

TMI Fan Array Performance Data

Project Name:
 Project Number:
 Unit Tag:
 TMI Serial Number:
 Fan Tag:



Fan Information:

Fan Type: Plenum Airstream Temperature: 70°F
 Fan Model Number: ER63C-4DM.I7.1R Elevation: 0' A.S.L.
 Drive Type: Direct Maximum Fan Speed: 2,060 r.p.m.

Accessories:

Premium Efficiency Motor with Class F Insulation, Aegis shaft grounding rings, Inlet probes for Airflow measurement - electronics not included. Isolators to be Kinetics type "R", model: R1-Green
 Extended Lube lines, accessible at fan outlet guard

Design Condition

Normal Operation Performance

Total Airflow Rate: 45,000 c.f.m.
 Airflow Rate per Fan: 4,500 c.f.m.
 Total Static Pressure: 8.30" w.c.
 Fan Quantity: 10
 Fan Speed: 1,912 r.p.m.
 VFD Setting: 65 Hertz
 Static Efficiency: 58.2%
 Individual Fan Power: 10.23 b.h.p.
 Total Fan Power: 102.30 b.h.p.

Emergency Operation Performance

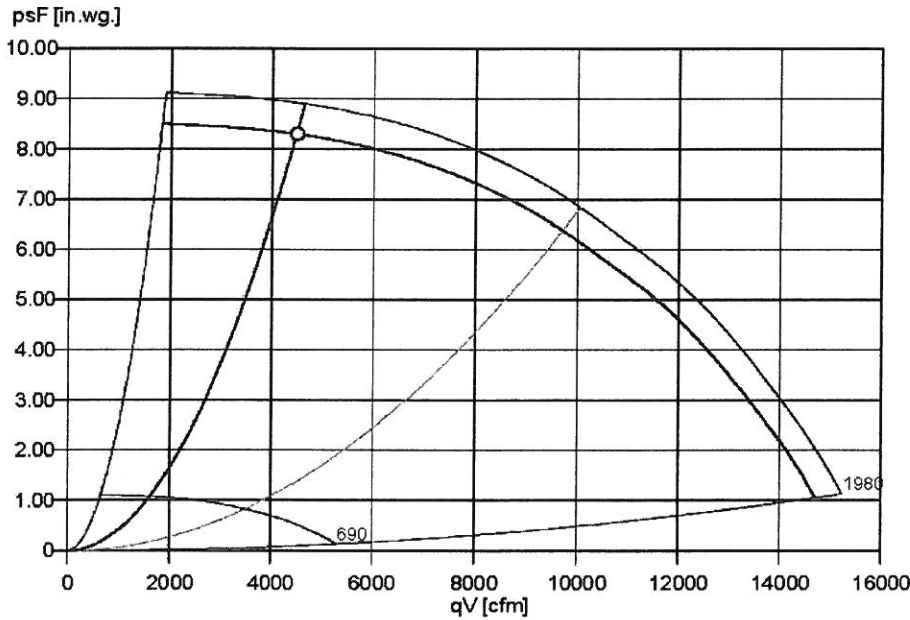
Total Airflow Rate: 45,000 c.f.m.
 Airflow Rate per Fan: 5,000 c.f.m.
 Total Static Pressure: 8.30" w.c.
 Fan Quantity: 9
 Fan Speed: 1,920 r.p.m.
 VFD Setting: 65 Hertz
 Static Efficiency: 60.9%
 Individual Fan Power: 10.88 b.h.p.
 Total Fan Power: 97.92 b.h.p.

Motor Information:

Selected Motor Size: 15.0 h.p.
 Motor Enclosure: TEFC
 Motor Speed: 1,765 r.p.m.
 Motor Data: 18.1 FLA

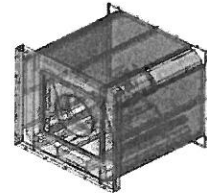
Fan Sound Data

Band	Inlet	Outlet
63 Hz	86 dB	86 dB
125 Hz	95 dB	94 dB
250 Hz	94 dB	96 dB
500 Hz	95 dB	99 dB
1,000 Hz	96 dB	102 dB
2,000 Hz	94 dB	95 dB
4,000 Hz	92 dB	91 dB
8,000 Hz	84 dB	82 dB



Fan Sizing:

Module Width: 48.0"
 Module Height: 42.0"
 Module Depth: 45.0"
 Modules Wide: 4
 Modules High: 3
 Assembly Width: 192.0"
 Assembly Height: 126.0"



Fan Heat
 Delivered
 to Air
 Stream

$$q = \frac{(2545)(6 \text{ HP})}{\eta_{\text{motor}}} = \frac{(2545)(102.30 \text{ bhp})}{0.92} \leftarrow \text{Assumed All fans are AMCA Certified motor efficiency}$$

$$q \approx 283,000 \text{ BTU H}$$

$$q = (\text{cfm})(1.08)(\Delta T) \Rightarrow @ 45,000 \text{ cfm} \Rightarrow \Delta T \approx 6^\circ$$