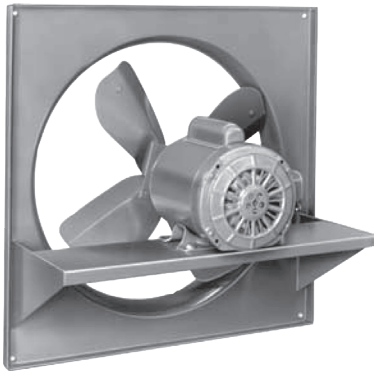
Air Circulation

GENERAL VENTILATION PRODUCTS

engineering data
and specifications

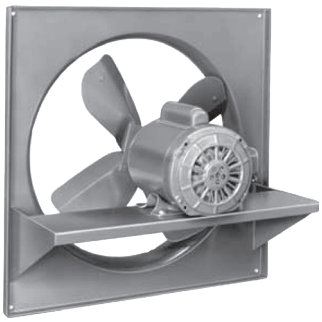


CINCINNATI FAN

PF PROPELLER FAN

Features

- All sizes available with steel or aluminum propellers.
- Available with any type of motor enclosure.
- Aluminum propellers must be used with EXP motors.
- Rolled inlet venturi for efficient air flow.
- Low noise levels.
- Highest CFM per dollar.
- 12"-20" fans have 16 gauge panels, 24"-30" fans have 14 gauge panels, 36"-48" fans have 12 gauge panels.



Model PF-12 - PF20

Optional rear guard - 12" - 30" diameter fans only

Model PF-24 - PF28

Rear guard option - all models

Steel Propeller

Fan Size	Propeller Number	Square Panel Dimensions	Motor		dBA @ 10' note 1	CFM vs Static Pressure Shown					Shipping Weight less motor lb
			hp	RPM		0" SP	1/8" SP	1/4" SP	1/2" SP	3/4" SP	
12"	S12-11HD	16"	¼	1150	64	910	725	420			55
	S12-11HD	16"	⅓	1750	71	1385	1285	1165	700	495	55
16"	MS16-11HD	22"	¼	1150	75	2000	1685	1085	490		65
	MS16-11HD	22"	⅓	1750	80	3040	2885	2660	1875	1365	65
18"	MS18-11HD	24"	¼	1150	76	2955	2570	1795	847	200	70
	MS18-11HD	24"	¾	1750	80	4570	4400	4080	3520	2170	70
20"	MS20-11HD	24"	⅓	1150	77	3875	3535	3055	1615	860	75
	MS20-9HD	24"	1	1750	81	5465	5240	5010	4465	3355	75
24"	X24-11HD	30"	¾	1150	82	6550	6019	5525	3455	2225	80
	X24-5HD	30"	1	1750	94	6860	6555	6235	5425	4460	80
	X24-11HD	30"	3	1750	94	10050	9705	9360	8755	7785	95
30"	X30-10HD	36"	1 ½	1150	85	11600	10925	10195	7505	5175	93
	X30-10HD	36"	5	1750	97	17805	17365	16925	16035	14895	125
36"	X36-11HD	42"	2	850	83	16400	15200	13900	9500	6200	250
	X36-11HD	42"	5	1150	91	21880	20990	20100	18110	14260	250
42"	X42-11HD	48"	5	850	86	24785	23490	22270	19110	13100	410
	X42-6XHD	48"	5	1150	93	23210	22620	21960	19925	17520	420
48"	X48-11HD	54"	7 ½	850	89	35665	33410	31855	28020	22625	550
	X48-6XHD	54"	7 ½	1150	95	32560	31675	30685	28560	25795	500

Aluminum Propeller

Fan Size	Propeller Number	Square Panel Dimensions	Motor		dBA @ 10' note 1	CFM vs Static Pressure Shown					Shipping Weight less motor lb
			hp	RPM		0" SP	1/8" SP	1/4" SP	1/2" SP	3/4" SP	
12"	12-6-24	16"	¼	1150	76	710	450				55
	12-6-24	16"	⅓	1750	80	1080	965	800			55
16"	16-6-36	22"	⅓	1750	78	3175	2915	2580			65
18'	18-6-35	24"	¼	1150	73	2790	2310	850			70
	18-6-35	24"	½	1750	79	4250	3965	3645	1760		70
	18-6-43	24"	1	1750	82	5205	5030	4775	3940		76
20"	20-6-42	24"	⅓	1150	75	4050	3625	2970			70
	20-6-34	24"	½	1750	82	4970	4490	3960	1240		70
	20-6-42	24"	1 ½	1750	86	6165	5875	5610	4860	2485	70
24"	24-4-20A	30"	¼	1150	78	4810	4040	2975			82
	24-6-41	30"	¾	1150	80	6900	6240	5400			82
	24-4-20A	30"	1	1750	83	7320	6795	6315	5120	1930	82
	24-6-41	30"	3	1750	88	10450	10100	9650	8600	6900	97
30"	30-6-22	36"	¾	1150	81	9690	8730	7640	4005		92
	X30-11A†	36"	1	850	84	9410	8555	6680	3585		90
	X30-11A†	36"	2	1150	87	12470	11865	11100	8135	5540	90
	30-6-22	36"	3	1750	89	14745	14115	13485	12145	10195	100
	X30-9A†	36"	7 ½	1750	92	16830	15560	15130	14195	13240	113
36"	X36-5A†	42"	2	1150	85	15165	14340	13520	11330	8530	240
	36-6-26	42"	3	1150	88	20630	19755	18820	16985	14570	250
42"	42-6-19	48"	3	1150	87	22755	21000	19575	16035	10435	395
	X42-7A†	48"	5	1150	88	24690	24075	23430	21445	19025	405
	X42-9A†	48"	7 ½	1150	89	28875	27825	26840	24890	22520	410
	X42-11A†	48"	7 ½	850	93	24785	23490	22270	19110	13110	450
48"	48-6-19	54"	2	850	91	25080	22850	20105	13170		505
	X48-4A†	54"	5	1150	91	28915	27900	26840	24360	21170	458
	X48-8A†	54"	5	850	93	29160	27765	26205	22605	17510	440
	X48-8A†	54"	10	1150	96	38650	37600	36550	34155	31535	505
	X48-11A†	54"	7 ½	850	89	35665	33410	31855	28020	22625	450

1 This is an average of four readings taken 10' from the fan with free inlet and discharge and at 0" SP
† Fabricated aluminum propeller, all others are cast aluminum

AC AIR CIRCULATOR FAN

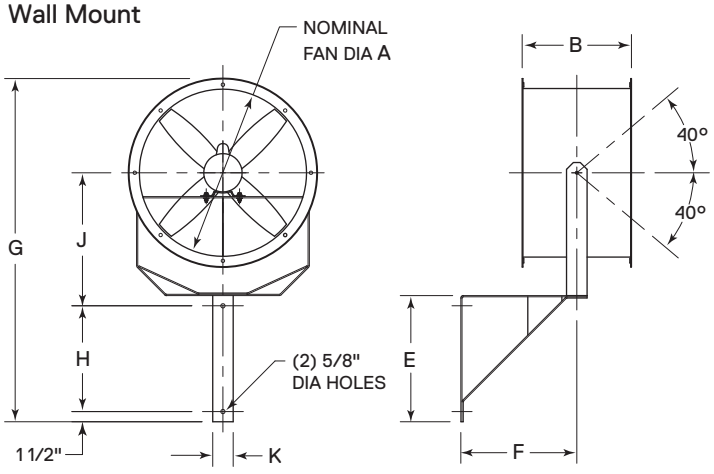
Features

- Spark resistant cast aluminum propellers.
- Heavy duty 12 gauge steel drums on sizes 15-30. 10 gauge drum on size 36.
- Yoke mount of wall-column mount on sizes 15-30. Yoke mount only on size 36.
- Heavy duty, plated, spiral guards on inlet and outlet meet OSHA standards.
- Open Drip Proof, continuous duty, ball bearing motors. Totally Enclosed motors are available.
- 115 Volt, 1 Phase, 60 Cycle ODP motors (1/3 to 1 hp) have a 9 foot cord and grounded plug.
- Fan drum can swivel 360° and can tilt up or down 40° from center.
- Force air, heat cured, gray enamel paint finish.

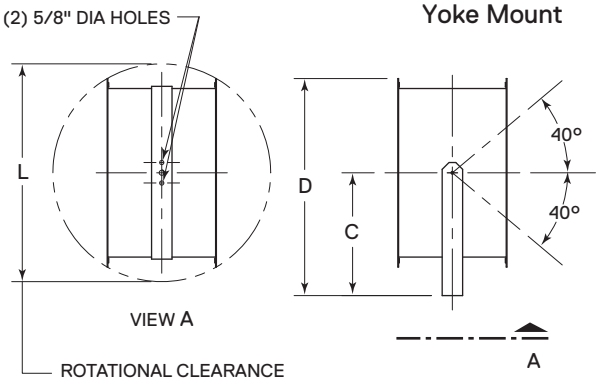
Yoke mount with wall bracket

Fan Size	Fan			Motor		
	CFM	Velocity	dBA@ 5'	hp	RPM	Frame
15"	2900	2461	77	1/3	1750	56
18"	4300	2441	77	1/3	1750	56
24"	5750	1969	80	1/3	1750	56
30"	11200	2480	79	1	1150	145T
36"	21300	3012	79	3	1150	213T

Wall Mount



Yoke Mount



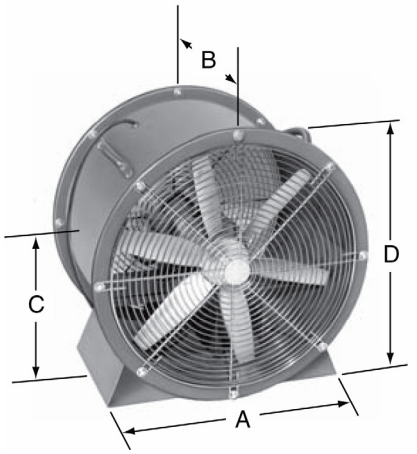
Fan Size	A	B	C	D	E	F	G	H	J	K	L	Approximate Shipping Weight lb
15"	15"	16"	12½"	21¼"	14"	12½"	35¼"	11"	14"	3"	24"	105
18"	18"	16"	14"	24¼"	15½"	14"	39¾"	12½"	15½"	3"	26"	130
24"	24"	26"	18"	31⅞"	18½"	17"	50¼"	15½"	19½"	3"	32"	165
30"	30"	26"	21"	37⅞"	21½"	20"	59¼"	18½"	22½"	4"	37¼"	190
36"	36"	20"	22⅞"	42½"							44¼"	300

HEAVY DUTY PERSONNEL COOLER

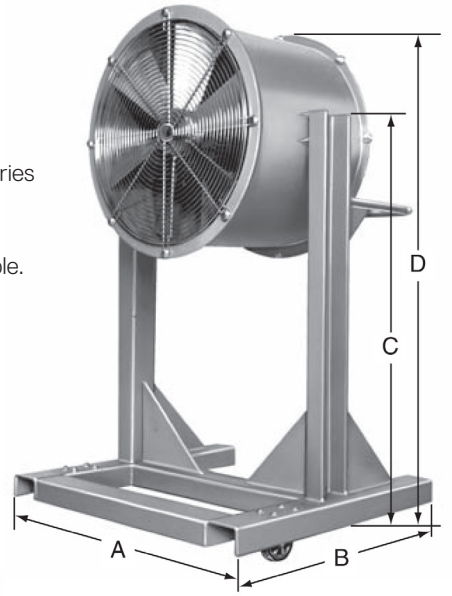
Features

- Spark resistant cast aluminum propellers.
- CIM models can be rotated 180° on a horizontal axis.
- Wire inlet and outlet guards meet OSHA standards.
- Rugged construction includes heavy gauge steel drums.
- Ideal construction for dependable service in severe operating conditions such as foundries and steel mills.
- Coatings available for weather and corrosion protection.
- Totally enclosed, continuous duty, ball bearing motors are standard. EXP motors available.
- Safe, no exposed moving parts.
- Yoke available for mounting PMC units to wall or ceiling on all sizes except 42".
- Fused manual starters available.

Mounting Yoke Option
12" - 36" diameter
for dimensions consult Cincinnati Fan



Model PMC Low Stand
12" - 42" diameter



Model CIM
18" - 42" diameter

Fan Size	Propeller Number	Motor		CFM	dBA @ 10' estimate	Approximate Start AMPS note 1		Approximate Shipping Weight - less motor lb	
		hp	RPM			230V - 1PH	460V - 3PH	PMC	CIM
12"	12624	1/3	1750	1000	74	15	4	50	
	12624	1/2	3450	1870	87	23	6	52	
15"	15636	1/3	1750	2520	77	15	4	72	
	15643	1/2	1750	3050	77	23	6	81	
18"	18635	1/2	1750	4000	78	23	6	85	160
	18643	1	1750	5140	79	41	10	97	180
24"	24631	1/3	1150	4500	75	15	4	125	240
	24641	1	1150	6900	78	35	8	150	280
	24631	1	1750	7890	83	41	10	130	270
	24641	3	1750	10800	88	90	32	170	300
30"	30622	3/4	1150	8400	82	31	9	150	300
	30441	2	1150	13000	84	63	19	190	340
36"	36625	1 1/2	1150	13200	84	49	11	185	440
	36626	3	1150	18900	86	90	21	270	500
42"	42630	3	1150	21800	87	90	21	295	570
	42626	5	1150	28490	89	148	45	345	615

1 Running amps are approximately 1/6 of starting amps.

Fan Size	Model PMC				Model CIM			
	A	B	C	D	A	B	C	D
12"	12"	20"	9 1/2"	16 3/4"				
15"	15"	20"	9 3/8"	18 1/8"				
18"	18"	20"	10 3/4"	20 7/8"	29 3/4"	32 1/2"	44"	54"
24"	24"	21"	14"	27 1/2"	35 3/4"	32 1/2"	44"	57 1/2"
30"	30"	22"	16 3/4"	33 1/4"	41 3/4"	32 1/2"	44"	60 1/2"
36"	36"	28""	20"	39 1/2"	47 3/4"	32 1/2"	44"	63 1/2"
42"	42"	29""	22 3/4"	45 1/4"	53 3/4"	32 1/2"	44"	68 1/2"

Note—For proper sizing see page 5.

Order must specify actual motor operating voltage.

GUIDELINE FOR DETERMINING SPREAD AND THROW OF A PERSONNEL COOLER

These calculations are for determining the velocity from a fan and also the width of the air stream at a specific distance. While these values are influenced greatly by the presence or absence of walls, floors and obstructions, the following formulae will give a good approximation for most cases.

Spread:

$$W = .36L + \frac{d}{12}$$

W = Maximum width, in feet, of airstream perpendicular to axis of rotation of the fan.

L = Distance from fan, in feet.

d = Fan diameter, in inches.

Velocity (not less than 10 feet from fan):

$$(1)\ k = 5\left(\frac{2.5 \times CFM}{d}\right)^2$$

$$(2)\ {}^{V}La = 1.15\sqrt{\frac{k}{L}}$$

$$(3)\ {}^{V}max = \left(\frac{d}{73} + 1\right){}^{V}La$$

k = Fan constant.

${}^{V}La$ = Average velocity across the width of the spread. L feet from the fan (Feet per minute).

${}^{V}max$ = Maximum velocity. L feet from the fan (Feet per minute).

CFM = Free air delivery offan.

AVERAGE AIR CHANGES REQUIRED FOR GOOD VENTILATION general guideline

Type	Minutes per Change
Assembly Halls	2-10
Auditoriums	2-10
Bakeries	2-3
Boiler Rooms	1-5
Bowling Alleys	2-10
Churches	5-15
Dairies	2-5
Dance Halls	2-10
Dry Cleaners	1-5
Engine Rooms	1-3
Factories	2-5
Forge Shops	2-5
Foundries	1-5
Garages	2-10
Generator Rooms	2-5
Gymnasiums	2-10
Kitchens - Hospital	2-5
Kitchens - Restaurant	1-3
Laboratories	1-5
Laundries	1-3
Offices	2-10
Packing Houses	2-5
Plating Rooms	1-5
Toilets	2-5
Transformer Rooms	1-5
Warehouses	2-10

$$\text{Formula to determine CFM} = \frac{\text{Volume of space (W x L x H)}}{\text{Number of minutes of air change}}$$

AUTOMATIC SHUTTERS

Features

- Frame and blades are corrosion resistant extruded aluminum.
- Vinyl weather strips on edges of blades for better seal and quiet operation.
- Self-lubricating, nylon bearings.
- Plated steel pivot rods.
- Three frame types available.
- For vertical mount, horizontal air flow only.
- Available with manual chain operator or motor operated.
- Maximum face velocity: 2400 FPM.
- Maximum differential pressure: 4" WG.
- Maximum temperature: 200°F without electric motor - 300°F with electric motor.

Model	Square Opening Size	Square Outside Frame	Frame Depth	Maximum Depth with Shutter Open
AS-12	12"	15"	1 3/4"	5 3/4"
AS-16	16"	19"	1 3/4"	5 3/4"
AS-18	18"	21"	1 3/4"	5 3/4"
AS-20	20"	23"	1 3/4"	5 3/4"
AS-24	24"	27"	1 3/4"	5 3/4"
AS-30	30"	33"	1 3/4"	5 3/4"
AS-36	36"	39"	1 3/4"	5 3/4"
AS-42*	42"	45"	1 3/4"	5 3/4"
AS-48*	48"	51"	1 3/4"	5 3/4"
AS-54*	54"	57"	1 3/4"	5 3/4"

* These shutter models are shipped in two or four sections for assembly by the customer. Assembly hardware is included.

1 For complete dimensions contact your Cincinnati Fan sales representative.

2 Standard frame or optional frame must be specified

Air Circulation

ENGINEERING DATA

SPX ENGINEERED AIR MOVEMENT
7697 SNIDER ROAD
MASON, OH 45040 USA
513 573 1000 | **spxairmovement**.com

CF-AC-TECH-24 | ISSUED 2/20243

SPX TECHNOLOGIES