



Direct-to-chip liquid cooling for data centres

Scalable, reliable and affordable two-phase approach to cooling

In a world of rising energy costs and higher rack densities, our new direct-to-chip cooling solution enables you to increase uptime and minimise operating costs.

The typical data centre today uses up to 40 percent of its power for cooling, and reducing power consumption is essential to achieving lower data centre operating costs. Our reliable liquid cooling system can cool any server, regardless of make and model, and reduce your cooling costs up to 75%.

What is direct-to-chip cooling?

Direct-chip-cooling is a two-phase liquid cooling system capable of absorbing heat at source (rather than the entire DC space) by circulating an equipment safe fluid, at low pressure to a rack-level manifold that supplies module loops installed in individual servers.

Server heat is absorbed into the fluid through vaporisation and returns to the fluid distribution system. An integral heat exchanger rejects heat to a facility cooling circuit. The fluid distribution system installs; in-rack, can be located adjacent to server racks, or placed remotely up to 30 metres away, and requires only facility water and power connections.

What direct-to-chip cooling offers



No water - circulates an engineered fluid that, unlike water, poses no risk to computer hardware (Novec 7000 – non-conductive, non-flammable, low GWP)



Universal - flexible module loops install in any server, regardless of make or model



Scalable - grows to meet your future needs



Easy to service - module loops can be disconnected during operation without affecting performance of neighbouring module loops allowing for the service or replacement of individual servers without powering down the entire rack of servers of the cooling system. And since the systems uses an engineered fluid and not water, there is no risk of hardware damage due to fluid spillage during servicing or swapping



No specialist building requirements - does not impose custom built, airflow or insulation requirements



Uniform device temperatures - fluid is at its saturation temperature and stays at nearly constant temperature through all devices, resulting in uniform operating temperatures for all devices



Reduced floor space - because our cooling systems capture processor heat at its source, you no longer need significant gaps between rack-mounted servers for the airflow. Therefore, you can install more servers per rack, allowing you to increase server capacity at the lowest cost possible



Flexible - flexible tubing allows the system to adapt to any make or model of hardware without modification



Cool multiple devices with one loop - cool up to 12 heat sources in series in a continuous loop while maintaining a device temperature of +/-2 degrees Celsius



Reduce utility bills - heat waste, in the form of hot water, can easily be recycled to heat or cool offices, homes, or other facilities



75% reduction in monthly cooling costs - on average data centres with direct-to-chip cooling systems enjoy a 75% reduction in monthly cooling costs compared to air-conditioning alone



Reduce the need for costly fire suppression technologies - system utilises a non-flammable engineered fluid



Quiet - features quiet, reliable centrifugal pumps



Fully redundant - our systems provide redundant cooling of each server in your facility