

# PORTABLE A/C OFFERS THE HEIGHT OF FLEXIBILITY FOR HIGH-RISE COOLING

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Portable air conditioners are most often associated with emergency cooling during heat waves. But portable units can actually provide flexible year-round solutions to a wide range of cooling challenges in high-rise buildings – from emergency use, to planned temporary cooling, to long-term supplemental cooling of critical areas.

Though the applications are nearly unlimited, the “big three” for high-rise facilities are:

**FAILURE OF THE CENTRAL CHILLER:** A chiller system can fail for many reasons, including something as small as a punctured water line. This scenario can knock out the central A/C system for anywhere from a few days to a few weeks. Portable air conditioners provide emergency backup to keep tenants cool until the regular system is back online.

**SCHEDULED MAINTENANCE OR RENOVATION WORK:** When chillers, air handlers or other components are shut down for planned maintenance, portable air conditioning is the best and often the only way to fill the gap. If building air handlers are being replaced or refurbished, portables can maintain comfortable temperatures while work is in progress. One common approach is to repair or replace the air handlers one floor at a time. The portable cooling units can easily be moved from floor to floor as work progresses.

**FOCUSED COOLING OF “HOT SPOTS”:** Depending on their location in the building, offices, conference rooms or other spaces may be under-served by the central HVAC system and will need supplemental cooling. This situation occurs most often in older buildings, but it can happen anywhere – for example, in a sunny corner office where heat gain is high.



Data centers, server rooms and equipment rooms are also hot spots, because they tend to be densely packed with heat-generating equipment. Portable air conditioners can deliver the needed supplemental cooling, often at a much lower cost than permanently installed HVAC equipment.

For example, in a New York City building, the building A/C system was not providing adequate cooling to a server room operated by a technology company. They investigated using a permanently installed system for supplemental cooling, but found that a portable 5-ton cooler could do the same job for under \$10,000 – only a fraction of the \$40,000+ estimates received for permanent solutions.

In critical applications, portable coolers also provide redundancy if the central system should fail. A portable unit in a server room can be programmed to kick in at a given temperature set point, ensuring that electronic equipment will remain functional and will not be damaged by overheating.

Facility managers can now select from a wide range of portable coolers from 1-5 ton capacity, as well as units as large as 12 tons that are still compact enough to roll through a standard doorway.

Proper selection starts with portable equipment sizing, defined as cooling capacity in BTU/hr or tonnage. Basic mathematical formulas may be used to size portable coolers for general applications and for server rooms, but heat load factors unique to the application must be taken into account.

Other considerations to review with your portable cooling supplier include:

- Will the unit be located inside or outside the space to be cooled? Inside is simpler, but if the portable cooling must be located outside the room due to space constraints or other concerns, you will need to find a way to get the return and cold air supply in.
- How will the warm air be vented out of the space? Often it can be vented into the return air plenum for the building, but if there is a tightly constructed ceiling with firewalls, your portable cooling supplier may need to devise another solution.
- How will the condensate water be removed? Choices include a standard condensate tank or bucket, or running a drain line from the unit to an external location.
- Is it better to rent or own? The answer to this question will usually be self-evident; but when in doubt, your equipment supplier can help perform a quick cost analysis to determine the best approach. Even if the equipment is going to be used long-term, renting might make more sense if you want to avoid capital expenditures or if you anticipate a change in cooling requirements down the road.

Sunbelt Rentals, Climate Control Services is a leading provider of temporary, portable, supplemental and emergency heating, cooling and dehumidification equipment. The company provides climate control equipment as well as engineered solutions for a wide array of applications including server rooms, hospitals, commercial, industrial and event entertainment sites. Sunbelt Rentals offers 24/7 emergency service and support from fully-stocked locations nationwide. For further information, call 800-892-8677, or visit [www.sunbeltrentals.com/climatecontrol](http://www.sunbeltrentals.com/climatecontrol).

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