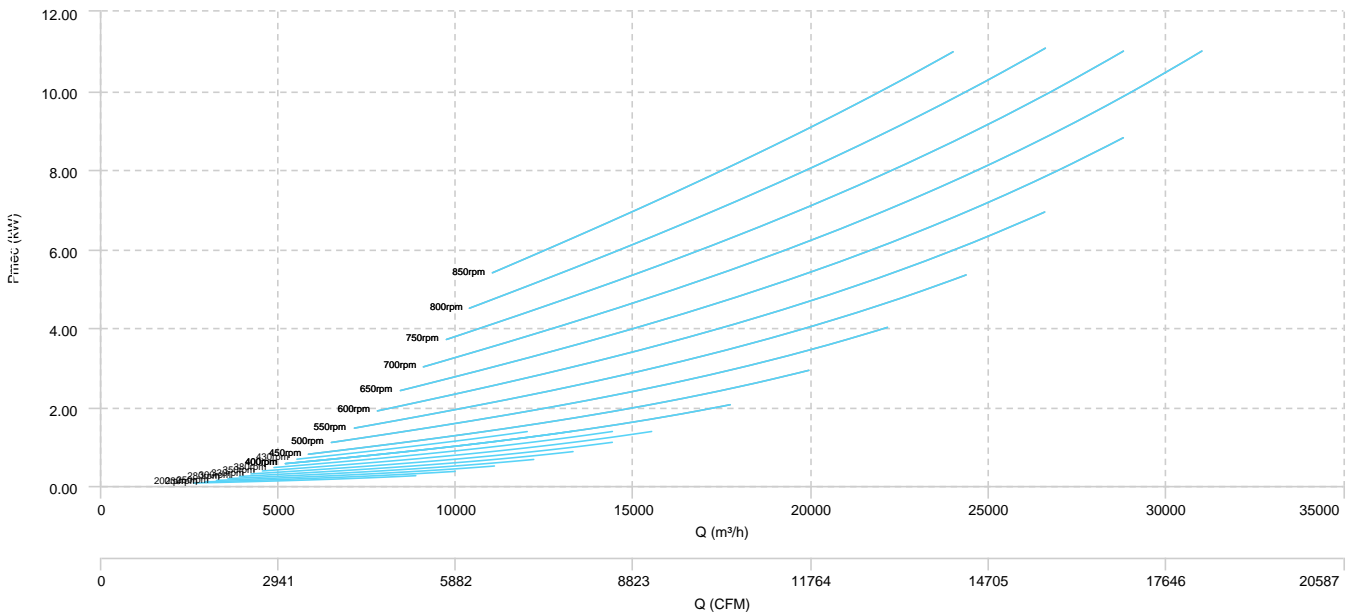
BVFC 22/22

BVFC 22/22 2V

**AIR FLOW - PRESSURE**



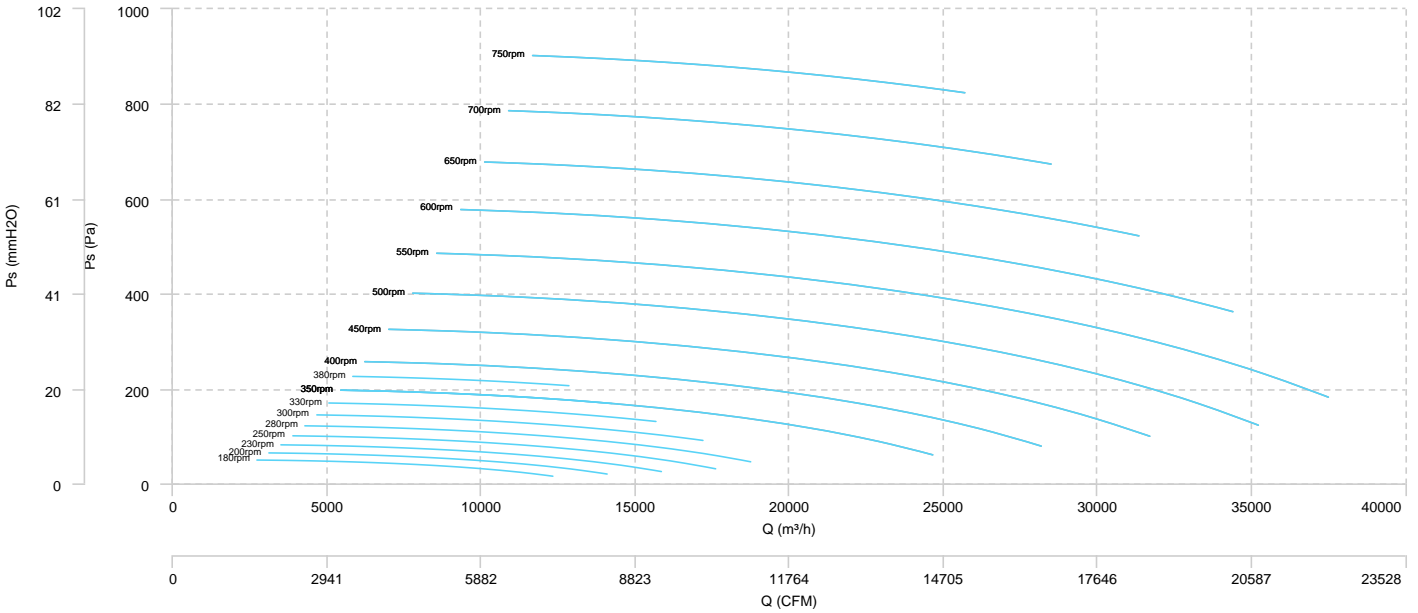
**AIR FLOW - MECHANICAL POWER**



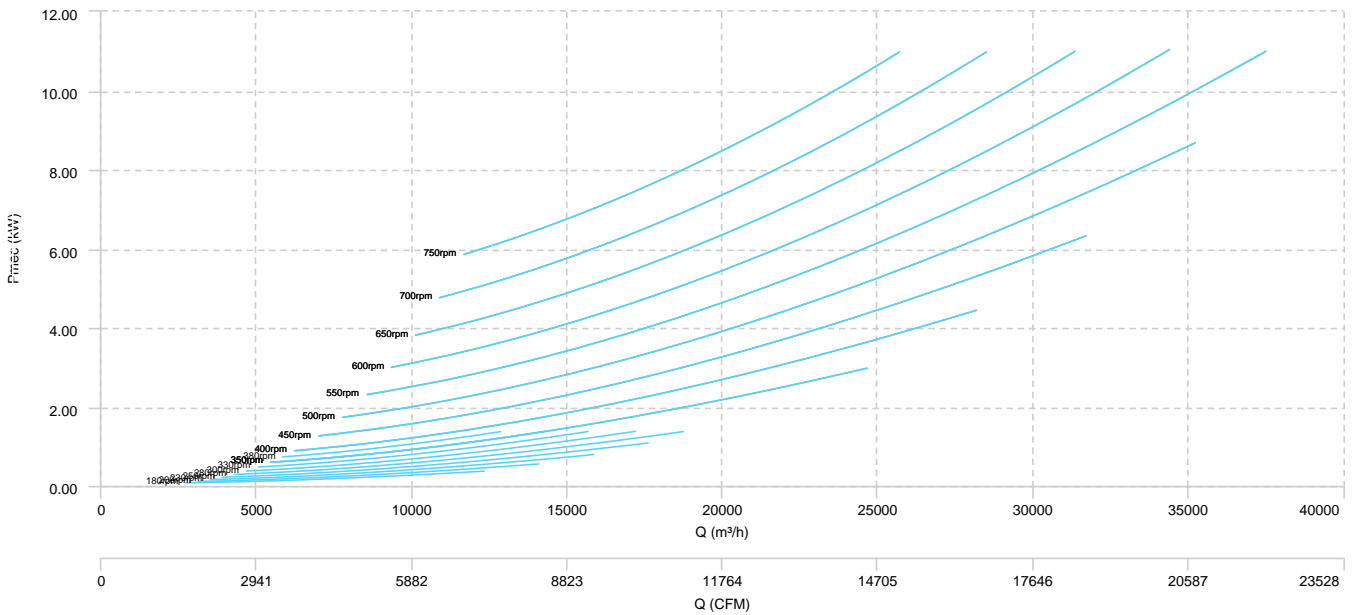
BVFC 25/25

BVFC 25/25 2V

**AIR FLOW - PRESSURE**



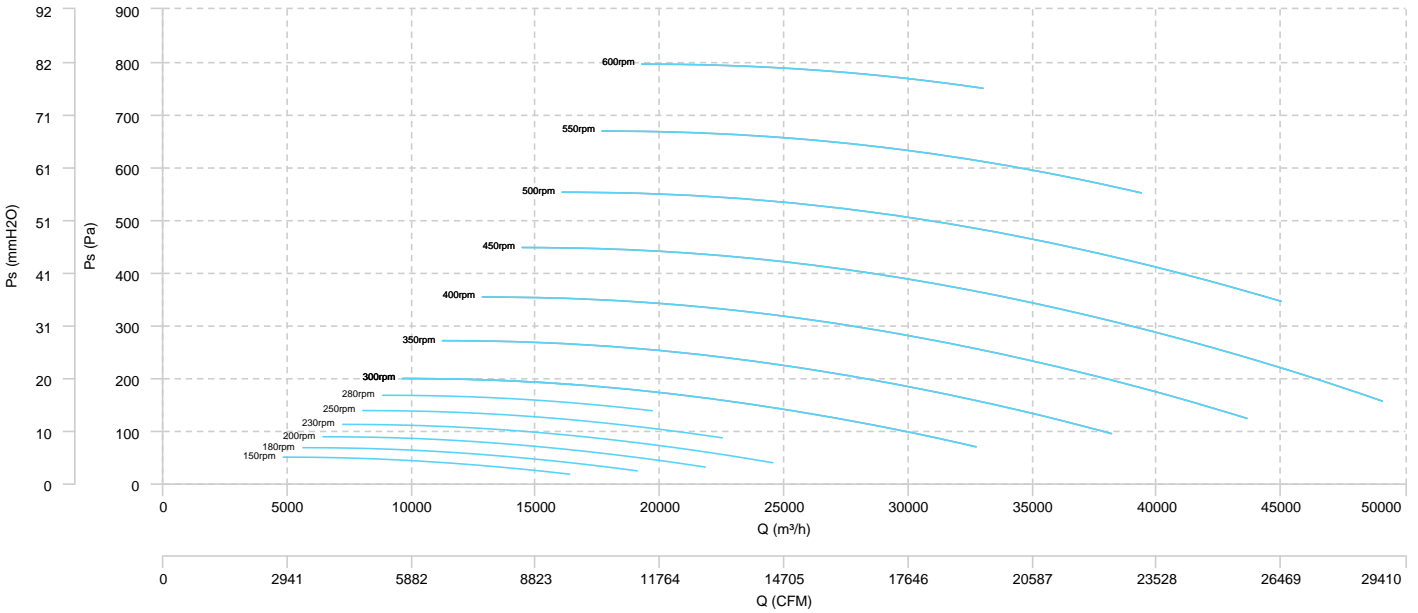
**AIR FLOW - MECHANICAL POWER**



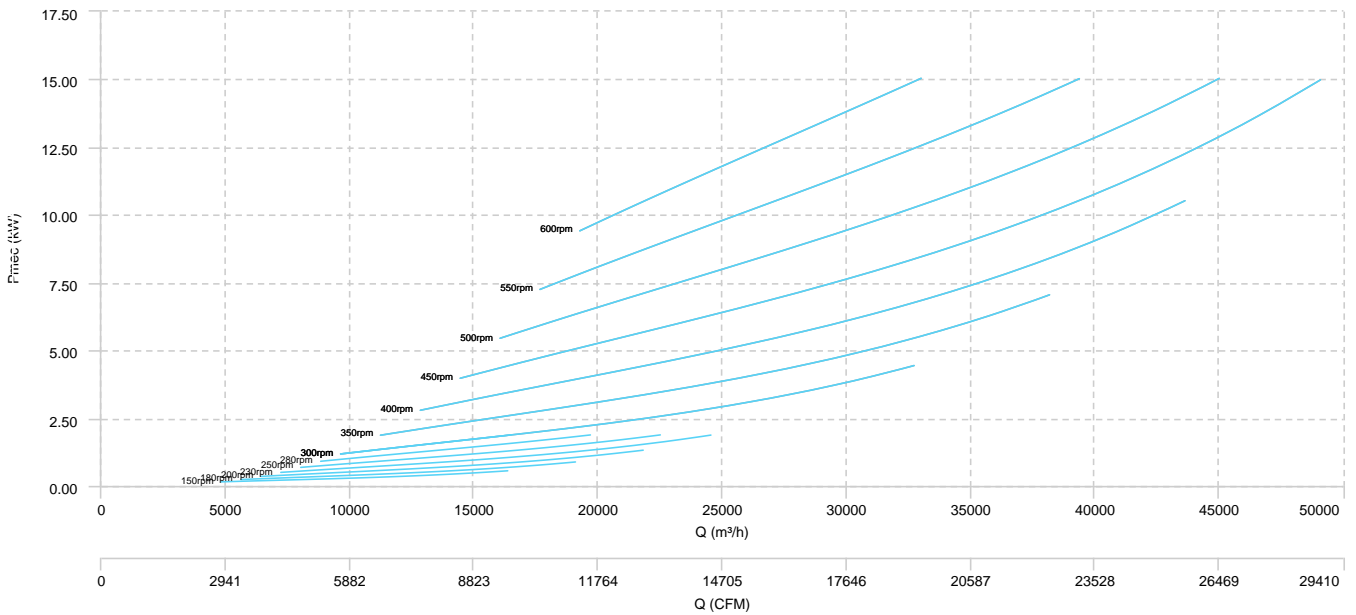
BVFC 30/28

BVFC 30/28 2V

**AIR FLOW - PRESSURE**



**AIR FLOW - MECHANICAL 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
BVFC 9/9 (950)	Inlet	48	54	55	55	57	55	52	47	63
BVFC 10/10 (800)	Inlet	50	56	57	57	59	57	54	49	65
BVFC 12/12 (550)	Inlet	49	55	55	55	58	56	53	48	63
BVFC 15/15 (500)	Inlet	50	56	57	57	59	57	54	49	65
BVFC 18/18 (450)	Inlet	54	60	61	61	63	62	58	53	69
BVFC 20/20 (500rpm)	Inlet	53	59	59	59	62	60	57	52	68
BVFC 22/22 (400rpm)	Inlet	58	64	64	64	67	65	62	57	72
BVFC 25/25 (350rpm)	Inlet	58	64	65	65	67	65	62	57	73
BVFC 30/28 (300rpm)	Inlet	61	67	68	68	70	68	65	60	76

### Sound / 4/8 poles

Sound power Lw dB (A)										
Model		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
BVFC 9/9 2V (950(8P))	Inlet	32	38	38	39	41	39	36	31	47
BVFC 10/10 2V (800(8P))	Inlet	34	40	40	40	43	41	38	33	48
BVFC 12/12 2V (550(8P))	Inlet	32	38	38	39	41	39	36	31	47
BVFC 15/15 2V (500(8P))	Inlet	34	40	40	40	43	41	38	33	48
BVFC 18/18 2V (450(8P))	Inlet	38	44	44	45	47	45	42	37	53
BVFC 20/20 2V (250rpm)	Inlet	36	42	43	43	45	43	40	35	51
BVFC 22/22 2V (200rpm)	Inlet	41	47	48	48	50	48	45	40	56
BVFC 25/25 2V (180rpm)	Inlet	42	48	48	48	51	49	46	41	56
BVFC 30/28 2V (150rpm)	Inlet	45	51	51	52	54	52	49	44	60

**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	-

## 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)
BVFC 9/9 (1150)	0,37	-	35,16	0,32	1.581	253,94	5.56	1.109,99
BVFC 9/9 (1200)	0,37	-	36,25	0,35	1.648,44	276,54	5.8	1.109,99
BVFC 9/9 (1250)	0,37	-	37,26	0,38	1.717,07	300,07	6.04	1.109,99
BVFC 9/9 (1300)	0,37	-	38,29	0,41	1.760,30	325,46	6.19	1.109,99
BVFC 9/9 (1350)	0,37	-	39,23	0,45	1.797,77	352,07	6.32	1.109,99
BVFC 9/9 (1400)	0,37	-	40,06	0,48	1.836,64	379,63	6.46	1.109,99
BVFC 9/9 (1450)	0,55	-	44,35	0,48	1.876,11	408,18	6.6	1.109,99
BVFC 9/9 (1500)	0,55	-	44,72	0,52	1.917,51	437,66	6.75	1.109,99
BVFC 9/9 (1550)	0,55	-	44,98	0,57	1.961,45	468,07	6.9	1.109,99
BVFC 9/9 (1600)	0,55	-	45,16	0,62	2.005,05	499,48	7.05	1.109,99
BVFC 10/10 (1000)	0,37	-	35,33	0,33	1.912,27	224,09	5.45	1.125,41
BVFC 10/10 (1050)	0,37	-	36,54	0,37	2.007,37	247,07	5.72	1.125,41
BVFC 10/10 (1100)	0,37	-	37,62	0,42	2.098,93	271,27	5.98	1.125,41
BVFC 10/10 (1150)	0,37	-	38,61	0,46	2.194,01	296,50	6.25	1.125,41
BVFC 10/10 (1200)	0,55	-	43,03	0,47	2.292,63	322,75	6.53	1.125,41
BVFC 10/10 (1250)	0,55	-	43,62	0,52	2.354,11	351,24	6.71	1.125,41
BVFC 10/10 (1300)	0,55	-	44,19	0,57	2.386,37	381,84	6.8	1.125,41
BVFC 10/10 (1350)	0,55	-	44,59	0,63	2.424,76	413,50	6.91	1.125,41
BVFC 10/10 (1400)	0,75	-	45,66	0,67	2.464,38	446,37	7.02	1.125,41
BVFC 10/10 (1450)	0,75	-	45,90	0,73	2.505,58	480,44	7.14	1.125,41
BVFC 10/10 (1500)	0,75	-	46,03	0,80	2.549,62	515,65	7.26	1.125,41
BVFC 12/12 (650)	0,37	-	33,62	0,26	2.247,59	141,97	4.63	1.150,16
BVFC 12/12 (700)	0,37	-	35,69	0,30	2.415,96	164,69	4.98	1.150,16
BVFC 12/12 (750)	0,37	-	37,53	0,36	2.588,33	189,05	5.34	1.150,16
BVFC 12/12 (800)	0,37	-	39,12	0,41	2.757,98	215,13	5.69	1.150,16
BVFC 12/12 (850)	0,37	-	40,51	0,48	2.930,36	242,86	6.04	1.150,16
BVFC 12/12 (900)	0,55	-	45,10	0,51	3.104,10	272,26	6.4	1.150,16
BVFC 12/12 (950)	0,55	-	45,52	0,60	3.276,47	303,35	6.76	1.150,16

Model	Maximum efficiency point data							
	Motor power (kW)	Eff. Heat recovery (%)	Max. efficiency (%)	Pabs (kW)	Air Flow (m <sup>3</sup> /h)	Ps (Pa)	Speed (m/s)	SFP (W/m <sup>3</sup> /s)
BVFC 12/12 (1000)	0,75	-	46,56	0,68	3.447,48	336,14	7.11	1.150,16
BVFC 12/12 (1050)	0,75	-	47,31	0,77	3.534,46	371,64	7.29	1.150,16
BVFC 12/12 (1100)	0,75	-	47,65	0,87	3.638,07	408,65	7.5	1.150,16
BVFC 12/12 (1150)	1,10	-	48,91	0,95	3.757,37	447,18	7.75	1.150,16
BVFC 12/12 (1200)	1,10	-	49,06	1,07	3.888,91	487,28	8.02	1.150,16
BVFC 12/12 (1250)	1,10	-	49,05	1,21	4.029,82	528,98	8.31	1.150,16
BVFC 12/12 (1300)	1,50	-	49,76	1,33	4.176,66	572,32	8.61	1.150,16
BVFC 15/15 (500)	0,55	-	42,81	0,28	2.936,20	142,05	4.16	1.094,30
BVFC 15/15 (550)	0,55	-	45,02	0,35	3.229,02	171,88	4.58	1.094,30
BVFC 15/15 (600)	0,55	-	46,53	0,44	3.522,98	204,55	4.99	1.094,30
BVFC 15/15 (650)	0,55	-	47,44	0,54	3.816,95	240,06	5.41	1.094,30
BVFC 15/15 (700)	0,55	-	47,82	0,67	4.107,47	278,41	5.82	1.094,30
BVFC 15/15 (750)	0,75	-	48,92	0,81	4.400,28	319,60	6.24	1.094,30
BVFC 15/15 (800)	1,10	-	50,06	0,96	4.690,78	363,62	6.65	1.094,30
BVFC 15/15 (850)	1,10	-	50,14	1,15	4.983,59	410,49	7.06	1.094,30
BVFC 15/15 (900)	1,50	-	50,84	1,34	5.275,24	460,20	7.48	1.094,30
BVFC 15/15 (950)	1,50	-	50,72	1,59	5.604,40	512,91	7.94	1.094,30
BVFC 15/15 (1000)	2,20	-	52,49	1,76	5.786,61	567,81	8.2	1.094,30
BVFC 18/18 (450)	1,10	-	46,80	0,37	4.035,33	153,57	4.16	1.132,20
BVFC 18/18 (500)	1,10	-	49,38	0,48	4.484,63	189,60	4.62	1.132,20
BVFC 18/18 (550)	1,10	-	51,11	0,62	4.929,74	229,42	5.08	1.132,20
BVFC 18/18 (600)	1,10	-	52,15	0,79	5.383,23	273,01	5.55	1.132,20
BVFC 18/18 (650)	1,10	-	52,60	1	5.828,34	320,42	6.01	1.132,20
BVFC 18/18 (700)	1,10	-	52,55	1,25	6.281,83	371,59	6.48	1.132,20
BVFC 18/18 (750)	1,50	-	53,38	1,51	6.731,13	426,57	6.94	1.132,20
BVFC 18/18 (800)	2,20	-	54,86	1,79	7.244,91	485,02	7.47	1.132,20
BVFC 18/18 (850)	2,20	-	54,96	2,06	7.375,84	549,44	7.6	1.132,20
BVFC 18/18 (900)	2,20	-	55	2,29	7.276,73	620,56	7.5	1.132,20