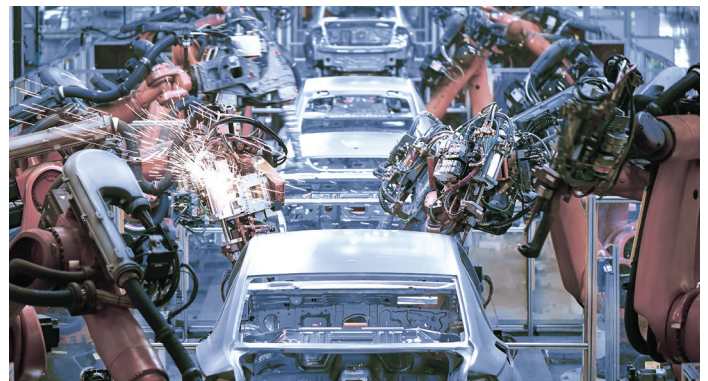


STULZ

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, along with decades of experience, research and engineering, is combined with strategic partnerships of IT enclosure and direct liquid cooling experts. The result is an all-in-one data center solution that is configured and delivered to you, ready to go.

STULZ is a global organization with corporate headquarters in Hamburg, Germany. We ensure proximity to our customers with 21 subsidiaries, 11 production sites, and sales and service partners in more than 140 countries.

The North American headquarters is located in Frederick, Maryland and is responsible for the design, manufacturing, and support of solutions for the USA and Canada.



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 center and IT professionals. STULZ systems are extremely reliable and durable, while 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 ensures 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 Center – including critical power, power distribution, fire suppression, physical security and cooling in one enclosure

The world is becoming even more complicated for data center 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 (ICS™) and Direct Liquid Cooling (DLC™) technology for highly dense IT workloads up to 80 kW per rack.

+ Advantages at a glance

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

The perfect solution for your application



**Retail &
Branch Office**



**University/
Education**



Telecom



**High Density
Computing**



Industry 4.0



**Traditional
DC**

**Data Center
at the Edge**

**Financial
& Banking**

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.

STULZ Micro DC - Standard

Components of shown configuration:

STULZ ICS™ – side-mounted cooling solution

STULZ E² – microprocessor

STULZ Micro DC – High Performance

Components of shown configuration:

STULZ ICS™ – side-mounted cooling solution

STULZ E² – microprocessor

Compatible with Direct Liquid Cooling (DLC™)



Standard



High Performance

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 center, 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, and software for environmental monitoring, etc.

Rack construction

Heavy duty steel construction with powder coat finish



Video surveillance system

CCTV recordings for monitoring the STULZ Micro DC



Fire suppression system

Fire monitoring and release of extinguishing agent



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
- UPS
- Lighting
- Further options on request

**You have additional requirements?
We can customize the solution
to match your needs.**

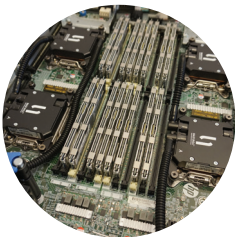


What is Direct Liquid Cooling (DLC™)?

DLC is Direct Liquid Cooling that utilizes the exceptional thermal conductivity of liquid to provide dense, concentrated cooling for target surfaces. DLC drastically reduces dependency on fans or air handlers. Extreme 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 cooling – The time is right for your data center

- Higher density cooling to enable maximum utilization of rack and data center space
- Not just for high performance data centers
 - Leading chip manufacturers are developing more powerful processors that require liquid cooling
 - A processor that runs at lower temperature works more efficiently and 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 Rack Manifolds with dry-break quick disconnect technology in a vertical housing
- Factory-installed liquid cooled servers are available from HPE, Dell EMC, Intel and more
- Compatible with any server in any rack
- Retrofit or new installation



Passive Coldplate Loop

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



Rack Manifold

The Rack DLC Rack Manifold manages liquid distribution between the Coolant Distribution Unit (CDU) and any number of Passive Coldplate Loops. Installed vertically, manifolds can be customized to suit any rack environment. Rack Manifolds are incredibly reliable and robust, utilizing a stainless-steel body combined with 100 % non-drip, metal quick disconnects.



Coolant Distribution Unit (CDU)

CoolIT Systems' Rack DLC product line offers a variety of CDUs depending on load requirements and availability of facility water, including rack-mount CHx80 or CHx750. Featuring sophisticated monitoring systems, these liquid-to-liquid heat exchangers utilize centralized pumping architecture to ensure superior performance and reliability.

Scalability – Grows with your IT requirements



Rack configuration

Traditional data centers 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 drastically reduce your investment costs in IT infrastructure.

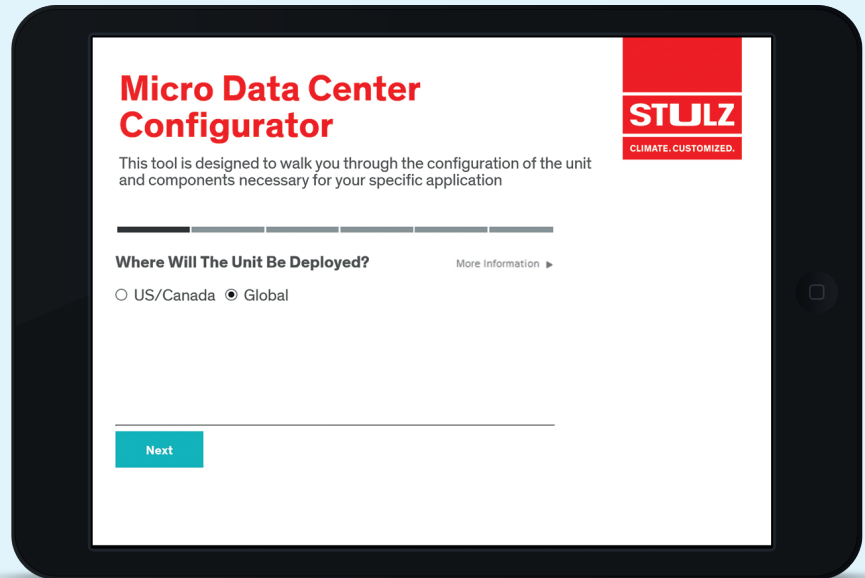
Scalable. Modular. Efficient.

1-Rack Configurations



Configurator

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



<http://microdc.stulz.com>

Multi-Rack Configurations



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

Precision

The side-mounted cooling solution: Integrated Cooling System (ICS™)

- The solution for side-mounting provides 3-25 kW of cooling capacity
- Minimal energy consumption
- Precise temperature control
- Available as cooling systems with chilled water, air, water and glycol
- Maintenance access on front and back



Precision

The internally mounted cooling solution: Integrated Cooling System (ICS™)

- Internal 3-5 kW (6U) per unit for additional cooling
- Minimal energy consumption
- Precise temperature control
- Available as cooling system with chilled water



Liquid

Direct Liquid-to-Chip Cooling: Direct Liquid Cooling (DLC™)

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



Modular and scalable – from low to high density IT loads

Example: Cooling configurations with a 48U rack



Rack with internal ICS

Included units: 48U

Space required for cooling: 6U

Remaining units: 42U

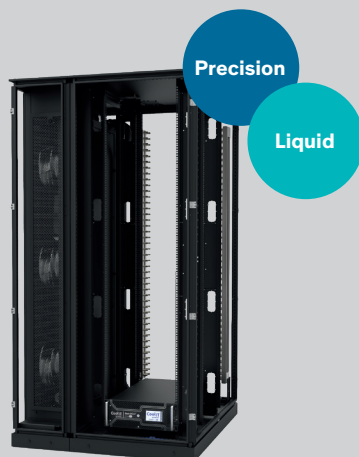


Rack with side ICS

Included units: 48U

Space required for cooling: 0U

Remaining units: 48U

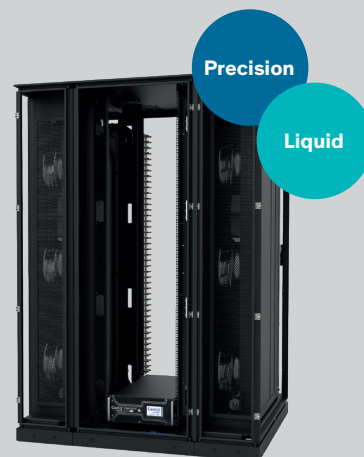


Rack with side ICS + DLC

Included units: 48U

Space required for cooling: 2U - 4U

Remaining units: 46U - 44U



Rack with two times side ICS + DLC

Included units: 48U

Space required for cooling: 2U - 4U

Remaining units: 46U - 44U



STULZ North American Headquarters

STULZ AIR TECHNOLOGY SYSTEMS (STULZ USA), INC.

1572 Tilco Drive | Frederick, MD 21704
Tel. 301.620.2033 | Fax 301.662.5487
info@stulz-ats.com

STULZ Global Headquarters

STULZ GmbH

Holsteiner Chaussee 283 | 22457 Hamburg
Tel. +49 40 5585-0 | Fax +49 40 5585-352
products@stulz.de

STULZ Subsidiaries

USA
GERMANY
AUSTRALIA
AUSTRIA
BELGIUM
BRAZIL
CHINA
FRANCE
INDIA
ITALY
MEXICO
NETHERLANDS
NEW ZEALAND
POLAND
SINGAPORE
SOUTH AFRICA
SPAIN
UNITED KINGDOM

STULZ Australia Pty. Ltd.

34 Bearing Road
Seven Hills NSW 2147
Tel. +61 (2) 96 74 4700
Fax +61 (2) 96 74 67 22
sales@stulz.com.au

STULZ Austria GmbH

Industriezentrum NÖ – SÜD,
Straße 15, Objekt 77, Stg. 4, Top 7
2355 Wiener Neudorf
Tel. +43 1 615 99 81-0
Fax +43 1 615 99 81-80
info@stulz.at

STULZ Belgium BVBA

Tervurenlaan 34
1040 Brussels
Tel. +32 (470) 29 20 20
info@stulz.be

STULZ Brasil

Ar Condicionado Ltda.
Rua Cancioneiro de Évora, 140
Bairro - Santo Amaro São
Paulo-SP, CEP 04708-010
Tel. +55 11 4163 4989
Fax +55 11 2389 6620
comercial@stulzbrasil.com.br

STULZ España S.A.

Avenida de los Castillos 1034
28918 Leganés (Madrid)
Tel. +34 (91) 517 83 20
Fax +34 (91) 517 83 21
info@stulz.es

STULZ France S. A. R. L.

107, Chemin de Ronde
78290 Croissy-sur-Seine
Tel. +33 (1) 34 80 47 70
Fax +33 (1) 34 80 47 79
info@stulz.fr

STULZ S.p.A.

Via Torricelli, 3
37067 Valeggio sul Mincio (VR)
Tel. +39 (045) 633 1600
Fax +39 (045) 633 1635
info@stulz.it

STULZ-CHSPL (India) Pvt. Ltd.

006, Jagruti Industrial Estate
Mogul Lane, Mahim
Mumbai - 400016
Tel. +91 (22) 56 66 94 46
Fax +91 (22) 56 66 94 48
info@stulz.in

STULZ México S.A. de C.V.

Avda. Santa Fe No. 170
Oficina 2-2-08, German Centre
Delegación Alvaro Obregón
MX- 01210 México
Distrito Federal
Tel. +52 (55) 52 92 85 96
Fax +52 (55) 52 54 02 57
ventas@stulz.com.mx

STULZ GROEP B. V.

Postbus 75
180 AB Amstelveen
Tel. +31 (20) 54 51 111
Fax +31 (20) 64 58 764
stulz@stulz.nl

STULZ New Zealand Ltd.

Office 71, 300 Richmond Rd.
Grey Lynn, Auckland
Tel. +64 (9) 360 32 32
Fax +64 (9) 360 21 80
sales@stulz.co.nz

STULZ Polska SP. Z O.O.

Budynek Mistral.
Al. Jerozolimskie 162
02 - 342 Warszawa
Tel. +48 (22) 883 30 80
Fax +48 (22) 824 26 78
info@stulz.pl

STULZ Singapore Pte Ltd.

33 Ubi Ave 3 #03-38 Vertex
Singapore 408868
Tel. +65 6749 2738
Fax +65 6749 2750
andrew.peh@stulz.sg

STULZ Air Technology and Services Shanghai Co., Ltd.

Room 406, Building 5
457 North Shanxi Road
Shanghai 200040
Tel: +86 21 3360 7101
Fax: +86 21 3360 7138
info@stulz.cn

STULZ South Africa Pty. Ltd.

Unit 3, Jan Smuts Business Park
Jet Park, Boksburg
Gauteng, South Africa
Tel. +27 (0) 11 397 2363
Fax +27 (0) 11 397 3945
aftersales@stulz.co.za

STULZ U. K. Ltd.

First Quarter,
Blenheim Rd. Epsom
Surrey KT 19 9 QN
Tel. +44 (1372) 74 96 66
Fax +44 (1372) 73 94 44
sales@stulz.co.uk

Close to you around the world

STULZ has multiple manufacturing sites in Europe, North America and Asia, as well as hundreds of subsidiaries and partners around the world.

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



You can find out more
on our product page.