

# SOUND-INSULATED VENTS TT SILENT-M FAN



 **VENTS**

2016

*Fresh air in  
your house!*



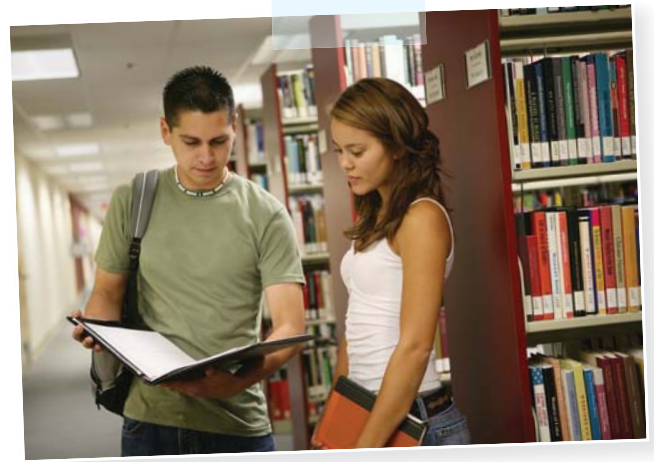
Offices



Conference halls



Kindergartens



Libraries



Restaurants



Schools



Sport halls



Shops



«NOISY LIFE»

Our life is daily filled with millions of various words, voices and sounds. We are surrounded by all kinds of sounds in the office, outside and even at home.

Loud natural sounds are rare and do not last long. However, the voice of nature is hardly audible in the modern urbanized world as is often lost in industrial noises.

This sound pollution has become an unwanted integral part of our lives. Numerous investigations prove the negative effects of noise pressure on human health. Lasting exposure to acoustic waves is not only unfavourable for auditory organs, but may provoke decrease of auditory sensitivity, heart disorders, high pressure, headaches, rapid fatigability, nervous stress and other unpleasant symptoms that may lead to severe complications.

We perceive sound in different ways depending on age, health state, mood and ambient conditions. As most daily time we spend at work, the labour conditions influence our acoustic apparatus most of all.



Natural air circulation created by open windows and doors is always combined with unhealthy draughts, various smells, dust, allergens that come to the premise. But even more preferable mechanical ventilation is also associated with increased acoustic discomfort because of sounds generated by working equipment.

20-30 dB is the natural noise level that is harmless for the human health and makes the natural noise background in our life.



**DO YOU NEED EFFICIENT SILENT VENTILATION IN YOUR ROOM? WE HAVE A SOLUTION!**

The latest developments in ventilation industry resulted in the invention of a totally sound-insulated casing that provides an absolutely silent fan operation.

The noise level generated by the operating fan with minimum air flow does not exceed 29 dB(A) and 40 dB(A) at maximum air flow respectively.

The noise produced by the fan is commensurable with the natural comfortable sound level.



The many sources of noise irritants include loud human voices, working equipment, telephone rings, outside noise that comes through open windows, etc.

Comfortable job climate means not only admissible indoor noise level but also fresh permanently circulating air.



Integration of sound-insulated fans into air handling units is the best solution for various premises requiring low noise ventilation, such as banks, archives, museums, kindergartens, education facilities, libraries, theatres, public institutions, record studios, etc.



Series  
**VENTS TT Silent-M**



The new **TT Silent-M** fan is covered by a specially designed heat- and sound-insulated casing that provides low-noise operation.

The **VENTS TT Silent-M** fans combine wide capabilities and high performance characteristics of both axial and centrifugal fans, thus providing powerful air stream and high pressure.

The **VENTS TT Silent-M** fan is recommended for efficient supply and exhaust ventilation of various commercial and industrial premises with high requirements to noise level, i.e. in libraries, conference halls, educational institutions, kindergartens, etc.

The **VENTS TT Silent-M** fan is compatible with round air ducts from Ø 100 up to 450 mm and produce maximum air flow 6510 m<sup>3</sup>/h.

**Casing**

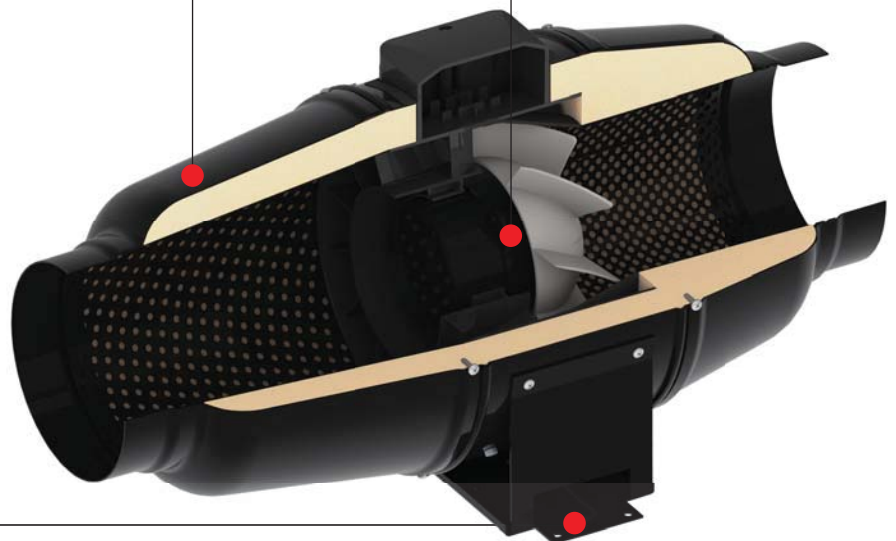
- ▶ the outer casing is made of black polymer coated steel;
- ▶ heat and sound insulation with 50 mm mineral wool layer;
- ▶ the inner casing perforation let sound waves pass through the holes and fall at a specific angle to the sound-absorbing layer thus providing sound attenuation in a broad frequency band;
- ▶ the inner casing and the impeller are made of high-quality durable ABS plastic;
- ▶ the conic impeller with special blade profiling, the diffuser and the directing vanes at the casing outlet increase air flow speed and provide higher pressure and air capacity as compared to standard axial fans;
- ▶ power supply through the external airtight terminal box on the fan casing;

**Motor**

- ▶ single-phase energy efficient double-speed motor with low energy demand;
- ▶ thermal switches ensure the motor overheating protection;
- ▶ extended motor service life up to 40 000 hrs. due to ball bearings;
- ▶ IPX4 ingress protection rating.

**Mounting**

- ▶ mounting at any place and at any angle within the ductwork system;
- ▶ several fans in one system:  
parallel mounting to attain higher air capacity,  
mounting in series to boost operating pressure;
- ▶ fixing brackets for fastening the fan to the floor, wall or ceiling.



**Accessories**



**Silencer**  
SR (round)



**Panel filters**  
FB  
FBV



**Bag filters**  
FBK



**Electric heaters**  
NK



**Water heaters**  
NKV



**Back valves**  
KOM

**Speed control**

▶ The double-speed motors are controlled with a built-in switch («V» option) or an external switch for multi-speed fans (available upon separate order);



**TT Silent-M fan with a three-position speed switch**

▶ A built-in speed controller («P» option), an external TRIAC or autotransformer speed controller (available upon separate order) enable smooth motor speed control when connected to the maximum speed terminal;



**TT Silent-M fan with a built-in speed controller**

▶ «T» option models are equipped with an adjustable turn-off delay timer, adjustable from 2 to 30 minutes.

**The fan with electronic module of the temperature sensor and speed controller («U» option)**

▶ The front panel of the electronic module has the following controls:

- speed control knob for setting the motor speed;

- thermostat control knob for setting the temperature set point;
- thermostat indicator light.

▶ **TT Silent-M...U** fan with the electronic temperature and speed control module provides automatic control of the motor speed (air capacity) depending on the air temperature in the air duct or in the room.

▶ **TT Silent-M...U** is available in two modifications:

- with a temperature sensor integrated inside the fan air duct («U/U1» option);
- with an external temperature sensor fixed on the cable, 4 m long («Un/U1n» option).



**TT Silent-M...U with a temperature sensor integrated inside the fan air duct («U/U1» option);**



**TT Silent-M...U with an external temperature sensor fixed on the cable, 4 m long («Un/U1n» option).**

▶ **Control logic of the fan with the electronic temperature and speed control module («U» option):**

- Set the desired air temperature (set point of the thermostat) with the thermostat control knob;
- Set the required minimum impeller speed (air flow)

with the speed control knob;

- The motor switches to maximum speed (maximum air flow) as air temperature reaches and exceeds the set temperature set point.
- The motor switches to the pre-set lower speed as air temperature drops down below the set temperature point.
- ▶ **To avoid the frequent motor speed changes, e.g. when the temperature in the supply air duct is equal to the threshold value, the switching delay time is activated:**

- **option 1.** The temperature sensor-based switch delay («U/U1» option): the motor switches to higher speed as air temperature exceeds 2°C above the set thermostat set point. The motor reverts to the pre-set lower speed as air temperature drops down below the thermostat set point. This control logic is used to keep air temperature to within 2°C. In this case the motor speed switches are rare.
- **option 2.** The timer-based switch delay (Un / U1n option): as air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after the delay timer countdown. This pattern is used for exact air temperature control. The speed switches for the fan with U1 option are more frequent as compared to the fan with U option, however the minimum operating cycle at one speed is 5 minutes.



**Air shutters**  
KP



**Clamps**  
C  
CZ  
CZK



**Temperature controllers**  
RTS-1-400  
RTSD-1-400



**Speed switches**  
P2-1-300



**Sensor**  
T-1,5 H  
TH-1,5 H  
TF-1,5 H, TP-1,5 H

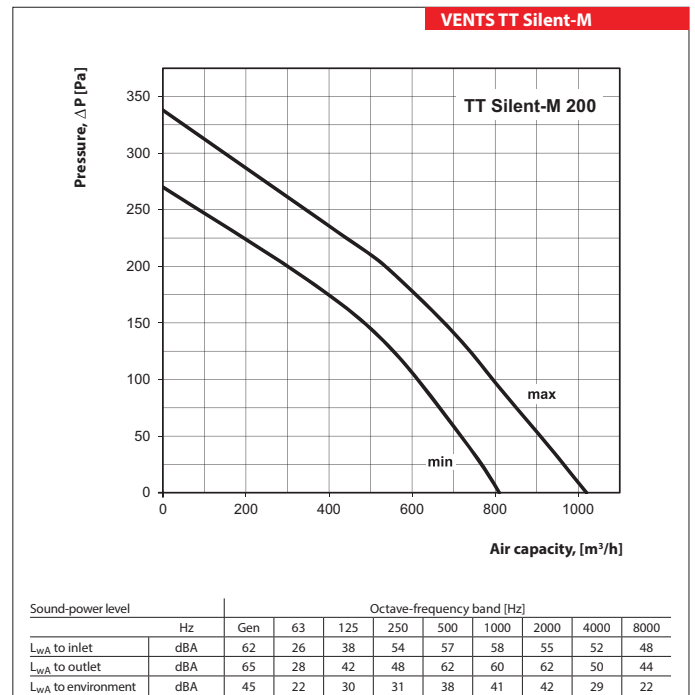
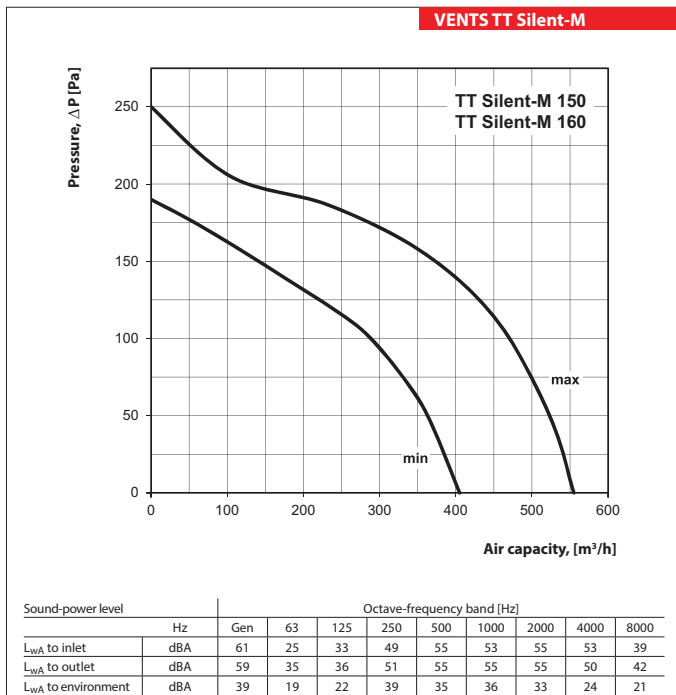
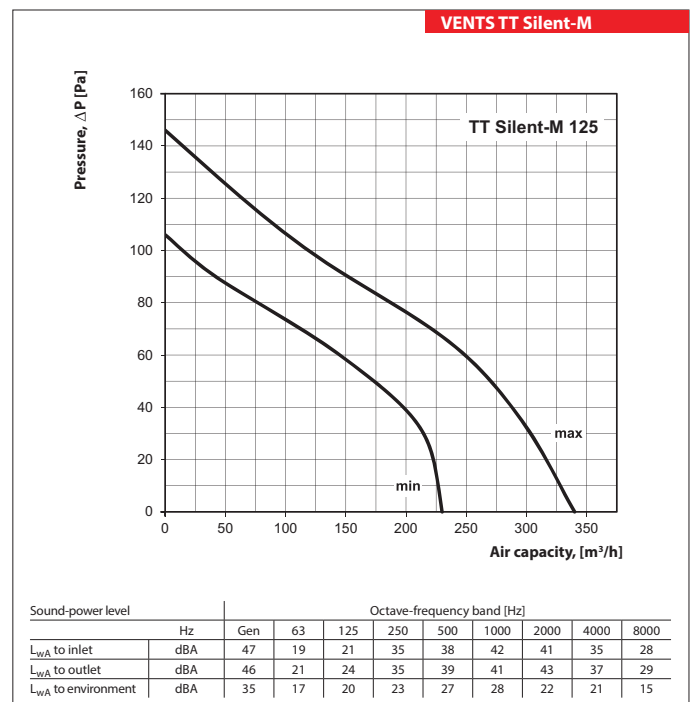
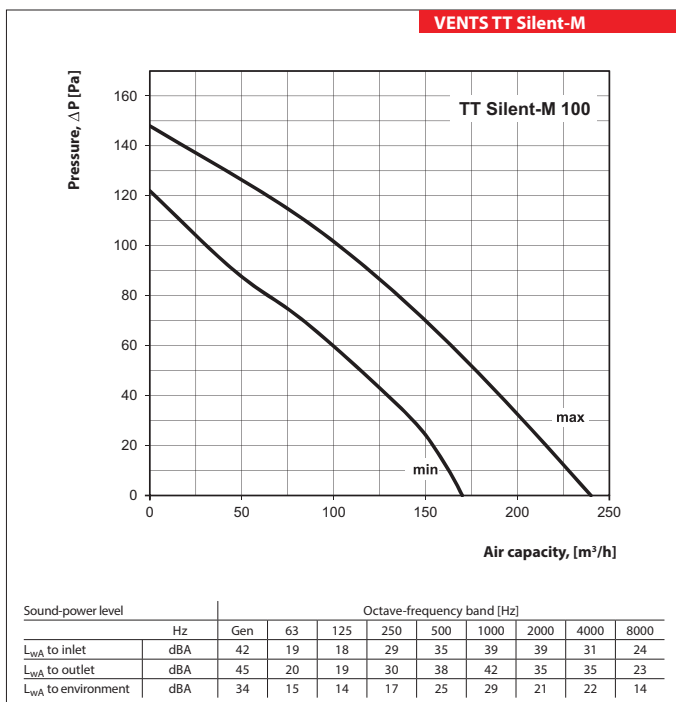
# SOUND-INSULATED FANS

## Technical data:

	TT Silent-M 100*		TT Silent-M 125*		TT Silent-M 150* TT Silent-M 160*	
	min	max	min	max	min	max
Speed	1~ 230		1~ 230		1~ 230	
Voltage [V / 50/60 Hz]	1~ 230		1~ 230		1~ 230	
Power [W]	24	26	25	29	45	52
Current [A]	0.10	0.11	0.11	0.13	0.20	0.23
Max. air capacity [m³/h]	170	240	230	340	405	555
RPM [min <sup>-1</sup> ]	2030	2630	1650	2310	1970	2645
Noise level at 3 m [dBA]	24	29	23	28	26	33
Max. transported air temperature [°C]	60		60		60	
SEC class**	D		D		C	
Protection rating	IP X4		IP X4		IP X4	

\* Compliant to the ErP-regulation (EC) 327/2011, the power consumption at optimum efficiency is < 125W.

\*\* The EC norm 1254/2014 does not apply if maximum air capacity is >1000 m³/h

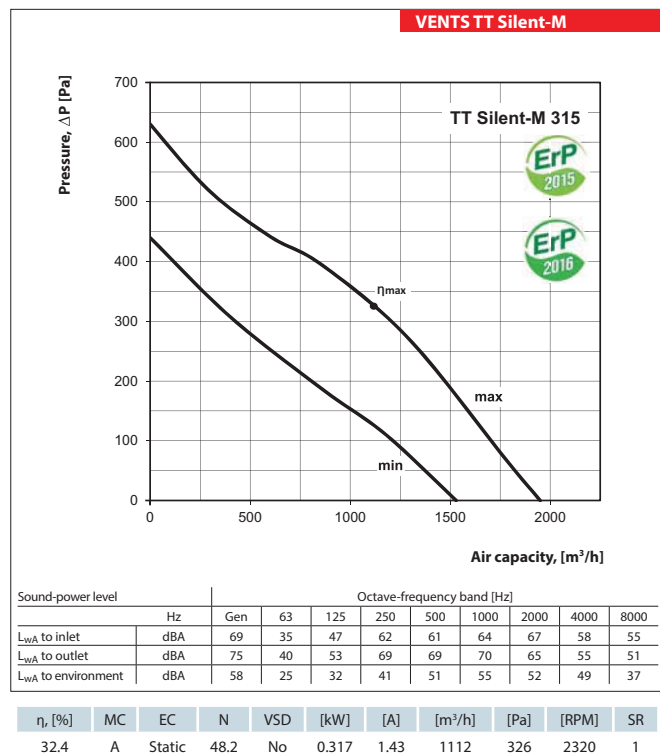
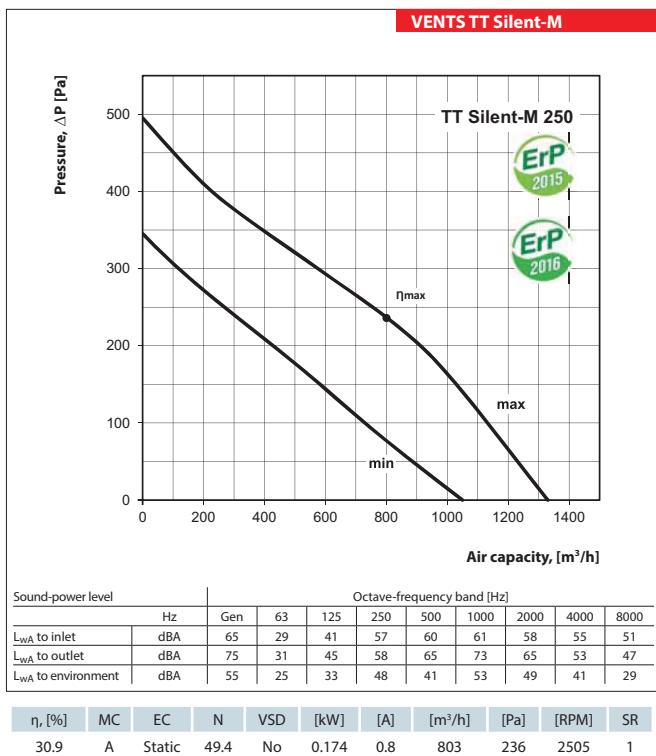


**Technical data:**

	TT Silent-M 200*		TT Silent-M 250		TT Silent-M 315	
	min	max	min	max	min	max
Speed	1~ 230		1~ 230		1~ 230	
Voltage [V / 50/60 Hz]	1~ 230		1~ 230		1~ 230	
Power [W]	78	110	127	178	213	313
Current [A]	0.35	0.49	0.52	0.79	0.93	1.41
Max. air capacity [m <sup>3</sup> /h]	810	1020	1050	1330	1530	1950
RPM [min <sup>-1</sup> ]	2015	2445	1965	2495	1975	2545
Noise level at 3 m [dBA]	31	36	34	38	36	40
Max. transported air temperature [°C]	60		60		60	
SEC class**	C		-		-	
Protection rating	IP X4		IP X4		IP X4	

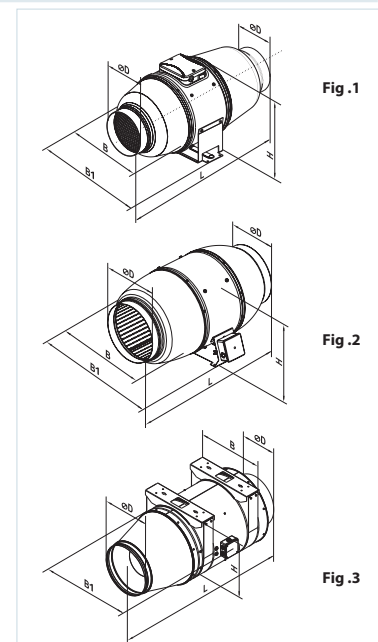
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\*\* The EC norm 1254/2014 does not apply if maximum air capacity is >1000 m<sup>3</sup>/h



**Fan overall dimensions:**

Type	Dimensions [mm]					Weight [kg]	Fig. no.
	∅D	B	B1	L	H		
TT Silent-M 100	98	215	243	505	237	4,6	1
TT Silent-M 125	123	215	243	474	237	4,6	1
TT Silent-M 150	147	247	274	580	260	6,1	1
TT Silent-M 160	157	247	274	580	260	6,1	1
TT Silent-M 200	198	293	386	550	295	8	2
TT Silent-M 250	248	358	445	658	360	15	2
TT Silent-M315	313	432	520	780	434	25	2
TT Silent-M 355-4E	353	460	540	1320	510	33	3
TT Silent-M 355-4D	353	460	540	1320	510	33	3
TT Silent-M 400-4E	397	460	540	1320	510	35	3
TT Silent-M 400-4D	397	460	540	1320	510	35	3
TT Silent-M 450-4E	447	460	640	1425	610	51	3
TT Silent-M 450-4D	447	460	640	1425	610	51	3



# SOUND-INSULATED FANS



## Technical data:

	TT Silent-M 355-4E*	TT Silent-M 355-4D*	TT Silent-M 400-4E*	TT Silent-M 400-4D*	TT Silent-M 450-4E	TT Silent-M 450-4D
Voltage [V / 50/60 Hz]	1~ 230	3~ 400	1~ 230	3~ 400	1~ 230	3~ 400
Power [W]	578	585	580	590	1200	1230
Current [A]	3,42	1,77	3,43	1,78	7,72	3,43
Max. air capacity [m³/h]	3310	3430	3545	3670	6260	6510
RPM [min <sup>-1</sup> ]	1480	1490	1480	1490	1475	1490
Noise level at 3 m [dBA]	49	49	50	50	59	59
Max. transported air temperature [°C]	60	60	60	60	60	60
SEC class**	-	-	-	-	-	-
Protection rating	IP X4	IP X4	IP X4	IP X4	IP X4	IP X4

\* Compliant to the ErP-regulation (EC) 327/2011, the power consumption at optimum efficiency is < 125W.

\*\* The EC norm 1254/2014 does not apply if maximum air capacity is >1000 m³/h

