

Mini-Split Sizing Guide

Mini-Split Sizing Guide by Square Footage

Properly sizing a mini-split is essential for energy efficiency, comfort, and system longevity. Use this general square footage-to-BTU guide when selecting indoor units.

BTU Size	Recommended Square Footage	Ideal Applications
9,000 BTU	250–450 sq ft	Bedrooms, small offices, sunrooms
12,000 BTU	450–600 sq ft	Master bedrooms, larger offices, small apartments
18,000 BTU	600–1,000 sq ft	Living rooms, studio apartments, small retail shops
24,000 BTU	1,000–1,300 sq ft	Large living rooms, open-concept areas, small homes
36,000 BTU	1,300–1,800 sq ft	Large homes, multi-room areas (open design)
48,000 BTU	1,800–2,400 sq ft	Whole homes, open commercial spaces

Basic Sizing Guidelines by Application

Standard Residential:

Basic Sizing: 500–600 sq ft per ton

Foam Insulated Structure:

Basic Sizing: 800–900 sq ft per ton

Commercial / Retail / Sunroom:

Basic Sizing: 400–450 sq ft per ton

Computer Data Rooms:

Basic Sizing: 200–250 sq ft per ton

Important Sizing Considerations

- Insulation Quality: Poor insulation may require upsizing.
- Ceiling Height: Higher ceilings increase the volume and may require more BTUs.
- Sun Exposure: Rooms with large windows or heavy sun exposure may need an extra 10–20% capacity.
- Usage Type: Kitchens and home offices (with equipment) generate more heat—consider going up one size.
- Zoning: If splitting areas into separate zones, use the square footage of each zone individually.

Quick Estimation Formula

For a basic estimate in average conditions:

BTUs needed = Square Footage × 25

Example:

800 sq ft × 25 = 20,000 BTU (rounded to nearest standard size: 24,000 BTU)

Rules for Sizing Ductless Mini Splits

- Never install sizes bigger than 12k in rooms less than 250 sq ft.
- Always perform a load calculation to determine the necessary capacity (LaserCalc Mobile or Wrightsoft Manual J).
- Oversizing causes short cycling which leads to shortened life.
- Under sizing causes customer discomfort from not being able to heat or cool the load of the structure.