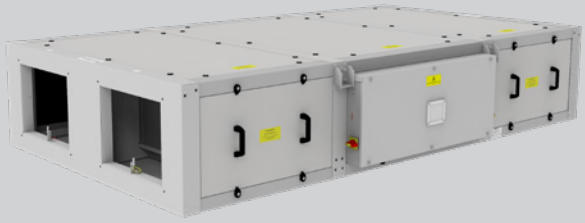
Sentinel Apex HR21

- Very low sound levels independently tested and verified by SRL
- Low SFP utilising IE 5 equivalent motors
- High Heat Recovery Efficiency – up to 93% (EN308)
- Automatic summer bypass sized to eliminate performance loss
- ePM10 50% and ePM1 70% filters as standard (M5 / F7 equivalent)
- Filter access from bottom and side as standard
- Digital on board controller and remote room controller as standard
- App connectivity as standard
- Wired and Wireless communication sensors available
- Integral condensate tray and pump
- Electric frost protection heater as standard



Performance simply delivered with more as standard

Vent-Axia's Sentinel Apex range of commercial heat recovery units with up to 93% EN308 heat recovery efficiency, low sound levels and low specific fan powers the range provides high levels of performance efficiently. A new advanced control system that provides on board control, in room control and App based control full functionality commissioning and monitoring is simply provided. This control can be coupled with Vent-Axia's new range of sensors with wired or wireless communication providing close control of, and monitoring of your indoor air quality. Sensors include CO_2, humidity and temperature and provide both proportional and switch control.

The Sentinel Apex HR21 unit is manufactured with a double skinned pentapost construction incorporating aluzinc frames and panels. The panels are acoustically and thermally treated with 90kg/m^3 high efficiency acoustic and thermally insulating foam (fire retardant to BS476 Part 7 Class 1 & Part 6 Class O). The construction of the unit, IPX4, allows for internal and external mounting as standard, however, the roof assembly should be included for full external locations.

The housing is designed to be as compact as possible for concealed false ceiling applications with top and bottom access panels for maintenance. Access panels are sized to enable single person maintenance.

The fans utilised in the Sentinel Apex HR21 are the latest EC/DC external rotor motors specifically chosen for their low power consumption and low noise characteristics. The assembly is dynamically balanced to DIN ISO 1940 Grade 6.3. Ball bearings are greased for life. Insulation is Class 'B' (from -25°C to +60°C). All models incorporate internal electronic overload protection and a soft start function.

The Sentinel Apex HR21 is complete as standard with ISO ePM10 50% (M5) extract filter and ISO ePM1 50% (F7) supply, complete with a filter change warning. Filters have been selected to fully comply with the requirements of ISO16890 whilst having low pressure loss characteristics.

An integral electric frost heater is included to provide frost protection of the cell and filters down to -10°C. The integral controls also allow this heater to be utilised as a top up heater.

The unit is complete with an integral summer bypass facility which has been designed to provide full bypass without impact to the airflow or power consumption of the unit whilst in bypass mode.

Airflow and power consumption tested in accordance with BS EN 5801. Sound data derived from independent testing at Sound Research Laboratories in accordance with EN ISO 3741:2010. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at a reference level of 2 x 10^{-5} Pa. The inlet/outlet sound power level spectra figures are dB with a reference of 10^{-12} watts.

An integral condensate tray is fitted along with an internal quiet running high quality pump allowing for removal of the condensate via a 10mm condensate pipe.

To facilitate normal access and maintenance to the unit there are both side and bottom access panels as standard. Should it be required, all panels are removable allowing access and removal of the heat recovery cell and all other components. A lockable isolator is fitted to the control panel preventing accidental operation whilst any maintenance is being carried out.

The electrical supply for the unit is 230V +/- 10% / 50/60Hz / 1ph. A 24V DC power is available from the unit for powering any of the matched sensors and switches.

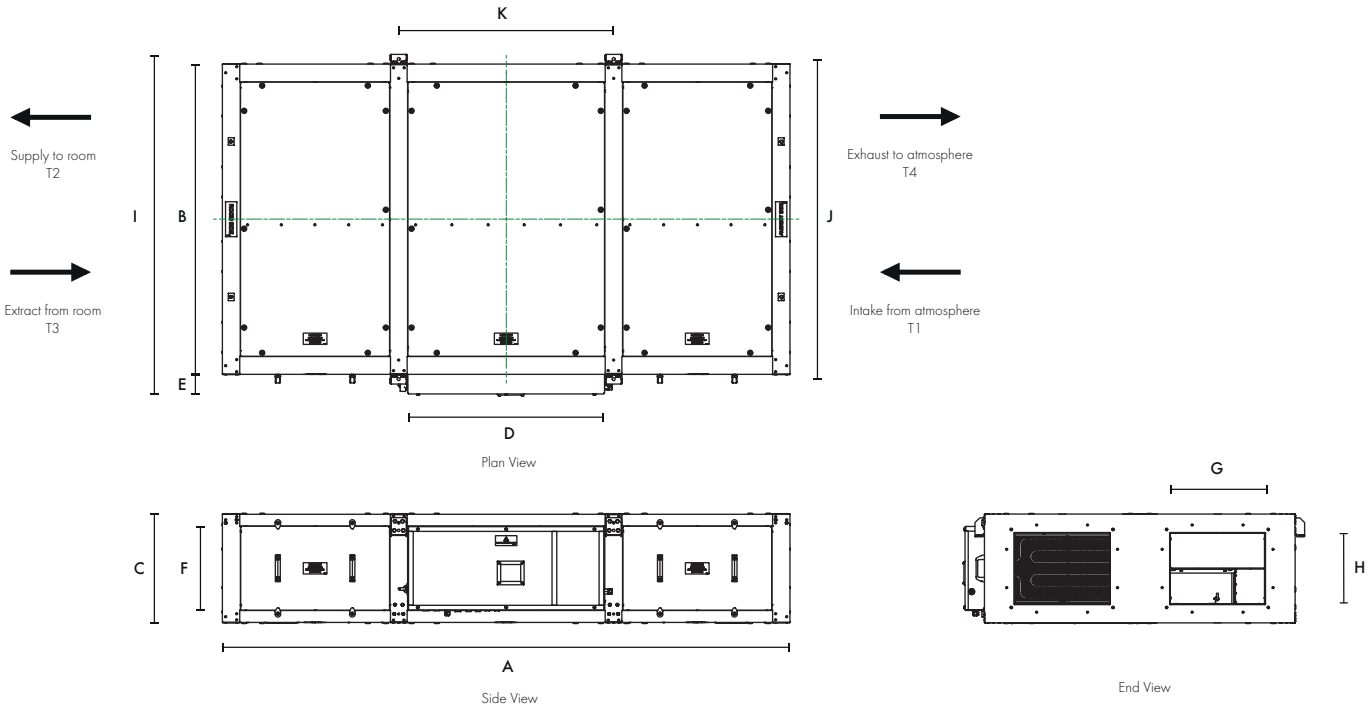
The Sentinel Apex HR21 unit is fitted with an integrated control system as standard with a purpose designed user interface controller incorporating an alphanumerical 2 line display with 4 button keypad for fan status and a basic commissioning setup mounted within the control panel. A remote HMI is also included for that can be mounted within the room that is being ventilated. This allows for local monitoring of the unit along with the commissioning set-up.

App based control is also available via the Vent-Axia Connect App. This provides detailed commissioning and monitoring information and the ability to control the unit remotely.

A full range of sensors is available including humidity, temperature and CO_2 monitoring. These sensors are available for both wired and wireless communication with the wireless sensors being either local mains or battery powered.

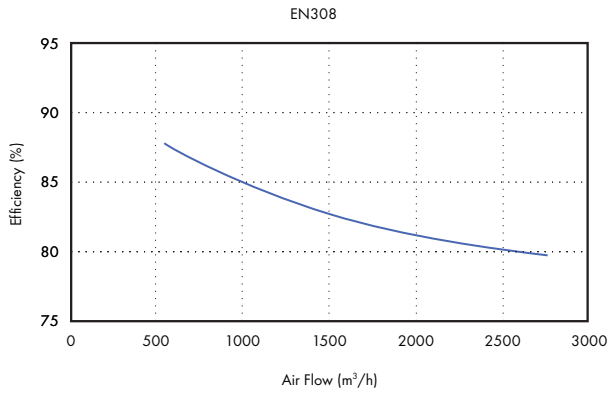
Model	Stock Ref
Sentinel Apex HR21	HR21X

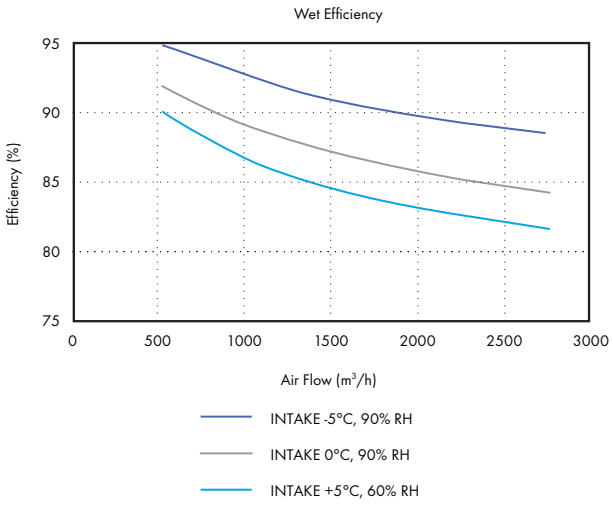
Dimensions (mm)



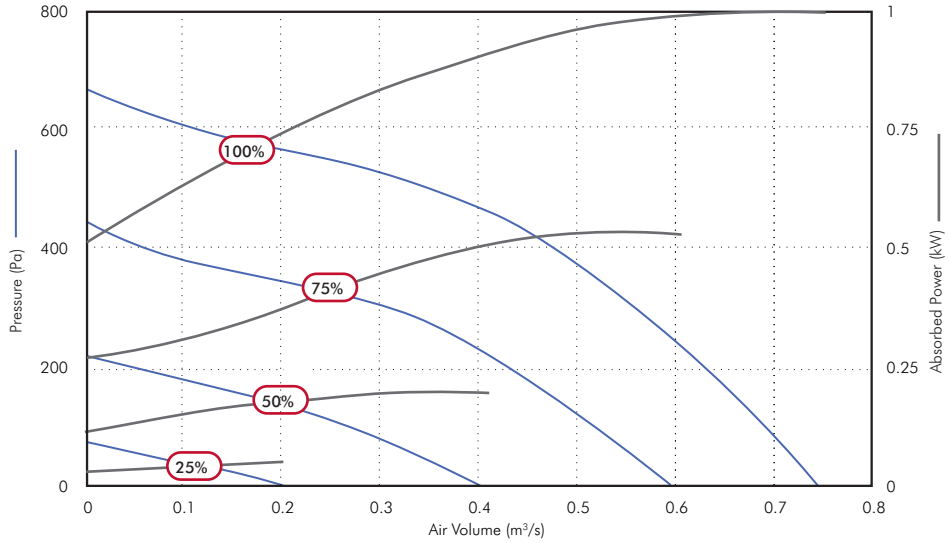
A (LENGTH)	B (WIDTH)	C (HEIGHT)	D	E	F	G	H	I	J	K	kg
2965	1319	620	1024	88	518	500	400	1446	1359	1097	TBC

Heat Recovery Efficiency





Performance Guide - Sentinel Apex HR21



Speed		Airflow, m³/s @ Pa 0	25	50	100	150	200	250	300	400	500	600	Fans F.L.C.	Supply Voltage	Frost Heater	Unit Rated Current
100%	m³/s	0.76	0.74	0.72	0.70	0.66	0.63	0.60	0.57	0.48	0.34	0.11	4.2A	230/1/50	7.8kW	39A
	SFP	1.31	1.36	1.40	1.45	1.52	1.59	1.64	1.72	2.00	2.53	6.08				
	kW	1.004	1.004	1.005	1.007	1.009	1.002	0.988	0.973	0.970	0.856	0.655				
75%	m³/s	0.60	0.59	0.56	0.52	0.49	0.43	0.38	0.31							
	SFP	0.89	0.92	0.97	1.04	1.09	1.22	1.32	1.49							
	kW	0.538	0.540	0.542	0.541	0.534	0.522	0.498	0.459							
50%	m³/s	0.41	0.39	0.35	0.27	0.17	0.03									
	SFP	0.53	0.55	0.62	0.75	1.08	5.22									
	kW	0.214	0.213	0.213	0.204	0.179	0.145									
25%	m³/s	0.20	0.15	0.08												
	SFP	0.30	0.39	0.59												
	kW	0.061	0.057	0.050												

Sound Data - Sentinel Apex HR21

Speed	Test Mode	63	125	250	500	1k	2k	4k	8k	Sound Pressure level @ 3.0m dBA
100%	Breakout	60	57	57	47	44	38	34	32	100%
	Exhaust T4	60	58	60	57	57	51	44	42	
	Extract T3	64	65	67	64	61	56	50	48	
	Intake T1	63	65	68	64	61	56	51	49	
	Supply T2	59	59	62	57	57	51	46	42	
75%	Breakout	54	57	50	42	37	34	28	25	75%
	Exhaust T4	54	58	52	49	50	44	37	33	
	Extract T3	58	65	63	56	53	49	43	41	
	Intake T1	57	63	61	58	53	48	43	41	
	Supply T2	52	54	52	48	50	44	39	34	
50%	Breakout	51	52	45	35	31	27	21	22	50%
	Exhaust T4	65	55	47	40	42	36	30	27	
	Extract T3	60	60	58	49	44	40	35	31	
	Intake T1	57	62	56	49	45	39	34	31	
	Supply T2	53	49	47	39	42	36	29	27	
25%	Breakout	48	39	42	24	22	17	18	22	25%
	Exhaust T4	48	35	35	29	31	23	20	25	
	Extract T3	57	44	44	37	34	29	21	26	
	Intake T1	53	43	46	37	32	56	20	25	
	Supply T2	44	34	34	28	30	22	19	25	

For full sound and performance data please use our Fan Selection Program www.vent-axia.com/fanselector/product/apex
Sound data derived from independent testing at Sound Research Laboratories in accordance with EN ISO 3741:2010. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at a reference level of 2 x 10^{-5} Pa. The inlet/outlet sound power level spectra figures are dB with a reference of 10^{-12} watts.

Accessories

Attenutator

Single skinned attenuators purpose designed for the Apex Heat Recovery range to minimise in duct noise. Attenuators are supplied in standard lengths of 900mm, 1200mm and 1500mm, constructed from Galvanised steel with profiled perforated sheet internal, mineral wool sound absorbing material and 30mm profiled flanges for duct and unit mounting. Data has been obtained by testing in accordance with BS EN ISO7235:2009.

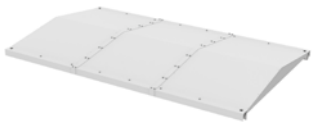
	Dimensions (mm)			kg	Insertion Loss dB								m³/hr @ Pa					
Stock Ref.	Length	Width	Height	Weight	63	125	250	500	1k	2k	4k	8k	300	600	1000	1500	2000	3000
ATT900-HR21	900	600	400	29	3	7	11	20	28	21	13	8	1	2	5	11	19	43
ATT1200-HR21	1200	600	400	36	4	9	15	26	35	26	15	10	1	2	5	12	21	47
ATT1500-HR21	1500	600	400	51	5	11	19	33	45	31	18	11	1	2	5	12	22	50

Heater

Rectangular Duct mounted heater battery with either electric heating complete with integral thyristor controls, or LPHW water heating, each designed to provide approximately 10°C temperature rise. Chilled water cooler also available with integral condensate tray. Note waterside controls are not included.

		Dimensions (mm)			kg	Heater rating	Electrical	Water Temp			m³/hr @ Pa					
Stock Ref.	Type	Length	Width	Height	Weight	kW	supply	Flow	Return	Connection	300	600	1000	1500	2000	3000
HWB-HR21	HR 21 Duct mounted Rectangular LPHW heating battery	300	600	400	-	7.50	N/A	10°C	20°C	n/a	1	2	5	12	21	47
EHB-HR21	HR 21 Duct mounted Rectangular electric heater with controls	200	600	390	15.1	7.03	230/1/50	80°C	60°C	1/2"	1	2	5	12	21	47
CWB-HR21	HR 21 Duct mounted Rectangular water cooling battery	200	600	420	64.5	8.65	N/A	6°C	12°C	3/4"	1	2	5	12	21	47

Roof Assembly



Stock Ref	Length mm	Width mm	Height mm	Weight kg
WRF-HR21	2965	1455	95	63

Intake / Exhaust Cowl

Weather inlet/discharge cowl for external mounting (one required for each airstream).

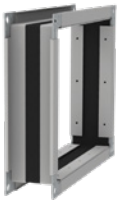
Stock Ref	Length mm	Width mm	Height mm	Weight kg
497216	494	502	510	9

Transformation Piece

Rectangular to round transformation piece designed to fix directly to the unit or any of the specific HR21 duct accessories to enable connection to 400mm round ducting.

Stock Ref	Length mm	Width mm	Height mm	Weight kg
497224	325	500	400	5.08

Flexible Connection



Stock Ref	Length mm	Width mm	Height mm	Weight kg
497021	130	600	400	4.00