AEROVENT

INDUSTRIAL VENTILATION SYSTEMS

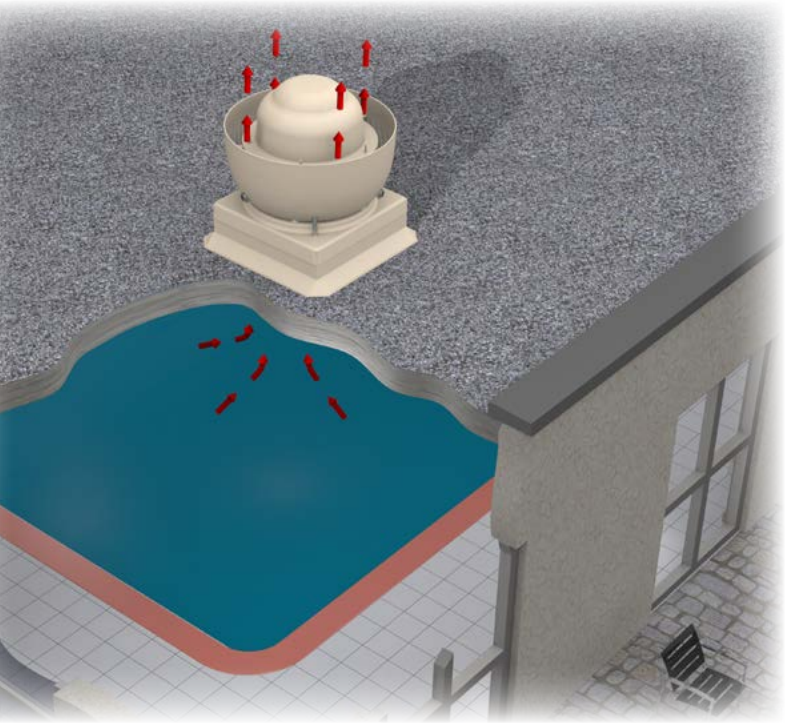
FIBERGLASS VENTILATORS

Model AHAB

Model AWAB

MODELS: AWA/AWAB, AHA/AHAB

CATALOG 977
APRIL 2024



Model AWA Installation

Model AHA Installation

Overview

AWA/AWAB I AHA/AHAB

The Aerovent Fibre-Aire® line of fiberglass fans is ideal for spaces that require a little more chemical resistance than what a typical light commercial fan offers. Both roof and wall fans are available in direct drive or belt driven options with a variety of configurations. In addition, a fiberglass gravity ventilator completes the Fibre-Aire® product offering for low flow, corrosive atmospheres.

The Fibre-Aire® products have a clean, architecturally-pleasing design and are virtually dent, crack and break proof. The fiberglass housing absorbs sound and the molded throat and outlet designs also optimize airflow.

Typical Applications Include
Natatoriums, Aquariums, Swimming Pool Exhaust, Laboratories Waste Water Treatment Plants, General Exhaust

Configurations
Direct Drive and Belt Driven, Wall Mount, Upblast and Downblast

Impeller Type
Polypropylene, Backward Inclined

Optional Construction
Corrosion Resistance

Energy Regulations

Aerovent supports energy efficiency regulations enacted by the U.S. Department of Energy (DOE) and specific states. The selection and application of fan products is a significant part of these regulations. Engineers and specifiers must understand how to apply Aerovent products to their specific applications to meet applicable DOE and state regulatory requirements. Aerovent has made significant investments in product testing and development to provide efficient products. Developments in Aerovent's Fan Selector software are in place to aid your decision in product selection to assist with meeting the efficiency requirements as stipulated in the applicable regulations.

For complete product performance, drawings and available accessories, download our Fan Selector software at *aerovent.com*.

Whirlout®

AWA I AWAB

The Whirlout® Series AWA/AWAB fiberglass upblast centrifugal roof exhausters are especially designed for applications requiring the exhaust of chemical fumes or cooking grease where the removal of exhaust away from the roof line is required.

Fiberglass roof exhausters are available as direct or adjustable capacity belt drive. Each configuration features an isolated motor and drive chamber with a neoprene shaft seal to protect motor and drive components from fumes or hazardous matter suspended in the air. The upblast design makes it ideal for use with ducts, hoods or canopies over interior work areas. Basket type supports eliminate internal air shocks, reduce vibration and increase efficiency.

The fiberglass housing of the unit has excellent resistance to a wide range of chemicals and fumes. The corrosion resistant, backward inclined impeller provides quiet and efficient operation.

Whirlout® Series fiberglass upblast centrifugal roof exhausters are also used in natatoriums, aquariums, indoor swimming pools, laboratories, wastewater treatment plants and any other area, where corrosive fumes present a problem.

Sizes and Capacities

- Direct drive sizes 7" to 18"
- Belt driven sizes 14" to 40"
- Airflow to 21,500 CFM
- Static pressures to 2" w.g.

Construction Features

- Molded fiberglass housings are virtually impossible to dent, crack or break and resist weather, salt spray and most chemicals. Fiberglass housings also absorb noise and vibration.
- Designed for applications requiring the exhaust of chemical fumes or contaminated air up and away from the roof.
- Ideal for use with ducts, hoods or canopies over interior work areas.
- Fan impellers are polypropylene, backward inclined, as standard.
- All structural mild steel components in contact with airstream are epoxy coated for additional corrosion resistance.
- A neoprene shaft seal is standard on all belt drive units to protect motor and drives from fumes or hazardous matter suspended in the air.
- A 1/2" x 1/2" PVC coated bird screen is standard on all units to prevent entry of birds and debris.

Construction Features (cont'd.)

- Factory mounted and wired disconnect switch is standard on all units, except with EXP motors.
- A conduit chase extending through the curb cap and into the motor compartment is provided as standard on all units for field wiring.
- 304 SS fan shaft on belt driven unit.

Accessories

- Gravity (PVC) and motorized (aluminum) backdraft dampers
- Fiberglass roof curbs
- Stainless steel bird screen

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INDUSTRIAL VENTILATION SYSTEMS

Hid-N-Aire®

AHA I AHAB

The Hid-N-Aire® Model AHA/AHAB fiberglass wall mount ventilators provide high performance ventilation without distracting from the architectural lines of a building's exterior. Only the aluminum fixed louver, which fits flush with the building's wall, is visible from the outside of the building. From the interior, the unit presents a clean, molded fiberglass venturi. All fiberglass components come in the standard beige color.

The Hid-N-Aire® fiberglass centrifugal wall ventilators are designed to mount compactly within an exterior wall and satisfy general building exhaust requirements.

Sizes and Capacities

- Direct drive sizes 7" to 18"
- Belt driven sizes 12" to 30"
- Airflow to 9,800 CFM
- Static pressures to 1" w.g.

Construction Features

- Rugged molded fiberglass inlet venturi.
- Rubber isolator motor mounts absorb vibration for quietness.
- Fan impellers are polypropylene, backward inclined, as standard.
- All structural mild steel components in contact with airstream are epoxy coated for additional corrosion resistance.
- Extruded fixed aluminum louver fits flush with the building's wall and is visible only from the exterior.
- Built-in PVC bird screen and fabric backdraft dampers within aluminum louver.
- Simple to install and maintain.
- Motor is prewired with plug and cord assembly (disconnect switch) and provided with a plug-in electrical receptacle mounted inside the motor housing for ease of maintenance and service. (Not included with explosion proof or 2-speed motors.)
- 304 SS fan shaft on belt driven unit.

Accessories

- An attractive grille is available for attachment to fiberglass venturi when ductwork to AHA/AHAB is not present.
- Duct adapter kit for use when AHA/AHAB is used as an inline centrifugal unit.
- Companion angles.

Static Pressure Drop Calculation

The following tables give the gross louver areas and the static pressure drop.

Table 1.

SIZE	GROSS AREA OF LOUVER
7	1.13 sq. ft.
10, 12	2.92 sq. ft.
14	3.84 sq. ft.
18	4.69 sq. ft.
24	9.52 sq. ft.
30	14.71 sq. ft.

Table 2. Static Pressure Drop For Various Velocities

GROSS VEL. (FPM)	100	200	300	400	500	600	700
S.P. DROP (IN. W.G.)	.005	.018	.041	.073	.114	.164	.224

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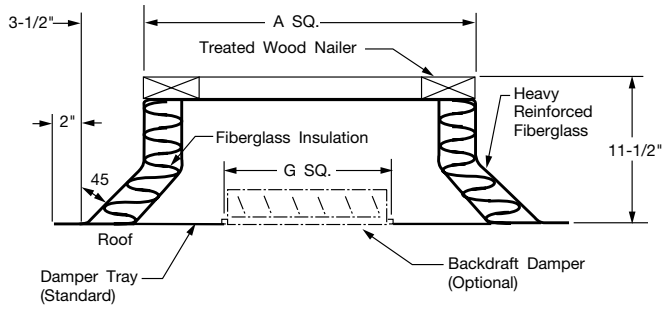
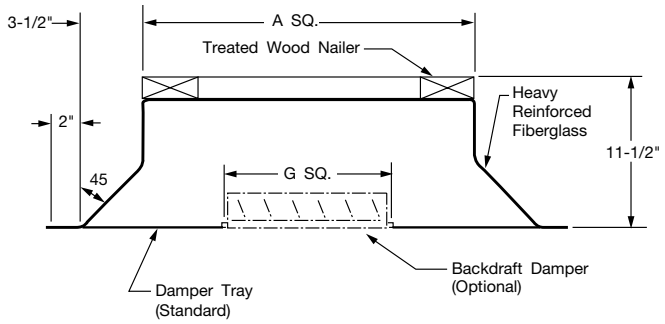
Series EF (w/insulation)



E12F — A 12" high, beige color, molded fiberglass, reinforced polyester resin, double shell, prefabricated roof curb with a 3 1/2" cant, corner gussets, 2" thick fiberglass insulation and incorporating a treated 1 1/2" x 3 1/2" treated wood nailer and damper tray.

Series E



E12 — A 12" high, beige color, molded fiberglass, reinforced polyester resin, single shell, prefabricated roof curb with a 3 1/2" cant, corner gussets and incorporating a treated 1 1/2" x 3 1/2" treated wood nailer and damper tray.

FAN / HOOD			ROOF CURB DIM. A (SQ)	12" HIGH CURB WITH INSULATION		12" HIGH CURB NON-INSULATED		G (SQ)	DAMPER SIZE WHEN REQ'D
MODEL	SIZE	BASE I.D.		PART NUMBER	APPROX. SHIP WT. (LB)	PART NUMBER	APPROX. SHIP WT. (LB)		
AWA	7	17 x 17	16 x 16	15025102	31	15025002	26	6.63	6 x 6
	10, 12	21 x 21	20 x 20	15025104	38	15025004	31	10.63	10 x 10
	14	24.8 x 24.8	24 x 24	15025105	46	15025005	38	14.63	14 x 14
	18	29 x 29	28 x 28	15025107	53	15025007	44	18.63	18 x 18
AWAB	14	24.8 x 24.8	24 x 24	15025105	46	15025005	38	14.63	14 x 14
	18	29 x 29	28 x 28	15025107	53	15025007	44	18.63	18 x 18
	24	37.5 x 37.5	36 x 36	15025109	68	15025009	56	24.63	24 x 24
	30	45.5 x 45.5	44 x 44	15025112	82	15025012	67	30.63	30 x 30
	36, 40	53 x 53	52 x 52	15025115	99	15025015	80	36.63	36 x 36

NOTE: Damper to be flanged. Dimensions are not to be used for construction.

AEROVENT
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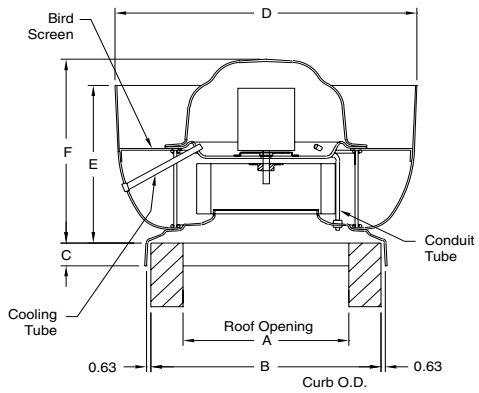
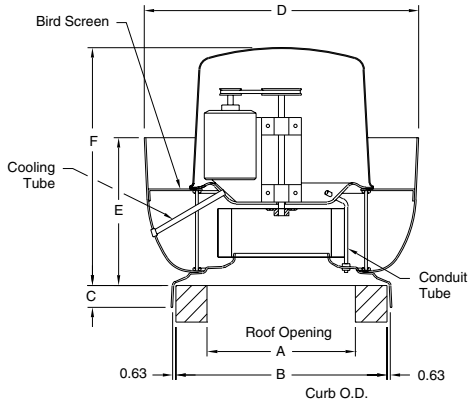
Models AWA I AWAB

Model AWA - Direct Drive



Model AWAB - Belt Driven



Model AWA - Direct Drive

MODEL AWA	HP	RPM	WEIGHT (LBS.)	DIMENSIONS (INCHES)						BACKDRAFT DAMPER
				A	B	C	D	E	F	
07	1/15	1550	18	8	16	2	17 1/4	8	11 11/16	6 x 6
10	1/12	860	50	12	20	3	25 1/4	12 1/8	18 5/8	10 x 10
	1/8	1160	43							
	1/6	1750	44							
12	1/12	860	50	12	20	3	25 1/4	12 1/8	19 3/8	10 x 10
	1/8	1160	43							
	1/4	1750	46							
14	1/12	860	67	16	24	3	28 7/8	17 1/2	28 1/16	14 x 14
	1/8	1160	67							
	1/2	1750	73							
18	1/4	860	118	20	28	3	36 3/4	25	32 3/8	18 x 18
	1/2	1160	130							

D-3300-1C

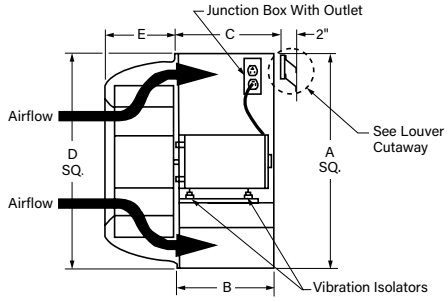
Model AWAB - Belt Driven

MODEL AWAB	HP	WEIGHT (LBS.)	DIMENSIONS (INCHES)						BACKDRAFT DAMPER
			A	B	C	D	E	F	
14	1/4	72	16	24	3	28 7/8	17 1/2	28 1/16	14 x 14
	1/4	73							
	1/4	75							
	1/3	74							
	1/2	76							
18	1/4	123	20	28	3	36 3/4	25	32 3/8	18 x 18
	1/4	125							
	1/3	129							
	1/2	133							
24	1/4	185	28	36	3	45 3/4	31	34 1/16	24 x 24
	1/4	187							
	1/3	192							
	1/2	195							
	3/4	202							
	1	205							
30	1/3	265	36	44	3	59	34 1/2	39 3/8	30 x 30
	1/2	269							
	3/4	287							
	1	291							
	1 1/2	295							
	2	307							
36	1/2	572	44	52	3	69 1/2	45	46 1/16	36 x 36
	3/4	591							
	1	595							
	1 1/2	599							
	2	611							
	3	615							
	5	625							
40	1/2	632	44	52	3	69 1/2	45	46 1/16	36 x 36
	3/4	658							
	1	675							
	1 1/2	671							
	2	677							
	3	681							
	5	730							
	7 1/2	750							

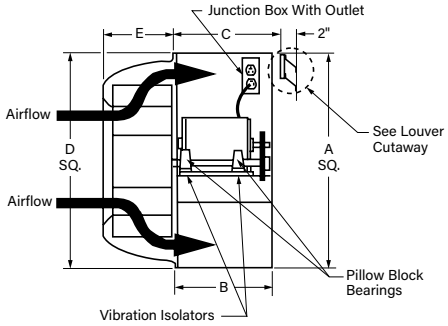
D-3300-2C

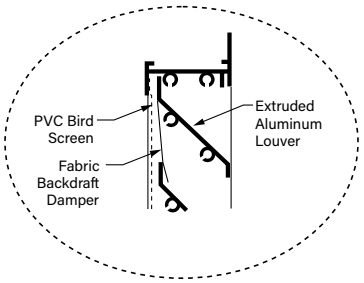
Models AHA I AHAB

Model AHA - Direct Drive



Model AHAB - Belt Driven





Louver Cutaway

Model AHA - Direct Drive

MODEL AHA	HP	RPM	WEIGHT (LBS.)	DIMENSIONS (INCHES)					
				A SQ.	B	C MAX. STD. MOTOR	C MAX. SPECIAL MOTOR	D SQ.	E
07	1/15	1550	30	$12\frac{3}{4}$	$6\frac{1}{8}$	$6\frac{1}{2}$	NA	13	$3\frac{7}{8}$
072	1/15	1550	30						
10	1/8	1160	70	$20\frac{1}{2}$	$11\frac{3}{4}$	$12\frac{1}{8}$	$13\frac{3}{4}$	$20\frac{3}{4}$	6
	1/6	1750	75						
12	1/12	860	75	$20\frac{1}{2}$	$11\frac{3}{4}$	$12\frac{1}{8}$	$13\frac{3}{4}$	$20\frac{3}{4}$	6
	1/8	1140	80						
	1/4	1750	75						
14	1/12	860	90	$23\frac{1}{2}$	13	$13\frac{3}{8}$	$14\frac{1}{4}$	$23\frac{3}{4}$	$7\frac{7}{8}$
	1/8	1160	90						
	1/2	1750	105						
18	1/4	860	115	26	14	$14\frac{3}{8}$	$14\frac{3}{4}$	$26\frac{1}{4}$	$8\frac{3}{4}$
	1/2	1160	115						

D-3100-1B

Dimension 'A' is the outside of the housing and the louver. Dimension 'D' is the outside of the trim angle.

Model AHAB - Belt Driven

MODEL AHAB	HP	WEIGHT (LBS.)	DIMENSIONS (INCHES)					
			A SQ.	B	C MAX. STD. MOTOR	C MAX. SPECIAL MOTOR	D SQ.	E
	1/4	75						
12	1/4	80	$20\frac{1}{2}$	$11\frac{3}{4}$	$12\frac{1}{8}$	$16\frac{1}{8}$	$20\frac{3}{4}$	6
	1/4	80						
	1/4	90						
	1/4	90						
14	1/4	90	$23\frac{1}{2}$	13	$13\frac{3}{8}$	$18\frac{3}{8}$	$23\frac{3}{4}$	$7\frac{7}{8}$
	1/3	90						
	1/2	105						
	1/4	105						
	1/4	115						
18	1/3	115	26	14	$14\frac{3}{8}$	$17\frac{7}{8}$	$26\frac{1}{4}$	$8\frac{3}{4}$
	1/2	115						
	3/4	120						
	1/4	155						
	1/3	160						
24	1/2	160	37	$14\frac{1}{2}$	$14\frac{7}{8}$	$17\frac{3}{8}$	$37\frac{1}{4}$	$11\frac{11}{16}$
	3/4	180						
	1	180						
	1/3	250						
	1/2	255						
	3/4	255						
30	1	260	46	$16\frac{1}{4}$	$16\frac{5}{8}$	$20\frac{3}{8}$	$46\frac{1}{4}$	$15\frac{1}{8}$
	$1\frac{1}{2}$	260						
	2	300						

D-3100-2B

Dimension 'A' is the outside of the housing and the louver. Dimension 'D' is the outside of the trim angle.

Model

AWA

Fiberglass centrifugal roof ventilators shall be Whirlout® upblast Model AWA direct drive as manufactured by Aerovent, Minneapolis, MN. Ventilators shall be specifically designed for the exhaust of moisture-laden, corrosive or chemically contaminated air where process temperatures will not exceed 150°F. Fiberglass, non-powered roof ventilators shall be molded with aerodynamically shaped venturi to provide minimum system resistance within gravity or positive pressure systems.

PERFORMANCE — Fans shall be tested in accordance with AMCA test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels.

CONSTRUCTION — Fan housings including aerodynamically shaped inlet venturi, windband skirt and motor cover shall be molded of high quality, beige-colored, fiberglass reinforced plastic resulting in assemblies that are virtually impossible to dent, crack or break and are highly resistant to the effects of weather, salt spray and most chemicals. Polyester resin with properties equal or similar to Koppers Dion 6693 shall be used to provide high strength with ultraviolet light and chemical resistance. The resin shall have antimony trioxide added to provide fire retardancy with a flame spread rating of 25 or less when tested per ASTM-E84. Further, all component plastic surfaces are to be gel coated to provide the utmost in added corrosion protection. All fan housings shall have PVC encapsulated $^1/_2$" x $^1/_2$" mesh screens or guards fitted to the airflow guides and basket supports to keep out birds, leaves or other debris and maintain a high level of corrosion resistance.

After fabrication, the assembled fan impeller and all structural metal components in contact with the exhaust airstream shall be black epoxy coated (2 mils DFT minimum) for additional chemical resistance.

IMPELLERS — Fan impellers shall be of the airfoil centrifugal type (sizes 14 and 18) or the flat bladed, backward inclined type (sizes 07, 10 and 12), non-overloading design to couple non-overloading power limiting characteristics with performance of the highest efficiency and lowest noise generation. Airfoil blades on sizes 14 and 18 shall be extruded from aluminum and welded to the front and back plate of the impeller using jigs and fixtures to insure exact location and thus insure optimum fan performance. Airfoil impellers shall be epoxy coated. Flat bladed, backward inclined impellers on sizes 07, 10 and 12 shall be of polypropylene construction, securely fixed to a cast aluminum hub. A polypropylene option for sizes 14 through 18 shall be available.

The fan impeller shall be secured to the motor or fan shaft with knurled cup point set screws. All recommended lubrication and maintenance shall be accomplished without removal and disassembly of the fan impeller.

MOTORS — All fan motors shall be located outside of the exhaust airstream, covered and protected from the weather by the fiberglass fan motor cover, and cooled by fresh air separate from the exhaust. Fan motors shall be manufactured in accordance with current applicable standards of IEEE, NEC and NEMA. They shall be heavy-duty ball bearing open drip-proof type with a 1.15 service factor and closely matched to the fan load. All motors shall be UL and/or CSA listed.

Electrical wire leads of the motor shall be extended by the factory through an airtight vinyl coated flexible metal conduit and be wired to a properly sized non-fused disconnect switch contained within a terminal junction box mounted under the fan motor cover. To simplify installation, a conduit chase constructed of airtight vinyl coated flexible metal conduit shall be provided through fiberglass curb cap to the motor compartment for field supply conductors.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

Model

AWAB

Fiberglass centrifugal roof ventilators shall be Whirlout® upblast Model AWAB belt driven as manufactured by Aerovent, Minneapolis, MN. Ventilators shall be specifically designed for the exhaust of moisture-laden, corrosive or chemically contaminated air where process temperatures will not exceed 150°F. Fiberglass, non-powered roof ventilators shall be molded with aerodynamically shaped venturi to provide minimum system resistance within gravity or positive pressure systems.

PERFORMANCE — Fans shall be tested in accordance with AMCA test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels.

CONSTRUCTION — Fan housings including aerodynamically shaped inlet venturi, windband skirt and motor cover shall be molded of high quality, beige-colored, fiberglass reinforced plastic resulting in assemblies that are virtually impossible to dent, crack or break and are highly resistant to the effects of weather, salt spray and most chemicals. Polyester resin with properties equal or similar to Koppers Dion 6693 shall be used to provide high strength with ultraviolet light and chemical resistance. The resin shall have antimony trioxide added to provide fire retardancy with a flame spread rating of 25 or less when tested per ASTM-E84. Further, all component plastic surfaces are to be gel coated to provide the utmost in added corrosion protection. All fan housings shall have PVC encapsulated $^1/_2$" x $^1/_2$" mesh screens or guards fitted to the airflow guides and basket supports to keep out birds, leaves or other debris and maintain a high level of corrosion resistance.

After fabrication, the assembled fan impeller and all structural metal components in contact with the exhaust airstream shall be black epoxy coated (2 mils DFT minimum) for additional chemical resistance.

IMPELLERS — Fan impellers shall be of the airfoil centrifugal type (sizes 14 through 36) or the flat bladed, backward inclined type (sizes 07, 10 and 12), non-overloading design to couple non-overloading power limiting characteristics with performance of the highest efficiency and lowest noise generation. Airfoil blades on sizes 14 through 36 shall be extruded from aluminum and welded to the front and back plate of the impeller using jigs and fixtures to insure exact location and thus insure optimum fan performance. Airfoil impellers shall be epoxy coated. Flat bladed, backward inclined impellers on sizes 07, 10 and 12 shall be of polypropylene construction, securely fixed to a cast aluminum hub. A polypropylene option for sizes 14 through 36 shall be available.

The fan impeller shall be secured to the motor or fan shaft with knurled cup point set screws. All recommended lubrication and maintenance shall be accomplished without removal and disassembly of the fan impeller.

DRIVES & BEARINGS — All motors and drives for belt driven fans shall be located outside of the exhaust airstream, covered and protected from the weather by the fiberglass fan top cap, and cooled by fresh air separate from the exhaust. Belt driven fan drives shall be sized for a minimum of 150% of driven horsepower. Belt driven fans shall be provided with machined, cast iron motor sheaves that shall be adjustable for final system balance. Fan shafts shall be precision ground and polished 304 SS. Shafts shall have a first critical speed of at least 125% of the fan's maximum operating speed. Bearings for belt driven fans shall be of the one-piece, cast iron, pillow block type with relubricable zerk fittings. Bearings shall be designed for service with a minimum L-10 life as defined by AFBMA in excess of 40,000 hours (200,000 hours L-50 average life) at the maximum cataloged operating speed.

MOTORS — All fan motors shall be located outside of the exhaust airstream, covered and protected from the weather by the fiberglass fan motor cover, and cooled by fresh air separate from the exhaust. Fan motors shall be manufactured in accordance with current applicable standards of IEEE, NEC and NEMA. They shall be heavy-duty ball bearing open drip-proof type with a 1.15 service factor and closely matched to the fan load. All motors shall be UL and/or CSA listed.

Electrical wire leads of the motor shall be extended by the factory through an airtight vinyl coated flexible metal conduit and be wired to a properly sized non-fused disconnect switch contained within a terminal junction box mounted under the fan motor cover. To simplify installation, a conduit chase constructed of airtight vinyl coated flexible metal conduit shall be provided through fiberglass curb cap to the motor compartment for field supply conductors.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

Model

AHA

Fiberglass centrifugal wall ventilators shall be Hid-N-Aire® wall flush mounted Model AHA direct drive as manufactured by Aerovent, Minneapolis, MN. Ventilators shall be specifically designed for the exhaust of moisture-laden, corrosive or chemically contaminated air where process temperatures will not exceed 150°F. Fiberglass, non-powered roof ventilators shall be molded with aerodynamically shaped venturi to provide minimum system resistance within gravity or positive pressure systems.

PERFORMANCE — Fans shall be tested in accordance with AMCA test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels.

CONSTRUCTION — Fan housings including aerodynamically shaped inlet venturi, and windband skirt shall be molded of high quality, beige-colored, fiberglass reinforced plastic resulting in assemblies that are virtually impossible to dent, crack or break and are highly resistant to the effects of weather, salt spray and most chemicals. Polyester resin with properties equal or similar to Koppers Dion 6693 shall be used to provide high strength with ultra-violet light and chemical resistance. The resin shall have antimony trioxide added to provide fire retardancy with a flame spread rating of 25 or less when tested per ASTM-E84. Further, all component plastic surfaces are to be gel coated to provide the utmost in added corrosion protection.

After fabrication, the assembled fan impeller and all structural metal components in contact with the exhaust airstream (including the wall box on model HA) shall be black epoxy coated (2 mils DFT minimum) for additional chemical resistance.

The Hid-N-Aire® ventilator shall consist of a fiberglass inlet venturi panel bolted to a wall box that contains a belt driven impeller assembly prewired with a plug and cord, a plug-in electrical receptacle mounted to the inside of the wall box and an extruded aluminum exterior louver with integral PVC bird screen and automatic fabric backdraft damper. The entire power assembly including the motor, mounting plate on vibration isolation, fan shaft and bearings and impeller assembly shall be easily removable from the interior or exterior of the building by removing the exterior louver or the inlet fiberglass venturi panel. Only four bolts must be removed to easily slide out from the power assembly from the wall box.

IMPELLERS — Fan impellers shall be of the airfoil centrifugal type (sizes 14 and 18) or the flat bladed, backward inclined type (sizes 07, 072, 10 and 12), non-overloading design to couple non-overloading power limiting characteristics with performance of the highest efficiency and lowest noise generation. Airfoil blades on sizes 14 and 18 shall be extruded from aluminum and welded to the front and back plate of the impeller using jigs and fixtures to insure exact location and thus insure optimum fan performance. Airfoil impellers shall be epoxy coated. Flat bladed, backward inclined impellers on sizes 07, 072, 10 and 12 shall be of polypropylene construction, securely fixed to a cast aluminum hub. A polypropylene option for sizes 14 and 18 shall be available.

The fan impeller shall be secured to the motor or fan shaft with knurled cup point set screws. All recommended lubrication and maintenance shall be accomplished without removal and disassembly of the fan impeller.

MOTORS — All fan motors shall be located outside of the exhaust airstream, covered and protected from the weather by the fiberglass fan motor cover, and cooled by fresh air separate from the exhaust. Fan motors shall be manufactured in accordance with current applicable standards of IEEE, NEC and NEMA. They shall be heavy-duty ball bearing open drip-proof type with a 1.15 service factor and closely matched to the fan load. All motors shall be UL and/or CSA listed.

Motors shall be prewired with a plug and cord for insertion into a properly sized terminal junction box mounted inside the wall box.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

Model

AHAB

Fiberglass centrifugal roof and wall ventilators shall be Hid-N-Aire® wall flush mounted Model AHAB belt driven as manufactured by Aerovent, Minneapolis, MN. Ventilators shall be specifically designed for the exhaust of moisture-laden, corrosive or chemically contaminated air where process temperatures will not exceed 150°F. Fiberglass, non-powered roof ventilators shall be molded with aerodynamically shaped venturi to provide minimum system resistance within gravity or positive pressure systems.

PERFORMANCE — Fans shall be tested in accordance with AMCA test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels.

CONSTRUCTION — Fan housings including aerodynamically shaped inlet venturi, and windband skirt shall be molded of high quality, beige-colored, fiberglass reinforced plastic resulting in assemblies that are virtually impossible to dent, crack or break and are highly resistant to the effects of weather, salt spray and most chemicals. Polyester resin with properties equal or similar to Koppers Dion 6693 shall be used to provide high strength with ultra-violet light and chemical resistance. The resin shall have antimony trioxide added to provide fire retardancy with a flame spread rating of 25 or less when tested per ASTM-E84. Further, all component plastic surfaces are to be gel coated to provide the utmost in added corrosion protection.

After fabrication, the assembled fan impeller and all structural metal components in contact with the exhaust airstream (including the wall box on model HAB) shall be black epoxy coated (2 mils DFT minimum) for additional chemical resistance.

The Hid-N-Aire® ventilator shall consist of a fiberglass inlet venturi panel bolted to a wall box that contains a belt driven impeller assembly prewired with a plug and cord, a plug-in electrical receptacle mounted to the inside of the wall box and an extruded aluminum exterior louver with integral PVC bird screen and automatic fabric backdraft damper. The entire power assembly including the motor, mounting plate on vibration isolation, fan shaft and bearings and impeller assembly shall be easily removable from the interior or exterior of the building by removing the exterior louver or the inlet fiberglass venturi panel. Only four bolts must be removed to easily slide out from the power assembly from the wall box.

IMPELLERS — Fan impellers shall be of the airfoil centrifugal type (sizes 14 through 30) or the flat bladed, backward inclined type (sizes 07, 072, 10 and 12), non-overloading design to couple non-overloading power limiting characteristics with performance of the highest efficiency and lowest noise generation. Airfoil blades on sizes 14 through 30 shall be extruded from aluminum and welded to the front and back plate of the impeller using jigs and fixtures to insure exact location and thus insure optimum fan performance. Airfoil impellers shall be epoxy coated. Flat bladed, backward inclined impellers on sizes 07, 072, 10 and 12 shall be of polypropylene construction, securely fixed to a cast aluminum hub. A polypropylene option for sizes 14 through 30 shall be available.

The fan impeller shall be secured to the motor or fan shaft with knurled cup point set screws. All recommended lubrication and maintenance shall be accomplished without removal and disassembly of the fan impeller.

DRIVES & BEARINGS — All motors and drives for belt driven fans shall be located outside of the exhaust airstream, covered and protected from the weather by the fiberglass fan top cap, and cooled by fresh air separate from the exhaust. Belt driven fan drives shall be sized for a minimum of 150% of driven horsepower. Belt driven fans shall be provided with machined, cast iron motor sheaves that shall be adjustable for final system balance. Fan shafts shall be precision ground and polished 304 SS. Shafts shall have a first critical speed of at least 125% of the fan's maximum operating speed. Bearings for belt driven fans shall be of the one-piece, cast iron, pillow block type with relubricable zerk fittings. Bearings shall be designed for service with a minimum L-10 life as defined by AFBMA in excess of 40,000 hours (200,000 hours L-50 average life) at the maximum cataloged operating speed.

MOTORS — All fan motors shall be located outside of the exhaust airstream, covered and protected from the weather by the fiberglass fan motor cover, and cooled by fresh air separate from the exhaust. Fan motors shall be manufactured in accordance with current applicable standards of IEEE, NEC and NEMA. They shall be heavy-duty ball bearing open drip-proof type with a 1.15 service factor and closely matched to the fan load. All motors shall be UL and/or CSA listed.

Motors shall be prewired with a plug and cord for insertion into a properly sized terminal junction box mounted inside the wall box.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

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