

Thermal Management Chart

Step 1: Determine the internal heat load in Watts. (See page 2)

Step 2: Determine temperature difference between the maximum temperature outside the enclosure and the maximum allowable temperature inside the enclosure.

Step 3: Plot your application on the chart.

a) Find the internal heat load in Watts. (vertical scale)

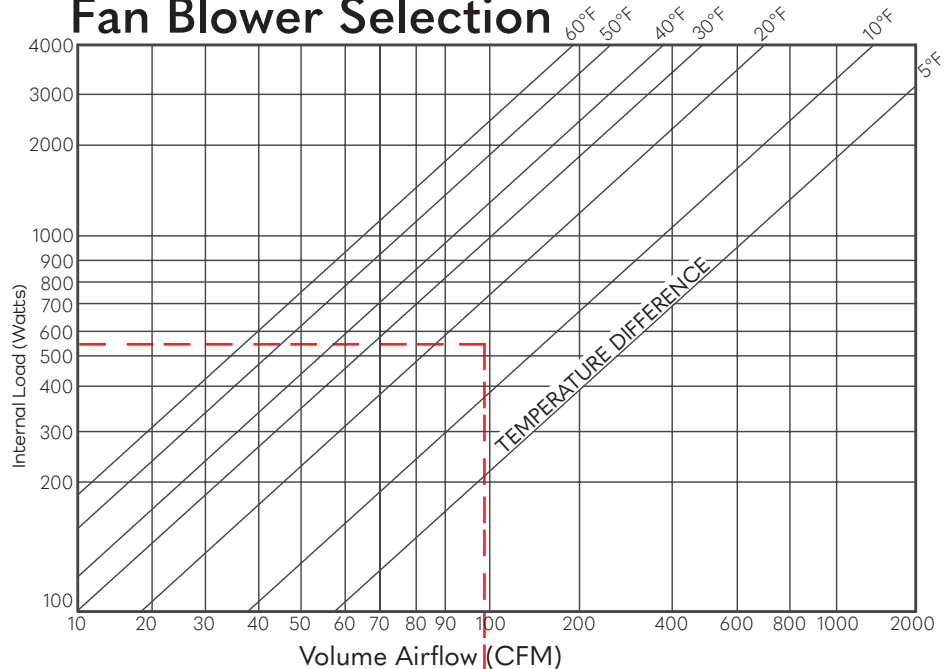
b) Draw a horizontal line to the point of intersection with the diagonal line representing temperature difference.

c) From that point, extend a vertical line down to the horizontal scale to determine your CFM requirement.

d) Continue the vertical line to the table to identify applicable filter fan package(s).

Step 4: Select the filter fan package and exhaust grille kit which best fits the application.

Fan Blower Selection



Model	Volume Airflow (CFM)
SCE-CF4	95/115 CFM
SCE-CF4-230	95/115 CFM
SCE-CF6	203/238 CFM
SCE-CF6-230	203/238 CFM
SCE-CF10	600/665 CFM
SCE-CF10-230	600/665 CFM
SCE-FA44	63/75 CFM
SCE-FA44-230	63/75 CFM
SCE-FA66	135/158 CFM
SCE-FA66-230	135/158 CFM
SCE-FA1010	400/440 CFM
SCE-FA1010-230	400/440 CFM
SCE-FA66-24VDC	155 CFM
SCE-FA1010-24VDC	425 CFM
SCE-BP115	276/324 CFM
SCE-BP230	276/324 CFM
SCE-N12FA44	26.5/29.4 CFM
SCE-N12FA44-230	39/47 CFM
SCE-N12FA44LG	26.5/29.4 CFM
SCE-N3RFA44	39/47 CFM
SCE-N3RFA44-230	39/47 CFM
SCE-N12FA66	135.4/158.9 CFM
SCE-N12FA66-230	135.4/158.9 CFM
SCE-N12FA66LG	135.4/158.9 CFM
SCE-N3RFA66	135.4/158.9 CFM
SCE-N3RFA66-230	135.4/158.9 CFM
SCE-N12FA1010	306.1/341.4 CFM
SCE-N12FA1010-230	306.1/341.4 CFM
SCE-N12FA1010LG	306.1/341.4 CFM
SCE-N3RFA1010	306.1/341.4 CFM
SCE-N3RFA1010-230	306.1/341.4 CFM
SCE-N12FA10HF	483/547 CFM
SCE-N12FA10HF-230	483/547 CFM
SCE-N12FA10HF-460	483/547 CFM
SCE-N12FA44-24VDC	28 CFM
SCE-N12FA44-24VDCLG	28 CFM
SCE-N12FA66-24VDC	86 CFM
SCE-N12FA66-24VDCLG	86 CFM
SCE-N3RFA10HF	435/494 CFM
SCE-N3RFA10HF-230	435/494 CFM
SCE-N12FA33	13/15 CFM
SCE-N12FA33LG	13/15 CFM
SCE-N12FA33-230	13/15 CFM
SCE-N12FA33-230LG	13/15 CFM
SCE-N12FA33-24VDC	29 CFM
SCE-N12FA33-24VLG	29 CFM
SCE-N3RFA33	13/15 CFM
SCE-N3RFA33-230	13/15 CFM

Help Notes - Electronic Conversions:
 1 Watt = 3.413 BTU/hr
 Volts x Amps = Watts



Thermal Management Chart



Your Enclosure Source®

ENCLOSURE TEMPERATURE RISE HEAT DISSIPATION IN ELECTRICAL ENCLOSURES

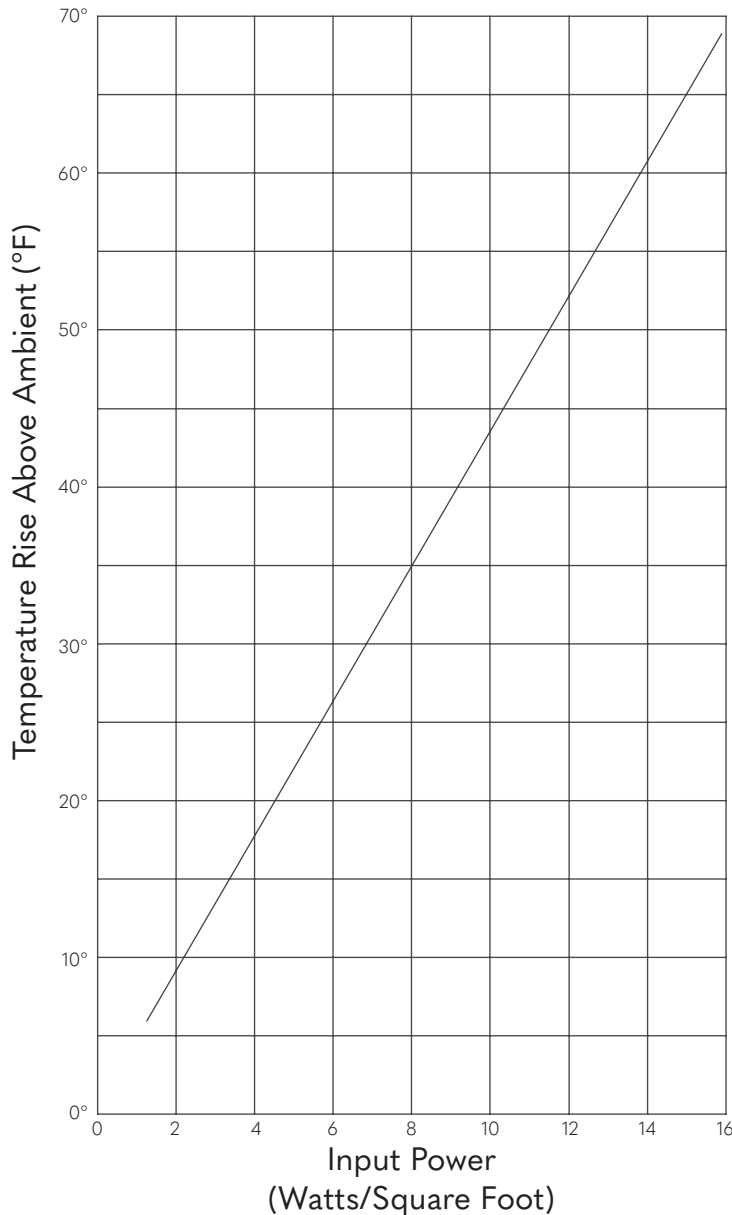
$$\text{Surface Area} = 2[(\text{Height} \times \text{Width}) + (\text{Height} \times \text{Depth}) + (\text{Width} \times \text{Depth})] \div 144$$

$$\text{Input Power} = \text{Watts} \div \text{Total Sq. Ft.}$$

Example:

$$\text{Surface Area} = 2[(48 \times 36) + (48 \times 16) + (36 \times 16)] \div 144 = 42.6\bar{6} \text{ Sq. Ft.}$$

$$\text{Input Power} = 300 \div 42.6\bar{6} = 7.03 \text{ Watts per Sq. Ft.}$$



An enclosure generates 550 Watts of internal heat. Maximum temperature inside the enclosure is 100°F. The maximum temperature outside the enclosure is 85°F.

- Step 1:** 550 Watts
- Step 2:** 100°F - 85°F = 15°F (internal temperature difference)
- Step 3:** Plot application.
- Step 4:** Select best combination for filter and fan package(s) and exhaust grille kit(s).

- Alternate Method of Selection:**
- Step 1:** Choose a filter fan package.
 - Step 2:** Draw a vertical line from the fan package.
 - Step 3:** Draw a horizontal line from the internal heat load in Watts.
 - Step 4:** The point of intersection is the approximate internal temperature difference using the selected fan package.

SCE-FA/N12FA (Fan Package)
Filter, Fan & Grille

SCE-CF (Cooling Fan)
Fan Motor & Finger Guard

SCE-BP (Blower Package)