

TECHNICAL SUBMITTAL SHEET

Submittal Ref No: M006 Rev 1

Project No: Olwen House, 8-20 Loman Street London

Project Reference: C10422

Date: 02/11/2018

[illegible]

Status A: Accepted

Status B: Accepted subject to comments/Amendments

Status C: Rejected/Resubmit

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).

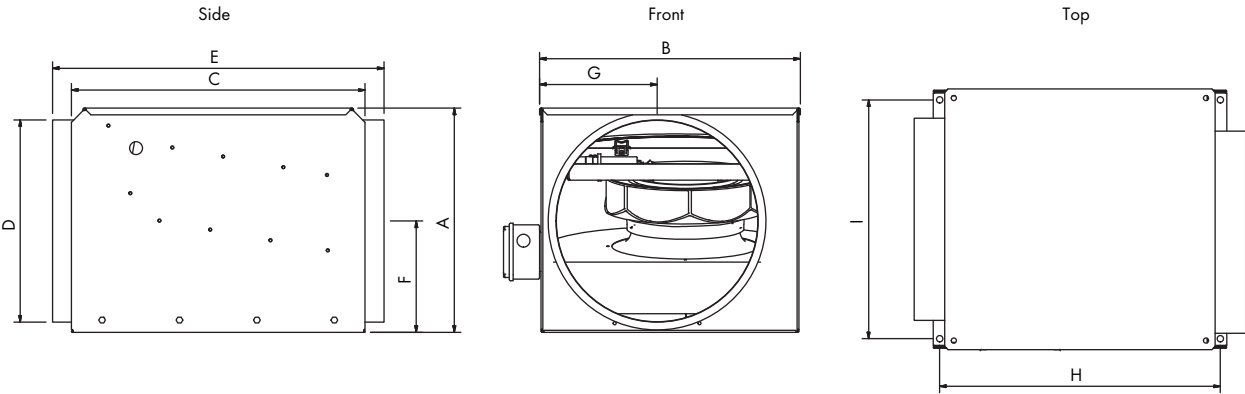
Electrical

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

Quality Assurance

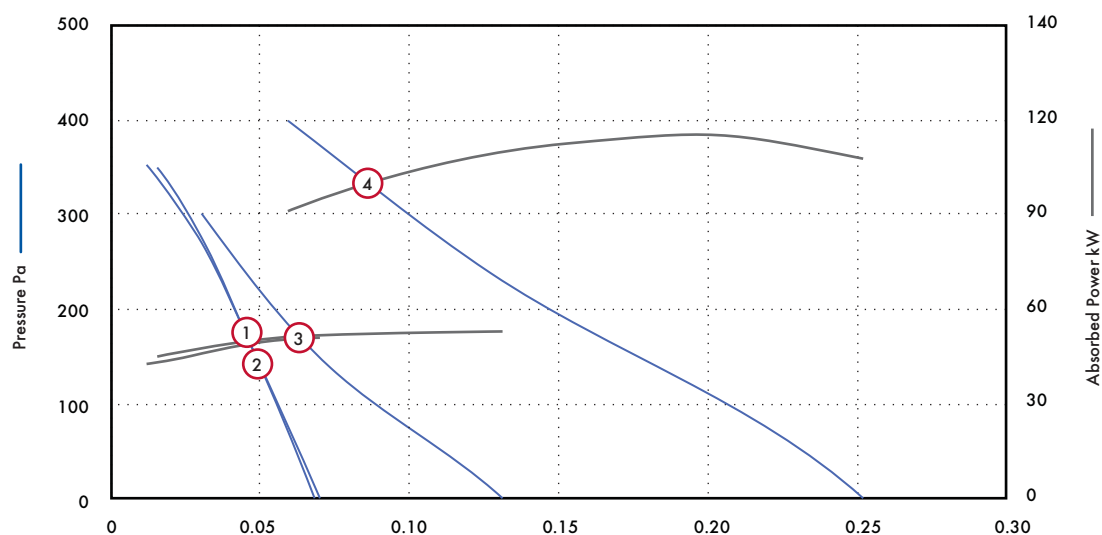
Design and manufacture is in accordance with BS EN ISO 9001.

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
ACQ31512LD	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

Performance Curves

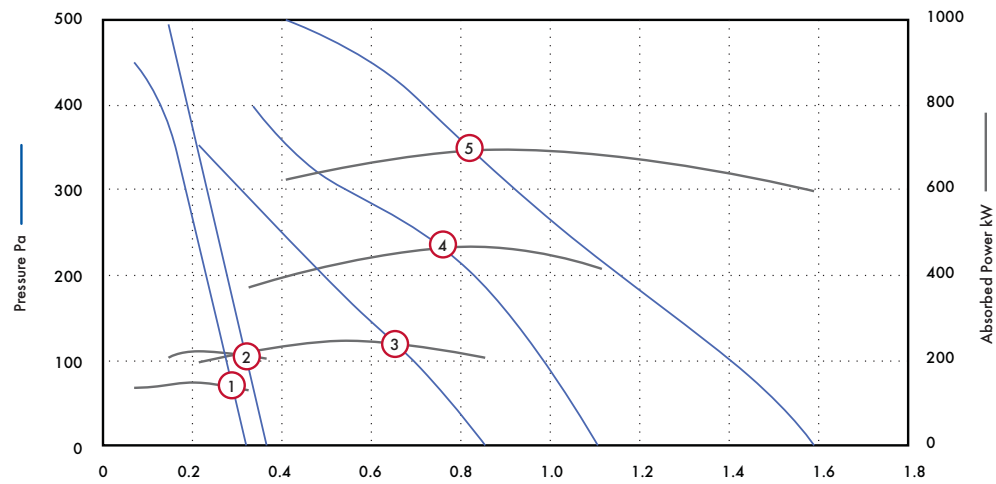


Motor Phase	Stock Ref	r.p.m	Curve Ref.	Airflow, m³/s @ Pa							Motor kW	S.C. Amps	F.L.C Amps	dBA @ 3m	
				0	50	100	150	200	300	400					
1	ACQ10012D	2350	1	m³/s	0.07	0.06	0.06	0.05	0.04	0.03	0.05	0.37	0.23	31	
				kW	0.05	0.05	0.05	0.05	0.05	0.05					
1	ACQ12512D	2350	2	m³/s	0.07	0.06	0.06	0.05	0.04	0.02	0.05	0.37	0.23	32	
				kW	0.05	0.05	0.05	0.05	0.05	0.05					
1	ACQ15012D	2350	3	m³/s	0.13	0.11	0.09	0.07	0.06		0.05	0.37	0.23	32	
				kW	0.05	0.05	0.05	0.05	0.05						
1	ACQ16012D	2350	3	m³/s	0.13	0.11	0.09	0.07	0.06		0.05	0.37	0.23	32	
				kW	0.05	0.05	0.05	0.05	0.05						
1	ACQ20012D	2700	4	m³/s	0.25	0.23	0.21	0.18	0.15	0.10	0.06	0.09	0.85	0.38	34
				kW	0.11	0.11	0.11	0.11	0.11	0.10	0.09				

Sound Data

Stock Ref	Spectrum	63	125	250	500	1k	2k	4k	8k	dBA @ 3m
ACQ10012D	Inlet	53	59	68	58	50	45	34	33	41
	Outlet	54	57	63	59	60	54	49	42	43
	Breakout	46	51	58	48	41	38	31	32	31
ACQ12512D	Inlet	51	65	73	62	51	46	36	36	45
	Outlet	52	62	67	64	62	55	52	45	46
	Breakout	48	52	59	49	41	40	33	32	32
ACQ15012D	Inlet	54	60	70	59	52	46	38	36	42
	Outlet	56	58	63	58	59	56	49	43	43
	Breakout	48	52	58	51	43	38	31	33	32
ACQ16012D	Inlet	54	60	70	59	52	46	38	36	42
	Outlet	56	58	63	58	59	56	49	43	43
	Breakout	48	52	58	51	43	38	31	33	32
ACQ20012D	Inlet	60	65	63	68	58	55	54	46	46
	Outlet	60	63	68	72	68	67	62	53	53
	Breakout	53	58	57	55	46	41	35	34	34

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
ACQ25012D	Inlet	64	74	72	67	57	55	56	53	48
	Outlet	64	74	75	69	70	71	65	64	56
	Breakout	52	57	68	52	44	40	36	38	39
ACQ31512LD	Inlet	72	69	79	67	63	62	60	61	52
	Outlet	69	68	74	70	70	71	66	70	56
	Breakout	60	61	67	56	55	51	44	42	41
ACQ31514HD	Inlet	66	78	68	60	52	49	42	40	45
	Outlet	67	75	77	71	69	62	56	49	53
	Breakout	53	67	61	52	47	41	34	33	36
ACQ40014D	Inlet	73	82	79	68	62	55	50	49	52
	Outlet	72	78	78	75	74	66	58	53	57
	Breakout	57	68	61	56	51	45	39	34	38
ACQ50014D	Inlet	77	85	78	71	64	62	54	52	54
	Outlet	74	83	82	78	77	72	64	58	61
	Breakout	66	78	71	62	56	49	42	41	46

Accessories



	Std Fan	Electronic	Auto	eDemand
	Stock Ref	Controller	Transformer	Voltage Control
Size	Stock Ref	Stock Ref	Stock Ref	Stock Ref
100	ACQ10012D	W10303102M	10314103	444164
125	ACQ12512D	W10303102M	10314103	444164
150	ACQ15012D	W10303102M	10314103	444164
160	ACQ16012D	W10303102M	10314103	444164
200	ACQ20012D	W10303102M	10314103	444164
250	ACQ25012D	W10303102M	10314103	444164
315	ACQ31512LD	W10303102M	10314103	444164
315	ACQ31514HD	10303103	10314103	444164
400	ACQ40014D	10303106	10314105	444164
500	ACQ50014D	10303106	10314105	444164



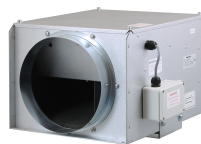
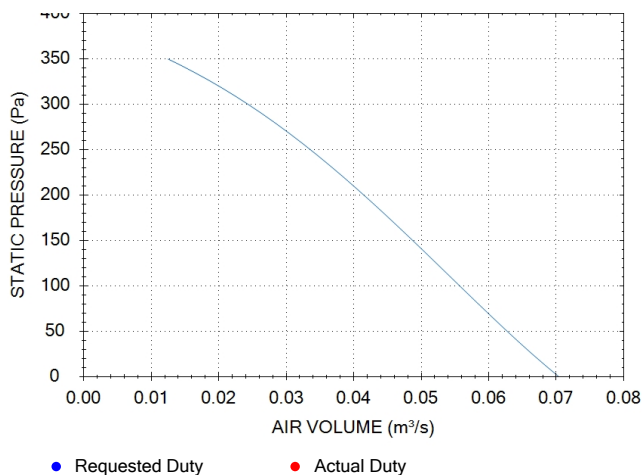
	* Anti-Vibration Mounts (each)	Duct Air Heater	Filter Cassette	Bag Filter Cassette	Flexible Connections
Size	Stock Ref	Stock Ref	Stock Ref	Stock Ref	Stock Ref
100	68MP033G	10531100T1	10532100	10533100	FLX100
125	68MP033G	10531125T1	10532125	10533125	FLX125
150	68MP033G	10531150T1	10532150	10533150	FLX150
160	68MP033G	-	10532160A	10533160	FLX160
200	68MP033G	10531200T1	10532200	10533200	FLX200
250	68MP033G	10531250T1	10532250	10533250	FLX250
315	68MP033G	10531315T1	10532315	10533315	FLX315
400	68MP033G	10531400T3	10532400	10533400	FLX400
500	68MP033G	10531500T3	10532500A	10533500	FLX500

Accessories



Size	Backdraught Shutter	Fast Clamp	Duct Attenuator			
	Stock Ref	Stock Ref	300mm Stock Ref	600mm Stock Ref	900mm Stock Ref	1200mm Stock Ref
100	10542100	10540100	10534100	10535100	10536100	-
125	10542125	10540125	10534125	10535125	10536125	-
150	10542150	10540150	10534150	10535150	10536150	-
160	-	10540160	-	10535160	-	-
200	10542200	10540200	-	10535200	10536200	10537200
250	10542250	10540250	-	10535250	10536250	10537250
315	10542315	10540315	-	10535315	10536315	10537315
400	10542400	10540400	-	10535400	10536400	10537400
500	-	-	-	-	10536500	-

Performance Chart



ACQ12512D

Tech Ref File:
Stock Reference: ACQ12512D
Product Type: Ventilation
Product Range: In-Line Fans
Impeller: Backward Curved
Casing: Aluzinc
Speed: 2350 rpm
Airstream Temperature: -15°C to 50°C
dBA: 32
Specific Fan Power & dB(A) shown are at duty point.

Warranty: 2 years

Electrical Information

Watts: 52
Supply Voltage: 220-240V/1/50Hz
Full Load Current: 0.23 A
Starting Current: 0.37 A
Motor Poles: 2
Insulation: B
Motor IP Rating: IP44
S.T.O.P. Protection: Yes
Speed Controllable: Yes

Acoustic Information

	63	125	250	500	1k	2k	4k	8k	Total	dBA@3m
Inlet	51	65	73	62	51	46	36	36	74	45
Outlet	52	62	67	64	62	55	52	45	71	46
Breakout	48	52	59	49	41	40	33	32	60	32

Sound Power Level Spectra dB (re 10^{-12} Watts)

For ducted units, sound power is given as In Duct with end reflections added.

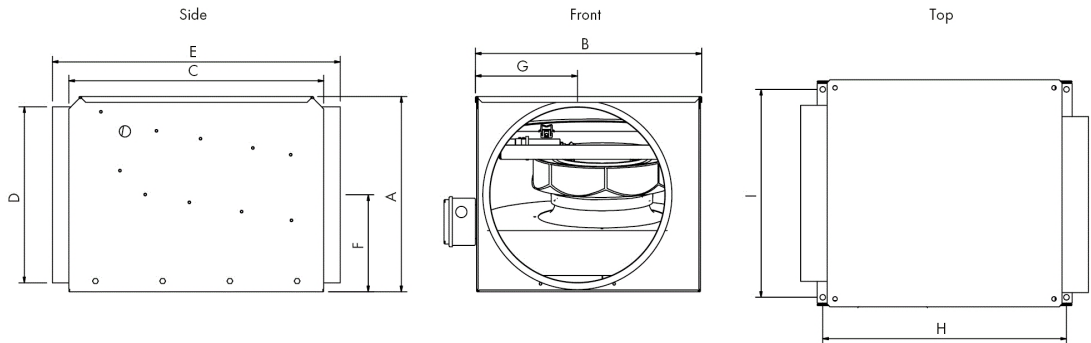
Stated dB(A) levels at 3m with spherical propagation at a reference level of 2×10^{-12} Pa

Optional Accessories

Part No	Description
10540125	FAST CLAMP 125MM
444164	eDemand 1 phase voltage controller
444169	eDemand 1 phase inverter
10542125	BACKDRAUGHT SHUTTER
10314103	3 AMP SINGLE PHASE CONTRO
68MP033G	Anti-vibration Mounts (Set of 4)
FLX125	FLEXIBLE CONNECTOR

Part No	Description
10536125	IN-LINE ATTEN. 012-090
W10303102M	INDUSTRIAL 2.5A CONTROLLE
10535125	IN LINE ATTEN. 012-060
10534125	IN LINE ATTEN. 012-030
10531125T1	HEAT.BATTERY+CONTROLS 125
10533125	FILTER CASSETTE 125

Dimensions



A	B	C	D	E	F	G	H	I	Wgt
190	310	400	125	460	94	111	380	275	11

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Dimensions
shown in mm
Weights in kg