

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

Project Number: C09053
Test Date: January 15, 2009

Fan:	Motor:	Guards:
Make- Termotecnica Pericoli s.r.l.	Make- SISME	Description- wire
Model- ACF18	Model - K48612 M02147	Spacing- 10 / 20 mm
Size- 18" (457 mm)	Hp- 70-100 W out	Location- intake / exhaust
Orifice ϕ - 470 mm	RPM- 900	
	Volts- 230-220-200	
Blade:	Amps- 0.55 - 0.7	
Number- 3	Hz- 50-60	
Shape- propeller	Phase- 1	
Material- aluminum	S.F. - -	

Drive Sheaves:	Housing:
Drive o.d.- direct	Material- stainless steel
Axle o.d.- drive	Depth- 430 mm

Notes: *50Hz*, Stainless steel tube fan with straightening vanes on exhaust side

5 x D Centerline Velocity (fpm): 570

Test Conditions:

T(wb): 46	Barometric pressure, recorded	29.86
T(db): 71	Barometric Pressure, corrected	29.75

D Impeller ϕ (in.)	Thrust (lbf)	rpm	Volts	Amps	kW	Thrust Efficiency Ratio (lbf/kW)
18.0	1.27	924	228.4	0.56	0.122	10.4

Airflow* (thrust cfm)	(thrust cfm/W)
1870	15.3

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