

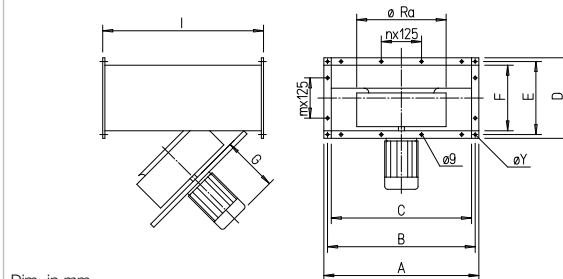
Rectangular duct smoke exhaust fans BK F400 for rectangular ducts 70 x 40 cm to 120 x 60 cm



BK F400 for rectangular ducts 70 x 40 cm to 120 x 60 cm



Dimensions BK F400 for rectangular ducts 70 x 40 to 120 x 60 cm



Type	A	B	C	D	E	F	G	I	Ø Ra	n	m	Ø Y
BKW 450/6/70/40	740	720	700	440	420	400	274	850	505	3	1	9
BKD 450/4/4/70/40	740	720	700	440	420	400	323	850	505	3	1	9
BKW 500/6/80/50	840	820	800	540	520	500	274	1025	566	5	3	9
BKD 500/4/4/80/50	840	820	800	540	520	500	357	1025	566	5	3	9
BKD 560/6/6/80/50	840	820	800	540	520	500	358	1025	636	5	3	9
BKD 560/4/80/50	840	820	800	540	520	500	372	1025	636	5	3	9
BKD 630/6/6/100/50	1040	1020	1000	540	520	500	372	1075	716	7	3	9
BKD 710/6/120/60	1240	1220	1200	640	620	600	442	1200	806	7	3	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 "flash-over".
- 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 or PTC thermistor elements (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 DIN EN 60034-1 and DIN EN IEC 60072-1.

■ Full motor protection

- All types are equipped with thermal contacts or PTC thermistors. 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. The motor protection devices must be bridged in smoke extraction operation.

■ Voltages and frequencies

Nominal voltage and frequency are specified in the table. These also form the basis for the performance data.

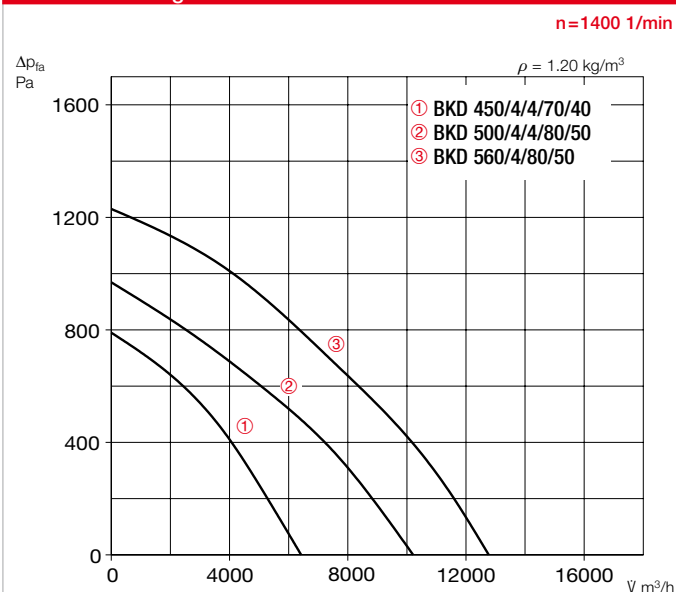
Type	Ref no.	Speed	Output free-blowing	Sound pres. casing-radiated	Power consumption		Wiring diagram	Net weight approx.	Smoke exhaust fan control system	
		min ⁻¹	l/s	dB(A) in 4 m	kW	A	No.	kg	Type	Ref. no.
F400 Single speed, alternating current 230 V, 50 Hz, capacitor motor, protection category IP55, with thermal contact										
BKW 450/6/70/40 F400	08562	870	4040	49	0.42	2.0	1268 ¹⁾	85	EVS-W 001	04595
BKW 500/6/80/50 F400	08564	810	5620	52	0.58	2.6	1268 ¹⁾	105	EVS-W 001	04595
F400 Single speed, three-phase motor 400 V, 50 Hz, protection category IP55, with thermal contact										
BKD 450/4/4/70/40 F400	08563	1380	6420	59	1.41	3.2	1234 ²⁾	87	EVS-D 001	04594
BKD 500/4/4/80/50 F400	08550	1370	10210	62	2.10	4.2	1234 ²⁾	108	EVS-D 001	04594
BKD 560/6/6/80/50 F400	08565	920	8610	56	1.31	3.8	1234 ²⁾	120	EVS-D 001	04594
BKD 630/6/6/100/50 F400	08566	950	10770	59	2.20	6.3	1234 ²⁾	150	EVS-D 001	04594
F400 Single speed, three-phase motor 400 V, 50 Hz, protection category IP55, with PTC thermistor										
BKD 560/4/80/50 F400	08551	1435	12770	65	4.00	8.4	1235 ³⁾	142	EVS-SD 002	04585
BKD 710/6/120/60 F400	08568	954	15400	63	3.00	6.8	1235 ³⁾	185	EVS-SD 001	04586

¹⁾ Principle connection 1269

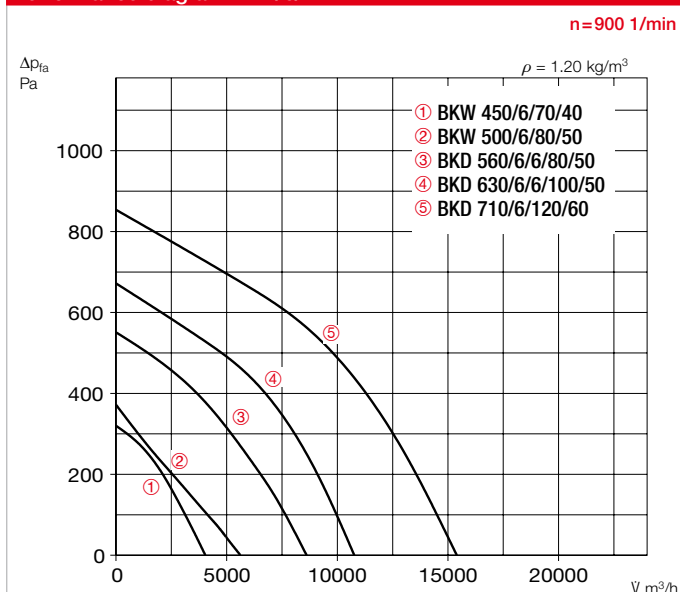
²⁾ Principle connection 565

³⁾ Principle connection 565.1

Performance diagram BK../4/..



Performance diagram BK../6/..



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.

- 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.

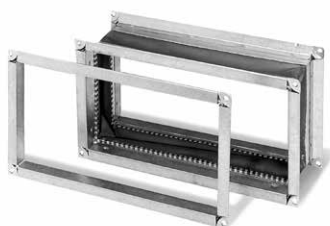
Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3.

Certificate of performance reliability:

F400: 0036-CPR-RG05-08

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 70/40	06874	VSB 70/40 F400	06836	700 x 400
GFB 80/50	06847	VSB 80/50 F400	06838	800 x 500
GFB 100/50	06848	VSB 100/50 F400	06839	1000 x 500
GFB 120/60	06845	VSB 120/60 F400	06842	1200 x 600

*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	167 ff.
Controls, switches	174 ff.