HEAT RECOVERY VENTILATION
FOR BIGGER BUILDINGS

Heat Recovery Ventilation Units
Sentinel Totus

Sentinel Totus² D-ERV

HRV unit of a new generation with many design improvements, intended for ventilation of school buildings, offices, gyms, shops etc. Due to their advanced design, Totus ventilation units are designed for indoor and outdoor installation which ensures a high variability of application. Thanks to permanent ventilation, they ensure a healthy and high-quality indoor environment with maximum emphasis on energy saving. Totus units are equipped with an advanced heat recovery heat exchanger with efficiency up to 96%, efficient low power consumption EC/DC motors, integrated electric air preheating, automatic smart protection against heat exchanger freezing, and an integrated controller.

Totus Mini & Midi models feature a frameless design made of galvanized sheet metal Aluzinc, fitted with thermoinsulating and soundproofing foam from the inner side. Aluzinc sheets permit installation either indoor or outdoors. The Totus Maxi models are manufactured with an aluminium frame and double-sided galvanized sheets, fitted with thermoinsulating and soundproofing foam.

The housing has a bevelled inlet and a funnel-shaped passage that directs the flowing air to the impeller with minimal turbulence. The result is better air passage through the unit, lower noise, higher efficiency and high performance.

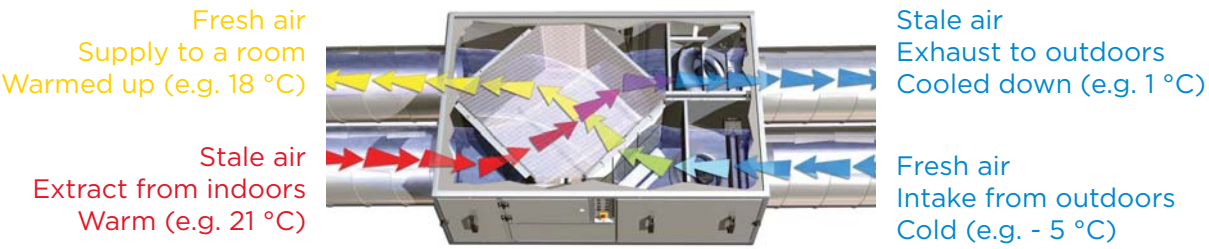
Main advantages of Totus units:

- Aluzinc design - allows installation in exteriors and interiors
- Frameless design with thermoinsulating and soundproofing foam
- Efficient EC/DC motors
- Integrated control LCD panel enabling relocation and setting of time programs
- Integrated automatic summer bypass
- Automatic smart antifrost protection
- Integrated air preheating
- Units can communicate with a master control system
- Integrated pump for condensate removal
- They meet Ecodesign conditions
- Simple operation and installation
- Horizontal design

All Sentinel Totus2 D-ERV models are equipped with high-efficiency class 1 EC/DC motors, with an external rotor and an impeller assembly with backward curved surfaces, which have been purposefully chosen for performance and working characteristics. The assembly is dynamically balanced. All models are equipped with internal electronic overload protection and a soft-start function.

All Totus models come standard with G4 class replaceable synthetic filters. Optionally, it is possible to use filters of a higher filtration class.

The compact design of the units already includes an integrated LCD control panel for simple control with the possibility of moving the panel, including already built-in temperature sensors, according to the current requirements of the building.



OPERATING TOTUS UNITS

The units can be operated in the Always on mode, a mode controlled by a switch or in a time program mode, and in the following working modes related to the a.m. modes:

- **Time program** – control based on time periods set by the user
- **Min Max** – the unit switches its speed from minimum to maximum on receiving information from the connected switching contact
- **Proportional control** – continuous speed control following CO_2 sensors, temperature or humidity sensors
- **ITC** – control by comparing the stale air temperature with the set room temperature
- **Master controller** – units can be controlled by a master smart controller based on the user requirements

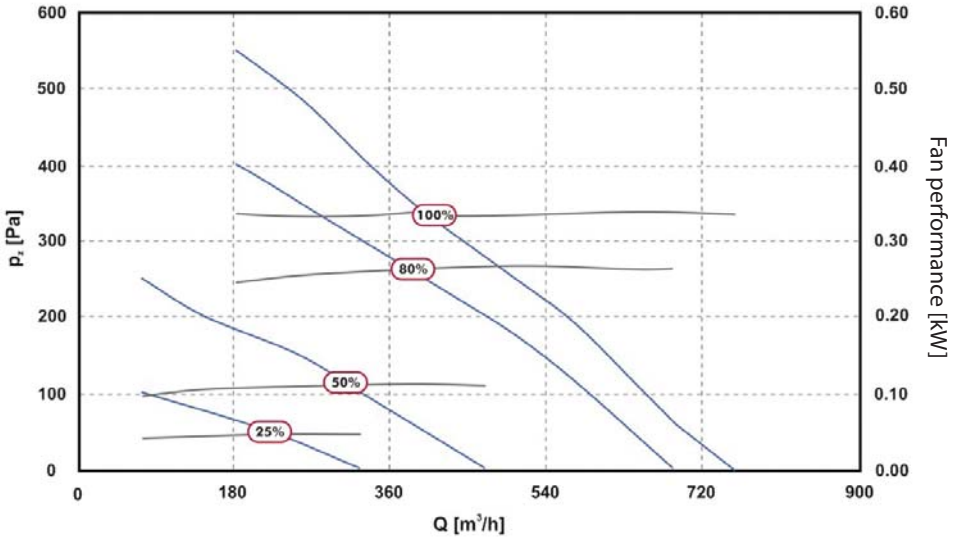
MODELS

HRV unit	**Sentinel Totus² MINI**	**Sentinel Totus² MIDI**	**Sentinel Totus² MAXI**
Code	12234	12236	12238
Technical Data			
Nominal air flow rate	612 m³/h at 150 Pa pressure	1116 m³/h at 150 Pa pressure	1872 m³/h at 150 Pa pressure
Heat recovery efficiency	max. 92 % by EN 308	max. 91% by EN 308	max. 96 % by EN 308
Power input	1840 W	2630 W	5020 W
Max. power input of fans	340 W	630 W	1020 W
Heater output – 1 element	1500 W	1000 W	2000 W
Heater output – 2 elements	-	2000 W	4000 W
Length x width x height	1910 x 970 x 350 mm	2020 x 1320 x 350 mm	1924 x 1212 x 660 mm
Spigots	Ø 250 mm	400 x 250 mm	Ø 400 mm
Weight	145 kg	167 kg	250 kg
Sound Data			
Noise level (at 3 m distance)	17 dB(A) at 25% fan operation	18 dB(A) at 25% fan operation	20 dB(A) at 25% fan operation
	25 dB(A) at 50% fan operation	25 dB(A) at 50% fan operation	30 dB(A) at 50% fan operation
	31 dB(A) at 80% fan operation	34 dB(A) at 80% fan operation	40 dB(A) at 80% fan operation
	33 dB(A) at 100% fan operation	37 dB(A) at 100% fan operation	41 dB(A) at 100% fan operation

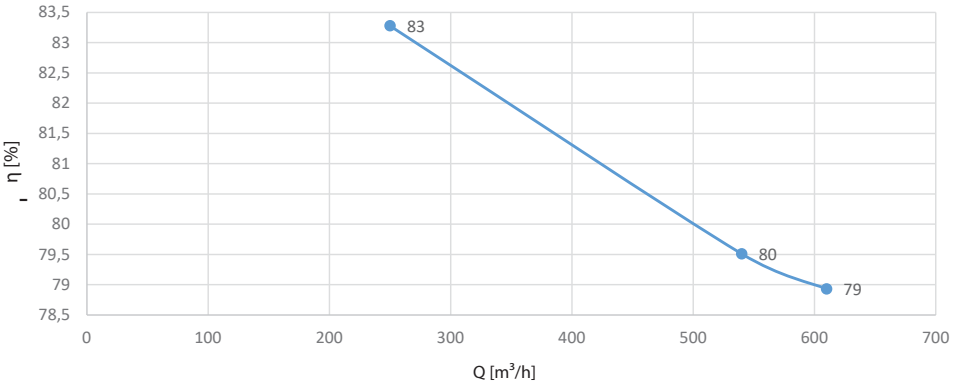
MINI

Smallest unit with a flow rate of 612 m³/h at an external pressure of 150 Pa.

PERFORMANCE GRAPH



EFFICIENCY GRAPH

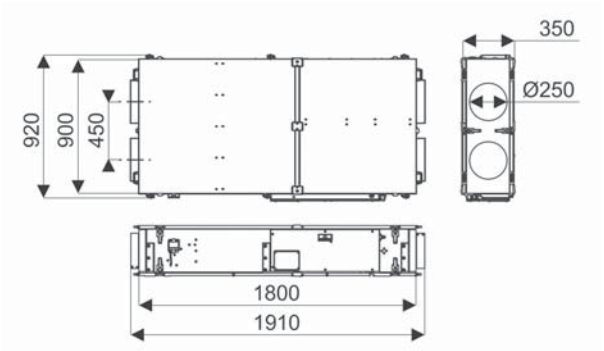


for t_e = 5°C a t $_i$ = 25°C

ACOUSTIC POWER AND PRESSURE LEVELS AT DIFFERENT FLOW RATES

F|low rate [m³/h]	Unit setting	Test mode	Sound power level [dB]	Octave band center frequencies [Hz]								Sound pressure level [dB]	
				63	125	250	500	1000	2000	4000	8000		
756	100%	Intake		58.0	65.0	69.0	54.0	53.0	54.0	48.0	46.0		37.0
		Supply		55.0	59.0	55.0	50.0	49.0	53.0	37.0	36.0		
		Discharge		59.0	68.0	74.0	66.0	63.0	67.0	55.0	57.0		
		Exhaust		55.0	60.0	63.0	52.0	50.0	55.0	37.0	36.0		
		Breakout		55.0	53.0	55.0	47.0	43.0	46.0	33.0	31.0		
684	80%	Intake		58.0	63.0	69.0	54.0	53.0	52.0	45.0	45.0		34.0
		Supply		53.0	58.0	55.0	46.0	48.0	50.0	34.0	33.0		
		Discharge		59.0	67.0	74.0	64.0	62.0	65.0	53.0	55.0		
		Exhaust		55.0	59.0	60.0	50.0	48.0	52.0	34.0	34.0		
		Breakout		53.0	52.0	53.0	44.0	42.0	44.0	31.0	30.0		
468	50%	Intake		54.0	58.0	64.0	49.0	47.0	42.0	35.0	36.0		25.0
		Supply		49.0	53.0	53.0	39.0	40.0	38.0	26.0	29.0		
		Discharge		54.0	62.0	69.0	56.0	55.0	53.0	43.0	43.0		
		Exhaust		50.0	54.0	56.0	41.0	41.0	39.0	25.0	29.0		
		Breakout		50.0	48.0	49.0	38.0	35.0	33.0	24.0	27.0		
324	25%	Intake		47.0	52.0	48.0	39.0	37.0	30.0	26.0	29.0		18.0
		Supply		48.0	48.0	38.0	33.0	31.0	27.0	22.0	28.0		
		Discharge		49.0	59.0	51.0	48.0	44.0	41.0	30.0	30.0		
		Exhaust		48.0	50.0	39.0	34.0	31.0	28.0	23.0	29.0		
		Breakout		44.0	45.0	33.0	32.0	28.0	25.0	23.0	26.0		

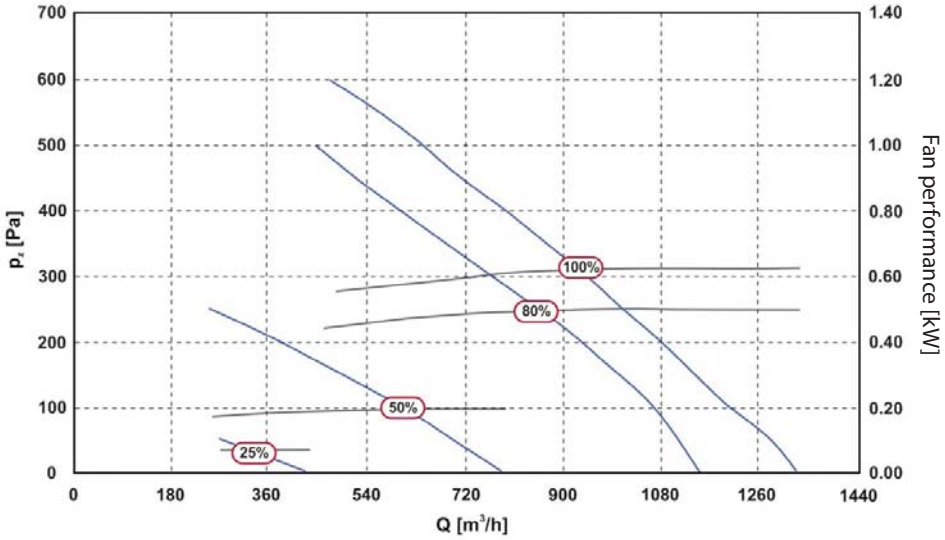
DIMENSIONS



MIDI

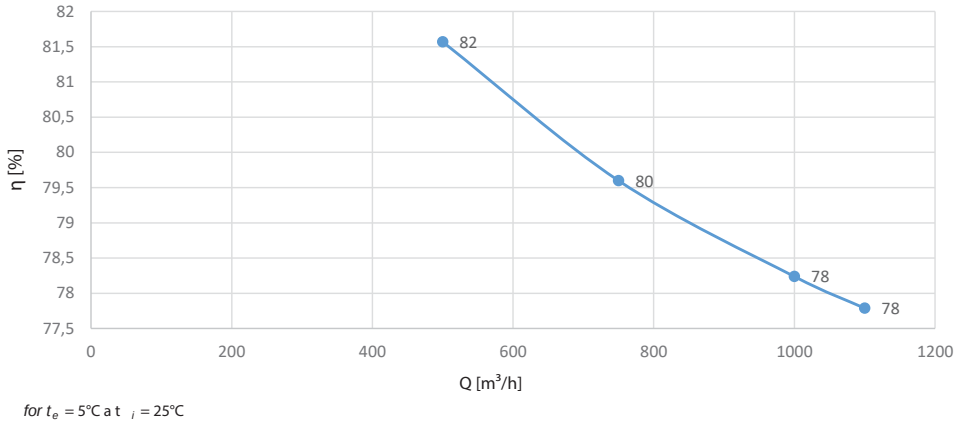
Medium unit with a flow rate of 1116 m³/h at an external pressure of 150 Pa.

PERFORMANCE GRAPH



EFFICIENCY GRAPH

- by EN 308

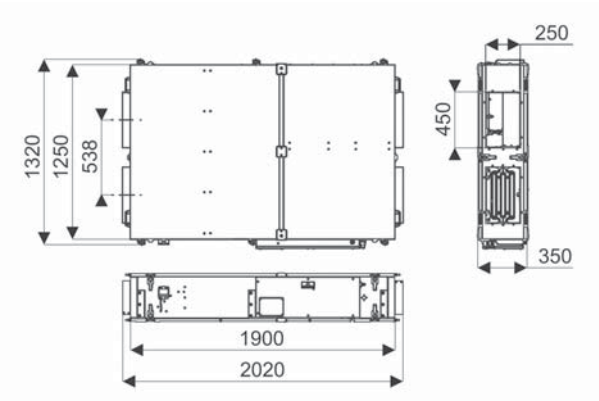


for t_e = 5°C a t $_i$ = 25°C

ACOUSTIC POWER AND PRESSURE LEVELS AT DIFFERENT FLOW RATES

Flow rate [m³/h]	Unit setting	Test mode	Sound power level [dB]	Octave band center frequencies [Hz]								Sound pressure level [dB]	
				63	125	250	500	1000	2000	4000	8000		
1332	100%	Intake		66.0	70.0	75.0	60.0	57.0	52.0	50.0	45.0		37.0
		Supply		61.0	62.0	65.0	54.0	52.0	46.0	42.0	41.0		
		Discharge		67.0	80.0	81.0	74.0	68.0	64.0	60.0	54.0		
		Exhaust		59.0	68.0	69.0	58.0	52.0	49.0	41.0	39.0		
		Breakout		61.0	62.0	63.0	51.0	46.0	42.0	37.0	37.0		
1188	80%	Intake		64.0	68.0	72.0	57.0	53.0	49.0	45.0	42.0		34.0
		Supply		58.0	61.0	60.0	52.0	49.0	43.0	38.0	39.0		
		Discharge		66.0	79.0	80.0	73.0	65.0	62.0	57.0	50.0		
		Exhaust		58.0	67.0	68.0	54.0	48.0	44.0	37.0	38.0		
		Breakout		58.0	60.0	58.0	48.0	43.0	40.0	35.0	36.0		
792	50%	Intake		59.0	64.0	57.0	46.0	45.0	40.0	35.0	32.0		25.0
		Supply		54.0	56.0	48.0	42.0	40.0	34.0	30.0	31.0		
		Discharge		62.0	71.0	65.0	62.0	56.0	53.0	46.0	41.0		
		Exhaust		53.0	65.0	53.0	45.0	41.0	37.0	32.0	38.0		
		Breakout		55.0	56.0	44.0	38.0	35.0	31.0	26.0	27.0		
432	25%	Intake		58.0	53.0	46.0	37.0	37.0	29.0	25.0	29.0		18.0
		Supply		49.0	46.0	40.0	33.0	32.0	25.0	23.0	30.0		
		Discharge		56.0	56.0	53.0	49.0	44.0	39.0	31.0	30.0		
		Exhaust		50.0	48.0	43.0	35.0	31.0	26.0	23.0	29.0		
		Breakout		48.0	46.0	35.0	29.0	27.0	24.0	22.0	28.0		

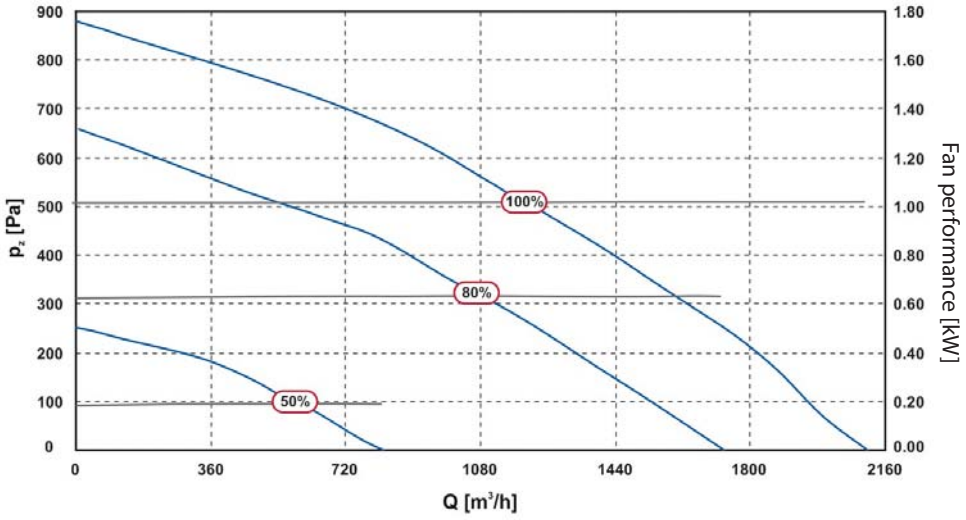
DIMENSIONS



MAXI

Biggest unit with a flow rate of 1872 m³/h at an external pressure of 150 Pa.

PERFORMANCE GRAPH



EFFICIENCY GRAPH

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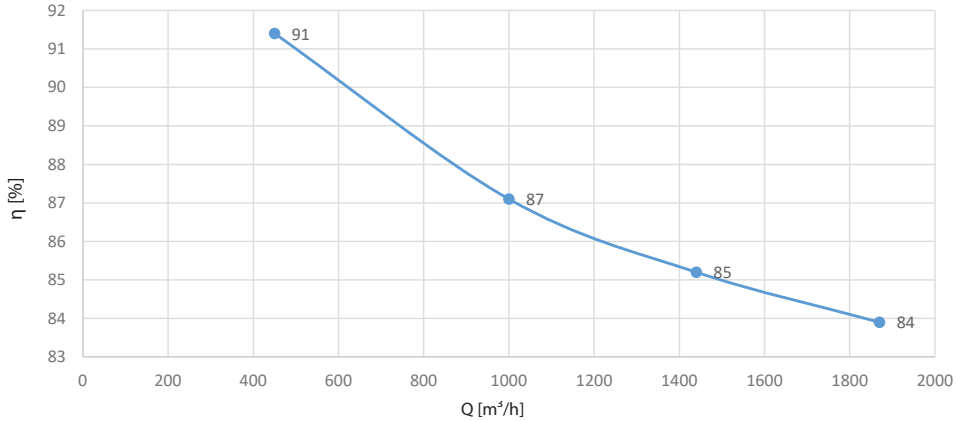
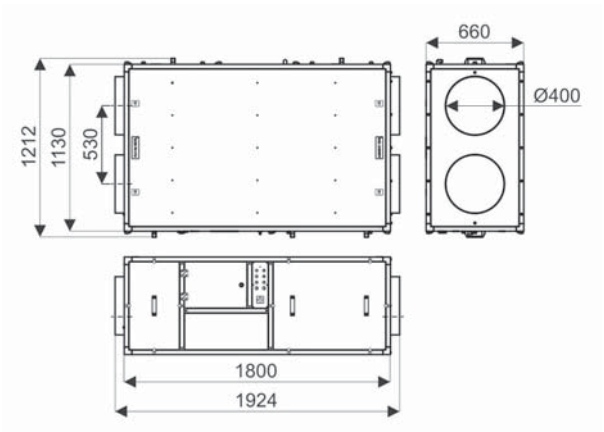


for t_e = 5°C a t $_i$ = 25°C

ACOUSTIC POWER AND PRESSURE LEVELS AT DIFFERENT FLOW RATES

F|low rate [m³/h]	Unit setting	Test mode	Sound power level [dB]	Octave band center frequencies [Hz]								Sound pressure level [dB]	
				63	125	250	500	1000	2000	4000	8000		
2124	100%	Intake		67.0	72.0	75.0	72.0	73.0	71.0	68.0	62.0		41.0
		Supply		62.0	65.0	75.0	66.0	65.0	61.0	53.0	46.0		
		Discharge		67.0	70.0	83.0	72.0	75.0	73.0	70.0	65.0		
		Exhaust		62.0	64.0	74.0	63.0	60.0	54.0	44.0	39.0		
		Breakout		66.0	67.0	70.0	53.0	48.0	49.0	41.0	39.0		
1728	80%	Intake		64.0	71.0	79.0	70.0	69.0	68.0	65.0	58.0		40.0
		Supply		60.0	64.0	77.0	63.0	62.0	57.0	49.0	43.0		
		Discharge		65.0	69.0	82.0	69.0	72.0	70.0	67.0	59.0		
		Exhaust		59.0	63.0	75.0	60.0	57.0	51.0	42.0	38.0		
		Breakout		64.0	63.0	68.0	50.0	53.0	44.0	38.0	36.0		
828	50%	Intake		56.0	68.0	57.0	57.0	57.0	53.0	49.0	40.0		30.0
		Supply		52.0	66.0	57.0	51.0	50.0	44.0	35.0	31.0		
		Discharge		56.0	64.0	61.0	56.0	59.0	57.0	50.0	41.0		
		Exhaust		52.0	62.0	52.0	46.0	43.0	37.0	28.0	28.0		
		Breakout		54.0	62.0	52.0	41.0	39.0	38.0	34.0	32.0		
420	25%	Intake		48.0	47.0	40.0	37.0	35.0	29.0	23.0	29.0		20.0
		Supply		46.0	43.0	39.0	33.0	31.0	25.0	23.0	29.0		
		Discharge		46.0	45.0	42.0	40.0	41.0	34.0	25.0	29.0		
		Exhaust		48.0	41.0	37.0	31.0	26.0	23.0	23.0	29.0		
		Breakout		46.0	44.0	40.0	32.0	30.0	28.0	26.0	30.0		

DIMENSIONS



Accessories

	CO_2 room sensor w. temperature sensor
	CO_2 sensor for pipe
	PIR sensor - for human detection
	F6 class filters
	G4 class filters
	Inlet cowl - for roof installations without air ducts
	Master controller - smart controller for control of HRV units

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v1.1-04/2023