



BULLETIN 330

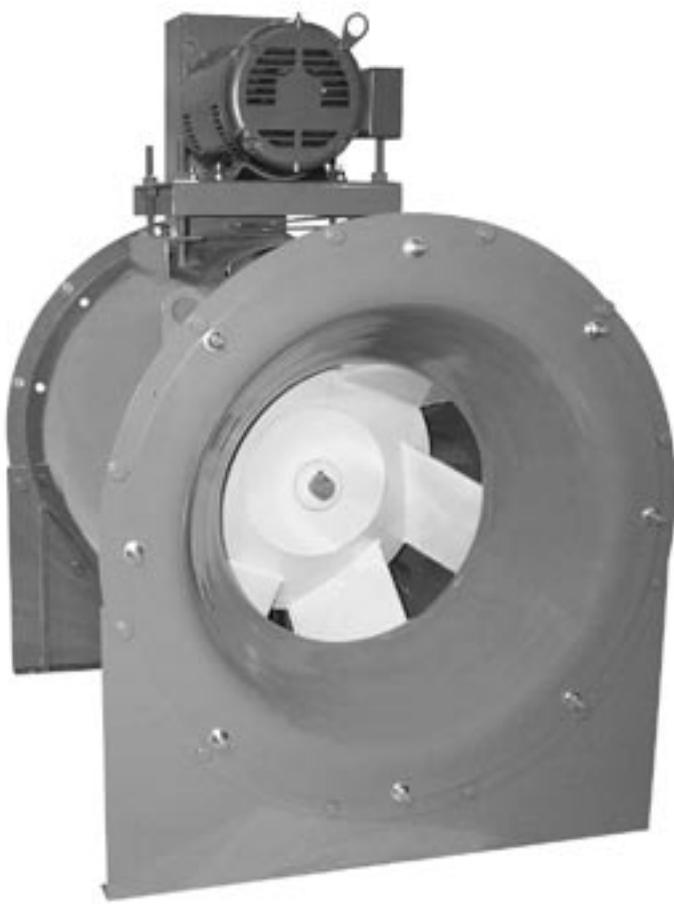
July 2008

## **MIXED FLOW FANS**

**AMX (Standard)**

**AMXR (Restaurant)**

**AMXSH (Smoke and Heat)**



# AMX Mixed Flow Fans

## Application

Mixed flow fans are becoming a popular choice on many air supply, return, general and grease-laden exhaust and laboratory exhaust applications in the HVAC industry for both constant or variable air volume systems. The efficiency and sound characteristics of the mixed flow fans are often desired in buildings such as hospitals, libraries, theaters, and general offices. The Aerovent heavy-duty construction of AMX fans also make them suitable for many industrial applications handling ambient air. Applications involving fumes, spray booth exhaust, particulate, heavy moisture content, or high temperature should be discussed with the factory for possible product modifications.

## Benefits of Mixed Flow Fans

Aerovent Type AMX Mixed Flow Fan combines the benefits of axial flow and centrifugal flow fans. The AMX has the advantage of the compact design and straight-through airflow as well as the preferred acoustic characteristics and high pressure capability. AMX fans offer superior air and sound performance and the AMCA certified rating seal for air and sound.

The AMX mounts both vertically and horizontally, allowing for numerous applications with multiple mounting arrangements. Sizes range from 150 - 730 and performance ranges from 1,300 - 160,000 CFM. Model AMX is UL/cUL 705 listed.

Performance	Size	Static Efficiency (%)			Sound LwA (dB)		
		AMX	CBD	VPBD	AMX	CBD	VPBD
5000 CFM @ 1" SP	AMX 245	70	62	61	72	77	79
10000 CFM @ 1" SP	AMX 330	70	61	63	72	79	82
25000 CFM @ 3" SP	AMX 402	72	66	65	86	90	98
50000 CFM @ 6" SP	AMX 490	71	68	64	95	98	112

## Energy Savings

Mixed flow fans offer the economy of operation with a higher and broader efficiency range. The lower operating speed for a given performance provides longer and more reliable operation.

## Ultra Quiet

The AMCA Certified Ratings for Air and Sound applies to both inlet and outlet sound power levels. The table above displays sound and static efficiency differences between performance points for a comparable tubular centrifugal fan and a vaneaxial fan.



Aerovent, a Twin City Fan Company, certifies that the Type AMX, AMXR, AMXSH Mixed Flow Fans 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. See Bulletin 331 for sound ratings.



**AMX Mixed Flow Fan, Outlet View**

## Mixed Flow Models

**AMX** – Available in both direct drive and belt driven. The AMX mounts both vertically and horizontally, allowing for numerous applications with multiple mounting arrangements. Sizes range from 150 - 730 and performance ranges from 1,300 - 160,000 CFM. Model AMX is UL/cUL 705 listed.

**AMXR** – Model AMXR is similar to the AMX but is specifically designed for exhausting grease-laden air from kitchens, restaurants and cooking and dishwasher hoods. Model AMXR is UL/cUL 762 listed for the exhaust of grease-laden air.

**AMXSH** – Model AMXSH is specifically designed for smoke control applications. UL/cUL listed for smoke control systems for 500°F for 4 hours or 1000°F for 15 minutes.



Models AMX is available with the UL/cUL 705 listing for electrical, File No. E158680.

Model AMXR is UL/cUL 762 listed for the exhaust of grease-laden air as standard, File No. MH-25478.

Model AMXSH is UL/cUL listed for Smoke Control Systems as standard, File No. MH-29313, 500°F for 4 hours and 1000°F for 15 minutes.

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# Construction Features

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## Housings

All fans are constructed of heavy-gauge steel and continuously welded for strength and rigidity. All AMX fans are provided with punched inlet and outlet flanges as standard.

## Wheel

The AMX wheel impeller is designed with true airfoil (double surface - hollow) die-formed, continuously-welded blades for a stable air performance throughout the operating range. The wheel is statically and dynamically balanced prior to assembly and rechecked for balance after assembly by Aerovent.



## Belt Guard

Totally enclosed, sealed belt guard is standard on model AMX. Totally enclosed, non-sealed belt guard is standard on models AMXR and AMXSH.

## Inner Cylinder

The inner tube is rigidly constructed to support the shaft and bearings. The removable discharge cone provides full access to the shaft, bearings, and fan sheave. It is strongly recommended that an access door be provided in the ductwork adjacent to the discharge end of the fan for such service.

## Bearings

Standard bearings are selected to exceed the L-10 life of 40,000 hours at the maximum operating speed.

# Easy Access Designs

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## Clamshell Design

Two clamshell style doors swing open wide to provide complete access to the interior of the fan for maintenance or cleaning without removal of ductwork. Heavy duty hinges, positive locking latches, and full gasketing provide a complete seal when doors are closed. An access door provides access to the bearings. Available on all fan sizes, typically vertical mount.

## Drives

V-belt drives with motors and drives mounted by Aerovent are test run as a complete assembly and rechecked for balance.

## Straightening Vanes

Straightening vanes convert tangential velocity pressure into useful static pressure, reducing turbulence and increasing efficiency. Extensive testing of various shapes and locations has resulted in the most efficient aerodynamic design of the straightening vanes.

## Extended Lube Lines

Allow for ease of lubrication on all sizes.

## Motor Mounting Platform

A heavy-duty motor mounting platform pivots to offer easy and positive adjustment of belt tension. The motor mounting platform is offered in eight standard locations to allow for motor accessibility and space requirements.

## Shaft

Shaft diameter sized so that maximum operating speed does not exceed 70% of first critical speed.

## Swingout Design - Arr. #9SO

Provides full access to the wheel and inner casing. The entire wheel/shaft/bearing assembly is mounted on a large swingout door. Ideal for systems requiring frequent cleaning without removal of ductwork. Swingout construction is available for vertical mounting only. Available on sizes 182 and larger.

# Mounting Configurations

## Horizontal Construction

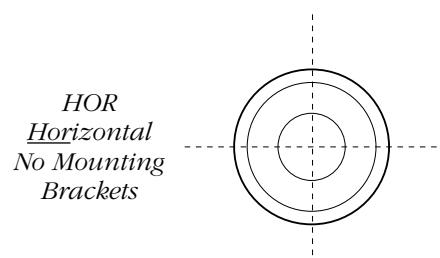
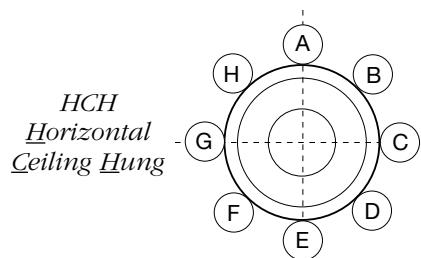
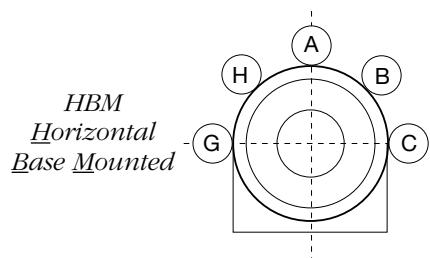
Horizontal construction is available in sizes 150 through 730.

**Horizontal Base Mounted (HBM)** — Support legs are provided at each end of the fan for floor mounting.

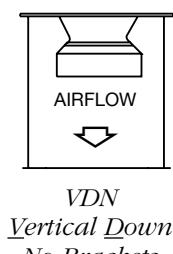
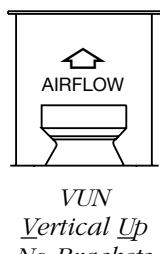
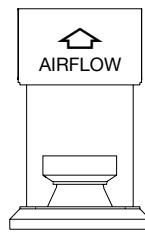
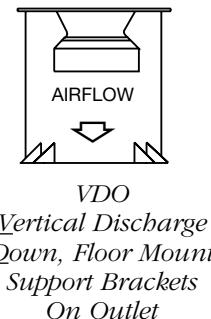
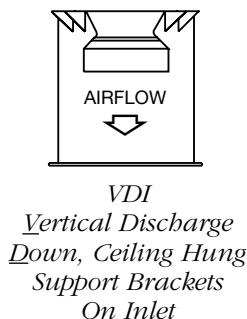
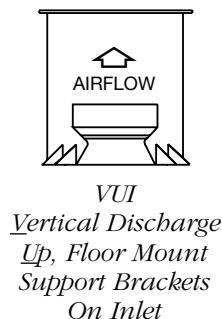
**Horizontal Ceiling Hung (HCH)** — For duct mounted fans, four suspension clips are welded to the fan casing to allow ceiling suspension using rod hangers.

**Horizontal (HOR)** — For mounting configurations where support legs and suspension clips are not required.

## Discharge Arrangements



**NOTE:** Horizontal motor positions shown from outlet end.



# Accessories

## Belt Tube

A belt tube encloses the belts and drive components, protecting them from the airstream.



*Support Legs, Horizontal*

*Support Legs, Vertical*

## Support Legs — Vertical Flow

For vertical flow with either floor or ceiling mounting, support legs are welded to the fan flange with bolt holes aligned for connection of ductwork.



*Suspension Clips,  
Horizontal*

*Discharge Cap*

## Suspension Clips

For horizontal flow with ceiling mounting, four clips of formed angle are welded to the fan housing for suspension via tie rods to the ceiling support structure.



*Curb Cap*

*Shaft Seal*

## Inlet and Outlet Screens

Safety screening can be provided for installation in the fan inlet or fan outlet.



*Inlet/Outlet Screens*



*Companion  
Flange*

## Discharge Cap

Discharge caps are designed for vertical, rooftop discharge with butterfly type dampers to seal out the weather when the fan is shut off.

## Curb Cap

Attached to the fan's flange for curb mounting.

## Shaft Seal

To limit the air entering the inner cylinder and avoid contact of airstream contaminants with the bearings and V-belt drive. Consists of a Teflon wear pad/plate and a rubber chekseal at the wheel end of the inner cylinder. Please note that a shaft seal does not make the inner cylinder gas tight.

## UL/cUL Listing

Model AMX is available with the UL/cUL 705 listing for electrical when supplied with specific motors. Model AMXR is provided standard with the UL/cUL 762 listing for the exhaust of grease-laden air and the model AMXSH is provided standard with the UL/cUL listing for Smoke Control Systems.

## Weather Cover

For outdoor installations, the weather cover completely encloses the motor and V-belt drive from the elements. Provided with slots for ventilation. Weather covers are available for either horizontal or vertical flow fans.

## Companion Flanges

Flanges are rolled angle rings, drilled to match the fan's inlet or outlet flange.

## Spark-Resistant Construction

Various grades of spark resistance are as dictated by AMCA: Types A, B, and C. Spark resistant construction requires the addition of a sealed belt tube.

## Vibration Isolation

Spring or rubber-in-shear isolators as an option. Spring isolators can be provided for floor mount or ceiling hung orientation.

# AMXR Restaurant Fans / AMXSH Smoke & Heat

## AMXR Restaurant Fans

Aerovent offers a specially modified version of the AMX fan designated as "AMXR" (Mixed Flow Restaurant Exhaust) for exhausting grease-laden air from kitchens, restaurants, cooking and dishwasher hoods. AMXR is available in sizes 150 through 730.

Model AMXR is cULus 762 listed for exhaust of grease-laden air. AMXR is licensed to bear the AMCA certified ratings seal for sound and air performance.

The AMXR fan is available in all configurations with the exception of vertical down (VDN, VDO and VDI).

### Standard Product Features

- Belt guard, totally enclosed, ventilated (weather cover for VRM)
- Belt tube, sealed
- Two cleanout doors located 180° apart (90° from motor)
- 2" drain located 180° from motor (lowest point for horizontal) vertical at the funnel
- Cooling fins on wheel
- Housing sealed with Hi-Temp caulk

## AMXSH Smoke & Heat Fans

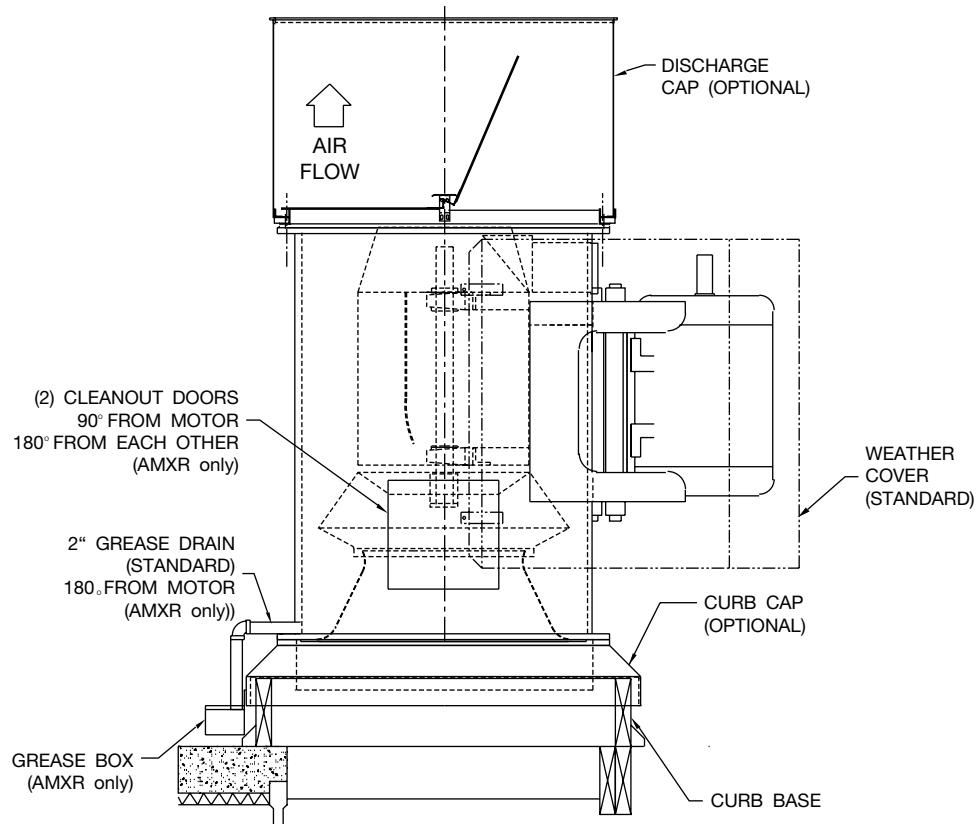
Aerovent offers a specially modified version of the AMX fan designated as "AMXSH" (Mixed Flow Smoke and Heat Exhaust) for smoke control applications where temperatures can reach 1000°F. AMXSH is available in sizes 150 through 730.

Model AMXSH is cULus 705 listed and cULus listed for smoke control systems for 500°F for 4 hours or 1000°F for 15 minutes. Vertical roof mounted configuration, with discharge cap, meets UL 793 Snow Load Test requirements for butterfly dampers. AMXSH is licensed to bear the AMCA certified ratings seal for sound and air performance.

The AMXSH fan is available in all configurations with the exception of vertical down (VDN, VDO and VDI).

### Standard Product Features

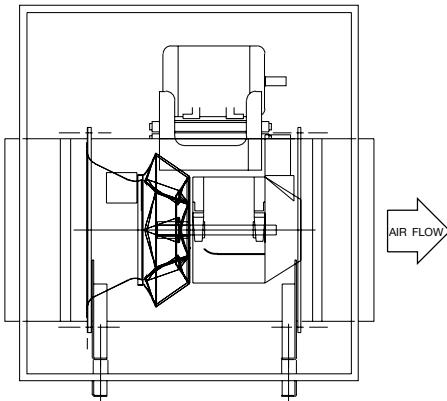
- Belt guard, ventilated (weather cover for VRM)
- Belt tube, sealed
- Two-groove drive minimum w/2.0 SF
- Cooling fins on wheel
- Stack cap with fusible link (for VRM)
- Continuously welded housing



# Special Options & Arrangements

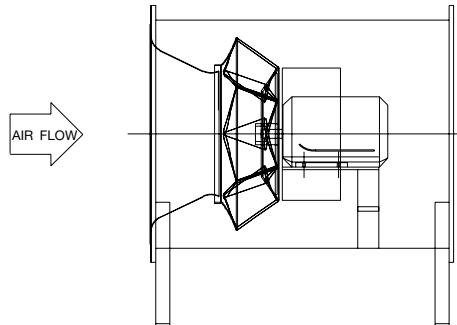
## Insulated Enclosure

To further reduce case radiated sound and motor noise, an optional Insulated Enclosure is available. The enclosure consists of a box with 2 inch thick, dual density fiberglass. Consult the factory for dimensions and sound reduction values.



## Arrangement 4 (Direct Drive)

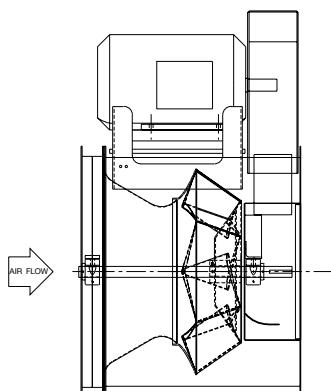
Where space constraints require the use of a complete "in line" fan or the desire is for a simple, dependable fan with minimum maintenance requirements, the direct drive Arrangement 4 AMX is available. Constructed with the fan wheel mounted directly on the motor shaft, this fan provides premium efficiency with minimal obstructions in the airstream. The use of a variable frequency drive (VFD) may be necessary for some applications.



## Arrangement 3

Where space is a premium, the AMX arrangement 3 is available to shorten the overall fan length. The table below shows the overall savings in length versus an arrangement 9 fan.

Fan Size	Arr. 3 Overall Length (TA)	Length Savings (IN.)
182	26.75	7.13
200	28.81	8.38
222	30.88	9.25
245	33.94	10.38
270	36.50	12.31
300	40.88	13.69
330	44.94	14.94
365	49.44	16.94
402	54.31	18.69
445	59.06	21.88
490	64.06	24.94
542	71.38	27.38



# Engineering Data

Table 1. Maximum RPM, Wheel Weights, and WR<sup>2</sup> (moment of inertia in lb-ft<sup>2</sup>)

FAN SIZE	CLASS I			CLASS II		
	MAX. RPM	WEIGHT LB	WR <sup>2</sup> LB-FT <sup>2</sup>	MAX. RPM	WEIGHT LB	WR <sup>2</sup> LB-FT <sup>2</sup>
150	2721	24	5.5	3558	28	7.1
165	2483	32	8.0	3247	36	10.3
182	2232	38	12	2918	44	15
200	2027	48	20	2650	52	23
222	1839	57	29	2405	62	34
245	1655	69	45	2165	75	52
270	1505	82	66	1968	90	76
300	1360	140	133	1779	150	145
330	1234	167	197	1613	179	215
365	1116	233	320	1459	247	347
402	1013	324	588	1325	324	588
445	915	393	883	1197	393	883
490	828	478	1321	1082	478	1321
542	752	591	1934	984	591	1934
600	680	715	2893	890	715	2893
660	615	867	4334	804	867	4334
730	558	1064	6396	730	1064	6396

Table 2. Bare Fan Weights (lb)

FAN SIZE	ARRANGEMENT 9	
	CLASS I	CLASS II
150	168	175
165	202	210
182	215	227
200	257	267
222	303	315
245	367	377
270	434	450
300	660	690
330	802	821
365	1019	1048
402	1332	1357
445	1595	1627
490	1992	2008
542	2504	2537
600	3006	3034
660	3880	3979
730	4719	4758

Table 3. Temperature and Altitude Density Ratios

AIR TEMP °F	ALTITUDE IN FEET ABOVE SEA LEVEL											
	BAROMETRIC PRESSURE IN INCHES OF MERCURY											
	29.92	28.86	27.82	26.82	25.84	24.90	23.98	23.09	22.22	21.39	20.58	16.89
-50	1.293	1.247	1.201	1.159	1.116	1.076	1.036	0.997	0.960	0.924	0.889	0.729
0	1.152	1.111	1.071	1.032	0.995	0.959	0.923	0.889	0.856	0.824	0.792	0.650
70	1.000	0.964	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.714	0.688	0.564
100	0.946	0.912	0.880	0.848	0.818	0.787	0.758	0.730	0.703	0.676	0.651	0.534
150	0.869	0.838	0.808	0.770	0.751	0.723	0.696	0.671	0.646	0.620	0.598	0.490
200	0.803	0.774	0.747	0.720	0.694	0.668	0.643	0.620	0.596	0.573	0.552	0.453

Table 4. Bearing Specifications

FAN SIZE	CLASS I			CLASS II		
	SHAFT DIA. (IN.)	HORIZ.	VERT.	SHAFT DIA. (IN.)	HORIZ.	VERT.
150	1.000	SDB	SDB	1.187	SDB	SDB
165	1.000	SDB	SDB	1.437	SDB	SDB
182	1.000	SDB	SDB	1.437	HDB	HDB
200	1.187	SDB	SDB	1.437	HDB	HDB
222	1.187	SDB	SDB	1.437	HDB	HDB
245	1.437	SDB	SDB	1.687	HDB	HDB
270	1.437	SDB	SDB	1.687	HDB	RB
300	1.437	HDB	HDB	1.937	HDB	RB
330	1.687	HDB	HDB	2.187	HDB	RB
365	1.937	HDB	HDB	2.187	RB	RB
402	1.937	HDB	RB	2.187	RB	RB
445	1.937	HDB	RB	2.437	RB	RB
490	2.187	HDB	RB	2.437	RB	RB
542	2.437	HDB	RB	2.687	RB	RB
600	2.687	HDB	—	2.937	RB	—
660	2.937	HDB	—	3.437	RB	—
730	2.937	HDB	—	3.937	RB	—

Table 5. Minimum CFM Required to Open Discharge Cap

FAN SIZE	CFM
150	1051
165	1707
182	2532
200	3527
222	3527
245	4693
270	6574
300	7605
330	8712
365	11158
402	15891
445	15891
490	20904
542	26613

NOTES:

1. BEARINGS CODES:  
 SDB — Standard-Duty Ball such as Dodge SCAH or SKF SY Series  
 HDB — Heavy-Duty Ball such as Dodge SCMAH or SKF SYM Series  
 RB — Roller Bearing such as Dodge S2000 or SKF SYR Series
2. Standard bearings are selected to exceed L-10 life of 40,000 hours at the maximum operating speed.

# Performance Data - AMX, AMXR, AMXSH

**150**

Wheel Type: Mixed Flow  
Wheel Diameter: 18.25"

Max. BHP = 0.20 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 4.78 x RPM

Max. Motor Frame: 215T  
Outlet Area: 2.25 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1300	583	930	0.16	1208	0.33																		
1500	673	984	0.19	1241	0.37	1466	0.59																
1700	762	1045	0.22	1282	0.41	1496	0.65	1689	0.89														
1900	852	1109	0.26	1331	0.46	1532	0.70	1717	0.97	1888	1.25												
2100	942	1177	0.30	1386	0.52	1574	0.76	1751	1.05	1916	1.34	2071	1.65										
2400	1076	1281	0.38	1476	0.62	1649	0.88	1812	1.17	1968	1.49	2115	1.82	2388	2.52								
2700	1211	1389	0.47	1573	0.74	1735	1.01	1885	1.31	2030	1.64	2169	1.99	2430	2.75	2672	3.54						
3000	1345	1499	0.58	1675	0.88	1827	1.17	1969	1.49	2103	1.82	2233	2.18	2482	2.98	2714	3.82	2933	4.70	3138	5.61		
3300	1480	1613	0.71	1779	1.03	1924	1.35	2058	1.68	2186	2.04	2307	2.41	2542	3.22	2765	4.11	2975	5.04	3175	6.00	3366	7.00
3600	1614	1730	0.86	1885	1.20	2026	1.56	2153	1.91	2274	2.28	2390	2.66	2611	3.49	2823	4.41	3026	5.39	3219	6.4	3405	7.45
4000	1794			2030	1.46	2164	1.86	2286	2.25	2399	2.64	2508	3.05	2716	3.92	2913	4.85	3105	5.86	3289	6.94	3467	8.06
4400	1973			2179	1.77	2306	2.20	2423	2.64	2531	3.06	2634	3.49	2831	4.41	3016	5.37	3195	6.40	3370	7.50	3540	8.67
4800	2152			2333	2.13	2450	2.59	2563	3.07	2668	3.54	2766	4.00	2952	4.95	3130	5.97	3299	7.03	3463	8.14		
5200	2332					2598	3.03	2705	3.54	2807	4.05	2902	4.56	3080	5.57	3249	6.62	3411	7.73				
5800	2601					2827	3.81	2924	4.35	3019	4.92	3111	5.50	3281	6.63	3439	7.76						
6200	2780					2983	4.41	3074	4.97	3164	5.57	3252	6.18	3419	7.41								

MAXIMUM RPM: Class I — 2721 Class II — 3558

**165**

Wheel Type: Mixed Flow  
Wheel Diameter: 20.00"

Max. BHP = 0.31 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 5.24 x RPM

Max. Motor Frame: 215T  
Outlet Area: 2.72 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	551	837	0.18	1095	0.39																		
1700	625	876	0.21	1119	0.43	1328	0.68																
1900	699	920	0.24	1147	0.47	1348	0.73	1528	1.02														
2100	772	967	0.27	1180	0.51	1372	0.79	1547	1.09														
2400	882	1042	0.34	1239	0.59	1416	0.88	1582	1.21	1735	1.55	1878	1.91										
2700	993	1121	0.41	1305	0.68	1469	0.98	1624	1.32	1770	1.70	1908	2.08	2163	2.90								
3000	1103	1201	0.49	1375	0.79	1530	1.11	1674	1.45	1813	1.84	1945	2.26	2191	3.12	2416	4.03						
3400	1250	1311	0.62	1476	0.96	1619	1.30	1753	1.66	1880	2.06	2004	2.49	2237	3.42	2454	4.40	2657	5.42				
3800	1397	1425	0.78	1580	1.15	1715	1.52	1841	1.91	1960	2.33	2074	2.76	2294	3.73	2501	4.78	2696	5.87	2882	7.00	3057	8.17
4200	1544	1542	0.97	1687	1.37	1817	1.78	1934	2.19	2047	2.63	2154	3.09	2360	4.07	2557	5.17	2745	6.33	2923	7.52	3094	8.75
4600	1691			1796	1.62	1921	2.08	2034	2.52	2140	2.98	2242	3.46	2436	4.48	2622	5.59	2801	6.79	2973	8.06	3138	9.36
5000	1838			1907	1.90	2027	2.40	2137	2.89	2238	3.37	2335	3.87	2520	4.93	2695	6.06	2865	7.29	3031	8.61	3190	9.98
5500	2022					2051	2.31	2163	2.85	2268	3.39	2365	3.92	2457	4.46	2632	5.57	2798	6.76	2957	8.01	3112	9.34
6000	2206					2199	2.80	2301	3.35	2402	3.95	2496	4.54	2585	5.13	2750	6.30	2909	7.54	3060	8.84	3206	10.21
6500	2390							2444	3.94	2538	4.57	2629	5.22	2715	5.86	2875	7.12	3025	8.41	3170	9.77		
7000	2574							2589	4.62	2678	5.27	2764	5.96	2848	6.66	3003	8.03	3147	9.39				

MAXIMUM RPM: Class I — 2483 Class II — 3247

**182**

Wheel Type: Mixed Flow  
Wheel Diameter: 22.25"

Max. BHP = 0.53 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 5.83 x RPM

Max. Motor Frame: 256T  
Outlet Area: 3.34 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
1700	512	733	0.21	974	0.45																			
2000	602	772	0.24	996	0.51																			
2300	693	819	0.29	1025	0.57	1208	0.89																	
2600	783	870	0.34	1061	0.63	1234	0.98	1391	1.36															
3000	904	943	0.42	1118	0.74	1276	1.10	1424	1.51	1562	1.94	1690	2.38											
3400	1024	1019	0.52	1182	0.86	1328	1.24	1466	1.66	1597	2.13	1720	2.61	1948	3.63									
3800	1145	1097	0.64	1252	1.01	1389	1.41	1516	1.84	1639	2.32	1757	2.84	1976	3.93	2177	5.06	2205	5.44	2388	6.70			
4200	1265	1177	0.77	1325	1.18	1454	1.60	1574	2.05	1689	2.55	1800	3.08	2010	4.23	2251	6.00	2410	7.39	2565	8.91	2714	10.52	
4600	1386	1259	0.92	1401	1.37	1523	1.82	1638	2.30	1746	2.81	1850	3.34	2051	4.54	2239	5.82	2416	7.15	2583	8.52	2774	10.69	
5100	1536	1365	1.15	1497	1.64	1615	2.14	1722	2.64	1824	3.18	1922	3.74	2109	4.95	2288	6.30	2458	7.72	2620	9.19			
5600	1687			15																				

# Performance Data - AMX, AMXR, AMXSH

**200**

Wheel Type: Mixed Flow  
Wheel Diameter: 24.50"

Max. BHP = 0.82 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 6.41 x RPM

Max. Motor Frame: 256T  
Outlet Area: 4.04 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
2400	602	699	0.29	903	0.61			1098	1.09																
2800	702	745	0.35	932	0.69			1124	1.20	1266	1.66	1396	2.15			1533	2.87								
3200	802	796	0.42	968	0.78			1156	1.32	1291	1.81	1416	2.33												
3600	902	851	0.51	1011	0.88																				
4100	1028	922	0.63	1071	1.04	1204	1.49	1330	2.01	1449	2.57	1561	3.16	1768	4.38										
4600	1153	995	0.77	1136	1.22	1260	1.70	1376	2.23	1488	2.81	1595	3.44	1794	4.75	1977	6.14	2169	8.14						
5100	1278	1070	0.93	1204	1.43	1322	1.95	1431	2.50	1535	3.09	1636	3.74	1826	5.13	2003	6.60	2035	7.08	2195	8.69	2347	10.37		
5600	1404	1147	1.13	1275	1.68	1386	2.22	1490	2.80	1588	3.42	1682	4.07												
6100	1529	1226	1.35	1347	1.94	1455	2.54	1553	3.14	1646	3.78	1736	4.46	1907	5.93	2071	7.56	2227	9.27	2374	11.02	2515	12.83		
6700	1679			1436	2.30	1539	2.96	1632	3.61	1721	4.29	1806	5.00	1967	6.50	2122	8.17	2271	9.96	2413	11.83	2549	13.74		
7300	1830			1526	2.70	1625	3.43	1715	4.14	1799	4.85	1880	5.59	2033	7.16	2179	8.85	2321	10.68	2457	12.63	2589	14.66		
7900	1980			1619	3.17	1713	3.94	1801	4.73	1881	5.48	1958	6.26	2105	7.90	2244	9.64	2377	11.48	2508	13.48	2635	15.59		
8500	2130			1714	3.70	1802	4.51	1887	5.35	1966	6.19	2040	7.01	2180	8.71	2313	10.51	2441	12.42	2565	14.43				
9200	2306			1827	4.41	1909	5.26	1989	6.16	2066	7.08	2138	7.98	2271	9.76	2399	11.65	2521	13.62	2638	15.67				
9900	2481					2018	6.11	2094	7.06	2168	8.05	2238	9.03	2367	10.94	2488	12.89	2606	14.96						
10600	2657					2129	7.07	2200	8.05	2271	9.10	2339	10.16	2465	12.23	2582	14.29								

MAXIMUM RPM: Class I — 2027      Class II — 2650

**222**

Wheel Type: Mixed Flow  
Wheel Diameter: 27.00"

Max. BHP = 1.37 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 7.07 x RPM

Max. Motor Frame: 256T  
Outlet Area: 4.97 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP				
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP			
2500	508	600	0.29	793	0.61			1120	1.72	1256	2.45															
3000	610	632	0.34	818	0.71	968	1.11																			
3500	711	669	0.39	847	0.81	993	1.25	1144	1.91																	
4000	813	711	0.46	878	0.91	1020	1.40																			
4500	915	759	0.55	911	1.01	1050	1.56	1171	2.11	1281	2.69	1381	3.28													
5000	1016	811	0.64	950	1.13	1082	1.71	1200	2.31	1308	2.94	1407	3.58	1586	4.91											
5500	1118	866	0.76	992	1.26	1116	1.86	1232	2.52	1337	3.19	1434	3.87	1610	5.29	1769	6.78	1937	8.89							
6000	1220	923	0.89	1038	1.42	1153	2.02	1264	2.72	1367	3.44	1463	4.18	1636	5.68	1793	7.25									
6500	1321	981	1.04	1087	1.59	1194	2.21	1299	2.92	1400	3.70	1493	4.48	1664	6.08	1818	7.73	1960	9.44	2093	11.23					
7000	1423	1041	1.21	1140	1.79	1239	2.44	1337	3.15	1433	3.94	1525	4.78	1693	6.48	1845	8.22	1986	10.04	2116	11.87	2239	13.78			
8000	1626	1163	1.61	1250	2.26	1336	2.95	1423	3.70	1509	4.51	1593	5.38	1756	7.30	1904	9.25	2040	11.21	2168	13.24	2288	15.30			
9000	1829			1365	2.82	1442	3.57	1518	4.36	1596	5.22	1673	6.11	1823	8.09	1967	10.27	2100	12.45	2224	14.63	2342	16.87			
10000	2033			1484	3.49	1553	4.30	1622	5.15	1691	6.04	1761	6.99	1899	9.00	2034	11.25	2164	13.66	2286	16.09	2401	18.52			
11000	2236			1606	4.28	1669	5.16	1732	6.07	1795	7.01	1857	7.99	1984	10.09	2109	12.36	2231	14.84	2350	17.48					
12000	2439			1730	5.21	1788	6.15	1846	7.12	1903	8.12	1961	9.16	2076	11.34	2192	13.67	2306	16.17							
13000	2642			1909	7.28	1962	8.31			2016	9.38	2069	10.47	2175	12.75	2282	15.18	2389	17.74							

MAXIMUM RPM: Class I — 1839      Class II — 2405

**245**

Wheel Type: Mixed Flow  
Wheel Diameter: 30.00"

Max. BHP = 2.31 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 7.85 x RPM

Max. Motor Frame: 256T  
Outlet Area: 6.01 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP				
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP			
3500	585	559	0.40	728	0.84			882	1.46	900	1.60	1014	2.20	1132	3.05											
4000	669	584	0.45	748	0.93			900	1.60	1032	2.39															
4500	753	612	0.51	770	1.04			921	1.75																	
5000	836	644	0.58	793	1.14																					
5500	920	679	0.66	817	1.24	942	1.90	1052	2.58	1151	3.30	1241	4.02			1259	4.31	1422	5.94							
6000	1003	717	0.76	845	1.35	966	2.06	1073	2.79	1170	3.54	1299	4.90	1457	6.70	1599	8.56									
7000	1171	797	0.99	907	1.62	1015	2.36	1118	3.19	1212	4.04	1499	7.46	1635	9.90	1765	12.56	1885	15.23	1997	17.91	2104	20.68			
8000	1338	881	1.28	977	1.96	1073	2.72	1168	3.59	1259	4.56	1497	7.16	1562	8.31	1689	10.77	1813	13.54	1931						

# Performance Data - AMX, AMXR, AMXSH

**270**

Wheel Type: Mixed Flow  
Wheel Diameter: 33.00"

Max. BHP = 3.71 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 8.64 x RPM

Max. Motor Frame: 286T  
Outlet Area: 7.28 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	620	518	0.51	670	1.06	793	1.67																
5000	689	537	0.56	685	1.16	806	1.81	911	2.50														
5500	758	559	0.62	702	1.27	820	1.95	923	2.67														
6000	826	583	0.69	719	1.37	835	2.10	937	2.87	1028	3.67												
6500	895	609	0.78	737	1.46	852	2.26	951	3.06	1042	3.91	1124	4.78										
7000	964	637	0.87	757	1.57	869	2.41	967	3.27	1056	4.15	1138	5.07	1286	7.00								
8000	1102	695	1.08	801	1.82	904	2.70	1000	3.67	1087	4.66	1167	5.66	1311	7.73	1442	9.94						
9000	1240	757	1.34	851	2.13	945	3.03	1036	4.08	1120	5.16	1198	6.26	1340	8.52	1468	10.87	1585	13.31				
10000	1377	822	1.65	906	2.49	991	3.43	1074	4.48	1156	5.67	1232	6.88	1371	9.32	1496	11.84	1612	14.46	1719	17.13	1821	19.94
11000	1515	888	2.01	964	2.91	1041	3.90	1119	4.99	1194	6.17	1268	7.48	1404	10.15	1527	12.84	1640	15.61	1746	18.46	1846	21.40
12000	1653	955	2.43	1025	3.39	1096	4.44	1167	5.57	1237	6.77	1306	8.08	1439	10.96	1559	13.86	1671	16.82	1775	19.84	1874	22.96
13000	1791	1023	2.92	1088	3.94	1153	5.04	1218	6.21	1284	7.46	1349	8.79	1475	11.74	1594	14.90	1703	18.04	1806	21.24	1903	24.51
14000	1928			1153	4.57	1213	5.72	1273	6.93	1334	8.23	1395	9.60	1514	12.57	1629	15.87	1737	19.27	1838	22.67	1934	26.12
15000	2066			1218	5.26	1275	6.48	1331	7.75	1387	9.08	1444	10.50	1557	13.52	1666	16.85	1773	20.49	1872	24.11	1966	27.75
17000	2342			1352	6.90	1402	8.24	1452	9.63	1502	11.08	1551	12.57	1651	15.75	1751	19.18	1848	22.88	1943	26.87		
19000	2617					1534	10.38	1578	11.88	1623	13.45	1667	15.05	1756	18.43	1846	22.02	1935	25.80				

MAXIMUM RPM: Class I — 1505 Class II — 1968

**300**

Wheel Type: Mixed Flow  
Wheel Diameter: 36.50"

Max. BHP = 6.16 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 9.56 x RPM

Max. Motor Frame: 286T  
Outlet Area: 9.00 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	558	455	0.57	595	1.20																		
5750	642	475	0.65	611	1.35	721	2.10																
6500	725	498	0.73	629	1.50	737	2.33	830	3.19														
7250	809	524	0.84	648	1.66	753	2.54	845	3.47	928	4.45												
8000	893	553	0.96	668	1.80	771	2.77	861	3.76	943	4.81	1018	5.89										
8750	977	583	1.09	690	1.96	790	3.00	879	4.08	959	5.18	1032	6.30										
9500	1060	616	1.26	715	2.15	810	3.23	897	4.38	976	5.55	1048	6.74	1180	9.25								
11000	1228	684	1.63	769	2.60	854	3.71	936	4.98	1012	6.31	1083	7.66										
12500	1395	756	2.11	830	3.15	906	4.33	980	5.61	1052	7.05	1121	8.58	1245	11.60	1359	14.76						
14000	1562	829	2.67	896	3.81	963	5.05	1030	6.39	1096	7.85	1161	9.46	1283	12.85	1393	16.25						
15500	1730	905	3.37	965	4.59	1025	5.91	1086	7.33	1146	8.82	1206	10.44	1322	14.03	1430	17.79	1530	21.57				
17000	1897					1036	5.50	1091	6.90	1146	8.39	1201	9.96	1257	11.64	1365	15.26	1470	19.31				
19000	2121					1133	6.92	1183	8.46	1232	10.05	1281	11.72	1330	13.46	1429	17.20	1525	21.29				
21000	2344					1233	8.63	1278	10.29	1322	11.99	1367	13.79	1411	15.62	1500	19.52	1590	23.74				
23000	2567							1375	12.42	1416	14.27	1456	16.14	1497	18.10	1578	22.20	1660	26.57				
25000	2790							1474	14.88	1511	16.83	1549	18.86	1586	20.92	1661	25.23	1736	29.79				

MAXIMUM RPM: Class I — 1360 Class II — 1779

**330**

Wheel Type: Mixed Flow  
Wheel Diameter: 40.25"

Max. BHP = 10.03 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 10.54 x RPM

Max. Motor Frame: 286T  
Outlet Area: 10.89 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7250	668	436	0.81	559	1.70	658	2.63			754	3.91												
8000	737	454	0.90	572	1.85	670	2.86	785	4.08	859	5.18												
8750	806	473	1.00	586	2.00	682	3.07	765	4.19			841	5.39	851	5.72	920	7.03						
9500	876	494	1.12	601	2.15	695	3.30	777	4.49														
10250	945	517	1.26	617	2.30	709	3.53	790	4.79	863	6.10	930	7.44										
11000	1014	541	1.41	634	2.47	724	3.77	803	5.09	875	6.46	942	7.88			1062	10.83						
12500	1152	590	1.75	673	2.89	754	4.20	832	5.72	902	6.74	966	8.75	1084	11.96	1190	15.31						
14000	1290	642	2.17	716	3.38	790	4.75	862	6.31	930	7.99	993	9.68			1109	13.16	1213	16.77			1308	20.47
15500	1429	696	2.66	763	3.96	829	5.38	896	6.97	960	8.72	1022	10.60	1135	14.38	1237	18.23	1331	22.22			1419	26.33
17000	1567	751	3.24	812	4.63	872	6.12	934	7.78	993	9.52	1052	11.48	1163	15.61	1263	19.75	1355	23.97			1442	28.37
19000	1751	826	4.17	880	5.66	935	7																

# Performance Data - AMX, AMXR, AMXSH

**365**

Wheel Type: Mixed Flow  
Wheel Diameter: 44.50"

Max. BHP = 17.44 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 11.65 x RPM

Max. Motor Frame: 326T  
Outlet Area: 13.33 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	602	371	0.88	484	1.88																		
9000	677	386	0.99	495	2.07																		
10000	752	403	1.11	507	2.24	595	3.52	618	4.06	692	5.59												
12000	903	445	1.43	535	2.64																		
14000	1053	491	1.84	567	3.10	645	4.63	715	6.29	780	8.07	840	9.86										
16000	1204	538	2.32	608	3.71	675	5.27	742	7.05	804	8.96	862	10.96	968	15.05								
18000	1354	586	2.88	653	4.46	711	6.05	772	7.91	832	9.94	887	12.04	990	16.55	1084	21.17						
20000	1505	636	3.56	699	5.30	754	7.04	806	8.88	861	10.97	915	13.22	1014	17.96	1105	22.98	1190	28.13				
22000	1655	687	4.37	746	6.24	798	8.14	846	10.06	895	12.19	944	14.46	1041	19.47	1129	24.76	1212	30.35	1289	35.92	1363	41.64
24000	1806			794	7.30	844	9.38	890	11.46	934	13.62	978	15.92	1070	21.12	1156	26.65	1236	32.49	1312	38.55	1384	44.69
26000	1956			843	8.50	891	10.75	936	13.04	977	15.29	1017	17.63	1100	22.83	1184	28.63	1262	34.67	1336	41.03	1406	47.53
28000	2107			893	9.88	938	12.23	981	14.69	1022	17.16	1060	19.61	1135	24.83	1213	30.70	1290	37.04	1362	43.59	1431	50.45
30000	2257			943	11.41	987	13.92	1028	16.52	1067	19.14	1104	21.76	1174	27.12	1245	32.98	1319	39.52	1390	46.34	1457	53.36
32000	2408			1036	15.76	1076	18.53	1113	21.30	1149	24.09	1216	29.69	1282	35.65	1350	42.18	1419	49.24				
34000	2558			1086	17.81	1124	20.68	1160	23.63	1195	26.62	1260	32.52	1322	38.61	1384	45.09	1449	52.23				
36000	2709			1136	20.06	1173	23.06	1208	26.16	1242	29.34	1306	35.64	1365	41.93	1423	48.50						

MAXIMUM RPM: Class I — 1116 Class II — 1459

**402**

Wheel Type: Mixed Flow  
Wheel Diameter: 49.00"

Max. BHP = 28.23 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 12.83 x RPM

Max. Motor Frame: 365T  
Outlet Area: 16.16 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	620	340	1.10	442	2.34																		
11000	682	351	1.20	450	2.52																		
12000	744	364	1.33	459	2.69	539	4.22	624	6.56														
14000	868	395	1.64	480	3.09	556	4.77																
16000	993	429	2.02	502	3.51	575	5.31	641	7.30	700	9.32	771	12.54										
18000	1117	464	2.47	530	4.05	597	5.93	660	8.03	717	10.23	884	18.72										
20000	1241	499	2.96	562	4.71	620	6.59	681	8.82	736	11.13	788	13.60	900	20.15	986	25.85						
22000	1365	536	3.55	596	5.47	649	7.44	703	9.66	757	12.11	807	14.67	905	28.14	1080	35.16	1151	42.59	1218	50.37	1281	58.30
24000	1489	573	4.22	630	6.30	680	8.38	729	10.65	779	13.16	828	15.85	919	21.63	1002	27.69	1079	33.84				
26000	1613	611	5.01	665	7.21	714	9.50	758	11.79	803	14.30	850	17.11	938	23.05	1019	29.42	1095	36.07	1166	42.74		
29000	1799			719	8.78	765	11.32	807	13.85	847	16.45	887	19.23	970	25.47	1048	32.15	1121	39.22	1190	46.55	1256	54.03
32000	1985			774	10.60	817	13.35	858	16.19	895	18.96	931	21.82	1005	28.14	1080	35.16	1151	42.59	1218	50.37	1281	58.30
35000	2171			830	12.73	871	15.69	910	18.79	946	21.84	980	24.90	1045	31.20	1114	38.41	1183	46.22	1248	54.29	1309	62.58
38000	2357			888	15.25	926	18.34	963	21.66	997	24.95	1030	28.26	1092	34.98	1153	42.14	1216	49.99	1280	58.54		
41000	2543			982	21.35	1017	24.85	1050	28.42	1082	32.04	1141	39.14	1197	46.45	1254	54.34	1313	62.94				
44000	2730			1039	24.79	1072	28.42	1103	32.15	1134	36.05	1192	43.77	1245	51.39	1297	59.35						

MAXIMUM RPM: Class I — 1013 Class II — 1325

**445**

Wheel Type: Mixed Flow  
Wheel Diameter: 54.25"

Max. BHP = 46.94 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 14.20 x RPM

Max. Motor Frame: 365T  
Outlet Area: 19.80 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
13000	658	313	1.42	404	3.01																		
15000	759	332	1.67	417	3.36																		
17000	861	355	1.98	432	3.75	501	5.80	563	8.00	629	11.15												
19000	962	380	2.36	448	4.16	515	6.34	575	8.73														
21000	1063	405	2.77	467	4.65	531	6.96	588	9.43	641	12.08	690	14.76										
23000	1165	431	3.24	490	5.27	547	7.58	603	10.19	654	12.96	702	15.87	790	21.79								
25000	1266	457	3.76	514	5.96	565	8.27	619	11.01	669	13.91	715	16.92	801	23.28								
28000	1418	498	4.68	551	7.11	598	9.60	644	12.30	692	15.38	737	18.60	820	25.46	896	32.60						
31000	1570	540	5.80	589	8.42	634	11.15	675	13.93	717	17.00	761	20.45	841	27.62	915	35.34	984	43.29	1048	51.19		
34000	1722	582	7.09	629	9.93	671	12.88	710	15.87	747	18.95	786	22.39	864	29.96	936	38.07	1002	46.42	1065	55.0		

# Performance Data - AMX, AMXR, AMXSH

**490**

Wheel Type: Mixed Flow  
Wheel Diameter: 60.00"

Max. BHP = 74.47 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 15.71 x RPM

Max. Motor Frame: 405T  
Outlet Area: 23.98 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
18000	753	298	2.00	375	4.05	441	6.36																
20000	836	314	2.29	386	4.42	449	6.88	506	9.49														
22000	920	332	2.65	398	4.84	459	7.42	514	10.22														
24000	1003	350	3.03	410	5.26	470	7.98	523	10.92	572	14.00												
27000	1129	379	3.70	433	6.08	487	8.87	539	12.04	586	15.37	630	18.83										
30000	1254	408	4.45	459	7.06	507	9.92	556	13.21	601	16.68	644	20.43	722	28.07								
33000	1380	438	5.34	487	8.22	530	11.15	574	14.47	618	18.15	659	22.00	735	30.21	805	38.73						
36000	1505	468	6.34	515	9.47	556	12.61	595	15.94	636	19.72	677	23.86	750	32.36	818	41.48	881	50.71				
40000	1672	510	7.97	553	11.32	592	14.80	628	18.35	664	22.18	701	26.38	772	35.38	838	45.13	899	55.19	956	65.31	1011	75.72
44000	1839			592	13.44	630	17.34	664	21.17	696	25.07	728	29.21	795	38.58	859	48.73	918	59.34	975	70.59	1028	81.77
48000	2007			632	15.89	668	20.09	701	24.30	731	28.43	760	32.67	821	42.23	882	52.72	940	63.86	994	75.37	1046	87.38
52000	2174			673	18.73	707	23.17	738	27.67	768	32.25	796	36.81	850	46.31	907	57.11	963	68.64	1016	80.64	1067	93.28
56000	2341			715	22.02	747	26.65	777	31.50	805	36.34	832	41.21	883	51.11	934	61.83	987	73.68	1039	86.21		
60000	2508			756	25.60	787	30.48	816	35.63	843	40.82	870	46.18	918	56.48	965	67.34	1014	79.36	1063	92.10		
64000	2676					828	34.82	855	40.09	882	45.73	907	51.29	955	62.49	999	73.64	1044	85.72				
68000	2843					869	39.61	896	45.24	921	50.99	945	56.84	992	68.84	1035	80.65	1076	92.67				

MAXIMUM RPM: Class I — 828      Class II — 1082

**542**

Wheel Type: Mixed Flow  
Wheel Diameter: 66.00"

Max. BHP = 125.16 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 17.28 x RPM

Max. Motor Frame: 405T  
Outlet Area: 29.36 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
22000	750	272	2.45	342	4.94	401	7.72																
25500	869	294	2.99	357	5.63	413	8.67	464	11.98														
29000	988	318	3.66	373	6.38	427	9.64	475	13.18	520	16.94												
32500	1107	343	4.43	393	7.32	442	10.68	489	14.47	532	18.52	572	22.67										
36000	1227	369	5.32	415	8.42	459	11.87	504	15.85	545	20.03	584	24.52	655	33.68								
39500	1346	395	6.33	439	9.72	479	13.28	520	17.34	560	21.75	598	26.47	667	36.30								
43500	1482	425	7.64	468	11.45	505	15.23	541	19.30	578	23.84	615	28.80	682	39.19	743	50.05	801	61.36				
47500	1618	456	9.22	496	13.24	532	17.39	565	21.61	598	26.17	633	31.32	698	42.11	758	53.72	814	65.78	867	78.05		
51500	1755	488	11.08	526	15.35	560	19.82	591	24.25	622	29.02	652	33.96	715	45.24	774	57.40	828	69.96	880	83.16	929	96.40
55500	1891			555	17.58	588	22.41	619	27.30	647	32.11	675	37.22	734	48.79	791	61.28	844	74.39	894	88.04	942	102.15
59500	2027			586	20.24	617	25.28	647	30.56	674	35.66	701	41.06	754	52.52	808	65.24	861	79.04	910	93.23	957	108.02
64000	2181			620	23.47	651	28.96	679	34.52	706	40.16	731	45.71	779	57.22	830	70.37	880	84.32	928	98.97	974	114.33
68500	2334			655	27.18	684	32.83	711	38.73	737	44.76	762	50.83	808	62.92	853	75.72	901	90.20	948	105.44		
73000	2487			691	31.44	718	37.21	744	43.41	769	49.81	793	56.23	838	69.09	880	82.15	924	96.64	968	111.96		
77500	2641					753	42.17	778	48.64	802	55.36	825	62.15	868	75.55	909	89.33	949	103.68				
82000	2794					788	47.61	812	54.29	835	61.27	857	68.36	900	82.88	939	97.09	977	111.81				

MAXIMUM RPM: Class I — 752      Class II — 984

**600**

Wheel Type: Mixed Flow  
Wheel Diameter: 73.00"

Max. BHP = 207.58 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 19.11 x RPM

Max. Motor Frame: 445T  
Outlet Area: 35.94 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
28000	779	250	3.12	312	6.22	365	9.74			421	14.91												
32000	890	270	3.81	325	7.03	376	10.86	421	14.91			471	20.91	508	25.55								
36000	1002	290	4.57	339	7.91	388	11.97	431	16.32			482	22.81	518	27.91								
40000	1113	311	5.45	356	9.00	401	13.20	443	17.82			536	31.27	568	37.50	628	50.76	682	64.66			733	79.21
44000	1224	333	6.48	375	10.29	415	14.52	456	19.43	493	24.55	528	30.00	592	41.15								
48000	1336	355	7.62	396	11.84	432	16.15	469	21.07	506	26.56	539	32.07	602	44.13	660	56.61			721	73.55		
52000	1447	377	8.89	416	13.40	450	17.93	484	22.96	519	28.61	552	34.48	613	47.03	669	60.21			776	95.79	820	112.87
57000	1586	406	10.82	443	15.72	475	20.60	506	25.80	536	31.27	568	37.50	628	50.76	682	64.66			733	79.21	781	93.91
62000	1725	435	13.04	470	18.23	501	23.60	530	29.07	557	34.61	586	40.90	644									

# Performance Data - AMX, AMXR, AMXSH

**660**

Wheel Type: Mixed Flow  
Wheel Diameter: 80.75"

Max. BHP = 342.30 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 21.14 x RPM

Max. Motor Frame: 445T  
Outlet Area: 43.50 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
33000	759	222	3.65	280	7.44	328	11.60	377	17.45	421	24.24	461	31.84										
37000	851	236	4.28	289	8.19	335	12.65	384	18.93	428	26.11												
41000	943	251	5.01	298	8.96	344	13.80	392	20.37														
45000	1035	266	5.80	309	9.90	353	14.93																
50000	1150	286	6.97	326	11.39	365	16.47	403	22.22	437	28.21	470	34.68										
55000	1265	306	8.26	344	13.08	379	18.27	415	24.25	448	30.52	480	37.39	538	51.45								
60000	1380	326	9.70	363	15.01	394	20.20	427	26.29	460	33.04	491	40.17	547	55.01	598	70.18						
67500	1552	358	12.40	391	18.09	421	23.96	450	30.26	479	37.10	508	44.48	562	60.21	612	77.10	659	94.61	702	111.79		
75000	1725	390	15.60	421	21.79	450	28.42	476	34.98	501	41.81	527	49.33	580	66.23	628	83.99	673	102.71	715	121.64	755	140.76
82500	1897			452	26.10	479	33.29	504	40.49	527	47.66	550	55.27	598	72.37	645	91.10	688	110.45	730	131.33	769	152.17
90000	2069			483	30.97	508	38.55	532	46.43	555	54.43	576	62.29	619	79.56	663	98.76	706	119.47	746	140.85	784	162.96
97500	2242			514	36.48	539	44.79	562	53.35	583	61.67	604	70.37	643	87.90	683	107.31	724	128.67	763	150.80	800	173.75
105000	2414			546	42.92	569	51.41	591	60.48	612	69.75	632	78.96	669	97.35	705	116.72	743	138.39	781	161.53		
112500	2587					601	59.31	622	68.85	642	78.68	661	88.50	697	108.15	730	127.75	765	149.70	800	172.88		
120000	2759					632	67.73	652	77.61	672	88.24	690	98.57	725	119.55	757	140.27	789	162.24				
127500	2932					664	77.35	684	87.92	702	98.52	720	109.69	754	132.10	785	153.94						

MAXIMUM RPM: Class I — 615      Class II — 804

**730**

Wheel Type: Mixed Flow  
Wheel Diameter: 89.00"

Max. BHP = 556.14 (RPM ÷ 1000)<sup>3</sup>  
Tip Speed FPM = 23.30 x RPM

Max. Motor Frame: 445T  
Outlet Area: 53.25 ft<sup>2</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
40000	752	202	4.47	254	9.03	298	14.13																
45000	846	214	5.19	262	9.93	304	15.37	342	21.20														
50000	940	228	6.10	271	10.96	312	16.75	349	23.13	382	29.49												
57500	1081	250	7.71	287	12.79	325	18.95	360	25.73	392	32.92	422	40.32										
65000	1222	272	9.53	307	15.23	340	21.53	373	28.65	404	36.38	432	44.23	485	60.85								
72500	1364	295	11.71	328	18.03	357	24.47	387	31.85	417	40.03	444	48.31	496	66.65	542	84.86						
80000	1505	318	14.23	349	21.09	377	28.17	403	35.51	430	43.74	457	52.69	507	71.83	553	92.19	595	112.50				
87500	1646	342	17.28	371	24.59	398	32.35	422	40.03	446	48.31	471	57.48	520	77.64	564	98.76	605	120.69	644	143.15	681	165.88
95000	1787	366	20.77	394	28.63	419	36.85	442	45.06	464	53.56	487	62.98	533	83.54	576	105.50	616	128.59	654	152.57	690	176.78
102500	1928			417	33.09	441	41.93	463	50.73	484	59.71	505	69.27	547	89.94	589	112.81	628	136.70	666	162.51	701	188.15
110000	2069			440	38.01	463	47.37	485	57.11	505	66.58	524	76.16	563	97.27	603	120.81	641	145.42	678	172.00	712	198.61
120000	2257			472	45.79	493	55.50	514	66.09	534	76.79	552	87.05	587	108.47	623	132.25	659	157.73	695	185.35	728	213.00
130000	2445					504	54.66	524	64.92	544	76.22	563	87.77	580	98.71	614	121.83	646	145.53	679	171.44	713	199.74
140000	2633					555	75.44	574	87.29	592	99.51	609	111.71	641	135.93	672	161.19	702	187.36				
150000	2821					587	87.61	605	99.94	622	112.69	639	126.10	670	152.20	699	178.30	727	205.14				
160000	3009					619	101.14	636	113.86	653	127.58	668	140.88	699	169.47	727	197.09						

MAXIMUM RPM: Class I — 558      Class II — 730

**Legend:**

Class I = Regular face to left of Class II

Class II = Regular face in light shaded area

Performance certified is for installation Type B: Free inlet, ducted outlet.

Power rating (BHP) does not include transmission losses.

Performance ratings do not include the effects of appurtenances (accessories).

Underlined figures indicate maximum static efficiency.

# Dimensional Data – Horizontal

## Horizontal Construction

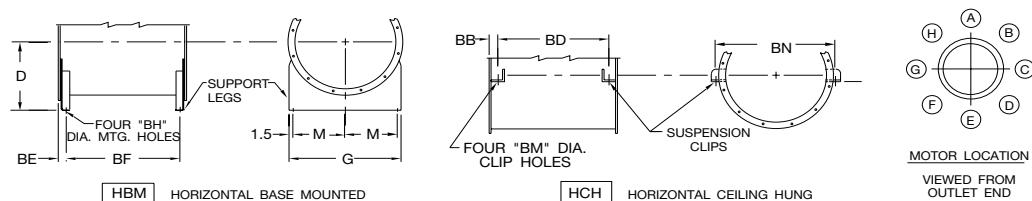
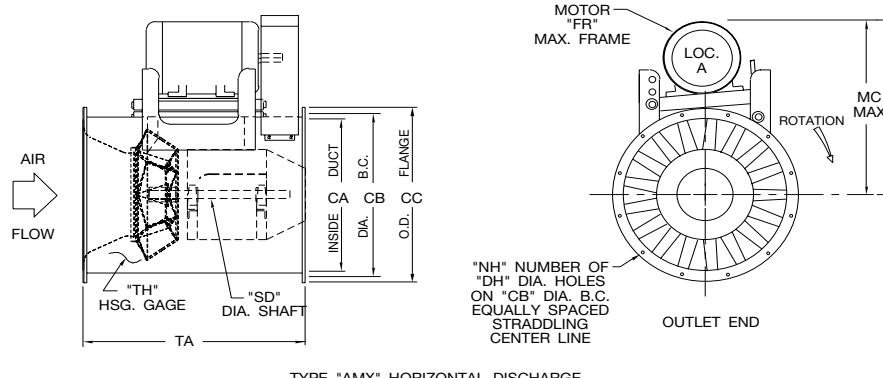
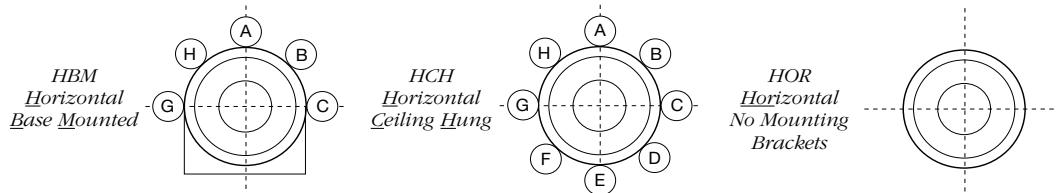
Horizontal construction is available in sizes 150 through 730.

**Horizontal Base Mounted (HBM)** — Support legs are provided at each end of the fan for floor mounting.

**Horizontal Ceiling Hung (HCH)** — For duct mounted fans, four suspension clips are welded to the fan casing to allow ceiling suspension using rod hangers.

**Horizontal (HOR)** — For mounting configurations where support legs and suspension clips are not required.

## Discharge Arrangements



**NOTE:** Horizontal motor positions shown from outlet end.

SIZE	BB	BD	BE	BF	BH	BM	BN	CA	CB	CC	D	DH	FR	G	M	MC	NH	SD		TA	TH
																	CL I	CL II			
150	1.00	25.78	1.06	25.65	0.44	0.56	23.50	20.25	22.13	23.38	14.00	0.56	215T	23.38	10.19	25.73	8	1.000	1.187	27.78	10
165	1.00	28.62	1.06	28.50	0.44	0.56	25.88	22.31	24.38	25.75	15.00	0.69	215T	25.75	11.25	27.79	8	1.000	1.437	30.62	10
182	1.50	30.89	1.06	31.76	0.44	0.56	27.75	24.69	26.75	28.00	16.00	0.69	256T	28.00	12.50	34.45	12	1.000	1.437	33.89	12
200	1.50	34.18	1.06	35.05	0.56	0.56	30.13	27.06	29.13	30.31	18.00	0.81	256T	30.31	13.66	36.20	12	1.187	1.437	37.18	12
222	1.50	37.19	1.31	37.57	0.56	0.56	33.13	30.06	32.13	33.38	20.00	0.81	256T	33.38	15.19	37.65	12	1.187	1.437	40.19	12
245	1.50	41.31	1.31	41.69	0.56	0.81	36.25	33.13	35.13	36.38	21.00	0.81	256T	36.38	16.69	37.86	12	1.437	1.687	44.31	12
270	1.50	45.83	1.31	46.20	0.56	0.81	39.63	36.50	38.50	39.75	23.00	0.81	286T	39.75	18.38	42.16	12	1.437	1.687	48.83	12
300	1.50	51.52	1.31	51.89	0.56	0.81	43.75	40.56	43.13	44.88	25.00	0.81	286T	44.88	20.94	45.13	16	1.437	1.937	54.52	10
330	1.50	56.90	1.31	57.28	0.56	0.81	47.88	44.63	47.25	49.00	27.00	0.81	286T	49.00	23.00	46.56	16	1.687	2.187	59.90	10
365	2.00	62.37	1.56	63.25	0.56	0.81	52.56	49.38	52.00	53.75	29.00	0.81	326T	53.75	25.38	51.50	16	1.937	2.187	66.37	10
402	2.00	69.00	1.69	69.63	0.81	0.81	57.56	54.38	57.50	59.75	33.00	0.81	365T	59.75	28.38	59.77	16	1.937	2.187	73.00	10
445	2.00	76.92	1.69	77.54	0.81	0.81	63.38	60.19	63.25	65.50	36.00	0.81	365T	65.50	31.25	62.22	16	1.937	2.437	80.92	10
490	2.00	84.99	1.69	85.62	0.81	0.81	69.44	66.25	69.38	71.63	39.00	0.81	405T	71.63	34.31	67.68	24	2.187	2.437	88.99	10
542	2.00	94.71	2.44	93.84	0.81	1.06	76.56	73.38	77.00	79.75	43.00	0.81	405T	79.75	38.38	71.51	24	2.437	2.687	98.71	10
600	2.50	103.74	2.44	103.87	0.81	1.06	85.38	81.19	84.75	87.50	47.00	0.81	445T	87.50	42.25	78.41	24	2.687	2.937	108.74	10
660	2.50	115.11	2.44	115.24	1.06	1.06	93.56	89.31	92.88	95.63	52.00	0.81	445T	95.63	46.31	82.77	24	2.937	3.437	120.11	10
730	2.50	127.71	2.44	127.84	1.06	1.06	102.94	98.75	104.38	107.13	57.00	0.81	445T	107.13	52.06	87.76	24	2.937	3.937	132.71	10

AC1000023

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE ON REQUEST.

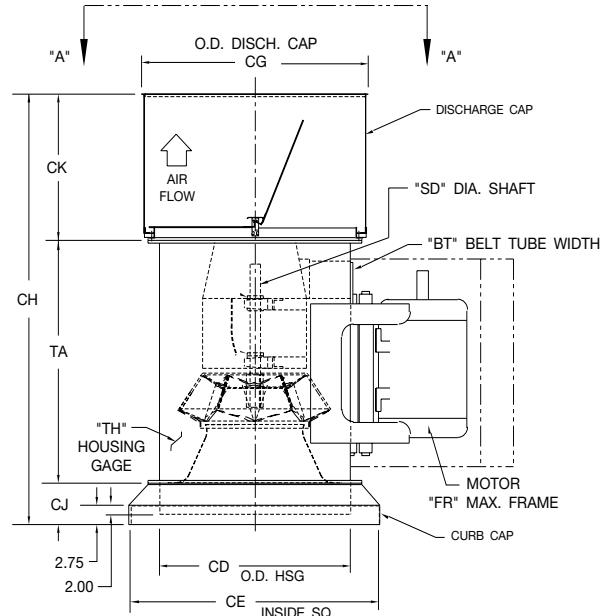
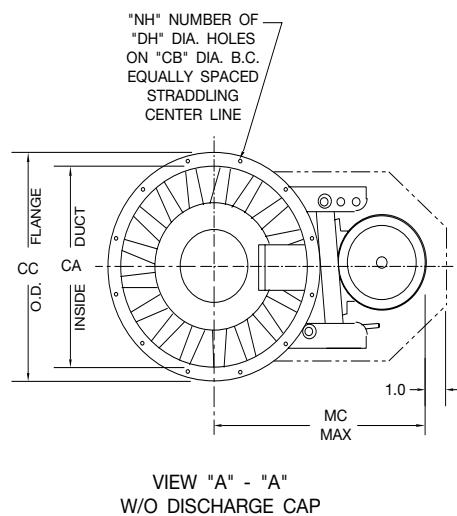
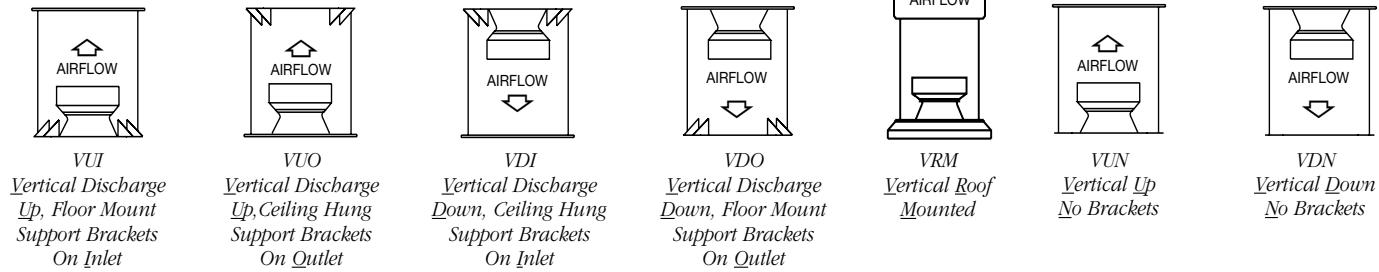
# Dimensional Data – Vertical Roof

## Vertical Construction

Vertical construction is available in sizes 150 through 542. Consult factory for larger sizes.

### Floor or Ceiling Mounted (VUI/VUO/VDI/VDO) —

Four vertical brackets are welded to either end of the fan housing. Bracket location is determined by airflow direction and support details (see drawing below).



TYPE "AMX" VERTICAL DISCHARGE WITH DISCHARGE CAP AND CURB CAP

SIZE	BT	CA	CB	CC	CD	CE	CG	CH	CJ	CK	DH	FR	MC	NH	SD		TA	TH
															CL I	CL II		
150	6.50	20.25	22.13	23.38	20.50	27.38	30.00	48.75	6.00	15.00	0.56	215T	25.73	8	1.000	1.187	27.75	10
165	6.50	22.25	24.38	25.75	22.56	30.88	32.00	54.94	6.31	18.00	0.69	215T	27.73	8	1.000	1.437	30.63	10
182	6.50	24.69	26.75	28.00	24.88	34.88	34.00	58.50	6.63	18.00	0.69	256T	34.45	12	1.000	1.437	33.88	12
200	7.25	27.06	29.13	30.31	27.25	37.38	40.00	64.94	6.75	21.00	0.81	256T	36.20	12	1.187	1.437	37.19	12
222	8.00	30.06	32.13	33.38	30.25	40.38	40.00	67.94	6.75	21.00	0.81	256T	37.65	12	1.187	1.437	40.19	12
245	8.93	33.13	35.13	36.38	33.31	43.38	46.00	75.31	7.00	24.00	0.81	256T	37.86	12	1.437	1.687	44.31	12
270	9.75	36.50	38.50	39.75	36.69	46.75	46.00	80.06	7.25	24.00	0.81	286T	42.16	12	1.437	1.687	48.81	12
300	10.93	40.56	43.13	44.88	40.81	51.00	53.00	89.31	7.75	27.00	0.81	286T	45.13	16	1.437	1.937	54.56	10
330	12.00	44.63	47.25	49.00	44.88	55.13	59.00	97.63	7.75	30.00	0.81	286T	46.56	16	1.687	2.187	59.88	10
365	13.25	49.38	52.00	53.75	49.63	59.88	60.00	104.13	7.75	30.00	0.81	326T	51.50	16	1.937	2.187	66.38	10
402	14.75	54.38	57.50	59.75	54.63	64.88	67.00	114.00	8.00	33.00	0.81	365T	59.77	16	1.937	2.187	73.00	10
445	16.25	60.19	63.25	65.50	60.44	69.63	73.00	125.44	8.50	36.00	0.81	365T	62.22	16	1.937	2.437	80.94	10
490	18.00	66.25	69.38	71.63	66.50	78.00	80.00	138.00	9.00	40.00	0.81	405T	67.68	24	2.187	2.437	89.00	10
542	19.88	73.38	77.00	79.75	73.63	88.75	86.50	157.56	9.25	49.63	0.81	405T	71.51	24	2.437	2.687	98.69	10

AC1000567

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE ON REQUEST.

# Typical Specifications – AMX/AMR/AMXSH

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Fans shall be Type AMX (standard mixed flow), AMXR (restaurant), AMXSH (smoke and heat), of the non-overloading design, as manufactured by Aerovent, Minneapolis, Minnesota.

Fans shall be designed for maximum efficiency. Fans shall have a sharply rising pressure characteristic extending through the operating range and continuing to rise well beyond the efficiency peak to assure quiet and stable operation under all conditions. Horsepower characteristics shall be truly self-limiting and shall reach a peak in the normal selection area.

**PERFORMANCE** — Fans shall be tested in accordance with AMCA 210 and AMCA 300 test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels. Models AMX, AMXR, and AMXSH shall be licensed to bear the AMCA certified ratings seal for both air and sound. Sound certification shall apply to both inlet and outlet sound power levels. Models AMX shall be UL/cUL 705 listed. Model AMXR shall be UL/cUL 762 listed for the exhaust of grease-laden air. Model AMXSH shall be UL/cUL listed for Smoke Control Systems (500°F for 4 hours and 1000°F for 15 minutes).

**HOUSING** — Housings shall be cylindrical and welded steel throughout. Inlets shall be fully streamlined. Housings shall be suitably braced to prevent vibration or pulsation. Totally enclosed belt guard shall enclose motor sheave and V-belt drives. Punched inlet and outlet flanges shall be equipped for duct mounting. Extended lube lines shall be provided for ease of lubrication. Model AMX shall include bolted access door for inspection and maintenance of wheel. Model AMXSH shall include a belt tube for the protection of belts and drive components from the airstream and bolted access door. Model AMXR shall include a belt tube, 2 wheel cleanout doors (located 180° apart) for inspection and maintenance of the wheel and a 2" drain.

**WHEEL** — Fan wheels shall have die-formed hollow airfoil blades designed for maximum efficiency, and quiet and stable operation. Blades shall be continuously welded to the back plate and wheel cone. Wheels shall be statically and dynamically balanced and the complete fan assembly including motor and drive shall be test balanced at or near the operating speed at the factory prior to shipment. Wheels on models AMXR and AMXSH shall have cooling fins to draw cool air over shaft and bearings.

**SHAFT** — Shafts shall be AISI 1040 or 1045 hot rolled steel, accurately turned, ground, polished, and ring gauged for accuracy. Shafts shall be sized for the first critical speed of at least 1.43 times the maximum speed.

**BEARINGS** — Bearings shall be heavy duty, grease lubricated, anti-friction ball or roller, self-aligning, pillow block type and selected for a minimum L-10 life of 40,000 hours at the maximum fan RPM. Bearings shall be equipped with extended lubrication lines with grease fittings outside of the fan housing.

**DRIVE** — Motor sheaves shall be cast iron, variable pitch on applications 10 HP and smaller, and fixed pitch on 15 HP and larger.

**INLET VANES** — Inlet vanes, where specified, shall be of the nested design. Inlet vanes shall be designed for economical, stable, and efficient air volume control at partial load conditions.

**FINISH AND COATING** — The entire fan assembly, excluding the shaft, shall be thoroughly degreased and deburred before application of a rust-preventative primer. After the fan is completely assembled, a finish coat of paint shall be applied to the entire assembly. The fan shaft shall be coated with a petroleum-based rust protectant. Aluminum components shall be unpainted.

**FACTORY RUN TEST** — All fans with motors and drives mounted by Aerovent shall be completely assembled and test run as a unit at the specified operating speed prior to shipment. Each wheel shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

**GUARANTEE** — The manufacturer shall guarantee the workmanship and materials for its AMX Mixed Flow Fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.

# Quality Air Handling Equipment

## AXIAL FLOW



Tubeaxial



Panel Fan



Mancooler



Ring Fan



Tubeaxial  
Adjustable Pitch

## VANEAXIAL



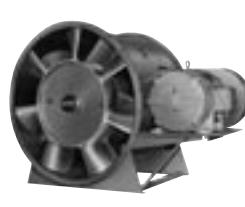
Type VT



Type W  
Adjustable Pitch



Type VTF Fiberglass

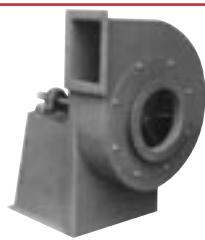


Type B  
Higher Pressure



Axico Anti-Stall

## CENTRIFUGAL



Industrial Exhaust



CB / CBA



Series 14  
High Pressure



Centaxial



Pressure Blower

## ROOF VENTILATOR



Upblast Propeller



Upblast Axial



Tu-WAY™



Fiberglass



PRV Centrifugal

## AIR HEATER



Gas-Fired Air  
Make-Up



Steam Air  
Make-Up



Door Air Heater

## WARRANTY

Aerovent equipment is guaranteed to deliver its rated output, if properly installed and operated under normal conditions. Aerovent will correct by repair, replacement, or issuance of credit at our option, F.O.B. our plant, defects in material or workmanship which may develop under normal and proper use within eighteen (18) months after date of shipment from

our factory, if purchaser gives us notice within ten (10) days of discovering such defects. The correction of these defects by repair, replacement, or issuance of credit shall constitute fulfillment of all obligation to purchaser. (NOTE: We will not assume expense or liability for repairs made outside our factory without prior written consent.)



## Aerovent

*A Twin City Fan Company*