

INLINE MIXED-FLOW FANS

VENTS TT PRO

VENTS TT



2012

Fresh air in
your house!

Series
VENTS TT PRO



Inline mixed-flow fans with the air capacity up to **2350 m³/h**

■ **Application**

The **VENTS TT** and **VENTS TT PRO** fans are featured with wide capabilities and high performance of axial and centrifugal fans and are specifically designed for supply and exhaust ventilation of premises requiring high pressure, powerful air flow and low noise level. The fans are compatible with round air ducts from Ø 100 to 315 mm. Exhaust ventilation systems based on the TT fans are the best solution for ventilation of bathrooms and kitchens and other humid premises as well for ventilation of flats, cottages, shops, cafes, etc.

■ **Design**

The fan casing is made of high quality and durable materials: ABS plastic for the **VENTS TT** series or low-flammable polypropylene for the **VENTS TT PRO** series.

Series
VENTS TT



Inline mixed-flow fans with the air capacity up to **450 m³/h**

The removable impeller and motor block with a terminal box is fixed to the casing assembled with the



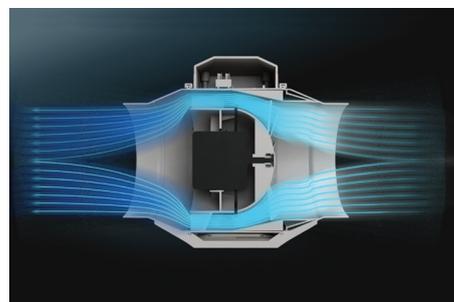
spigots by means of special clamps with latches. This makes the fan maintenance fast and easy. The fan maintenance does not require total disassembling. Just pull out the central block from the casing and

perform required servicing. All the models may be equipped with a regulated timer with turn-off delay adjustable from 2 to 30 min.

■ **TT PRO design features:**

The inlet spigot is equipped with a collector to enable smooth air inlet to the fan. The hemispheric impeller shape and specially profiled blades increase the air flow circular velocity and provide higher pressure and capacity as compared to standard axial fans.

The diffuser, the specially profiled impeller and the directing vanes at outlet from the fan casing distribute air flow in such a way as to attain the best combination of high performance, enhanced pressure and low noise.



■ **Motor**

The models of **VENTS TT** series are equipped with single-phase double-speed motors. Some dimension types are available with a more powerful motor (**VENTS TT...S**).

The models of **VENTS TT PRO** series are equipped with single-phased double-speed motors with low energy demand.

The motors have thermal overheating protection to prevent the motor overload. The ball bearings extend the motor service life up to 40 000 hrs. at non-stop operation. The motor has IP X4 ingress protection rating.

Designation key:

Series	Air duct diameter	Options
VENTS TT PRO VENTS TT	100; 125; 150; 160; 200; 250; 315	<p>S – high-powered motor; T – timer; U – electronic module with temperature-based operating logic and the temperature sensor integrated into the air duct; Un – electronic module with temperature-based operating logic and the external temperature sensor; U1 – electronic module with timer-based operating logic and the temperature sensor integrated into the air duct; U1n – electronic module with timer-based operating logic and the external temperature sensor; P – power cord with a plug; V – three-position switch; P – built-in speed controller.</p>

■ 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).

An integrated speed controller (option R), an external TRIAC or autotransformer speed controller (available upon separate order) are used for smooth speed control when connected to the maximum speed terminal.



■ Mounting

The fans are suitable for mounting at any angle and point of the system. Several fans may be installed inside one system. Several fans may be installed inside one system:

- **parallel** mounting to increase air flow;



- **in series** mounting to increase operating pressure;



The fan case is equipped with a flat mounting plate to attach the fan to the wall. The mounting box may be installed in any position to facilitate mounting and wiring.

■ The fan with electronic module of the temperature sensor and speed controller (U option).

The ideal solution for ventilation of the premises with high demands to permanent indoor temperature level, e.g. greenhouses.

The fan with the electronic module of the temperature sensor and the speed controller is used for automatic speed control (air capacity regulation) depending on the air temperature in the ventilation duct or inside a room.

The electronic module of the front panel incorporates:

- the speed control knob for the setting the impeller speed;
- the thermostat control knob for setting the temperature set point.
- thermostat LED light.

Two modifications are possible:

- temperature sensor integrated inside a fan duct (U/U1 option);



- external temperature sensor fixed on 4 m power cable (Un / U1n option).



■ Operating logic of the fan with the electronic module of the temperature sensor and speed controller

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 the temperature reaches and exceeds the set temperature set point. The motor switches to the pre-set speed as the temperature drops down below the set temperature point.

To avoid the frequent motor switching, e.g. when the temperature in the supply air duct is equal to the threshold value, the switching delay time is activated.

There are two switch delay patterns for various cases:

1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2°C above the set thermostat set point. The motor reverts to the pre-set lower speed as the air temperature drops below the thermostat set point.

This pattern is used to keep air temperature to within 2°C. In this case the fan switches are rare.

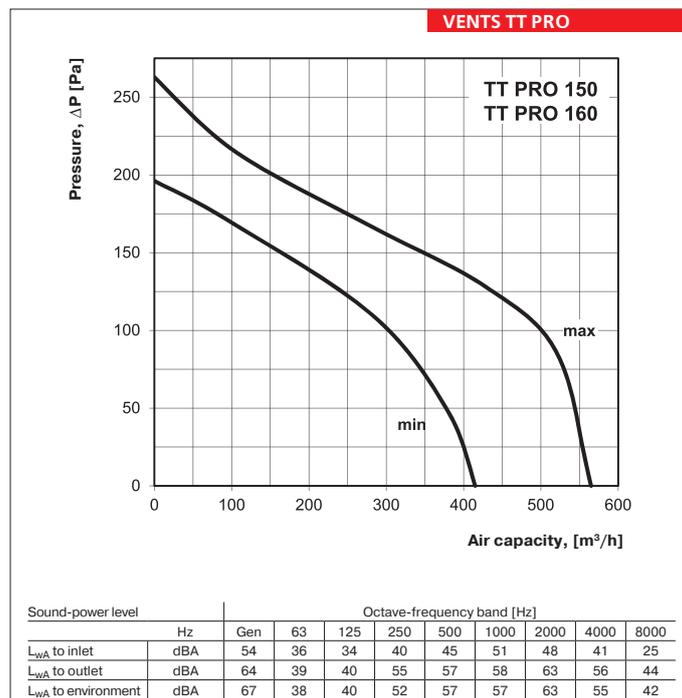
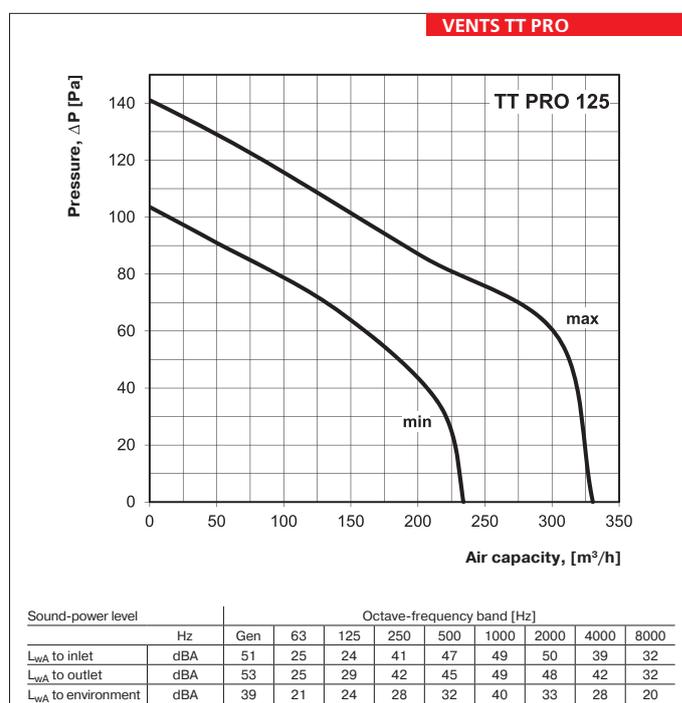
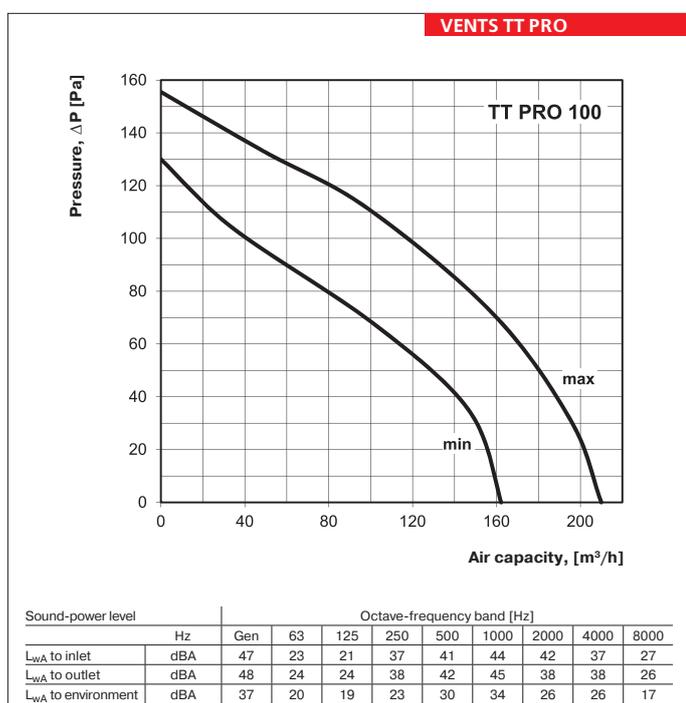
2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after the timer countdown.

This pattern is used for exact air temperature control. The fan changes its speed more often as compared to the temperature sensor-based switch delay, however the minimum timer interval is 5 minutes.

FANS FOR ROUND DUCTS

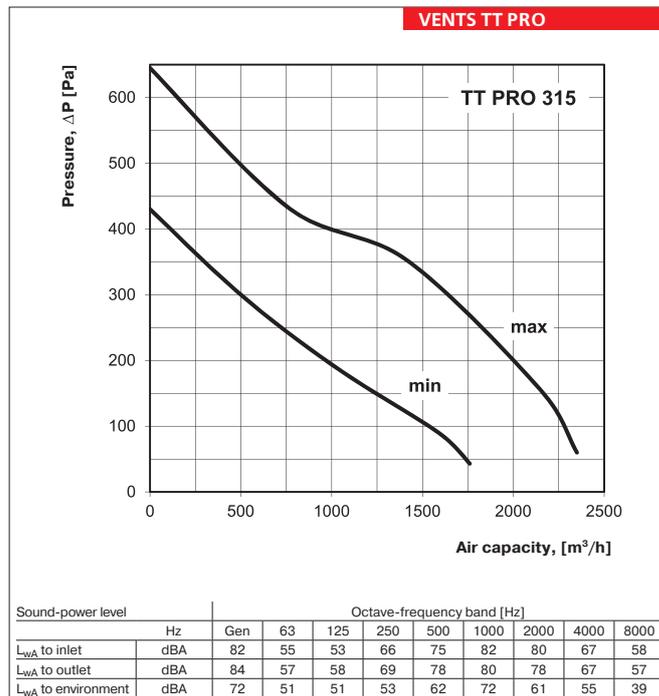
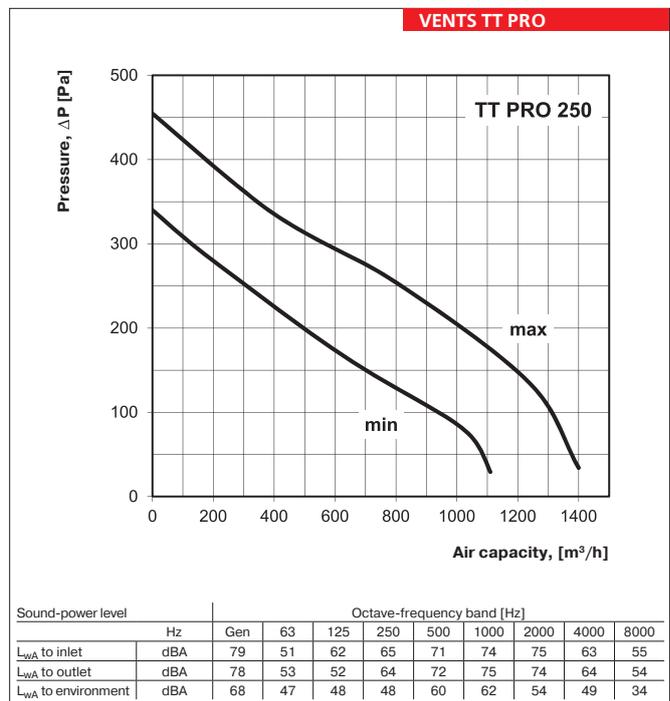
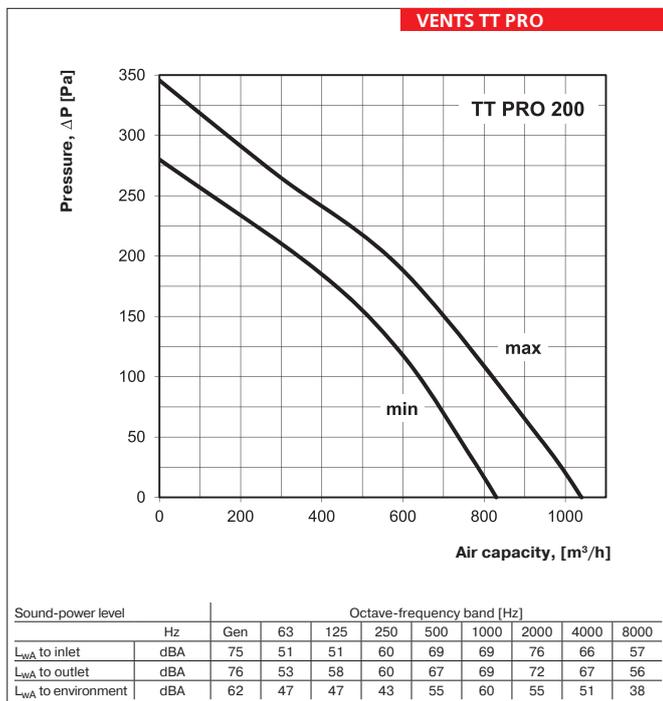
Technical data:

	TT PRO 100		TT PRO 125		TT PRO 150 / TT PRO 160	
Speed	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230	
Power [W]	23	25	25	30	42	50
Current [A]	0,10	0,11	0,11	0,13	0,19	0,22
Maximum air flow [m³/h]	162	210	234	330	415	565
RPM [min ⁻¹]	1980	2545	1535	2265	1940	2620
Noise level at 3 m [dBA]	27	32	29	34	37	46
Maximum operating temperature [°C]	60		60		60	
Protection rating	IP X4		IP X4		IP X4	



Technical data:

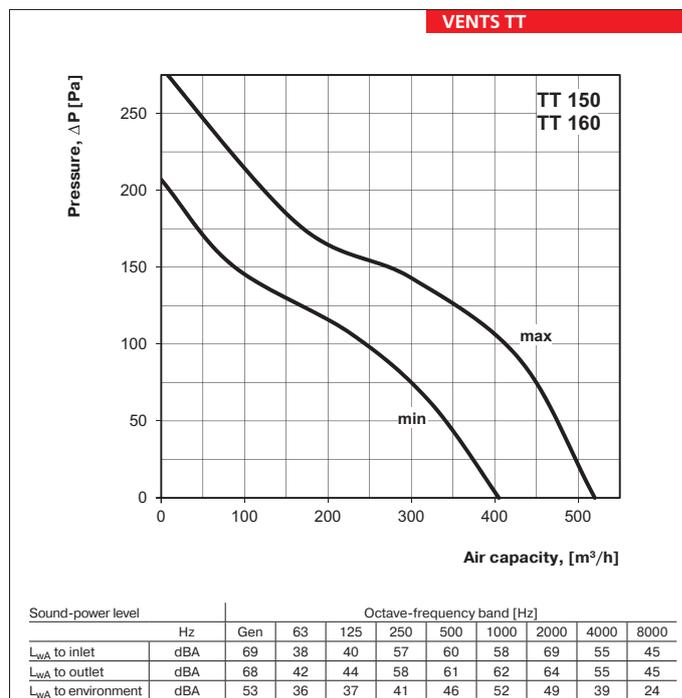
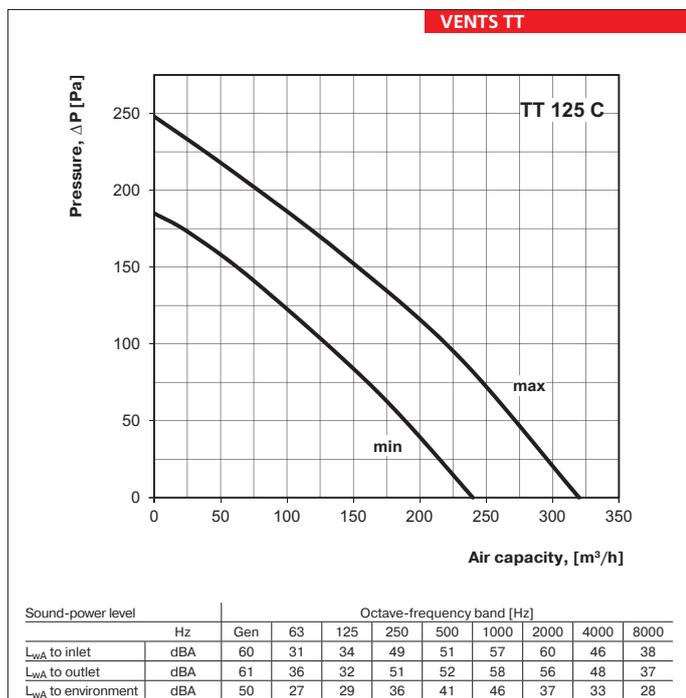
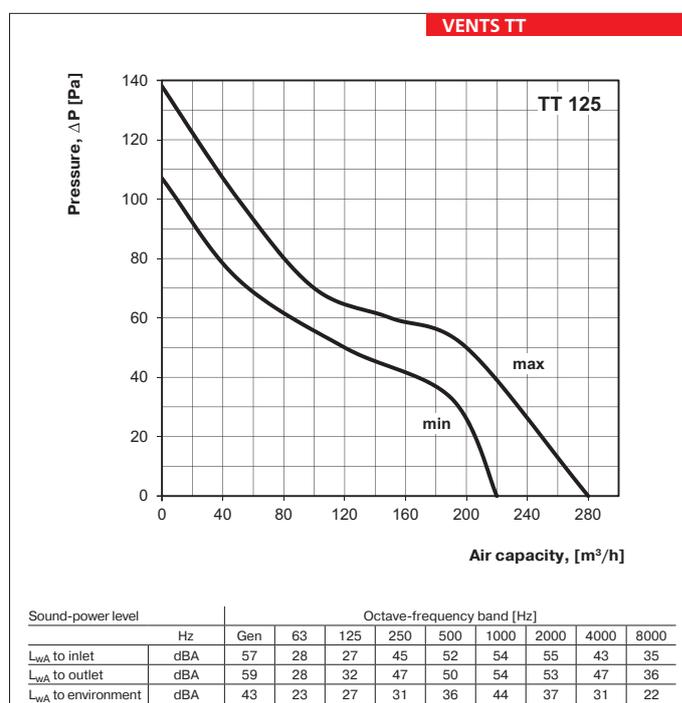
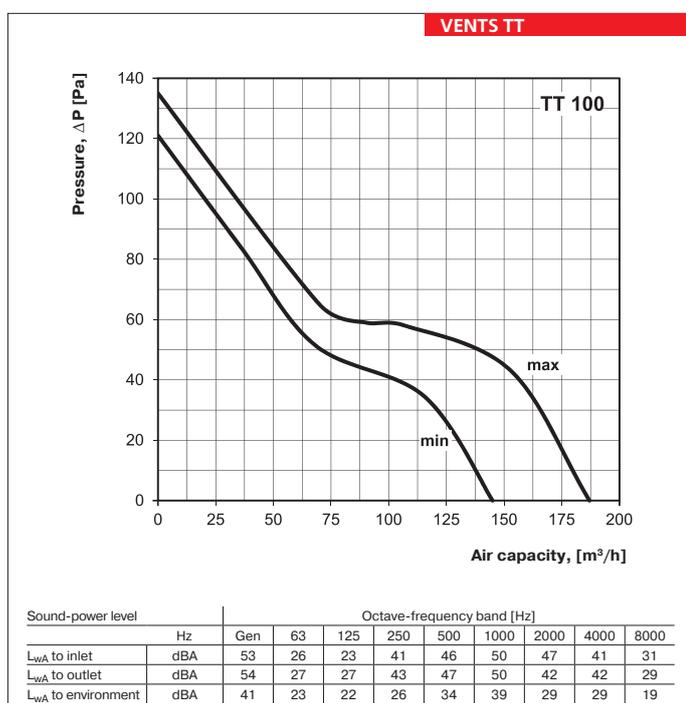
	TT PRO 200		TT PRO 250		TT PRO 315	
Speed	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230	
Power [W]	90	125	125	177	225	330
Current [A]	0,4	0,55	0,54	0,79	0,98	1,43
Maximum air flow [m³/h]	830	1040	1110	1400	1760	2350
RPM [min ⁻¹]	2045	2510	1955	2440	1980	2660
Noise level at 3 m [dBA]	45	52	47	55	49	58
Maximum operating temperature [°C]	60		60		60	
Protection rating	IP X4		IP X4		IP X4	



FANS FOR ROUND DUCTS

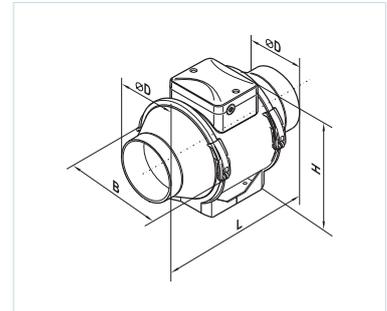
Technical data:

	TT 100		TT 125		TT 125 S		TT 150 / TT 160	
Speed	min	max	min	max	min	max	min	max
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230		1~ 230	
Power [W]	21	33	23	37	28	54	30	60
Current [A]	0,11	0,21	0,18	0,27	0,12	0,16	0,17	0,27
Maximum air flow [m ³ /h]	145	187	220	280	240	320	405	520
RPM [min ⁻¹]	2180	2385	1950	2455	1850	2510	1680	2460
Noise level at 3 m [dBA]	27	36	28	37	31	42	33	44
Maximum operating temperature [°C]	60		60		60		60	
Protection rating	IP X4		IP X4		IP X4		IP X4	

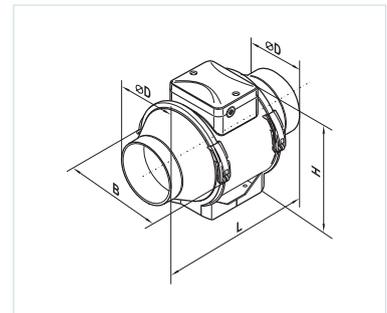


Fan overall dimensions:

Type	Dimensions [mm]				Mass [kg]
	∅D	B	H	L	
TT 100	96	167	190	246	1,4
TT 125	123	167	190	246	1,4
TT 125 S	123	223	250	295	3,0
TT 150	146	223	250	295	3,0
TT 160	158	233	250	295	3,0



Type	Dimensions [mm]				Mass [kg]
	∅D	B	H	L	
TT PRO 100	97	195,8	226	302,5	1,54
TT PRO 125	123	195,6	226	258,5	1,51
TT PRO 150	148	220,1	247	289	2,1
TT PRO 160	158	220,1	247	289	2,2
TT PRO 200	199	239	261	295,5	6,4
TT PRO 250	247	287	323	383	8,3
TT PRO 315	310	362	408	445	11,4



■ TT fans applications



bathroom ventilation example



office ventilation example



Parallel installation of fans in the storehouse to increase the air capacity

ventilation systems

www.ventilation-system.com

Inline mixed-flow fans
VENTS TT PRO / VENTS TT



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