

**2010 SUPPLEMENT TO:
AGRICULTURAL VENTILATION FANS, PERFORMANCE AND EFFICIENCIES**

1/4/10

Detailed fan descriptions and complete test results are available at:

www.bess.illinois.edu

30" FANS

230V SINGLE PHASE

Test #	Manufacturer	Model	Cone	Shutter**	Airflow 0.05" SP	cfm/Watt 0.05" SP	Airflow 0.10" SP	cfm/Watt 0.10" SP	Airflow Ratio*
09347	Schaefer	303S12	N	A	6720	13.7	6160	12.2	0.65

36" FANS

230V SINGLE PHASE

09341	Schaefer	363S12	N	A	9340	19.1	8350	16.6	0.46
09342	Schaefer	363S12-E	N	A	8390	21.4	7270	17.8	0.34
09344	Schaefer	366S12	N	A	8630	18.1	8030	16.4	0.71
09343	Schaefer	366S12-E	N	A	7630	20.0	6940	17.5	0.54

48" FANS

230V SINGLE PHASE

09334	Schaefer	483S1	N	A	19300	18.8	18000	17.0	0.77
09333	Schaefer	483S1-E	N	A	18100	20.5	16700	18.2	0.73
09335	Schaefer	486S1	N	A	19100	19.0	17500	17.1	0.55
09331	Schaefer	486S1-E	N	A	17400	21.1	15800	18.6	0.53

50 - 53" FANS

230V SINGLE PHASE

09004	Grower Select	WS-F52B	Y	B	29300	20.0	27600	17.7	0.81
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54" - 59" FANS

230V SINGLE PHASE

09080	Chore-Time	52157-21	Y	B	30800	22.0	28900	19.4	0.80
09081	Chore-Time	52157-22	Y	B	27700	25.3	25800	22.0	0.78
09080p	Pro Terra Systems	A52157-21	Y	B	30800	22.0	28900	19.4	0.80
09081p	Pro Terra Systems	A52157-22	Y	B	27700	25.3	25800	22.0	0.78
09054	J & D Manufacturing	VSA55A3C11	Y	A	25600	20.8	23600	18.5	0.71
09058	J & D Manufacturing	VSA55G3C11	Y	A	26400	20.3	24700	18.4	0.78
09069	J & D Manufacturing	VSA55G3C151	Y	A	27800	19.3	26200	17.7	0.81
09059	J & D Manufacturing	VSP55G3C11	Y	P	26200	20.2	24200	18.0	0.73

60" + FANS

230V SINGLE PHASE

09247	American Coolair	MNBF60L	N	A	24600	22.9	21600	19.8	0.44
09248	American Coolair	MNBF60M	N	A	29100	19.1	27100	17.5	0.69
09256	American Coolair	MNBFC60L	Y	A	26900	27.0	22700	21.9	0.34
09257	American Coolair	MNBFC60M	Y	A	32000	21.6	29600	19.2	0.68
09262	American Coolair	NBFID60L-SQ	Y	G	27700	29.0	24100	24.4	0.35
09263	American Coolair	NBFID60M-SQ	Y	G	32400	23.2	29900	20.4	0.72

* The **Airflow Ratio** (airflow at 0.2" s.p. divided by airflow at 0.05" s.p.) is an index of the flatness of the fan curve.

A higher **Airflow Ratio** delivers a more constant air flow as wind speeds vary.

** Shutter - A=Aluminum B=Butterfly Damper R=Roll Seal P=Plastic D=Door G=Galvanized Steel

36" FANS

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230V THREE PHASE

Test #	Manufacturer	Model	Cone	Shutter**	Airflow 0.05" SP	cfm/Watt 0.05" SP	Airflow 0.10" SP	cfm/Watt 0.10" SP	Airflow Ratio*
09142	Aerotech	AT36Z3CP	Y	P	10820	20.0	9860	17.6	0.73

48" FANS**230V THREE PHASE**

09337	Schaefer	486S1-3	N	A	23500	14.4	22400	13.5	0.83
09338	Schaefer	486S1-3E	N	A	19500	19.1	18100	16.9	0.67

54" - 59" FANS**230V THREE PHASE**

09083	Chore-Time	52157-41	Y	B	30700	22.4	28900	19.9	0.79
09082	Chore-Time	52157-42	Y	B	27500	25.6	25500	22.1	0.78
09067	J & D Manufacturing	VSA55A3C23	Y	A	32700	15.3	31200	14.2	0.84
09062	J & D Manufacturing	VSA55G3C23	Y	A	33400	15.1	32000	14.2	0.88
09068	J & D Manufacturing	VSP55A3C23	Y	P	32700	15.6	31200	14.4	0.83
09063	J & D Manufacturing	VSP55G3C23	Y	P	33300	15.5	32000	14.5	0.87

60" + FANS**230V THREE PHASE**

09250	American Coolair	MNBF60L	N	A	24300	23.3	21100	19.8	0.41
09249	American Coolair	MNBF60M	N	A	29400	20.0	27400	18.4	0.72
09246	American Coolair	MNBF60N	N	A	33500	15.9	31800	14.8	0.83
09251	American Coolair	MNBF60P	N	A	38300	13.7	36800	13.0	0.87
09255	American Coolair	MNBFC60L	Y	A	26700	26.6	22600	21.6	0.34
09254	American Coolair	MNBFC60M	Y	A	32300	22.0	30100	19.9	0.70
09253	American Coolair	MNBFC60N	Y	A	36800	18.1	35000	16.7	0.81
09252	American Coolair	MNBFC60P	Y	A	-	-	40100	14.8	-
09261	American Coolair	NBFID60L-SQ	Y	G	27600	28.5	24100	23.8	0.37
09260	American Coolair	NBFID60M-SQ	Y	G	32800	23.9	30300	21.2	0.72
09259	American Coolair	NBFID60N-SQ	Y	G	37500	19.5	35600	17.9	0.81
09258	American Coolair	NBFID60P-SQ	Y	G	-	-	-	-	-

* The **Airflow Ratio** (airflow at 0.2" s.p. divided by airflow at 0.05" s.p.) is an index of the flatness of the fan curve.

A higher **Airflow Ratio** delivers a more constant air flow as wind speeds vary.

** Shutter - A=Aluminum B=Butterfly Damper R=Roll Seal P=Plastic D=Door G=Galvanized Steel

VARIABLE SPEED FANS

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AEROTECH AT09Z2CP

Test: 09139

Fan description:

9" direct drive, 1/6 HP Bluffton motor,
plastic housing, plastic shutter, guard and discharge cone

Speed controller: Aerotech SSC

V	Static Press in. Water	Speed rpm	Airflow cfm	Efficiency cfm/W
230V	0.00	3242	1050	5.2
	0.05	3233	1020	5.1
	0.10	3227	990	4.9
	0.15	3223	960	4.7
	0.20	3218	930	4.5
	0.25	3216	890	4.3
	0.30	3218	830	4.1
200V	0.05	3106	980	5.3
	0.10	3093	950	5.1
180V	0.05	2952	930	5.3
	0.10	2934	890	4.9
160V	0.05	2686	830	5.2
	0.10	2675	790	4.9
140V	0.05	2319	690	4.9

AEROTECH AT14ZCP

Test: 09140

Fan description:

14" direct drive, 0.125 Aerotech K55HXNES-0894 motor,
plastic housing, plastic shutter, guard and discharge cone

Speed controller: Aerotech SSC

V	Static Press in. Water	Speed rpm	Airflow cfm	Efficiency cfm/W
230V	0.00	1643	2050	12.6
	0.05	1633	1950	11.5
	0.10	1622	1830	10.5
	0.15	1613	1690	9.3
	0.20	1605	1470	7.9
	0.25	1622	860	5.0
	0.30	1610	660	3.6
200V	0.05	1527	1780	10.7
	0.10	1506	1612	9.3
180V	0.05	1327	1470	9.1
	0.10	1264	1108	6.6
160V	0.05	933	570	4.1

AEROTECH AT16ZCP

Test: 09141

Fan description:

16" direct drive, 0.25 hp Aerotech K55HXNER-893 motor,
plastic housing, plastic shutter, guard and discharge cone

Speed controller: Aerotech SSC

V	Static Press in. Water	Speed rpm	Airflow cfm	Efficiency cfm/W
230V	0.00	1721	3330	12.4
	0.05	1719	3171	11.5
	0.10	1716	3000	10.7
	0.15	1714	2830	9.9
	0.20	1713	2600	9.1
	0.25	1713	2250	7.9
	0.30	1722	1250	4.7
200V	0.05	1690	3110	11.8
	0.10	1687	2940	11.0
180V	0.05	1657	3040	11.7
	0.10	1651	2850	10.7
160V	0.05	1587	2890	11.2
	0.10	1580	2690	10.1
140V	0.05	1434	2510	9.7