

WING TON FAN INDUSTRY LIMITED



YS SERIES METRIC AXIAL FLOW FAN CATA-AMCA-YS January,2014 http://www.wington.com

YS SERIES METRIC AXIAL FLOW FAN





- Available in 315, 355, 400, 450, 500, 560, 630, 710, 800, 900, 1000, 1250, 1500 mm 13 models
- The casing is constructed from rolled plate with completed flanges. Electro welded protected with hot-dipped galvanised.
- Wing Ton impeller is made of die cast aluminum The angle of the impeller can be adjusted . Impeller is balanced to ensure smooth operation
- For normal duty, the motor is Class F insulation, IP54 Protection.
- Maximum ambient temperature 40°C.
- Suitable for relative humidity levels up to 95%.
- Performance of YS355, 450, 560, 710, 900, 1250 are not AMCA Licensed.

ORDER CODE :



PERFORMANCE CHART

型号	Motor P	ower 马达功率 (Kw)	Fan Speed 朝	速(RPM)	Air Volume	风量(m3/h)
Model Type	Min (最小)	Max (最大)	Min (最小)	Max (最大)	Min (最小)	Max (最大)
YS315	0.37	1.5	960	2800	1300	3900
YS355	0.75	3	960	2800	2200	5200
YS400	0.75	4	960	2800	2400	7800
YS450	1.1	5.5	960	2800	2400	9800
YS500	1.1	5.5	960	2800	2800	10000
YS560	1.5	7.5	960	2800	3500	14000
YS630	2.1	11	720	2800	3800	21000
YS710	3	15	720	1400	5700	23000
YS800	5.5	22	720	1400	8200	23000
YS900	1.1	15	720	1400	10000	35000
YS1000	2.2	30	720	1400	12000	70000
YS1250	5.5	75	720	1400	20000	90000
YS1500	7.5	55	720	1400	40000	150000

YS SERIES METRIC AXIAL FLOW FAN





amca

SOUND PERFORMANCE

FEG

For YS 400, 500, 630,

800, 1000, 1500

Wing Ton Fan Industry Limited certifies that the

Axial Flow Fan - YS315, 400, 500, 630, 800, 1000 and 1500 shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The AMCA Certified Ratings Seal applies to air performance and sound for Models YS315, 400, 500, 630, 800, 1000 and 1500.

The AMCA Certified Ratings Seal applies to FEG for Models YS400, 500, 630, 800, 1000 and 1500. Performance of YS355, 450, 560, 710, 900 &1250 are not AMCA licensed.

> The achieved fan performances can differ from the test performances shown on the subsequent due to two main effects:-

- A.) The encroachment of irregular or abrupt changes within the system close to the fan. If good design practice is followed, then the fan will receive nearly uniform air into its inlet and discharge its air flow in an almost ideal pattern. If this is achieved the fan will perform to its expected level.
- B.) Changes to the internal elements of the fan: e.g. large junction boxes on motors, belt drive stacks or excessive blade tip clearances.

Tests were conducted to assess these effects and the generalised impact is shown below for fan selections made within the normal operating region over a wide blade-angle range.

Forms of Running

The main series of test were conducted on Form B units and comparative tests were carried out on Form A units.

Resultant performance differences occur mainly on the outlet side of the fan, as correct practice should result in the presence of the duct inlet cone on the fan inlet.



Performance of Form A units are not licensed by AMCA International.



YS SERIES METRIC AXIAL FLOW FAN



Direction Of Air Flow

The standard direction of air flow is Form 'A', 'AD' or 'AU'. However, Form 'B', 'BD' or 'BU' flow can be supplied if required. These forms of running are as follows :





Other Fan Arrangement

Some required duty pressure should be adjusted to account for the below gains / losses before making a selection on the standard performance curves.

Fan Arrangement	Effect on pressure capability	Effect on Total sound level
Single stage fan unit with downstream guide vanes	x 1.25	+ 1dB
Two stage fan unit with intermediate stra <u>i</u> ghtener	x 2.00	+ 3dB
Contra-rotating two stage fan unit	x 2.4	+ 8 to 10dB
Bifurcated fan unit Belt driven fan unit	x 0.7	+ 2dB

* Performance for single stage fan unit with downstream guide vanes, two stage fan unit with intermediate straightener, contra-retating two stage fan unit and Bifurcated fan unit are not licensed by AMCA International.



Belt driven fan unit



Bifurcated fan unit

Multi-Stage Axial Flow Fan

A two stage fan will develop approximately two times the pressure of a single-stage fan of equal diameter and speed.

This is an economical system because the component stages are standard fans independently driven by standard motors.

There are two ways to design a two-stage axial-flow fan:

A two-stage contra-rotating fan comprises assembling in series two (or more single-stage) non-guide-vane fans with impellers rotating in opposite direction. The contra-rotation of the impellers recovers rotational losses and converts the rotational energy into fan pressure.

Standard Accessory Losses



* Performance for accessory losses are not licensed by AMCA International.

HOW TO CHOOSE A RIGHT FAN

Fan Selection:

Please select fans within the curve. Do not select above curve end, fan will work in stall and will be damaged. For a non-overloading selecting you can select motor on the peak-kW from each pitch angle which marks and cover maximum on absorbed

Example:

Repuired duty point by customer

- Airflow: 16000 m³ /h (A)
- Static Pressure: 70 Pa (For total pressure 185 Pa(C), please add dynamic pressure 115 Pa(B) to static pressure 70 Pa)
- Fan Speed: 1440 RPM

After choosing right fan performance curve, please draw volume flow and pressure. In the cross you will find the following fan data:

- Motor Speed: 1440RPM
- Pitch Angle: 30 degree
- Fan Efficiency: 55%(E)
- Sound Power Level: 92 dB[109-17(G)]
- The Motor Power: 2.2Kw (F)

and the peak absorbed power is 1.736Kw(D, F)



AL CONTRACTOR						Blade	Pitch A	ngle [*]						LwA
N (rpm)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
900	0.134	0.164	0.185	0.211	0.238	0.265	0.272	0.302	0.342	0.382	0.421	0.461	0.501	20
motor	0.	18			0.37						0.	55		-29
1400	0.504	0.617	0.695	0.796	0.897	0.999	1.025	1.137	1.287	1.437	1.586	1.736	1.886	47
motor	0.55	0.	75		1	.1			1.5			2.2	→F	-10
2800	4.032	4.936	5.557	6.368	7.179	7.989	8.200	9.095	10.29	11.49	12.69	13.89	15.09	0
motor	5	.5		7.5			1	1			15		18.5	0



	Peak Al	osorbed	Power (K	vv)										
N (rpm)	and the second	1407254	7453425		0.000	Blade	Pitch Ar	ngle [°]			ar tagair			LwA
н (гран)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
900	0.008	0.008	0.009	0.010	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.018	0.019	20
motor							0.18							-30
1400	0.029	0.032	0.034	0.037	0.039	0.042	0.044	0.049	0.053	0.058	0.063	0.068	0.073	10
motor							0.18							-10
2800	0.232	0.255	0.272	0.292	0.309	0.336	0.352	0.389	0.427	0.464	0.501	0.543	0.584	0
motor				0.37						0.55			0.75	U



	Peak A	osorbed	Power (k	(vv)											
N (rom)				1001		Blade	Pitch A	ngle [°]						LwA	
N (rpm)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)	
900	0.008	0.009	0.010	0.012	0.015	0.017	0.018	0.019	0.023	0.024	0.027	0.031	0.033	22223	
motor							0.18							-30	
1400	0.029	0.033	0.039	0.046	0.056	0.064	0.066	0.073	0.085	0.090	0.103	0.116	0.124	10	
motor							0.18							-18	
2800	0.230	0.260	0.310	0.370	0.450	0.510	0.530	0.580	0.680	0.720	0.820	0.930	0.990	0	
motor		0.37			0.	55			0.75			1.10		U	
1400 motor 2800 motor	0.029	0.033 0.260 0.37	0.039 0.310	0.046	0.056 0.450 0.	0.064 0.510 55	0.066 0.18 0.530	0.073 0.580	0.085 0.680 0.75	0.090	0.103	0.116 0.930 1.10	0.124 0.990	-18 0	

Model YS355-7 is not licensed to bear the AMCA Certified Ratings Seal.
 Performance is for installation type D - Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories).

* The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Values shown are for inlet LwiA sound power levels for installation type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



NI (mana)						Blade	Pitch A	ngle [°]						LwA
N (rpm)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
900	0.019	0.022	0.023	0.025	0.026	0.028	0.030	0.032	0.036	0.040	0.045	0.049	0.053	20
motor							0.18							-30
1400	0.072	0.081	0.086	0.095	0.096	0.104	0.114	0.121	0.136	0.152	0.168	0.184	0.200	10
motor						0.18						0.	37	-10
2800	0.574	0.651	0.688	0.760	0.770	0.833	0.910	0.965	1.091	1.218	1.344	1.470	1.596	0
motor	PARTICIPACITY A	0.75				1	.1				1.5		2.2	0



	Fear AL	solbeu	FOWEI (M			1000								
NI (rom)		1.1		1. The P. M.		Blade	Pitch A	ngle [°]						LwA
N (IPIII)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
900	0.023	0.029	0.034	0.041	0.046	0.047	0.052	0.058	0.065	0.078	0.092	0.098	0.107	12
motor							0.18							-27
1400	0.088	0.109	0.129	0.153	0.175	0.176	0.195	0.220	0.245	0.295	0.346	0.368	0.403	122
motor			0.	18					0.	37			0.55	-16
2800	0.700	0.870	1.030	1.220	1.400	1.410	1.560	1.760	1.960	2.360	2.770	2.940	3.220	0
motor	0.75	1	.1		1.5			2.2			3		4	0

* Model YS450-7 is not licensed to bear the AMCA Certified Ratings Seal.



-	Peak At	sorbed	Power (K	(00)			1.10						1.55	
AL (comm)						Blade	Pitch A	ngle [°]						LwA
N (rpm)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
900	0.060	0.070	0.077	0.086	0.095	0.104	0.113	0.120	0.134	0.148	0.162	0.176	0.190	27
motor		Censivices	5.751270	0.9402-0990	9202098090	0.	18	1.000.000	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -	14032-2213		10 SA 19 COM	0.37	-21
1400	0.226	0.263	0.292	0.326	0.359	0.393	0.427	0.450	0.503	0.556	0.609	0.662	0.715	40
motor			0.37				0.	55		0.000	0.	75		-10
2800	1.810	2.101	2.333	2.604	2.875	3.145	3.416	3.600	4.024	4.448	4.872	5.296	5.720	0
motor	2	.2		3			4			5	.5		7.5	0



ht (man)						Blade	Pitch A	ngle [°]						LwA
N (rpm)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
900	0.095	0.112	0.133	0.147	0.169	0.192	0.210	0.237	0.267	0.282	0.301	0.352	0.385	660
motor			0.18						0.37				0.55	-29
1400	0.359	0.423	0.499	0.554	0.635	0.721	0.790	0.891	1.005	1.063	1.134	1.325	1.450	24
motor	0.37	0.	55		0.75			1	.1			1.5		-17
2800	2.87	3.38	3.99	4.43	5.08	5.77	6.32	7.13	8.04	8.50	9.07	10.60	11.60	
motor	3		4	5	.5		7.5			1	1		15	0



M. (more)						Blade	Pitch A	ngle [°]						LwA
N (rpm)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
900	0.134	0.164	0.185	0.211	0.238	0.265	0.272	0.302	0.342	0.382	0.421	0.461	0.501	20
motor	0.	18				0.37					0.	55		-29
1400	0.504	0.617	0.695	0.796	0.897	0.999	1.025	1.137	1.287	1.437	1.586	1.736	1.886	17
motor	0.55	0.	75		1	.1			1.5			2.2		-17
2800	4.032	4.936	5.557	6.368	7.179	7.989	8.200	9.095	10.29	11.49	12.69	13.89	15.09	0
motor	5.5 7.5						1	1			15		18.5	U



AL (mmm)						Blade	Pitch A	ngle [°]						LwA
N (rpm)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
720	0.162	0.182	0.211	0.229	0.253	0.295	0.337	0.367	0.399	0.456	0.537	0.566	0.607	
motor	0.18				0.37					0.55		0.	75	-17
900	0.316	0.356	0.412	0.446	0.494	0.577	0.659	0.717	0.778	0.890	1.049	1.105	1.185	
motor	0.	37		0.55			0.75			1.1		1	.5	-11
1400	1.19	1.34	1.55	1.68	1.86	2.17	2.48	2.70	2.93	3.35	3.95	4.16	4.46	0
motor	1	.5		2	.2			3			4	5	.5	0



	Peak Al	sorbed	Power (k											The Part of
N (rom)						Blade	Pitch A	ngle [°]						LwA
N (Ipin)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
720	0.181	0.223	0.255	0.292	0.329	0.367	0.391	0.425	0.483	0.544	0.605	0.666	0.726	17
motor			0.	37				0.	55			0.75		-17
900	0.354	0.435	0.498	0.571	0.643	0.716	0.765	0.830	0.944	1.063	1.181	1.300	1.418	44
motor	0.37	0.	55		0.75			1	.1			1.5		-11
1400	1.334	1.638	1.874	2.148	2.421	2.695	2.878	3.126	3.554	4.000	4.446	4.893	5.339	0
motor	1.5		2.2			3.0		4	.0		5	.5		0



N (rpm)	Blade Pitch Angle [*]													LwA
	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
720	0.449	0.536	0.618	0.754	0.869	0.988	1.114	1.257	1.374	1.578	1.796	1.877	2.000	1.255
motor	0.55		0.75		1.1	1.1			1.5		2.2			
900	0.877	1.047	1.206	1.472	1.698	1.929	2.176	2.455	2.683	3.082	3.507	3.666	3.905	000
motor	1.1		1.5		2.2			3		4				-11
1400	3.30	3.94	4.54	5.54	6.39	7.26	8.19	9.24	10.10	11.60	13.20	13.80	14.70	•
motor	or 4		4 5.5			7.5				15				0



N (rpm)	Blade Pitch Angle [°]													LwA
	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)
720	0.743	0.871	0.981	1.100	1.219	1.338	1.440	1.658	1.878	2.113	2.349	2.584	2.820	17
motor	0.75	1	.1		1.5			2.2			3			
900	1.452	1.701	1.916	2.148	2.381	2.613	2.812	3.238	3.667	4.127	4.588	5.047	5.508	44
motor	1.5		2.2			3		4			5.5		7.5	-11
1400	5.464	6.402	7.212	8.087	8.961	9.835	10.58	12.19	13.80	15.54	17.27	19.00	20.73	0
motor	5.5 7.5				11			15	5.0	18	8.5	2	2	0



YS Direct Drive Axial Flow Fans





NI (rom)	Blade Pitch Angle [*]																	
N (rpin)	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)				
720	2.14	2.58	2.97	3.26	3.86	4.65	5.22	6.08	6.60	7.03	8.91	9.37	10.08	503				
motor	3 4		4 5.5				7.5			2022000	-17							
900	4.17	5.05	5.79	6.38	7.55	9.09	10.20	11.88	12.89	13.74	17.40	18.30	19.69	n (200				
motor	5	5.5 7		7.5		11		15		15		18.5		-11				
1400	15.7	19.0	21.8	24.0	28.4	34.2	38.4	44.7	48.5	51.7	65.5	68.9	74.1	•				
motor	0105241	22		3	0	37	4	5	5	5		75	2010/06/201	0				



N (rpm)	Blade Pitch Angle [*]													LwA	
	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	dB(A)	
580	3.018 3.592 3.970 4.481 4.992 5.503 5.699 6.423 7.147 7.974 8.820		423 7.147 7.974 8.820 9.666 10.5				10.51	-11							
motor	-	4		5	.5		1	.5							
720	5.774	6.871	7.594	8.571	9.549	10.53	10.90	12.29	13.67	15.26	16.87	18.49	20.11	5	
motor	7.5		11					1	5		18.5		22	-0	
900	11.28	13.42	14.83	16.74	18.65	20.56	21.30	24.00	26.70	29.80	32.96	36.12	39.28	0	
motor		15		18.5		22			30		3	7	45	0	

* Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories).
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation type A: free inlet, free outlet.



YS Direct Drive Axial Flow Fans







Madal	Model OD OD1				10	14/4		114	-4-4	-00	W	
woder		L	LI		W1	п	HI	n1-p1	nz-pz	機座號	W	
YS315	312	355	408	260	305	237	408	210	6-Ø10	4-Ø10	Y63~Y80	290
YS355	359	405	453	305	355	271	444	225	8-Ø12	4-Ø13	Y63~Y80	335
YS400	401	448	499	350	400	306	492	250	8-Ø12	4-Ø13	Y63~Y90	370
YS450	450	497	549	400	450	306/366	547	280	8-Ø12	4-Ø13	Y63~Y90/Y100-Y112	370/430
YS500	504	551	599	440	500	384/434	607	315	8-Ø12	4-Ø13	Y63~Y112/Y132	450/500
YS560	565	629	679	500	560	376/426/576	677	345	12-Ø14	4-Ø13	Y63~Y112/Y132/Y160	450/500/650
YS630	634	698	749	570	630	365/415/565/615	767	400	12-Ø14	4-Ø13	Y63~Y100/Y132/Y160M/Y160L	450/500/650/700
YS710	711	775	829	650	710	364/414	857	450	12-Ø14	4-Ø16	Y80~Y112/Y132	450/500
YS800	797	861	919	730	800	364/414	954	502	14-Ø14	4-Ø16	Y80~Y112/Y132	450/500
YS900	894	958	1019	800	900	342/392/592	1082	580	14-Ø14	4-Ø20	Y80~Y112/Y132/Y160	450/500/700
YS1000	1003	1067	1120	800	1000	352/432/602/702	1183	630	14-Ø14	6-Ø20	Y80~Y112/Y132/Y160/Y180	450/500/700/800
YS1250	1250	1314	1380	1050	1250	580/730/930	1432	750	16-Ø14	6-Ø20	Y132~Y160/Y180~Y225/Y250~Y280	700/850/1050
YS1500	1510	1580	1655	1300	1500	580/730/930	1715	895	16-Ø14	6-Ø20	Y160/Y180~Y225/Y250~Y280	700/850/1050

WING TON FAN INDUSTRY LIMITED



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