

Acoustic In-Line Fans (ACQ)

Features and Benefits

- **50mm Acoustically treated housing, Class 'O' rated, self extinguishing, zero burn, resists ignition, no toxic fumes**
- **Motors protected to IP44**
- **Motor insulation Class 'B'**
- **Maximum operating temperature 50 °C**
- **Standard Thermal Overload Protection**
- **Quick release access panel**
- **Fully weatherproof units available**
- **All models speed controllable**
- **Manufacture controlled to BS EN 150 9001**
- **Performance tested to BS 848 parts 1 and 2**

The ACQ fans feature a 50mm acoustic lined sound controlled housing rated Class 'O' for use where quiet operation is required. The housing is designed to be as compact as possible for concealed false ceiling applications.

Manufactured in galvanised 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 using the four quick release catches provided.

The full range of Acoustic fans are also available finished with an optional hard wearing epoxy paint finish, ensuring the unit is fully weatherproofed and suitable for external mounting. All weatherproofed units are manufactured to order. Note: the standard product codes are suffixed with 'WP' eg ACQ100-12CWP.

Eleven 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 forward curved galvanised 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 BS 848 Parts 1 & 2. 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

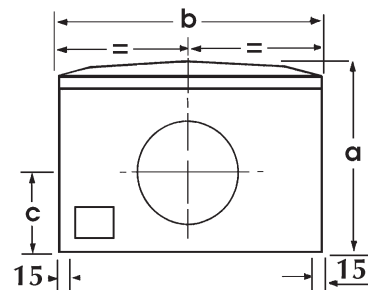
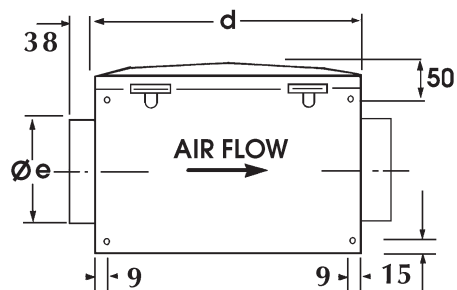
The ACQ range is supplied with motors wound to suit a 230V/1ph/50Hz supply capacitor start and run, in addition size 500 is available to suit 400V/3ph/50Hz.

Quality Assurance

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



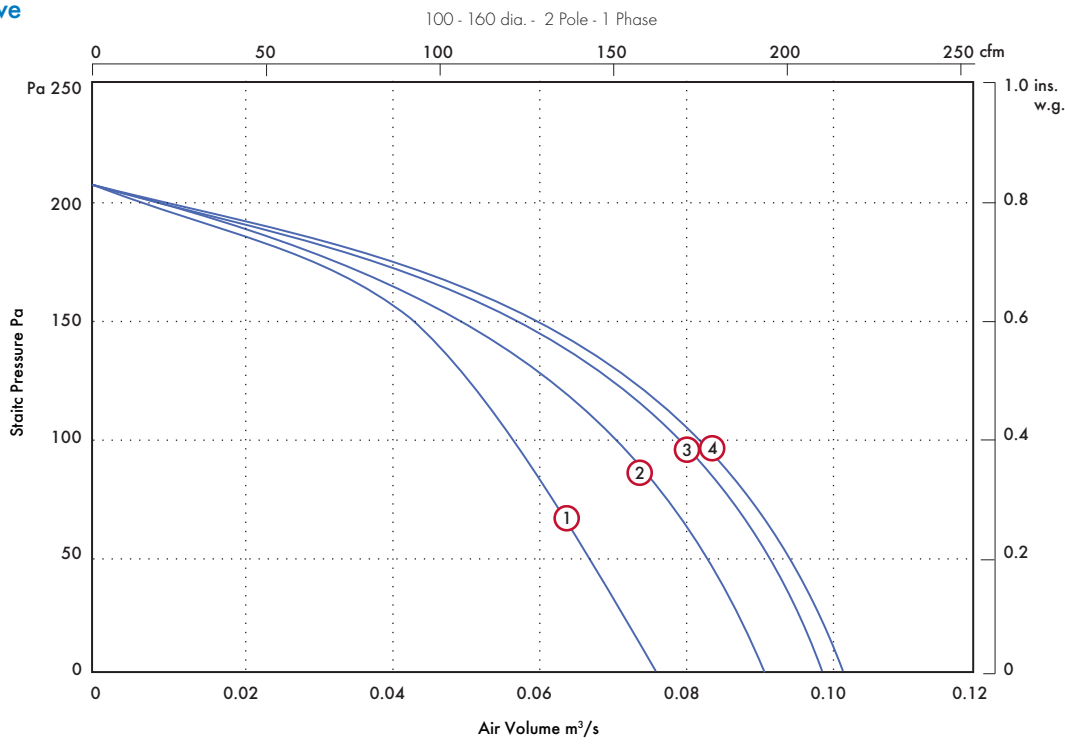
Fan Dimensions (mm)



Stock Ref	a	b	c	d	e Ø	Weight Kg
ACQ10012C	291	363	171	272	97	14
ACQ12512C	291	363	171	272	122	14
ACQ15012C	291	363	171	272	147	14
ACQ16012C	291	363	171	272	157	14
ACQ20012C	345	400	203	336	197	20
ACQ25012C	400	489	233	336	247	25
ACQ31512LC	458	537	258	446	312	35
ACQ31514HC	495	614	295	499	312	45
ACQ40014C	495	660	253	499	397	50
ACQ50014C	649	732	357	670	497	75
ACQ50034C	649	732	357	670	497	75

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Performance Curve



Performance Guide

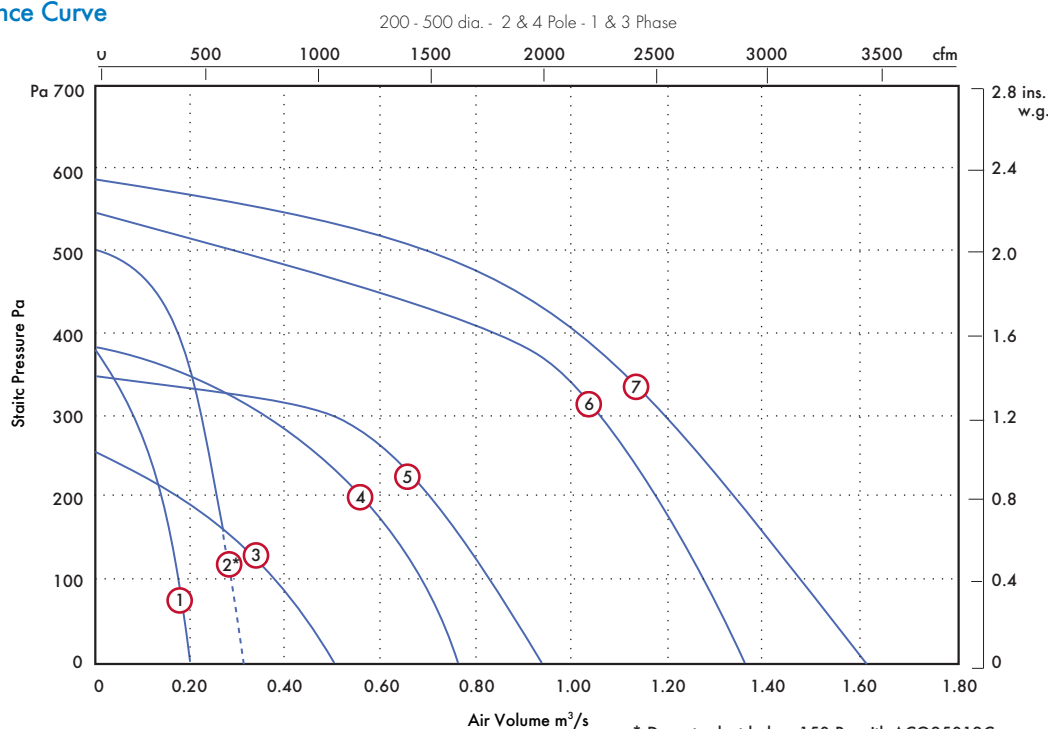
Stock Ref	Nom. rpm	Phase	Curve Ref	m³/s at Pa					Motor kW	Amps F.L.C.	Amps S.C.
				0	50	100	150	200			
ACQ10012C	1650	1	1	0.075	0.067	0.056	0.043	0.005	0.08	0.34	0.36
ACQ12512C	1650	1	2	0.09	0.081	0.07	0.051	0.005	0.08	0.34	0.36
ACQ15012C	1650	1	3	0.098	0.09	0.079	0.058	0.005	0.08	0.34	0.36
ACQ16012C	1650	1	4	0.101	0.093	0.081	0.06	0.005	0.08	0.34	0.36

S.C. = STARTING CURRENT, F.L.C. = FULL LOAD CURRENT

Sound Power Level Spectra dB (re 10⁻¹² Watts)

Stock Ref		Mid Octave Bands								dBA @ 3m
		63	125	250	500	1k	2k	4k	8k	
ACQ10012C	Inlet	55	56	44	39	37	37	34	25	25
	Outlet	50	57	50	47	51	50	49	47	36
	Breakout	48	46	43	36	34	32	20	20	20
ACQ12512C	Inlet	54	57	43	40	37	37	36	25	25
	Outlet	49	58	54	50	54	53	52	50	39
	Breakout	48	47	43	38	34	32	20	20	20
ACQ15012C	Inlet	55	57	45	43	39	41	38	28	27
	Outlet	50	58	54	52	54	54	52	51	39
	Breakout	51	50	44	37	33	32	20	20	20
ACQ16012C	Inlet	54	58	43	41	37	40	37	28	26
	Outlet	50	54	53	51	54	53	52	51	39
	Breakout	50	49	43	37	33	32	20	20	20

Performance Curve



Performance Guide

Stock Ref	Nom. rpm	Phase	Curve Ref	m³/s at Pa												Motor kW	Amps F.L.C.	Amps S.C.
ACQ20012C	1700	1	1	0.197	0.188	0.174	0.159	0.134	0.108	0.08	0.04					0.175	0.77	0.92
ACQ25012C	2050	1	2				0.278	0.262	0.246	0.222	0.18	0.131	0.065			0.3	1.31	1.5
ACQ31512C	1900	1	3	0.5	0.44	0.384	0.303	0.166								0.36	1.58	3.3
ACQ31514HC	1280	1	4	0.76	0.712	0.664	0.614	0.551	0.46	0.36	0.155					0.525	2.29	4.4
ACQ40014C	1230	1	5	0.926	0.873	0.825	0.763	0.692	0.615	0.498						1.06	5.38	8.5
ACQ50014C	1120	1	6	1.368	1.323	1.28	1.23	1.18	1.12	1.06	1	0.852	0.54	0.271		1.52	6.5	11
ACQ50034C	1185	3	7	1.609	1.549	1.486	1.427	1.359	1.285	1.198	1.11	1.021	0.88	0.715	0.35	2	3.3	10

Sound Power Level Spectra dB (re 10⁻¹² Watts)

Stock Ref		Mid Octave Bands								dBA @ 3m
		63	125	250	500	1k	2k	4k	8k	
ACQ20012C	Inlet	66	65	56	50	46	47	46	40	35
	Outlet	52	62	59	60	62	61	59	58	47
	Breakout	59	63	52	43	36	27	25	25	29
ACQ25012C	Inlet	66	73	62	59	50	52	47	42	41
	Outlet	60	72	67	66	67	65	65	65	52
	Breakout	63	66	61	56	48	43	43	39	37
ACQ31512C	Inlet	64	65	59	55	47	51	49	38	38
	Outlet	59	68	65	66	67	63	64	62	51
	Breakout	60	62	57	51	49	42	39	32	34
ACQ31514HC	Inlet	67	74	62	56	51	51	47	44	41
	Outlet	65	71	67	66	69	66	67	65	53
	Breakout	63	68	60	55	51	46	42	36	38
ACQ40014C	Inlet	71	71	68	61	56	57	54	50	44
	Outlet	66	72	71	70	72	69	69	67	56
	Breakout	71	72	63	57	52	51	51	44	41
ACQ50014C	Inlet	77	69	65	59	56	56	52	48	43
	Outlet	75	71	69	70	71	67	67	64	55
	Breakout	71	70	64	60	54	53	51	44	42
ACQ50034C	Inlet	79	71	66	60	57	58	54	51	45
	Outlet	76	72	71	71	74	69	70	66	57
	Breakout	74	73	67	62	57	55	54	50	45

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Accessories



	Std Fan	Weatherproofed Fan	Electronic Controller	Auto Transformer	eDemand Voltage Control
Size	Stock Ref	Stock Ref	Stock Ref	Stock Ref	Stock Ref
100	ACQ10012	ACQ10012CWP	W10303102M	10314103	444164
125	ACQ12512	ACQ12512CWP	W10303102M	10314103	444164
150	ACQ15012	ACQ15012CWP	W10303102M	10314103	444164
160	ACQ16012	ACQ16012CWP	W10303102M	10314103	444164
200	ACQ20012	ACQ20012CWP	W10303102M	10314103	444164
250	ACQ25012	ACQ25012CWP	W10303102M	10314103	444164
315	ACQ31512L	ACQ31512LCWP	W10303102M	10314103	444164
315	ACQ31514H	ACQ31514HCWP	10303103	10314103	444164
400	ACQ40014	ACQ40014CWP	10303110	10314107	444164
500	ACQ50014	ACQ50014CWP	10303110	10314107	444164
500	ACQ50034	ACQ50034CWP	-	10314304	444165



	* Anti-Vibration Mounts (each)	Duct Air Heater	Filter Cassette	Bag Filter Cassette	Heat Exchange Unit	Flexible Connections
Size	Stock Ref	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	10538290 + 10577315 + 10578315	FLX200
250	68MP033G	10531250T1	10532250	10533250	10538290 + 10577315 + 10578315	FLX250
315	68MP033G	10531315T1	10532315	10533315	10538290 + 10577315	FLX315
400	68MP033G	10531400T3	10532400	10533400	-	FLX400
500	68MP033G	10531500T3	10532500A	10533500	-	FLX500

*4 required per fan



Backdraught



Fast



Duct Attenuator

Size	Shutter	Clamp				
	Stock Ref	Stock Ref	300mm	600mm	900mm	1200mm
	Stock Ref	Stock Ref	Stock Ref	Stock Ref	Stock Ref	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	-