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

Project Number: c15048
Test Date: January 12, 2012

Fan:
Make- Termotecnica Pericoli
Model- ACF21
Size- 19.7" (500 mm)
Orifice ø - 20.8" (528 mm)

Blade:
Number- 3
Shape- propeller
Material- aluminum

Drive Sheaves:
Drive o.d.- direct
Axle o.d.- drive

Motor:
Make- ABB
Model - M2AA 071 A4
Hp- 0.19 // 0.25 kW
RPM- 1430 // 1685
Volts- 230/400 // 260/460
Amps- '1.02/.59 // 1.14/.66
Hz- 50 // 60
Phase- 3
S.F. - -

Housing: Tube
Material- galvanized steel
Depth- 11.4" (290 mm)

Guards:
Description- wire
Spacing- 0.4" / 0.8" (10 / 20 mm) concentric
Location- intake / exhaust

Notes: *50 Hz test

5 x D Centerline Velocity (fpm): 940

Test Conditions:

T(wb):	45.5	Barometric pressure, recorded	29.70
T(db):	62	Barometric Pressure, corrected	29.61

D Impeller ø (in.)	Thrust (lbf)	Thrust Efficiency Ratio (lbf/kW)	rpm	Volts	Amps	kW	Airflow* (thrust cfm)	Efficacy (thrust cfm/W)
19.7	3.09	13.1	1460	229	0.97	0.236	3170	13.4

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