

# LWP

Axial Fans

PRODUCT GUIDE



PENNBARRY™

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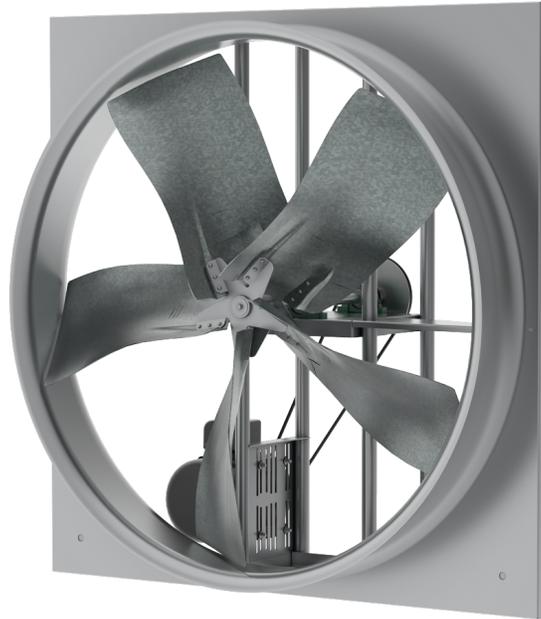
# INTRODUCTION

## LWP Series Wall Mounted Propeller Fans

The LWP propeller fan line addresses the need for wall mounted exhaust and ventilation. Potential application sites include garages, factories, warehouses, and other relatively clean air applications.

All propellers in the LWP product line are statically and dynamically balanced to AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans, to ensure quiet and reliable operation.

All fans are fully assembled and factory tested prior to shipping; belt drive models are pre-set to the specified RPM.



# CERTIFICATIONS & LISTINGS



## LWP

PennBarry certifies that the LWP models 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. The AMCA Certified Ratings Program seal applies to the FEI for direct drive LWP models only



## UL and cULus Certification

LWP fans carry the UL label, UL705, (ZACT/ZACT7), file #E28413

# FEATURES & BENEFITS

## LWP Series

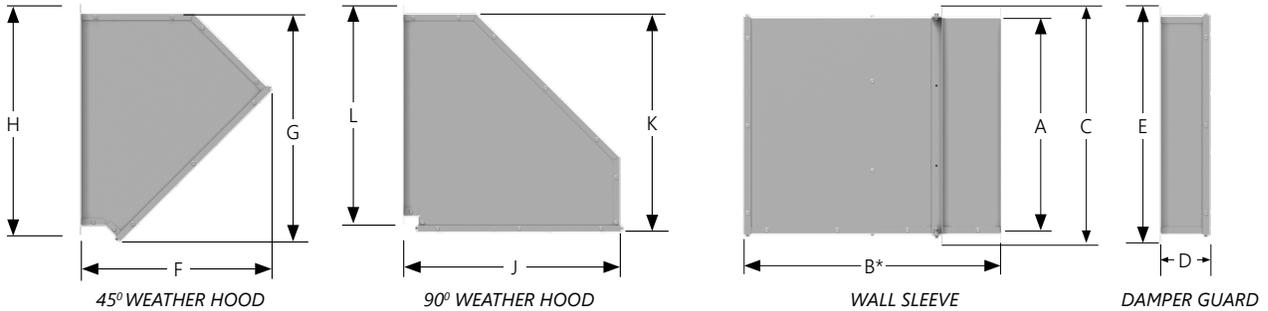
- Static pressure up to 1.62 in. wg.
- Flow capacity up to 77,819 CFM.
- Exhaust or supply in light-duty applications.
- Statically and dynamically balanced propeller with steel hub,
- Galvanized Steel Construction.
- Complies with AMCA Standard 204-96.
- Size range from 20" to 60".

# OPTIONS & ACCESSORIES

## Firestat

Firestat switches automatically disconnect the unit when the temperature of the air being exhausted exceeds a preset rating.

## Accessory Information



Size	A	B	C	D	E	F	G	H	J	K	L
20	26 15/16	43 5/8	30 1/4	6 15/16	30 1/4	23 9/16	28 11/16	30 1/4	28 13/16	30 11/16	30 1/4
24	32 15/16	44 1/2	36 1/4	6 15/16	36 1/4	27 15/16	34 7/8	36 1/4	35 1/4	36 11/16	36 1/4
30	38 15/16	48 7/8	42 1/4	6 15/16	42 1/4	32 1/16	40 3/4	42 1/4	41 5/8	42 11/16	42 1/4
36	44 15/16	50 1/8	48 1/4	7 15/16	48 1/4	36 3/8	46 4/5	48 1/4	48	48 11/16	48 1/4
42	50 15/16	51 3/8	54 1/4	8 1/16	54 1/4	40 5/8	52 4/5	54 1/4	54 7/16	54 11/16	54 1/4
48	56 15/16	54 3/4	60 1/4	8 1/16	60 1/4	44 7/8	58 4/5	60 1/4	60 13/16	60 11/16	60 1/4
54	62 5/8	57 1/2	66 5/16	8 1/16	66 5/16	49 1/4	64 15/16	66 5/16	67 3/8	66 15/16	66 5/16
60	68 5/8	59 1/4	72 5/16	8 1/16	72 5/16	53 5/8	71 1/8	72 5/16	73 13/16	72 15/16	72 5/16

## Weather Hood

Weather hoods are designed to divert rain and snow from exhaust and supply wall openings. They are designed to be surface mounted and can be installed in conjunction with wall dampers. Weather Hoods are available at 45 and 90 degrees, and all guards are provided standard with all shields. Construction is galvanized steel and can be painted upon request. Weather hoods will be shipped factory assembled.

Use the tables above to help with space planning and sizing guidelines. Please, note the maximum recommended intake (supply) CFM. This guideline will keep the intake CFM below 500 FPM. If the intake CFM exceeds the recommended volume, use the next larger fan.

Caution: When a LWP fan is selected for a supply application, fan velocities greater than 500 FPM can pull water into the structure. We suggest that a PennBarry weather hood be selected in supply applications to help prevent water penetration when high velocity conditions cannot be avoided.

## Wall Sleeve

The wall sleeve is optional for exhaust configurations but is required to install fans in a supply configuration. Construction is galvanized steel with mounting holes of either supply or exhaust configurations and can be painted upon request. All wall sleeves include guards that meet OSHA requirements.

## Damper Guard

The damper guard assembly includes a sheet metal sleeve with an attached guard. The damper guard is surface mounted and long enough to enclose a wall damper, if provided. It is removable for maintenance. The guard conforms to OSHA specifications.

Protection that conforms to OSHA regulations should be installed when fans are located within seven (7) feet of floor and/or working level, or within reach of personnel. Review OSHA codes for specific details.

## Wall Collar

Wall collars offer an alternative method and an easier way for mounting the LWP propeller fan and its accessories such as a rear guard. Its standard construction is galvanized steel with mounting flanges and pre-punched mounting holes.

# OPTIONS & ACCESSORIES

## Filter Box

The filter box is an easy and flexible way to mount the LWP propeller fan for supply installations where filtering is needed. Standard construction is galvanized steel, include an adjustable perimeter angle frame for proper installation to any wall thickness. Includes permanent 2" washable filters that can be removed for cleaning through the removable access panel.

## Slip in Fan Pack

The Slip in Fan Pack provides a ventilation package in one convenient and compact assembly. The Fan Pak incorporates the LWP direct drive fans with their integral rear wire guards installed in a galvanized steel sleeve with a self-acting damper on the exterior face. (A motorized damper can be substituted for the standard damper when desired.)

A moveable angle frame is positioned on the perimeter of the sleeve. This adjusts to the wall thickness. When properly fastened, it secures the assembly in the wall opening. Anchor bolts, lag screws or other appropriate fasteners should be used to fasten the unit to the inside and outside face of the wall or mounting frame.

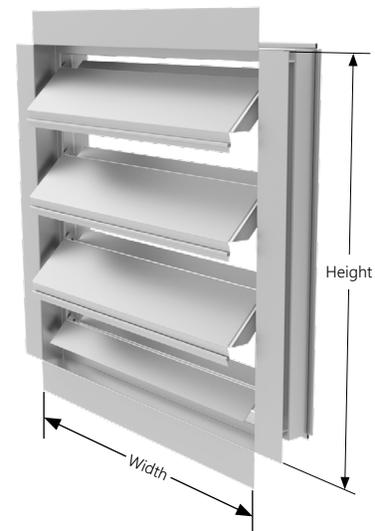
## Dampers

Gravity dampers, which are the most popular form of back draft protection, open when the fan starts and automatically shut when the fan stops. These dampers are used for exhaust only and are enclosed within an extruded aluminum frame that protects the aluminum blades. Each blade pivots freely on synthetic bearings. Blades have vinyl blade seals and are interconnected with tie-rods for simultaneous operation.

The motorized damper is made from galvanized steel construction and includes extruded vinyl seal, mechanically locked, and comes with an enclosed motorized actuator. The actuator is field wired in parallel with the fan. Actuator voltage will be matched to your selected fan motor voltage. Allow a minimum 7" between the fan and the damper when motorized.

Dampers required for supply applications are provided as motorized top-pivot type. Motorized center-pivot type dampers are available. If a standard top-pivot damper is used for supply applications, a field supplied time delay relay is strongly recommended.

Caution: When an LWP fan is selected for a supply application, fan velocities greater than 500 FPM can pull water into the structure. We suggest that a PennBarry Weather Hood be selected in supply applications to help prevent water penetration when high velocity conditions cannot be avoided.



## Safety Service Switch

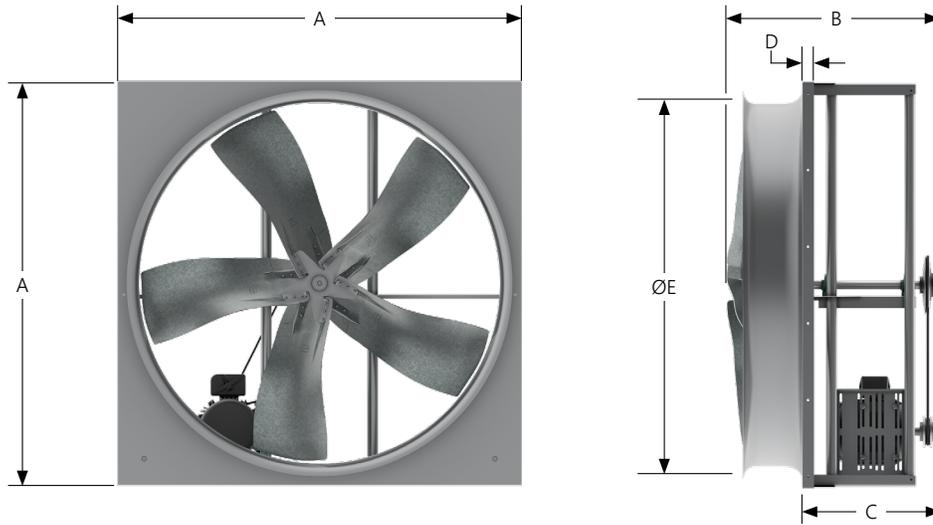
Safety service switches are available to allow positive electrical shut-off and safety. Switches are shipped loose for field mounting. (Factory wiring of explosion proof applications is not available.) A wide range of NEMA rated enclosures with service switches are available for indoor, outdoor, and explosion proof installations. Service switches are to be field wired by a licensed electrician.



## Transformers

To meet local requirements, 277V transformers are available for all direct drive units. The transformers are stepdown and will step the voltage down to 115V. Shipped loose for field installation.

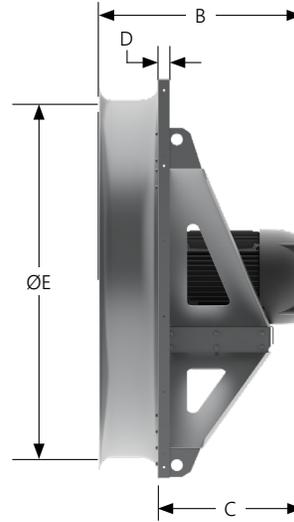
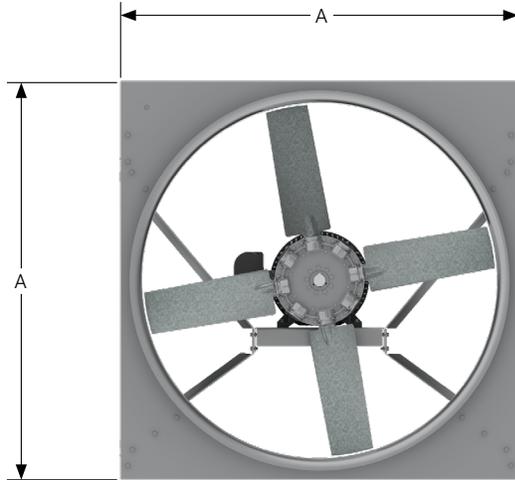
# LWP | BELT DRIVE



Size	A	B Max	C	D	E	Approx. weight (lbs.)	
						Level 1	Level 2
20	26.00	20.75	16.38	2.00	20.25	85	87
24	32.00	21.25	16.38	2.00	24.30	94	98
30	38.00	25.13	20.25	2.00	30.31	121	125
36	44.00	25.75	19.75	2.00	36.38	134	140
42	50.00	26.63	19.75	2.00	42.44	163	172
48	56.00	29.00	21.00	2.00	48.50	189	202
54	62.00	31.50	22.63	2.00	56.56	233	250
60	68.00	32.88	22.88	2.00	60.38	N/A	288

All dimensions are in inches  
 Approximate weight does not include accessories

# LWP | DIRECT DRIVE



Size	A	B Max	C	D	E	Max Mtr Frame Size	LESS MOTOR/DRIVE WEIGHT (lbs)
20	26.00	19.81	15.44	2.00	20.25	215T	40
24	32.00	26.69	21.43	2.00	24.30	215T	60
30	38.00	26.36	21.42	2.00	30.31	215T	68
36	44.00	29.80	23.87	2.00	36.38	256T	95
42	50.00	30.29	23.36	2.00	42.44	284T	109
48	56.00	30.78	22.85	2.00	48.50	286T	172
54	62.00	33.71	24.80	2.00	56.56	324T	220
60	68.00	34.44	24.52	2.00	60.63	324T	241

All dimensions are in inches

# LWP SERIES FAN SELECTIONS

## Model

LWP = Large Wall Prop

## Construction

Application	Unit Size	48L2 48H2 54L1 54H1 54L2 54H2 60L2 60H2
E = Exhaust/ relief S = Supply/ intake	20L1 20H1 20L2 20H2 24L1 24H1 24L2 24H2	Drive Type
Tag	30L1 30H1 30L2 30H2	B = Belt D = Direct
<enter value>	36L1 36H1 36L2 36H2 42L1 42H1	Fan Speed
Altitude	42L2 42H2 48L1 48H1	<####>
<enter value>		Rotation/Discharge
Temperature (°F)		S = Supply U = Exhaust
<enter value>		
Application Flow (CFM)		
<enter value>		
Application Static Pressure (inwg)		
<enter value>		

## Motor

Motors and Drives	15.0 = 15 20.0 = 20 X = Special	G = 575V H = 220V J = 380V K = 400V L = 200V
F = Factory supplied L = Less motor, less drive X = Special	Motor Enclosure	Motor Phase
V Belt Drive Kit	0 = None 1 = TEFC 2 = TENV 3 = TEAO 4 = OPAO 5 = ODP 6 = OP (Open) 7 = EXP C2D1 X = Special	1 = 1 Phase 3 = 3 Phase
0 = None A = Adjustable Drive Kit X = Special	Motor Efficiency	Motor Frequency
Bearing Life	G = Gplus (ECM) M = Gplus (Permanent Magnet) P = Premium S = Standard	5 = 50 Hz 6 = 60 Hz
0 = Standard	Motor Voltage	Motor Speed
Horsepower	A = 115V B = 208V C = 230V D = 277V F = 460V	B = 1200 RPM C = 1800 RPM F = 1000 RPM G = 1500 RPM T = 870 RPM X = Special
.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 10.0 = 10		

# LWP SERIES FAN SELECTIONS

## Motor

<p>Shaft Grounding Ring</p> <p>0 = None S = Shaft Grounding Ring</p>	<p>Thermal Overload Protection</p> <p>0 = None T = Thermal Overload Protection</p>
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## Common Options

<p>VFD / Speed Controllers / Starters</p> <p>0 = None 1 = Loose 115v 1ph to 230v 3ph Mtr Speed Controller IP22 4 = Loose 200-240v 1ph to 3ph Mtr Speed Controller IP22 Q = Loose Mtr Spd Ctrlr (up to IP22) S = Starter V = VFD</p> <p>Controllers</p> <p>0 = None / Provided by others 3 = Multi speed controller, iQ-MS (ECM only) 4 = iQ-IPCM no power supply (ECM only) 5 = iQ-IPCM w/ 115V/230V power supply (ECM only) 6 = iQ-IPCM w/ 277V power supply (ECM only) 8 = 0-10v BMS wiring only (ECM only) 9 = Installed Multi speed controller, iQ-MS (ECM only)</p>	<p>Sensors</p> <p>0 = None F = Firestat switch</p> <p>Spare Belts</p> <p>0 = None 1 = 1 spare set 2 = 2 spare set</p> <p>Service Switches</p> <p>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</p> <p>Internal Wiring</p> <p>0 = None 1 = NEMA 1 3 = NEMA 3</p>	<p>Inlet and Outlet Guards / Screens</p> <p>0 = None H = Propeller Rear guard</p> <p>Extended Lube Lines</p> <p>0 = None L = Extended polyamide lube lines</p> <p>Crating Option</p> <p>0 = Standard</p> <p>Damper</p> <p>0 = None D = Damper</p>
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## Options and Accessories

<p>Paint/Coating</p> <p>0 = None 6 = Fan &amp; Acc - Standard Enamel A = Standard Enamel Q = Airdry phenolic with UV protection</p> <p>Paint Color</p> <p>0 = None A = Standard color (gray) B = Chrome green</p>	<p>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>	<p>P = Chocolate brown Q = Timeless bronze R = Charcoal X = Special</p> <p>UL / ETL Listing</p> <p>0 = None 1 = UL 705</p>
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# LWP SERIES FAN SELECTIONS

## Product Specific Options

### Weather Hood / Shutter Guard

- 0 = None
- C = Weather hood 45° with front guard (assembled)
- D = Weather hood 90° with front guard (assembled)
- E = Shutter guard with front guard (assembled)

### Fan Pack / Mounting Sleeve

- 0 = None
- P = Fan pack
- Q = Wall collar (assembled)

- R = Wall collar (knocked down)
- Y = Wall mounting sleeve (assembled)
- Z = Wall mounting sleeve (knocked down)

### LWP/ RAU/ RAUMO Starter Disconnect

- 0 = None
- D = Disconnect Included

### LWP/ RAU/ RAUMO Starter Enclosure

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

### Filters

- 0 = None
- K = Filter housing w/ 2" Washable

# PENNBARRY PRODUCT SOLUTIONS

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## 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](http://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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