

Series
VENTS KSB



In-line centrifugal fans in heat- and sound-insulated casing with the air capacity up to **2150 m³/h**

■ **Applications**

KSB fan design enables its application in supply and exhaust ventilation systems for the premises with high requirements to noise level and limited mounting space. Provision is made for installation in a premise above the suspended ceiling. Suitable for connection with 100, 125, 150, 160, 200 and 250 mm round ducts.

■ **Design**

The fan casing is made of galvanized steel sheet and provided with heat- and sound-insulating material. Round connecting pipes are fitted with rubber seals.

■ **Motor**

The centrifugal impeller with back-curved blades is powered by means of 2-pole asynchronous motor with external rotor. The motors are equipped with built-in thermal overheating protection with automatic restart. Motor ball bearings with selective lubricating oil ensure low-noise and maintenance-free fan operation. KSB...M model motor is installed onto the rubber anti-vibration mounts to reduce vibration and noise. Models marked KSB...S are featured with the high-powered motors.

■ **Speed control**

Both smooth or step speed control is performed with the thyristor or autotransformer controller. The motor speed is controlled by means of power voltage decrease. Air capacity as a function of motor speed accordingly. Several fans can be connected to one controller in case their total power and operating current do not exceed the controller rated values.

■ **Mounting**

In-line fans designed for mounting inside the round ducts. The fan shall be fixed to a building by means of supports, suspension brackets or fixation brackets in case of flexible connectors application. The fan can be mounted in any position with respect to the air flow direction indicated with a pointer on the fan casing. Access to the fan maintenance shall be provided.

Designation key: _____

Fan series	Connecting pipe diameter	Options
VENTS KSB	100; 125; 150; 160; 200; 250; 315	R – equipped with the power cord and plug; C – equipped with high-power motor; M – Motor on rubber anti-vibration mounts; U – speed controller module with the built in temperature sensor; Un – speed controller module with the external temperature sensor; U1 – speed controller with the built in timer and temperature sensor; U1n – speed controller with the built in timer and external temperature sensor.

Accessories



page 240 page 248 page 250 page 254 page 262 page 294 page 296 page 310 page 310 page 311 page 314 page 315

■ KSB fan with electronic temperature and speed module

KSB fan with electronic speed control module with temperature sensor is the perfect solution for greenhouse and other premises requiring air temperature control. Fans marked KSB...U fitted with TSC electronic speed control module with temperature sensor provide automatic speed regulation as a function of air temperature in the duct. Temperature and minimum speed can be adjusted with two control knobs on the controller panel. The fan can be supplied either with built-in temperature sensor or external one with 4 m cable and a cover for mechanical damage protection. The LED indicator for thermostat operation is placed at the front panel of the fan.

■ KSB operation pattern with electronic speed module with temperature sensor

The set points for the maximum air temperature and the fan speed are manually adjusted by control knobs. Normally the fan operates with the speed which is set by the knob. If the temperature exceeds the set point, the fan boosts to the maximum speed. After that when the temperature drops down below the set point, the fan goes back to preset speed. The switching delay disables frequent motor switching (if the set temperature in the duct is equal to the threshold temperature).

There are two patterns of delay that may be used in various cases:

Temperature sensor delay (KSB...U): if the temperature rises by 2°C above the set temperature,

the motor switches to the increased rotation speed. The motor switches to the preset (low) speed as the temperature drops below the set temperature threshold. This pattern can be used to keep air temperature to within 2°C. In this case fan switches are rare.

2. Timer delay (KSB...U1): the motor sets to higher speed 5 min after the temperature exceeds the set threshold. The motor switches to the preset (low) speed 5 min. after the temperature drops below the set threshold.

This pattern can be used to keep the air temperature at a precise level. In this case the fan switches more frequently than in the pattern of temperature sensor delay, but the intervals do not exceed 5 minutes.

■ Example for temperature sensor delay:

Initial conditions:

- rated speed is set as 60% of the maximum speed
- operating threshold is set as 25°C
- air temperature in the duct is 20°C

Fan operates with the rated speed =60%

- air temperature in the duct rises
fan operates with the rated speed =60%

- air temperature in the duct reaches 27°C
Fan switches to the speed =100%

- air temperature in the duct goes down
fan operates with the speed =100%

- temperature in the duct reaches 25°C again
fan switches to the preset rated speed =60%

motor operates with the motor speed =60%

- the temperature in the duct rises, reaches 25°C and keeps rising

fan switches to the maximum speed =100% and the delay timer switches for 5 minutes on

- the temperature in the duct goes down
the fan operates with the maximum speed =100%

- the temperature in the duct reaches 25°C and keeps going down

after the timer stops, the motor switches to the preset rated speed (=60%). After the speed switch the timer switches again for 5 minutes on.

- the temperature in the duct rises, reaches 25°C and keeps rising

after the timer stops, the motor switches to the maximum speed (=100%). After the speed switch the timer switches again for 5 minutes on.

■ Example for timer delay:

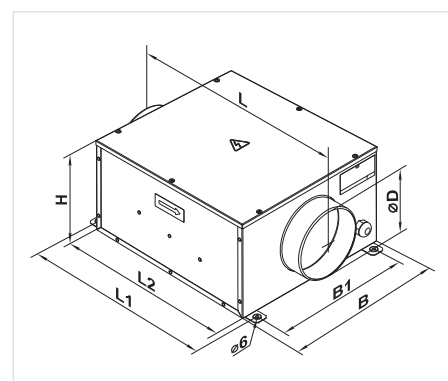
Initial conditions:

- set rotation speed = 60% of maximum speed
- set operating threshold =25°C
- air temperature in the duct =20°C

Thus, in timer delay pattern the delay timer activates every time the fan speed changes.

Fan overall dimensions:

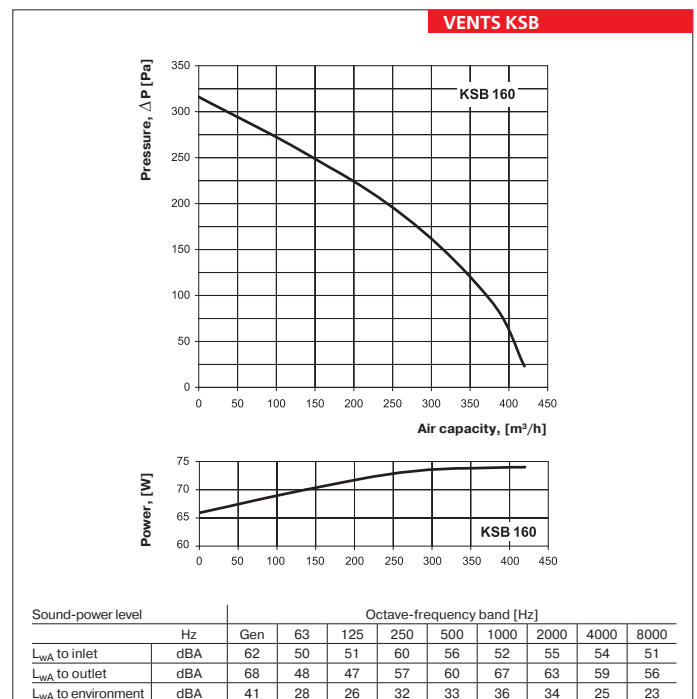
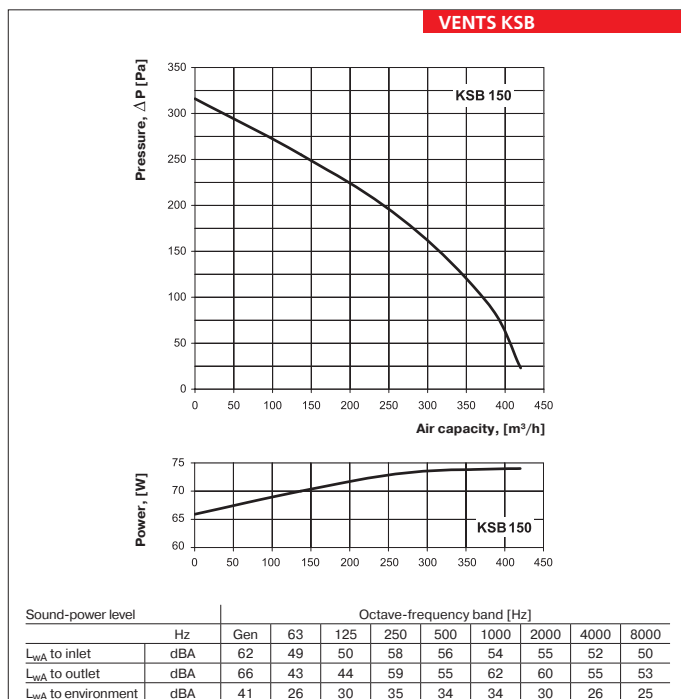
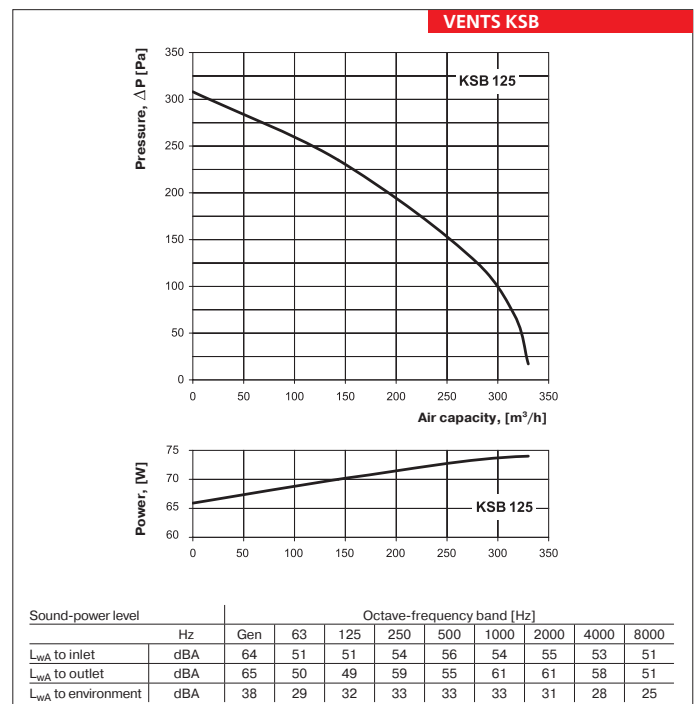
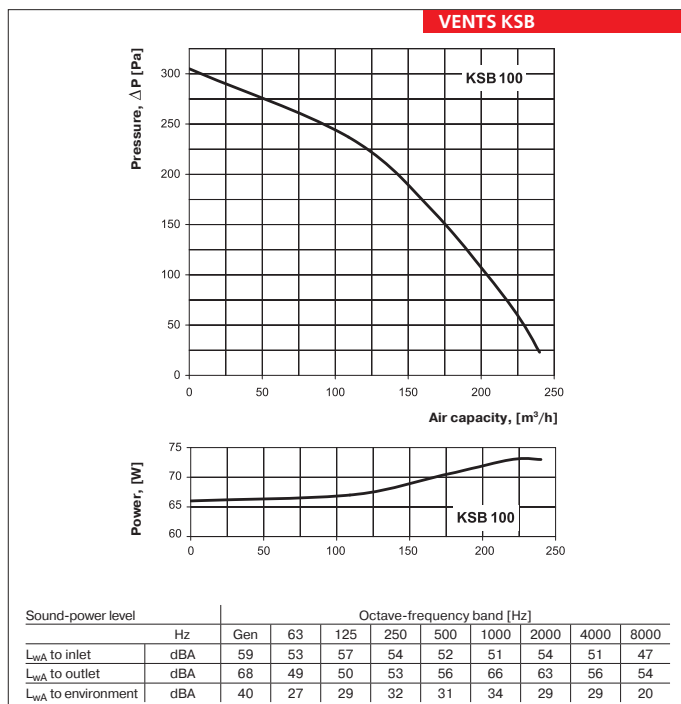
Type	Dimensions [mm]							Mass [kg]
	∅D	B	B1	H	L	L1	L2	
KSB 100	99	322	280	192	447	380	350	5,4
KSB 125	124	322	280	192	447	380	350	5,4
KSB 150	149	352	310	212	477	410	380	6,4
KSB 160	159	352	310	212	477	410	380	6,4
KSB 200	199	432	368	287	588	506	480	10,0
KSB 200 S	199	432	368	287	588	506	480	12,0
KSB 250	249	432	368	287	588	506	480	12,5
KSB 315	314	502	438	397	648	566	540	15,5



SOUND-INSULATED FANS

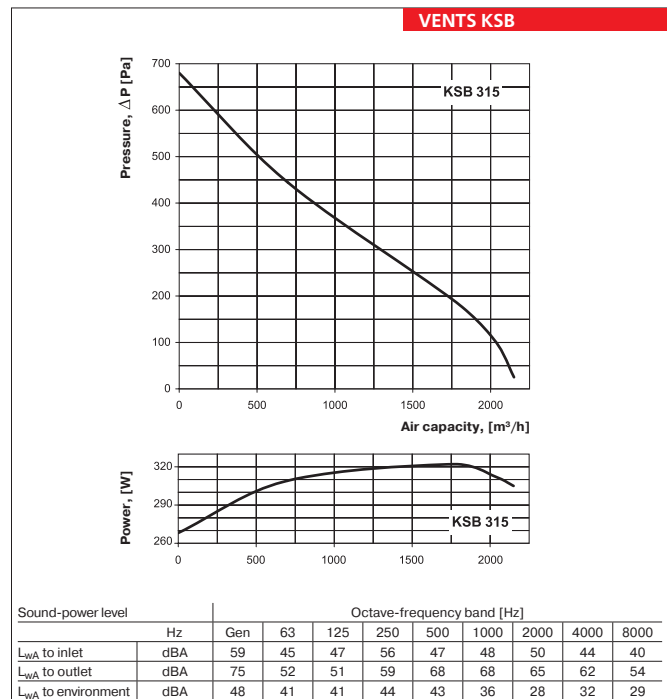
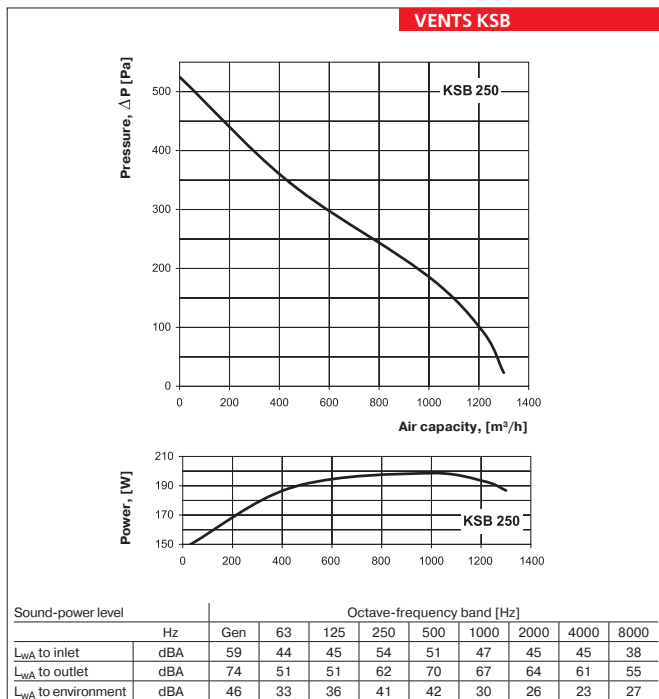
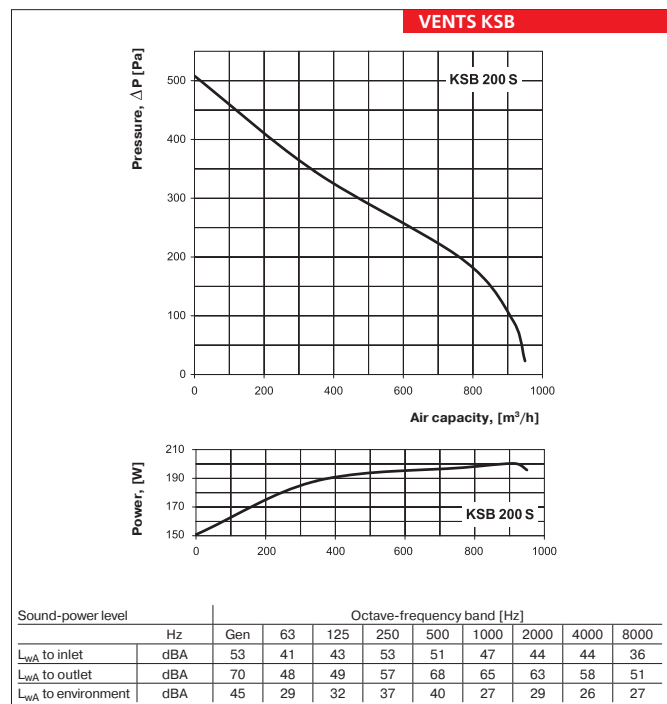
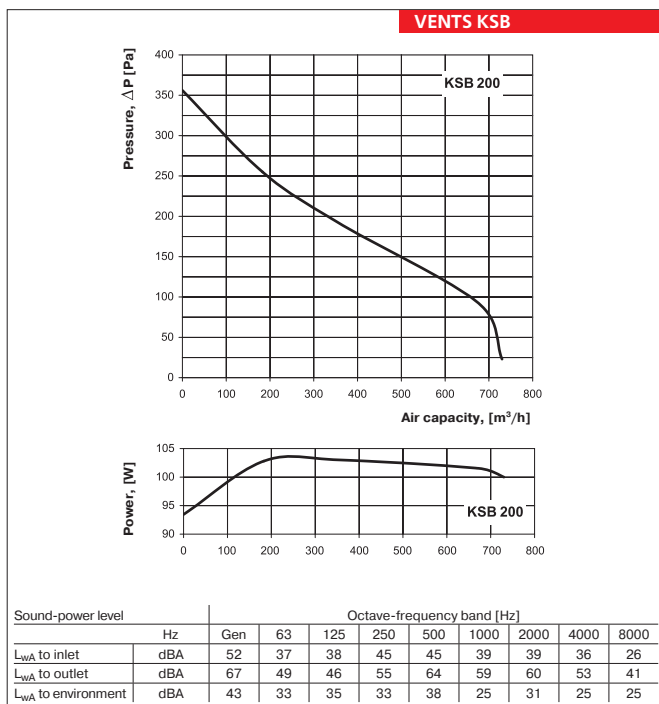
Technical data:

	KSB 100	KSB 125	KSB 150	KSB 160
Voltage [V / 50 Hz]	230	230	230	230
Power [W]	73	73	72	75
Current [A]	0,32	0,32	0,32	0,33
Maximum air flow [m ³ /h]	240	330	420	420
RPM [min ⁻¹]	2560	2590	2600	2690
Noise level at 3 m [dBA]	33	35	36	36
Maximum operating temperature [°C]	-25 +55	-25 +55	-25 +55	-25 +55
Protection rating	IP X4	IP X4	IP X4	IP X4



Technical data:

	KSB 200	KSB 200 S	KSB 250	KSB 315
Voltage [V / 50 Hz]	230	230	230	230
Power [W]	103	195	198	322
Current [A]	0,45	0,85	0,87	1,40
Maximum air flow [m ³ /h]	730	950	1300	2150
RPM [min ⁻¹]	2550	2570	2420	2670
Noise level at 3 m [dBA]	38	41	41	43
Maximum operating temperature [°C]	-25 +50	-25 +45	-25 +50	-25 +45
Protection rating	IP X4	IP X4	IP X4	IP X4



FAN SERIES VENTS KSB