

**University of Illinois, Department of Agricultural and Biological Engineering  
 Bioenvironmental and Structural Systems Lab  
 Circulating Fan Performance - Final Report**

**Project Number:** c15051  
**Test Date:** January 12, 2012

<b>Fan:</b>	<b>Motor:</b>	<b>Guards:</b>
Make- Termotecnica Pericoli	Make- ABB	Description- wire
Model- ACF21	Model - M2AA 071 A4	Spacing- 0.4" / 0.8" (10 / 20 mm) concentric
Size- 19.7" (500 mm)	Hp- 0.19 // 0.25 kW	Location- intake / exhaust
Orifice $\phi$ - 20.8" (528 mm)	RPM- 1430 // 1685	
	Volts- 230/400 // 260/460	
<b>Blade:</b>	Amps- '1.02/.59 // 1.14/.66	
Number- 3	Hz- 50 // 60	
Shape- propeller	Phase- 3	
Material- aluminum	S.F. - -	

<b>Drive Sheaves:</b>	<b>Housing:</b> Tube
Drive o.d.- direct	Material: galvanized steel
Axle o.d.- drive	Depth- 11.4" (290 mm)

**Notes:** \*60 Hz test

**5 x D Centerline Velocity (fpm):** 1160

**Test Conditions:**

T(wb): 44	Barometric pressure, recorded	29.70
T(db): 60	Barometric Pressure, corrected	29.62

D Impeller $\phi$ (in.)	Thrust (lbf)	Thrust Efficiency		rpm	Volts	Amps	kW	Airflow* (thrust cfm)	Efficacy (thrust cfm/W)
		Ratio (lbf/kW)							
19.7	4.20	11.8		1690	226.2	1.11	0.357	3700	10.4

\*Airflow - ANSI/AMCA 230-12 Eq. 9.6 IP