Series
VENTS TT

In-line mixed-flow fans in plastic casing with the air capacity up to **2350 m³/h**.

Applications

VENTS TT series full-featured fans combine manifold possibilities and high features of axial and centrifugal fans and applied for supply and exhaust ventilation systems that require high pressure, powerful airflow and low noise level and compatible with 100, 125, 150, 160, 200, 250, 315 mm round ducts. Fans of TT series are the best solution for air exhaust systems of premises with high humidity such as bathrooms or kitchens as well as for ventilation of flats, cottages, shops, cafés, cinemas etc. The wide model range and many options allows selecting the best suitable fan.

Design

The casing is made of high-quality durable ABS plastic (TT 100-200) or fire resistant polypropylene (TT 250-315). Motor with impeller and terminal box are fixed on the casing by means of special clamps with latches, designed in such a way as to ensure easy dismantling without any special skills or tools. Such design ensures easy service and maintenance access.

All the models can be fitted with adjustable timer with turn-off delay from 2 to 30 minutes (TT...T). Power cord with plug can be provided for easy connection and operation (TT...R).

Motor

One-phase motor with ball bearings has two speeds. Some standard sizes have motors with more powerful features (TT...S). The motors are equipped with built-in overheating protection with automatic restart. Motor protection rating IP X4.

Speed control

The two speed motor is controlled by means of the external speed control switch. For smooth speed control use symistor or autotransformer controller connected to the terminal for motor maximum speed.

Mounting

The fan can be mounted in any place of duct system and at any angle, vertically or horizontally. Several fans can be mounted in parallel to increase the air capacity or in series to increase the operating pressure. The casing is fitted with a mounting plate for wall mounting. Installation with special support bracket PTT 100...315 (not included in the equipment list) is also possible.
The mounting box can be installed in any position for easy installation and connection.

TT Fan with TSC electronic speed control module with temperature sensor

TT...U model fan with electronic temperature and speed module is the perfect solution for ventilation of greenhouses or any other premises requiring permanent temperature control. The fan is equipped with built-in TSC electronic speed control module with temperature sensor providing fan speed automatic control as a function of the air temperature.
The TSC front panel is equipped with two control knobs for presetting the minimum fan speed and the maximum indoor temperature level. The module is fitted with indoor temperature sensor located either remote (4 m long and protected against mechanical damages) or mounted inside the casing.
The LED indicator for thermostat switching on is placed at the front panel of the fan.

Designation key:

Fan series	Duct connection diameter	Options
VENTS TT	100; 125; 150; 160; 200; 250; 315	**S** – high-powered motor; **T** – timer; **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; **V** – built-in three position switch (OFF-Min speed-Max speed); **RV** – ON-OFF switch and power cord with C14 plug.

Accessories


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TT operation pattern with electronic temperature and speed module

Set the required air temperature with thermostat controller knob (thermostat operating threshold). Set the required rotation speed (air flow) with controller knob. As the air temperature rises and the thermostat operating threshold is exceeded, the motor switches automatically to the maximum rotation speed (maximum air flow). As the air temperature drops below the thermostat operating threshold the motor switches automatically to the preset rotation speed.

The switching delay disables frequent motor switching if the set ambient temperature is equal to the threshold temperature.

Two patterns of delay are applied for various cases:

1. Temperature sensor delay (TT...U): as the temperature rises at least by 2°C above the set threshold for thermostat switching, the motor switches to the increased rotation speed. The motor switches to the preset (low) speed as the temperature drops below the set threshold for thermostat switching. This pattern can be applied to keep air temperature to within 2°C. In this case the fan switches are rare.

2. Timer delay (TT...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 timer delay switches:

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

motor operates with the motor speed =60%

▼

- temperature in the duct rises
motor operates with the rotation speed =60%

▼

- temperature in the duct reaches 27°C
motor switches to the rotation speed =100%

▼

- temperature in the duct goes down motor operates with the rotation speed =100%

▼

- temperature in the duct reaches 25°C
motor switches to the preset rotation speed =60%

Example for timer delay switches:

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

motor operates with the rotation speed =60%

▼

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

▼

the motor switches to the rotation speed =100%, at the same moment the 5 minutes timer activates

▼

- temperature in the duct goes down,
motor operates with the rotation speed =100%

▼

- 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.

▼

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

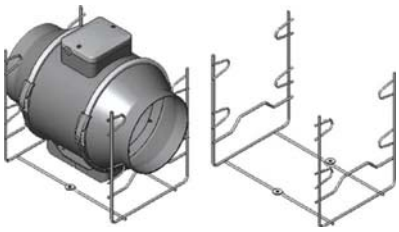
▼

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

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

Vents TT...U is fitted with the electronic speed control module with temperature sensor

Vents TT...RV is fitted with the power cord and speed control switch

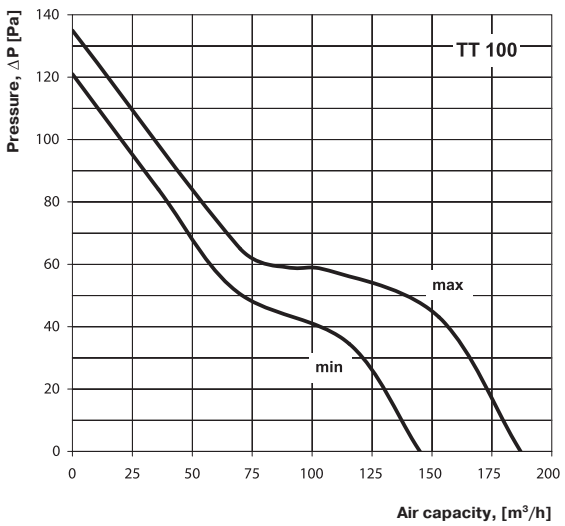


PTT holding bracket

Technical data:

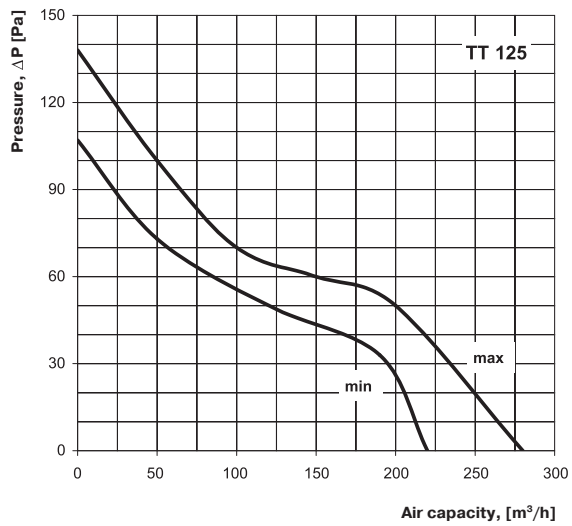
	TT 100		TT 125		TT 125 S		TT 150	
Speed	min.	max.	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230		1~ 230	
Power [W]	21	33	23	37	28	54	30	60
Current [A]	0,12	0,2	0,19	0,26	0,1	0,16	0,17	0,27
Maximum air flow [m³/h]	145	187	220	280	285	345	467	552
RPM [min⁻¹]	2450	2500	1960	2500	1875	2500	1670	2450
Noise level at 3 m [dBA]	28	35	29	36	31	42	33	44
Maximum operating temperature [°C]	60		60		60		60	
Protection rating	IP X4		IP X4		IP X4		IP X4	

VENTS TT



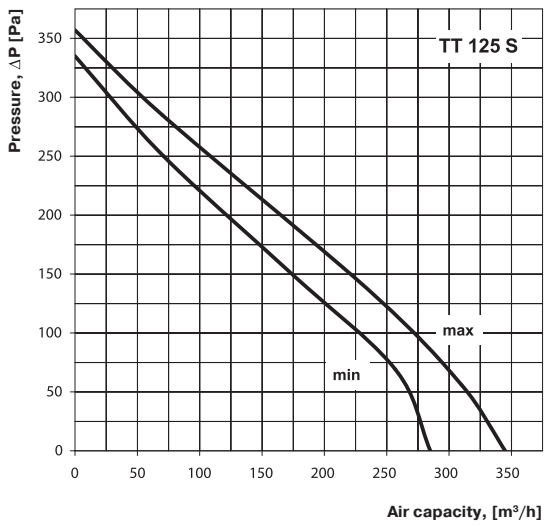
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	59	29	26	46	51	55	52	46	34
L_{WA} to outlet	dBA	60	30	30	48	52	56	47	47	32
L_{WA} to environment	dBA	46	25	24	29	38	43	32	32	21

VENTS TT



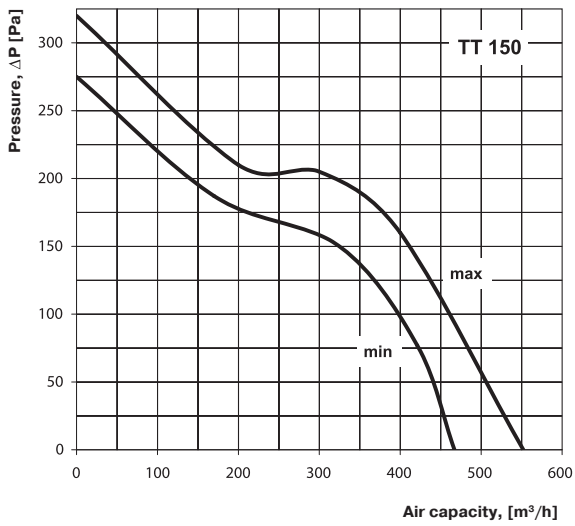
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	57	28	27	45	52	54	55	43	35
L_{WA} to outlet	dBA	59	28	32	47	50	54	53	47	36
L_{WA} to environment	dBA	43	23	27	31	36	44	37	31	22

VENTS TT



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	63	32	35	51	53	59	62	48	40
L_{WA} to outlet	dBA	64	37	33	53	54	60	58	50	39
L_{WA} to environment	dBA	52	28	30	37	43	48	39	34	29

VENTS TT

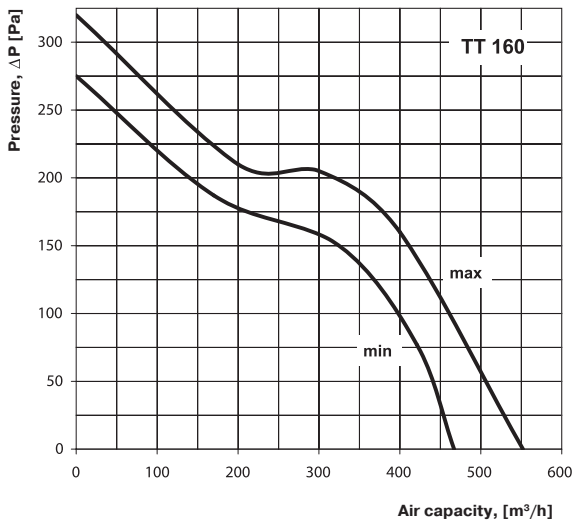


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	72	40	42	59	62	60	72	57	47
L_{WA} to outlet	dBA	71	44	46	60	64	65	67	57	47
L_{WA} to environment	dBA	55	37	39	43	48	54	51	41	25

Technical data:

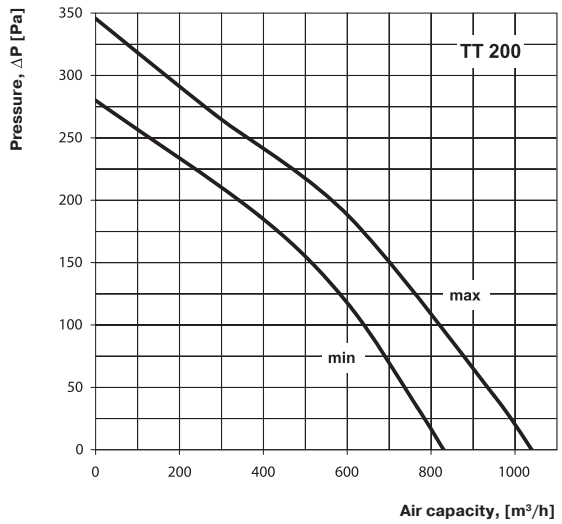
	TT 160		TT 200		TT 250		TT 315	
Speed	min.	max.	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230		1~ 230	
Power [W]	30	60	90	125	125	177	225	330
Current [A]	0,17	0,27	0,4	0,55	0,54	0,79	0,98	1,43
Maximum air flow [m³/h]	467	552	830	1040	1110	1400	1760	2350
RPM [min⁻¹]	1670	2450	2045	2510	1955	2440	1980	2660
Noise level at 3 m [dBA]	33	44	45	52	47	55	49	58
Maximum operating temperature [°C]	60		60		60		60	
Protection rating	IP X4		IP X4		IP X4		IP X4	

VENTS TT



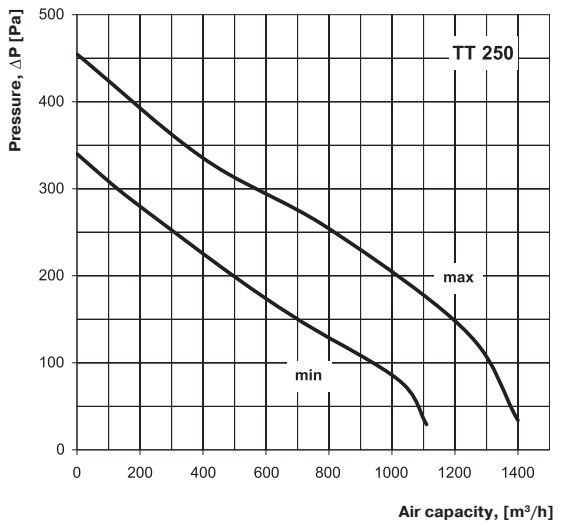
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	59	39	37	43	49	55	52	45	27
L_{WA} to outlet	dBA	70	42	43	60	62	63	69	61	48
L_{WA} to environment	dBA	73	41	43	56	62	62	69	60	46

VENTS TT



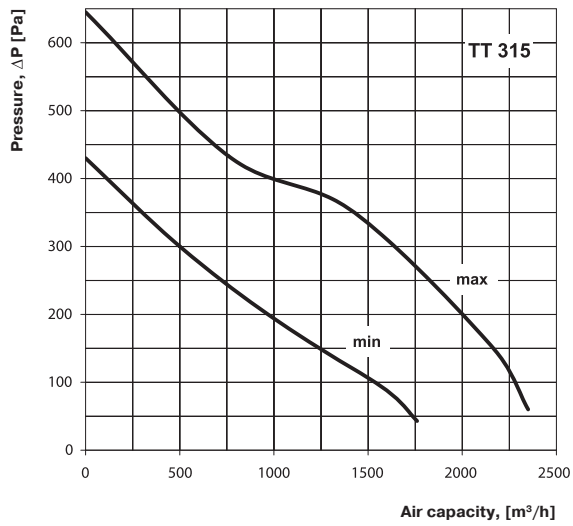
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	75	51	51	60	69	69	76	66	57
L_{WA} to outlet	dBA	76	53	58	60	67	69	72	67	56
L_{WA} to environment	dBA	62	47	47	43	55	60	55	51	38

VENTS TT



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	79	51	62	65	71	74	75	63	55
L_{WA} to outlet	dBA	78	53	52	64	72	75	74	64	54
L_{WA} to environment	dBA	68	47	48	48	60	62	54	49	34

VENTS TT

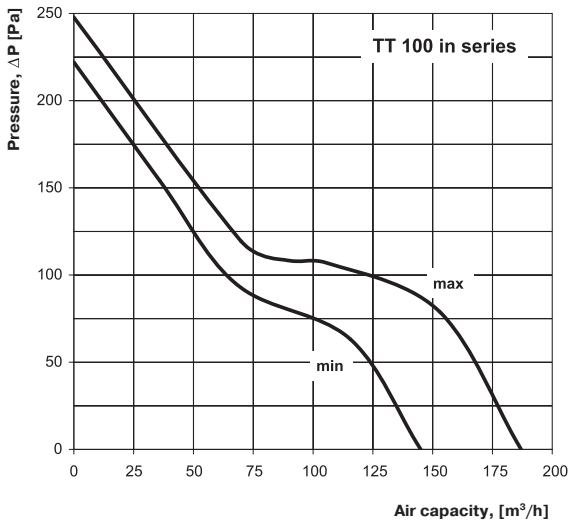


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	82	55	53	66	75	82	80	67	58
L_{WA} to outlet	dBA	84	57	58	69	78	80	78	67	57
L_{WA} to environment	dBA	72	51	51	53	62	72	61	55	39

Technical data:

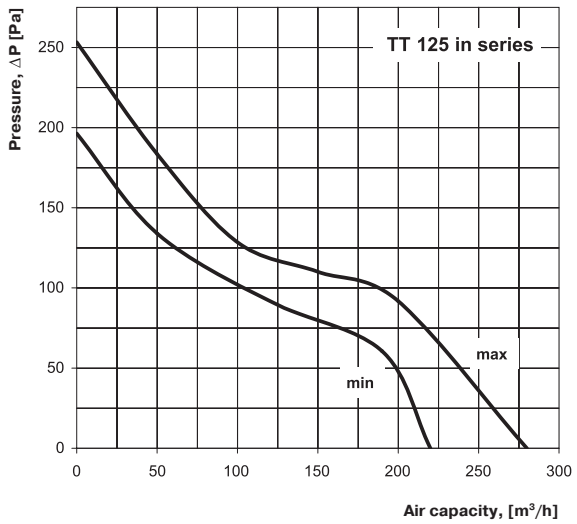
	TT 100 in series		TT 125 in series		TT 125 S in series		TT 150 in series	
Speed	min.	max.	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230		1~ 230	
Power [W]	42	66	46	74	56	108	60	120
Current [A]	0,24	0,40	0,38	0,52	0,20	0,32	0,34	0,54
Maximum air flow [m³/h]	145	187	220	280	285	345	467	552
RPM [min⁻¹]	2450	2500	1960	2500	1875	2500	1670	2450
Noise level at 3 m [dBA]	32	40	34	41	36	46	39	49
Maximum operating temperature [°C]	60		60		60		60	
Protection rating	IP X4		IP X4		IP X4		IP X4	

VENTS TT



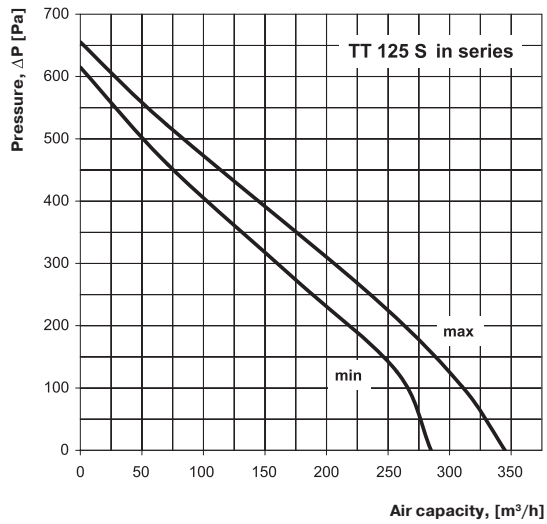
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	63	31	31	48	53	57	55	50	37
L_{WA} to outlet	dBA	65	32	32	53	56	60	49	50	36
L_{WA} to environment	dBA	51	29	29	31	40	45	35	37	25

VENTS TT



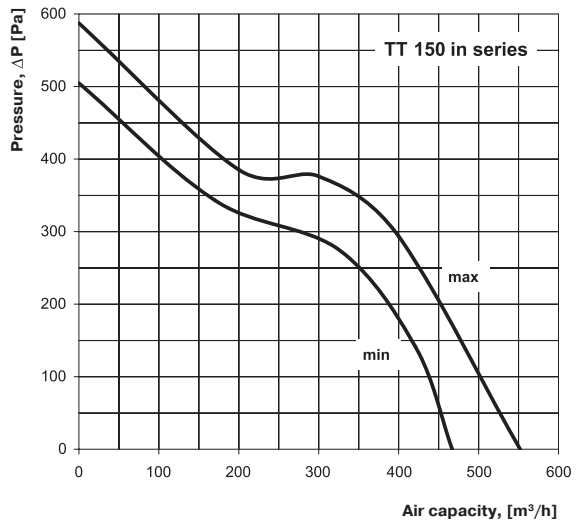
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	62	30	30	47	55	56	59	46	39
L_{WA} to outlet	dBA	63	30	34	49	52	58	55	50	41
L_{WA} to environment	dBA	47	27	30	34	41	47	39	35	24

VENTS TT



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	68	35	38	54	58	64	64	50	44
L_{WA} to outlet	dBA	67	42	37	58	57	63	62	52	42
L_{WA} to environment	dBA	56	33	34	41	48	50	42	36	33

VENTS TT

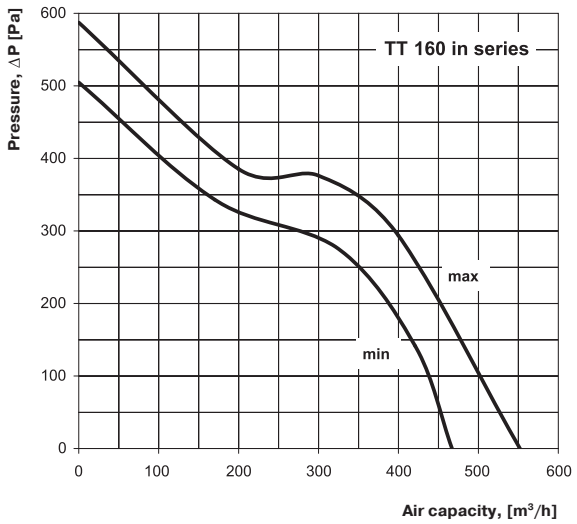


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	77	44	45	63	65	65	74	60	51
L_{WA} to outlet	dBA	75	46	50	62	67	70	71	62	51
L_{WA} to environment	dBA	59	40	44	47	52	59	53	45	29

Technical data:

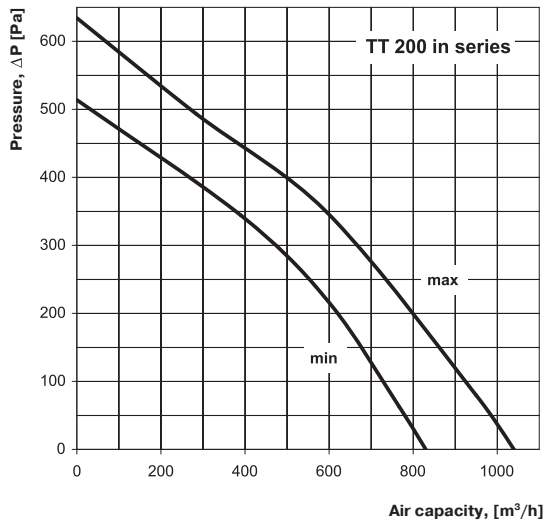
	TT 160 in series		TT 200 in series		TT 250 in series		TT 315 in series	
Speed	min.	max.	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230		1~ 230	
Power [W]	60	120	180	250	250	354	450	660
Current [A]	0,34	0,54	0,80	1,10	1,08	1,58	1,96	2,86
Maximum air flow [m³/h]	467	552	830	1040	1110	1400	1760	2350
RPM [min⁻¹]	1670	2450	2045	2510	1955	2440	1980	2660
Noise level at 3 m [dBA]	39	49	51	57	54	61	55	65
Maximum operating temperature [°C]	60		60		60		60	
Protection rating	IP X4		IP X4		IP X4		IP X4	

VENTS TT



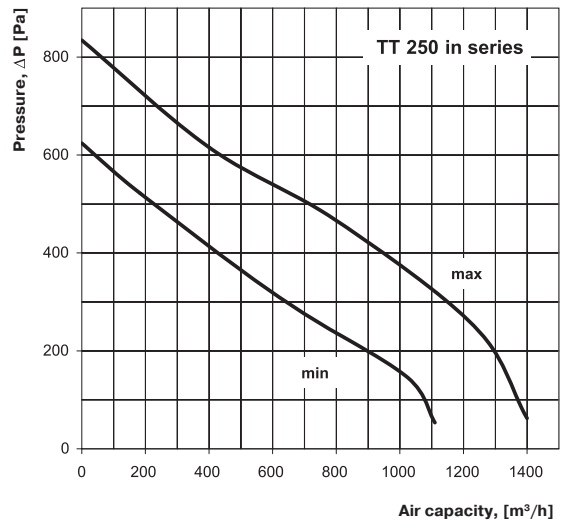
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	62	41	42	48	53	57	54	47	31
L_{WA} to outlet	dBA	73	44	48	64	65	66	71	65	52
L_{WA} to environment	dBA	75	44	48	59	66	65	72	62	50

VENTS TT



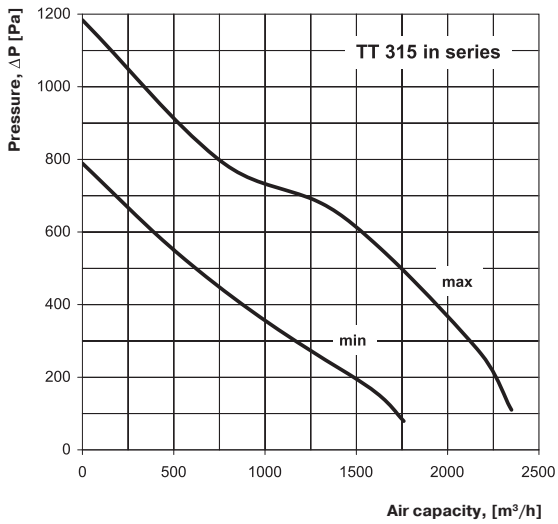
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	78	56	53	63	73	74	79	69	61
L_{WA} to outlet	dBA	78	58	61	65	69	71	75	71	59
L_{WA} to environment	dBA	65	51	51	47	58	63	57	56	43

VENTS TT



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	83	53	64	67	73	79	80	66	58
L_{WA} to outlet	dBA	80	58	54	66	74	78	76	66	59
L_{WA} to environment	dBA	72	51	51	52	64	65	59	54	37

VENTS TT

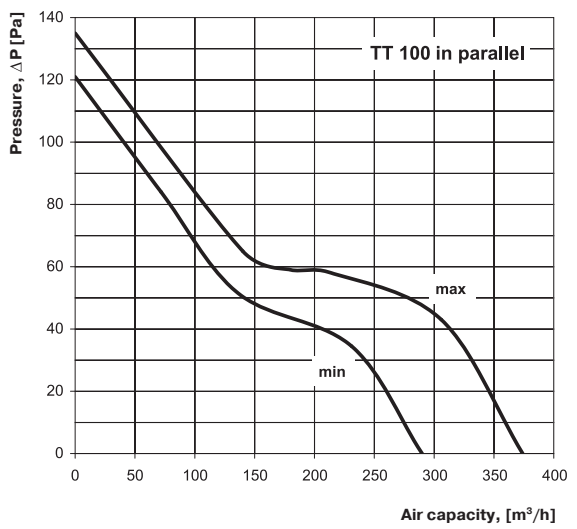


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	85	58	58	69	79	86	84	72	60
L_{WA} to outlet	dBA	87	59	63	74	80	84	83	71	60
L_{WA} to environment	dBA	76	56	54	58	65	74	64	60	42

Technical data:

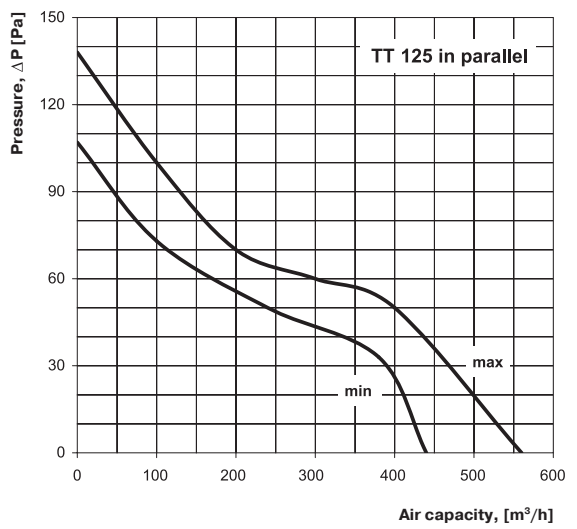
	TT 100 in parallel		TT 125 in parallel		TT 125 S in parallel		TT 150 in parallel	
Speed	min.	max.	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230		1~ 230	
Power [W]	42	66	46	74	56	108	60	120
Current [A]	0,24	0,40	0,38	0,52	0,20	0,32	0,34	0,54
Maximum air flow [m³/h]	290	374	440	560	570	690	934	1104
RPM [min⁻¹]	2450	2500	1960	2500	1875	2500	1670	2450
Noise level at 3 m [dBA]	32	40	34	41	36	46	39	49
Maximum operating temperature [°C]	60		60		60		60	
Protection rating	IP X4		IP X4		IP X4		IP X4	

VENTS TT



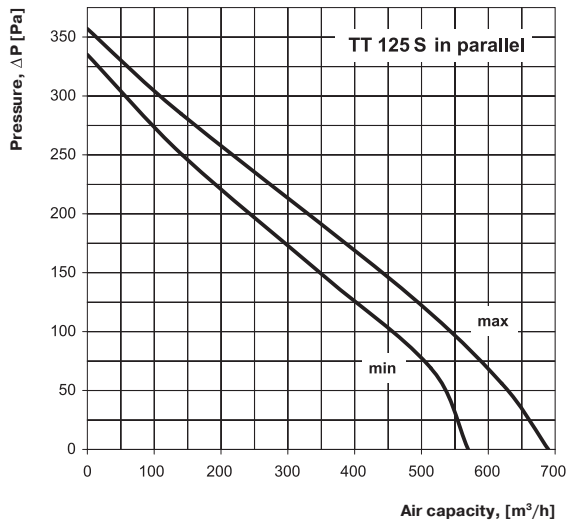
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	62	34	28	48	55	57	55	49	36
L_{WA} to outlet	dBA	63	35	33	51	56	60	52	52	36
L_{WA} to environment	dBA	49	28	27	33	41	47	34	35	25

VENTS TT



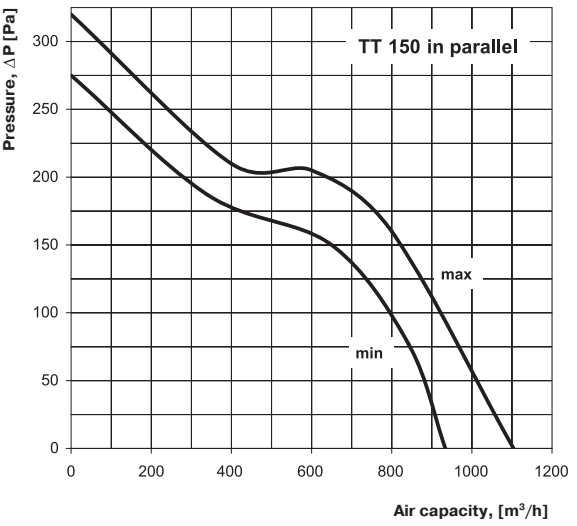
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	59	32	29	48	57	58	57	46	39
L_{WA} to outlet	dBA	61	32	35	52	55	56	57	50	40
L_{WA} to environment	dBA	46	26	29	33	38	46	40	34	26

VENTS TT



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	65	37	40	54	58	63	64	50	45
L_{WA} to outlet	dBA	68	42	38	57	58	62	60	55	44
L_{WA} to environment	dBA	54	33	34	42	48	53	44	38	31

VENTS TT

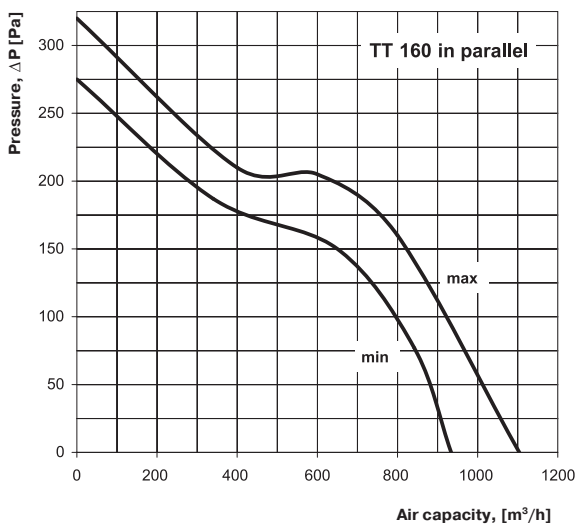


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	76	44	47	64	66	65	77	59	51
L_{WA} to outlet	dBA	74	49	48	62	69	69	71	61	51
L_{WA} to environment	dBA	60	39	41	47	50	57	55	46	28

Technical data:

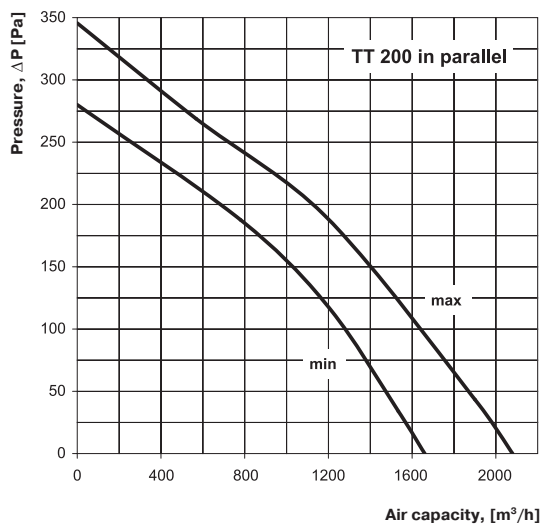
	TT 160 in parallel		TT 200 in parallel		TT 250 in parallel		TT 315 in parallel	
Speed	min.	max.	min.	max.	min.	max.	min.	max.
Voltage [V / 50 Hz]	1~ 230		1~ 230		1~ 230		1~ 230	
Power [W]	60	120	180	250	250	354	450	660
Current [A]	0,34	0,54	0,80	1,10	1,08	1,58	1,96	2,86
Maximum air flow [m³/h]	934	1104	1660	2080	2220	2800	3520	4700
RPM [min⁻¹]	1670	2450	2045	2510	1955	2440	1980	2660
Noise level at 3 m [dBA]	39	49	51	57	54	61	55	65
Maximum operating temperature [°C]	60		60		60		60	
Protection rating	IP X4		IP X4		IP X4		IP X4	

VENTS TT



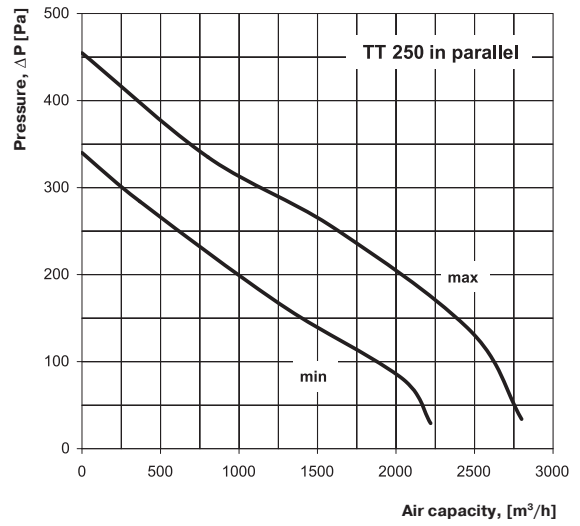
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	63	42	40	48	51	58	56	47	30
L_{wA} to outlet	dBA	74	44	47	62	67	68	72	65	51
L_{wA} to environment	dBA	75	46	45	59	64	65	73	65	48

VENTS TT



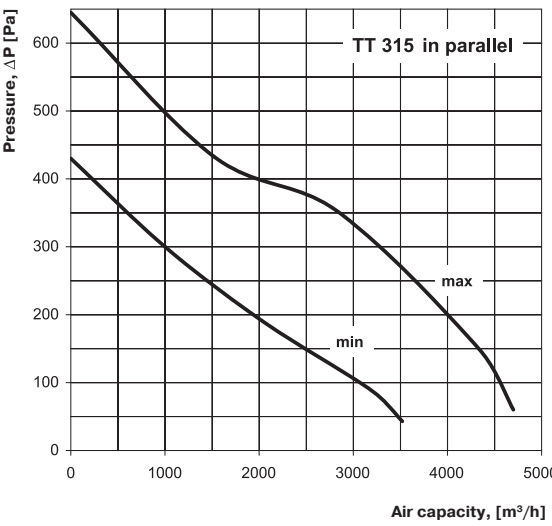
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	53	56	64	72	73	81	71	60
L_{wA} to outlet	dBA	80	55	63	64	72	74	76	69	61
L_{wA} to environment	dBA	67	49	51	45	60	63	59	55	41

VENTS TT



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	84	53	66	69	76	77	79	68	60
L_{wA} to outlet	dBA	82	58	57	68	76	79	77	69	57
L_{wA} to environment	dBA	70	50	50	52	65	66	56	51	37

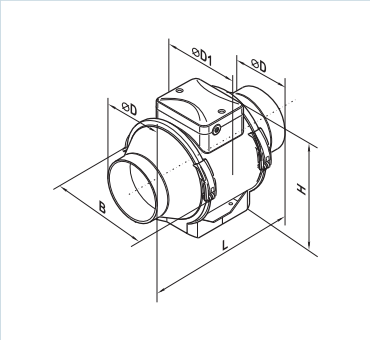
VENTS TT



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	87	60	55	69	79	86	85	71	60
L_{wA} to outlet	dBA	89	62	60	71	83	85	82	69	59
L_{wA} to environment	dBA	74	54	54	56	65	76	66	58	43

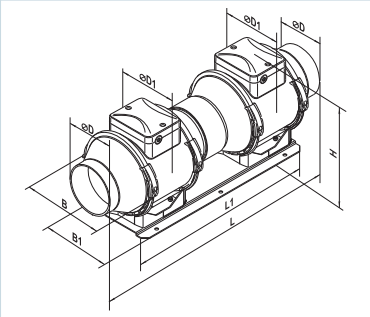
Fan overall dimensions:

Type	Dimensions [mm]					Mass [kg]
	ØD	ØD1	B	H	L	
TT 100	96	140	167	190	246	1,4
TT 125	123	140	167	190	246	1,4
TT 125 S	123	195	223	250	295	3,0
TT 150	146	195	223	250	295	3,0
TT 160	158	195	233	250	295	3,0
TT 200	199	209	239	261	295,5	6,4
TT 250	247	257	287	323	383	8,3
TT 315	310	323	362	408	445	11,4



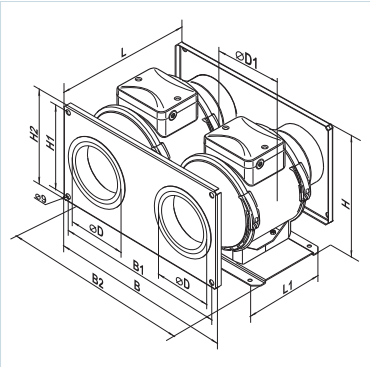
Overall dimensions for fans connected in series:

Type	Dimensions [mm]							Mass [kg]
	ØD	ØD1	B	B1	H	L	L1	
TT 100 in series	96	140	167	140	196	492	372	3,3
TT 125 in series	123	140	167	140	196	492	372	3,3
TT 125 S in series	123	195	223	140	256	590	440	6,3
TT 150 in series	148	195	223	140	256	590	440	6,3
TT 160 in series	158	195	233	140	256	590	440	6,3
TT 200 in series	197	209	239	190	270	595	440	13,5
TT 250 in series	247	257	287	190	331	766	580	17,6
TT 315 in series	310	323	362	240	420	890	700	24,2



Overall dimensions for fans connected in parallel:

Type	Dimensions [mm]										Mass [kg]
	ØD	ØD1	B	B1	B2	H	H1	H2	L	L1	
TT 100 in parallel	100	140	320	300	380	185	160	178	246	140	4
TT 125 in parallel	125	140	320	300	380	185	160	178	261	140	4
TT 125 S in parallel	125	195	395	375	430	228	200	220	295	180	7,5
TT 150 in parallel	150	195	395	375	430	228	200	220	310	180	7,5
TT 160 in parallel	160	195	395	375	430	228	200	220	310	180	7,6
TT 200 in parallel	200	209	450	420	492	225	220	240	306	190	15,2
TT 250 in parallel	250	257	580	520	625	287	270	290	398	240	22,5
TT 315 in parallel	315	323	690	670	740	366	335	355	465	340	28,4



Set for TTS fans connected in series

Set for TTP fans connected in parallel

TT fans applications

▶ bathroom ventilation example

▶ office ventilation example

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