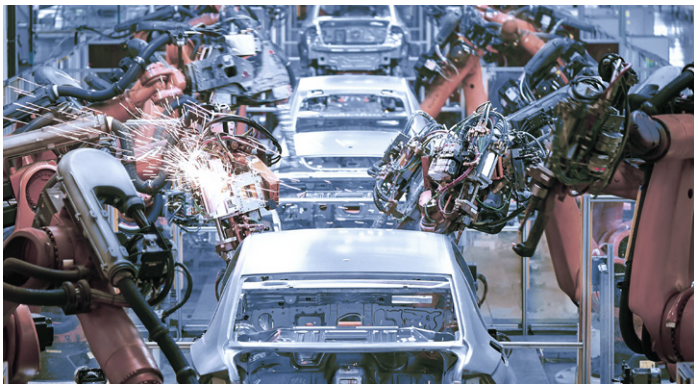
STULZ

CLIMATE. CUSTOMIZED.



STULZ Micro DC

The modular solution for scalable IT workloads up to 80 kW per rack

STULZ delivers reliable, efficient, and scalable IT environments

STULZ is a privately owned, global manufacturer of highly efficient precision cooling and humidity management technology. This technology, with decades of experience, research and engineering, is combined with the know-how about IT enclosure and direct liquid-to-chip cooling. The result is an all-in-one data centre solution that is configured and delivered to you, ready to go.

STULZ is a global organisation with head office in Hamburg. We ensure proximity to our customers with 20 subsidiaries, 10 production sites, and sales and service partners in more than 140 countries.

Technical excellence
Decades of experience combined with a constant drive for innovation is what makes STULZ unique. From engineer to customer consultant, we work together in close-knit teams, to develop and continuously optimize mission critical solutions for data centre and IT professionals. STULZ systems are extremely reliable and durable, which at the same time setting global standards for energy efficiency.

High quality service worldwide
Our sales and service partners are located in over 140 countries. The resulting proximity to our customers allows fast response times. In addition, regular training courses and an active exchange of information ensure high quality and an extensive knowledge of all our products. This way, you can be sure your products are in the best hands and get the right maintenance - all over the world.

STULZ Micro DC – Scalable. Modular. Efficient.

The All-in-One Data Centre – including critical power distribution, fire suppression, physical security and cooling in one enclosure

The world is becoming even more complicated for data centre experts and communication service providers. The number of networked devices continues to explode, leaving today's IT professionals with data traffic growing by as much as 50 % each year. Not to mention that networks need to handle local bandwidth-intensive operations with minimal latency.

The STULZ Micro DC provides a cost-effective solution to quickly build up local IT capacity where it is needed. This modular, highly efficient solution is easily scalable to meet both the needs of today and the growth of tomorrow – even in places where space is limited.

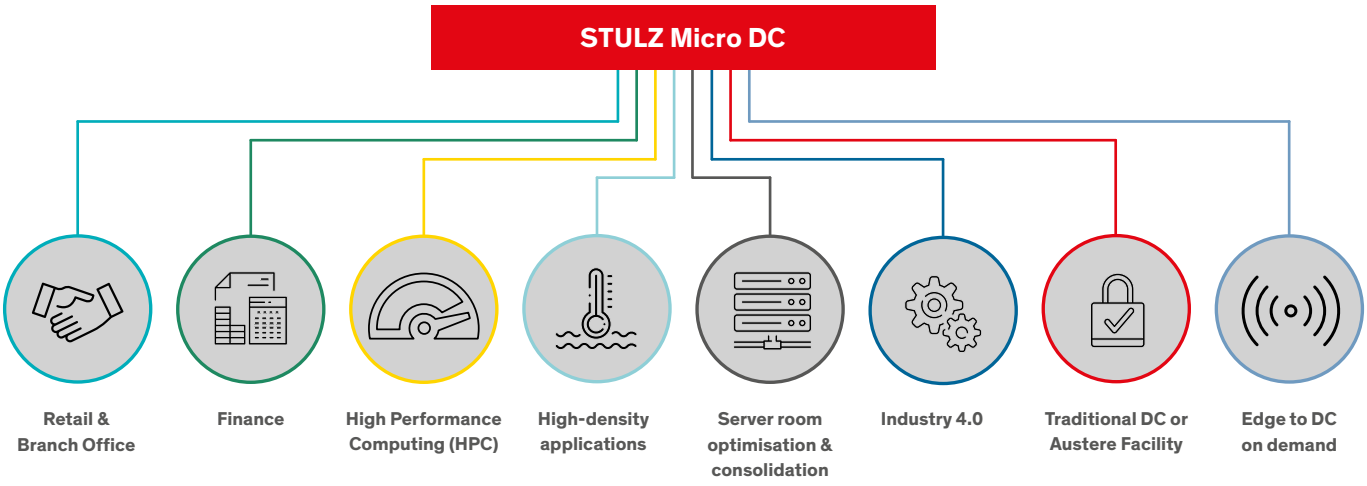
Every STULZ Micro DC can be configured for low to medium density IT loads, as well as a combination of Integrated Cooling Systems and Direct Contact Liquid Cooling (DCLC™) technology for highly dense IT workloads up to 80 kW per rack.

Advantages at a glance

- Fast configuration and delivery
- Suitable for non-data centre environments
- "Drop-in" solution (quick to install and easy to expand)
- 19” standard rack available in three different heights and two different depths
- Incomparable level of scalability with modular cooling configurations
- Industry leading direct liquid-to-chip cooling for highly dense IT workloads
- Each device is individually configured, tested and delivered
- Configurable UPS
- Worldwide sales and service network

The perfect solution for your application: The micro data centre from STULZ

The STULZ Micro DC is a cost-efficient solution that delivers scalable, demand-driven IT resources, upgrades existing critical infrastructure or easily installs additional computing and storage power at the edge of your network.



Two versions and three rack sizes

The STULZ Micro DC is a 19" standard rack that is available in three different heights (40, 45 and 48 U) and two different depths (1,250 mm and 1,450 mm). Availability depends on your region and can be determined using the configurator (Refer to page 6).

STULZ Micro DC – Standard
Components of shown configuration:
Side-mounted cooling solution
STULZ C2020 – microprocessor

STULZ Micro DC – High Performance
Components of shown configuration:
STULZ ICS™ – side-mounted cooling solution
STULZ E^2 – microprocessor
Compatible with Direct Contact Liquid Cooling (DCLC™)

Climate. Customized.
Modular and scalable solutions

The STULZ Micro DC can be configured with all the key design aspects of a brick and mortar data centre, including critical power distribution, fire suppression, physical security, and precision cooling. All configurations of the STULZ Micro DC include a 19" standard rack, which can be easily equipped with accessories such as a UPS, PDU, cable management system, LED lights, software for environmental monitoring, etc.

Video surveillance system
CCTV recordings for monitoring the STULZ Micro DC

Fire detection and suppression system
Fire monitoring and release of extinguishing agent

Rack construction
Heavy duty steel construction with powder coat finish and protection type IP55

Cable management
Universal cable tray with horizontal cable management

Power distribution
Smart PDUs with environmental probe & temperature humidity sensor

Monitoring and security
Remote Infrastructure Management

Electronic Cabinet Access
Security access with integrated card reader

Additional options

- Additional security options
- Alarms
- Customisable UPS
- Lighting
- Further options on request

You have additional requirements? We customise the solution to match your needs.

Scalability – Grow with your requirements

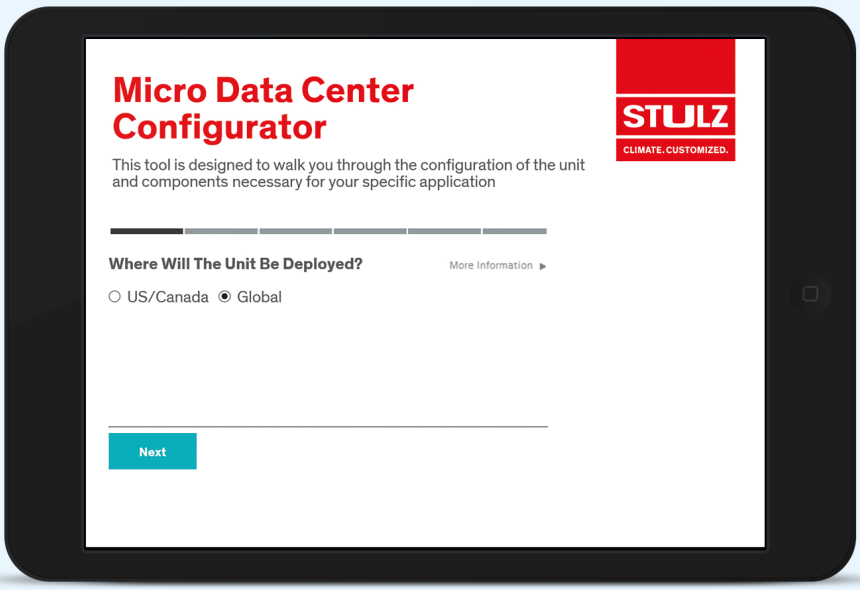
Rack configuration

Traditional data centres and server rooms often need to be planned years in advance. Costly restructuring is not uncommon. The STULZ Micro DC offers an incomparable level of scalability that makes it possible to grow with the requirements. Depending on the requirements, the STULZ Micro DC can grow from a 1-rack configuration with 3 kW to a multi-rack configuration with a heat load of up to 80 kW per rack. The STULZ Micro DC can thus drastically reduce your investment costs in IT infrastructure.

1-rack configurations | multi-rack configurations

Configurator

Configure your STULZ Micro DC according to your requirements. The configurator helps you to choose the right rack and cooling configuration.



microdc.stulz.com

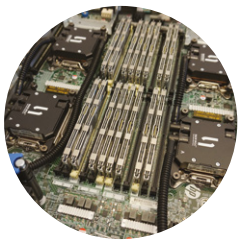
CoolIT systems™

What is Direct Contact Liquid Cooling (DCLC™)?

DCLC™ is Direct Liquid Cooling that utilises the exceptional thermal conductivity of liquid to provide dense, concentrated cooling for target surfaces. DCLC™ drastically reduces dependency on fans or air handlers. Extreme high rack densities are possible, power consumed by the cooling system drops leaving more power available for computing. Each server in each rack can be liquid cooled with CoolIT Systems. Customer operating expenses are reduced tangibly and measurably.

Direct liquid-to-chip cooling – The time is right for your data centre

- Higher density cooling to enable maximum utilisation of rack and data centre space
- Not just for high performance data centres
  - Leading chip manufacturers are developing processors that need to be liquid cooled
  - A processor that runs at lower temperature works more reliably
  - Artificial intelligence, virtual reality and extensive data collection applications:
    The demand for high-performance parallel processing of data is growing
- Patented cold plate technology supports CPU, GPU, ARM and additional interposer, heat pipes or heat spreaders
- Reliable stainless steel manifolds with "Dry Beak" quick connect technology in a vertical housing
- Factory-installed servers are available from HPE and Dell EMC
- Each server in each rack can be liquid cooled
- Retrofit or new installation



Server Modules

CoolIT Systems' Rack DCLC Server Module components are passive cold plates managed via a centralised pumping architecture. These cold plate assemblies can cool any combination of CPU, GPU, and Memory components, with customisation available for Voltage Regulators, ASIC, and FPGA. Servers remain hot-swappable and simple to service.

Manifold Module

The Rack DCLC Manifold Module manages to liquid distribution between the Heat Exchange Module and any number of Server Modules. Installed vertically, manifolds can be customised to suit any rack environment. Manifold Modules are incredibly reliable and robust, utilising a stainless-steel body combined with 100 % non-drip, metal Quick Disconnects.

Heat Exchange Module

CoolIT Systems' Rack DCLC product line offers a variety of Heat Exchange Modules depending on load requirements and availability of facility water, including rack-mount CHx80 or CHx40. Featuring sophisticated monitoring systems, these liquid-to-liquid heat exchangers utilize centralised pumping architecture to ensure superior performance and reliability.

Modular configuration – With precision air and direct liquid-to-chip cooling

Precision

The side-mounted cooling solutions:
STULZ CyberRow and STULZ Prodigy

- The solution for side-mounting provides 5-25 kW cooling capacity
- Minimal energy consumption
- Precise temperature control
- Available as cooling systems with chilled water, water and glycol or air-cooled
- Maintenance access on front and back
- STULZ CyberRow:
  - Ready for Indirect Free Cooling
  - Optimum adaptation to different return and supply air temperatures by using EC fans
- STULZ Prodigy: The Remote-Split Unit

STULZ CyberRow

STULZ Prodigy

Precision

The internally mounted cooling solution:
STULZ IRC (In Rack Cooling Unit)

- Air-cooled system
- Internal 6 kW (6U) per unit for additional cooling
- Minimal energy consumption
- Precise temperature control

STULZ IRC

Liquid

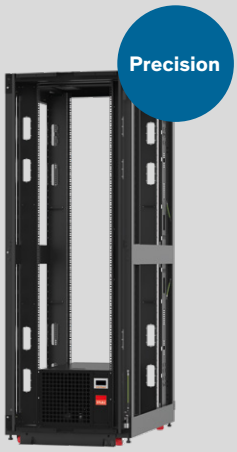
Direct Liquid-to-Chip Cooling:
Direct Contact Liquid Cooling (DCLC™)

- Up to 80 kW of chip level cooling per rack (at 30 °C facility water)
- Internal mount utilises 2U-4U
- Manages more than 120 servers
- Quick and easy maintenance
- Requires only 652 W
- Servers remain hot-swappable for service
- High temperature return water can be reused for heat recovery

CoolIT Rack DCLC CHx80

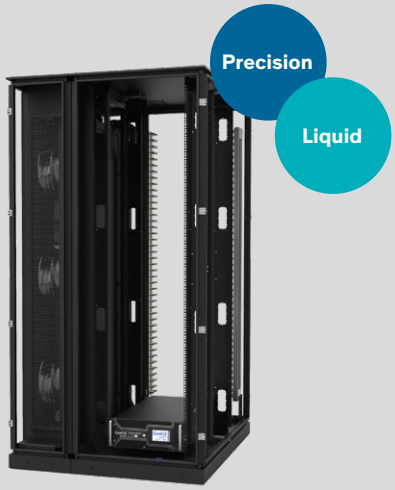
Modular and scalable –
From low to high density IT loads

Example: Cooling configurations with a 48U rack

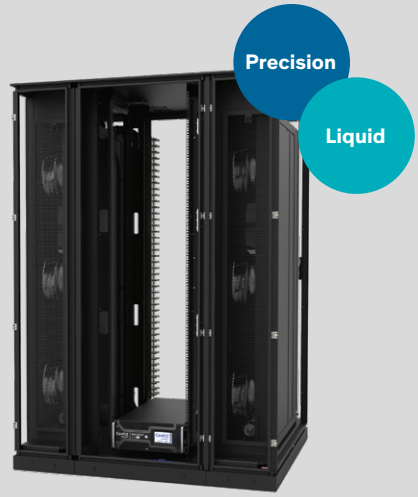


Rack with STULZ IRC
Included units: 48U
Space required for cooling: 6U
Remaining units: 42U
Cooling capacity: up to 6 kW

Rack with CyberRow
Included units: 48U
No space required for cooling.
Remaining units: 48U
Cooling capacity: up to 25 kW



Rack with side ICS + DCLC
Included units: 48U
Space required for cooling: 4U
Remaining units: 44U
Cooling capacity: up to 80 kW



Rack with two times side ICS + DCLC
Included units: 48U
Space required for cooling: 4U
Remaining units: 44U
Cooling capacity: up to 80 kW + redundancy

STULZ Company Headquarters

STULZ GmbH
Holsteiner Chaussee 283
22457 Hamburg
Tel. +49 40 5585-0
products@stulz.de

Source of supply

STULZ-TI Headquarters

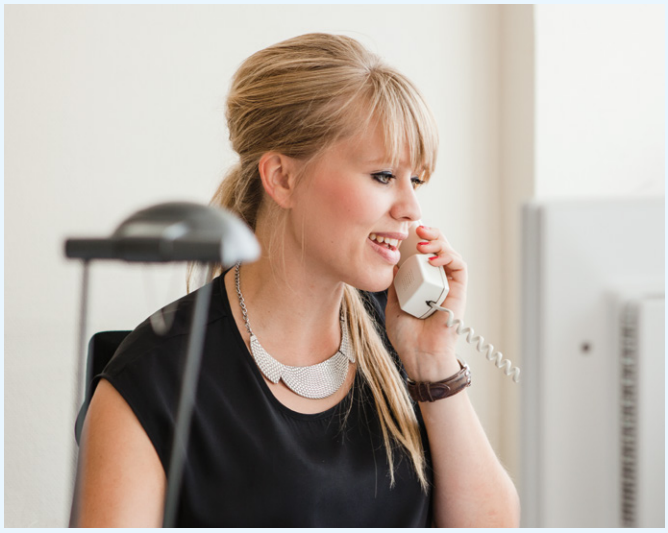
John Eccles House
Robert Robinson Avenue,
Oxford Science Park,
Oxford,
Oxfordshire,
OX4 4GP

Tel: +44 1865 606500
sales@stulz-ti.co.uk

STULZ-TI Factory

Unit 30
Glyme Court,
Langford Lane,
Kidlington,
Oxfordshire,
OX5 1FQ

Tel: +44 1865 606500
sales@stulz-ti.co.uk



For further information, please visit our website at **www.stulz.com**

You can find out more
on our product page.