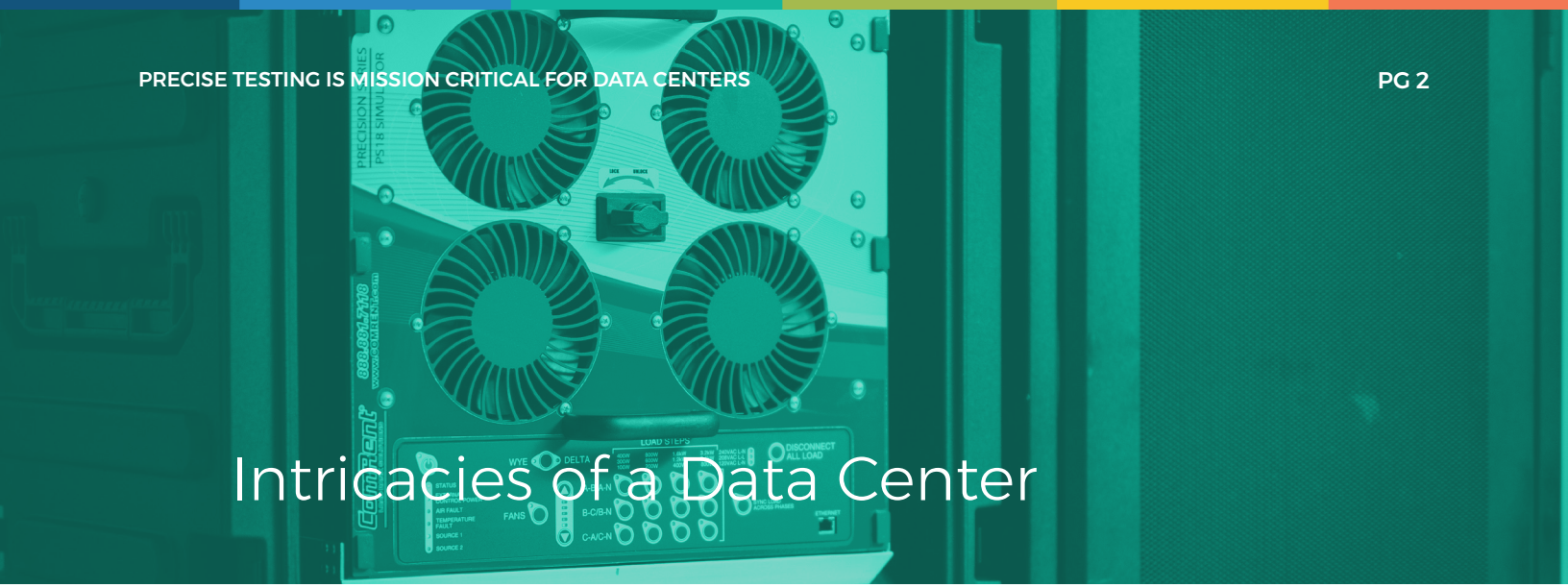
Precise Testing Is Mission Critical For Data Centers

ComRent®
LOAD BANK SOLUTIONS

Data Center-Specific Solutions Are A Necessity

The most important elements of building a data center are room design, equipment placement, and the effectiveness of the cooling equipment. Load bank testing with the proper equipment gives you the opportunity to ensure your setup is effective.

This white paper explains how utilizing the proper load bank testing solutions designed specifically for data centers can increase the precision of your facility while reducing the risk of miscalculation and costly equipment damage.



Intricacies of a Data Center

Building and commissioning a data center is a challenging feat.

The design and layout of the facility must be tested and verified after the installation of servers and equipment. Since the cooling ability of a data center is the key to a reliable facility, validating equipment placement is the only way to ensure proper functionality.

More often than not, these initial tests produce inaccurate temperature results leading to an increased likelihood that the room will need to be reconfigured and retested to find the correct design and equipment placement to maintain effective cooling levels. In addition to being inefficient, the process of reconfiguring and retesting comes at a significant financial cost.

Rather than using unreliable testing processes, data-center specific load bank solutions can be mounted in server racks to properly simulate servers and maintain testing integrity of the server's cooling system. By verifying the ability of the server configuration, data center managers can minimize the risk of temperature related issues that could result in downtime, failed equipment, and increased cost.

Data Center-Specific Solutions

There are two leading load bank solutions designed specifically for data center commissioning and maintenance that offer an accurate and cost-effective approach to testing, validating, and uncovering potential power and operations errors.

RACK-MOUNTED LOAD BANK SOLUTIONS

Rack-mounted load banks are used to precisely simulate the operational conditions of production servers and validate the hot/cold isles cooling design before the first server is installed. Traditional load bank solutions create unrealistic airflow and hotspots that could produce inaccurate results. By generating the heat and power consumption that servers would create, data center managers are able to complete validation tests with confidence.

WATER-COOLED LOAD BANKS

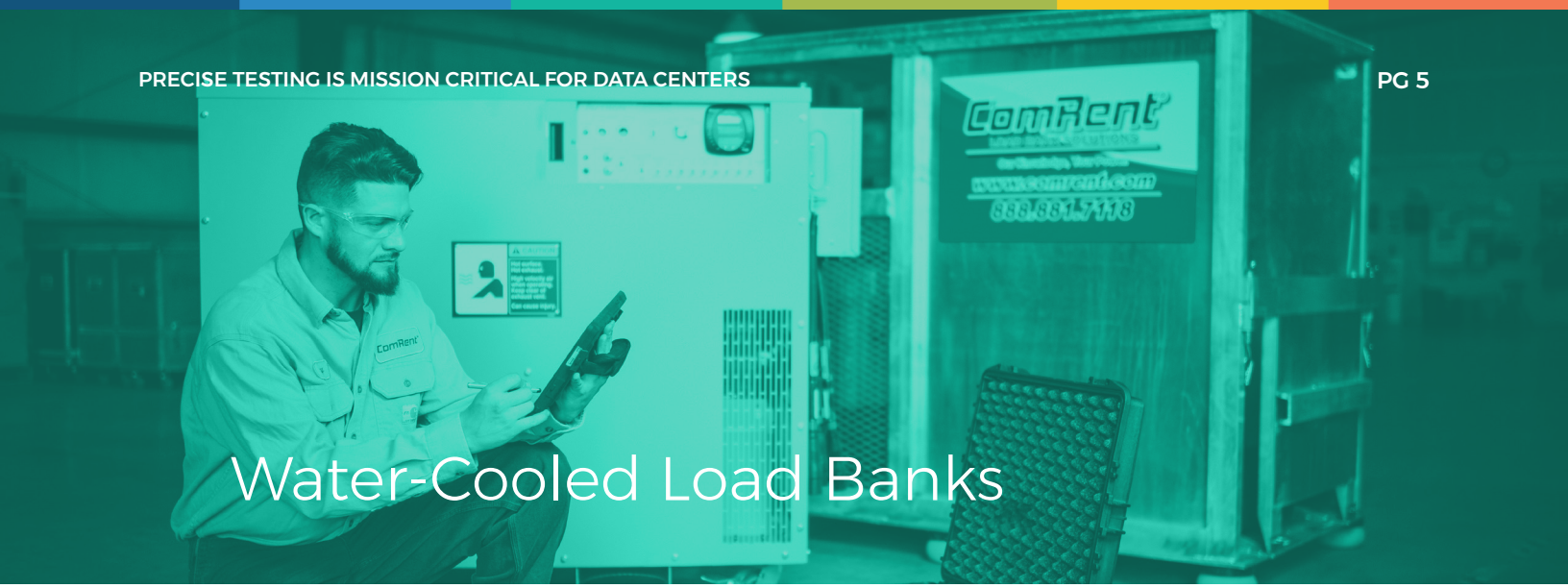
Effective cooling is critical to the proper function of a data center and the reliability of servers and equipment. In order to maintain the correct temperature, chillers must be connected to a dedicated power supply. Water-cooled load banks are used to test the capacity and functionality of both the chiller and chilled water loop by conducting end-to-end electrical and thermal testing to ensure data center equipment is kept safe.

Rack-Mounted Load Bank Solutions

Data centers are designed to house servers and maintain a controlled environment to keep these expensive pieces of equipment running at optimal performance. As with all facilities, the purpose of commissioning is to confirm the power and operation of the system. While testing with actual servers, rack-mounted load banks are also designed to fit in server racks and simulate the heat and power consumption of a live server.

This approach removes the risk of damaging servers during testing and will accurately validate data center design and configuration by applying an electrical load and discharging heat and airflow. Servers then can be installed with confidence and without the risk of reconfiguration.

Prior to rack-mounted load banks, temperature testing in data centers was consistently inaccurate. Floor standing load banks would produce hotspots and airflows that were not indicative of real-life scenarios. Rack-mounted load banks provide confidence in a data center's cooling system or isle configuration, allowing the facility to avoid downtime, increased cost, or disruption.



Water-Cooled Load Banks

Data centers produce a considerable amount of heat because the close proximity in which servers operate next to each other. If temperatures rise past a certain point, equipment will begin to break down and critical data could be lost. Chillers make up the cooling system of data centers by collecting and removing heat from the facility.

Water-cooled load banks are specially designed to test both the chiller and the chilled water loop at the same time. Conducting a complete end-to-end electrical and thermal test in a controllable, convenient and cost-effective way, can confirm the performance of the cooling system in a true operating environment.

Prior to water-cooled load banks, the components of the cooling system had to be tested individually rather than as a unit. Due to the lack of testing solutions designed specifically for data center, facility mangers relied on work arounds utilizing expensive and bulky equipment that often-produced inaccurate results.

The ComRent Advantage

Leading the way in data center innovation

For nearly 25 years, ComRent's expert technicians have fully immersed themselves in the data center industry. By combining our extensive experience with innovation, we have continued to be at the forefront of data center-specific load bank solutions. From creating the first in-aisle, water-cooled server simulator in 2012 to designing rack-mounted load banks to combat server densities, we have elevated the precision of data center testing.

Since each load test comes with an onsite technician to manage your entire load test, you will be working directly with the experts behind these custom-engineered load bank solutions. We understand the importance of accurate and efficient testing and are dedicated to providing the most cost-effective and precise solutions you need.

If you are ready to test design and equipment placement of your data center and validate your cooling system, our data center specific solutions and load bank experts can help. Contact us for a complimentary consultation.

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