

TurboExtractor

Ficha técnica

Características Generales del Extractor Atmosférico, TurboExtractor

Este TurboAtmosférico TurboExtractor VentDepot, ha sido diseñado y fabricado en 100% Aluminio Anodizado. Definitivamente es la forma más económica y óptima para ventilar naves industriales, y es libre de mantenimiento.

Cuenta con dos baleros de alta tecnología, balas de acero inoxidable, 21 aspas aerodinámicamente curvadas, con un total de 42 AquaCanales.

Totalmente impermeable a la lluvia, marco tipo SpiderStrong, resistente a vientos de hasta 240 Km/hr y sistema de suspensión. Cuello ajustable a techumbres inclinadas de hasta 45°.

Ahorro total de energía eléctrica.

Diseñado con normas internacionales y aprobado por la I.V.S (Industrial Ventilation Society).

Aprobado contra huracanes por el condado de Dade en Florida, Certificado #01.0614.04.

Su base plana con pestaña para montaje permite adaptarse con facilidad a cualquier tipo de techumbre de hasta 3 pulgadas de peralte, simplemente cortando con unas tijeras para lámina y realizando el doblé con la mano y/o martillo de goma.

Aplicaciones del Extractor Atmosférico, TurboExtractor

Extrae: Calor, vapor, humo, olores, solventes y gases.

Para uso en: Ventilación general de bodegas de grandes dimensiones, naves industriales, talleres, almacenes y/o lugares con alta salinidad o humedad, etc.

Garantía del Extractor Atmosférico, TurboExtractor

30 (Treinta) años de Garantía certificados por escrito en todas las



Características técnicas específicas del Extractor Atmosférico, TurboExtractor

Clave	Turbina		Caudal		Material	Incluye	Peso y Dimensiones con empaque de cartón	
	mm	pulg	m3/hr	CFM			Kg	cm
MXETE-001	420	17	2258*	1328	Aluminio	Base Plana, Cuello y Turbina	2.5	60x60x60

*Ver tabla de Caudales



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Características de fabricación del Extractor Atmosférico, TurboExtractor.

Características de los Materiales de Alta Calidad de Primera Calidad utilizados en la Fabricación de nuestro TurboExtractor en Base a las Normas ASTM B209 y ASTM B221 en Extractores Atmosféricos o Eólicos Industriales:
 Aspas del Extractor Atmosférico o Eólico de 0.019" 3105 H-14, Aluminio Laminado.
 Base del Extractor Atmosférico o Eólico de 0.024" 5005 H-32, Aluminio Laminado.
 Cuello del Extractor Atmosférico o Eólico de 0.0305" 3105 H-14, Aluminio Laminado.
 Domo del Extractor Atmosférico o Eólico de 0.032" 5005-0, Aluminio Laminado.
 Marco Spider Strong Brace del Extractor Atmosférico o Eólico de 0.125" 6063-T5, Aluminio Extruido.
 Bracket del Rotor del Extractor Atmosférico o Eólico de 0.125" 6063-T5, Aluminio Extruido.
 Marco Spider Strong Shaft del Extractor Atmosférico o Eólico de 0.500" 2011, T-3, Aluminio Extruido.
 Acabado del Extractor Atmosférico o Eólico de Durathane Horneado aplicado en fábrica de 0.8mm sobre cubierta y mínimo 0.3mm al lavado de espesor.

Funcionamiento



Por viento entra en operación con tan solo 2.5 Km/hr.
 Este TurboExtractor Industrial cuenta con el mayor nivel de sensibilidad posible. Cuando otros equipos similares comienzan a girar el TurboExtractor ya término de ventilar.

Por acumulación de calor, entra en operación con 3°C. Mismo efecto con presión positiva o sistemas de inyección.

Los Baleros Implementados



Como sabemos, los baleros son el corazón de todos los mecanismos giratorios, a diferencia de los competidores, estos TurboExtractores son los únicos que se fabrican con los mejores baleros del mundo.

Baleros concéntricos a 0.0015 mm.
 Soldado ultrasónico para un sellado perfecto.
 Nueve balas con una resistencia de más de media tonelada.
 Sellado permanente (deja el lubricante dentro y el polvo afuera).

Cualidades del Extractor Atmosférico, TurboExtractor.



El corte helicoidal, con el que cuenta el TurboExtractor, permite que se adapte a una inclinación de techo de hasta 45°.

La ligereza del TurboExtractor, de tan solo 2.5 kg, permite la instalación de muchos equipos en puntos críticos, donde realmente se requiere de una ventilación eficiente.



El TurboExtractor VentDepot está dividido en 3 secciones: Turbina, Cuello y Base, facilitando así su montaje y transportación.

Totalmente impermeable a la lluvia con marco tipo SpiderStrong como sistema de suspensión, único en su tipo para resistir vientos de hasta 240 Km/hr.



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Fórmula para Cálculo de Extracción del Extractor Atmosférico, TurboExtractor.

Capacidad de Extracción para TurboExtractor MXETE-001:

$$\text{Cap. Ext.}^* = (0.818 + \{0.0303 \times A\}) \times (121.5 + \{103.4 \times V\} + \{11.6 \times G\} + \{5.6 \times T\})$$

A = Altura de montaje del TurboExtractor, en metros.

V = Velocidad del viento media anual, en km/hr.

G = Gradiente Térmico medio anual, en °C, (Temp. Int. - Temp. Ext.)

T = Temperatura Regional media anual, en °C. Ver Tabla.

*La capacidad de extracción de aire está dada en m³/hr.

En la siguiente hoja hemos elaborado tablas de la capacidad de extracción en base a la fórmula anterior facilitando los cálculos.

Criterio de Cálculo para para la Capacidad de Extracción de un Equipo

En base a la tabla inferior ubicar la región donde se van a instalar los TurboExtractores, para obtener la velocidad de viento y temperatura media anual. Ejemplo: **Ciudad de México = Velocidad del viento (15) Temp. (18).**

Estado	Viento Km/Hr	Temp. °C	Estado	Viento Km/Hr	Temp. °C	Estado	Viento Km/Hr	Temp. °C
Aguascalientes	10	19	Guerrero	11	27	Quintana Roo	13	28
Baja California norte	14	17	Hidalgo	16	15	San Luís Potosí	15	18
Baja California Sur	12	25	Jalisco	8	20	Sinaloa	11	27
Campeche	12	28	México	14	20	Sonora	13	24
Chiapas	18	22	Michoacán	10	24	Tabasco	11	29
Chihuahua	9	20	Morelos	7	20	Tamaulipas	10	26
Ciudad de México	15	18	Nayarit	10	12	Tlaxcala	11	15
Coahuila	11	19	Nuevo León	8	12	Veracruz	15	26
Colima	10	27	Oaxaca	10	21	Yucatán	12	26
Durango	12	13	Puebla	15	17	Zacatecas	11	26
Guanajuato	14	20	Querétaro	7	18			

Posteriormente evaluar la cantidad de calor que se siente o produce dentro de la nave, con las siguientes opciones:
 Ejemplo: Nave Industrial donde tenemos hornos (Este caso sería un lugar donde se está acumulando mucho calor, entonces la tabla correspondiente sería: "**Área o lugar con Mucho Calor**", y en base a la ubicación regional de la Ciudad de México la capacidad de Extracción de cada TurboExtractor instalado en zona sería de **2258 m³/Hr**).

Área o Lugar con Poco Calor

Diferencial Térmico (Temp. Interior - Exterior) de 0 a 15 °C

		Temperatura de la Región (°C)									
		12	14	16	18	20	22	24	26	28	30
Vel. Viento (Km/Hr)	7	1126*	1137	1149	1161	1172	1184	1195	1207	1218	1230
	9	1340	1352	1363	1375	1386	1398	1410	1421	1433	1445
	11	1554	1566	1578	1589	1601	1612	1624	1636	1647	1659
	13	1769	1780	1792	1803	1815	1827	1838	1850	1861	1873
	15	1983	1995	2006	2018	2029	2041	2053	2064	2076	2087
	17	2197	2209	2220	2232	2243	2255	2267	2278	2290	2301
	18	2304	2316	2327	2339	2350	2362	2374	2385	2397	2408

*En la capacidad de extracción de aire está dada en m3/hr.

Las capacidades de extracción de aire están medidas a una altura de 7.2 metros.

Área o Lugar con Calor Regular

Diferencial Térmico (Temp. Interior - Exterior) de 16 a 24 °C

		Temperatura de la Región (°C)									
		12	14	16	18	20	22	24	26	28	30
Vel. Viento Km/Hr	7	1234*	1246	1257	1276	1280	1292	1304	1315	1327	1338
	9	1448	1460	1471	1483	1494	1506	1518	1529	1541	1552
	11	1663	1675	1686	1698	1709	1721	1733	1744	1756	1767
	13	1877	1889	1900	1912	1923	1935	1947	1958	1970	1981
	15	2091	2103	2114	2126	2137	2149	2161	2172	2184	2195
	17	2305	2317	2328	2340	2351	2363	2375	2386	2398	2409
	18	2412	2424	2435	2447	2458	2470	2482	2493	2505	2516

Área o Lugar con Mucho Calor

Diferencial Térmico (Temp. Interior - Exterior) de 25°C en adelante

		Temperatura de la Región (°C)									
		12	14	16	18	20	22	24	26	28	30
Vel. Viento Km/Hr	7	1366*	1378	1389	1401	1412	1424	1436	1447	1459	1470
	9	1580	1592	1603	1615	1626	1638	1650	1661	1673	1684
	11	1795	1807	1818	1830	1841	1853	1865	1876	1888	1899
	13	2009	2021	2032	2044	2055	2067	2079	2090	2102	2113
	15	2223	2235	2246	2258	2269	2281	2293	2304	2316	2327
	17	2438	2450	2461	2473	2484	2496	2508	2519	2531	2542
	18	2545	2557	2568	2580	2591	2603	2615	2626	2638	2649

*En la capacidad de extracción de aire está dada en m3/hr.

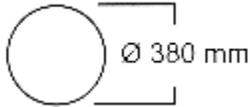
Las capacidades de extracción de aire están medidas a una altura de 7.2 metros.



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Montaje



Perforar un agujero en el techo con las siguientes dimensiones:
 Fijar y sujetar con remaches, pijas o tornillos.

Finalmente impermeabilizar.

VentDepot Team, monta, instala o da mantenimiento a cualquiera de nuestros equipos, de forma rápida, segura y conforme a las normas industriales.

Suministro y servicio a toda la República Mexicana.

Casos Especiales



En lugares donde el viento sea obstruido, es necesario instalar una extensión de cuello. Esta se puede adquirir en 120 cm de altura.

Sujetar con tirantes de cable o similar.

VentDepot Inc. APPENDIX for NOTICE OF ACCEPTANCE (NOA) Supported by MIAMI-DADE COUNTY FLORIDA™ to LOMANCO, INC.™ accepted by the BOARD OF RULES AND APPEALS (BORA)™



NOA No.: 10-0928.05
 Expiration Date: 12/22/15
 Approval Date: 12/23/10

VentDepot, Inc.
 233 S Cerritos Ave.
 Azusa, CA 91702

This Appendix provides information about VentDepot, Inc. products, regarding the NOA issued for Lomanco, Inc. applicable rules and regulations governing the use of construction materials to VentDepot, Inc. official and only company that represents and distributes Lomanco, Inc.™ and its products in Mexico, Central America, South America and the Caribbean.

The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes.

This product distributed by VentDepot, Inc. in representation for Lomanco, Inc. is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone of the Florida Building Code.

• **DESCRIPTION:**

- BIB-14/BEB14 WhirlyBird® Wind Turbine.
- VentDepot TurboVent USETE-001
- VentDepot Turbo Extractor MXETE-001
- VentDepot TurboJoule MXTUJ-001, MXTUJ-002, MXTUJ-003
- VentDepot EcoTon MXTNT-001, MXTNT-002, MXTNT-003, MXTNT-004, MXTNT-005, MXTNT-006, MXTNT-007, MXTNT-008, MXTNT-009, MXTNT-010, MXTNT-011, MXTNT-012

Above VentDepot products are the equivalent on Lomanco BIB-14/BEB14 WhirlyBird® Wind Turbine.

Each product shall bear a permanent label with the manufacturer's name, Lomanco logo, state and the



following statement:



TurboExtractor

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NOA No.: 10-0928.05
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ROOFING COMPONENT APPROVAL

Category: Roofing
Sub-Category: Ventilation
Type: Turbine
Materials: Aluminum
Deck: Wood

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
BIB-14/BEB14 WhirlyBird®	22" wide at base 17-1/8" high Base 0.0253" thick Elbow & Dome 0.032" thick Vanes 0.19" thick Rotr Band 0.0305"thick Extrusions 0.125" thick	TAS 100(A)	14" diameter opening turbine ventilation system

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NOA No.: 10-0928.05
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TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY VentDepot, Inc. representative of Lomanco, Inc.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
USETTE-001	22" wide at base 23" high 23" depth, 14"Ø Neck, 2bearings Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXETE-001	22" wide at base 23" high 23" depth, 14"Ø Neck, 2bearings Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXTUJ-001	28" x 22" base 37" high 53" wide 47 depth Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXTUJ-002	36" x 22" base 41" high 61" wide 47 depth Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXTUJ-003	48" x 22" base 41" high 73" wide 47 depth Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-001	32" x 86" base 17" high 13" wide 34" depth 3 Neck 14"Ø, 2 slopes Galvanized	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-002	32" x 86" base 17" high 13" wide 34" depth 3 Neck 14"Ø, 1 slope Galvanized	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-003	32" x 86" base 17" high 13" wide 34" depth 3 Neck 14"Ø, 2 slopes Powder Coated paint	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-004	32" x 86" base 17" high 13" wide	TAS 100(A)	17" diameter opening turbine



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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
MXTNT-005	32" x 86" base 17" high 13" wide 34" depth 3 Neck 14"Ø, 2 slopes Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-006	32" x 86" base 17" high 13" wide 34" depth 3 Neck 14"Ø, 1 slopes Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-007	32" x 130" base 17" high 13" wide 34" depth 5 Neck 14"Ø, 2 slopes Galvanized	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-008	32" x 130" base 17" high 13" wide 34" depth 5 Neck 14"Ø, 1 slopes Galvanized	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-009	32" x 130" base 17" high 13" wide 34" depth 5 Neck 14"Ø, 2 slopes Powder Coated paint	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-010	32" x 130" base 17" high 13" wide 34" depth 5 Neck 14"Ø, 1 slopes Powder Coated paint	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-011	32" x 130" base 17" high 13" wide 34" depth 5 Neck 14"Ø, 2 slopes Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system
MXTNT-012	32" x 130" base 17" high 13" wide 34" depth 5 Neck 14"Ø, 1 slopes Aluminum	TAS 100(A)	17" diameter opening turbine ventilation system

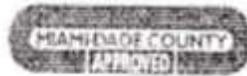




VentDepot Inc. APPENDIX for NOTICE OF ACCEPTANCE (NOA) Supported by MIAMI-DADE COUNTY FLORIDA™ to LOMANCO, INC.™ accepted by the BOARD OF RULES AND APPEALS (BORA)™



BUILDING CODE COMPLIANCE OFFICE (BCCO)
 PRODUCT CONTROL DIVISION



NOA No.: 10-0928.05
 Expiration Date: 12/22/15
 Approval Date: 12/23/10

LIMITATIONS:

1. Refer to applicable building codes for required ventilation.
2. This acceptance is for installations over asphaltic shingle or low slope roofing.
3. The BIB-14/BEB14 WhirlyBird[®] Wind Turbine, VentDepot TurboVent USETE-001, VentDepot Turbo Extractor MXETE-001, VentDepot TurboJoule MXTUJ-001, MXTUJ-002, MXTUJ-003, VentDepot EcoTon MXTNT-001, MXTNT-002, MXTNT-003, MXTNT-004, MXTNT-005, MXTNT-006, MXTNT-007, MXTNT-008, MXTNT-009, MXTNT-010, MXTNT-011, MXTNT-012 turbine roof ventilators shall not be installed on roof mean heights greater than 33ft.

DETAILED DRAWINGS:

The detailed drawings of BIB-14/BEB14 WhirlyBird[®] Wind Turbine, VentDepot TurboVent USETE-001, VentDepot Turbo Extractor MXETE-001, VentDepot TurboJoule MXTUJ-001, MXTUJ-002, MXTUJ-003, VentDepot EcoTon MXTNT-001, MXTNT-002, MXTNT-003, MXTNT-004, MXTNT-005, MXTNT-006, MXTNT-007, MXTNT-008, MXTNT-009, MXTNT-010, MXTNT-011, MXTNT-012 turbine roof ventilators are shown in page 4 to 5 of NOA No.: 10-0928.05 Expiration Date: 12/22/15





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BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1363
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

Lomanco, Inc.
2101 W. Main Street
Jacksonville, AR 72076

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: BIB-14/ BEB-14 WhirlyBird® Wind Turbine

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This renews NOA # 05-0823.06 consists of pages 1 through 5.
The submitted documentation was reviewed by Alex Tigera.



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Approval Date: 12/23/10
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ROOFING COMPONENT APPROVAL

Category: Roofing
Sub-Category: Ventilation
Type: Turbine
Materials: Aluminum
Deck: Wood

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
BIB-14/ BEB-14 WhirlyBird®	22" wide at base 17-1/8" high Base 0.0253" thick Elbow & Dome 0.032" thick Vanes 0.019" thick Rotor Band 0.0305" thick Extrusions 0.125" thick	TAS 100(A)	14" diameter opening turbine ventilation system.

MANUFACTURING LOCATION

1 Jacksonville, AR

EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
PRI Asphalt Technologies, Inc.	LOM-019-02-01	TAS 100(A)	09/01/10



NOA No.: 10-0928.05
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APPROVED ASSEMBLY:

System Type A: Mechanical attachment of turbine vent over composite shingles

Cutout: At chosen location (see Lomanco instructions for proper placement) and centered between two roof rafters, cut a 14" diameter hole through shingles and sheathing boards. Seal around top and sides of hole with approved roofing cement.

Installation Determine roof pitch in compliance with Lomanco instructions and align roof pitch number on elbow with indicator line on flashing. Place three short screws through holes that line up with pre-drilled holes in base.

Place mounting base unit flat on the shingles on its flashing, and coat underside of base flashing with roofing cement. In its pitch-adjusted position, carefully slide upper half of flashing up roof beneath shingles previously rolled back until base is centered over cutout. Rolling back the shingles where necessary, and rechecking pitch setting for vertical alignment, secure the base unit to the roof deck with a minimum of fourteen ring shank roofing nails, equally spaced, approximately 3/4" from edge of base per detail drawing "Base". Nails shall be of sufficient length to penetrate through roof sheathing a minimum of 1/2". Apply roofing cement to underside of shingles overlapping flashing, and press them down onto the flashing.

Rotate top of elbow to level position by turning counterclockwise. Place locking clamp across seam and tighten as shown in Lomanco instructions with approved sheet metal screw. Seal all seams and nails with approved roofing cement.

Position whirlybird on the base. Line up the pre-drilled holes in the brackets and base and fasten with approved long sheet metal screws.

After installation, verify that whirlybird turns freely. If necessary, minor adjustment may be made by gently prying lowest point of turbine upward to remove any wobble.

Net Free Area: Refer to manufacturers published literature.

Slope: Minimum 2" on 12"

LIMITATIONS:

1. Refer to applicable building codes for required ventilation.
2. This acceptance is for installations over asphaltic shingle or low slope roofing.
3. BIB-14/BEB-14 Whirlybird® turbine roof ventilators shall not be installed on roof mean heights greater than 33 ft



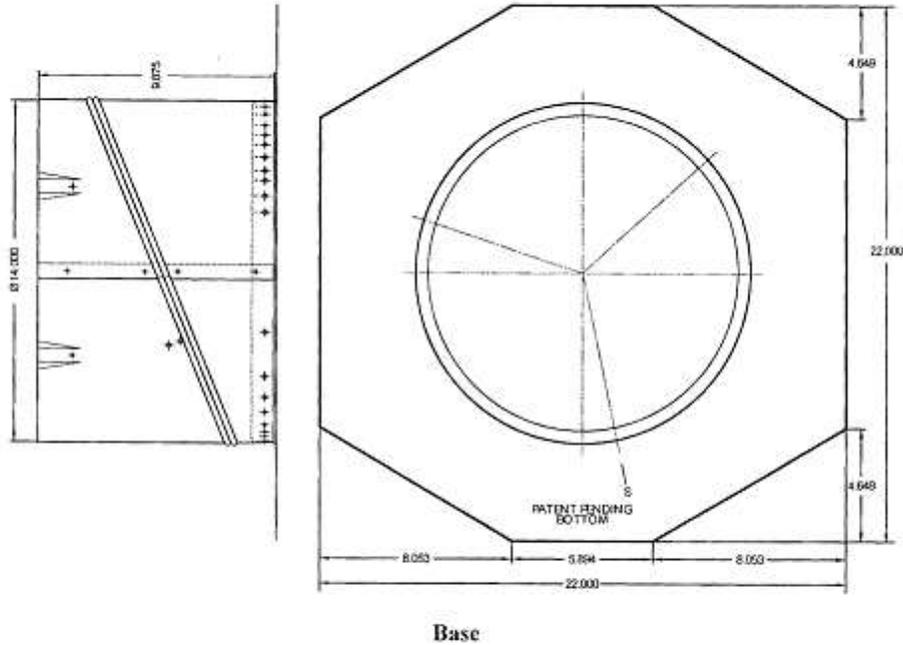
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Ficha técnica

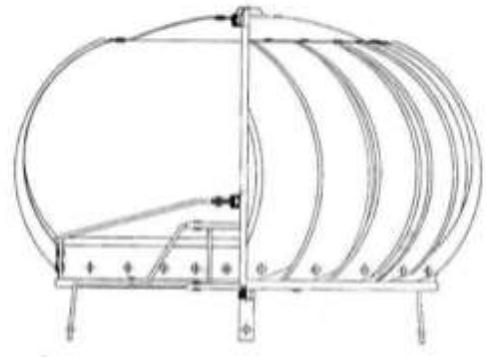
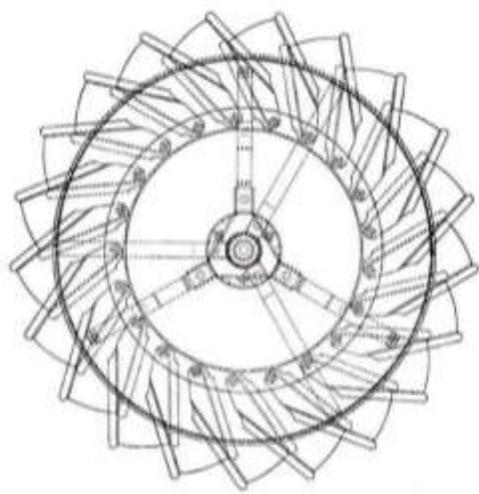
DETAIL DRAWINGS



TurboExtractor

Ficha técnica

DETAILED DRAWINGS (CONTINUED)



BIB-14, BEB-14
 END OF THIS ACCEPTANCE



NOA No.: 10-0928.05
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 Approval Date: 12/23/10
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