CONTENT:

BESF boxventilator

www.exhausto.com

INATHERM
VENTILATIE & LUCHTBEHANDELING

EXHAUSTO
FOR A BETTER FLOW

Capacity - overview

BESF box ventilators

	Capacity m3/h	
	Min.	Max.
BESF146-4-1	68	540
BESF160-4-1	120	970
BESF160-2-1EC	150	1475
BESF180-4-1EC	135	1740
BESF200-4-1EC	240	1800
BESF225-4-1EC	265	2520
BESF250-4-1	770	3390
BESF250-4-1EC	275	3240
BESF250-4-3	770	3390
BESF280-4-3	900	3960
BESF280-4-3EC	580	4860
BESF280-4-3FC	580	4860

BESF box ventilator

Design

BESF box ventilators are made from Aluzinc® AZ185 class C4 in accordance with EN/ISO12944-2 and insulated for sound and condensation with 30 mm mineral wool.

As standard, BESF can handle gas temperatures up to 60°C.

When used as a smoke extract fan:
BESF146-180 can as standard cope with up to 200°C for 60 min.
As standard, BESF200-280 can handle up to 300°C for 60 min.

Fan impeller

The ventilator impeller is an F-impeller made from galvanised steel.

It has forward-curved blades, which means that the box ventilator is able to generate a high pressure for its compact size.

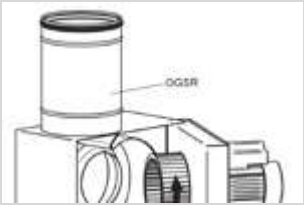
Spigots

The spigots on BESF have rubber gaskets to ease mounting of ducts.

Oscillation dampers

To minimise noise and vibration, the box ventilator is fitted as standard with efficient oscillation dampers mounted on brackets.

OGSR transition piece



To minimise system pressure drop when connecting to a duct system, we recommend the use of an OGSR transition piece (accessory).

OGSR is a specially developed circular transition piece with integral guide panels; it can be supplied for BESF200, 225, 250 and 280 and allows maximum capacity and efficiency to be achieved.

OGSR is not available with other BESF models.

BESF box ventilator

BESF box ventilators have their motor connected directly to the ventilator impeller.

BESF box ventilators are available with four types of motor:

- EC motor
- FC motor, which is a 3-phase motor with frequency converter
- single-phase motor
- 3-phase motor

The motors are made to protection class IP54 and all materials are as a minimum class F (155 °C). All motor types have integral current overload protection.

EC motor

The EC motor for BESF is a permanent-magnet motor of class IE3 with motor control for 1 x 230 V or 3 x 400 V connection. The motor control and the motor are protected from overloading, blocking, over and under voltage, and over heating.

The motor control is factory programmed by EXHAUSTO for optimal operation of the ventilator. It only requires mains connection and a control signal from an EXHAUSTO EFC1P or MAC10 controller or a 0-10V signal.

The motor controls also provide a Modbus interface for fan control and alarm read-offs etc.

FC motor:

The FC motor for BESF is a three-phase motor with a fitted frequency converter for 1 x 230 V or 3 x 300 V connection. The frequency converter and the motor are protected from overloading, blocking, over and under voltage, and over heating.

The frequency converter is factory programmed by EXHAUSTO for optimal operation of the ventilator. It requires only mains connection and a control signal from an EXHAUSTO EFC1P, MAC10 or MAC 11 controller, or a 0-10V signal.

Single-phase and 3-phase motor:

Single-phase motors can be selected for the smaller types of BESF. All motors are 4-pole with 1400 rpm, and permit direct voltage control using EXHAUSTO controllers EFC15, EFC35 and MAC10 (with MAC10MPR module).

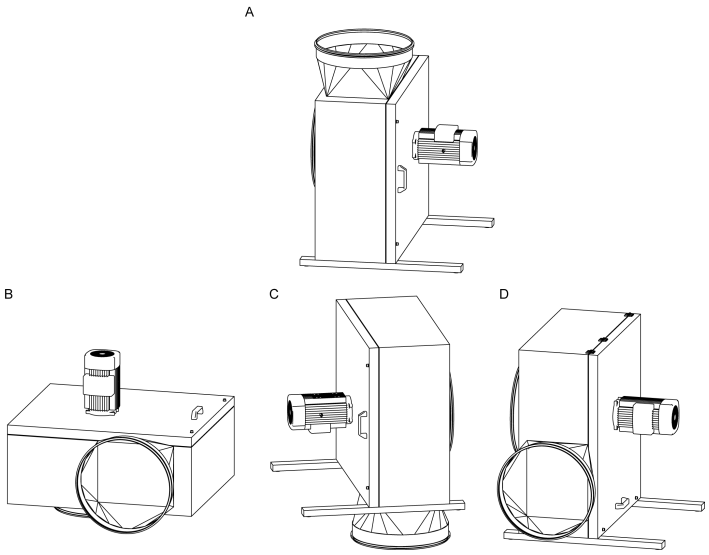
3-phase motors can be selected for the larger types of BESF. The motor is designed for a fixed rpm of 1400 or for frequency control (max. 50 Hz) by external frequency converter. The 3-phase motors must use external motor protection, or can be controlled by an external frequency converter (with integral motor protection) to max. 50 Hz.

BESF box ventilator

The box ventilator can be mounted in various positions. Note, however, that the ventilator must not be positioned with the motor turned downwards.

Standard installation: A

Alternative installation options B/C/D:



During installation, consideration must be given to opening the door for servicing and for access to door screws (see dimensions table on pages 7 and 15 in the product instructions where opening radius R is given). There should also be enough space to insulate the ducts.

In installation options B and D, with the door facing upwards, special fittings must be used to hold the door (accessory).

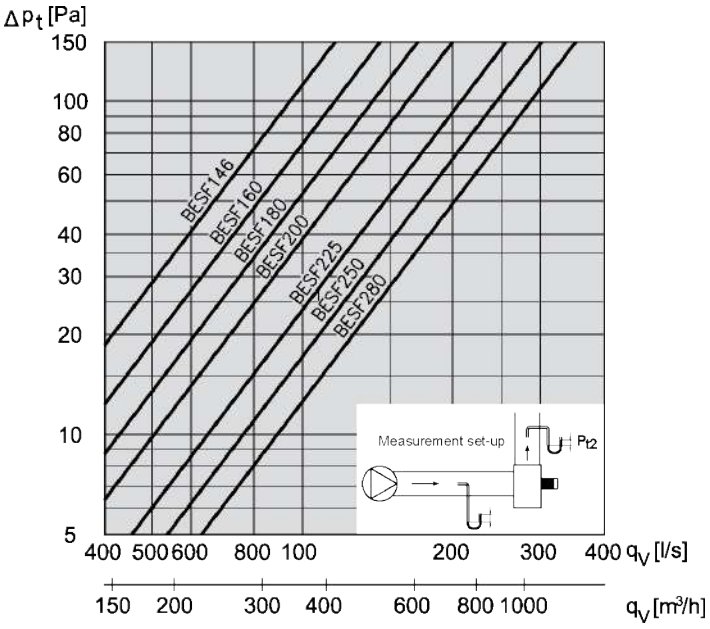
The box ventilator should not be screwed onto the supporting base. The base must be stable and vibration free, with no sagging. The outdoor model can be installed according to options A and B.

BESF

As standard, BESF can handle gas temperatures up to 60°C.

When used as a smoke extract fan:
BESF146-180 can as standard handle up to 200°C for 60 min.
As standard, BESF200-280 can handle up to 300°C for 60 min.

Flue gas resistance



EXHAUSTO
FOR A BETTER FLOW

BESF box ventilator

FLF Flexible connector

FLF flexible connector is made from reinforced glass fabric with integral clamps.

FLF is fitted directly onto EXHAUSTO box ventilators as a coupling to the ventilator ducts and minimises any possibility of vibrations moving along the duct system.

BFL Brandflex

BFL is made from steel-reinforced glass fabric, ceramic material and silica fibre.

BFL Brandflex satisfies the fire safety requirements for building components of materials class A2-s1,d0 in accordance with EN13501-1.

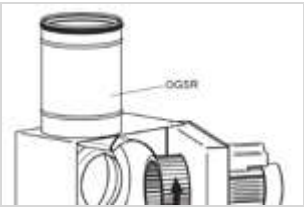
THA/THAV Roof terminal

Roof terminals THA and THAV are designed for air exhausts from EXHAUSTO box ventilators BESB and BESF.

THA is insulated for condensation and has a horizontal exhaust, while THAV is insulated for both sound and condensation and has a vertical exhaust.

More information on roof terminals.

OGSR transition piece



To minimise system pressure drop when connecting to a duct system, we recommend the use of an OGSR transition piece.

OGSR is a specially developed circular transition piece with integral guide panels; it can be supplied for BESF200, 225, 250 and 280 and allows maximum capacity and efficiency to be achieved.

OGSR is not available with other BESF models.

Technical data

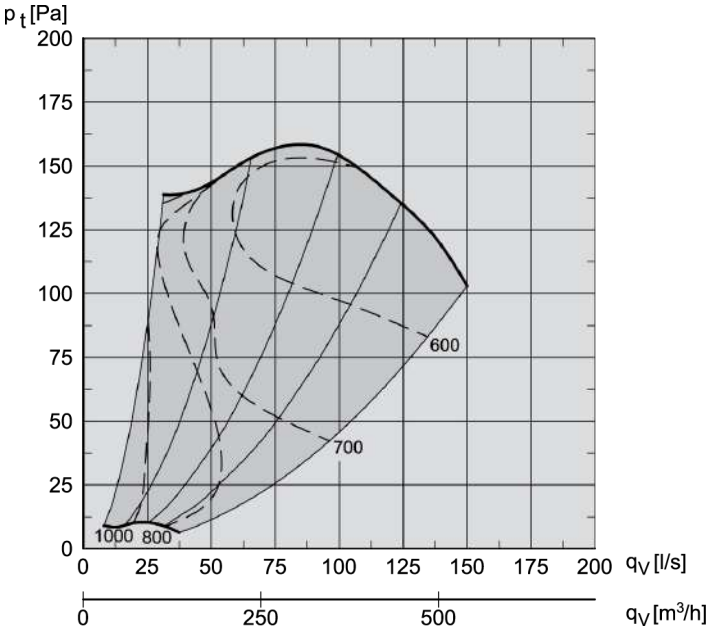
BESF146

MODEL	BESF146-4-1
Motor	
Motor	Single-phase motor
Nominal rpm (N)	1400 rpm at 50 Hz
Electric supply (U)	1x230 V
Overload protection	Integral thermal cutout (TP211) in motor power circuit
Max absorbed current* (I)	0.35 A.
Max. absorbed power (P_1)**	0.10 kW
Motor output (P_2)**	0.04 kW
Supply	
Supply (power cable)	3 x 0.75 mm^2
Length	1.4 m
Other data	
Weight	13 kg.

Conditions:

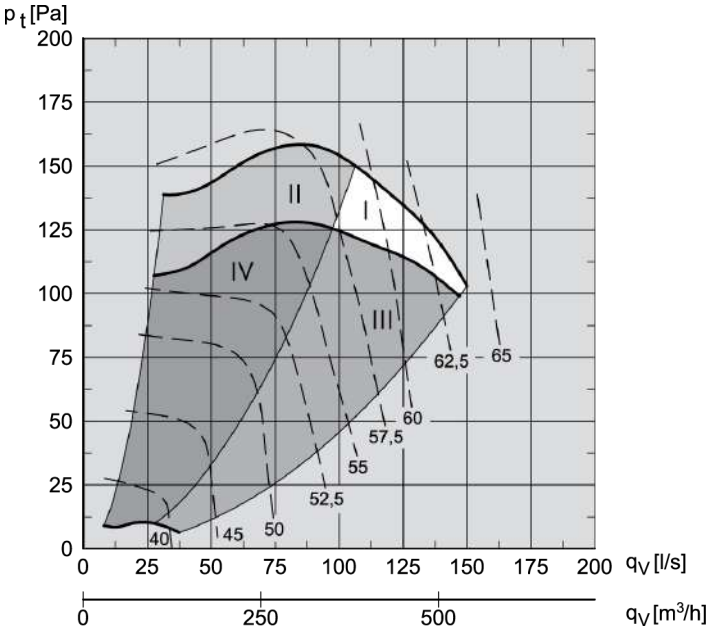
- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor's nominal output.
- Stated data are for t = 20°C
- Density = 1.2 kg/m^3
- Gas temperature: min. -12°C, max. +60° C
- Ambient temperature: Max. +40° C
- Pressure ratio: < 1,11

BESF146-4-1



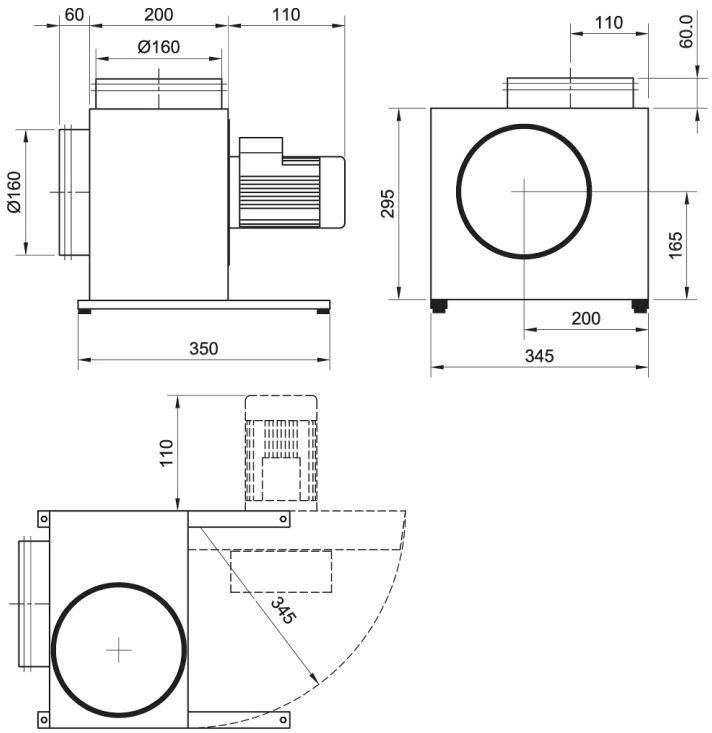
EXHAUSTO
FOR A BETTER FLOW

BESF146



	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	5	7	1	-3	--3	-12	-16	-23		
	II	11	10	2	-3	-5	-14	-20	-31		
	III	5	6	0	0	-6	-14	-20	-30		
	IV	10	9	0	0	-8	-17	-24	-36		
L_{w2}	I	6	7	3	0	1	-9	-14	-20	4	
	II	12	11	3	-2	-5	-13	-19	-30	1	
	III	8	7	3	1	-1	-11	-15	-22	3	
	IV	13	10	2	-2	-7	-16	-23	-35	0	
L_{w3}	I	-4	-10	-15	-5	-22	-25	-23	-29	-8	-21
	II	-4	-10	-15	-5	-22	-25	-23	-29	-8	-21
	III	-4	-10	-15	-5	-22	-25	-23	-29	-8	-21
	IV	-4	-10	-15	-5	-22	-25	-23	-29	-8	-21

BESF146



EXHAUSTO
FOR A BETTER FLOW

Technical data

BESF160-2-1EC and BESF160-4-1

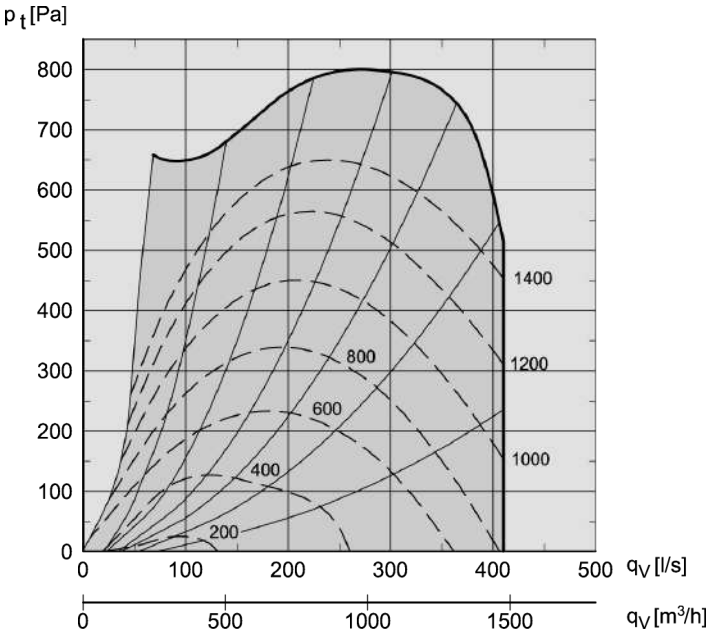
MODEL	BESF160-2-1EC	BESF160-4-1
Fan data		
Max. overall efficiency	50,3 %	
ECO measurement set-up (A-D)	D	
Efficiency requirements	49, N(2015)	
ECO efficiency at optimal operating point	63,4	
Motor		
Motor	EC motor with integral VSD	
Optimal operating point: Absorbed power Airflow Total pressure Rpm	 385 W 887 m^3/h 786 Pa 2845 rpm	
Nominal rpm (N)	2800 rpm	1400 rpm
Electric supply (U)	1x230 V ~ 50 Hz	
Overload protection	Integrated in motor control	Integral thermal cutout (TP211) in motor power circuit
Max absorbed current* (I)	3.8 A	0.8 A
Max. absorbed power (P_1)**	0.66 kW	0.19 kW
Motor output (P_2)**	0.75 kW	0.9 kW
Supply		
Supply (power cable)		3 x 0.75 mm^2
Length		1.4 m.
Other data		
Weight	22 kg	17 kg

Conditions:

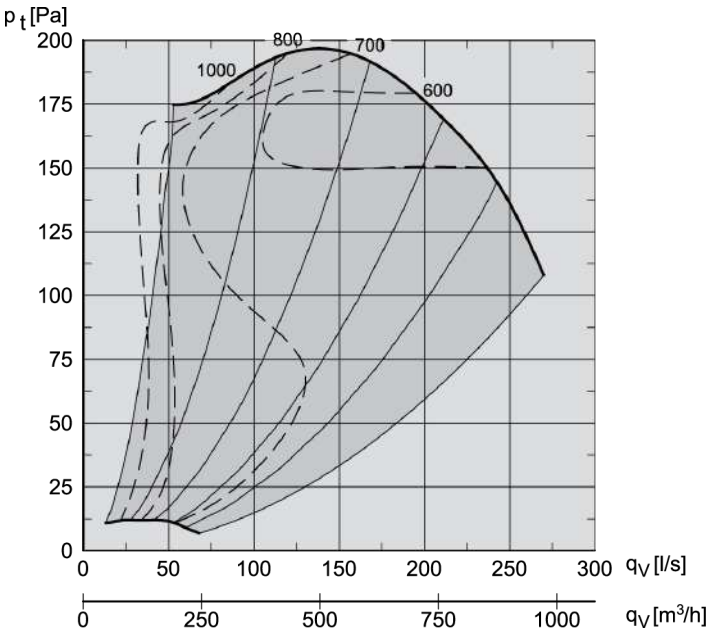
- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor's nominal output.
- Stated data for for t = 20°C
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12°C, max. +60° C
- Ambient temperature: Max. +40° C
- Pressure ratio: < 1,11
- other points in acc. with EC327/2011 - see product instructions

BESF160-2-1EC and BESF160-4-1

BESF160-2-1EC

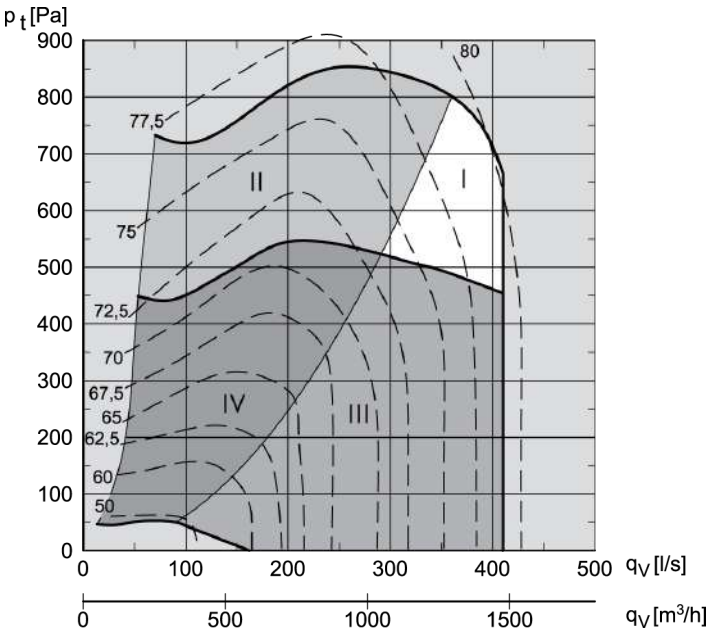


BESF160-4-1



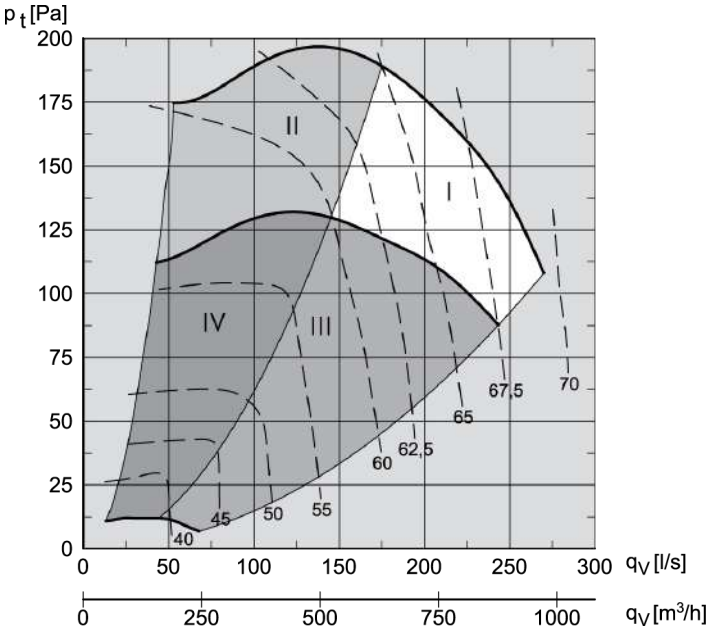
BESF160-2-1EC and BESF160-4-1

BESF160-2-1EC



	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	5	5	3	-4	-9	-8	-11	-16		
	II	9	8	4	-4	-10	-11	-14	-20		
	III	8	8	3	-3	-7	-11	-14	-22		
	IV	12	10	4	-4	-10	-13	-16	-23		
L_{w2}	I	6	4	4	0	-2	-2	-9	-14	4	
	II	9	7	5	0	-4	-3	-11	-15	4	
	III	7	6	4	-1	-1	-7	-12	-18	3	
	IV	10	8	4	-1	-2	-8	-13	-18	3	
L_{w3}	I	-10	-8	-7	-9	-19	-19	-25	-28	-9	-22
	II	-9	-8	-7	-9	-26	-27	-27	-29	-10	-23
	III	-8	-7	-11	-9	-30	-33	-33	-35	-11	-24
	IV	-1	-4	-7	-7	-24	-26	-26	-27	-8	-22

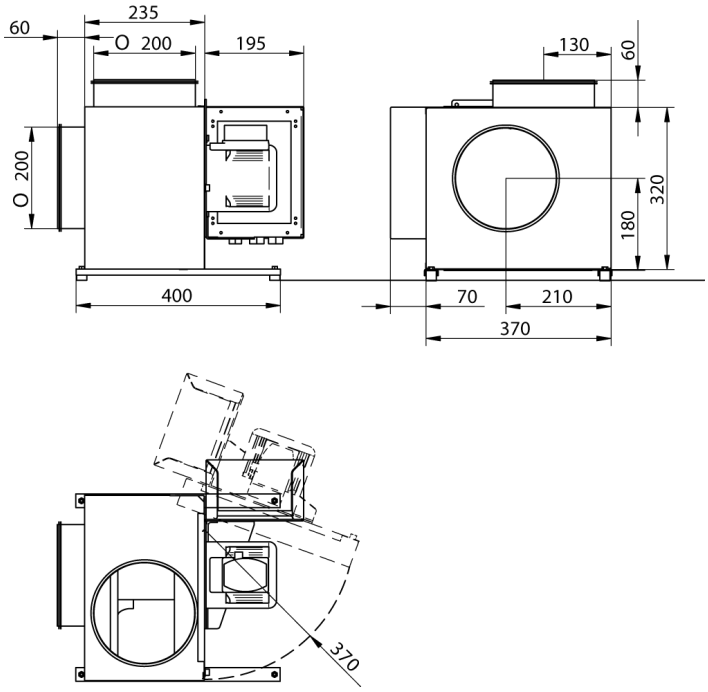
BESF160-4-1



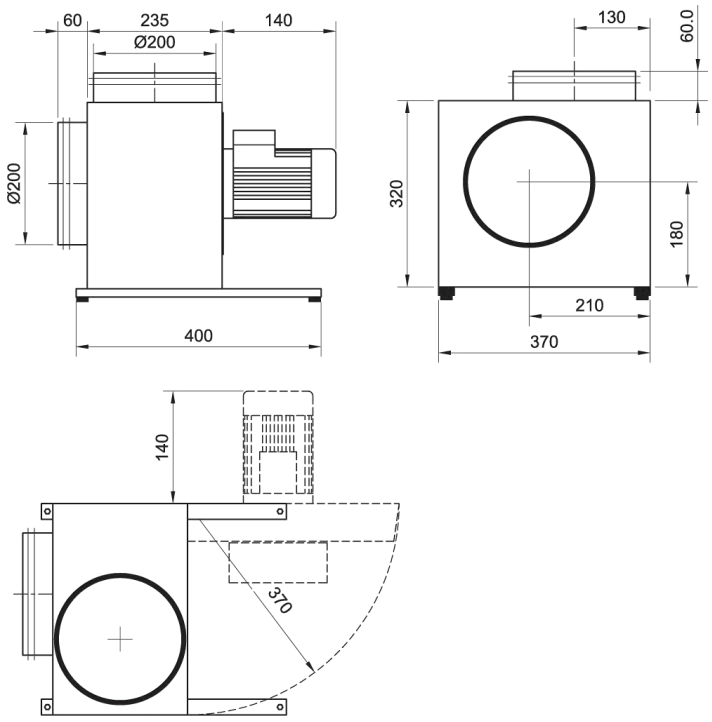
	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	6	6	2	-4	-6	-10	-11	-17		
	II	12	10	4	-5	-9	-15	-18	-27		
	III	8	6	2	-3	-7	-11	-13	-19		
	IV	13	10	4	-3	-11	-16	-23	-35		
L_{w2}	I	6	6	4	0	0	-7	-10	-16	3	
	II	12	8	4	-1	-3	-11	-16	-24	2	
	III	9	6	3	0	-2	-9	-12	-18	3	
	IV	14	9	4	-1	-6	-13	-20	-31	1	
L_{w3}	I	-14	-15	-22	-15	-33	-35	-36	-38	-17	-30
	II	-9	-8	-19	-22	-31	-29	-31	-36	-19	-33
	III	-8	-7	-11	-9	-30	-33	-33	-35	-11	-24
	IV	-1	-4	-7	-7	-24	-26	-26	-27	-8	-22

BESF160-2-1EC and BESF160-4-1

BESF160-2-1EC



Dimensioned drawing for BESF160-4-1



EXHAUSTO
FOR A BETTER FLOW

Technical data, BESF180-4-1EC

BESF180-4-1EC

MODEL	BESF180-4-1EC
Fan data	
Max. overall efficiency	48,5 %
ECO measurement set-up (A-D)	
Efficiency requirements	49, N(2015)
ECO efficiency at optimal operating point	69,3
Motor	
Motor	EC motor with integral VSD
Optimal operating point: Absorbed power Airflow Total pressure Rpm	89 W 615 m^3/h 253 1438 rpm
Nominal rpm (N)	1440 rpm
Electric supply (U)	
Overload protection	Integrated in motor control
Max absorbed current* (I)	1.4 A
Max. absorbed power (P_1)**	
Motor output (P_2)**	0.18 kW
Other data	
Weight	23 kg

Conditions:

- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor
- Stated data for for t = 20
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12
- Ambient temperature: Max. +40
- Pressure ratio:
- other points in acc. with EC327/2011 - see product instructions

BESF180-4-1FC

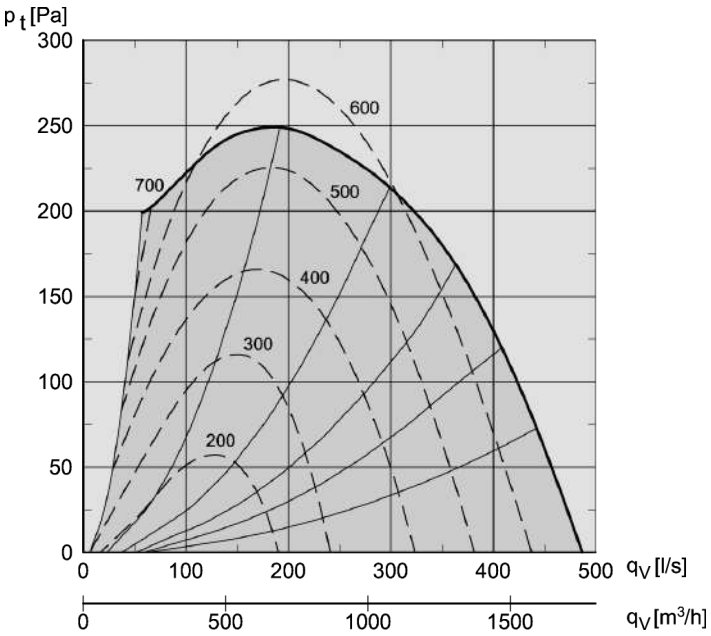
MODEL	BESF180-4-1FC OGSR
Fan data	
Max. overall efficiency	36,7 %
ECO measurement set-up (A-D)	D
Efficiency requirements	49 N(2015)
ECO efficiency at optimal operating point	53,2
Motor	
Motor	FC motor with integrated motor control
Optimal operating point: Absorbed power Airflow Total pressure Rpm	 138 W 693 m^3/h 263 Pa 1470 rpm
Nominal rpm	1400 rpm
Electric supply (U)	1x230 V ~ 50 Hz
Overload protection	Integrated in motor control
Max absorbed current* (I)	1.9 A
Max. absorbed power (P_1)**	0.32 kW
Motor output (P_2)**	0,18 kW
Supply	
Supply (power cable)	3 x 0.75 mm^2
Supply (control cable)	7 x 0.34 mm^2
Length	1.90 m
Other data	
Weight	22 kg

Conditions:

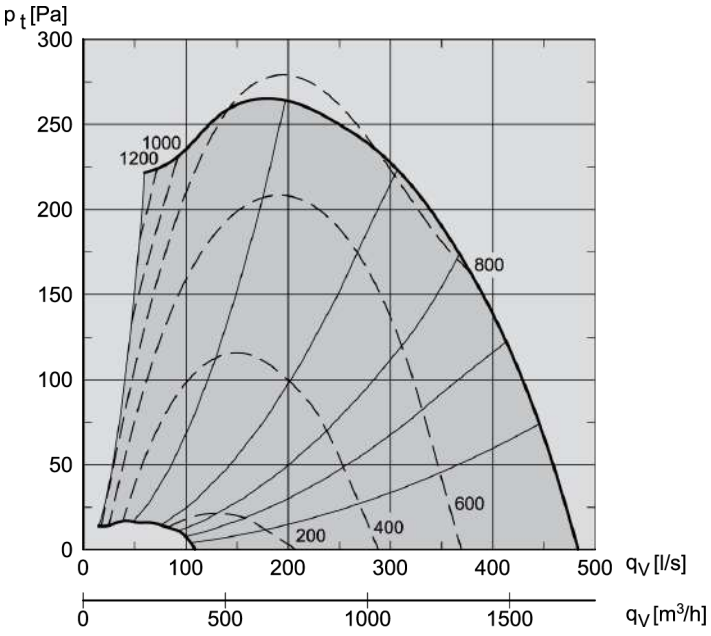
- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor's nominal output.
- Stated data for for t = 20°C
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12°C, max. +60° C
- Ambient temperature: Max. +40° C
- Pressure ratio: < 1,11
- other points in acc. with EC327/2011 - see product instructions

BESF180-4-1EC and BESF180-4-1FC

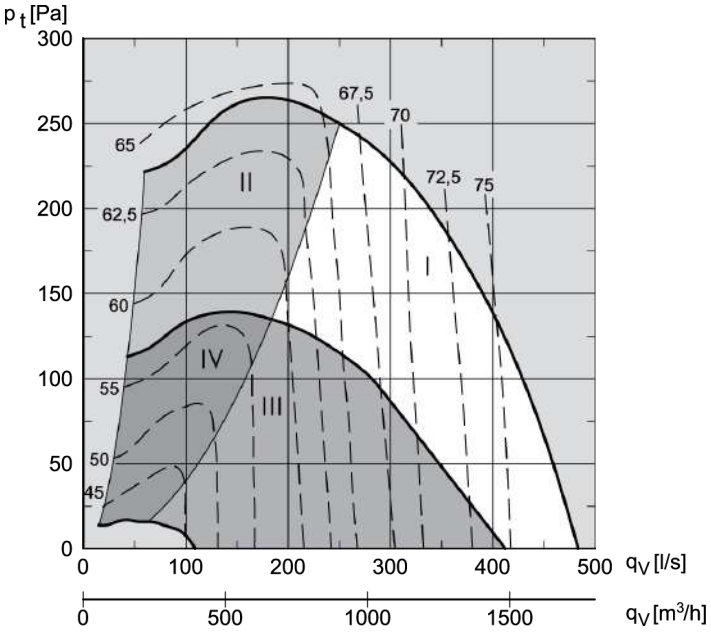
BESF180-4-1EC



BESF180-4-1FC

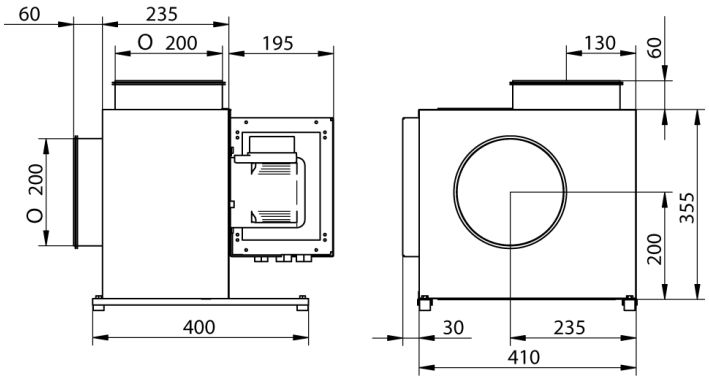


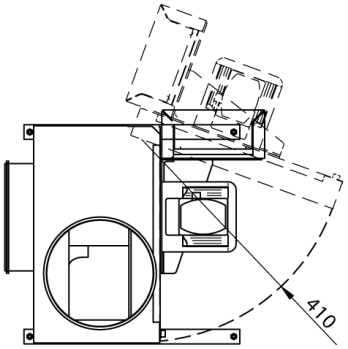
BESF180-4-1EC and BESF180-4-1FC

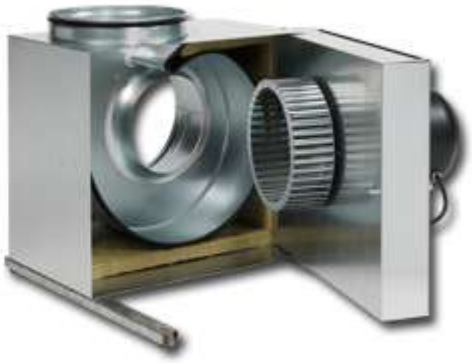


	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	13	7	0	-6	-7	-9	-10	-13		
	II	12	9	4	-4	-8	-12	-15	-23		
	III	14	5	0	-5	-6	-9	-10	-15		
	IV	14	10	4	-4	-10	-15	-20	-33		
L_{w2}	I	11	8	3	-1	-1	-6	-9	-14	3	
	II	13	9	6	0	-2	-9	-13	-20	3	
	III	12	6	2	-1	-2	-8	-10	-15	3	
	IV	14	10	5	0	-6	-12	-18	-30	2	
L_{w3}	I	-15	-22	-22	-28	-28	-31	-36	-37	-23	-37
	II	-11	-17	-16	-22	-21	-22	-29	-31	-16	-30
	III	-13	-22	-21	-28	-31	-30	-35	-35	-24	-37
	IV	-9	-15	-17	-20	-23	-21	-26	-25	-15	-29

BESF180-4-1EC and BESF180-4-1FC







Technical data

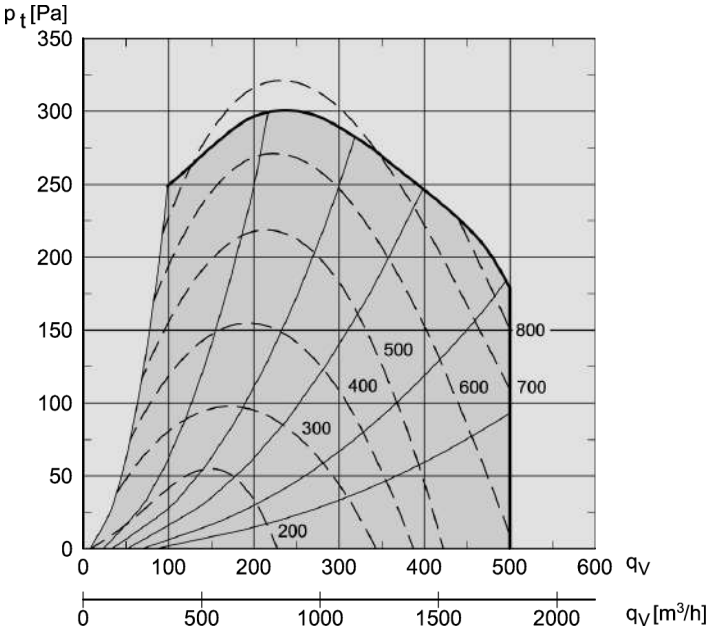
BESF200-4-1EC

MODEL	BESF200-4-1EC
Fan data	
Max. overall efficiency	48,6 %
ECO measurement set-up (A-D)	D
Efficiency requirements	49, N(2015)
ECO efficiency at optimal operating point	64,7
Motor	
Motor	EC motor with integral VSD
Optimal operating point: Absorbed power Airflow Total pressure Rpm	 156 W 912 m^3/h 299 Pa 1427 rpm
Nominal rpm (N)	1435 rpm
Electric supply (U)	1x230 V ~ 50 Hz
Overload protection	Integrated in motor control
Max absorbed current* (I)	2.6 A
Max. absorbed power (P_1)**	0.43 kW
Motor output (P_2)**	0,37 kW
Other data	
Weight	23 kg

Conditions:

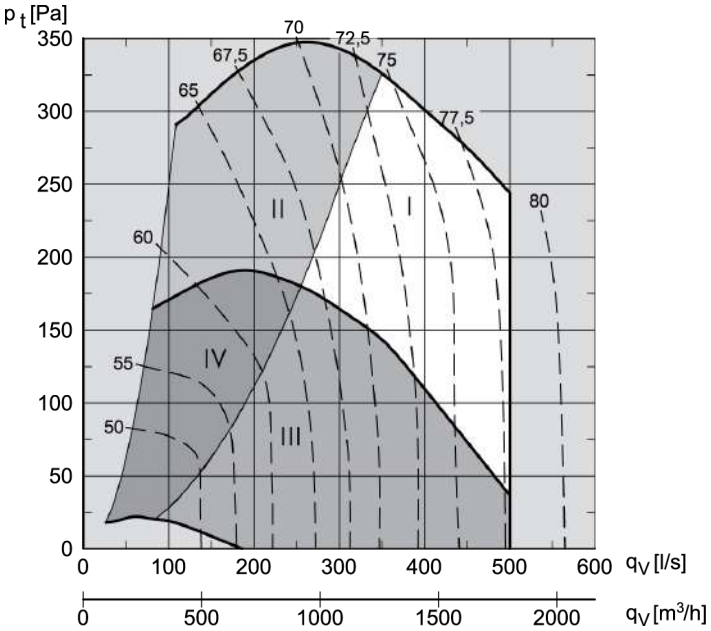
- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor's nominal output.
- Stated data for for t = 20°C
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12°C, max. +60° C
- Ambient temperature: Max. +40° C
- Pressure ratio: < 1,11
- other points in acc. with EC327/2011 - see product instructions

BESF200-4-1EC



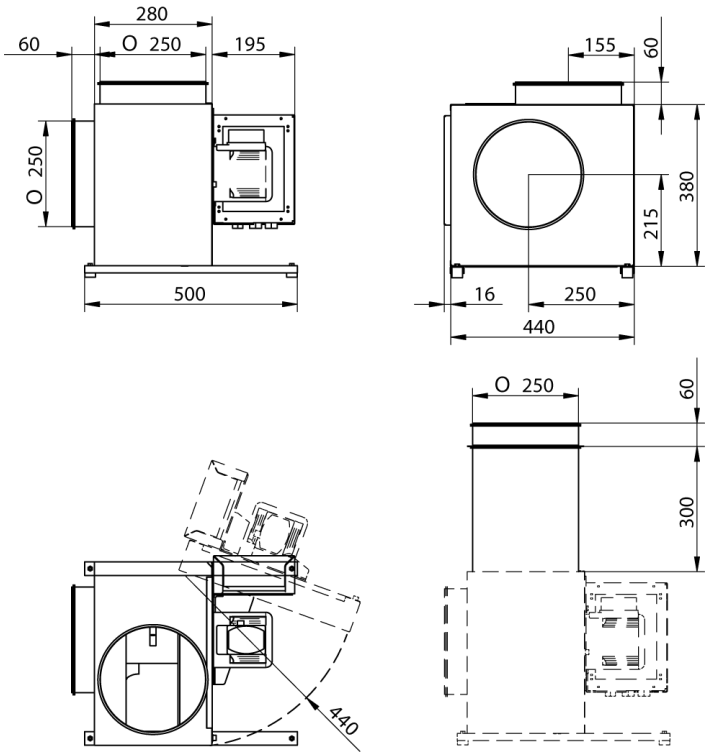
EXHAUSTO
FOR A BETTER FLOW

BESF200-4-1EC

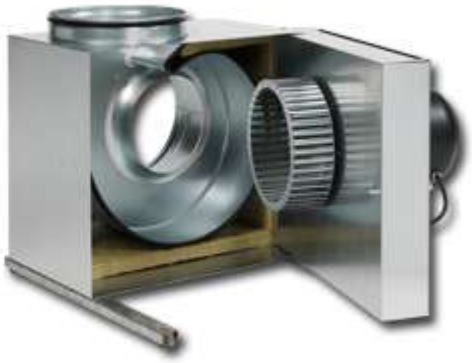


	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	7	7	1	-5	-5	-10	-12	-17		
	II	13	12	2	-5	-8	-14	-16	-23		
	III	9	8	1	-3	-6	-12	-14	-20		
	IV	15	12	2	-3	-9	-16	-19	-31		
L_{w2}	I	7	8	4	0	0	-7	-11	-17	4	
	II	12	11	3	-1	-3	-10	-13	-21	3	
	III	9	9	4	2	-2	-9	-12	-19	4	
	IV	14	11	2	1	-3	-12	-15	-27	3	
L_{w3}	I	-17	-23	-24	-29	-29	-31	-37	-41	-24	-38
	II	-13	-20	-18	-24	-23	-25	-32	-34	-18	-32
	III	-15	-22	-21	-25	-31	-32	-36	-37	-23	-37
	IV	-9	-17	-15	-22	-26	-26	-30	-32	-18	-32

BESF200-4-1FC



EXHAUSTO
FOR A BETTER FLOW



Technical data

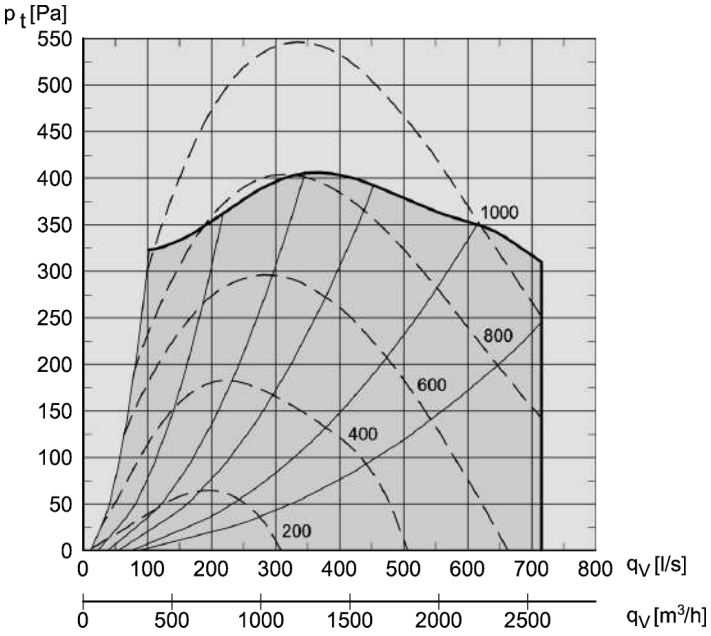
BESF225-4-1EC

MODEL	BESF225-4-1EC
Fan data	
Max. overall efficiency	53,9 %
ECO measurement set-up (A-D)	D
Efficiency requirements	49, N(2015)
ECO efficiency at optimal operating point	68,7
Motor	
Motor	EC motor with integral VSD
Optimal operating point: Absorbed power Airflow Total pressure Rpm	 235 W 1112 m^3/h 410 Pa 1448 rpm
Nominal rpm (N)	1420 rpm
Electric supply (U)	1 x 230 V ~ 50 Hz
Overload protection	Integrated in motor control
Max absorbed current* (I)	5.0 A
Max. absorbed power (P_1)**	0.80 kW
Motor output (P_2)**	0.75 kW
Other data	
Weight	32 kg

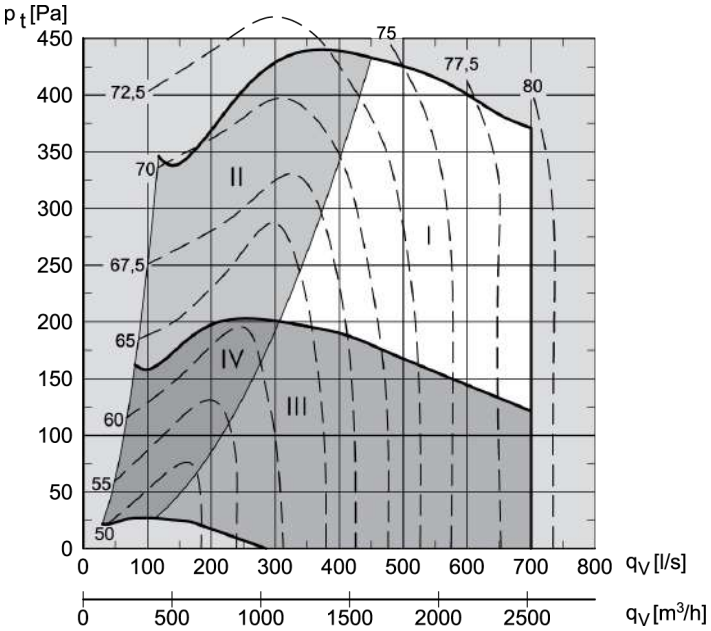
Conditions:

- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor's nominal output.
- Stated data for for t = 20°C
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12°C, max. +60° C
- Ambient temperature: Max. +40° C
- Pressure ratio: < 1,11
- other points in acc. with EC327/2011 - see product instructions

BESF225-4-1EC

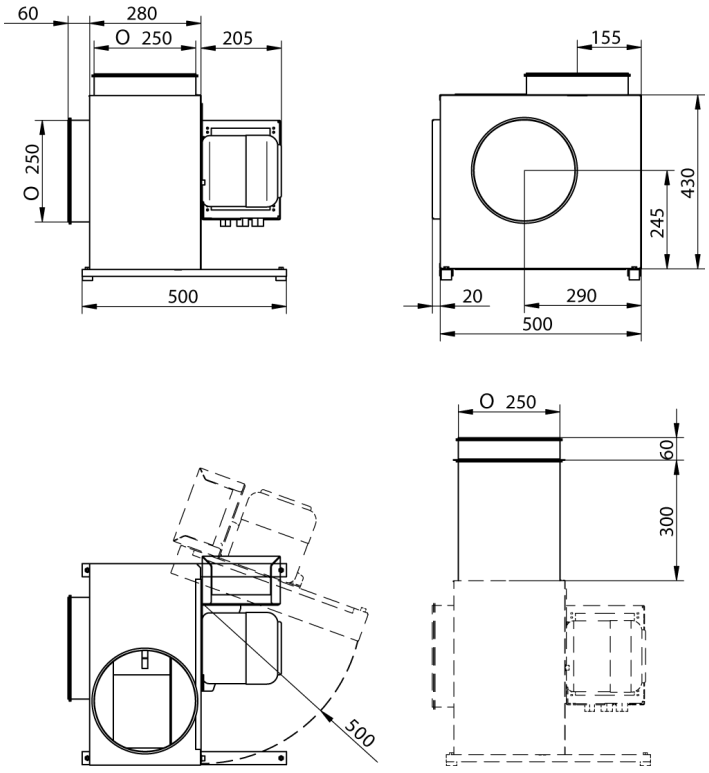


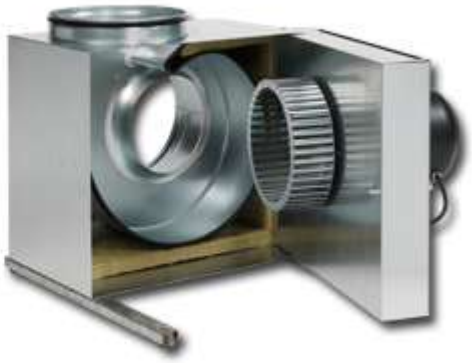
BESF225-4-1EC



	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	7	6	1	-6	-6	-9	-10	-16		
	II	13	9	3	-7	-7	-9	-14	-22		
	III	10	7	2	-3	-7	-11	-12	-20		
	IV	14	11	3	-5	-9	-14	-16	-26		
L_{w2}	I	6	7	4	1	2	-5	-8	-15	5	
	II	11	8	3	-2	-4	-10	-13	-20	2	
	III	9	9	5	3	1	-6	-8	-16	5	
	IV	17	13	6	1	-4	-10	-13	-23	3	
L_{w3}	I	-16	-19	-16	-19	-25	-27	-30	-32	-16	-30
	II	-11	-17	-6	-12	-18	-25	-31	-35	-9	-23
	III	-13	-18	-21	-21	-26	-29	-32	-35	-20	-34
	IV	-8	-15	-16	-21	-24	-28	-29	-31	-18	-32

BESF225-4-1





Technical data, BESF250-4-1 and BESF250-4-1EC

BESF250-4-1 and BESF250-4-1EC

MODEL	BESF250-4-1	BESF250-4-1EC
Fan data		
Max. overall efficiency	36,9 %	53,5 %
ECO measurement set-up (A-D)	D	D
Efficiency requirements	42, N(2013)	49, N(2015)
ECO efficiency at optimal operating point	44,1	66,9
Motor		
Motor	Single-phase motor	EC motor with integral VSD
Optimal operating point: Absorbed power Airflow Total pressure Rpm	 716 W 1831 m^3/h 519 Pa 1443 rpm	 357 W 1390 m^3/h 495 Pa 1433 rpm
Nominal rpm (N)	1400 rpm	1420 rpm
Electric supply (U)	1 x 230 V ~ 50 Hz	
Overload protection	Integral thermal cutout (TP211) in motor power circuit	Integrated in motor control
Max absorbed current* (I)	9,5 A	8.5 A
Max. absorbed power (P_1)**	1.47 kW	1.32 kW
Motor output (P_2)**	1,10 kW	1.10 kW
Other data		
Weight	33 kg	32 kg

Conditions:

- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor's nominal output.
- Stated data for for t = 20°C
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12°C, max. +60° C
- Ambient temperature: Max. +40°C
- Pressure ratio: < 1,11
- other points in acc. with EC327/2011 - see product instructions

BESF250-4-1FC and BESF250-4-3

MODEL	BESF250-4-1FC OGSR	BESF250-4-3 OGSR
Fan data		
Max. overall efficiency	42,9 %	42,9 %
ECO measurement set-up (A-D)	D	D
Efficiency requirements	49 N(2015)	49 N2015)
ECO efficiency at optimal operating point	54,5	50,7
Motor		
Motor	FC motor with integrated motor control	Three-phase motor designed for 1400 rpm or for an external frequency converter
Optimal operating point: Absorbed power Airflow Total pressure Rpm	 585 W 1600 m^3/h 564 Pa 1476 rpm	 585 W 1600 m^3/h 564 Pa 1476 rpm
Nominal rpm	1400 rpm	1400
Electric supply (U)	1 x 230 V ~ 50 Hz	3x230D/400Y
Overload protection	Integrated in motor control	Must be overload-protected in accordance with applicable regulations
Max absorbed current* (I)	9.24 A	5.0/2.9A
Max. absorbed power (P_1)**	1.42 kW	1.47 kW
Motor output (P_2)**	1.10 kW	1.10 kW
Supply		
Supply (power cable)	3 x 1.0 mm^2	No supply
Supply (control cable)	7 x 0.34 mm^2	
Length	1.90 m	
Other data		
Weight	49 kg	48 kg

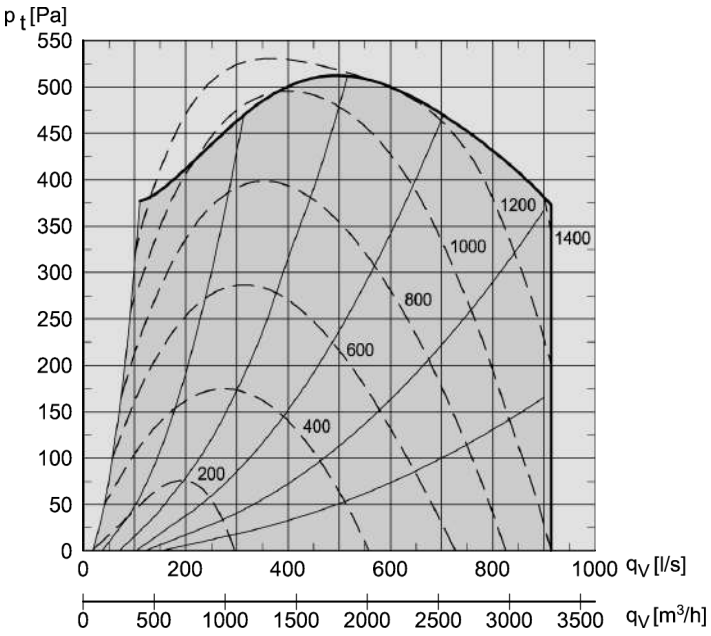
Conditions:

- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor's nominal output.
- Stated data for for t = 20°C
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12°C, max. +60° C
- Ambient temperature: Max. +40°C
- Pressure ratio: < 1,11
- other points in acc. with EC327/2011 - see product instructions

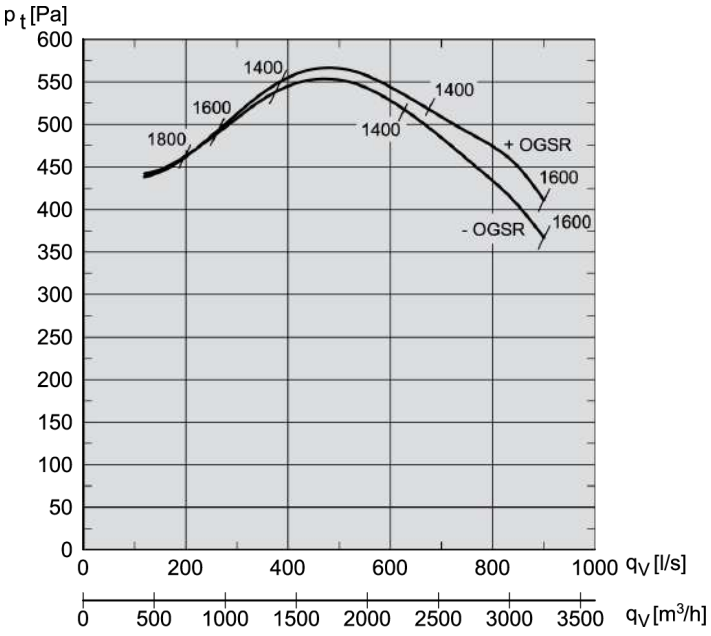
BESF250

BESF250-4-1

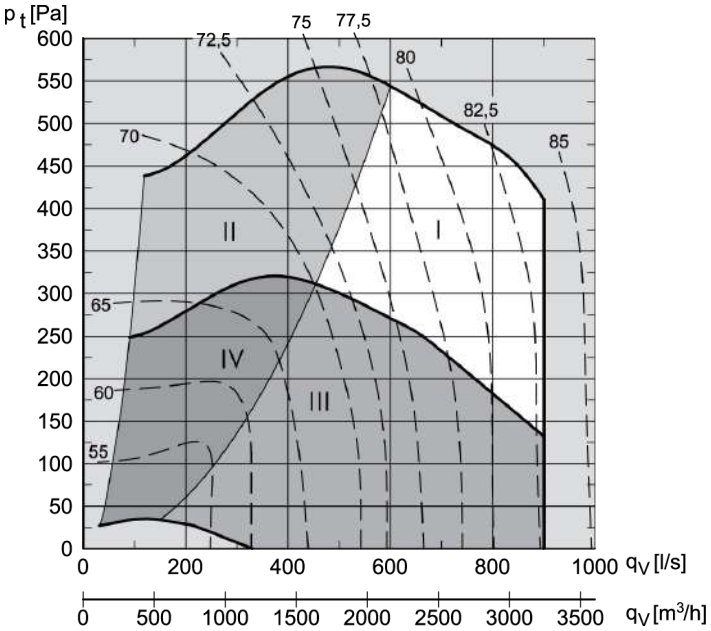
BESF250-4-1EC



BESF250-4-3

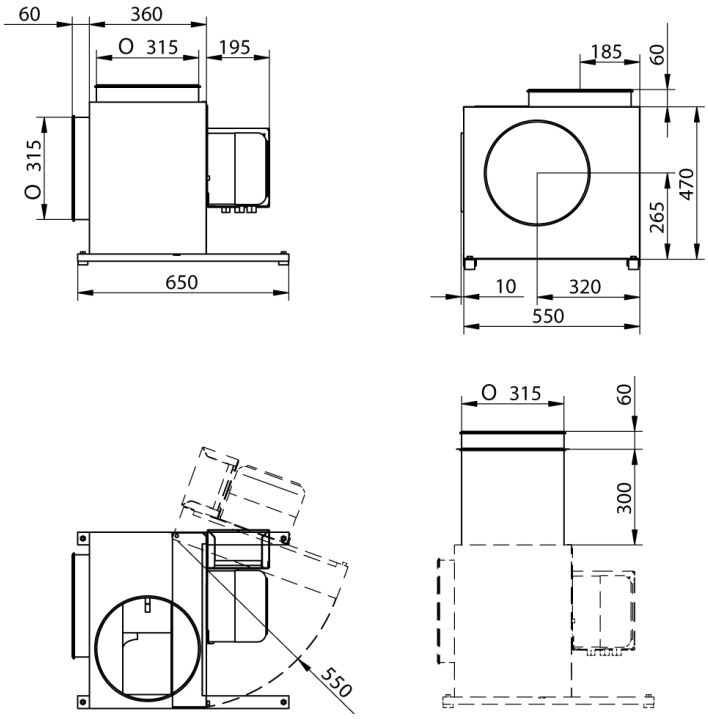


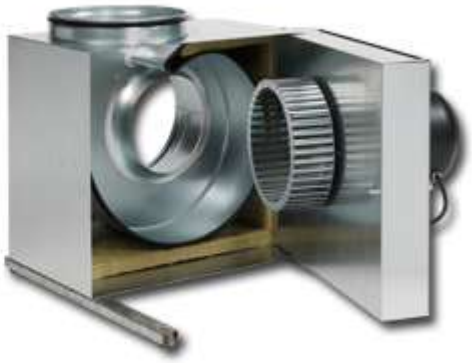
BESF250



	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	7	6	-1	-8	-5	-8	-10	-12		
	II	14	9	2	-7	-6	-11	-13	-17		
	III	11	7	1	-6	-5	-10	-12	-15		
	IV	16	10	3	-5	-8	-12	-14	-22		
L_{w2}	I	6	7	2	-2	-1	-4	-9	-13	3	
	II	14	9	3	-4	-2	-8	-12	-17	2	
	III	7	7	2	-2	-2	-8	-11	-16	2	
	IV	18	10	2	-2	-5	-9	-13	-22	1	
L_{w3}	I	-17	-15	-22	-28	-21	-34	-35	-42	-20	-34
	II	-12	-12	-18	-24	-18	-27	-31	-37	-16	-30
	III	-13	-17	-13	-23	-30	-32	-35	-41	-19	-33
	IV	-8	-14	-13	-18	-24	-24	-28	-31	-15	-29

BESF250





Technical data, BESF280-4-3 and BESF280-4-3EC

BESF280-4-3 and BESF280-4-3EC

MODEL	BESF280-4-3 OGSR	BESF280-4-3EC OGSR
Fan data		
Max. overall efficiency	52,6	58,5
ECO measurement set-up (A-D)		
Efficiency requirements	49, N(2015)	49, N(2015)
ECO efficiency at optimal operating point	59,1	73,2
Motor		
Motor	Three-phase motor designed for 1400 rpm or for an external frequency converter	EC motor with integral VSD
Optimal operating point: Absorbed power Airflow Total pressure Rpm	 955 W 23543/h 769 1481	 493 W 18703/h 555 Pa 1306 rpm
Nominal rpm (N)		1448 rpm
Electric supply (U)		
Overload protection	Must be overload-protected in accordance with applicable regulations	Integrated in motor control
Max absorbed current* (I)	7,15	5.3 A
Max. absorbed power (P_1)**		3.2
Motor output (P_2)**	2,2	2.2 kW
Other data		
Weight	33 kg	32 kg

Conditions:

- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor
- Stated data for for t = 20
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12
- Ambient temperature: Max. +40
- Pressure ratio:
- other points in acc. with EC327/2011 - see product instructions

BESF280-4-3FC

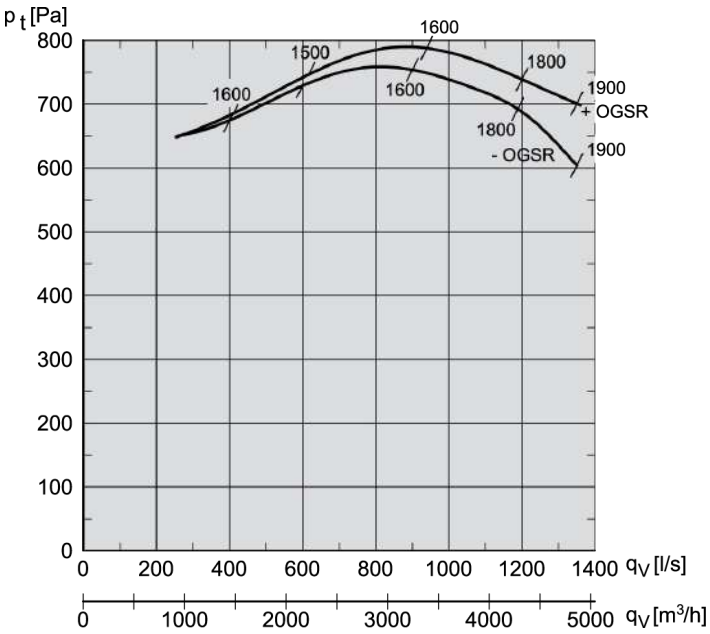
MODEL	
Fan data	
Max. overall efficiency	52,6
ECO measurement set-up (A-D)	D
Efficiency requirements	49, N(2015)
ECO efficiency at optimal operating point	63,8
Motor	
Motor	FC motor with integrated motor control
Optimal operating point: Absorbed power Airflow Total pressure Rpm	955 W 23543/h 769 1481
Nominal rpm (N)	
Electric supply (U)	
Overload protection	Integrated in FC motor control
Max absorbed current* (I)	7,15
Max. absorbed power (P_1)**	
Motor output (P_2)**	2,2
Supply	
Supply (power cable)	2
Supply (control cable)	2
Other data	
Weight	33 kg

Conditions:

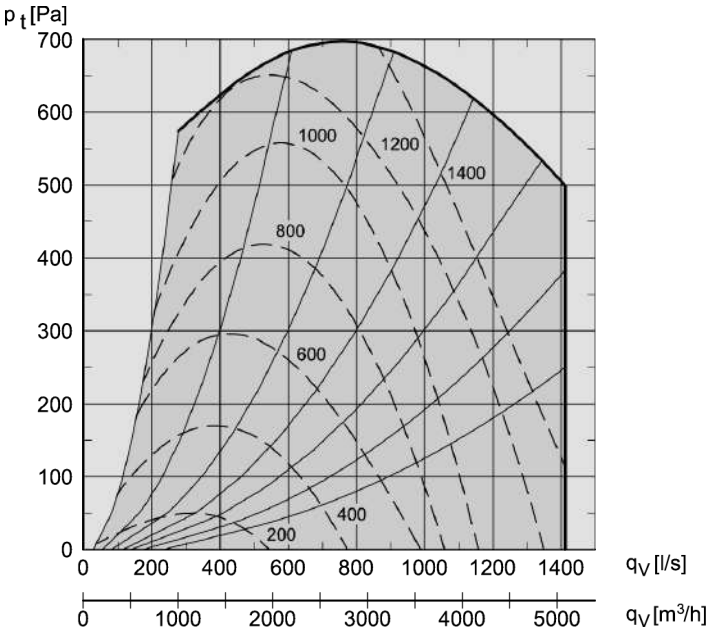
- * I is the maximum absorbed current throughout the control range - or the full load current if this is larger
- ** P_1 is the maximum absorbed power from the mains supply, where P_2 is the motor
- Stated data for for t = 20
- Density = 1.2 /m^3
- Values are based on the use of a transition piece equivalent to OGSR
- Gas temperature: min. -12
- Ambient temperature: Max. +40
- Pressure ratio:
- other points in acc. with EC327/2011 - see product instructions

BESF280

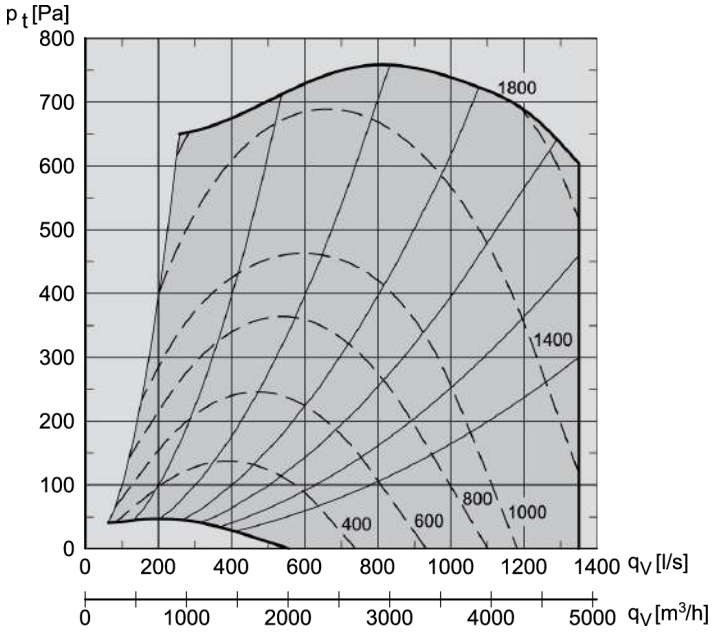
BESF280-4-3



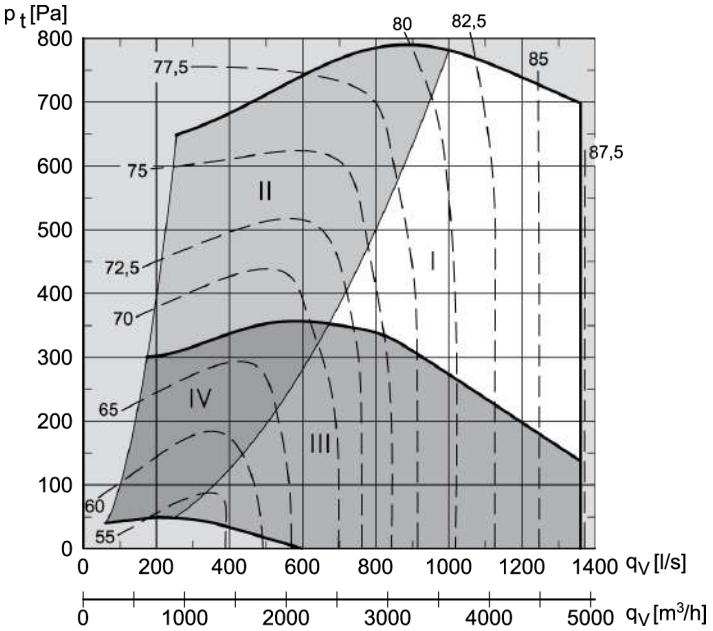
BESF280-4-3EC



BESF280-4-3FC



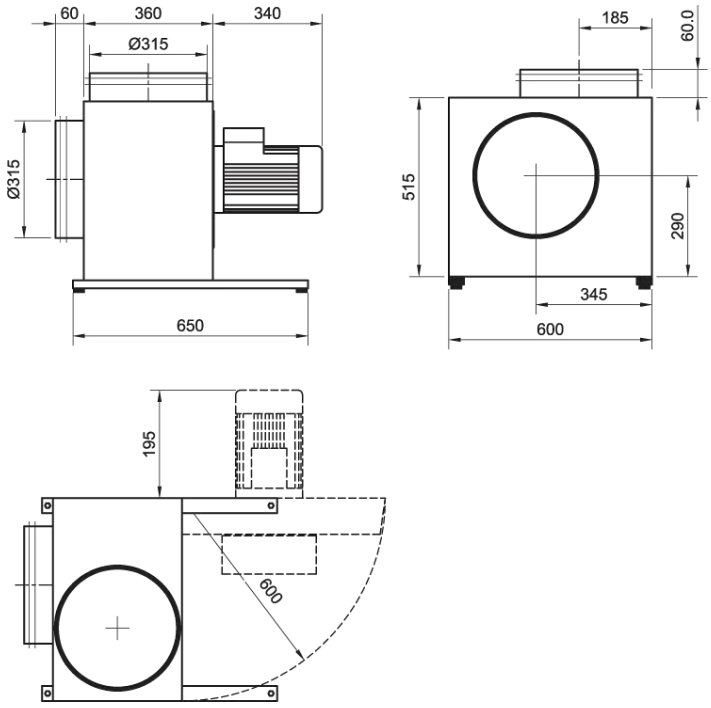
BESF280



	$K_{w[dB]}$									K[dB(A)]	
	I-IV	63	125	250	500	1 k	2 k	4 k	8 k	K_{WA}	K_{pA}
L_{w1}	I	3	5	-1	-7	-6	-7	-9	-11		
	II	14	11	2	-8	-8	-11	-13	-16		
	III	6	7	0	-7	-5	-8	-11	-13		
	IV	16	11	2	-7	-7	-11	-14	-20		
L_{w2}	I	5	7	3	-2	-2	-4	-9	-13	3	
	II	12	12	6	-3	-3	-7	-11	-16	3	
	III	9	8	4	-1	-1	-4	-9	-13	4	
	IV	17	13	7	0	-2	-6	-10	-16	5	
L_{w3}	I	-16	-19	-21	-21	-26	-32	-35	-15	-16	-30
	II	-12	-16	-18	-21	-21	-28	-31	-8	-10	-24
	III	-14	-19	-20	-17	-24	-32	-33	-7	-9	-23
	IV	-9	-17	-20	-8	-24	-27	-27	-2	-3	-17

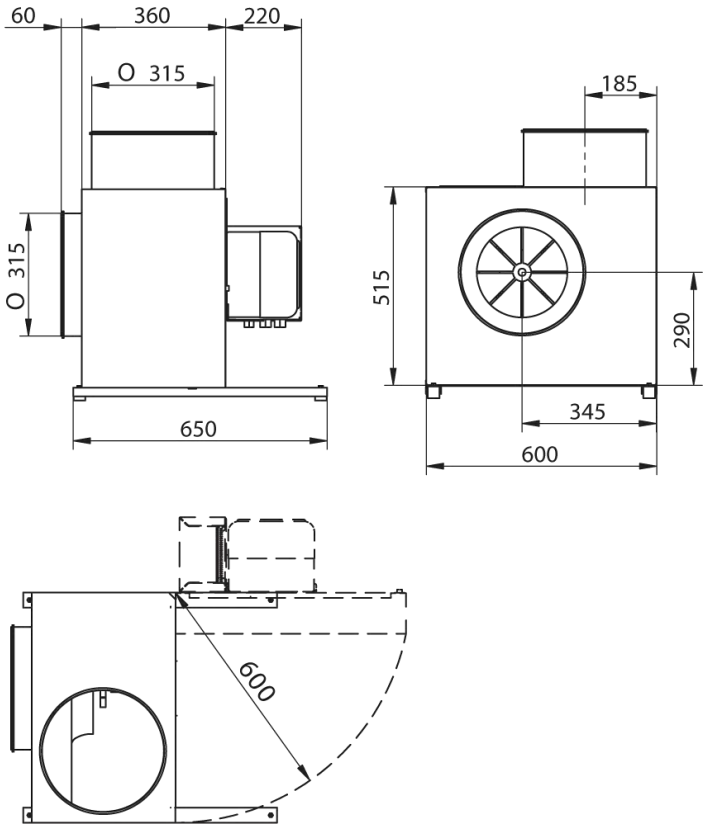
BESF280

BESF280



EXHAUSTO
FOR A BETTER FLOW

BESF280-EC



Innovative and energy-efficient ventilation solutions

We offer our customers innovative and energy-effcient solutions that ensure a good indoor climate in both new and existing buildings.

Our aim is to be at the forefront of the area, with a focus on high product quality, high efficiency figures and a resulting energy consumption which sets new standards for the industry.

We are active on the Northern and Central European markets, offering effective products and systems for many different types of buildings, including commercial properties, schools, institutions, hospitals and residential housing.

EXHAUSTO is owned by the Danish private equity fund Axcel in partnership with the VKR Holding group.

ecodesign

INATHERM
VENTILATIE & LUCHTBEHANDELING

EXHAUSTO
FOR A BETTER FLOW

Inatherm
Tielenstraat 17
5145 RC Waalwijk

www.inatherm.nl
inatherm@hcgroep.com
T: (0)416-317830