Rack Cooling Index (RCI)® Calculator v. 2.0

The Easy Way to Show Conformance with ASHRAE Thermal Guidelines

The **Rack Cooling Index (RCI)** is a best practice performance metric for quantifying the conformance with the 2015 ASHRAE Thermal Guidelines for data centers. The metric is widely referenced, including the ASHRAE Datacom Series and BICSI® Data Center Design Standard.

RCI_{HI}

99.8 %

RCI_{LO}

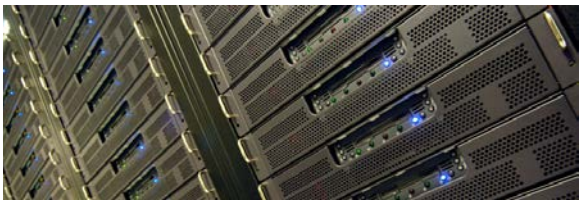
65.6 * %

Typical RCI applications include the following:

- **Assess Equipment Environments**
  Monitoring of the thermal environment is feasible by placing intake temperature sensors in front of the IT equipment.
- **Design Equipment Environments**
  RCI provides a standardized way for designers to evaluate and report the effectiveness of cooling solutions.
- **Provide Design Specifications**
  Data center owners/operators can specify a certain level of thermal quality in a standardized way, e.g., RCI > 95%.
- **Help Product Marketing**
  RCI demonstrates the benefit of a cooling solution. A product with an RCI near 100% could be marketed as such.

The **RCI Calculator** automates the task of calculating the RCI metric for IT-equipment intake temperatures stored in Excel®. The software also plots the temperature distribution and calculates key statistics, which provide supplementary information for optimizing the thermal environment.

The ASHRAE Thermal Guidelines provide recommended and allowable intake air temperature ranges to protect the IT-equipment and cap cooling costs. The RCI metric "compresses" the measured or modeled temperatures into two numbers: RCI_{HI}=100% mean no intake temperatures above the maximum recommended and RCI_{LO}=100% mean no intake temperatures below the minimum recommended. Both numbers equal to 100% signify absolute compliance, i.e., all temperatures are within the recommended range.



The Excel®-based Rack Cooling Index (RCI)® Calculator v 2.0 is available as single-user and multiple-user licenses. **To purchase the RCI software, please write to RCI@ancis.us**

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