

2. ROOF MOUNTED IN-LINE FANS - REF SF3/SF4

SF3 - MODEL ACQ 25012D

SF4 - MODEL ACQ 31514D

Acoustic In-Line Fans (ACQ)

- Acoustically treated housing, Class 'O' rated, sandwich construction selected for maximum noise absorption
- Motors protected to IP44
- Motor insulation Class 'B'
- Maximum operating temperature 50°C
- Standard Thermal Overload Protection
- Aluzinc construction for internal or external mounting as standard
- All models speed controllable
- Manufacture controlled to BS EN ISO 9001
- Performance tested to ISO 5801



The ACQ fans feature an acoustic foam of dual density sandwich construction specially selected for maximum sound absorption and quiet operation. The housing is designed to be as compact as possible for concealed false ceiling applications.

Manufactured in Aluzinc sheet metal, with integral anchorage points to allow the fan to be suspended at any angle, via drop rods or anti vibration mounts, ensuring a quick and easy solution to installation of the in-line acoustic fans. The access panel is easily removed for inspection.

The full range of Acoustic fans manufactured from Aluzinc and as such are suitable for both internal and external mounting as standard.

Ten models are available in sizes 100, 125, 150, 160, 200, 250, 315, 400 and 500, providing air volumes from 0.075m³/s to 1.609m³/s (270m³/h to 5,792 m³/h) at free air. Designed for pressures up to 550 Pa.

Motors

At the heart of the range is a proven external rotor motor and backward curved impeller selected for low noise and high efficiency impeller assembly specially selected for its performance. The assembly is dynamically balanced to ISO 1940. Motors are rated to IP44 according to BS EN 60529. Ball bearings are greased for life and allow the fan to run at any angle. Insulation is Class 'B' (from -15°C to +50°C).

All Acoustic fans are suitable for speed control with either an Electronic or Auto Transformer. An Auto Transformer is recommended to ensure minimum noise levels during speed control so eliminating any possibility of motor harmonic noise.

Terminal Box

An IP54 Terminal Box is supplied with all models with 20mm cable gland entry.

Sound and Performance

Tested to ISO5801. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at a reference level of 2×10^{-5} Pa (20 micro-Pascal). The inlet, outlet and breakout sound power level spectra figures are dB with a reference of 10^{-12} Watts (1 pico-watt).

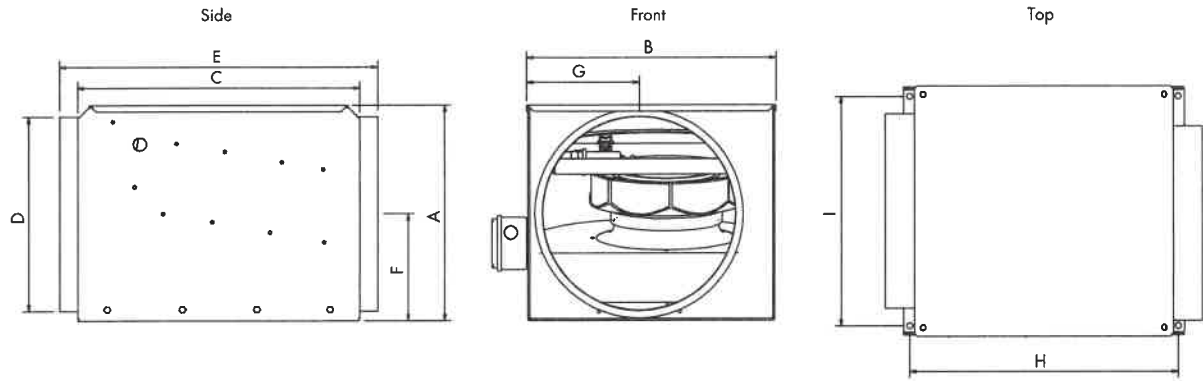
Electrical

The ACQ range is supplied with motors wound to suit a 230V/1 ph/50Hz supply capacitor start and run.

Quality Assurance

Design and manufacture is in accordance with BS EN ISO 9001.

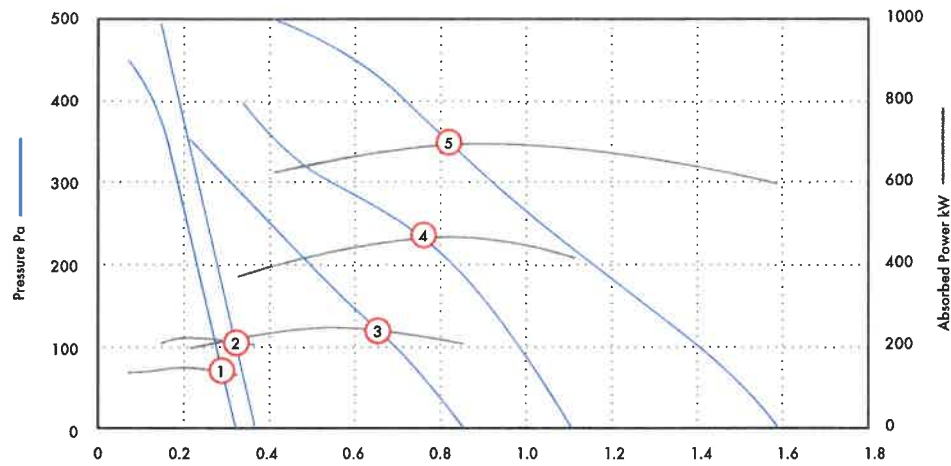
Fan Dimensions (mm)



Stock Ref.	A	B	C	D	E	F	G	H	I	kg
ACQ10012D	190	310	400	100	460	94	111	380	275	11
ACQ12512D	190	310	400	125	460	94	111	380	275	11
ACQ15012D	190	310	400	150	460	94	111	380	275	11
ACQ16012D	190	310	400	160	460	94	111	380	275	11
ACQ20012D	285	364	455	200	515	141	127	435	330	17
ACQ25012D	285	364	455	250	515	141	127	435	330	17
ACQ31512D	348	404	455	315	515	173	182	435	370	21
ACQ31514HD	456	572	730	315	795	227	243	710	540	45
ACQ40014D	456	572	730	315	795	227	243	710	540	46
ACQ50014D	575	769	918	500	1006	286	326	898	735	77

SF3
SF4

Performance Curves



Motor Phase	Stock Ref	r.p.m	Curve Ref.	Airflow, m³/s @ Pa								Motor kW	S.C. Amps	F.L.C Amps	dBA @ 3m
				0	50	100	150	200	300	400					
1	ACQ25012D	2500	1	m³/s	0.32	0.30	0.27	0.25	0.23	0.18	0.13	0.16	1.25	0.68	34
				kW	0.13	0.14	0.14	0.15	0.15	0.14					
1	ACQ31512LD	2700	2	m³/s	0.37	0.35	0.32	0.30	0.27	0.23	0.19	0.23	2.4	0.97	36
				kW	0.20	0.21	0.21	0.22	0.22	0.22	0.22				
1	ACQ31514HD	1330	3	m³/s	0.85	0.78	0.69	0.59	0.49	0.30		0.27	2.2	1.18	36
				kW	0.21	0.22	0.24	0.24	0.24	0.22					
1	ACQ40014D	1340	4	m³/s	1.11	1.05	0.99	0.92	0.83	0.55	0.34	0.47	5.9	2.33	38
				kW	0.42	0.44	0.46	0.47	0.47	0.44	0.37				
1	ACQ50014D	1330	5	m³/s	1.59	1.51	1.40	1.28	1.15	0.92	0.72	0.73	6.27	3.21	46
				kW	0.60	0.62	0.64	0.66	0.68	0.70	0.69				

Sound Data

Stock Ref	Spectrum	63	125	250	500	1k	2k	4k	8k	dBA @ 3m
SF3	ACQ25012D	Inlet	64	74	72	67	57	55	56	48
		Outlet	64	74	75	69	70	71	65	56
		Breakout	52	57	68	52	44	40	36	39
SF4	ACQ31512LD	Inlet	72	69	79	67	63	62	60	52
		Outlet	69	68	74	70	70	71	66	56
		Breakout	60	61	67	56	55	51	44	41
SF4	ACQ31514HD	Inlet	66	78	68	60	52	49	42	45
		Outlet	67	75	77	71	69	62	56	53
		Breakout	53	67	61	52	47	41	34	36
SF4	ACQ40014D	Inlet	73	82	79	68	62	55	50	52
		Outlet	72	78	78	75	74	66	58	57
		Breakout	57	68	61	56	51	45	39	38
SF4	ACQ50014D	Inlet	77	85	78	71	64	62	54	54
		Outlet	74	83	82	78	77	72	64	61
		Breakout	66	78	71	62	56	49	42	46