

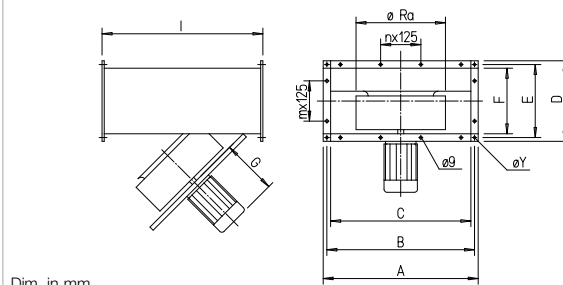
# Rectangular duct smoke exhaust fans BK F400 for rectangular ducts 40 x 20 cm to 60 x 35 cm



## BK F400 for rectangular ducts 40 x 20 cm to 60 x 35 cm



## Dimensions BK F400 for rectangular ducts 40 x 20 cm to 60 x 35 cm



Dim. in mm

Type	A	B	C	D	E	F	G	I	Ø Ra	n	m	Ø Y
<b>BKD 225/2/2/40/20</b>	440	420	400	240	220	200	270	500	284	1	—	9
<b>BKW 250/4/50/30</b>	540	520	500	340	320	300	215	675	319	3	1	9
<b>BKD 250/2/2/50/30</b>	540	520	500	340	320	300	290	675	319	3	1	9
<b>BKW 280/4/50/30</b>	540	520	500	340	320	300	221	675	360	3	1	9
<b>BKW 315/4/60/35</b>	640	620	600	390	370	350	260	775	405	3	1	9
<b>BKW 400/6/60/35</b>	640	620	600	390	370	350	285	775	455	3	1	9
<b>BKW 400/4/60/35</b>	640	620	600	390	370	350	358	775	455	3	1	9
<b>BKD 400/4/4/60/35</b>	640	620	600	390	370	350	285	775	455	3	1	9

### ■ Application

- For ensuring smoke and heat extraction in preventative fire protection for individual rooms, corridors, escape routes or entire buildings. Also for the prevention of "flam-hover".
- For areas of application with air flow temperatures from 400 °C/120 min. (F400).
- Versatile for general smoke extraction tasks.
- Wherever easy access is necessary for cleaning and maintenance.
- Smoke exhaust fan without dual function (rectangular duct smoke exhaust fans BK can only be used as smoke extraction fans and usage in ventilation operation is not permitted).

### ■ Air flow temperature

Temperature range 400 °C/120 min. (in smoke extraction) and ambient temperatures from -20 °C to +40 °C.

### ■ Features

- Hinged motor-impeller unit for inspection and cleaning. All parts easily accessible.
- Robust design for difficult operating conditions.
- Standard motor protection against thermal overload through integrated thermal contacts (to be bridged in case of smoke extraction).
- Additional cooling wheel on the motor shaft for effective heat dissipation.
- Ready-for-use delivery for easy installation.
- High operational reliability due to minimal maintenance requirements.

### ■ Casing

- Made of galvanised steel sheet. Rectangular, for direct installation in ducting. Inlet and outlet with holes for connection of standard flanges.
- Compact design for simple integration in smoke extraction ducts, without height offset.

### ■ Impeller

- Directly driven, backward curved centrifugal impeller made from galvanised steel.
- Dynamically balanced, quality class 6.3.

### ■ Drive

- For single speed fans with three phase motor and a nominal motor output ≤ 2.20 kW, the connection is provided for direct start-up.
- Special motor for use with high air flow temperatures.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).
- Enclosed design in IP55, with self-ventilation, storage with sufficient lubricant for service life.
- Winding with humidity protection in insulation class F.
- Motor outside of air flow, protected from this by thermal separation.
- Additional impeller for atmospheric cooling.

- Design according to IEC/T5 60034-1, IEC 72, VDE 530 / DIN EN 60034 and VDE 0700 / DIN EN 60335-1.

### ■ Full motor protection

- All types are equipped with thermal contacts. Their connections are led out to the terminal board and must be wired to the suitable full motor protection device (Accessories). The motor protection devices must be bridged in smoke extraction operation.

### ■ Electrical connection

- Freely accessible terminal box (protection class IP55) mounted to motor. When cutting the connection cable to length, consider the pivoting range of the motor-impeller unit.

### ■ Assembly/Installation

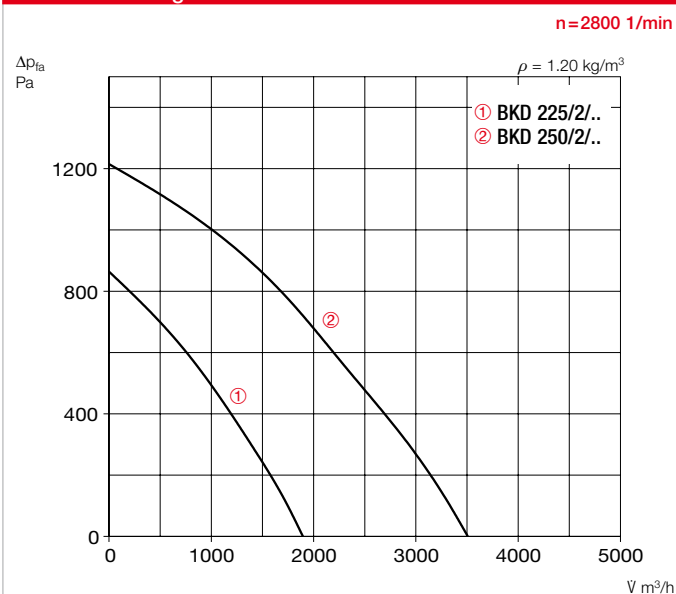
- For installation outside of fire/temperature-critical rooms.
- Installation in any position. Consider pivoting range and ease of access to motor-impeller unit.

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Power consumption		Wiring diagram	Net weight approx.	Smoke exhaust fan control system	
		min <sup>-1</sup>	l/s	dB(A) in 4 m	kW	A	No.	kg	Type	Ref. no.
<b>F400 Single speed, alternating current 230 V, 50 Hz, capacitor motor, protection category IP55, with thermal contact</b>										
<b>BKW 250/4/50/30 F400</b>	08552	1350	1550	45	0.16	0.80	1268 <sup>1)</sup>	36	<b>EVS-W 001</b>	04595
<b>BKW 280/4/50/30 F400</b>	08555	1370	2170	48	0.16	0.82	1268 <sup>1)</sup>	38	<b>EVS-W 001</b>	04595
<b>BKW 315/4/60/35 F400</b>	08558	1320	3470	52	0.42	2.00	1268 <sup>1)</sup>	46	<b>EVS-W 001</b>	04595
<b>BKW 400/6/60/35 F400</b>	08557	915	2750	45	0.30	1.62	1268 <sup>1)</sup>	57	<b>EVS-W 001</b>	04595
<b>BKW 400/4/60/35 F400</b>	08559	1420	4330	55	1.36	6.90	1268 <sup>1)</sup>	58	<b>EVS-W 001</b>	04595
<b>F400 Single speed, three-phase motor 400 V, 50 Hz, protection category IP55, with thermal contact</b>										
<b>BKD 225/2/2/40/20 F400</b>	08548	2630	1900	56	0.47	0.96	1234 <sup>2)</sup>	34	<b>EVS-D 001</b>	04594
<b>BKD 250/2/2/50/30 F400</b>	08553	2720	3510	59	1.03	2.00	1234 <sup>2)</sup>	37	<b>EVS-D 001</b>	04594
<b>BKD 400/4/4/60/35 F400</b>	08561	1350	4170	55	0.81	1.60	1234 <sup>2)</sup>	60	<b>EVS-D 001</b>	04594

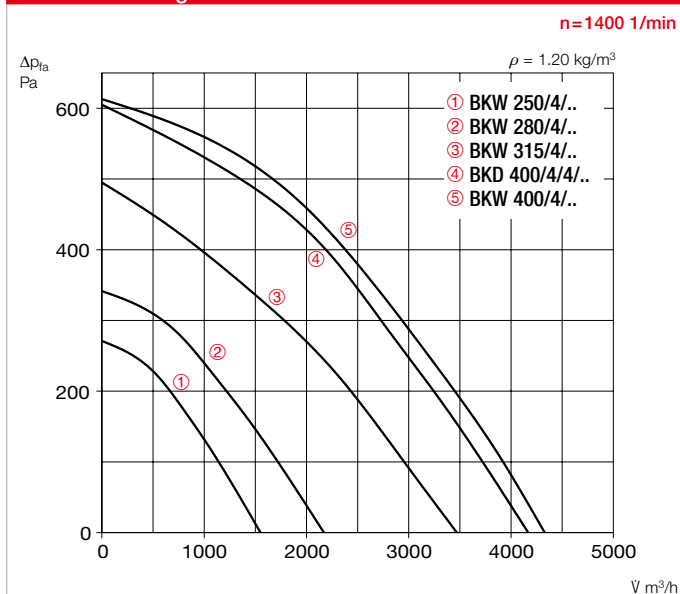
<sup>1)</sup> Principle connection 1269

<sup>2)</sup> Principle connection 565

Performance diagram BK../2/..



Performance diagram BK../4/..



□ The motor may only be suspended in the horizontal installation position. The descriptions and specifications in the declaration of performance must be observed.

**Note:**

When using as smoke exhaust fan, it must be insulated according to DIN 4102-4 if damage to the surrounding area is expected due to the casing temperature.

■ **Safety information**

Contact protection must be ensured for the impeller pursuant to DIN EN ISO 13857.

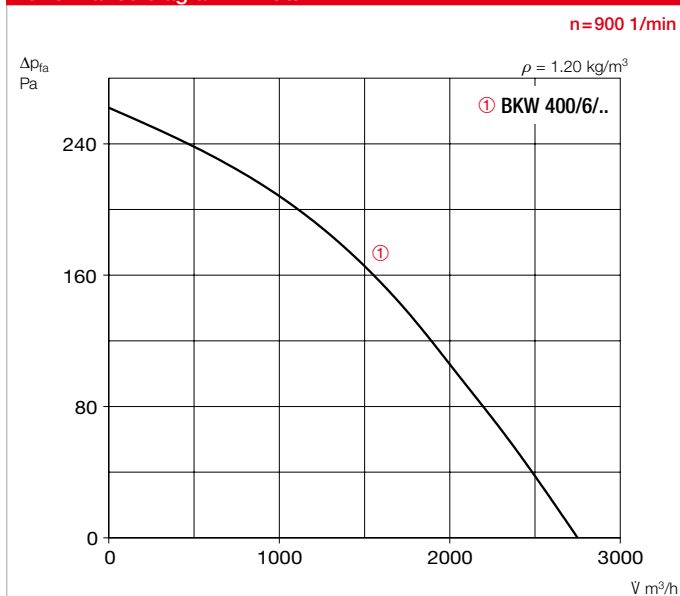
■ **Noise levels**

The radiated noise is specified in the type table as sound pressure level in dB(A) in 4 m in freefield conditions. Different installation conditions or disturbed flow can lead to increased noise levels.

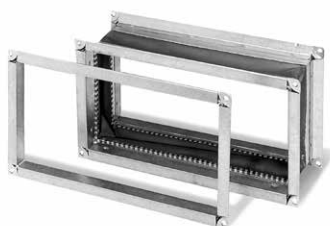
■ **Certification**

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability: F400: 0036-CPR-RG05-08

Performance diagram BK../6/..



GFB and VSB



Counter flange GFB		Flexible connector VSB*		Compatible with rectangular duct smoke exhaust fan NG mm i.L.
Type	Ref. no.	Type	Ref. no.	
GFB 40/20	06871	VSB 40/20 F400	06844	400 x 200
GFB 50/30	06872	VSB 50/30 F400	06834	500 x 300
GFB 60/35	06873	VSB 60/35 F400	06835	600 x 350

\*VSB = Temperature resistance from -30 °C to +130 °C, 400 °C for 2 hours.

■ **Accessories**

**Counter flange GFB**

Galvanised steel sheet flange frame dimensionally adapted to the rectangular fans for connection to the duct.

**Flexible connector VSB**

With double-sided flange frame. For prevention of structure-borne sound transmission and compensation of mounting tolerances.

■ **Important note**

In case of smoke extraction, the electrical power supply must be fire-protected. Potential motor protection devices, control devices must be automatically bridged in case of fire (deactivated) and functionality at the maximum operating stage must be ensured.

Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Controls, switches	170 ff.