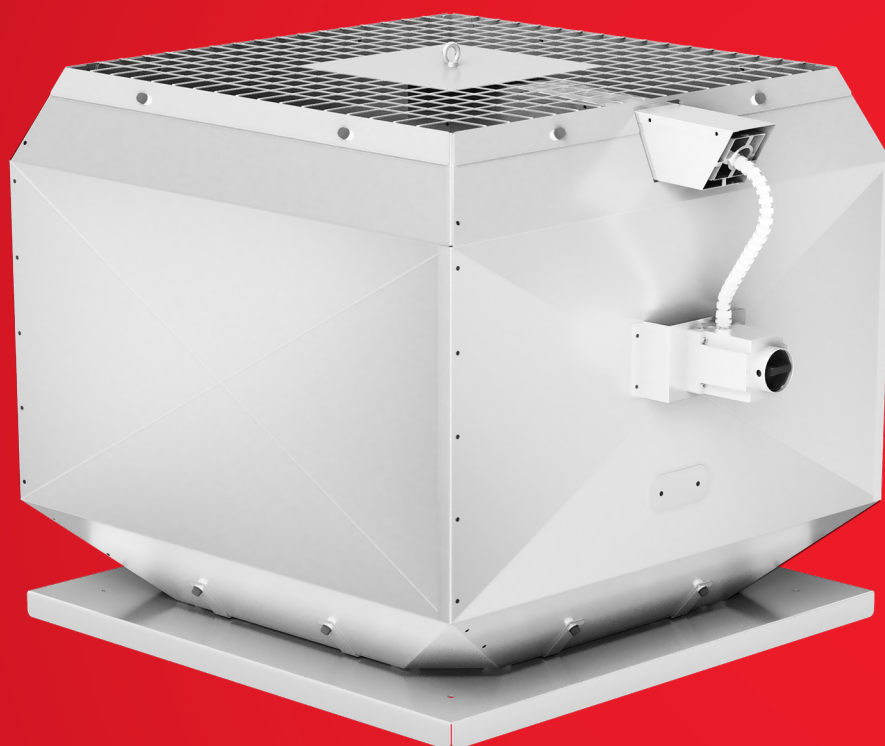


Smoke exhaust roof fans. Right at the top.



GERMAN
DESIGN
AWARD
WINNER
2021



Developed to withstand the most extreme conditions, the Helios smoke exhaust roof fans are invaluable lifesavers in case of fire. Thanks to their dual functionality, they can be used for everyday ventilation, e.g. in assembly areas and sales outlets, in addition to smoke extraction.

The vertical air outlet prevents damage to the adjacent parts of the building in case of fire. Due to their robust design, smoke exhaust roof fans are ideal for use in difficult operating conditions.

The standard integrated transport lugs facilitate transportation and position-

ing at the installation site. The isolator switch, which is easily accessible from the outside and for the electrical connection, is practical for installation.

Highlights:

- 40 types from 1000 to 70 000 m³/h.
- Dual function for ventilation and smoke extraction due

- to frequency inverter.
- Innovative design with patented cooling concept.
- A wide range of accessory components for maximum system diversity.
- Reliable even in case of increased snow load: Deflector B DEF for requirements up to snow load class SL 2000 and SL 3000.





Helios roof fan videos are now on YouTube:



■ Smoke exhaust roof fans

Smoke exhaust roof fans F400 and F 600 in sizes from Ø 315 to 900 mm and flow rates from 1 000 to 70 000 m³/h.



116ff

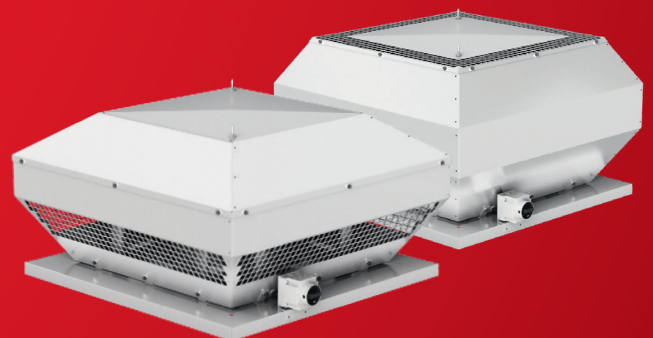
■ Other roof fans

More than 150 types in horizontal and vertical outlet designs with AC and efficient EC technology, in explosion-proof, T120 versions and with volume flows from 540 to 70 000 m³/h – you will be offered an individual solution for every construction project.

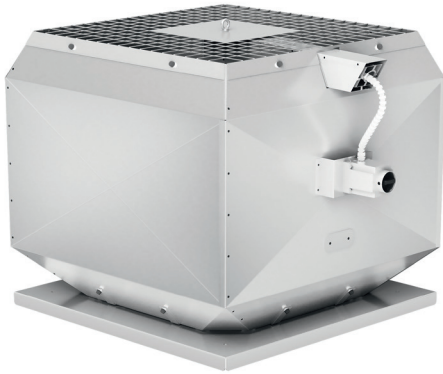
See Helios main catalogue no. 95178



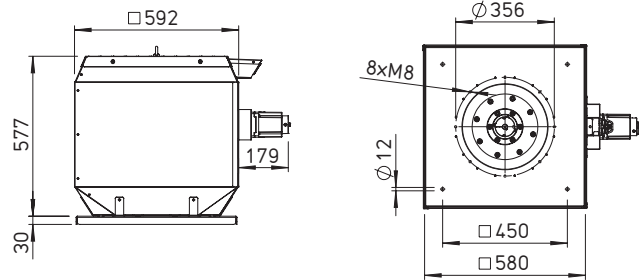
Certified for temperature classes F400 and F600 according to DIN EN 12101-3.



B VD 315 F400/F600



Dimensions B VD 315 F400/F600



Dim. in mm

Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-Use)

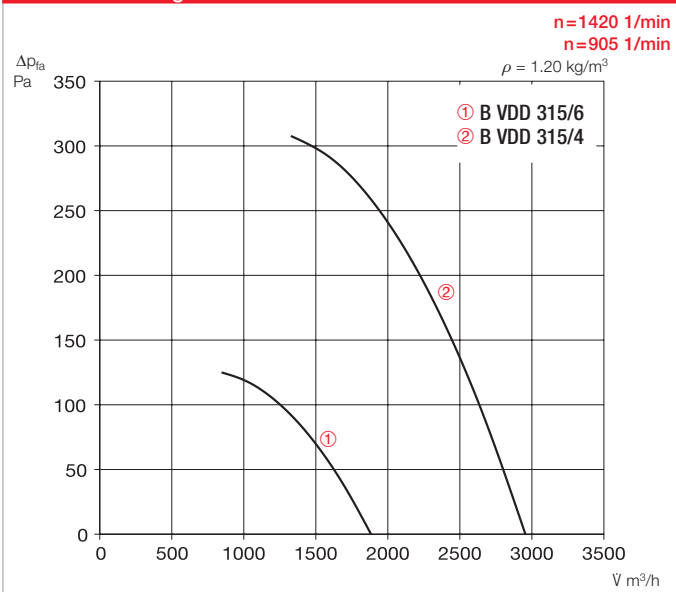
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter	Smoke ventilation fan control system			
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg	Type	Ref. no.	Type	Ref. no.	
F400 Single speed, three phase motor 400 V, 50 Hz, protection class IP55															
B VDD 315/4 F400	07583	1.420	2.950	55	75	0.55	1.23	8.1	1262	56	FU-CS 2.5	05871	EVS-D 001	04594	
B VDD 315/6 F400	07584	925	1.900	51	71	0.37	0.97	4.4	1262	56	FU-CS 2.5	05871	EVS-D 001	04594	
F600 Single speed, three phase motor 400 V, 50 Hz, protection class IP55															
B VDD 315/4 F600	07585	1.420	2.950	55	75	0.55	1.23	8.1	1262	56	FU-CS 2.5	05871	EVS-D 001	04594	
B VDD 315/6 F600	07586	925	1.900	51	71	0.37	0.97	4.4	1262	56	FU-CS 2.5	05871	EVS-D 001	04594	

Performance diagram B VD 315 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 315/300 Ref. no. 01765
B FDS 315/500 Ref. no. 01766
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.

Silencer insert

B SSD 315 Ref. no. 03475
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.

Hood silencer

B HSDV 315 Ref. no. 03071
 Hood silencer with inner core for outlet-side noise reduction.

Deflector

B DEF 315/2000 Ref. no. 40077
B DEF 315/3000 Ref. no. 03410
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 315 Ref. no. 01416

Flexible connector

STSB 315 F400 Ref. no. 14738
STSB 315 F600 Ref. no. 01940

Extension duct

VR 315 Ref. no. 01404

Duct shutter

RVS 315 Ref. no. 02594

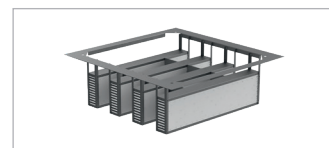
Smoke exhaust fan control system

EVS-D 001 Ref. no. 04594
 Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

For ensuring the functionality of motor bearings. Factory-mounted to fan.

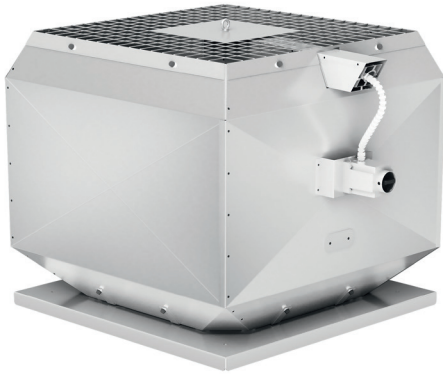


Information

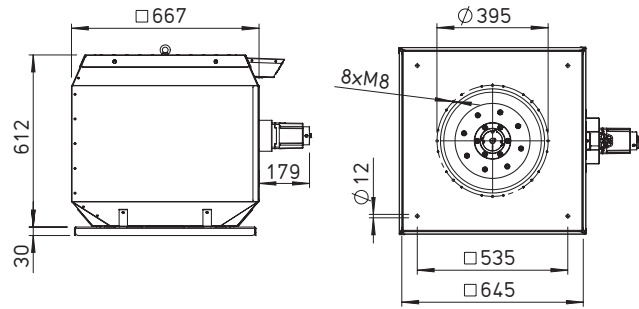
Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
 Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 355 F400/F600



Dimensions B VD 355 F400/F600



Dim. in mm

Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

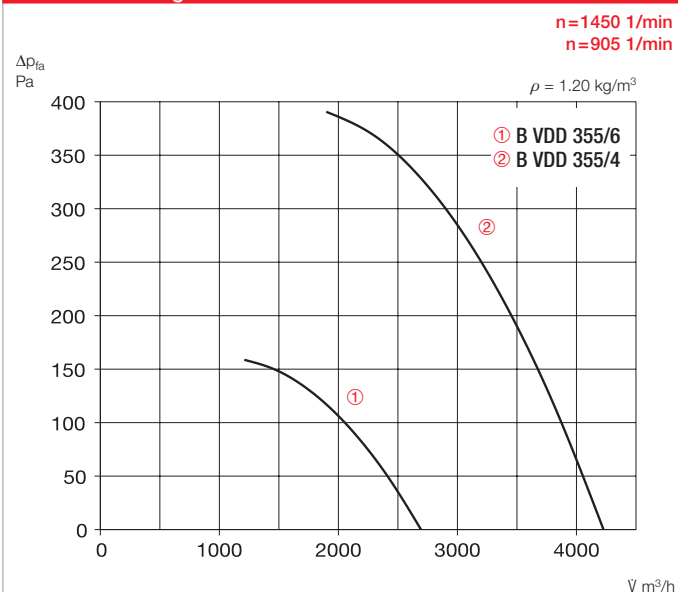
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter	Smoke ventilation fan control system
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg	Type	Ref. no.
F400 Single speed, three phase motor 400 V, 50 Hz, protection class IP55												
B VDD 355/4 F400	01213	1.420	4.250	58	78	0.55	1.23	8.1	1262	61	FU-CS 2.5	05871
B VDD 355/6 F400	01227	925	2.700	55	75	0.37	0.97	4.4	1262	61	FU-CS 2.5	05871
F600 Single speed, three phase motor 400 V, 50 Hz, protection class IP55												
B VDD 355/4 F600	01232	1.420	4.250	58	78	0.55	1.23	8.1	1262	61	FU-CS 2.5	05871
B VDD 355/6 F600	01451	925	2.700	55	75	0.37	0.97	4.4	1262	61	FU-CS 2.5	05871

Performance diagram B VD 355 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
F400: 0761-CPR-1052
F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 355/300 Ref. no. 01767
B FDS 355/500 Ref. no. 01768
Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.

Silencer insert

B SSD 355 Ref. no. 03482
Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.

Hood silencer

B HSDV 355 Ref. no. 03081
Hood silencer with inner core for outlet-side noise reduction.

Deflector

B DEF 355/2000 Ref. no. 40078
B DEF 355/3000 Ref. no. 03425
Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 355 Ref. no. 01417

Flexible connector

STSB 355 F400 Ref. no. 14744
STSB 355 F600 Ref. no. 01941

Extension duct

VR 355 Ref. no. 01405

Duct shutter

RVS 355 Ref. no. 02595

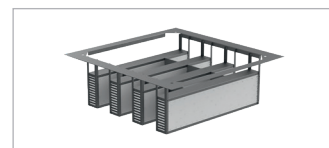
Smoke exhaust fan control system

EVS-D 001 Ref. no. 04594
Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

For ensuring the functionality of motor bearings. Factory-mounted to fan.



Information

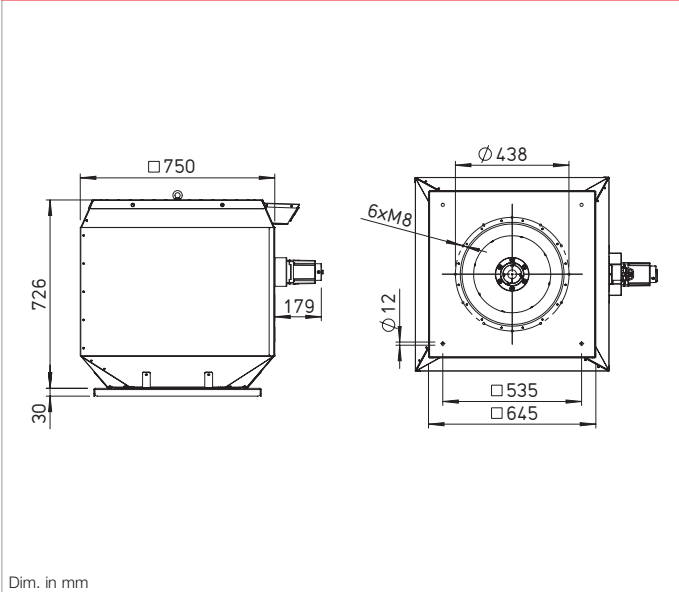
Notes on operation in case of fire:
– Unhindered discharge of smoke gases at all times.
– Motor protection devices must be automatically bridged.
– Secure electrical power supply (safety power supply) required.
The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 400 F400/F600



Dimensions B VD 400 F400/F600



Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

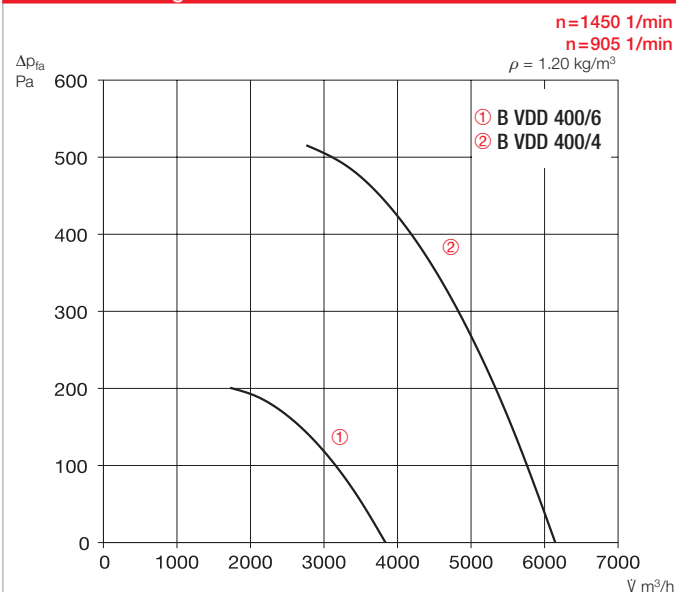
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter		Smoke ventilation fan control system	
											Type	Ref. no.	Type	Ref. no.
F400 Single speed, three phase motor 400 V, 50 Hz, protection class IP55														
B VDD 400/4 F400	01458	1.430	6.150	62	82	0.75	1.64	11.5	1262	74	FU-CS 2.5	05871	EVS-D 001	04594
B VDD 400/6 F400	01478	925	3.850	59	79	0.37	0.97	4.4	1262	72	FU-CS 2.5	05871	EVS-D 001	04594
F600 Single speed, three phase motor 400 V, 50 Hz, protection class IP55														
B VDD 400/4 F600	01480	1.430	6.150	62	82	0.75	1.64	11.5	1262	74	FU-CS 2.5	05871	EVS-D 001	04594
B VDD 400/6 F600	01487	925	3.850	59	79	0.37	0.97	4.4	1262	72	FU-CS 2.5	05871	EVS-D 001	04594

Performance diagram B VD 400 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 400/300 Ref. no. 01767
B FDS 400/500 Ref. no. 01768
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.

Silencer insert

B SSD 400 Ref. no. 03482
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.

Hood silencer

B HSDV 400 Ref. no. 03135
 Hood silencer with inner core for outlet-side noise reduction.

Deflector

B DEF 400/2000 Ref. no. 40079
B DEF 400/3000 Ref. no. 03428
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 400 Ref. no. 01418

Flexible connector

STSB 400 F400 Ref. no. 14743
STSB 400 F600 Ref. no. 01958

Extension duct

VR 400 Ref. no. 01406

Duct shutter

RVS 400 Ref. no. 02596

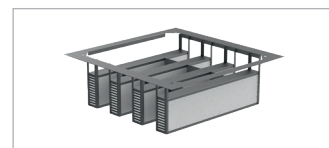
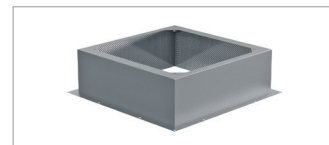
Smoke exhaust fan control system

EVS-D 001 Ref. no. 04594
 Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

For ensuring the functionality of motor bearings. Factory-mounted to fan.



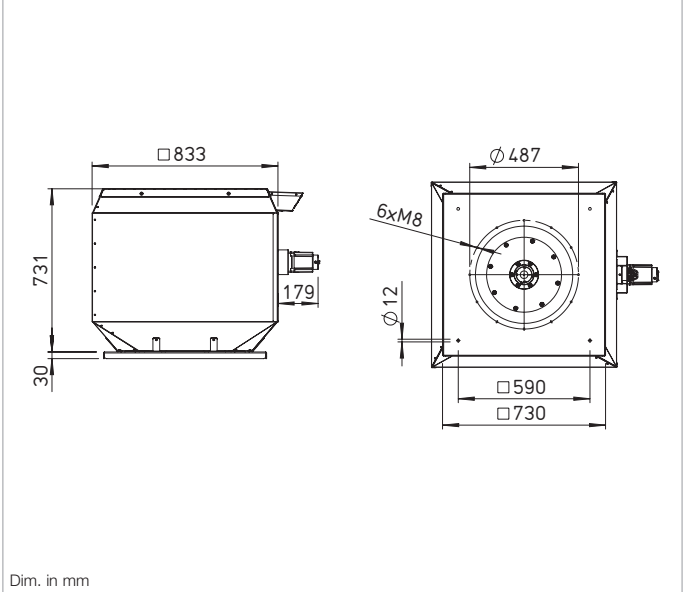
Information
 Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
 Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 450 F400/F600



Dimensions B VD 450 F400/F600



Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

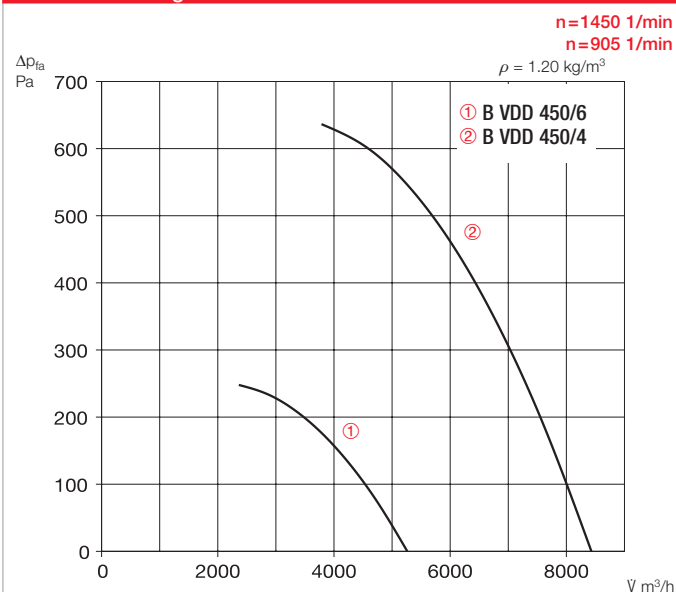
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter	Smoke ventilation fan control system			
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg	Type	Ref. no.	Type	Ref. no.	
F400 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 450/4 F400	01488	1.450	8.450	65	85	1.50	3.17	23.5	1262	93	FU-CS 8	05873	EVS-D 001	04594	
B VDD 450/6 F400	01490	925	5.250	62	82	0.37	0.97	4.4	1262	83	FU-CS 2.5	05871	EVS-D 001	04594	
F600 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 450/4 F600	01566	1.450	8.450	65	85	1.50	3.17	23.5	1262	93	FU-CS 8	05873	EVS-D 001	04594	
B VDD 450/6 F600	01572	925	5.250	62	82	0.37	0.97	4.4	1262	83	FU-CS 2.5	05871	EVS-D 001	04594	

Performance diagram B VD 450 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 450/300 Ref. no. 01793
B FDS 450/500 Ref. no. 01800
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.

Silencer insert

B SSD 450 Ref. no. 03500
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.

Hood silencer

B HSDV 450 Ref. no. 03136
 Hood silencer with inner core for outlet-side noise reduction.

Deflector

B DEF 450/2000 Ref. no. 40080
B DEF 450/3000 Ref. no. 03434
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 450 Ref. no. 01419

Flexible connector

STSB 450 F400 Ref. no. 14742
STSB 450 F600 Ref. no. 01959

Extension duct

VR 450 Ref. no. 01407

Duct shutter

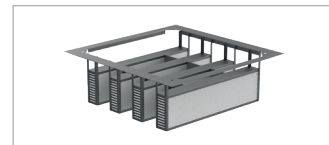
RVS 450 Ref. no. 02597

Smoke exhaust fan control system

EVS-D 001 Ref. no. 04594
 Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497
 For ensuring the functionality of motor bearings. Factory-mounted to fan.



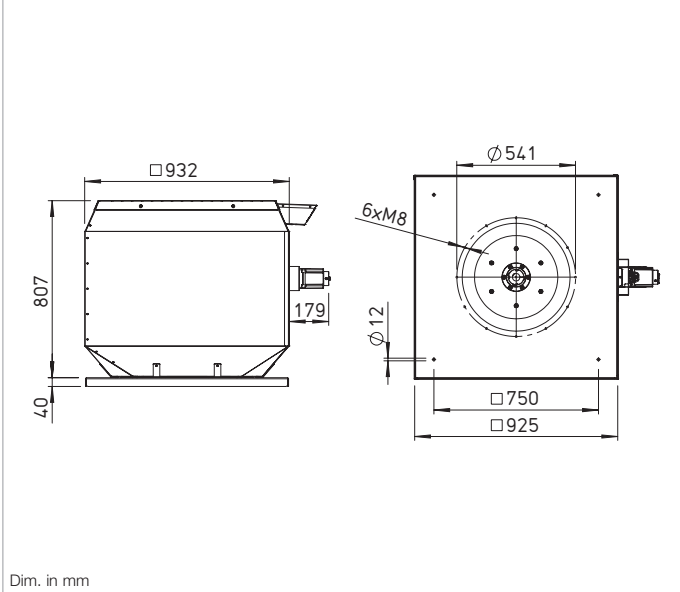
Information
 Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
 Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 500 F400/F600



Dimensions B VD 500 F400/F600



Dim. in mm

Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

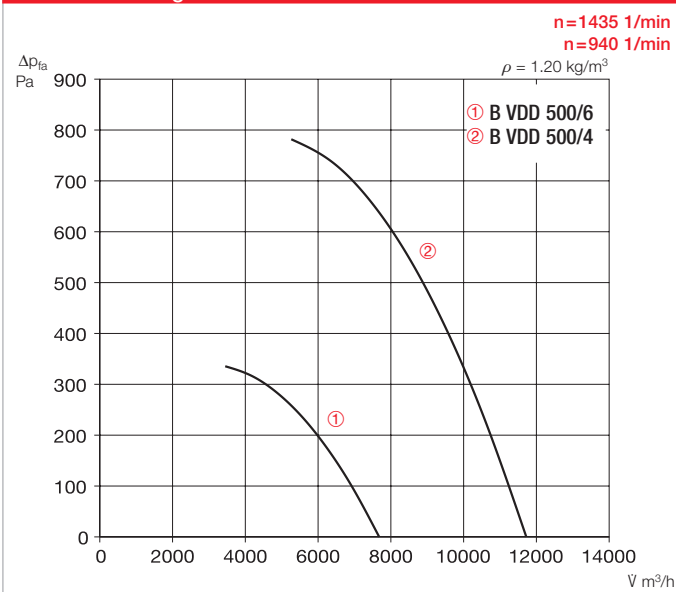
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter		Smoke ventilation fan control system	
											Type	Ref. no.	Type	Ref. no.
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg				
F400 Single speed, three phase motor 400 V, 50 Hz, protection category IP55														
B VDD 500/4 F400	01573	1.435	11.750	68	88	2.20	4.56	33.7	1262	122	FU-CS 8	05873	EVS-D 001	04594
B VDD 500/6 F400	01591	950	7.700	64	84	0.75	1.93	10.0	1262	113	FU-CS 2.5	05871	EVS-D 001	04594
F600 Single speed, three phase motor 400 V, 50 Hz, protection category IP55														
B VDD 500/4 F600	01597	1.435	11.750	68	88	2.20	4.56	33.7	1262	122	FU-CS 8	05873	EVS-D 001	04594
B VDD 500/6 F600	01618	950	7.700	64	84	0.75	1.93	10.0	1262	113	FU-CS 2.5	05871	EVS-D 001	04594

Performance diagram B VD 500 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 500/300 Ref. no. 01804
B FDS 500/500 Ref. no. 01810
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.

Silencer insert

B SSD 500 Ref. no. 03501
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.

Hood silencer

B HSDV 500 Ref. no. 03192
 Hood silencer with inner core for outlet-side noise reduction.

Deflector

B DEF 500/2000 Ref. no. 40081
B DEF 500/3000 Ref. no. 03437
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 500 Ref. no. 01420

Flexible connector

STSB 500 F400 Ref. no. 01915
STSB 500 F600 Ref. no. 02003

Extension duct

VR 500 Ref. no. 01408

Duct shutter

RVS 500 Ref. no. 02598

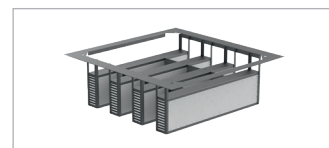
Smoke exhaust fan control system

EVS-D 001 Ref. no. 04594
 Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

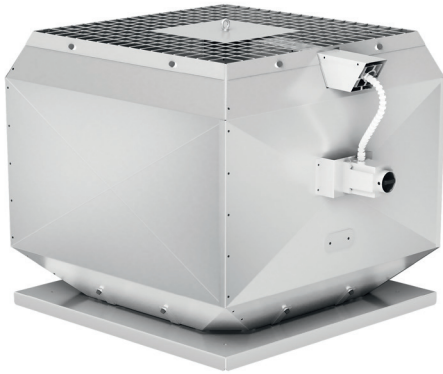
For ensuring the functionality of motor bearings. Factory-mounted to fan.



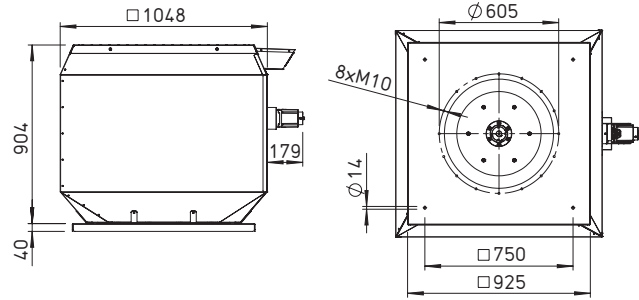
Information
 Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
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Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 560 F400/F600



Dimensions B VD 560 F400/F600



Dim. in mm

Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

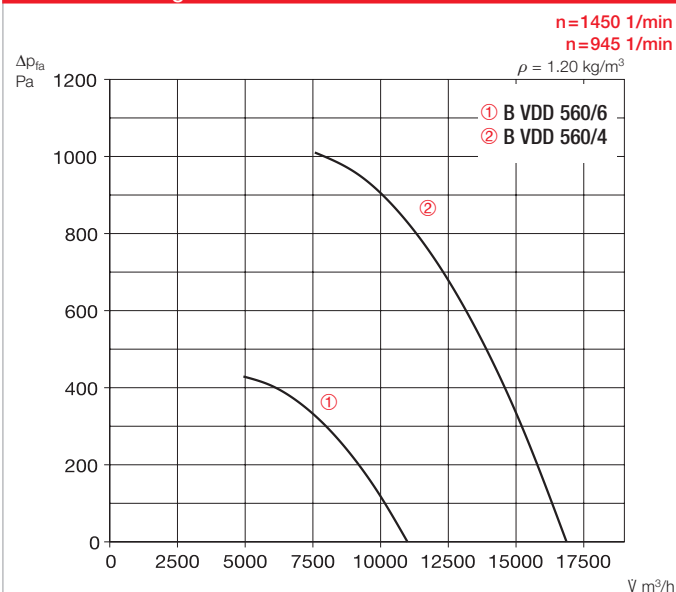
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter	Smoke ventilation fan control system			
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg	Type	Ref. no.	Type	Ref. no.	
F400 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 560/4 F400	01625	1.450	16.850	72	92	4.00	8.23	57.6	1261	147	FU-CS 10	05874	EVS-SD 001	04586	
B VDD 560/6 F400	01627	945	11.000	68	88	1.10	2.69	13.2	1262	132	FU-CS 8	05873	EVS-D 001	04594	
F600 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 560/4 F600	01638	1.450	16.850	72	92	4.00	8.23	57.6	1261	147	FU-CS 10	05874	EVS-SD 001	04586	
B VDD 560/6 F600	01639	945	11.000	68	88	1.10	2.69	13.2	1262	132	FU-CS 8	05873	EVS-D 001	04594	

Performance diagram B VD 560 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 560/300 Ref. no. 01804
B FDS 560/500 Ref. no. 01810
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.

Silencer insert

B SSD 560 Ref. no. 03501
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.

Hood silencer

B HSDV 560 Ref. no. 03193
 Hood silencer with inner core for outlet-side noise reduction.

Deflector

B DEF 560/2000 Ref. no. 40082
B DEF 560/3000 Ref. no. 03454
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 560 Ref. no. 01421

Flexible connector

STSB 560 F400 Ref. no. 01916
STSB 560 F600 Ref. no. 02004

Extension duct

VR 560 Ref. no. 01409

Duct shutter

RVS 560 Ref. no. 02599

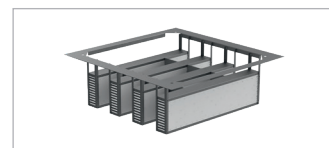
Smoke exhaust fan control system

Switching type γ/Δ
EVS-SD 001 (4 kW) Ref. no. 04586
 Direct start-up
EVS-D 001 (4 kW) Ref. no. 04594
 Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

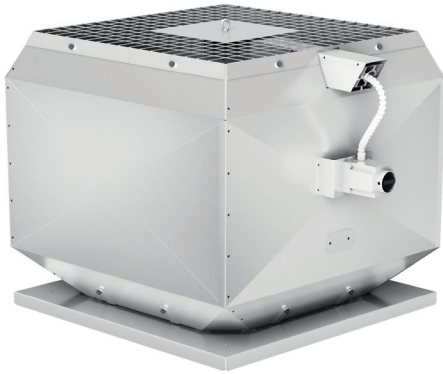
For ensuring the functionality of motor bearings. Factory-mounted to fan.



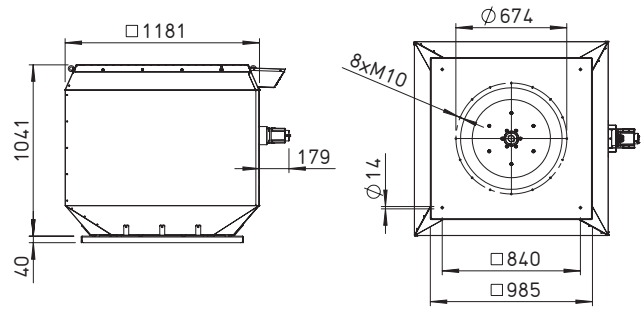
Information
 Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
 Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 630 F400/F600



Dimensions B VD 630 F400/F600



Dim. in mm

Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

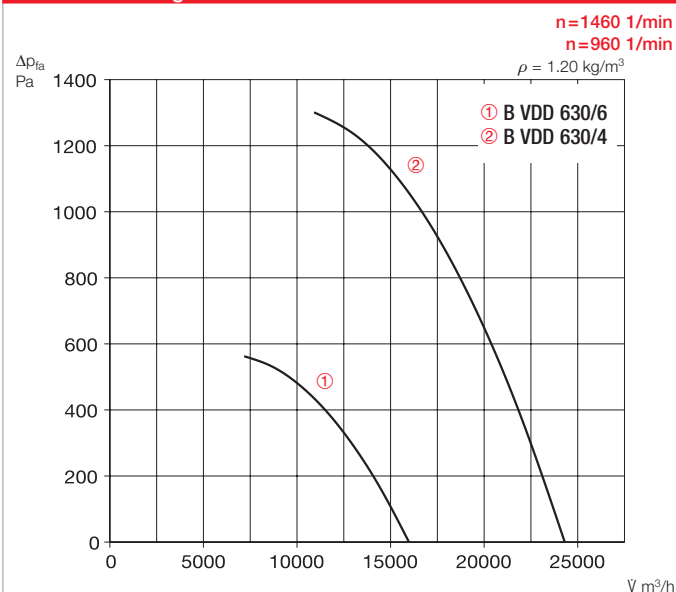
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter	Smoke ventilation fan control system			
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg	Type	Ref. no.	Type	Ref. no.	
F400 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 630/4 F400	01640	1.460	24.300	76	96	7.50	14.20	118	1261	231	FU-CS 18	05469	EVS-SD 003	04584	
B VDD 630/6 F400	01642	960	16.000	72	92	2.20	5.22	31.3	1262	203	FU-CS 8	05873	EVS-D 001	04594	
F600 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 630/4 F600	01643	1.460	24.300	76	96	7.50	14.20	118	1261	231	FU-CS 18	05469	EVS-SD 003	04584	
B VDD 630/6 F600	01644	960	16.000	72	92	2.20	5.22	31.3	1262	203	FU-CS 8	05873	EVS-D 001	04594	

Performance diagram B VD 630 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

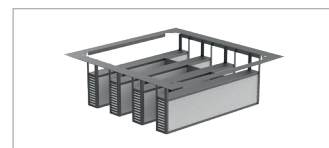
Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
F400: 0761-CPR-1052
F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 630/300 Ref. no. 01866
B FDS 630/500 Ref. no. 01867
Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.



Silencer insert

B SSD 630 Ref. no. 03512
Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.



Hood silencer

B HSDV 630 Ref. no. 03203
Hood silencer with inner core for outlet-side noise reduction.



Deflector

B DEF 630/2000 Ref. no. 40083
B DEF 630/3000 Ref. no. 03455
Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.



Inlet nozzle with protection grille

ASD-SGD 630 Ref. no. 01422



Flexible connector

STSB 630 F400 Ref. no. 01917
STSB 630 F600 Ref. no. 02005



Extension duct

VR 630 Ref. no. 01410

Duct shutter

RVS 630 Ref. no. 02600

Smoke exhaust fan control system

Switching type γ/Δ
EVS-SD 003 (7,5 kW) no. 04584
Direct start-up
EVS-D 001 (4 kW) no. 04594
Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

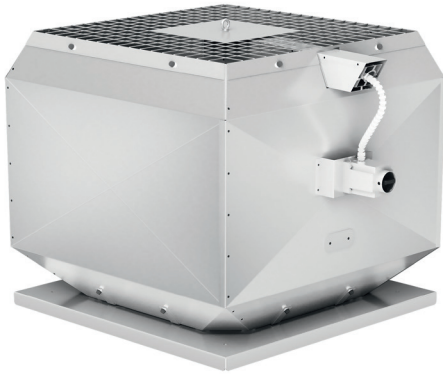
LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

For ensuring the functionality of motor bearings. Factory-mounted to fan.

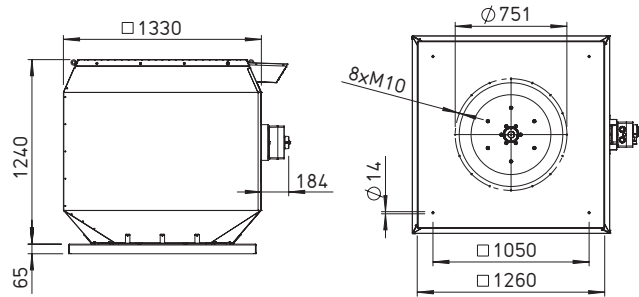
Information
Notes on operation in case of fire:
– Unhindered discharge of smoke gases at all times.
– Motor protection devices must be automatically bridged.
– Secure electrical power supply (safety power supply) required.
The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 710 F400/F600



Dimensions B VD 710 F400/F600



Dim. in mm

Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

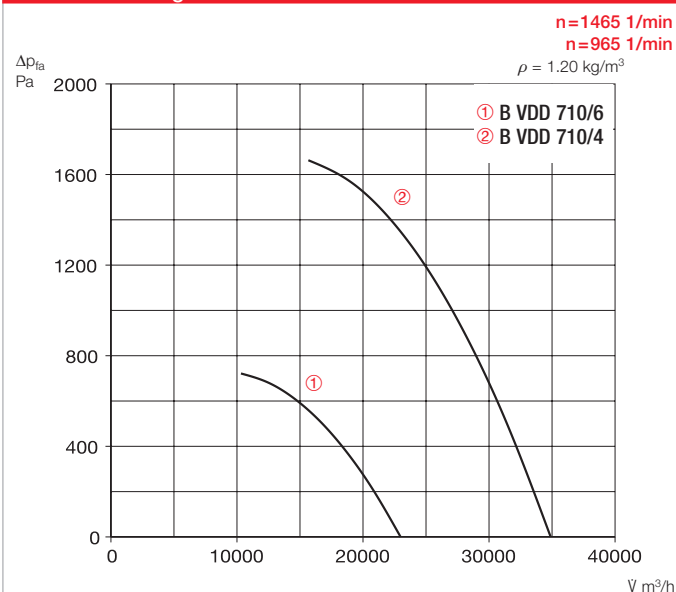
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter	Smoke ventilation fan control system			
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg	Type	Ref. no.	Type	Ref. no.	
F400 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 710/4 F400	01646	1.465	34.850	80	100	15.00	27.90	201	1307	403	FU-CS 32	05471	EVS-SD 005	04582	
B VDD 710/6 F400	01647	965	22.950	76	96	4.00	9.11	55.6	1261	338	FU-CS 10	05874	EVS-SD 001	04586	
F600 Single speed, three phase motor 400 V, 50 Hz, protection category IP55															
B VDD 710/4 F600	01648	1.465	34.850	80	100	15.00	27.90	201	1307	403	FU-CS 32	05471	EVS-SD 005	04582	
B VDD 710/6 F600	01698	965	22.950	76	96	4.00	9.11	55.6	1261	338	FU-CS 10	05874	EVS-SD 001	04586	

Performance diagram B VD 710 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

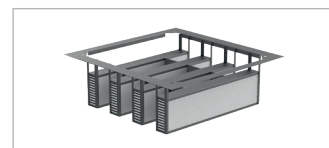
Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 710/300 Ref. no. 01868
B FDS 710/500 Ref. no. 01869
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.



Silencer insert

B SSD 710 Ref. no. 03523
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.



Hood silencer

B HSDV 710 Ref. no. 03253
 Hood silencer with inner core for outlet-side noise reduction.



Deflector

B DEF 710/2000 Ref. no. 40084
B DEF 710/3000 Ref. no. 03468
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 710 Ref. no. 01423



Flexible connector

STSB 710 F400 Ref. no. 01918
STSB 710 F600 Ref. no. 02006



Extension duct

VR 710 Ref. no. 01411

Duct shutter

RVS 710 Ref. no. 02601

Smoke exhaust fan control system

EVS-SD 005 (15 kW) no. 04582
EVS-SD 001 (4 kW) no. 04586
 Smoke exhaust fan control system for the operation of B VD F400/F600.



Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497
 For ensuring the functionality of motor bearings. Factory-mounted to fan.

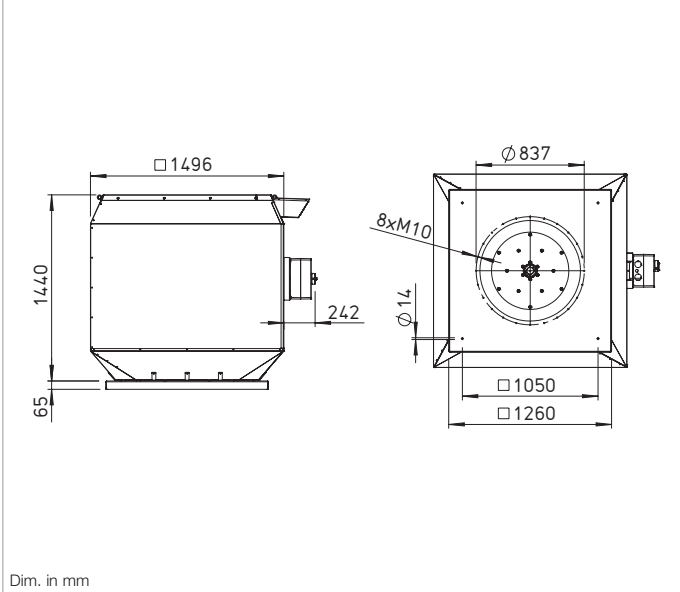
Information
 Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
 Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 800 F400/F600



Dimensions B VD 800 F400/F600



Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

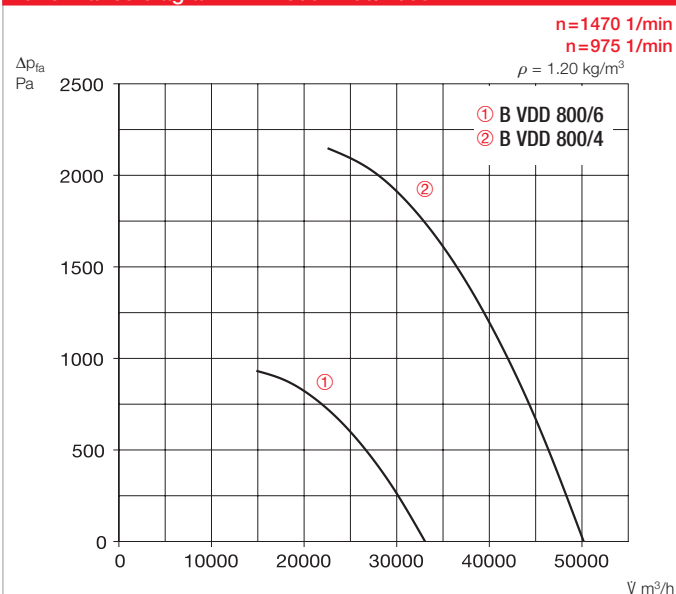
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter		Smoke ventilation fan control system	
											Type	Ref. no.	Type	Ref. no.
		min ⁻¹	∇ m ³ /h	dB(A) in 4 m	dB(A)	kW	A	A	No.	kg				
F400 Single speed, three phase motor 400 V, 50 Hz, protection category IP55														
B VDD 800/4 F400	01699	1.470	49.850	83	103	22.00	41.00	299	1307	568	FU-CS 50	05473	EVS-SD 007	04580
B VDD 800/6 F400	01709	975	33.050	79	99	7.50	14.80	93	1261	501	FU-CS 18	05469	EVS-SD 003	04584
F600 Single speed, three phase motor 400 V, 50 Hz, protection category IP55														
B VDD 800/4 F600	01715	1.470	49.850	83	103	22.00	41.00	299	1307	568	FU-CS 50	05473	EVS-SD 007	04580
B VDD 800/6 F600	01716	975	33.050	79	99	7.50	14.80	93	1261	501	FU-CS 18	05469	EVS-SD 003	04584

Performance diagram B VD 800 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 800/300 Ref. no. 01868
B FDS 800/500 Ref. no. 01869
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.

Silencer insert

B SSD 800 Ref. no. 03523
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.

Hood silencer

B HSDV 800 Ref. no. 03370
 Hood silencer with inner core for outlet-side noise reduction.

Deflector

B DEF 800/2000 Ref. no. 40085
B DEF 800/3000 Ref. no. 03471
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 800 Ref. no. 01424

Flexible connector

STSB 800 F400 Ref. no. 01919
STSB 800 F600 Ref. no. 02007

Extension duct

VR 800 Ref. no. 01412

Duct shutter

RVS 800 Ref. no. 02602
 In case of a direct fan connection, an additional extension duct (VR 800 Ref. no. 01412) must be placed in between.

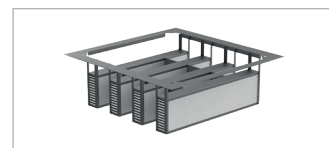
Smoke exhaust fan control system

EVS-SD 007 (22 kW) no. 04580
EVS-SD 003 (7,5 kW) no. 04584
 Smoke exhaust fan control system for the operation of B VD F400/F600.

Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

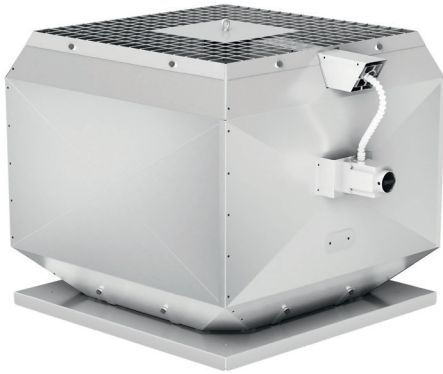
For ensuring the functionality of motor bearings. Factory-mounted to fan.



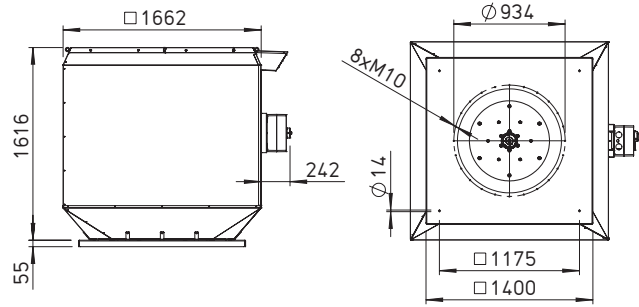
Information
 Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
 Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.

B VD 900 F400/F600



Dimensions B VD 900 F400/F600



Dim. in mm

Application

- In mechanical smoke extraction systems (MRA) for ensuring smoke extraction in special structures, such as sales locations, large garages, meeting locations or industrial buildings.
- Smoke extraction with temperature classes F400 and F600.
- Also suitable for ventilation operation (Dual-Use).
- For increased ventilation requirements with a continuous air flow temperature of up to 120 °C.

Features

- Smoke exhaust roof fan as a smoke extraction fan with dual-function (smoke extraction and ventilation).
- Robust design with efficiency-optimised casing for difficult operating conditions.
- High operational reliability due to minimal maintenance requirements.
- Ready-for-use delivery for easy installation.
- Base plate with threaded bolts for the easy mounting of inlet-side accessories.
- Standard PTC thermistor as motor protection for ventilation operation (motor protection devices must be automatically deactivated in case of fire for max. operating duration).

- Motor outside of air flow, enclosed in self-ventilated motor casing for optimal motor cooling.
- Comprehensive accessories enable perfect compliance with property-specific requirements.
- Isolator switch for electrical connection as standard.
- Perfectly tuned for operation with frequency inverter.

Casing

- Made of seawater-resistant aluminium for maximum weather protection.
- Base plate with inlet nozzle and motor support made of hot-dip galvanised steel sheet.
- Vertical air outlet prevents damage to adjacent parts of the building in case of fire.
- Outlet-side aluminium protection grille.
- Standard transport lugs for simple positioning.
- Attractive architectural design.

Impeller

- Directly driven high-performance centrifugal impeller, with eight backward curved blades.
- Design made of powder-coated steel sheet.
- Single-side inlet.
- Dynamically balanced, quality class 6.3.

- High efficiency for maximum output with low-noise operation.
- Direct mounting of hub to motor shaft.

Drive

- High-quality smoke exhaust motor for high environmental temperatures, perfectly tuned for use in smoke extraction fans.
- Enclosed motor design, protection category IP55.
- Winding in insulation class H.
- Motor outside of air flow, protected from this by thermal separation.
- Innovative motor cooling concept, perfectly tuned for smoke extraction with frequency inverter operation and reduced speed.
- Motor cooling airflow through intake duct. Automatic flow during fan operation.
- Motor bearings can be monitored with Helios bearing condition diagnostics system (Accessories).

Speed control

- Optimal ventilation operation with speed control by means of frequency inverter.
- Smoke extraction possible with frequency inverter operation, elaborate bypass circuit can be omitted in case of fire.

- It must be ensured that operation takes place at the speed required for the smoke extraction flow rate for smoke extraction.
- Frequency inverter with all-pole sine filter and special operating mode for smoke ventilation operation is essential (Accessories).

Dual function (Dual-use)

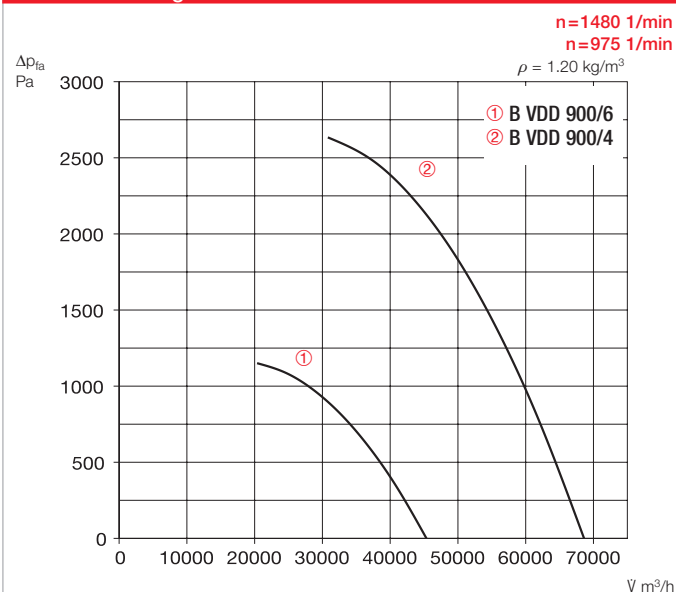
- Approved for daily ventilation on demand and smoke extraction.
- Ventilation in continuous operation possible.
- High efficiency meets the ERP requirements for Dual-Use smoke extraction fans.

Assembly/Installation

- Outdoors on horizontal roof (vertical motor shaft) or flat roof base. Flat roof base, see Accessories.
- Snow load class 0 pursuant to DIN EN 12101-3, installation on roofs above heated rooms. For snow load class SL 2000 und SL 3000: Outlet-side deflector, see Accessories.
- Standard transport lug for simple positioning.
- Inlet-side connectable accessories can be attached to the threaded bolts in the base plate (hole pattern according to DIN 24155).

Type	Ref. no.	Speed	Output free-blowing	Sound pres. casing-radiated	Sound power level casing-radiated	Nominal motor output	Nominal motor current	Starting current	Wiring diagram	Net weight approx.	Frequency inverter		Smoke ventilation fan control system	
											Type	Ref. no.	Type	Ref. no.
F400 Single speed, three phase motor 400 V, 50 Hz, protection category IP55														
B VDD 900/4 F400	01719	1.480	68.550	89	109	37.00	69.20	533	1307	848	—		EVS-SD 009	04578
B VDD 900/6 F400	01720	975	45.300	82	102	15.00	28.20	217	1307	618	FU-CS 32	05471	EVS-SD 005	04582
F600 Single speed, three phase motor 400 V, 50 Hz, protection category IP55														
B VDD 900/4 F600	01721	1.480	68.550	89	109	37.00	69.20	533	1307	848	—		EVS-SD 009	04578
B VDD 900/6 F600	01723	975	45.300	82	102	15.00	28.20	217	1307	618	FU-CS 32	05471	EVS-SD 005	04582

Performance diagram B VD 900 F400/F600



Air flow temperature

- Temperature classes F400 and F600.
- Smoke extraction 400 °C/120 minutes, or 600 °C/120 minutes.
- 120 °C continuous air flow temperature.
- For ambient temperatures from -20 °C to +60 °C.

Noise levels

- The horizontally radiated noise is specified as sound pressure level in 4 m (freefield conditions) in the type table.
- Different installation situations or disturbed flows can lead to increased noise levels.
- Hood silencer and silencer insert for flat roof base, see Accessories.

Motor protection

- All types have PTC thermistors in the motor winding as standard.
- PTC thermistor assessment with suitable full motor protection device, EVS or frequency inverter (Accessories).
- The motor protection must be automatically bridged/bypassed in case of smoke extraction (deactivation) to ensure the maximum function duration.

Voltages and frequencies

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

Electrical connection

- To external isolator switch in protection category IP65.
- Isolator switch can be locked in position "0 OFF" and "I ON" using on-site padlock.
- Fans with a nominal motor output up to 2.20 kW can be directly activated, with star-delta start-up for 3.00 kW and above.

Delivery information

- Ready-to-use units, completely pre-assembled.
- Simple positioning with standard transport lug.

Safety information

- Outlet-side with aluminium protection grille as standard. Prevents penetration of leaves and solids and provides contact protection.

Fire test

- Successfully tested according to DIN EN 12101-3: 2015-12.

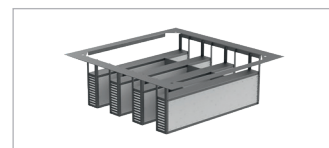
Certification

The smoke extraction fans BK have been tested according to DIN EN 12101-3. Certificate of performance reliability:
 F400: 0761-CPR-1052
 F600: 0761-CPR-1053

Accessories

Flat roof base

B FDS 900/300 Ref. no. 01884
B FDS 900/500 Ref. no. 02000
 Flat roof base for B VD F400 and F600 in heights 300 mm and 500 mm for mounting on flat roof.



Silencer insert

B SSD 900 Ref. no. 03532
 Silencer insert with connectors for flat roof base for inlet-side noise reduction. Flat roof base B FDS required.



Hood silencer

B HSDV 900 Ref. no. 03372
 Hood silencer with inner core for outlet-side noise reduction.



Deflector

B DEF 900/2000 Ref. no. 40086
B DEF 900/3000 Ref. no. 03473
 Deflector with snow load class SL 2000 and SL 3000 for mounting on B VD F400 and F600.

Inlet nozzle with protection grille ASD-SGD 900 Ref. no. 01309



Flexible connector

STSB 900 F400 Ref. no. 01920
STSB 900 F600 Ref. no. 02008

Extension duct

VR 900 Ref. no. 01311

Duct shutter

RVS 900 Ref. no. 02603
 In case of a direct fan connection, an additional extension duct (VR 900 Ref. no. 01311) must be placed in between.



Smoke exhaust fan control system

EVS-SD 009 (45 kW) no. 04578
EVS-SD 005 (15 kW) no. 04582
 Smoke exhaust fan control system for the operation of B VD F400/F600.



Bearing condition diagnostics system

LZD-Basic Ref. no. 27495
LZD-Comfort Ref. no. 27497

For ensuring the functionality of motor bearings. Factory-mounted to fan.

Information
 Notes on operation in case of fire:
 – Unhindered discharge of smoke gases at all times.
 – Motor protection devices must be automatically bridged.
 – Secure electrical power supply (safety power supply) required.
 The relevant regulations apply for the maintaining the functionality of electrical circuit systems.
 Planning information p. 10 ff.

Accessories	Page
Mounting accessories	163 ff.
Control devices, switches	170 ff.