

Sentinel D-Box Single Fan

- Duct size 100 to 500mm
- Performance - Airflow 0.01 to 1.6m³/s
- Pressure up to 650Pa
- Sentinel demand ventilation fan controller with lockable isolator
- Aluzinc construction suitable for Internal or External mounting
- Performance tested to BS848 parts 1 & 2



The Sentinel single in-line duct fans are as supplied from Vent-Axia Ltd. Manufactured from Aluzinc, Sentinel fan units are internally treated with an 'O' class rated, BS476 part 6 & 7 acoustic foam which offers the benefits of high sound absorption, good thermal insulation properties, in addition to self extinguishing properties and resistance to ignition.

The casing includes an inclined inlet and bellmouth entry which directs the incoming air to the impeller with minimal turbulence. The result is better air management through the unit, less noise, higher efficiency and an increased performance.

The housing is designed to be as compact as possible for concealed false ceiling applications and Sentinel casings are specially designed to allow the unit to be mounted via its unique mounting bracket, ensuring a quick and easy solution to installation.

Impellers

All Sentinel units feature a low energy, Class 1, EC/DC external rotor motor and backward curved impeller assembly specifically chosen for performance and non-overloading characteristics. The assembly is dynamically balanced to DIN ISO 1940 Grade 6.3, duct size 500mm rated IP54, all other sizes IP44 according to BS EN 60529. Ball bearings are greased for life. Insulation is Class 'B' (from -25°C to +60°C). All models incorporate internal electronic overload protection and soft start function.

Electrical

Every Sentinel unit is fitted with a purpose designed common PCB controller incorporating a 16-character backlit alphanumeric x 2 line display with 4 button membrane keypad for fan status and commissioning set up. The enclosure is fitted with a 4-pole 10A isolator that is suitable for fitting a locking device to prevent accidental operation.

Motors are single phase 230V +/- 10% / 50/60Hz / 1ph (size 100-400mm) or 400V +/- 10% / 50/60Hz / 3ph (size 500mm), (4 wire systems only).

24V DC power is provided from the controller for powering the matched range of Sentinel switches and sensors.

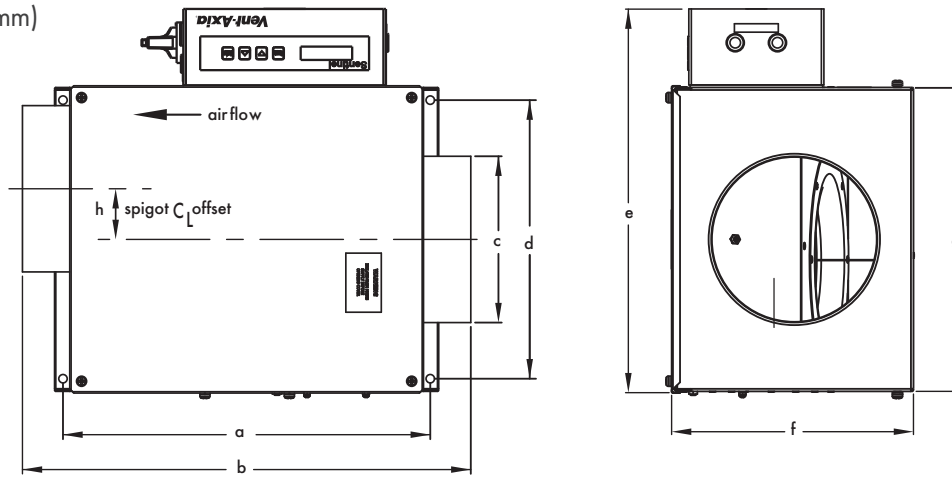
Performance/Sound

Extensively tested to BS848 parts 1 & 2. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at reference level of 2×10^{-5} Pa. The inlet/outlet sound power level spectra figures are dB with a reference of 10^{-12} Watts.

Accessories

For duct accessories see Ducting and Fitting Section.

Fan Dimensions (mm)



Hierarchy	Constant Pressure	a	b	c	d	e	f	g	h	Weight
Model	Model									kg
SENT100S	SENT100S/CP	380	443	100	275	400	192	306	62	8.5
SENT125S	SENT125S/CP	380	443	125	275	400	192	306	62	8.5
SENT150S	SENT150S/CP	380	443	150	275	400	192	306	62	8.5
SENT200S	SENT200S/CP	435	531	200	330	453	287	360	60	12.5
SENT250S	SENT250S/CP	435	531	250	330	453	287	360	35	13
SENT315S	SENT315S/CP	710	808	315	540	661	458	568	43	34
SENT400S	SENT400S/CP	710	808	400	540	661	458	568	43	36
SENT500S	SENT500S/CP	898	996	500	735	858	577	765	59	55

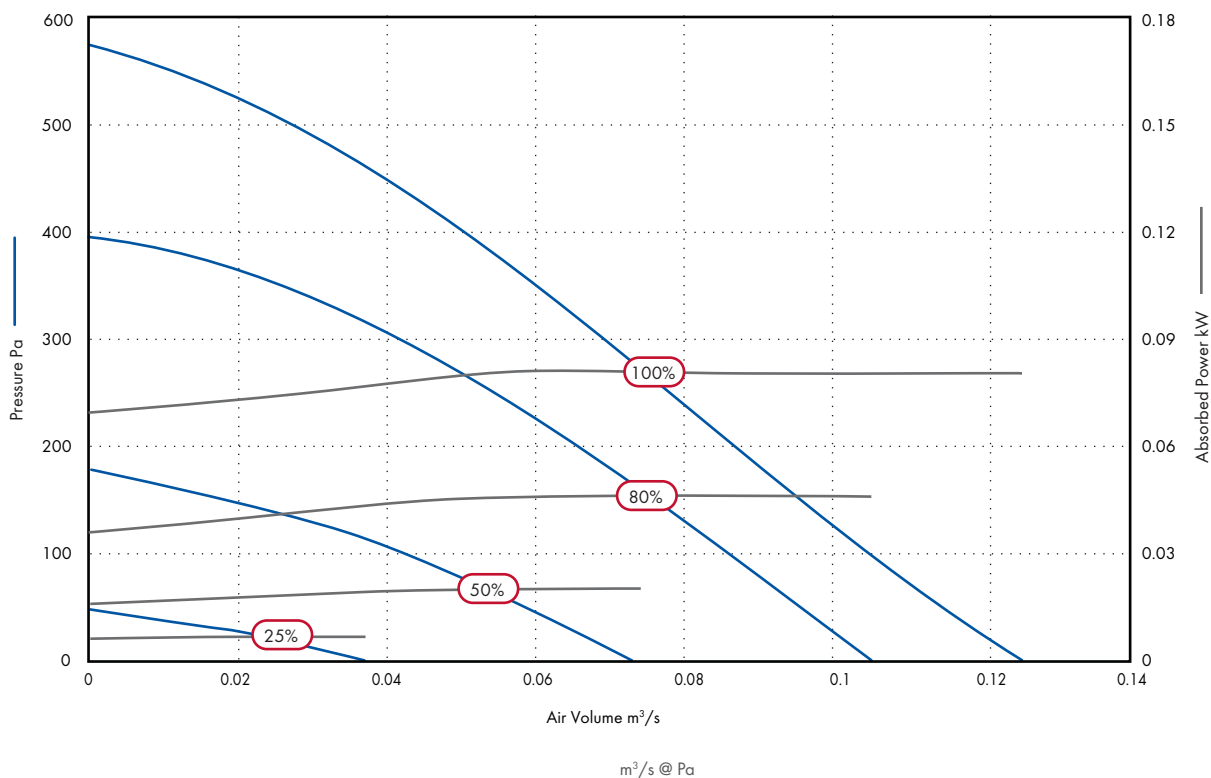
Accessories

Hierarchy	Anti-Vibration	Duct air heater	Filter cassette	Bag filter cassette	*Duct attenuator 600mm	
Model	Mounts	Stock Ref	Stock Ref	Stock Ref	Stock Ref	
SENT100S	SENT100S/CP	68MP033G	10531100T1	10532100A	10533100	10535100
SENT125S	SENT125S/CP	68MP033G	10531125T1	10532125A	10533125	10535125
SENT150S	SENT150S/CP	68MP033G	10531150T1	10532150A	10533150	10535150
SENT200S	SENT200S/CP	68MP033G	10531200T1	10532200A	10533200	10535200
SENT250S	SENT250S/CP	68MP033G	10531250T1	10532250A	10533250	10535250
SENT315S	SENT315S/CP	68MP033G	10531315T1	10532315A	10533315	10535315
SENT400S	SENT400S/CP	68MP033G	10531400T3	10532400A	10533400	10535400
SENT500S	SENT500S/CP	68MP033G	10531500T3	10532500A	10533500	10536500*

*For alternative attenuator lengths, refer to Accessories and Controllers section

Performance Guide

Sentinel 100 Single Fan



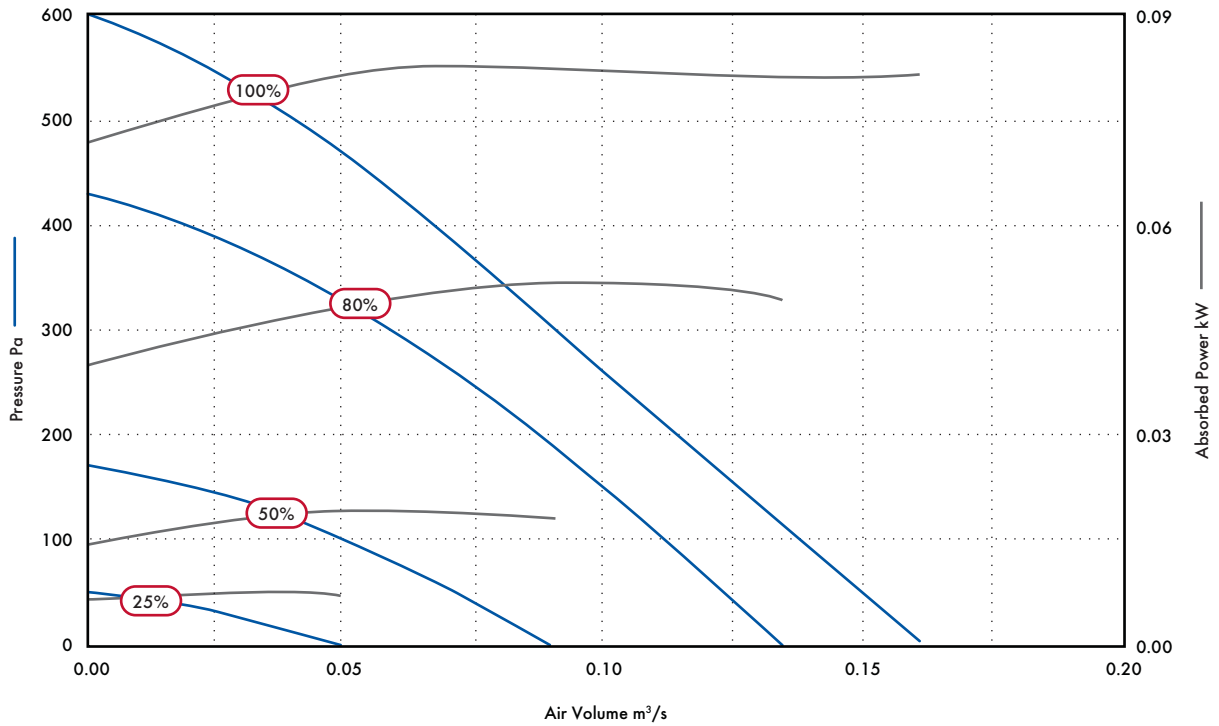
Speed	Motor Phase		0	50	100	200	300	400	500	F.L.C Amps	
25	1	m³/s	0.04							0.08	
		SFP	0.18								
		Watts	0.01								
50	1	m³/s	0.07	0.06	0.04					0.15	
		SFP	0.29	0.33	0.50						
		Watts	0.02	0.02	0.02						
80	1	m³/s	0.11	0.10	0.09	0.07	0.04			0.5	
		SFP	0.42	0.47	0.52	0.66	1.13				
		Watts	0.05	0.05	0.05	0.05	0.05				
		m³/s	0.13	0.12	0.11	0.09	0.07	0.05	0.03		
		SFP	0.62	0.68	0.74	0.90	1.16	1.60	2.53		
Watts	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08			

Sound Data

Speed	Test Mode	Octave Band Frequency SWL								dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
25	Breakout	44	39	35	27	24	22	23	29	17
	Inlet	43	43	40	35	26	22	22	29	19
	Outlet	46	40	41	35	29	23	22	30	20
50	Breakout	50	48	47	37	32	29	26	30	23
	Inlet	48	52	62	54	41	34	28	30	35
	Outlet	49	52	67	57	48	44	38	31	39
80	Breakout	55	58	56	48	42	41	38	33	31
	Inlet	55	58	67	67	53	47	41	35	45
	Outlet	56	59	68	68	61	56	51	42	47
100	Breakout	64	63	60	55	47	46	44	38	36
	Inlet	57	62	68	71	58	52	47	41	48
	Outlet	57	63	71	72	66	62	55	48	52

Performance Guide

Sentinel 125 Single Fan



Airflow, m³/s @ Pa

Speed	Motor Phase	0	50	100	200	300	400	500	F.L.C Amps	
25	1	m³/s	0.05						0.09	
		SFP	0.14							
		Watts	0.01							
50	1	m³/s	0.09	0.07	0.05				0.18	
		SFP	0.21	0.27	0.38					
		Watts	0.02	0.02	0.02					
80	1	m³/s	0.14	0.13	0.11	0.09	0.06	0.02	0.51	
		SFP	0.35	0.39	0.47	0.58	0.83	2.20		
		Watts	0.05	0.05	0.05	0.05	0.05	0.04		
100	1	m³/s	0.16	0.15	0.14	0.11	0.09	0.07	0.04	0.72
		SFP	0.51	0.54	0.58	0.75	0.92	1.17	2.00	
		Watts	0.08	0.08	0.08	0.08	0.08	0.08	0.08	

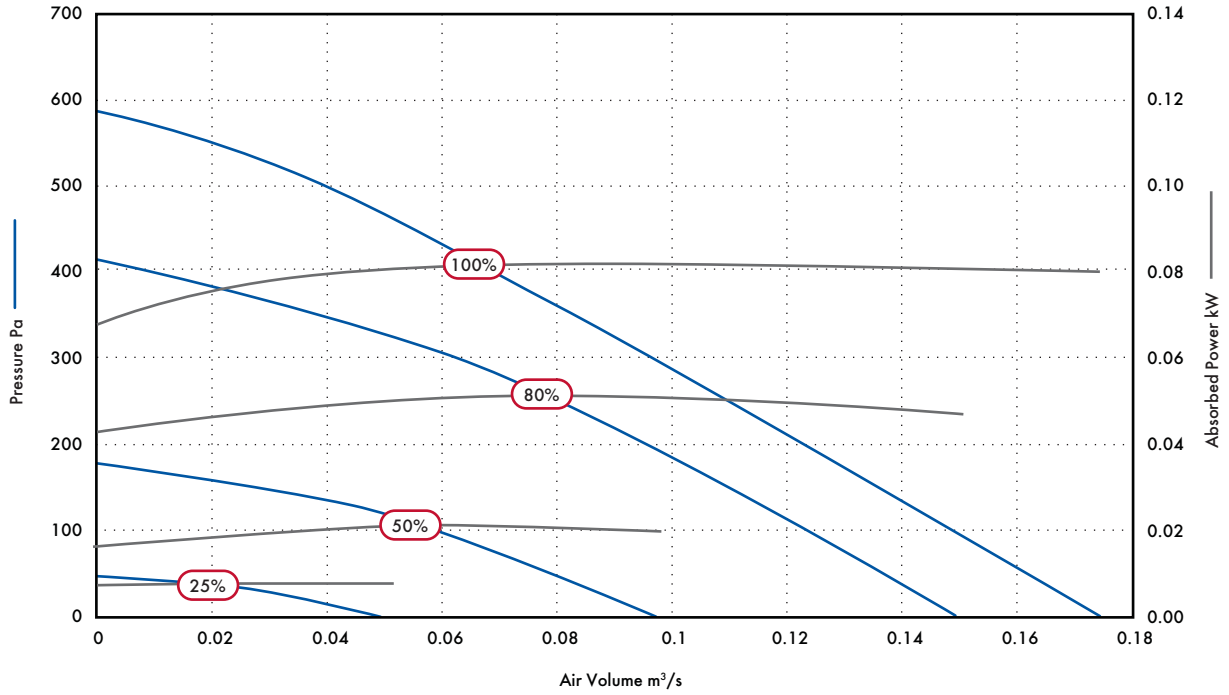
Sound Data

Octave Band Frequency SWL

Speed	Test Mode	63	125	250	500	1k	2k	4k	8k	dB(A) @ 3m
25	Breakout	49	40	34	28	26	24	23	29	18
	Inlet	46	44	41	35	27	22	22	28	20
	Outlet	47	47	42	36	33	27	22	29	21
50	Breakout	53	49	49	39	34	28	23	29	24
	Inlet	50	56	58	53	43	37	31	29	33
	Outlet	50	56	58	53	43	37	31	29	37
80	Breakout	55	55	58	50	46	39	31	31	33
	Inlet	54	64	68	64	55	49	43	36	44
	Outlet	56	67	72	66	64	60	55	45	49
100	Breakout	62	58	59	57	52	46	37	33	37
	Inlet	58	69	70	70	60	56	48	42	49
	Outlet	58	70	71	73	70	67	60	52	54

Performance Guide

Sentinel 150 Single Fan



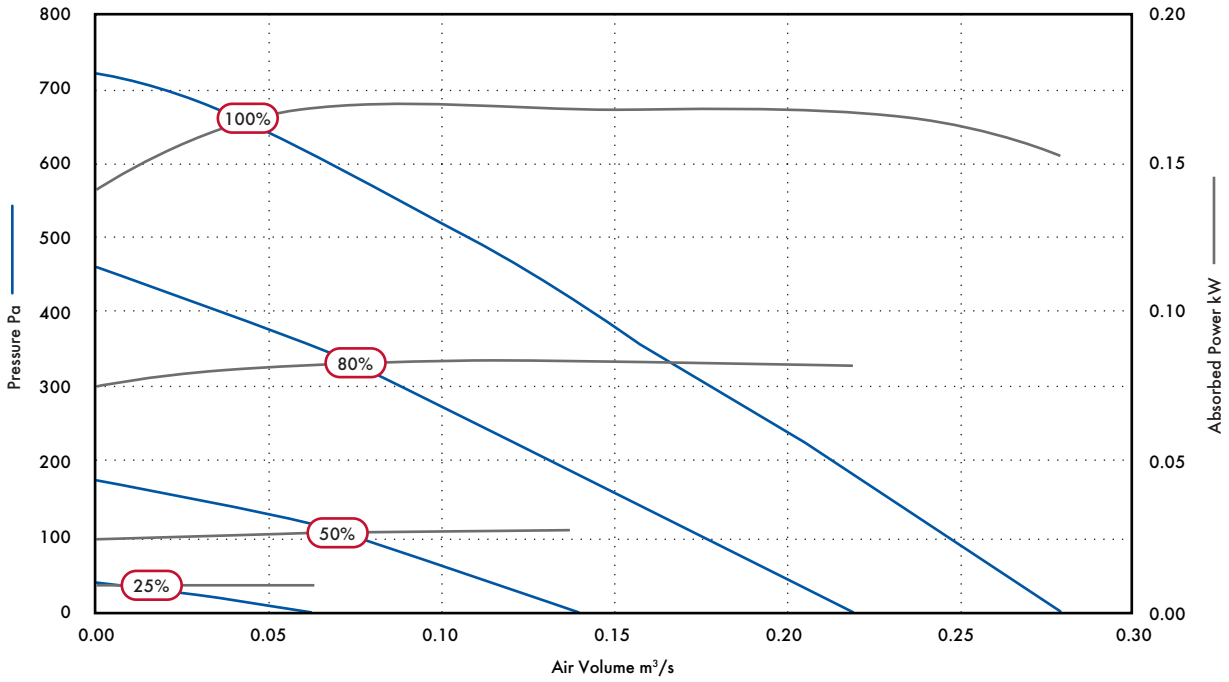
Speed	Motor Phase	Airflow, m ³ /s @ Pa								F.L.C Amps
		0	50	100	200	300	400	500		
25	1	m ³ /s	0.05							
		SFP	0.14							0.08
		kW	0.01	0.01						
50	1	m ³ /s	0.10	0.08	0.06					
		SFP	0.19	0.25	0.35					0.16
		kW	0.02	0.02	0.02					
80	1	m ³ /s	0.15	0.14	0.12	0.10	0.06	0.01		
		SFP	0.31	0.34	0.41	0.51	0.85	4.50		0.48
		kW	0.05	0.05	0.05	0.05	0.05	0.05		
100	1	m ³ /s	0.17	0.16	0.15	0.12	0.10	0.07	0.04	
		SFP	0.47	0.51	0.54	0.68	0.81	1.16	2.00	0.74
		kW	0.08	0.08	0.08	0.08	0.08	0.08	0.08	

Sound Data

Speed	Test Mode	Octave Band Frequency SWL								dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
25	Breakout	46	43	36	28	26	23	24	29	18
	Inlet	46	45	42	37	30	24	23	29	21
	Outlet	43	45	42	37	35	31	22	28	22
50	Breakout	50	50	50	40	35	28	24	29	25
	Inlet	50	56	60	56	46	41	36	30	35
	Outlet	51	59	61	56	53	51	46	33	38
80	Breakout	53	57	57	51	48	42	36	31	33
	Inlet	57	65	71	66	58	52	44	42	46
	Outlet	56	67	75	67	65	63	56	50	50
100	Breakout	62	61	59	60	54	49	43	37	39
	Inlet	59	68	72	76	64	58	51	48	54
	Outlet	59	70	74	76	71	70	64	58	56

Performance Guide

Sentinel 200 Single Fan



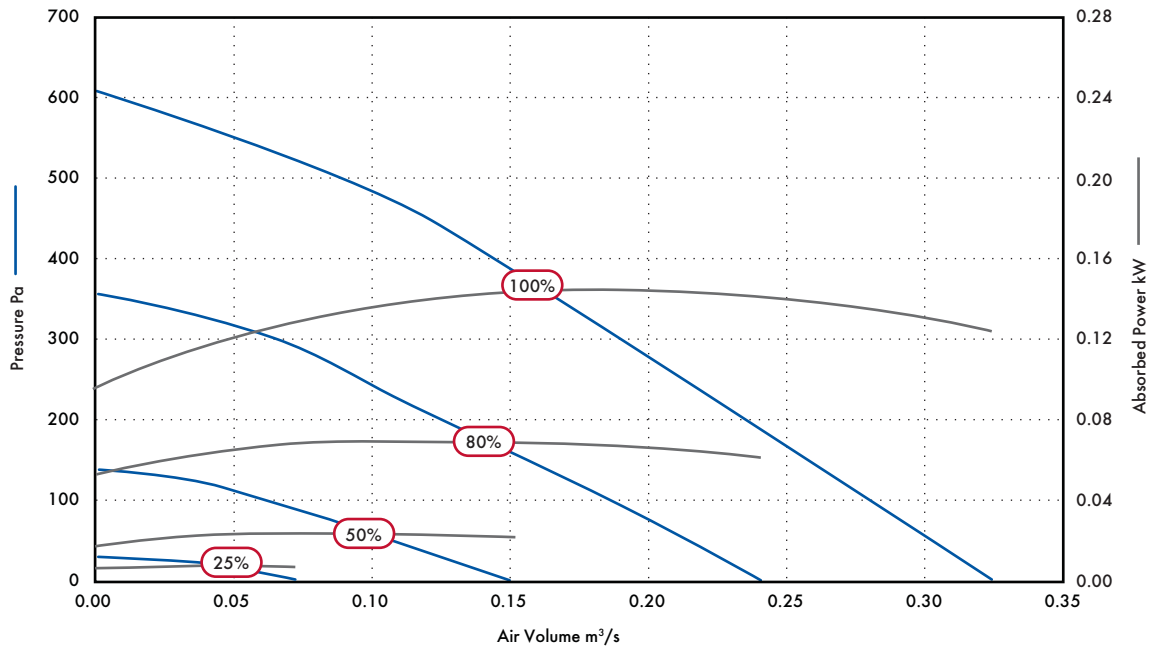
Speed	Motor Phase	Airflow, m³/s @ Pa										F.L.C Amps	
		0	50	100	200	300	400	500	600	700			
25	1	m³/s	0.06										
		SFP	0.13										0.08
		kW	0.01										
50	1	m³/s	0.14	0.11	0.08								
		SFP	0.19	0.25	0.34							0.16	
		kW	0.03	0.03	0.03								
80	1	m³/s	0.22	0.20	0.18	0.13	0.09	0.04					
		SFP	0.37	0.42	0.46	0.65	0.88	2				0.5	
		kW	0.08	0.08	0.08	0.08	0.08	0.08					
100	1	m³/s	0.28	0.26	0.25	0.21	0.18	0.14	0.11	0.07	0.02		
		SFP	0.54	0.61	0.65	0.80	0.93	1.20	1.54	2.41	7.75	0.72	
		kW	0.15	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16	

Sound Data

Speed	Test Mode	Octave Band Frequency SWL								dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
25	Breakout	48	41	39	30	29	26	24	31	20
	Inlet	50	52	49	43	34	32	24	30	26
	Outlet	46	55	48	43	39	42	29	30	28
50	Breakout	55	53	55	42	41	37	34	32	29
	Inlet	54	57	67	62	51	44	47	40	41
	Outlet	55	59	67	62	58	56	55	46	44
80	Breakout	66	63	63	52	47	46	45	44	37
	Inlet	63	66	68	77	64	57	56	53	54
	Outlet	65	68	66	76	71	69	65	61	56
100	Breakout	63	69	66	60	53	51	50	50	42
	Inlet	68	71	72	77	70	63	61	57	56
	Outlet	70	72	69	80	76	76	72	65	62

Performance Guide

Sentinel 250 Single Fan



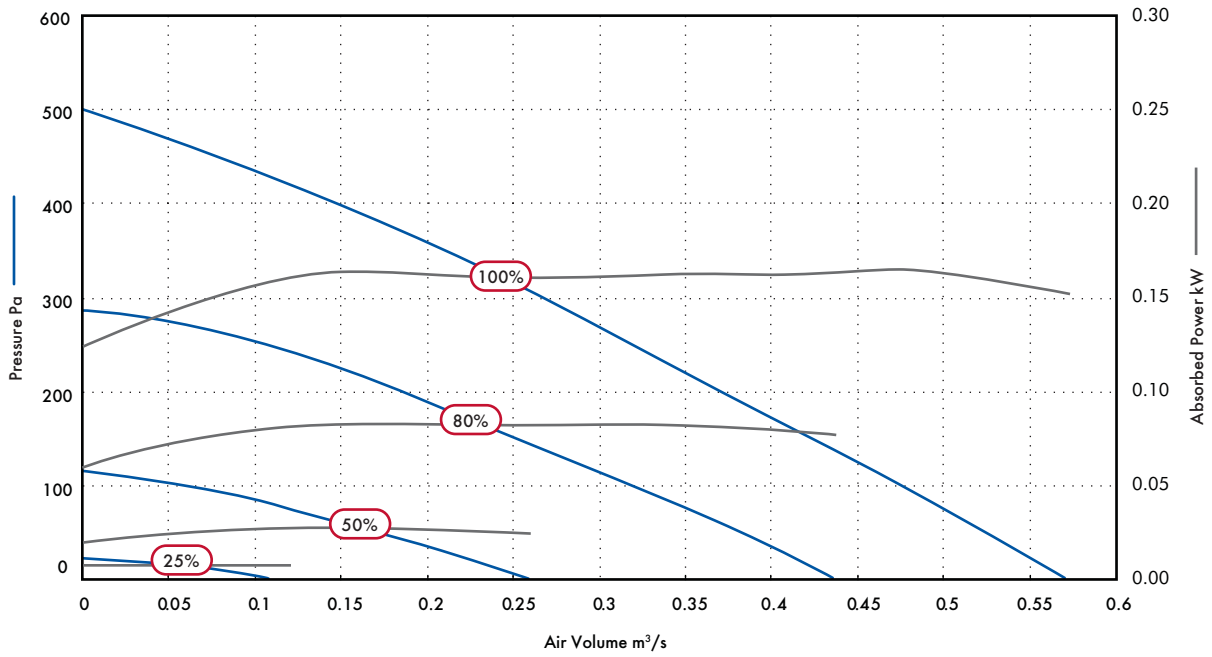
Speed	Motor Phase	Airflow, m³/s @ Pa									F.L.C Amps	
		0	50	100	200	300	400	500	600			
25	1	m³/s	0.07									0.07
		SFP	0.11									
		kW	0.01									
50	1	m³/s	0.15	0.11	0.07						0.2	
		SFP	0.15	0.22	0.34							
		kW	0.02	0.02	0.02							
80	1	m³/s	0.24	0.22	0.19	0.13	0.07				1	
		SFP	0.26	0.30	0.36	0.52	1					
		kW	0.06	0.07	0.07	0.07	0.07					
100	1	m³/s	0.33	0.30	0.28	0.24	0.19	0.15	0.09	0.01	1.38	
		SFP	0.37	0.44	0.49	0.59	0.77	0.97	1.48	3.70		
		kW	0.12	0.13	0.14	0.14	0.15	0.15	0.13	0.04		

Sound Data

Speed	Test Mode	Octave Band Frequency SWL								dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
25	Breakout	42	42	37	31	29	26	25	31	19
	Inlet	48	49	42	38	35	24	24	29	22
	Outlet	47	46	41	37	41	29	24	29	24
50	Breakout	52	48	53	43	37	36	34	30	27
	Inlet	55	57	65	58	49	43	45	38	39
	Outlet	53	57	62	58	54	55	51	36	41
80	Breakout	54	56	57	57	48	46	45	36	36
	Inlet	63	65	69	76	62	54	53	49	53
	Outlet	63	66	69	72	69	68	62	55	54
100	Breakout	61	63	62	62	55	54	52	45	42
	Inlet	68	71	72	80	68	62	59	56	58
	Outlet	68	71	70	78	75	75	68	63	60

Performance Guide

Sentinel 315 Single Fan



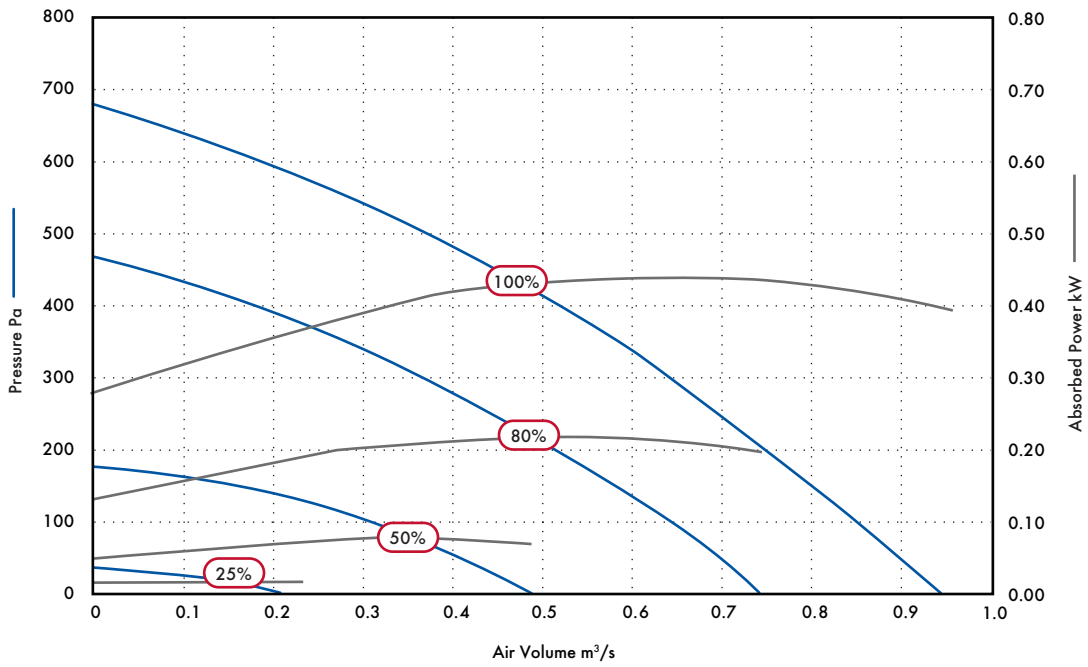
Speed	Phase	Airflow, m³/s @ Pa							F.L.C Amps
		0	50	100	200	300	400		
25	1	m³/s	0.12						0.08
		SFP	0.06						
		kW	0.01						
50	1	m³/s	0.26	0.17	0.06			0.19	
		SFP	0.10	0.16	0.42				
		kW	0.03	0.03	0.03				
80	1	m³/s	0.44	0.39	0.32	0.18		0.50	
		SFP	0.18	0.21	0.26	0.46			
		kW	0.08	0.08	0.08	0.08			
100	1	m³/s	0.57	0.53	0.48	0.37	0.26	0.15	1.36
		SFP	0.27	0.30	0.34	0.44	0.62	1.09	
		kW	0.15	0.16	0.16	0.16	0.16	0.16	

Sound Data

Speed	Test Mode	Octave Band Frequency SWL								dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
25	Breakout	45	42	44	32	30	26	25	31	21
	Inlet	47	43	40	31	28	22	23	29	19
	Outlet	47	44	42	37	33	27	25	29	21
50	Breakout	54	56	48	46	36	30	26	31	27
	Inlet	61	63	54	47	44	39	32	30	31
	Outlet	60	63	55	55	51	49	42	31	37
80	Breakout	57	68	60	49	45	42	36	32	38
	Inlet	62	78	67	59	55	51	45	40	44
	Outlet	62	82	68	66	64	61	55	46	50
100	Breakout	62	69	69	56	53	47	43	36	44
	Inlet	67	78	79	66	61	58	53	45	51
	Outlet	66	78	78	73	70	68	63	55	56

Performance Guide

Sentinel 400 Single Fan



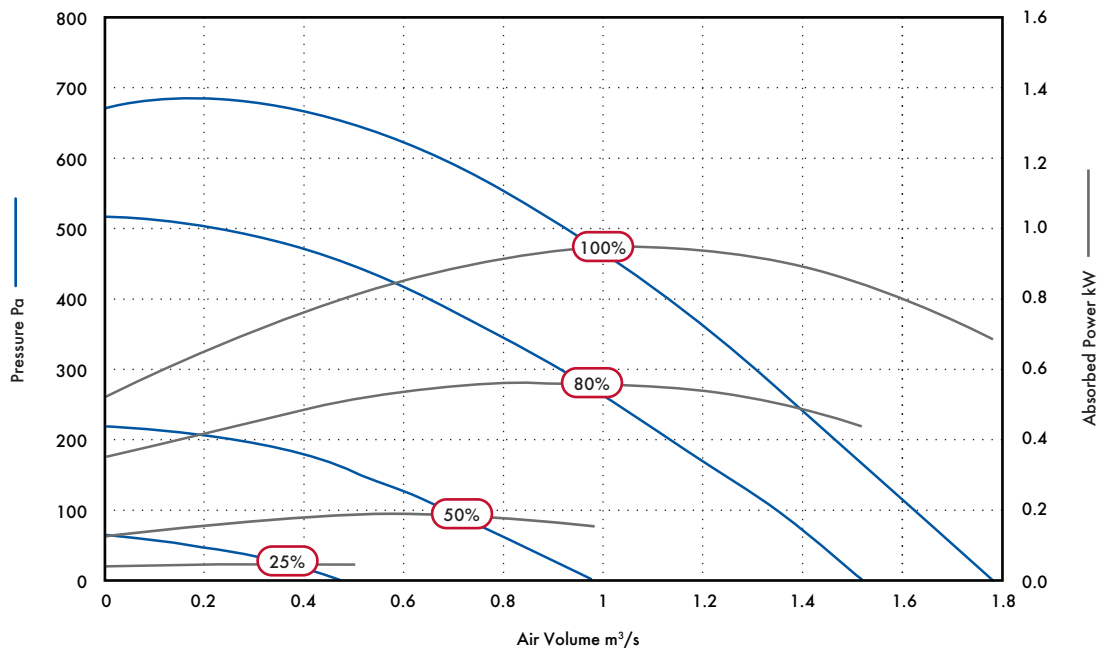
Speed	Phase	Airflow, m³/s @ Pa								F.L.C Amps	
		0	50	100	200	300	400	500	600		
25	1	m³/s	0.24								0.13
		SFP	0.07								
		kW	0.02								
50	1	m³/s	0.50	0.42	0.32						0.59
		SFP	0.14	0.19	0.25						
		kW	0.07	0.08	0.08						
80	1	m³/s	0.74	0.71	0.65	0.51	0.37	0.19			1.80
		SFP	0.27	0.29	0.33	0.43	0.58	0.96			
		kW	0.20	0.21	0.21	0.22	0.21	0.18			
100	1	m³/s	0.95	0.90	0.85	0.75	0.64	0.52	0.38	0.20	2.47
		SFP	0.42	0.45	0.49	0.58	0.69	0.84	1.09	1.79	
		kW	0.40	0.41	0.42	0.44	0.44	0.44	0.42	0.36	

Sound Data

Speed	Test Mode	Octave Band Frequency SWL								dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
25	Breakout	44	40	46	35	29	26	24	31	21
	Inlet	50	48	48	39	30	23	24	30	23
	Outlet	51	48	47	42	38	28	25	29	25
50	Breakout	56	68	54	45	41	34	26	30	33
	Inlet	69	74	65	56	52	48	38	33	41
	Outlet	68	72	65	62	61	57	48	39	45
80	Breakout	63	73	68	57	52	44	38	32	42
	Inlet	74	82	78	68	64	61	56	47	53
	Outlet	75	87	77	75	73	70	64	55	58
100	Breakout	67	73	76	63	58	50	44	40	48
	Inlet	78	83	87	73	69	66	61	54	59
	Outlet	78	85	92	80	79	75	69	61	65

Performance Guide

Sentinel 500 Single Fan



Speed	Phase	Airflow, m³/s @ Pa									
		0	50	100	200	300	400	500	600	F.L.C Amps	
25	3	m³/s	0.50	0.20							
		SFP	0.08	0.21							0.32
		kW	0.04	0.04							
50	3	m³/s	0.99	0.83	0.68	0.27					
		SFP	0.15	0.20	0.26	0.59					0.5
		kW	0.15	0.17	0.18	0.16					
80	3	m³/s	1.53	1.45	1.37	1.14	0.92	0.65	0.23		
		SFP	0.28	0.32	0.37	0.47	0.60	0.83	1.89		0.9
		kW	0.43	0.47	0.50	0.54	0.56	0.54	0.43		
100	3	m³/s	1.79	1.71	1.63	1.47	1.31	1.13	0.93	0.67	
		SFP	0.38	0.43	0.48	0.58	0.70	0.84	1.02	1.31	1.2
		kW	0.68	0.73	0.78	0.86	0.92	0.95	0.94	0.88	

Sound Data

Speed	Test Mode	Octave Band Frequency SWL								dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
25	Breakout	44	39	35	27	24	22	23	29	17
	Inlet	43	43	40	35	26	22	22	29	19
	Outlet	46	40	41	35	29	23	22	30	20
50	Breakout	50	48	47	37	32	29	26	30	23
	Inlet	48	52	62	54	41	34	28	30	35
	Outlet	49	52	67	57	48	44	38	31	39
80	Breakout	55	58	56	48	42	41	38	33	31
	Inlet	55	58	67	67	53	47	41	35	45
	Outlet	56	59	68	68	61	56	51	42	47
100	Breakout	64	63	60	55	47	46	44	38	36
	Inlet	57	62	68	71	58	52	47	41	48
	Outlet	57	63	71	72	66	62	55	48	52