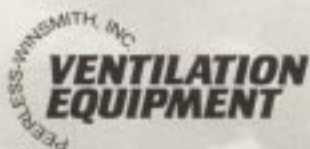




# PROPELLOR FANS

INDUSTRIAL AND COMMERCIAL FANS  
BELT AND DIRECT DRIVE



**PEERLESS ELECTRIC**

**MADISON MANUFACTURING COMPANY**

AFFILIATE OF PEERLESS-WINSMITH, INC.

# MODEL PVL EXHAUST FANS

## Application

Economical fans for use in kitchens, laundries, taverns, bakeries and also farm ventilation. Can be used anyplace where a smaller amount of ventilation is desired.

## Features

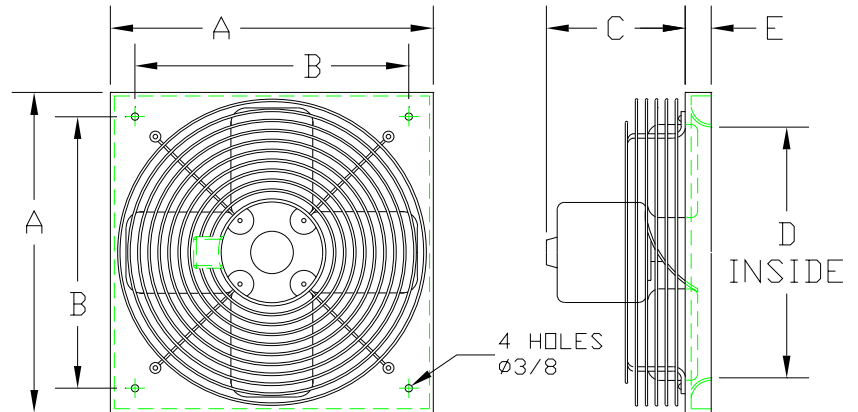
**General Construction** – Constructed with an integral motor-fan guard mounted on a rugged steel panel. Aluminum blade assemblies are dynamically balanced and produce quiet, efficient air flow. Panels are painted in baked enamel.

## Motors

All units with totally enclosed long hour duty shaded pole motors with permanently lubricated sealed sleeve bearings. All models except PVL-8 and PVL-10 can be mounted horizontally as well as in the vertical position. All units are equipped with a terminal box for permanent wiring to a remote control switch.

## Custom Features

The variable speed controller with a field adjustable control feature allows the user to set desired anti-stall or minimum speed levels. These speed controllers are available for all PVL exhaust fans.



CERTIFIED DIMENSION PRINTS FURNISHED UPON REQUEST

PVL-8 and PVL-10



PVL-12 and PVL-16



**Fan Performance and Dimensions**

MODEL NO.	FAN DIA.	CAPACITY - CFM				MOTOR H.P.	R.P.M. HIGH	SHUTTER SIZE	A	B	C	D	E	SHIP WT.
		FREE AIR	.1" S.P.	1/8" S.P.	1/4" S.P.									
PVL- 8	8"	400	325	273	-	1/50	1550	10	13	11-3/4	6	8-3/4	5/8	8
PVL- 10	10"	600	515	490	-	1/50	1550	10	13	11-3/4	6	10-3/8	5/8	9
PVL- 12	12"	1380	1270	1230	920	1/12	1650	12	20	18	6-7/8	12-1/2	1	25
PVL- 16	16"	1700	1510	1460	925	1/12	1550	16	20	18	6-7/8	16-1/2	1	25

Performance shown is for PVL exhaust fans without ducts.

# MODEL PVM AND PVH EXHAUST FANS

## Application

Used for quiet ventilation of meeting rooms, kitchens, industrial ventilation or equipment cooling. High quality fans for permanent installations with service free motors.

## Features

### General Construction

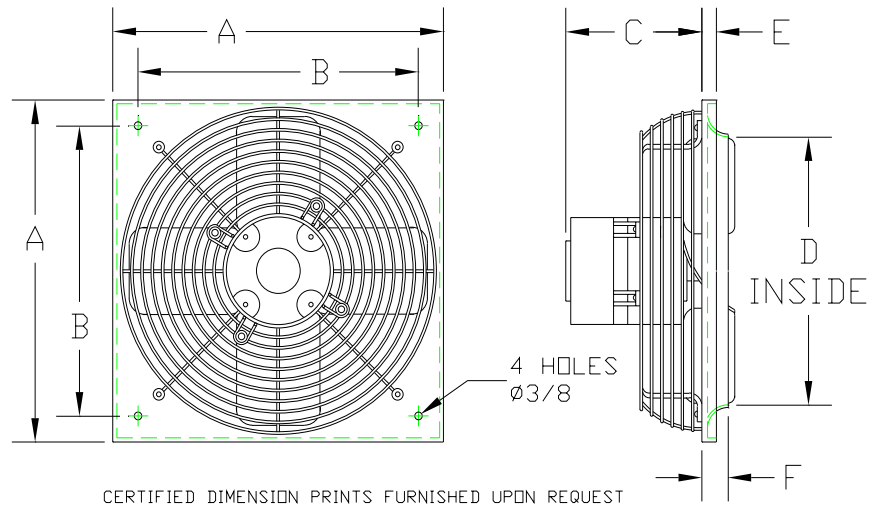
Models PVM and PVH are constructed with an integral motor-fan guard mounted on a rugged steel panel. All blade assemblies are dynamically balanced and operate at high efficiencies in the deep drawn venturi of the panel. Sturdy square panels designed for ease of installation over rough round, or square openings by means of 4 lag screws or bolts. It is recommended that shutters be mounted on outside of building to protect fan from weather and eliminate back-draft when fan is not operating. Complete fan unit finished in attractive baked enamel.

### Motors

Standard motors furnished are totally enclosed air over. All motors are equipped with pre-lubricated sealed ball bearings to provide years of service and facilitate fan installation in any position. Single phase motors for PVM-16, 18 and 20 are split phase single voltage, 115 or 230 volts, both single and two speed. Single phase motors for PVH-16 and 18 are split phase single voltage, 115 or 230 volts. The PVH-20 is 115/230 dual voltage. Three phase motors rated at 230/460 volts are also available on all models upon request.

### Custom Features

Discharge guards for all models are available. For slight additional charge, special reverse flow fans are built for blowing into buildings.



### Fan Performance Data

MODEL NO.	MOTOR H.P.	R.P.M. HIGH	CAPACITY - CFM					LOW SPEED		MAX B.H.P.
			F.A	.1" S.P.	1/8" S.P.	1/4" S.P.	3/8" S.P.	R.P.M.	C.F.M. (F.A.)	
PVM- 16	1/8	1150	1950	1775	1730	1420	-	850	1440	.125
PVM- 18	1/6	1150	2800	2635	2585	2300	-	850	2070	.166
PVM- 20	1/3	1150	4050	3800	3750	3425	2650	850	2995	.370

### Fan Dimensions

FAN DIA.	A	B	C	D	E	F	RECOMD. SHUTTER SIZE
16"	24	22-1/8	10-1/4	16-3/4	1	2-7/16	17 X 17
18"	26	24-1/8	11-3/16	18-3/4	1	2-3/4	19 X 19
20"	28	26-1/8	12-5/8	20-3/4	1	3	21 X 21

## EXHAUST FANS ( HIGH SPEED)

### Application

Used for industrial ventilation, laundries, kitchen exhaust and farm buildings where large volumes of air are required or where fans must operate against resistance, and may also be installed in duct installations where low static resistance is encountered.

### Fan Performance Data

MODEL NO.	MOTOR H.P.	FAN R.P.M	CAPACITY - C.F.M.								MAX B.H.P.
			F.A	1" S.P.	1/8" S.P.	1/4" S.P.	3/8" S.P.	1/2" S.P.	5/8" S.P.	3/4" S.P.	
PVH- 16	1/3	1750	2975	2865	2835	2675	2525	2400	-	-	.37
PVH- 18	1/2	1750	4250	4150	4113	4000	3825	3625	3400	2900	.62
PVH- 20	3/4	1750	6200	6025	5975	5775	5500	5350	5125	4900	1.15

# MODEL PVI INDUSTRIAL EXHAUST FANS

## Application

Used as heavy duty industrial ventilating fans in steel mills, machine shops, packing plants, etc. or in duct installations where static pressure up to one inch is encountered.

## Features

### General Construction

The panel and support arms are arc welded together for rugged construction. Blade assemblies are dynamically balanced and operate at high efficiency in the deep drawn venturi of the panel. The sturdy square panel is designed for ease of installation over rough round, or square openings by means of lag screws or bolts. Fan units are supplied with a heavy duty motor base which is adjustable to provide proper belt tension. Motor pulley is adjustable to provide lower fan speeds, if required. V-belt drives are selected with conservative ratings to give long service. Because of the complete ball bearing construction, fan units may be mounted in any position. Complete fan unit finished in attractive baked enamel.

## Motors

Open drip proof continuous duty motors are standard equipment on all units. Totally enclosed and explosion proof motors are also available. Motors 1/3 HP through 3/4 HP single phase, single and two speed, are resilient mounted ball or sleeve bearing. All other motors are ball bearing rigid mounted selected for quiet operation. Two speed motors 1750/1150 are available at extra cost.

## Fan Bearings

Self-aligning, single row ball bearing pillow blocks rigidly support the fan on belt drive units. Computerized selections have been made on all bearings based on radial, thrust and combined loads to give 200,000 average life hours (AFMBA  $L_{50}$ ) at the maximum design RPM for each fan. Bearings selected have effective seals to retain the lubricant and to prevent against contamination. All have grease fittings for re-lubrication.

## Custom Features

Special reverse flow fans for blowing air into buildings; inlet and discharge guards are optional features available for a slight additional charge. For installation in hazardous locations, fan units with explosion proof motors, non-ferrous blades and spark proof belts are available.

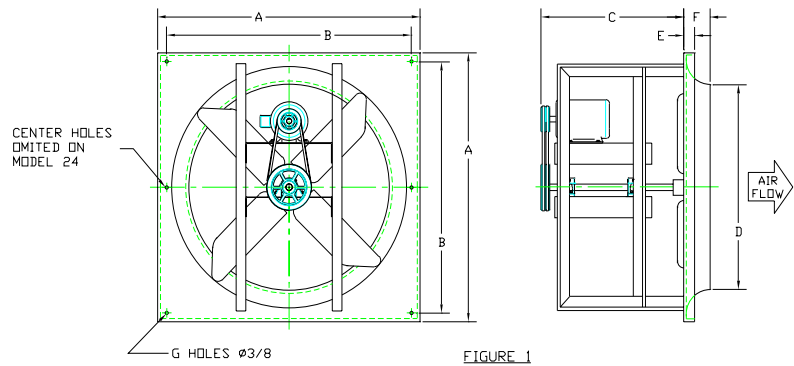


FIGURE 1

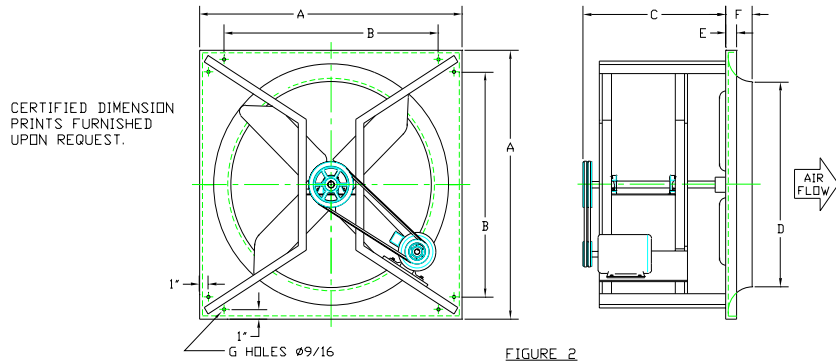
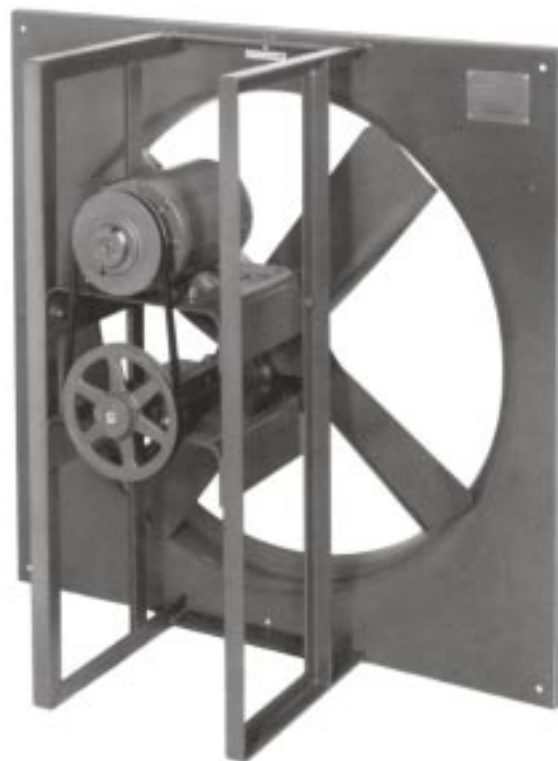


FIGURE 2



**Fan Performance - Type PVI Belt Drive**

Model No.	Motor H.P.	Fan R.P.M.	Fan Dia.	Free Air	1/10"	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	*Max B.H.P.
PVI-24C	1/3	865		5890	5210	5050								.40
PVI-24D	1/2	991		6700	6140	6000	5060							.60
PVI-24E	3/4	1134	24"	7700	7200	7070	6390	5220						.90
PVI-24F	1	1248		8500	8010	7910	7300	6550	4800					1.20
PVI-24G	1-1/2	1429		9690	9300	9210	8720	8200	7410	6000				1.80
PVI-30D	1/2	730		8418	7550	7300	5800							.60
PVI-30E	3/4	835		9636	8900	8710	7550	6000						.90
PVI-30F	1	920	30"	10606	10000	9900	8820	7590	6100					1.20
PVI-30G	1-1/2	1052		12140	11600	11420	10610	9850	8600	7300				1.80
PVI-30H	2	1158		13362	12850	12725	12020	11250	10400	9300	8000			2.40
PVI-36E	3/4	526		11000	9989	9710	8050							.90
PVI-36F	1	579		12100	11200	10989	9600	7588						1.20
PVI-36G	1-1/2	663	36"	13850	13075	12900	11750	10400	8650					1.80
PVI-36H	2	729		15210	14512	14375	13625	12225	11000	9310				2.40
PVI-36J	3	837		17300	16830	16710	16190	15025	14100	13010	11540			3.60
PVI-42F	1	492		15790	14100	13720	11200							1.20
PVI-42G	1-1/2	563		18100	16700	16250	14250	11700						1.80
PVI-42H	2	620	42"	19900	18625	18300	16500	14550	11400					2.40
PVI-42J	3	710		22775	21650	21400	19750	18150	16500	13250				3.60
PVI-42K	5	840		27000	26100	25800	24650	23225	22000	20500	18750			6.00
PVI-48G	1-1/2	477		21870	19750	19250	16200							1.80
PVI-48H	2	525		24070	22200	21700	19100	16000						2.40
PVI-48J	3	601	48"	27550	25990	25500	23250	20800	18150					3.60
PVI-48K	5	713		32670	31325	31000	29150	27050	25000	22800				6.00
PVI-48L	7-1/2	815		37400	36150	35850	34450	32780	31190	29350	27250			9.00
PVI-54H	2	426		27750	25665	25085	21870	16100						2.40
PVI-54J	3	487		31720	29935	29440	26866	23580	17775					3.60
PVI-54K	5	578	54"	37650	36125	35750	33720	32480	28730	24760	17530			6.00
PVI-54L	7-1/2	662		43118	41815	41460	39775	37910	35915	33575	30560	26260		9.00
PVI-54M	10	726		47426	46300	45990	44400	42500	41000	39000	36650	34200	31150	12.00
PVI-60J	3	430		37120	34350	33610	29585	26255						3.60
PVI-60K	5	509		43940	41640	41015	37870	34310	29725					6.00
PVI-60L	7-1/2	583	60"	50325	48285	47810	45124	42270	39060	35210	27985			9.00
PVI-60M	10	642		55420	53600	53150	50720	48280	45540	42540	39030	33260		12.00
PVI-60N	15	735		63445	61887	61445	59390	57255	55125	52860	50245	47450	44250	18.00

\*B.H.P. Does not include drive losses.

Performance shown is for PVI exhaust fans without ducts.

**Fan Dimensions - Type PVI**

MODEL NO.	FAN DIA.	SHAFT DIA.	FIG.	A	B	C	D	E	F	G	MAX. MOTOR
PVI- 24	24"	3/4	I	34	31-3/4	15-3/4	24-3/4	1	3-5/8	4	145T
PVI- 30	30"	3/4	I	40	37-3/4	19-1/8	30-3/4	1-1/4	3-3/4	6	184T
PVI- 36	36"	1	I	46	43-5/8	20-1/4	36-3/4	1-1/2	4	6	184T
PVI- 42	42"	1-3/16	I	52	49-5/8	19-5/8	42-3/4	1-3/4	4	6	213T
PVI- 48	48"	1-3/16	II	58	49-1/2	23	48-3/4	1	4	8	215T
PVI- 54	54"	1-7/16	II	60	52	23-1/4	55	2-3/4	5	8	215T
PVI- 60	60"	1-7/16	II	66	58	24	61	2-3/4	5-1/2	8	254T

# RECOMMENDED WALL OPENINGS FOR PEERLESS ELECTRIC EXHAUST FANS AND REVERSE FLANGE SHUTTERS

Details and dimensions shown here are offered to coordinate the PEERLESS ELECTRIC PROPELLOR FANS shown in this catalog with shutters in Catalog 38-550. Shutter dimensions have been carefully matched to panel and venturi physical dimensions. Careful aerodynamic tests have been given both products to insure full catalog performance when purchased and installed as mated equipment. Dimensions shown on this page are intended as a guide only, and are subject to change. Certified dimensions will be furnished on request.

## INSTALLATION GUIDES FOR MAXIMUM FAN PERFORMANCE

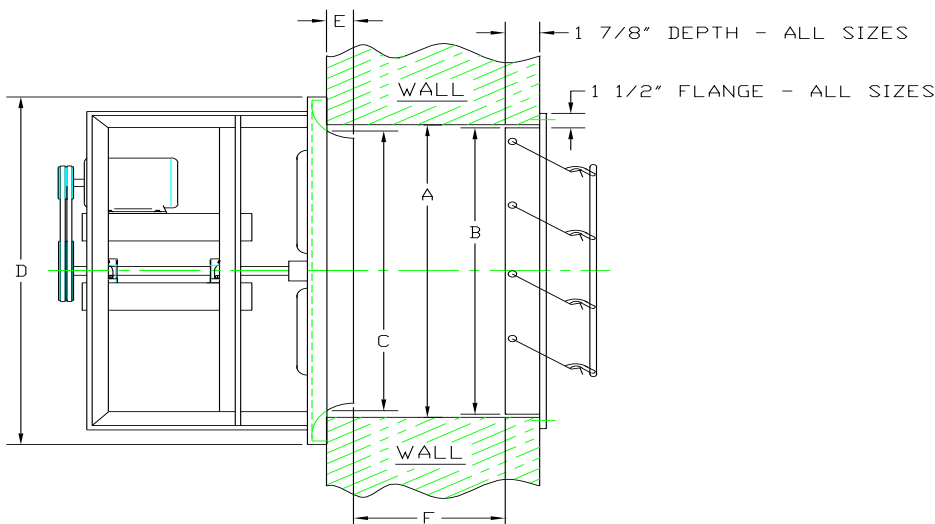
1. Locate fan to blow with prevailing wind.
2. Fumes being removed must be replaced. Provide openings for entry of fresh air, intake areas must be at least 20% greater than exhaust fan orifice. Locate intakes to take advantage of prevailing winds.
3. Locate fan with respect to intake to obtain maximum effect of fresh air sweeping over work areas.
4. Consider possible suction effect of higher powered exhaust fans located in other areas that may oppose the new installation.
5. DO NOT locate fans blowing opposite each other in a confined area

- if it can be avoided. When unavoidable, separate by at least six fan diameters.
6. Where steam, excessive heat and odors are encountered, locate fan as near ceiling as possible.
  7. If air over motor is hazardous, wet or corrosive, use an explosion proof motor. It may also be desirable to use an aluminum blade, or protective coatings.
  8. When quiet operation is a primary consideration, select a slow speed or two speed fan.
  9. When exhausting air in cold weather a source of tempered make-up air must be provided.

### Fan Dimensions

FAN SIZE	8 & 10	12	16	18	20	24	30	36	42	48	54	60
SHUTTER SIZE	11	13	17	18	21	25	31	37	43	49	55	61
DIM "A"	11	13	17	19	21	25-1/2	32	38	43-1/2	49-1/2	55-1/2	61-1/2
DIM "B"	10-3/4	12-3/4	16-3/4	18-3/4	20-3/4	25	31	37	43	49	55	61
DIM "C"	-	12-1/2	16-3/4	18-5/8	20-7/8	25	31-3/8	37-3/8	43	49-1/4	55	61
DIM "D"	13	20	20	26	28	34	40	46	52	58	60	66
DIM "E"	-	-	1-7/16	1-3/4	2	2-5/8	2-3/4	2-1/2	2-1/4	2	2-1/4	2-3/4
DIM "F"	6	6	6	6	6	6	8	9	10	12	14	15

\*Dim "F" recommended minimum 6"



**PEERLESS ELECTRIC**

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DF-1  
MM-17173—1/98—2.5M  
Printed in U.S.A.