

# MXF & MXFD

## MIXED FLOW DUCT FANS

BELT & DIRECT DRIVE



DIVISION

AMERICAN COOLAIR  
CORPORATION

TYPES MXF | MXFD  
MIXED FLOW DUCT FANS

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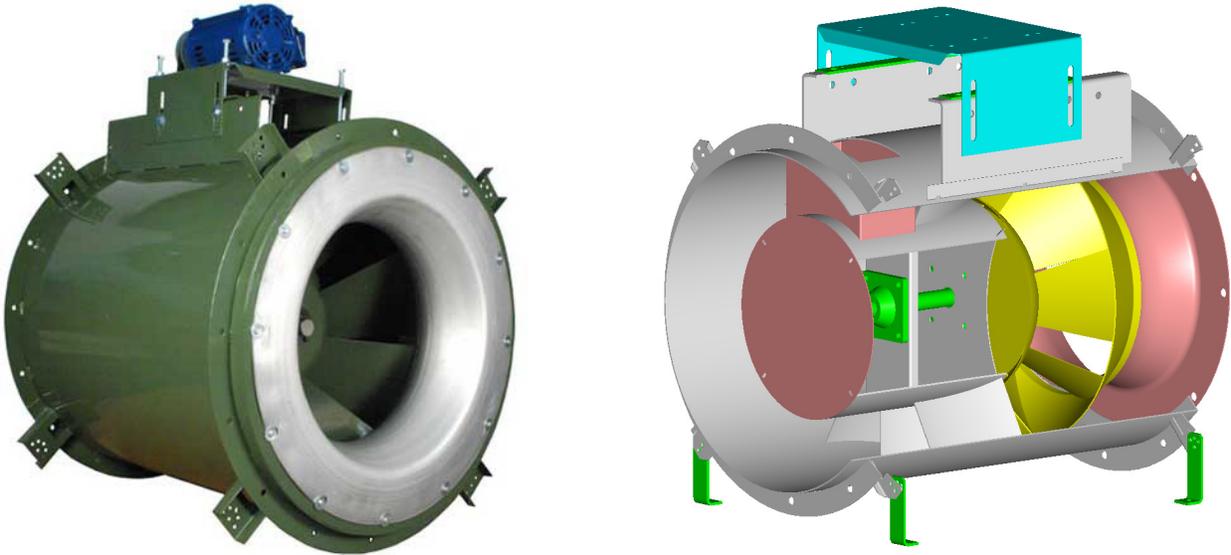
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## APPLICATION

Type MXF mixed flow fans are a unique hybrid design, combining the volume flow capabilities of an axial fan with the pressure capabilities of a centrifugal fan. These fans are suited to meet your ducted fan needs both economically and efficiently. They are designed to operate reliably in all environments including elevated temperature or contaminated air.

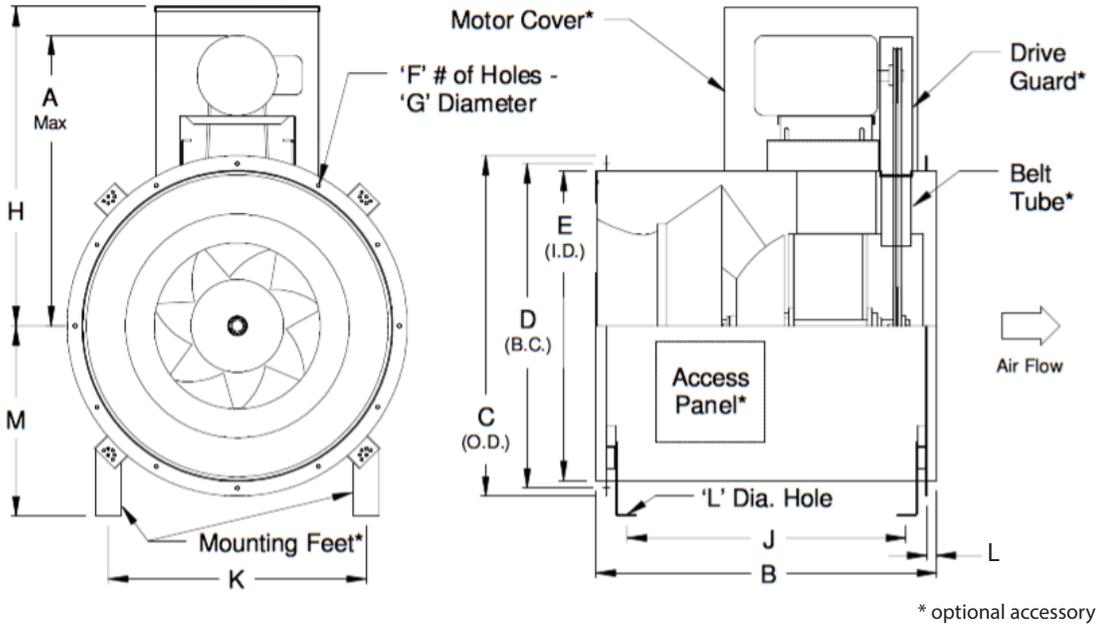
## CONSTRUCTION

The fan housing and motor supports are made of heavy gauge steel plate for maximum strength and durability. The mixed-flow wheel is heavy gauge welded steel. Both the housing and wheel are coated with epoxy to provide a protective coating rated excellent for hardness, impact resistance, adhesion and chemical resistance. Contact factory for other protective coating options.

## DRIVE MECHANISM | BELT DRIVE

Available in sizes 9 to 43. Belt driven models are designed for quieter operation and lower initial cost. All models use standardly available motors.

## MXF DRAWING & DIMENSIONS



Size	A	B	C	D	E	F	G	H	J	K	L	Access Panel
9	18 3/4	18 3/4	14 13/16	13 1/8	12 1/8	8	3/8	19 1/8	12 9/16	13	1 1/4	4 x 6 3/8
13	21 5/8	20 3/4	18 13/16	17 3/8	16 1/8	8	3/8	22 3/8	14 9/16	15 7/8	1 1/4	5 x 7
18	29 7/8	30 1/8	23 15/16	22 5/8	21 1/8	8	3/8	30 1/8	23 9/16	19 7/16	1 1/2	6 x 9
21	32	32	27 15/16	25 7/8	24 1/8	12	9/16	32 3/4	25 1/8	21 11/16	1 1/2	7 x 10 1/2
27	37	38	34 3/16	32 1/8	30 1/8	16	9/16	37	28 7/16	27 7/16	1 1/2	8 x 13 1/8
32	40 5/8	42 1/2	40 1/2	38 1/8	36 1/8	16	9/16	42 3/16	32 15/16	31 11/16	1 1/2	10 x 15 3/4
38	45 7/16	47 3/8	46 3/4	44 3/16	42 1/8	24	9/16	46 1/16	37 13/16	35 15/16	1 1/2	10 x 18 3/8
43	48 11/16	53 1/2	53	50 1/2	48 1/8	24	9/16	49 11/16	44 1/8	40 3/16	1 1/2	10 x 21

dimensions in inches

# MXF PERFORMANCE SPECIFICATIONS & RATINGS

Fan Size	0" S.P.		0.5" S.P.		1" S.P.		1.5" S.P.		2" S.P.		2.5" S.P.		3" S.P.		4" S.P.		5" S.P.		Motor HP	RPM	Max Sones
	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP			
9	1,112	0.17	994	0.22	844	0.25													1/4	2,955	15.2
	1,203	0.22	1,094	0.27	968	0.31	790	0.33											1/3	3,196	17.2
	1,377	0.33	1,283	0.38	1,181	0.43	1,055	0.47	892	0.50									1/2	3,658	21
	1,579	0.49	1,498	0.56	1,412	0.62	1,319	0.67	1,203	0.72	1,062	0.75							3/4	4,196	28
	1,740	0.66	1,667	0.73	1,590	0.80	1,509	0.86	1,419	0.92	1,308	0.97	1,180	1.00					1	4,623	32
	1,989	0.98	1,926	1.07	1,860	1.15	1,792	1.22	1,720	1.29	1,642	1.36	1,551	1.41	1,331	1.50			1 1/2	5,286	40
13	2,514	0.31	2,245	0.41	1,919	0.50													1/2	2,271	16.4
	2,822	0.44	2,587	0.55	2,311	0.66	1,996	0.75											3/4	2,549	20
	3,069	0.56	2,856	0.69	2,611	0.81	2,336	0.91	2,016	1.00									1	2,772	23
	3,533	0.86	3,350	1.01	3,149	1.14	2,925	1.27	2,683	1.39	2,413	1.50							1 1/2	3,191	28
	3,893	1.15	3,728	1.31	3,551	1.47	3,357	1.61	3,146	1.75	2,923	1.88	2,677	2.00					2	3,516	33
	4,446	1.72	4,304	1.90	4,152	2.08	3,991	2.25	3,819	2.42	3,635	2.58	3,443	2.73	3,018	3.00			3	4,016	41
18	4,008	0.47	3,583	0.63	3,026	0.75													3/4	1,470	14.5
	4,329	0.59	3,943	0.77	3,462	0.91	2,769	1.00											1	1,588	16.4
	4,954	0.88	4,623	1.09	4,238	1.27	3,770	1.41	3,106	1.50									1 1/2	1,817	20
	5,452	1.17	5,156	1.41	4,822	1.61	4,434	1.78	3,967	1.93	3,289	2.00							2	2,000	24
	6,251	1.77	5,996	2.04	5,718	2.29	5,410	2.51	5,062	2.70	4,663	2.87	4,159	3.00					3	2,293	30
	7,399	2.93	7,186	3.26	6,960	3.57	6,719	3.85	6,458	4.11	6,175	4.34	5,866	4.56	5,117	4.93			5	2,714	40
8,555	4.53	8,372	4.91	8,181	5.28	7,981	5.62	7,771	5.95	7,548	6.25	7,311	6.53	6,788	7.04	6,171	7.50	7 1/2	3,138	51	
21	5,333	0.61	4,805	0.83	4,102	1.00													1	1,323	13.6
	6,014	0.87	5,558	1.12	5,004	1.34	4,231	1.50											1 1/2	1,492	16.7
	6,574	1.14	6,162	1.42	5,684	1.66	5,084	1.87	4,222	2.00									2	1,631	19.9
	7,521	1.71	7,167	2.03	6,773	2.33	6,322	2.59	5,772	2.82	5,041	2.98	4,006	2.96					3	1,866	24
	8,924	2.86	8,630	3.24	8,314	3.60	7,971	3.95	7,591	4.26	7,160	4.54	6,647	4.79	5,199	5.00			5	2,214	31
	10,206	4.28	9,951	4.71	9,681	5.14	9,396	5.54	9,091	5.93	8,762	6.29	8,401	6.62	7,525	7.20	6,298	7.50	7 1/2	2,532	38
11,383	5.93	11,155	6.42	10,918	6.90	10,669	7.36	10,409	7.81	10,133	8.24	9,840	8.64	9,182	9.38	8,371	10.00	10	2,824	46	
27	8,395	0.93	7,482	1.25	6,268	1.50													1 1/2	1,019	15.0
	9,112	1.18	8,280	1.54	7,285	1.84	5,640	2.00											2	1,106	17.3
	10,431	1.78	9,714	2.19	8,920	2.56	7,900	2.86	6,330	3.00									3	1,266	22
	12,367	2.96	11,770	3.46	11,133	3.92	10,437	4.35	9,590	4.71	8,412	4.95	6,899	4.97					5	1,501	28
	14,163	4.45	13,646	5.02	13,103	5.56	12,531	6.08	11,910	6.56	11,189	6.98	10,260	7.30					7 1/2	1,719	35
	15,580	5.92	15,112	6.55	14,626	7.16	14,117	7.74	13,583	8.29	13,006	8.81	12,345	9.27	10,528	9.91			10	1,891	40
17,953	9.06	17,548	9.79	17,133	10.50	16,704	11.19	16,260	11.86	15,800	12.50	15,315	13.11	14,205	14.20	12,698	14.99	15	2,179	54	
32	11,865	1.22	10,544	1.67	8,531	2.00													2	814	15.0
	13,469	1.78	12,336	2.30	10,918	2.74	8,583	3.00											3	924	18.8
	16,005	2.99	15,075	3.62	14,021	4.19	12,704	4.67	10,730	5.00									5	1,098	25
	18,293	4.47	17,491	5.19	16,613	5.87	15,627	6.48	14,406	7.02	12,693	7.41	10,636	7.50					7 1/2	1,255	30
	20,116	5.94	19,391	6.74	18,612	7.50	17,765	8.20	16,811	8.84	15,620	9.42	14,035	9.84					10	1,380	35
	23,031	8.91	22,403	9.84	21,741	10.73	21,038	11.57	20,287	12.36	19,464	13.10	18,511	13.78	15,868	14.82	12,356	14.82	15	1,580	44
25,407	11.97	24,840	12.99	24,249	13.98	23,629	14.93	22,977	15.84	22,286	16.71	21,539	17.52	19,703	18.99	17,144	19.98	20*	1,743	54	
38	14,780	1.20	12,538	1.72	8,658	2.00													2	626	17.5
	17,189	1.88	15,379	2.51	12,826	3.00													3	728	24
	20,045	2.98	18,558	3.73	16,664	4.40	14,173	4.87	10,382	4.91									5	849	31
	22,949	4.48	21,682	5.34	20,181	6.14	18,337	6.84	16,044	7.34	12,838	7.46							7 1/2	972	38
	25,263	5.97	24,127	6.92	22,832	7.83	21,300	8.66	19,497	9.35	17,271	9.85	14,319	9.97					10	1,070	44
	28,947	8.98	27,969	10.08	26,895	11.14	25,692	12.15	24,316	13.09	22,759	13.89	20,983	14.53	16,066	14.96			15	1,226	58
31,827	11.94	30,945	13.15	29,994	14.32	28,955	15.46	27,802	16.55	26,514	17.55	25,091	18.43	21,623	19.73	16,751	19.72	20	1,348	72	
34,306	14.95	33,491	16.25	32,624	17.53	31,692	18.77	30,678	19.97	29,562	21.12	28,337	22.18	25,549	23.90	21,826	25.00	25*	1,453	86	
43	20,106	1.76	17,439	2.52	13,142	3.00													3	575	17.0
	23,777	2.92	21,662	3.83	18,747	4.61	14,508	4.99											5	680	23
	27,239	4.39	25,453	5.44	23,214	6.42	20,291	7.16	16,315	7.50									7 1/2	779	29
	30,001	5.86	28,407	7.03	26,512	8.14	24,148	9.11	21,210	9.76	17,275	10.00							10	858	35
	34,337	8.79	32,969	10.13	31,426	11.42	29,620	12.65	27,476	13.72	24,951	14.49	21,879	14.99					15	982	45
	37,799	11.73	36,568	13.20	35,215	14.64	33,690	16.04	31,937	17.34	29,920	18.45	27,614	19.29	21,515	19.97			20	1,081	54
40,946	14.91	39,817	16.51	38,597	18.08	37,254	19.61	35,752	21.08	34,054	22.44	32,145	23.59	27,562	25.17	20,500	24.92	25*	1,171	62	

American Coolair Corporation certifies that the Type MXF fan 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.



Mixed flow duct fans shall be American Coolair Type MXF as manufactured by American Coolair Corporation, Jacksonville, Florida; specific models shall be as shown in the fan schedule. Fan housing shall be made of epoxy paint coated steel with formed steel vane section. Fan rotor shall be epoxy paint coated steel. Fans shall be licensed to bear the AMCA Certified Ratings Seal for Sound and Air Performance. (Specify for each fan model in schedule the required CFM and static pressure; motor enclosure, phase and voltage. List accessories — as described on page 7 — as required.)

- Performance certified is for Installation Type B: free inlet, ducted outlet. Performance does not include the effects of appurtenances (accessories).
- The sound ratings shown are loudness values in hemispherical sones at 1.5m (5 ft.) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type B: free inlet hemispherical sone levels.
- To convert air performance (CFM and SP) and power (BHP) to metric units, multiply CFM x .000472 to obtain cubic meters per second (m<sup>3</sup>/s). Multiply SP x 248.36 to obtain pascals (Pa). Multiply BHP x .7457 to obtain kilowatts (kW).
- All MXF9 and MXF13 models use a 3450 RPM motor with a maximum 145T frame size.
- \* These models use fixed pitch pulleys.

## APPLICATION

Type MXFD mixed flow fans are a unique hybrid design, combining the volume flow capabilities of an axial fan with the pressure capabilities of a centrifugal fan. These fans are suited to meet your ducted fan needs both economically and efficiently. They are designed to operate reliably in most environments including contaminated air.

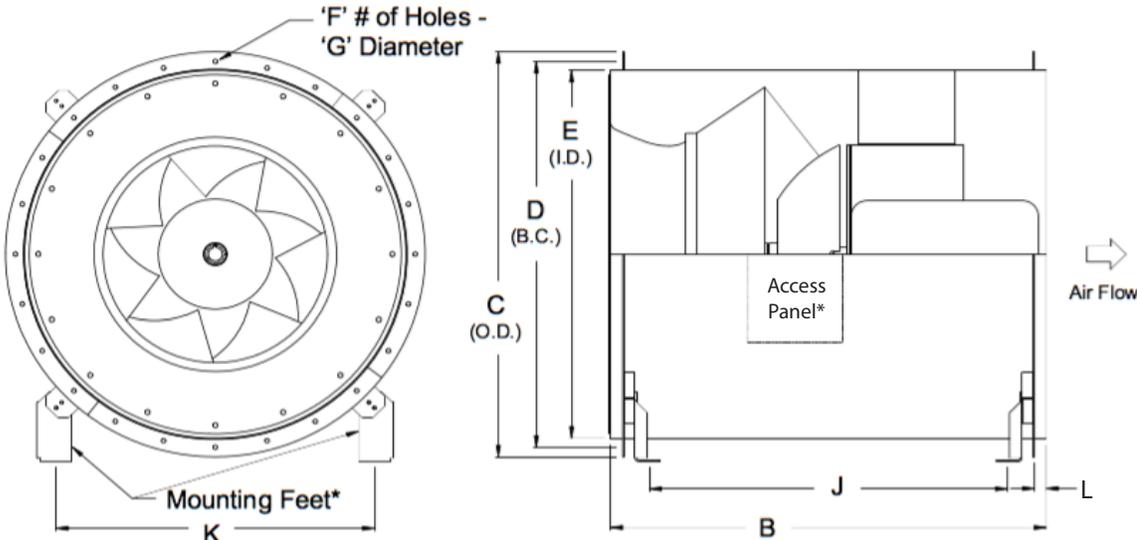
## CONSTRUCTION

The fan housing and motor supports are made of heavy gauge steel plate for maximum strength and durability. The mixed-flow wheel is heavy gauge welded steel. Both the housing and wheel are coated with epoxy to provide a protective coating rated excellent for hardness, impact resistance, adhesion and chemical resistance. Contact factory for other protective coating options.

## DRIVE MECHANISM | DIRECT DRIVE

Available in sizes 13 to 43. Direct driven models require less maintenance, offer longer operating life, and reduce operating costs.

## MXFD DRAWING & DIMENSIONS



\* optional accessory

Size	B	C	D	E	F	G	J	K	L	Access Panel
13	20 3/4	18 13/16	17 3/8	16 1/8	8	3/8	14 9/16	15 7/8	1 1/4	5 x 7
18	31 1/8	23 15/16	22 5/8	21 1/8	8	3/8	24 9/16	19 7/16	1 1/2	6 x 9
21	30 1/2	27 15/16	25 7/8	24 1/8	12	9/16	23 13/16	21 11/16	1 1/2	7 x 10 1/2
27	38	34 3/16	32 1/8	30 1/8	16	9/16	28 5/8	27 7/16	1 1/2	8 x 13 1/8
32	44	40 1/2	38 1/8	36 1/8	16	9/16	34 5/8	31 11/16	1 1/2	10 x 15 3/4
38	51 7/8	46 3/4	44 3/16	42 1/8	24	9/16	42 1/2	35 15/16	1 1/2	10 x 18 3/8
43	55	53	50 1/2	48 1/8	24	9/16	45 5/8	40 3/16	1 1/2	10 x 21

dimensions in inches

# MXFD PERFORMANCE SPECIFICATIONS & RATINGS

Fan Size	0" S.P.		0.5" S.P.		1" S.P.		1.5" S.P.		2" S.P.		2.5" S.P.		3" S.P.		4" S.P.		5" S.P.		Motor HP	RPM	Max Sones
	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP			
13	1,960	0.15	1,590	0.22	1,034	0.27													1/3	1,770	10.6
	3,875	1.14	3,710	1.30	3,531	1.45	3,336	1.60	3,124	1.73	2,899	1.86	2,651	1.98	1,960	2.05			2	3,500	33
18	4,839	0.82	4,500	1.03	4,101	1.19	3,608	1.33	2,857	1.40									1 1/2	1,775	19.7
	9,474	6.15	9,309	6.57	9,139	6.98	8,962	7.38	8,778	7.76	8,587	8.11	8,386	8.45					7 1/2	3,475	61
	9,542	6.28	9,378	6.71	9,210	7.12	9,034	7.52	8,852	7.90	8,663	8.27	8,464	8.60	8,035	9.22	7,559	9.78	10	3,500	62
21	7,054	1.41	6,673	1.71	6,242	1.98	5,731	2.22											2	1,750	22
	7,175	1.49	6,802	1.79	6,381	2.07	5,887	2.31	5,256	2.51	4,367	2.61							3	1,780	23
27	9,681	1.42	8,903	1.80	8,012	2.13													2	1,175	24
	14,583	4.86	14,082	5.44	13,557	6.01	13,005	6.54	12,415	7.04	11,748	7.50	10,919	7.87					7 1/2	1,770	36
32	16,909	3.53	16,034	4.19	15,058	4.80	13,910	5.34	12,278	5.78									5	1,160	27
	25,800	12.53	25,242	13.57	24,662	14.58	24,054	15.55	23,415	16.48	22,741	17.36	22,015	18.20	20,272	19.71	17,829	20.82	20	1,770	55
38	20,777	3.32	19,353	4.10	17,577	4.80	15,304	5.34	11,995	5.56									5	880	33
	27,861	8.01	26,841	9.06	25,712	10.08	24,428	11.04	22,945	11.91	21,260	12.63	19,237	13.18					15	1,180	53
43	30,945	6.44	29,407	7.64	27,603	8.79	25,388	9.82	22,672	10.57	19,217	10.99							10	885	37
	41,086	15.06	39,961	16.67	38,746	18.24	37,411	19.78	35,918	21.26	34,231	22.63							20	1,175	62
	41,435	15.45	40,321	17.07	39,118	18.66	37,801	20.21	36,331	21.71	34,674	23.10	32,815	24.30	28,385	25.96	22,005	26.06	25	1,185	63

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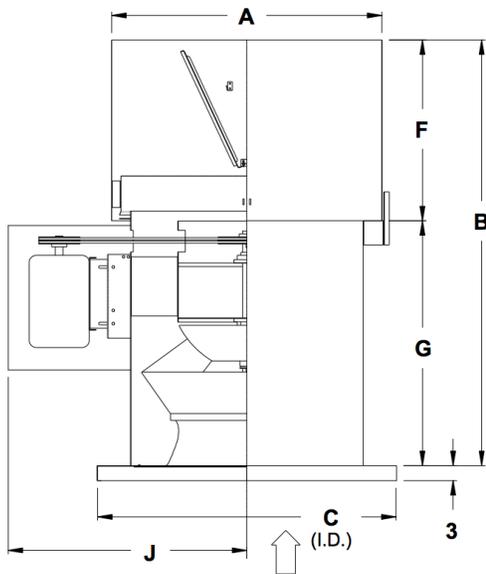
## Motor Cover

available for MXF only

The painted steel housing encloses motor and drives on belt drive models. The cover is open on the motor pulley end to allow for ventilation of motor.

## PRV Kit

Permanently converts the MXF to an upblast Power Roof Ventilator. The kit includes a curb cap for roof mounting, and an exhaust shroud suitable for all-weather operation, and a belt tube. Must be factory assembled. Drawing and dimensions below.



## PRV Kit Dimensions

Size	A	B		C*	F	G		J
		MXF	MXFD			MXF	MXFD	
9	16	30 3/8	-	26	12 1/2	17 7/8	-	19 1/8
13	20	34 3/8	34 3/8	30	14 1/2	19 7/8	19 7/8	22 3/8
18	25	46	47	35	17	29	30	30 1/8
21	32	57 3/16	55 11/16	38	27 5/8	29 9/16	28 1/16	32 11/16
27	38	69 1/8	69 1/8	44	32 1/2	36 5/8	36 5/8	37 1/8
32	44	71	69 1/2	50	32 1/2	38 1/2	37	42 1/8
38	50	82 3/8	86 7/8	56	37 3/8	45	49 1/2	46 1/8
43	56	88 3/8	89 7/8	62	37 3/8	51	52 1/2	49 3/4

## Access Panel

This removable panel allows limited access to fan for inspection and cleaning of fan interior.

## Inlet/Outlet Guard

Guards prevent the entry of foreign material into the fan. Guards consist of 1" x 1" wire mesh. PVC Coated 1/2" x 1" material may be specified where OSHA guarding is specified.

## Belt Tube

available for MXF only

The painted steel belt tube isolates the drive components from the airstream. Due to positive pressures on the motor shaft side of the MXF fan, either a Belt Tube or Drive Guard accessory (see below) is recommended to minimize air leakage.

## Mounting Feet

When necessary to support fan weight from floor or ceiling, Mounting Feet should be specified.

## Safety Disconnect Switch

This switch is designed to mount near the fan and serve as a safety disconnect from the power supply.

## Drive Guard

available for MXF only

This guard keeps personnel and foreign objects away from the rotating motor sheave and belts. Drive guard is standard on fans without a belt tube, and optional on fans ordered with a belt tube.

## Limited Warranty

In the sale of its products, American Coolair Corporation agrees to correct, by repairs or replacement, any defects in workmanship or material that may develop under proper and normal use during the period of one year from date of shipment from factory. Any product or part proving, upon American Coolair's examination, to be defective during limited warranty period will be repaired or replaced, at American Coolair's option, f.o.b. factory, without charge.

Deterioration or wear caused by chemicals, abrasive action or excessive heat shall not constitute defects.

Motors are guaranteed only to the extent of manufacturer's warranty.

American Coolair's limited warranty does not apply to any of its products or parts that have been subject to accidental damage, misuse by the user, unauthorized alterations, improper installation or electrical wiring, or lack of proper lubrication or other service requirements established by American Coolair.

Repairs or replacements provided under the above terms shall constitute fulfillment of all American Coolair's obligations with respect to limited warranty. THE LIMITED WARRANTY STATED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING WITHOUT LIMITATION THAT OF MERCHANTABILITY AND FITNESS.

NO LIABILITY FOR REINSTALLATION COST OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY NATURE IS ASSUMED OR SHALL BE IMPOSED UPON AMERICAN COOLAIR.

<b>WARNING</b>	<b>CAUTION</b>
	<p><b>DO NOT</b> INSTALL FAN WITH MOVING PARTS WITHIN 8 FEET OF FLOOR OR GRADE LEVEL WITHOUT A GUARD THAT COMPLIES WITH OSHA REGULATIONS. <b>DO NOT</b> USE UNLESS ELECTRICAL WIRING COMPLIES WITH ALL APPLICABLE CODES. <b>DO NOT</b> WIRE WITHOUT PROVIDING FOR A POWER SOURCE DISCONNECT AT THE FAN ITSELF. <b>DO NOT</b> SERVICE EXCEPT BY A QUALIFIED MAINTENANCE TECHNICIAN AND ONLY AFTER DISCONNECTING THE POWER SOURCE. FAILURE TO OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.</p>



DIVISION

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