

Propeller Power Roof Exhausters

Direct Driven



Roof Master® Model LQ

ACME SYMBOL
OF QUALITY

ACME ENGINEERING & MANUFACTURING CORPORATION / MUSKOGEE, OKLAHOMA

CONSTRUCTION FEATURES

Model LQ ventilators are direct drive propeller roof fans designed to deliver large volumes of air. Nine sizes are available from 10" to 36" diameter. Capacities range from 135 to 14,100 CFM for exhaust ventilators and 465 to 13,500 CFM for supply ventilators. LQ fans operate more quietly than conventional propeller roof ventilators and are recommended for applications requiring lower noise levels. LQ ventilators can be mounted in any position such as walls or sloping roofs.

Birdscreen

Constructed of .50" x 1.00" mesh heavy gauge galvanized steel welded wire.

Hood

Heavy gauge aluminum hood with attractive low silhouette design. Hood is removable for accessibility to motor or propeller for servicing.

Orifice

Large streamlined orifice permits efficient, smooth air flow.

Steel Frame Construction

Rugged structural steel frame transmits weight of the motor and propeller directly to curbcap. This eliminates any weight on hood, housing or curbcap base. Steel frame is finished with acrylic epoxy for resistance against most corrosive elements.

Disconnect Switch

Weather proof disconnect switch is factory mounted on ventilator base near motor terminal box, except for 3.00 HP units which use a rain-tight field mounted and wired disconnect switch. The switch is operated from outside of ventilator for maximum safety. Explosion proof disconnect switches are not mounted or wired and are not for outdoor use.

Motor

Motor is located in the full airstream which provides superior cooling, longer operation and reduces possible motor burn-outs from high ambient heat. All motors are totally enclosed type with lubricated shielded ball bearings.

Propeller

Propellers feature an advanced tear-drop shape blade designed for exceptionally low noise level performance. The swept-back tear-drop blade shape with its aerodynamic leading edge propels the air through the streamlined orifice with a minimum of air turbulence. Aluminum blades are fastened to a formed steel hub with heavy-duty oversize rivets. The propeller is precision balanced for smooth vibrationless operation.



Acme Engineering & Manufacturing Corp. certifies that the LQ Ventilators shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



PERFORMANCE DATA

LQ Exhaust Ventilators

Fan Size	Fan Model	RPM	Tip Speed Ft./Min.	HP	Sones @ .000" SP	Licensed CFM vs. Static Pressure														Max. BHP	Approx Ship Wt. Lbs.	
						.000"	.125"	.250"	.375"	.500"	.625"	.750"	.875"	1.000"	1.125"	1.250"	1.500"	1.750"	2.000"			
10	LQ108LO	1500	3925	.03	4.4	540	440	225												*111	19	
	LQ108HI	1650	4320	.03	7.1	590	505	295	185											*111	19	
12	LQ12A6	1160	3590	.05	5.5	840	685	475	270	135										.054	38	
	LQ129LO	1350	4180	.11	6.7	975	845	695	500	335	210									.084	26	
	LQ129HI	1550	4795	.11	9.7	1120	1005	885	740	565	415	310	200							.128	26	
	LQ12D4	1760	5445	.17	11.3	1275	1180	1070	955	820	665	520	420	325	235	155				.187	40	
14	LQ14C6	1160	4150	.13	9.7	1310	1155	890	640	420										.105	49	
	LQ14E4	1760	6295	.25	15.4	1655	1565	1465	1360	1205	1000	895	790	685	590	485				.242	49	
	LQ14F4	1760	6295	.33	13.5	2000	1900	1790	1670	1510	1250	1080	950	800	670	540				.366	47	
16	LQ16D8-1	860	3560	.17	6.1	1360	1115	635	350											.071	55	
	LQ16D8-2	860	3560	.17	5.1	1525	1245	820	480											.092	55	
	LQ16C6	1160	4800	.13	11.1	1840	1670	1470	1050	770	570	370								.175	55	
	LQ16D6	1160	4800	.17	8.8	2050	1870	1650	1290	980	730	530								.225	57	
	LQ16F4	1760	7280	.33	21	2290	2200	2100	1980	1830	1580	1390	1270	1150	1030	910	710				.512	53
	LQ16G4	1760	7280	.50	18.4	2790	2680	2570	2470	2320	2140	1700	1540	1360	1180	1060	800				.610	63
	LQ16H4	1760	7280	.75	16.9	3160	3010	2870	2740	2600	2440	2130	1930	1750	1550	1350	1020				.783	67
18	LQ18D8-1	860	4080	.17	6.3	1940	1620	1230	850	490										.106	67	
	LQ18D8-2	860	4080	.17	7.0	2400	2080	1670	1110	640										.178	67	
	LQ18E6	1160	5505	.25	11.2	2620	2390	2140	1880	1530	1270	1020	810	550						.259	65	
	LQ18G6	1160	5505	.50	11.7	3240	3000	2760	2540	2000	1660	1310	920	700						.436	79	
	LQ18H4	1760	8350	.75	18.3	3970	3810	3650	3500	3340	3200	3030	2840	2580	2390	2190	1840	1530	1250	.905	79	
	LQ18J4	1760	8350	1.00	18.7	4340	4190	4030	3870	3720	3560	3380	3160	2870	2620	2420	2040	1670	1310	1.085	83	
	LQ18K4	1760	8350	1.50	23	4920	4780	4620	4460	4300	4120	3960	3820	3680	3120	2820	2420	1940	1460	1.530	84	
21	LQ21D8	860	4690	.17	8.4	2820	2510	1790	1480	1000										.190	149	
	LQ21E8	860	4690	.25	8.1	3220	2760	2080	1550	1150										.252	151	
	LQ21F8	860	4690	.33	9.0	3570	3120	2400	2050	1460										.331	161	
	LQ21G6-1	1160	6325	.50	12.8	3800	3520	3230	2780	2230	1950	1780	1490	1000						.468	161	
	LQ21G6-2	1160	6325	.50	13.1	4350	4050	3720	3260	2650	2240	2020	1680	1110						.620	161	
	LQ21H6	1160	6325	.75	13.5	4820	4540	4160	3700	3100	2800	2750	2140	1400						.818	165	
	LQ21K4	1760	9595	1.50	26	5760	5580	5400	5210	5020	4830	4610	4300	3940	3460	3180	2880	2670	2250	1.635	166	
LQ21L4	1760	9595	2.00	25	6540	6370	6170	5960	5750	5540	5270	4830	4410	4100	3800	3280	3000	2590	2.160	165		
24	LQ24E8	860	5430	.25	7.6	3570	3175	2475	2010	1650										.285	172	
	LQ24H6	1160	7325	.75	14.1	4700	4450	3980	3400	2980	2660	2380	2080	1670	1210					.700	186	
	LQ24J6	1160	7325	1.00	16.9	5560	5280	4960	4600	4200	3740	3390	3130	2860	2530	2040				.997	208	
30	LQ30H8	860	6700	.75	19.1	7180	6780	6220	5400	4450	3970	3570	3060	2440						.837	292	
	LQ30J8	860	6700	1.00	14.5	9060	8520	8000	7400	6350	5300	4980	4500	3880	3120	2230				1.213	303	
	LQ30L6	1160	9035	2.00	27	9450	9160	8820	8450	7970	7330	6400	5900	5580	5270	4950	4280	3500	2300	2.070	336	
	LQ30M6	1160	9035	3.00	25	12000	11620	11230	10800	10400	9960	9510	8550	7620	7120	6790	6200	5510	4650	2.850	342	
36	LQ36K8	860	8020	1.50	21	11150	10530	9870	8950	7430	6600	6300	5900	5300						1.860	409	
	LQ36L8	860	8020	2.00	17.9	14100	13500	12800	12100	11000	9300	8600	8200	7700	7000	5900				2.420	415	

*Watts
Performance shown is for installation Type A - Free inlet, Free outlet.
Performance ratings include the effects of a birdscreen in the airstream.

The sound level ratings shown are loudness values in fan sones at 5 feet (1.524 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: Free Inlet fan sone levels.

The brake horsepower capability of a fan motor is dependent of the degree of cooling the motor receives from the moving airstream over the motor. The above motor loadings do not overheat the motor and are within NEMA recommended limits. It is therefore not detrimental to the motor and is economically desirable.



PERFORMANCE DATA

LQ Supply Ventilators

Fan Size	Fan Model	RPM	Tip Speed Ft./Min.	HP	Sones @ .000" SP	Licensed CFM vs. Static Pressure											Max. BHP	Approx Ship Wt. Lbs.	
						.000"	.100"	.125"	.250"	.375"	.500"	.625"	.750"	.875"	1.000"	1.125"			1.250"
12	LQ12A6-S	1160	3590	.05	5.8	920	550	465										.050	49
	LQ12D4-S	1760	5445	.17	11.9	1395	1240	1180	835									.176	51
14	LQ14B6-S	1160	4150	.08	7.1	1075	840	740										.059	52
	LQ14E4-S	1760	6295	.25	14.5	1630	1500	1460	1235	875								.210	57
16	LQ16C6-S	1160	4800	.13	9.4	1790	1440	1405										.135	68
	LQ16D6-S	1160	4800	.17	11.8	1965	1440											.178	70
	LQ16F4-S	1760	7280	.33	17.8	2310	2240	2210	1790	1510	1205							.402	66
	LQ16G4-S	1760	7280	.50	18.3	2720	2530	2475	2100	1595								.476	76
	LQ16H4-S	1760	7280	.75	21	2980	2690	2625										.705	76
18	LQ18D8-S	860	4080	.17	9.1	2175	1725	1620	995									.206	139
	LQ18E6-S	1160	5505	.25	12.4	2655	2410	2350	2000	1605								.320	137
	LQ18J4-S	1760	8350	1.00	23	4030	3860	3820	3615	3390	3160	2915	2665	2415	2150	1885	1620	1.130	155
	LQ18K4-S	1760	8350	1.50	34	4450	4240	4180	3920	3640	3340	3010	2690	2490	2200			1.760	156
21	LQ21D8-S	860	4690	.17	8.6	2585	2245	2155	1745	1335								.216	161
	LQ21F8-S	860	4690	.33	10.4	3140	2745	2625	2000	1190								.350	173
	LQ21G6-S	1160	6325	.50	14.1	3485	3240	3175	2850	2530	2250	1950	1580	1075				.530	173
	LQ21H6-S	1160	6325	.75	19.3	4235	3925	3850	3430	3000	2535	1990	1055					.850	177
	LQ21K4-S	1760	9595	1.50	32	5270	5145	5110	4945	4755	4520	4150	3580	3280	3090	2945	2800	1.675	178
24	LQ24F8-S	860	5430	.33	11.5	3750	3420	3330	2840	2275								.384	183
	LQ24H6-S	1160	7325	.75	20	5030	4790	4720	4360	3950	3580	3210	2800					.897	187
	LQ24J6-S	1160	7325	1.00	21	5550	5240	5160	4760	4360	3970	3570	3140					1.173	209
30	LQ30J8-S	860	6700	1.00	19.4	6870	6400	6280	5660	4980	4120	3170						1.070	301
	LQ30K8-S	860	6700	1.50	19.7	8040	7460	7320	6620	5800	4350	3470	2280					1.570	334
	LQ30L6-S	1160	9035	2.00	30	9380	9070	9000	8590	8130	7690	7140	6550					2.380	334
	LQ30M6-S	1160	9035	3.00	34	10700	10270	10180	9750	9420	9110	8480	7690	6750	5260			3.490	340
36	LQ36L8-S	860	8020	2.00	21	10550	10000	9870	9190	8500	7800	7080	6340	5530	4690			2.170	409
	LQ36M8-S	860	8020	3.00	26	13500	12980	12850	12120	11380	10570	9740	8830	7900	6920	5830	4600	3.490	426

Performance shown is for installation Type A - Free inlet, Free outlet. Performance ratings include the effects of a birdscreen in the airstream.

The sound level ratings shown are loudness values in fan sones at 5 feet (1.524 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: Free Outlet fan sone levels.

The brake horsepower capability of a fan motor is dependent of the degree of cooling the motor receives from the moving airstream over the motor. The above motor loadings do not overheat the motor and are within NEMA recommended limits. It is therefore not detrimental to the motor and is economically desirable.



OPTIONAL ACCESSORIES

Solid State Controller



Solid state controllers are available for the ventilators equipped with 115 volt, single phase, shaded pole and the smaller size permanent split-capacitor motors. They provide a variable speed control and are easily installed in a standard wall box.

They require only a simple 2 wire connection but are equipped with a third wire that maintains a constant voltage to the damper motor in the event a motorized backdraft damper is used with the ventilator.

Backdraft Dampers

Large oversized design provides for lower air velocity and quieter operation. All aluminum multi-blade construction. Precision balanced full opening blades with nylon bearings. The double tie rods reduce flutter. Exhaust dampers available as automatic or motorized; supply dampers available as motorized only.

Damper Box

A box type adapter for easy installation of damper. Fits inside the prefabricated or field constructed curb. *Required for installation of damper in an Acme prefabricated curb.*

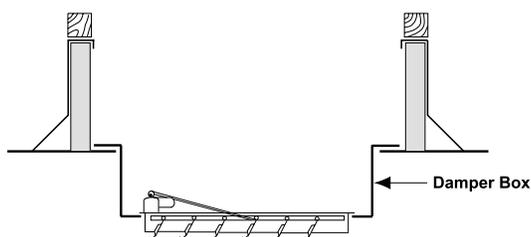
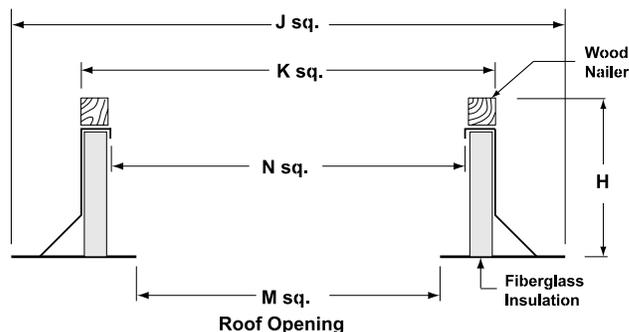


Prefabricated Curbs

Heavy gauge galvanized steel or aluminum curbs for easy installation of exhauster over roof opening. Replaces conventional field constructed curbs for steel, concrete or wood roofs.

Type RF - *Roofed-over type* features built-in cant strip to accommodate roofing materials for flashing up over top of curb. Wood nailer is standard except on Model CR curbs.

Type SF - *Self-flashing type* features wide base flange for easy flashing to roof. This eliminates need for extending roofing material up over top of curb. 1/4" polystyrene gasket is standard.



		CURB DIMENSIONS					DAMPER		DAMPER BOX
FAN SIZE	MODEL	J	K	N	M	H	LQ	LQ-S	MODEL
10	C20.5x20.5x8	28.50	20.50	17.50	14.50	8.00	AR14	—	DB14LQ
12	C22.5x22.5x8	30.50	22.50	19.50	16.50	8.00	AR16	WAGC16	DB16LQ
14	C24.5x24.5x8	32.50	24.50	21.50	18.50	8.00	AR18	WAGC18	DB18LQ
16	C26.5x26.5x8	34.50	26.50	23.50	20.50	8.00	AR20	WAGC20	DB20LQ
18	C29.5x29.5x8	37.50	29.50	26.50	23.50	8.00	AR23	WAGC23	DB23LQ
21	C32.5x32.5x8	40.50	32.50	29.50	26.50	8.00	AR26	WAGC26	DB26LQ
24	C36.5x36.5x8	44.50	36.50	33.50	30.50	8.00	AR30	WAGC30	DB30LQ
30	C44.5x44.5x8	52.50	44.50	41.00	38.50	8.00	AR38	WAGC38	DB38LQ
36	C51x51x8	59.00	51.00	48.00	45.00	8.00	AR44	WAGC44	DB44LQ

Dimensions shown in inches.



OPTIONAL COATINGS

Coatings

Aluminum and galvanized components remain unpainted as a standard finish, but when required, are processed through the finishing system to apply decorative or special coatings. A high turbulence oven is used to produce a baked on finish for most special coatings. Decorative coatings are not baked on.

Decorative Coatings

Acme offers 16 popular colors for decorative finishes utilizing an industrial grade enamel applied to the exterior of the fan. Special colors are available upon request. See your Acme Representative for complete color selections.

Special Coatings

Products receiving special coatings have components painted before assembly. Fasteners are not painted.

- **Acrylic Epoxy**

This product provides a more durable surface.

- **Carboline Sanitile (Eisenheiss)**

This air dry synthetic polyester forms a black coating that offers greater resistance to most organic and inorganic acids.

- **Heresite (air dry)**

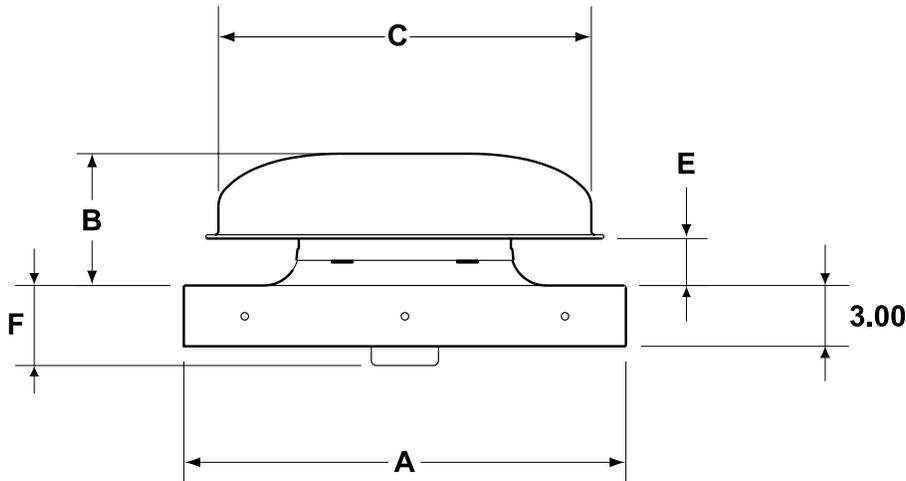
A phenolic coating with greater resistance to most organic and inorganic acids.

- **Insulmastic**

A black asphalt based mastic that provides some condensation control, sound deadening and corrosion resistance.

NOTE: For any coating selected the user assumes the responsibility for the corrosive agent, its concentration, temperature, moisture content and the ultimate effect on the coating and the equipment.

DRAWING AND DIMENSIONAL DATA



Typical drawings for dimensional purposes only. They are correct within limits suitable for normal installation requirements and do not necessarily show actual construction. Dimensions shown in inches.

LQ & LQ-S DIMENSIONS											
Fan Size	A	LQ	LQ-S	LQ	LQ-S	LQ	LQ-S	LQ	LQ-S	Metal Gauges	
		B		C		E		F		Hood	Base
10	22.08	6.61	6.61	18.63	18.63	2.36	2.36	4.41	4.41	.050	.050
12	24.08	6.74	7.24	21.00	24.00	2.49	2.50	7.88	7.88	.050	.050
14	26.08	8.10	9.41	24.00	27.63	3.35	4.16	8.06	8.06	.050	.050
16	28.08	9.83	10.31	27.63	31.60	4.58	4.56	9.00	9.00	.050	.050
18	31.08	10.76	11.84	31.60	36.00	5.01	5.22	7.42	10.66	.050	.050
21	34.10	12.09	13.48	36.72	41.38	5.47	4.98	9.00	13.45	.050	.063
24	38.10	13.70	13.70	41.38	41.38	5.20	5.20	11.25	11.25	.050	.063
30	46.10	15.89	15.89	52.13	52.13	6.89	6.89	13.06	13.06	.050	.063
36	52.50	19.00	18.67	62.38	82.00	8.13	9.67	12.75	12.81	.080	.080



TYPICAL SPECIFICATIONS

Low silhouette roof exhaust or supply fan shall be of a propeller, direct drive type.

The precision balanced propeller shall have aluminum blades, die-formed with swept-back tear-drop shape and shall be attached to a heavy duty steel hub.

The aluminum fan housing shall consist of a die-formed, double orifice for efficient airflow and a die-formed, aerodynamic shaped hood for less turbulent airflow.

The acrylic epoxy finished structural steel frame shall transmit the weight of the motor and propeller directly to the curbcap/curb to prevent orifice distortion and shall allow for mounting in any position.

Sealed ball bearing motors shall be adjustable on the motor base.

Birdscreen shall be made from heavy duty galvanized wire.

A disconnect device/switch shall be factory installed with a special weather resistant toggle cover for external operation. (Explosion proof not mounted or wired).

All fans shall bear the AMCA Certified Ratings Seal for sound and air performance.

Each fan shall have a permanently affixed manufacturer's nameplate containing the model number and serial number for future identification.

Thermal overload protectors shall be available for single phase motors.

Fans to be supplied with a two year limited warranty.

Fans shall be Model LQ as manufactured by Acme Engineering and Manufacturing Corporation of Muskogee, Oklahoma.



Most RoofMaster® fans are listed by the Canadian Standards Association Testing Laboratory as approved.



Most Acme RoofMaster® fans bear the U.L. listing mark; consult the Acme representative for availability.



CENTRIFUGAL EXHAUSTERS



CEILING AND CABINET EXHAUSTERS



IN-LINE CENTRIFUGAL FANS



IN-LINE AXIAL FANS



PROPELLER ROOF FANS



PROPELLER WALL FANS



UTILITY BLOWERS



SUPPLY AIR FANS



ROOF VENTS



PLENUM FANS



BACKWARD INCLINED/AIRFOIL CENTRIFUGAL FANS



CENTRIFUGAL INDUSTRIAL EXHAUSTERS



LIMITED WARRANTY Acme Engineering and Manufacturing Corporation extends this limited warranty to the original buyer and warrants that products supplied by the Company shall be free from original defects in workmanship and materials for two years from date of shipment (except for Acme's exclusive duplex split pillow block bearings and shaft 5 years from shipment, belts one year from shipment, and polyethylene tubing at 90 days from shipping), provided same have been properly handled, stored, installed, serviced, maintained and operated. Refer to Form MS149 for complete limited warranty terms and conditions.

WARNING Acme products are designed and manufactured to provide reliable performance but they are not guaranteed to be 100% free of defects. Even reliable products will experience occasional failures and this possibility should be recognized by the User. If these products are used in a life support ventilation system where failure could result in loss or injury, the User should provide adequate back-up ventilation, supplementary natural ventilation or failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

WARNING DO NOT use in HAZARDOUS ENVIRONMENTS where fan's electrical sys-

tem could provide ignition to combustible or flammable materials unless unit is specifically built for hazardous environments.

CAUTION Guards must be installed when fan is within reach of personnel or within seven (7) feet (2.134 m) of working level or when deemed advisable for safety.

DISCLAIMER The Company has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions or dimension.



ACME ENGINEERING & MANUFACTURING CORP.

P.O. Box 978, Muskogee, Oklahoma 74402
 Telephone: 918-682-7791 Fax: 918-682-0134
 www.acmefan.com e-mail: acmefan@acmefan.com

Member Air Movement and Control Association