

RAU, RAUMO

Roof Axial Upblast Ventilator

PRODUCT GUIDE



PENNBARRY™

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INTRODUCTION

RAU/RAUMO Roof Axial Upblast Ventilators

The RAU / RAUMO is ideal to provide exhaust ventilation where removal of high volume of air for large spaces is necessary such as warehouses, gymnasiums, manufacturing facilities and other general ventilation applications.

These Upblast Roof Axial Exhaust Ventilators offer a robust construction of galvanized steel making them weather resistant while maintaining a competitive weight. Both the RAU / RAUMO features equal roof curb dimensions for ease of new installations. Their curb dimensions match most common curb dimensions existent in the market which facilitates retrofit jobs.

The RAUMO provides easy access to the motor and drives for service and parts replacement directly from the roof eliminating the need of disturbing the interior space. The motor compartment is accessible without tools for ease of service.

Standard Units

Model: RAU - Fabricated Steel Propeller

Static pressure up to 0.5" wg.

Belt Drive - Flow capacity up to 37,000 CFM



Remote Drive Units

Model: RAUMO - With remote drive option

Static pressure up to 0.5" wg.

Belt Drive - Flow capacity up to 35,000 CFM



CERTIFICATIONS & LISTINGS



AMCA Certification

PennBarry certifies that models RAU/RAUMO roof exhausters are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



UL and cUL Certification

RAU and RAUMO exhausters carry the UL label, UL705 (ZACT/ZACT7), file #E28413. RAUMO fans with the heat and smoke removal option carry the UL label, UL793 (ZAXH/ZAXH7), file #MH19473

FEATURES & BENEFITS

Fan Blades

The design of fan blades has been very carefully determined to insure highly efficient performance. Cast aluminum, airfoil, or die-formed high capacity steel fan blades provide the flexibility required to achieve most fan performance ratings. Spark resistant fans use blades cast of high tensile strength aluminum alloy. Versatility is accomplished through the use of four and six blade fans which exhaust an even flow. All blades are balanced to run properly.

Venturi Inlet

Combined with a heavy gauge base is a one-piece, leakproof, spun and streamlined venturi inlet to minimize entrance losses and noise.

Weather Resistant Operation

Air blast turns back rain and snow, and provides an air curtain to keep out the elements. Full size windband protects the dampers while open.

Simplified Construction

RAU/RAUMO fans require little maintenance. They are ruggedly built of heavy metal, securely welded and thoroughly reinforced with beading and angle rings. When properly installed, they will withstand high winds. Flutter guards are standard with the RAU/RAUMO and provide extra protection against damper flutter due to pressure difference.

Damper Assembly

The damper assembly consists of a number of components and features:

- Dampers automatically overlap the air shaft to prevent heat losses and backdrafts.
- Drainage Trough: Centrally located to allow water to run off as required.
- Easily Removable: The complete damper assembly is easily removable to gain access to the internal fan components, if required.
- End Pivot Damper Arrangement: The design of the end pivot damper arrangement utilizes the full force of the fan at the blade tips. This maximizes lift, employs the complete working area of the blades, and eliminates dead spots at the center of the hub of the fan.
- Rubber Gasketing: Fitted around the air shaft to help seal the damper opening and also to eliminate noise upon closure.
- Rubber Stops: Used to prevent the dampers from locking in the open position, rubber stops are installed on the upper wind band support.

OPTIONS & ACCESSORIES

Fan Guards

Since RAU/RAUMO fans contain rotating parts, PennBarry recommends the following safety precautions be taken during installation, operation, and maintenance. Install fan guards on all nonducted fan installations to protect people working around the fan from accidental falling debris and to protect the fan from foreign objects coming into contact with moving parts. Inlet fan guards for HiteSaver models HS and HZ must be fabricated locally. For proper and safe operation, fan RPM should not exceed that recommended in performance tables. Installations that result in excessive vibration are unacceptable. Designers should urge contractors to refer to operation, maintenance, and instruction manuals for proper and acceptable levels of vibration.

Safety Disconnect Switches

UL listed, non-fused, safety disconnect switches can be provided to match system electrical characteristics. These can be furnished in a weatherproof enclosure specifically designed for outdoor installation; or, under the motor weather cover in remote drive belted units. Disconnect switches are to be field wired by a licensed electrician.



Latches

For areas of high wind and interior positive pressure, magnetic latches and/or air activated positive locking latches are also available for factory or field mounting. These latches help to minimize flutter and keep dampers closed when the fan is not in operation.

Finishes

Coatings such as air dry enamel, epoxy, or heresite are available upon request. See the coatings brochure for details.

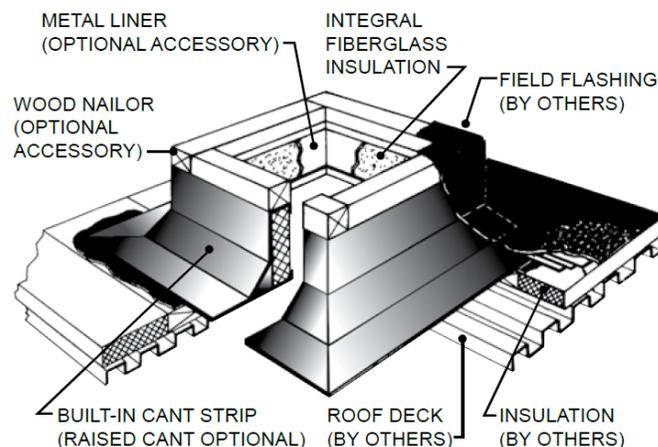
Heat & Smoke Removal Configuration (RAUMO - HS only)

For smoke control systems, PennBarry Heat and Smoke Removal configured RAUMO units are listed at 500°F for 4 hours.

Roof Curbs

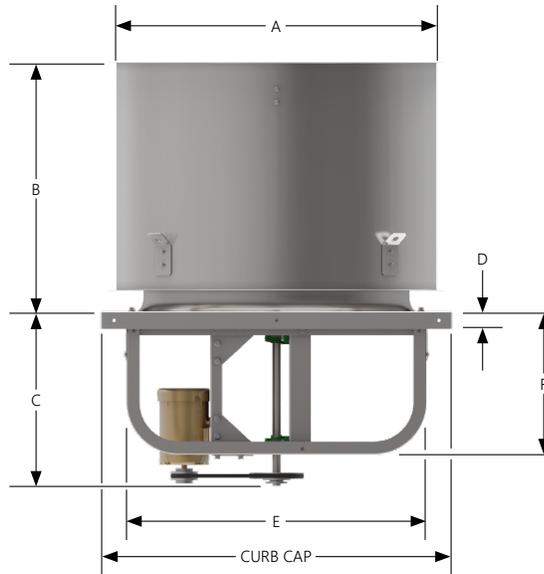
Roof curbs are furnished in a variety of types from canted or selfflashing to sloped or flat pitch. Standard construction includes galvanized or aluminum material, insulation, and metal, rubber gasketing or wooden nailer mounting surface. See the Roof Curbs brochure for details.

Illustrated below is the Unibeam Curb, which is most generally used with RAU/RAUMO vertical discharge ventilators. Costs of this device are normally less than field built curbs. The Unibeam Curb shown is for flat roof installation.



RAU | STANDARD HEIGHT

RAU/RAUMO ventilators are available in two standard drive arrangements. Belt drive units are available for general ventilation conditions where the motor and drive components are installed within the ventilator air shaft to take advantage of airstream cooling action. The exhausting air washes the motor and bearings, increasing longevity of these components.

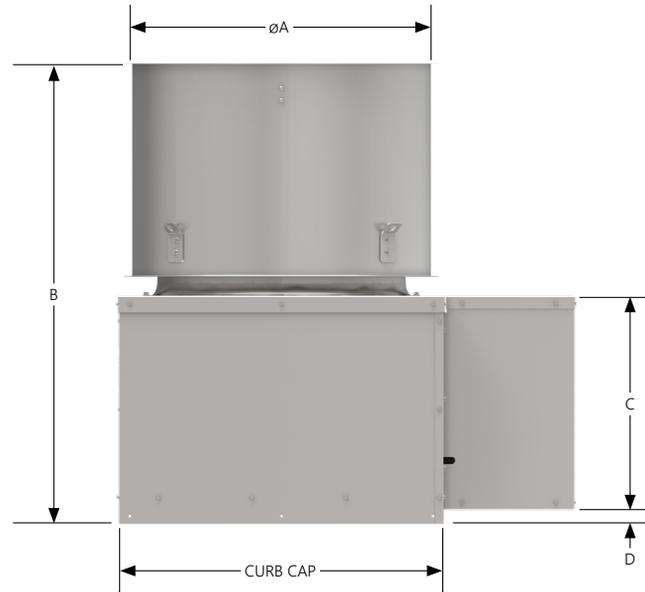


1. Venturi Panel
2. Propeller (Hp & Lp)
3. Structure Assembly
4. Shaft & Bearing
5. Motor Mount Assembly
6. Bearing Mounting Plate
7. Windband Assembly
8. Damper Assembly

Model	A	B	C	D	E	F	Curb Cap	Approx. weight (lbs.)	
								Level 1	Level 2
20	28.25	22.88	16.38	2.00	23.38	12.38	30.00	134	137
24	30.50	25.75	15.88	2.00	28.13	12.38	34.00	150	153
30	38.50	28.50	19.88	2.00	34.50	16.38	40.00	193	197
36	42.50	33.00	19.75	2.00	41.00	19.75	46.00	227	233
42	50.75	37.00	19.75	2.00	47.50	16.38	52.00	309	318
48	57.00	41.13	21.00	2.00	53.50	17.50	58.00	364	377
54	61.88	45.13	22.63	2.00	61.00	19.00	66.50	473	489

All dimensions in inches. *First gauges are for mounting bases. Second gauges are for windbands and air shafts. Although mounting base dimensions are standard, adapters and modifications are available when needed. Ask for certified dimension drawings before proceeding since dimensions do change. Approximate weight does not include accessories.

RAUMO, REMOTE DRIVE UNIT



1. Protective Windband(Ribbed Reinforced)
2. Spun Inlet Venturi
3. Motor
4. Damper Stop-Rubber Cushioned
5. Belt & Bearing Enclosure With Air Guide (Optional)
6. Drive Support Assembly
7. Drainage Gutter
8. Butterfly Damper Assembly
9. Motor Weather Cover
10. Supporting Bracket
11. Fan Shaft & Bearing
12. Belt & Pulley
13. Propeller (Hp & Lp)

Model	A	B	C	D	Curb Cap	Approx. weight (lbs.)	
						Level 1	Level 2
20	28.25	46.88	21.25	2.25	29.50	254	257
24	30.50	49.75	21.75	2.25	33.50	278	281
30	38.50	56.38	25.75	2.25	39.50	353	357
36	42.50	61.00	25.75	2.25	45.50	419	425
42	50.75	65.00	25.75	2.25	51.50	558	566
48	57.00	69.00	25.75	2.25	57.50	628	641
54	61.88	74.88	27.50	2.25	66.00	813	829

Outside dimension of curb should be 1 1/2" less than 'E' dimension.
 All dimensions in inches. Must specify heat and smoke option when ordering.
 Approximate weight does not include accessories.

RAU/RAUMO FAN SELECTIONS

Model

RAU / RAUMO

Construction

<p>Tag <enter value></p> <p>Altitude <enter value></p> <p>Temperature (°F) <enter value></p> <p>Application Flow (CFM) <enter value></p> <p>Application Static Pressure (inwg) <enter value></p> <p>Size 20L1 20H1</p>	<p>20L2 20H2 24L1 24H1 24L2 24H2 30L1 30H1 30L2 30H2 36L1 36H1 36L2 36H2 42H1 42L2 42H2 48L2 48H2 54L2 54H2</p>	<p>Drive Type B = Belt</p> <p>Rotation/Discharge U = Exhaust</p>
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Motor

<p>Motors and Drives F = Factory supplied L = Less motor, less drive X = Special</p> <p>V-Belt Drive Kit 0 = None A = Adjustable drive kit L = Life safety X = Special</p> <p>Bearing Life 0 = Standard</p> <p>Horsepower .250 = 1/4 .333 = 1/3 .500 = 1/2 .750 = 3/4 1.00 = 1 1.50 = 1 1/2 2.00 = 2 3.00 = 3 5.00 = 5 7.50 = 7 1/2 10.00 = 10 15.00 = 15</p>	<p>20.00 = 20 X = Special</p> <p>Motor Enclosure 0 = None 1 = TEFC 2 = TENV 3 = TEAO 4 = OPAO 5 = ODP 6 = OP (Open) 7 = EXP C2D1 X = Special</p> <p>Motor Efficiency P = Premium S = Standard</p> <p>Motor Voltage A = 115V B = 208V C = 230V D = 277V F = 460V G = 575V H = 220V J = 380V K = 400V</p>	<p>Motor Phase 1 = 1 Phase 3 = 3 Phase</p> <p>Motor Frequency 5 = 50 Hz 6 = 60 Hz</p> <p>Motor Speed B = 1200 RPM C = 1800 RPM F = 1000 RPM G = 1500 RPM T = 870 RPM X = Special</p> <p>Motor Shaft Grounding Ring 0 = None S = Shaft Grounding Ring</p> <p>Motor Thermal Overload Protection 0 = None T = Thermal Overload Protection</p>
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RAU/RAUMO FAN SELECTIONS

Common Options

VFD / Speed Controllers / Starters

0 = None
S = Starter
V = VFD

Sensors

0 = None
F = Firestat switch

Motor, Shaft and Belt Guards

0 = None
B = Belt guard

Spare Belts

0 = None
1 = 1 spare set
2 = 2 spare set

Service Switches

0 = None
A = NEMA 1 - loose
C = NEMA 1 - mounted
D = NEMA 3R - loose
F = NEMA 3R - mounted
G = NEMA 4 - loose
N = NEMA 7/9 - loose

Internal Wiring

0 = None
1 = NEMA 1
3 = NEMA 3

Inlet and Outlet Guards / Screens

0 = None

N = Inlet guard
U = Outlet guard
T = Inlet and outlet guard

Extended Lube Lines

0 = None
C = Extended copper lube lines
L = Extended polyamide lube lines

Crating Option

0 = Standard

Curb

0 = None
C = Curb

Options and Accessories

Paint/Coating

0 = None
A = Standard Enamel
Q = Airdry phenolic with UV protection
R = High Temp Black
X = Special
* Colors only available for Standard Enamel

Paint Color

0 = None
A = Standard color (gray)

B = Chrome green
C = Pale green
D = Dove gray (PPC standard)
E = White
F = Oxford beige
G = Dover white
H = Desert tan
J = Black
K = Smoke gray
L = Brick red
M = Peppercorn
N = Pale brown
P = Chocolate brown

Q = Timeless bronze
R = Charcoal
X = Special
*Colors only available for Standard Enamel

UL / ETL Listing

1 = UL 705

Product Specific Options

Magnetic Damper Latch

0 = None
M = Magnetic damper latch

Butterfly Damper

A = Aluminum Butterfly Damper
G = Galvanized Butterfly Damper

LWP/ RAU/ RAUMO Starter Disconnect

0 = None
D = Disconnect Included

LWP/ RAU/ RAUMO Starter Enclosure

0 = None
1 = NEMA 1
3 = NEMA 3R

PENNBARRY PRODUCT SOLUTIONS



Commercial

- Roof & wall exhaust centrifugal fans
- Ceiling, wall, & inline centrifugal fans
- Roof supply centrifugal fans
- Square & round centrifugal fans
- Wall mounted axial fans
- Hooded roof axial fans
- Upblast roof axial fans
- Gravity ventilators
- Roof curbs



Industrial

- Freestanding centrifugal fans
- Industrial & material handling fans
- Tubular centrifugal inline fans
- Mixed flow centrifugal fans
- Plug & plenum fans
- Wall mounted propeller fans
- Tube axial fans
- Vane axial fans
- Bifurcator fans
- Lab exhaust



Kitchen ventilation

- Make-up air units
- Exhaust fans



Energy recovery

- Outdoor units
- Indoor units

PennBarry is proud to be your preferred manufacturer of commercial and industrial fans and blowers. Learn how PennBarry can assist you in your next application by contacting your PennBarry Representative or visiting us on the web at www.pennbarry.com

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PennBarry reserves the right to make changes at any time, without notice, to models, construction, specifications, options and availability. This document illustrates the appearance of PennBarry products at the time of publication. View the latest updates on the PennBarry website.

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