



AMERICAN COOLAIR CORPORATION



Relief/Intake Roof Ventilators

TYPE ARVE

ARVE

Relief/Intake Roof Ventilators

Applications

A low silhouette relief vent that is compatible with modern architectural lines and also matches ILG's power roof ventilators. Units used for intake should be selected to maintain flow rates at or below the maximum intake velocity of 600 FPM to prevent entrainment of moisture. For intake units, a minimum curb height of 12" is recommended.

Construction

- Round spun aluminum hood
- Heavy gauge hood supports
- Anti-vibration bird screen
- Wide range of sizes for every need

Suggested Specifications

Relief/Intake ventilators shall have circular hoods of spun aluminum. Vents will be low in silhouette to conform to present architectural styles, and will be compatible with power roof ventilators. Square bases will be constructed of aluminum. Vents will be equipped with galvanized mesh bird screen.

Optional Features

- Two types of shutters available: (a) automatic or gravity operated, (b) motor operated.
- Prefabricated curbs
- 3 mil epoxy powder paint
- Insect screen

PERFORMANCE TABLES

ARVE (RELIEF)

Unit Size		12	16	20	25	31	37
Throat Area (Ft ²)		0.785	1.40	2.18	3.40	5.24	7.46
500	THROAT VEL	637	357	229	147	95	67
	CFM PD	0.048	0.014	0.004	0.003	0.002	0.001
1000	THROAT VEL	1274	714	459	294	191	134
	CFM PD	0.193	0.054	0.018	0.011	0.008	0.002
1500	THROAT VEL		1071	688	441	286	201
	CFM PD		0.123	0.040	0.025	0.017	0.006
2000	THROAT VEL		1429	917	588	382	268
	CFM PD		0.218	0.070	0.045	0.030	0.010
3000	THROAT VEL			1376	882	573	402
	CFM PD			0.158	0.101	0.068	0.022
4000	THROAT VEL				1176	763	536
	CFM PD				0.180	0.122	0.040
5000	THROAT VEL				1471	954	670
	CFM PD				0.281	0.190	0.062
6000	THROAT VEL				1765	1145	804
	CFM PD				0.405	0.274	0.090
8000	THROAT VEL					1527	1072
	CFM PD					0.486	0.159
10000	THROAT VEL						1340
	CFM PD						0.249
12000	THROAT VEL						1609
	CFM PD						0.358

Damper losses, if used, are not included in above table.

Throat Velocity=CFM/Throat Area

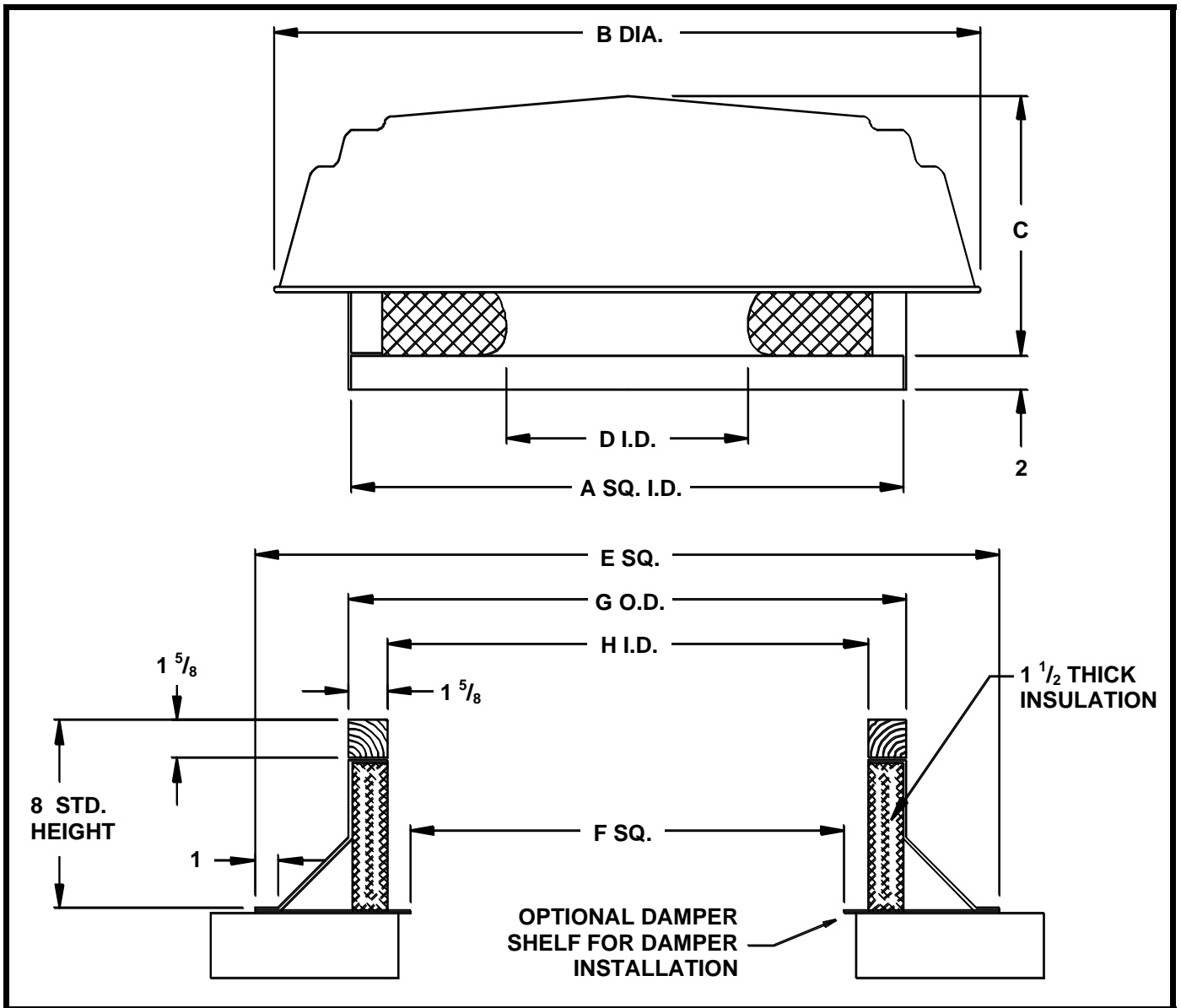
ARVE (INTAKE)

Unit Size		12	16	20	25	31	37
Intake Area (Ft ²)		1.59	3.07	6.38	6.97	7.65	14.09
100	INTAKE VEL	63	33				
	CFM PD	0.006	0.001				
200	INTAKE VEL	126	65	31	29	26	
	CFM PD	0.024	0.005	0.002	0.001	0.001	
400	INTAKE VEL	251	130	63	57	52	28
	CFM PD	0.094	0.021	0.008	0.005	0.003	0.001
600	INTAKE VEL	377	195	94	86	78	43
	CFM PD	0.212	0.046	0.017	0.011	0.007	0.003
800	INTAKE VEL	503	260	125	115	105	57
	CFM PD	0.378	0.082	0.031	0.019	0.013	0.005
1000	INTAKE VEL		326	157	144	131	71
	CFM PD		0.129	0.048	0.030	0.020	0.008
2000	INTAKE VEL			314	287	261	142
	CFM PD			0.191	0.120	0.078	0.031
3000	INTAKE VEL				431	392	213
	CFM PD				0.270	0.176	0.070
4000	INTAKE VEL					523	284
	CFM PD					0.314	0.125
5000	INTAKE VEL						355
	CFM PD						0.196
6000	INTAKE VEL						426
	CFM PD						0.282
7000	INTAKE VEL						497
	CFM PD						0.383
8000	INTAKE VEL						568
	CFM PD						0.501

Damper losses, if used, are not included in above table.

Intake Velocity=CFM/Intake Area

ARVE Ventilator and Roof Curb Dimensions



Unit Size	Ventilator Dimensions				Roof Curb Dimensions				Mat'l. Thickness (In.)	
	A	B	C	D	E	F	G	H	Base	Hood
12	18	23 1/8	13	12	24 1/2	11 1/4	16 1/2	13 1/4	.050	.063
16	23	28 5/8	12 3/8	16	29 1/2	16 1/4	21 1/2	18 1/4	.050	.063
20	30	39 5/8	15 3/8	20	36 1/2	23 1/4	28 1/2	25 1/4	.050	.063
25	34	43 5/8	16 3/4	25	40 1/2	27 1/4	32 1/2	29 1/4	.063	.063
31	40	48 5/8	18 1/8	31	46 1/2	33 1/4	38 1/2	35 1/4	.063	.080
37	46	62 7/8	22 1/8	37	52 1/2	39 1/4	44 1/2	41 1/4	.063	.080

Installation

All models are shipped fully assembled and ready for installation. Always inspect equipment for transit damage before accepting delivery to assure a valid claim.

Placement

Refer to local building codes for placement of exhaust air streams relative to air intakes.

Mounting

Satisfactory operation of roof ventilators requires mounting on adequately designed and constructed roof curbs. Prefabricated curbs for convenience in installation are available from ILG. Install with base of unit horizontal. Provide adequate caulking, flashing or other weatherproofing means.

ARVE Specification Checklist

Used in conjunction with Power Roof Ventilators, units provide general relief/intake of low, medium or high air volumes in commercial, institutional and light manufacturing buildings.

Weatherproof heavy duty aluminum housing resists corrosion and maintains appearance.

Deep-spun, one-piece venturi improves efficiency and minimizes pressure losses.

Bird screen prevents entry of birds or other potentially damaging objects.

Limited Warranty

In the sale of its products, American Coolair Corporation agrees to correct, by repairs or replacement, any defects in workmanship or material that may develop under proper and normal use during the period of one year from the date of shipment from the factory. Any product or part proving, upon American Coolair's examination, to be defective during limited warranty period will be repaired or replaced, at American Coolair's option, f.o.b. factory, without charge.

Deterioration or wear caused by chemicals, abrasive action or excessive heat shall not constitute defects.

American Coolair's limited warranty does not apply to any of its products or parts that have been subject to accidental damage, misuse by the user, unauthorized alterations, improper installation or electrical wiring, or lack of proper lubrication or other service requirements as established by American Coolair.

Repairs or replacements provided under the above terms shall constitute fulfillment of all American Coolair's obligations with respect to limited warranty.

THE LIMITED WARRANTY STATED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING WITHOUT LIMITATION THAT OF MERCHANTABILITY AND FITNESS.

NO LIABILITY FOR REINSTALLATION COST OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY NATURE IS ASSUMED OR SHALL BE IMPOSED UPON AMERICAN COOLAIR.



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Options & Accessories

Prefabricated Roof Curbs

Insulated roof curbs with weather-resistant continuous welded construction are available for convenience in installation for both insulated and non-insulated roof decks.

Back draft Dampers

Gravity or motor operated back draft dampers are available. They are aluminum construction and designed for installation in prefabricated roof curbs.

Protective Coatings

Ventilator units are not recommended for exhausting air of a corrosive nature. However, special protective coatings are available where units may be exposed to corrosive exterior conditions. Parts requiring painting are processed through the American Coolair five-stage pretreatment system prior to the application of any coatings to insure maximum finish adhesion. These parts use a thermosetting epoxy powder paint with an average thickness of 3 mils and baked at 400° F to a smooth, hard continuous finish. Consult your ILG Industries representative for available coatings.

Insect Screen

Fine mesh metallic screen to prevent the entry of insects.

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