

Straight Centrifugal Fan  
Centrifugal Fan  
Axial Flow Fan



Effectively creates a safe and comfortable environment by replacing the indoor stale air with fresh outside air



Straight Centrifugal Fan



Centrifugal Fan



Axial Flow Fan

# Duct System for Buildings

Three types of in-line fans are available. In-line fans are installed in invisible spaces, but they are essential to building ventilation.



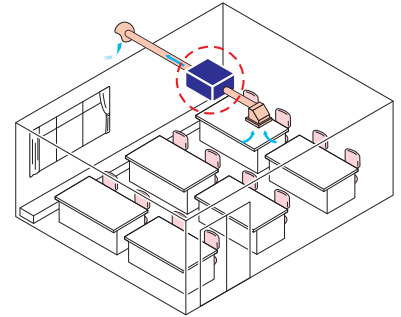
Straight Centrifugal Fan



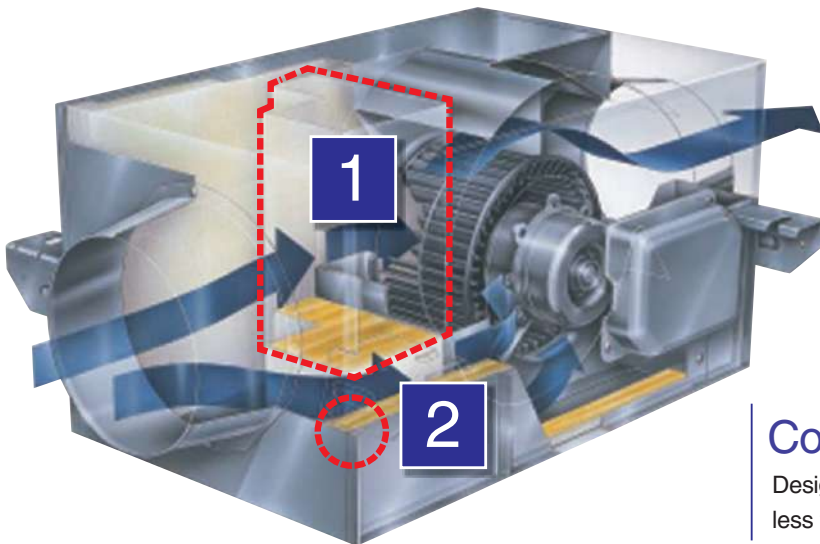
Centrifugal Fan



Axial Flow Fan



## Feature of the Straight Centrifugal Fan

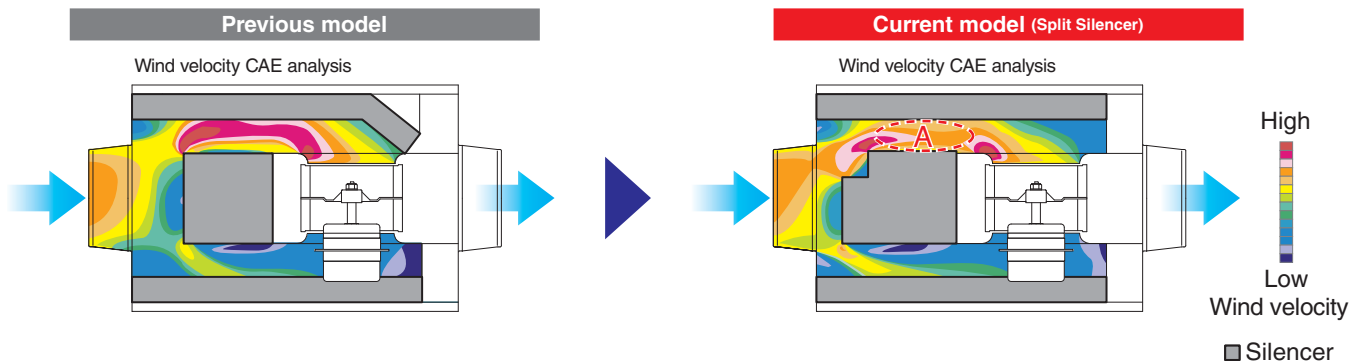


### Compact and light weight

Designed with a height less than 350mm and a weight less than 25kg while maintaining high strength.

### 1 Split Silencer

Low noise operation has been achieved using the Split Silencer. The decrease in wind speed in section A has contributed to reducing side noise and suction noise.

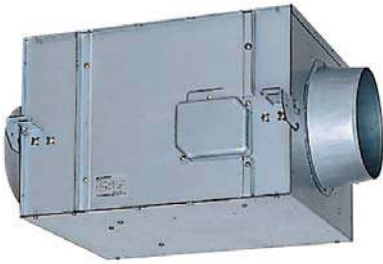


### 2 Punched caulking

The frames are clamped tightly together.



# Straight Centrifugal Fan

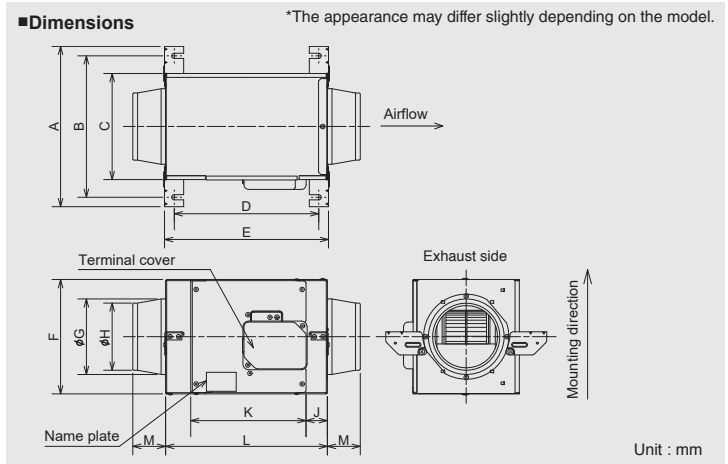


## BFS-30 to 100SA-E

(Single-phase)

\*Operating conditions: Ambient and transfer air temperatures between -10°C and +40°C, and a relative humidity of 90% or less at normal temperature. Use outside of this range may result in burning, deformation, irregular rotation, or damage.

### Applicable for



### ■Dimensions

Model	A	B	C	D	E	F	G	H	J	K	L	M
BFS-30SA-E	339	299	224	305	346	240	160	142	45	243	340	70
BFS-40SA-E	369	329	254	360	401	270	160	142	52	287	395	70
BFS-50SA-E	439	399	324	385	426	270	208	192	52	287	420	85
BFS-65SA-E	474	434	359	460	501	320	208	192	51	382	495	85
BFS-80SA-E	504	464	389	460	501	320	208	192	51	382	495	85
BFS-90SA-E	504	464	389	485	526	320	208	192	51	382	520	85
BFS-100SA-E	504	464	389	485	526	320	208	192	51	382	520	85

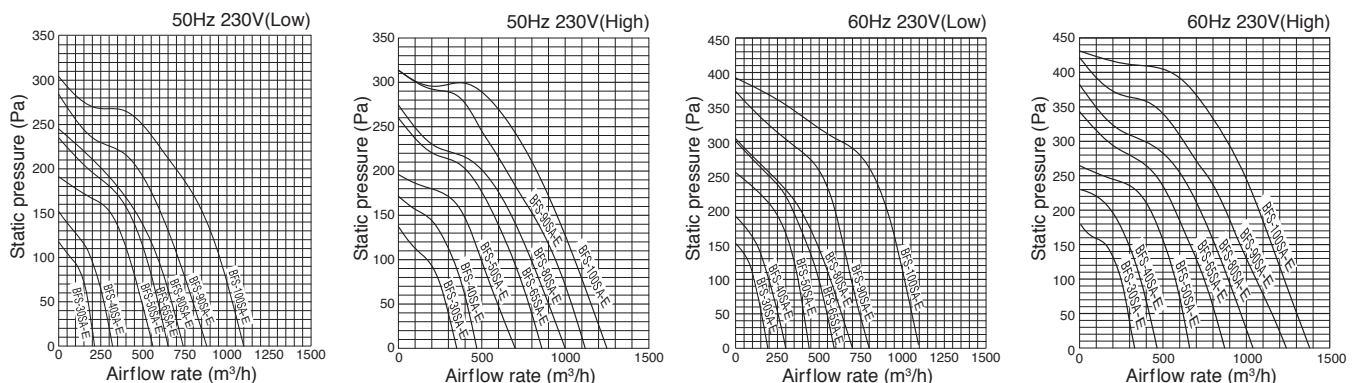
### ■ Specifications (50Hz)

Model	Power supply [V]	Fan speed	Current [A]	Power consumption [W]	Airflow rate [m³/h]	Static pressure [Pa]	Noise [dB]		Weight [kg]
							Casing side	Suction side	
BFS-30SA-E	Single-phase 220-240	High	0.17-0.18	37-42	292-300	39	26	36.5	7
		Low	0.14-0.15	29-35	186-212	18	21.5	27	
BFS-40SA-E		High	0.25-0.26	55-63	395-400	59	26.5	36.5	9
		Low	0.22-0.23	47-54	289-325	30	23	30	
BFS-50SA-E		High	0.37-0.38	80-86	500-500	98	29	39	11
		Low	0.3-0.3	64-69	450-450	80	25.5	35	
BFS-65SA-E		High	0.50-0.52	102-119	614-650	118	32	37	15
		Low	0.32-0.34	70-81	505-546	83	27.5	32.5	
BFS-80SA-E		High	0.58-0.60	126-139	800-800	98	32.5	37.5	15.5
		Low	0.44-0.45	96-104	650-650	64	29	33.5	
BFS-90SA-E	High	0.74-0.74	161-177	900-900	118	33.5	39.5	17.5	
	Low	0.53-0.53	116-127	760-778	80	31	36.5		
BFS-100SA-E	High	0.87-0.89	189-207	1000-1000	127	37	42.5	19	
	Low	0.76-0.78	168-182	945-973	107	35.5	41.5		

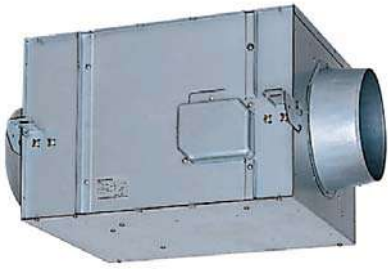
### ■ Specifications (60Hz)

Model	Power supply [V]	Fan speed	Current [A]	Power consumption [W]	Airflow rate [m³/h]	Static pressure [Pa]	Noise [dB]		Weight [kg]
							Casing side	Suction side	
BFS-30SA-E	Single-phase 220-240	High	0.20-0.21	43-50	293-300	39	27	38.5	7
		Low	0.15-0.17	29-35	171-196	15	21	26	
BFS-40SA-E		High	0.29-0.31	63-73	395-400	69	28	38	9
		Low	0.23-0.25	48-56	274-300	30	23	29.5	
BFS-50SA-E		High	0.42-0.43	93-100	500-500	157	30	39.5	11
		Low	0.33-0.34	70-79	380-380	91	25	34	
BFS-65SA-E		High	0.67-0.70	136-153	650-650	157	34.5	38	15
		Low	0.39-0.41	84-96	513-516	88	27	32	
BFS-80SA-E		High	0.69-0.69	151-166	768-800	157	35.5	38	15.5
		Low	0.47-0.50	103-120	580-615	84	29	33.5	
BFS-90SA-E		High	0.92-0.94	196-215	900-900	186	36	41.5	17.5
		Low	0.60-0.63	131-150	695-731	108	31	36	
BFS-100SA-E	High	1.2-1.2	246-268	1000-1000	245	39.5	44.5	19	
	Low	0.99-1.0	211-230	941-941	173	37.5	43		

### P-Q Characteristics



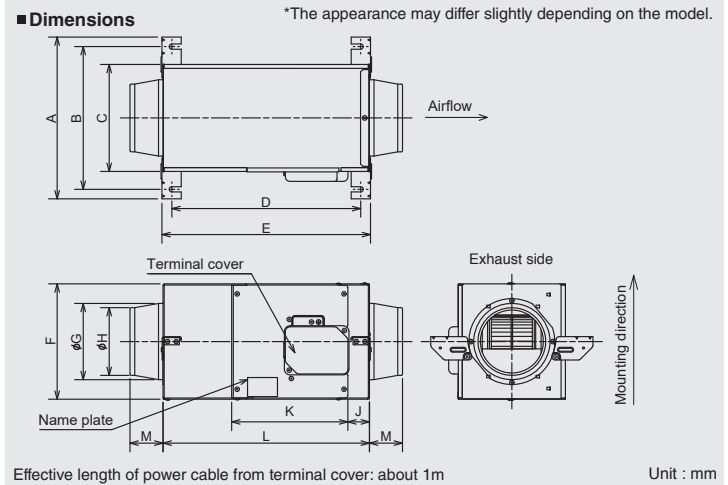
The printed colors of the products may differ slightly from the actual product colors. Due to continuous improvements, the above specifications are subject to change without notice.



## BFS-100 to 180TA-E (Three-phase)

\*Operating conditions: Ambient and transfer air temperatures between -10°C and +40°C, and a relative humidity of 90% or less at normal temperature. Use outside of this range may result in burning, deformation, irregular rotation, or damage.

### Applicable for



### ■ Dimensions

Model	A	B	C	D	E	F	G	H	J	K	L	M
BFS-100TA-E	504	464	389	485	526	320	208	192	51	382	520	85
BFS-120TA-E	480	440	365	515	556	350	258	242	70	400	550	85
BFS-150TA-E	490	450	375	530	571	350	258	242	70	400	565	85
BFS-180TA-E	570	530	455	610	651	350	258	242	70	400	645	85

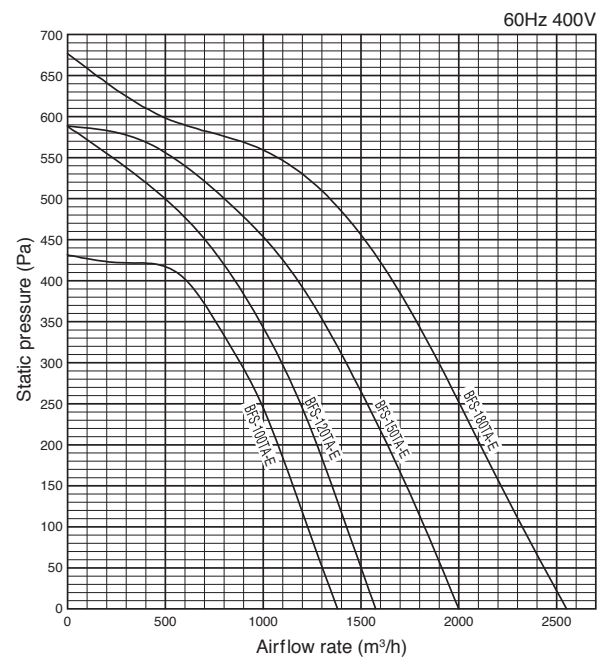
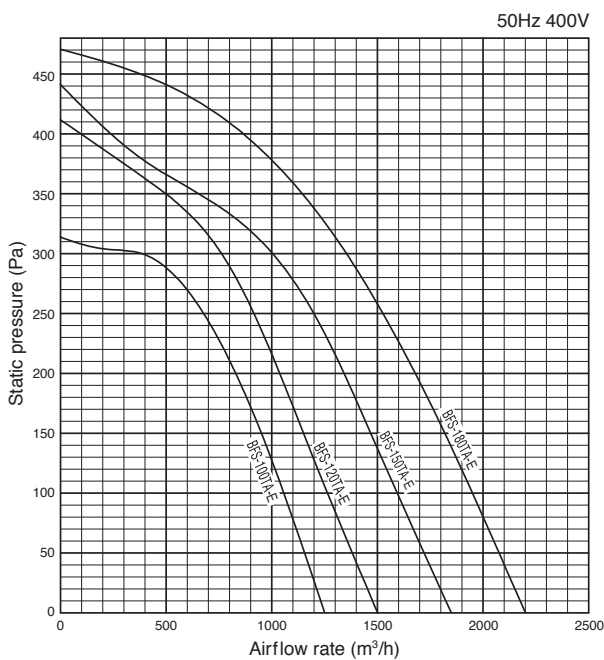
### ■ Specifications (50Hz)

Model	Power supply [V]	Current [A]	Power consumption [W]	Airflow rate [m³/h]	Static pressure [Pa]	Noise [dB]		Weight [kg]
						Casing side	Suction side	
BFS-100TA-E	Three-phase 380-415	0.35-0.37	178-196	1000-1000	127	36	42	17.5
BFS-120TA-E		0.55-0.57	258-273	1170-1200	127	40	48	20
BFS-150TA-E		0.82-0.89	346-372	1500-1500	137	42	48	20
BFS-180TA-E		0.96-1.0	424-446	1750-1800	157	41	46	24

### ■ Specifications (60Hz)

Model	Power supply [V]	Current [A]	Power consumption [W]	Airflow rate [m³/h]	Static pressure [Pa]	Noise [dB]		Weight [kg]
						Casing side	Suction side	
BFS-100TA-E	Three-phase 400-440	0.43-0.44	258-266	1000-1000	245	37.5	43	17.5
BFS-120TA-E		0.63-0.63	337-363	1150-1200	245	41	48.5	20
BFS-150TA-E		0.87-0.88	445-462	1500-1500	265	44	48	20
BFS-180TA-E		1.0-1.0	541-568	1700-1800	343	41.5	45.5	24

## P-Q Characteristics



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# Fireproof Type



## V-15 to V-18ZMW-E V-15 to V-18ZMWP-E

### • Fireproofing performance

The casing and impeller are made of galvanized steel sheet.\* The terminal box has a metal cover for safety, and the noise absorption material\*\* complies with BS476 Part 6 and Part 7.

\*The impeller of V-18ZMW(P)-E is made of aluminum.  
\*\*Sound absorption material is used in V-18ZMWP-E.

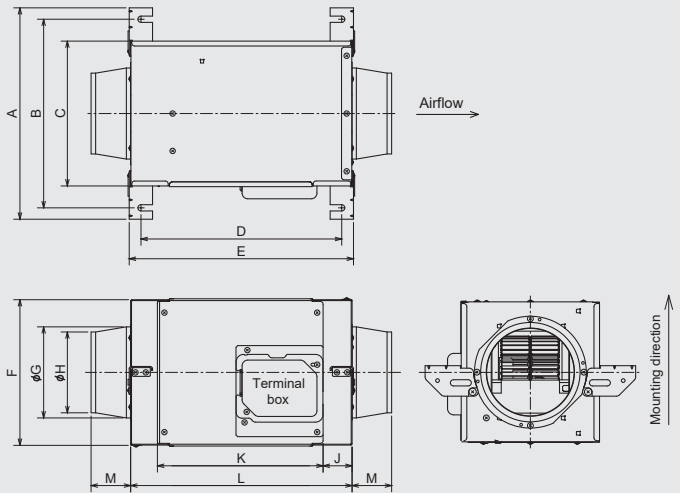
\*\*\*Operating conditions: Ambient and transfer air temperatures between -15°C and +40°C, and a relative humidity of 90% or less at normal temperature.

### Applicable for



### ■ Dimensions

\*The appearance may differ slightly depending on the model.



Unit : mm

### ■ Dimensions

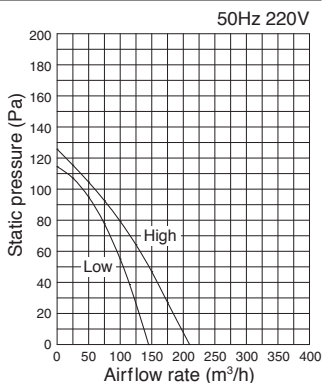
Model	A	B	C	D	E	F	G	H	J	K	L	M
V-15ZMW-E	339	299	223	299	340	226	110	98	43	234	335	60
V-15ZMWP-E	339	299	223	299	340	226	160	142	43	234	335	70
V-18ZMW-E	371	331	255	353	394	255	160	142	51	291	389	70
V-18ZMWP-E	435	395	319	395	436	255	208	192	51	291	431	85

### ■ Specifications

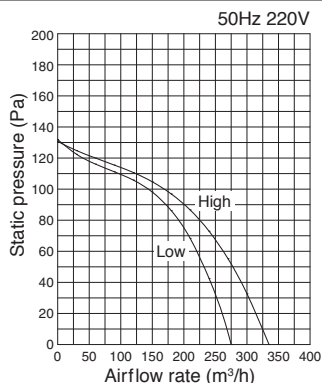
Model	Power supply [V]	Fan speed	Current [A]	Power consumption [W]	Airflow rate [m <sup>3</sup> /h]	Static pressure [Pa]	Noise [dB]	Weight [kg]
V-15ZMW-E	Single-phase 220	High	0.11	25	210	0	21.5	6.0
		Low	0.10	16	145		17	
	Single-phase 240	High	0.12	29	215		22.5	
		Low	0.11	19	170		19	
V-15ZMWP-E	Single-phase 220	High	0.21	43	335		26.5	6.0
		Low	0.18	29	275		23	
	Single-phase 240	High	0.22	49	350		29	
		Low	0.19	35	305		26.5	
V-18ZMW-E	Single-phase 220	High	0.28	60	510	31	8.5	
		Low	0.24	34	370	26		
	Single-phase 240	High	0.28	67	520	32.5		
		Low	0.24	39	400	28		
V-18ZMWP-E	Single-phase 220	High	0.47	99	770	32.5	9.5	
		Low	0.45	78	650	30		
	Single-phase 240	High	0.47	109	780	33		
		Low	0.46	88	700	32		

## P-Q Characteristics

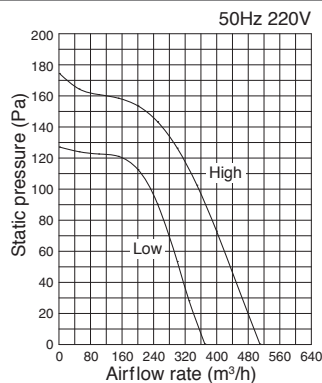
### V-15ZMW-E



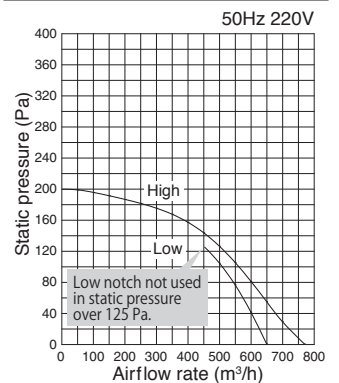
### V-15ZMWP-E



### V-18ZMW-E



### V-18ZMWP-E



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Due to continuous improvements, the above specifications are subject to change without notice.

# Centrifugal Fan



(The picture is BF-12S2-E model)

## BF-12 to 23S2-E (Single-phase) BF-25, 28T-E (Three-phase)

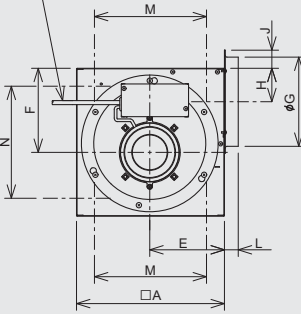
\*Operating conditions: Ambient and transfer air temperatures between -10°C and +50°C, and a relative humidity of 90% or less at normal temperature. Use outside of this range may result in burning, deformation, irregular rotation, or damage.

\*Do not install the unit where it may directly suction oily smoke or steam, such as the kitchen.

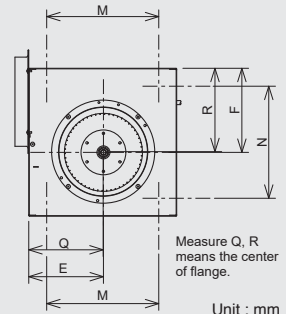
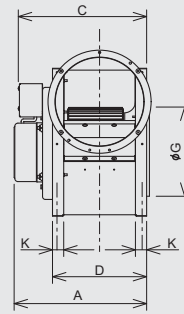
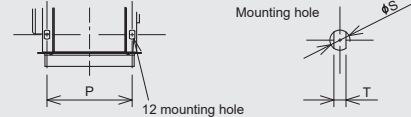
\*Do not install the unit where steam and corrosive gas are constantly generated, or where it may be exposed to rain.

### Dimensions

Measure E, F means the center of motor.  
Supply cord Effective Length:1m



\*The appearance may differ slightly depending on the model.



Measure Q, R means the center of flange.

Unit : mm

### Applicable for



### Dimensions

Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
BF-12S2-E	200	208	213	145	101	114	149	65	25	20	30.8	162	170	125	106	105	10	6
BF-14S2-E	200	208	213	145	101	114	149	65	25	20	30.8	162	170	125	106	105	10	6
BF-16S2-E	250	237	237	170	126	142	149	60	30	20	30.8	190	190	150	126	142	10	6
BF-17S2-E	300	233	238	185	152	171	199	85	30	22.5	30.8	240	240	165	151	170	16	10
BF-19S2-E	300	269	265	185	152	171	199	85	30	22.5	30.8	240	240	165	151	170	16	10
BF-21S2-E	330	294	286	210	167	188	199	75	40	25	30.8	250	250	190	166	186	20	12
BF-23S2-E	380	318	301	225	192	218	249	105	35	25	30.8	300	300	205	193	215	20	12
BF-25T-E	380	309	-	225	192.1	217.6	249	105	35	25	30.8	300	300	205	192.5	214.5	20	12
BF-28T-E	395	319.2	-	250	200	228.7	249	93	47	25	30.8	320	320	230	199.6	223.4	20	12

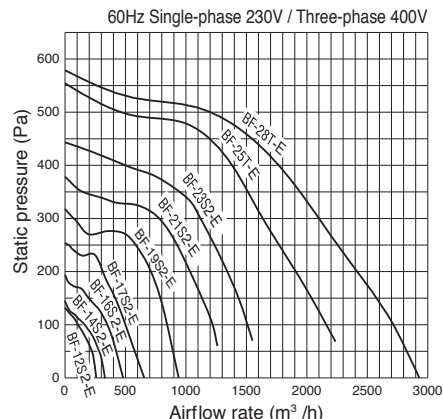
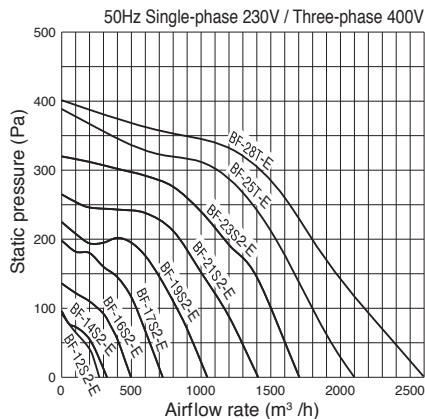
### Specifications (50Hz)

Model	Power supply [V]	Current [A]	Power consumption [W]	Airflow rate [m³/h]	Static pressure [Pa]	Noise [dB]		Weight [kg]
						Casing side	Suction side	
BF-12S2-E	Single-phase 220-240	0.11-0.11	21-25	260-280	0	36-37.5	41.5-43.5	3.5
BF-14S2-E		0.15-0.16	30-35	320-330		41.5-42.5	47-47.5	3.6
BF-16S2-E		0.23-0.24	49-52	485-510		43.5-45	47.5-49	6.0
BF-17S2-E		0.33-0.36	68-80	690-760		42-44	48.5-51	8.1
BF-19S2-E		0.65-0.65	130-145	1010-1080		51.5-53.5	58.5-60	11.1
BF-21S2-E		1.15-1.13	235-249	1380-1440		56-57	62-63.5	13.4
BF-23S2-E	1.51-1.5	331-358	1660-1750	57-59	64-65.5	19.6		
BF-25T-E	Three-phase 380-415	0.96-0.99	445-464	2100	0	62.5	69	16
BF-28T-E		1.2-1.19	645-657	2600		65	71.5	20.5

### Specifications (60Hz)

Model	Power supply [V]	Current [A]	Power consumption [W]	Airflow rate [m³/h]	Static pressure [Pa]	Noise [dB]		Weight [kg]
						Casing side	Suction side	
BF-12S2-E	Single-phase 220	0.12	26	258	0	36.5	42	3.5
BF-14S2-E		0.18	37	330		43.5	49	3.6
BF-16S2-E		0.26	56	480		43.5	46	6.0
BF-17S2-E		0.38	82	655		40.5	47	8.1
BF-19S2-E		0.74	155	940		50	56.5	11.1
BF-21S2-E		1.4	305	1260		60	54.5	61
BF-23S2-E	1.92	416	1550	70	56	63	19.6	
BF-25T-E	Three-phase 400-440	1.17-1.16	667-704	2280	0	65	72	16
BF-28T-E		1.17-1.16	1065-1077	2920		68.5	75	20.5

### P-Q Characteristics



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\*Do not use the appliance out of the range of the characteristic curve.

# Axial Flow Fan



## JF-30 to 250S2-E (Single-phase)    JF-350 to 550T-E (Three-phase)

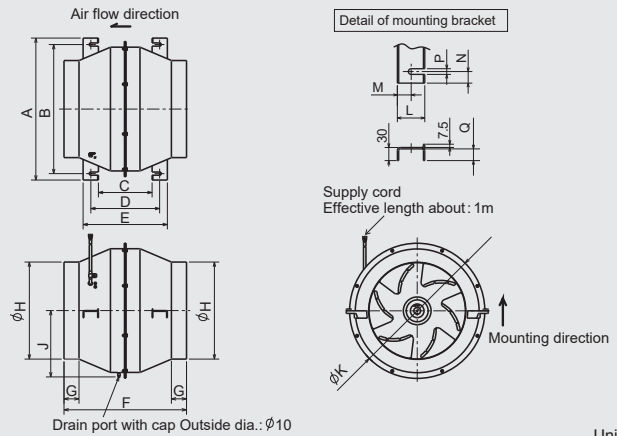
\*Operating conditions: Ambient and transfer air temperatures between -10°C and +40°C, and a relative humidity of 90% or less at normal temperature. Use outside of this range may result in burning, deformation, irregular rotation, or damage.  
 \*Do not install the unit in vertical orientation.  
 \*Do not install the unit where it may directly suction oily smoke or steam, such as the kitchen.

### Applicable for



### ■ Dimensions

\*The appearance may differ slightly depending on the model.



Unit : mm

### ■ Dimensions

Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
JF-30S2-E	340	300	80	113	170	280	50	200	151.2	300	45	28.5	20	11	12
JF-65S2-E	389	349	128	161	218	350	51	250	179.4	360	45	28.5	20	11	12
JF-80S2-E	389	349	128	161	218	350	51	250	179.4	360	45	28.5	20	11	12
JF-100S2-E	450	410	144	177	234	400	55	300	209.8	430	45	28.5	20	11	12
JF-150S2-E	450	410	144	177	234	400	55	300	209.8	430	45	28.5	20	11	12
JF-200S2-E	543	490	136	198	261	434	48	323	252.3	515	62.8	31.8	26.5	13	26.8
JF-250S2-E	543	490	136	198	261	434	48	323	252.3	515	62.8	31.8	26.5	13	26.8
JF-350T-E	583	530	218	280	343	500	62	400	272.5	555	62.8	31.8	26.5	13	26.8
JF-450T-E	713	660	256	318	381	600	57	500	337.3	685	62.8	31.8	26.5	13	26.8
JF-550T-E	713	660	256	318	381	600	57	500	337.3	685	62.8	31.8	26.5	13	26.8

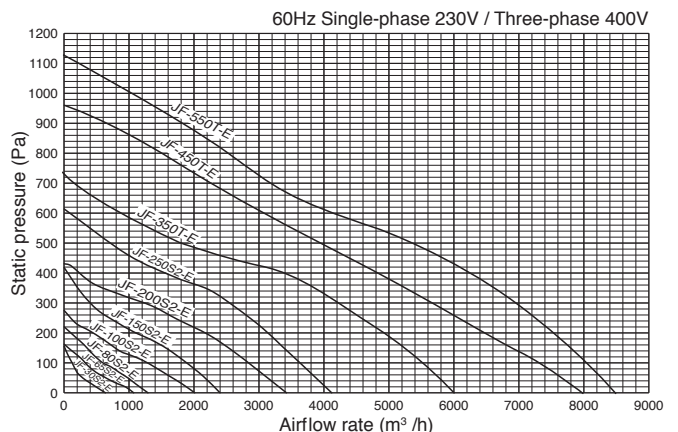
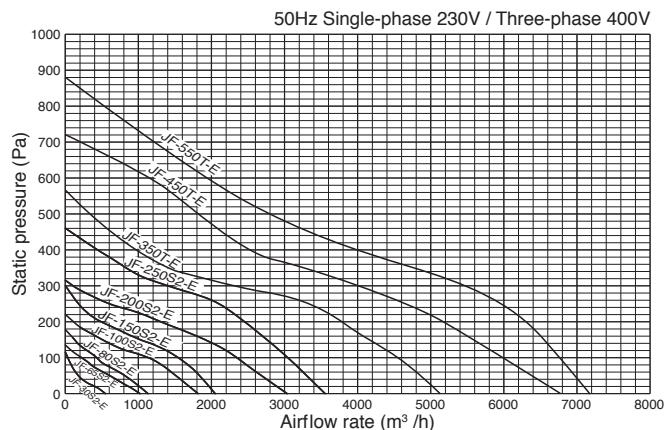
### ■ Specifications (50Hz)

Model	Power supply [V]	Current [A]	Power consumption [W]	Airflow rate [m <sup>3</sup> /h]	Noise [dB]		Weight [kg]
					Casing side	Suction side	
JF-30S2-E	Single-phase 220-240	0.15-0.16	31-34	545-550	31-31	48-48	4.4
JF-65S2-E		0.19-0.2	40-47	980-1060	30.5-31.5	48-49	7.7
JF-80S2-E		0.36-0.38	62-69	1120-1140	34-34.5	51.5-52	8.4
JF-100S2-E		0.45-0.5	95-110	1800-1830	39-40	57-57.5	14.2
JF-150S2-E		0.74-0.81	134-148	2050-2050	45-45	61.5-61.5	15.5
JF-200S2-E		0.95-0.95	205-220	2945-3100	46-46	66-66	19.6
JF-250S2-E	1.4-1.37	306-327	3530-3580	46-46.5	67.5-68	22.1	
JF-350T-E	Three-phase 380-415	1.00-1.20	508-528	5130	53	71	28.5
JF-450T-E		1.30-1.40	680-700	6800	57	70.5	54
JF-550T-E		1.60-1.70	750-790	7200	57	71	55.5

### ■ Specifications (60Hz)

Model	Power supply [V]	Current [A]	Power consumption [W]	Airflow rate [m <sup>3</sup> /h]	Noise [dB]		Weight [kg]
					Casing side	Suction side	
JF-30S2-E	Single-phase 220	0.21	45	635	34.5	50.5	4.4
JF-65S2-E		0.24	51	1070	32.5	49	7.7
JF-80S2-E		0.39	77	1290	37	54	8.4
JF-100S2-E		0.6	130	2010	42	59.5	14.2
JF-150S2-E		0.88	186	2400	48	65	15.5
JF-200S2-E		1.38	295	3500	50	69.5	19.6
JF-250S2-E	2.2	460	4120	49.5	71.5	22.1	
JF-350T-E	Three-phase 400-440	1.30-1.40	805-823	6000	57	74.5	28.5
JF-450T-E		1.90-1.70	1120-1130	8000	60	75.5	54
JF-550T-E		2.00-2.10	1200-1250	8500	60	75.5	55.5

### P-Q Characteristics



The printed colors of the products may differ slightly from the actual product colors.  
 Due to continuous improvements, the above specifications are subject to change without notice.

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