



從精密製造到AI就緒的液冷基礎設施

客製化機櫃架構與液冷系統整合與驗證

From Precision Manufacturing to AI-Ready Liquid Cooling Infrastructure

Custom Rack Architecture and Liquid Cooling System Integration & Validation



Hall 1 No. I1118



CHENMING ELECTRONIC TECH. CORP.

晟銘電子科技股份有限公司



Corporate Profile

Chenming Electronic Tech, Corp. (UNEEC) is one of the major global OEM/ODM manufacturers.

In 2006, headquarters have be established in Taipei Taiwan with the global ambition for the future.

There are a total of four manufacturing bases with two in mainland China at Dongguan and Ningbo and one in APEX Tailand and one in Zhongli Taiwan to provide global customers aprompt and flexible OEM and ODM production services.Chenming is familiar by top branding computer companies for its computerbarebones manufacturing, as one of the leading manufacturers.

- 1 Rack**
- 2 Liquid Cooling Equipment**
- 3 MGX Server**
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- 10 L6-L10 Server System Integration**
- 11 Anti-Leakage Liquid Cooling System**

1 Rack (1/3)



MGX Rack

Technical Specifications

Form Factor	MGX (GB300)
Dimension (W x D x H)	600 x 1068 x 2286 mm
OU/RU Capacity	48RU
Payload	1400 kg
Weight	450 kg
Busbar	48VDC 1400A



OCP ORW Rack

Technical Specifications

Form Factor	Open Rack Wide (ORW)
Dimension (W x D x H)	1200 x 1219 x 2390 mm
OU/RU Capacity	44OU/47RU
Payload	3500 kg
Weight	700 kg

1 Rack (2/3)



OCP ORv3 Rack

480U, 520U available

Technical Specifications

Form Factor	OCP 21"
Dimension (W x D x H)	600 x 1068 x 2286 mm
OU/RU Capacity	44OU/47RU
Payload	1600 kg
Weight	235 kg
Busbar	48V DC

Accessories

Front/Rear Door	1 OU, 2OU IT Support Bracket
CDM Support Bracket	1 OU to 1 RU IT Support Bracket
Cross Brace	1 OU, 2 OU Air Blank
Switch Tray	1 OU (tool-less)
Liquid Cooling Kit	1 RU Air Blank w/ Cable Management
Tool-less Front Cable Clip	1 OU Power Shelf Support Bracket
Stabilizer	Top Rear Air Blank
Seismic Kit	Front/Rear Extension Frame



EIA Rack

42U, 48U, 52U available

Technical Specifications

Form Factor	EIA 19"
Dimension (W x D x H)	600 x 1200 x 2030 mm (42RU) 600 x 1200 x 2296 mm (48RU) 600 x 1200 x 2475 mm (52RU)
OU/RU Capacity	42/48/52 RU
Payload	2000 kg
Weight	340 kg

Accessories

Anchoring Bracket
EIA stabilizer
Cable Management Bracket
Extension Frame
PDU
Manifold (Option)

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1 Rack (3/3)



Mini Rack

Technical Specifications

Form Factor	EIA 19"
Dimension (W x D x H)	600 x 1068 x 733 mm
Capacity	12U
Payload	360 kg
Weight	80 kg

Accessories

Ejector kit
Manifold
Busbar
Caster
Leveling
Mobile Cart
10U Support Bracket



Soundproof Rack

Technical Specifications

Form Factor	EIA 19"
Dimension (W x D x H)	600 x 1200 x 1091 mm
Max Equipment Depth	800 mm
Sound Reduction (dBA)	15-30
Capacity	20RU
Payload	600 kg
Weight	140 kg
Fans Quantity	5

2 Liquid Cooling Equipment (1 / 3)



Air Assisted Liquid Cooling Rack

Technical Specifications

Form Factor	EIA 19" 42RU
Dimension (W x D x H)	600 x 1513 x 2048 mm
Cooling Capacity	50 kW
Coolant	PG25
Rated Flow Rate	60 LPM
Pressure Head	25 PSI
Rated Air Flow	15568 CFM
Power Input	380V/220V 3φ 4W + GND
Power Consumption	12.86 kW
Pump	2
Fan	14
Communication	Modbus RTU & TCP/IP & SNMP
Manifold	Customized
Weight	450 kg



Rear Door Heat Exchanger (RDHx)

Technical Specifications

Form Factor	EIA 19" 42RU
Dimension (W x D x H)	600 x 1513 x 2048 mm
Cooling Capacity	50 kW
Rated Flow Rate	60 LPM
Pressure Head	25 PSI
Rated Air Flow	15568 CFM
Power Input	380V/220V 3φ 4W + GND
Power Consumption	12.86 kW
Fan	14
Communication	Modbus RTU & TCP/IP & SNMP
Weight	450 kg

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2 Liquid Cooling Equipment (2 / 3)



Liquid to Liquid in Row CDU

Physical Parameters

Model	RC100-1000G-O7203B-T04
Dimension (W x D x H)	950 x 1300 x 2200 mm (Including casters)
Weight (net weight)	1331 kg
Refill tank volume	20 L
Expansion tank capacity	60 L
Main circulation loop volume	240 L

Performance Parameters

Cooling capacity	1000kW@4°C AT
Primary flow rate	≥1200 LPM
Secondary flow rate	1200LPM@≥2.5bar
Coolant	PG25/EG25/Pure water
Relief value of safety valve	6 bar



Liquid to Air Sidecar

Physical Parameters

Model	AR40A-180G-O1405F-T10
Dimension (W x D x H)	1200 x 1200 x 2200 mm (Including casters)
Weight (net weight)	970 kg
Refill tank volume	15 L
Expansion tank capacity	10 L
Main circulation loop volume	81 L

Performance Parameters

Cooling capacity	180kW@10°C ATD
Air flow rate	30000 m3/h
Liquid side flow rate	225LPM@≥2.0bar
Coolant	PG25/EG25/Pure water

Other Parameters

Noise	92dB(A)@1.5m (180kW@AT=10°C)
Runtime environment	5~35°C/ RH5~90%
Storage environment	-20~70°C/ RH5~95%

2 Liquid Cooling Equipment (3 / 3)



uneec® X TCT

In Rack CDU

Physical Parameters

Model	EC40A-135G-D1232F-T05
Dimension (W x D x H)	670 x 1140 x 475 mm
Weight (net weight)	70 kg
Refill tank volume	2 L
Expansion tank capacity	1 L
Main circulation loop volume	10 L

Performance Parameters

Cooling capacity	135kW@5°C AT
Primary pressure drop	100kPa@160LPM
Secondary flow rate	160LPM@2.0bar
Coolant	PG25/EG25/Pure water
Relief value of safety valve	5 bar



uneec® X TCT

Ball Valve

Model	TBV25M-N12G12I	TBV50M-N12G12I
Dimension	Φ67 x 160.2 mm	Φ102 x 215 mm
Weight	701 g	1960 g
Material	SUS 304	SUS 304
O-Ring Material	EPDM	EPDM
Inner Diameter	Φ20	Φ40

Performance Parameters

Flow Medium	Pure Water Coolant/Formulated Coolant	
Runtime Environment	-40 ~ 120°C	
Max. Flow Rate@25kPa	170 LPM	890 LPM
Max. Flow Rate@5kPa	-	420 LPM
Fluid Loss@3.5bar	2.9 ml	8.5 ml
Mating Cycles	>1000	>1000
Connection	G1" x 22 mm Female	G2" x 21.4 mm Female

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3 MGX Server



GB300 NVL 72

Technical Specifications

Dimension (W x D x H)	W438 x D766 x H43.6 mm (1U)
System Fans	8 x 40x40x56mm
I/O Ports (Front)	1 x USB3.2 Gen1 1 x Mini-DP 1 x RJ45
Expansion Slot	2 x FHFL PCIe 5.0x16
Storage	8 x hot-swap E1.S PCIe 5.0 x4 NVMe drive bays
Liquid Cooling	Direct to Chip (D2C) Cold Plate
Power Supply	Power via Busbar



GB200 NVL4

Technical Specifications

Dimension (W x D x H)	W438 x D900 x H87 mm (2U)
System Fans	1 x 40x40x56mm
I/O Ports (Rear)	1 x USB3.2 Gen1 1 x Mini-DP 1 x RJ45 1 x MLAN
Expansion Slot	1 x liquid-cooled FHHL PCIe Gen5x16, for DPUs 1 x FHHL PCIe Gen5x16
Storage	8 x liquid-cooled 2.5" Gen5 NVMe
Power Supply	4 x redundant power supplies



RTX PRO

Technical Specifications

Dimension (W x D x H)	W438 x D802.5 x H176.6 mm (4U)
System Fans	10 x 80x80x80mm
I/O Ports (Front)	2 x USB3.2 Gen1 1 x Mini-DP 2 x RJ45 1 x MLAN
Expansion Slot	8 x FHFL PCIe Gen5x16, for GPUs 1 x FHFL PCIe Gen5x16
Storage (Front)	4 x 2.5" Gen5 NVMe or 8 x 2.5" Gen5 NVMe
Power Supply	4 x redundant power supplies

4 DC-MHS Server



DC-MHS M-FLW

Specification

Dimensions (W x D x H)	W438.5 x D850 x H87.5 mm
Form Factor	M-DNO TYPE2 HPM
Air Cooling	Fan 6056 x 7
Front I/O Buttons	Power On/Off, Alarm Reset
Indicators	Power, HDD
Ports	USB3.0 x 2
Expansion Slot	DUAL FHFL PCIe AIC x 3
Expansion Module	OCP DC-SCM 2.0 OCP NIC 3.0
Storage	SSD E1.S 15mm (H) x 16, 2.5" HDD x 8, SSD E1.S 9mm (H) x 2 3.5" Hot-Swap SAS/SATA x 12, SSD E1.S 9mm (H) x 2
Power Supply	CRPS AC-DC x 2



DC-MHS M-SDNO Type 2

Specification

Dimensions (W x D x H)	W438.5 x D850 x H87.5 mm
Form Factor	M-FLW HPM
Air Cooling	Fan 6056 x 8
Front I/O Buttons	Power On/Off, Alarm Reset
Indicators	Power, HDD
Ports	USB3.0 x 2
Expansion Slot	FHFL PCIe x 6
Expansion Module	OCP DC-SCM 2.0 OCP NIC 3.0
Storage	SSD E1.S 15mm (H) x 16, 2.5" HDD x 8 3.5" Hot-Swap SAS/SATA x 12
Power Supply	CRPS AC-DC x 2

5 Edge-MHS Server (1 / 2)

uneec® + intel.



2U2N Narrow



2U3N Narrow/Large



2U3N Narrow



2U1N Large



2U4N Narrow



2U Monolithic



Power Edge 2U Server

Form Factor	2U2N/2U3N/2U4N	W438 x D430 x H87.6 mm (17.24" x 16.93" x 3.45")
SLED	1U/2U Narrow Type	W171.65 x D351.6 mm
	1U/2U Large Type	W347.5 x D351.6 mm
Processor	Design for Intel® Xeon Series	
HPM	Edge-HPM Compliance	
	Class N/Class L up to 350 mm Depth	
Management	1U CFF/HFF DC-SCM	
Duct Filter	Support	
Security	Intrusion Detection	
Power	AC/DC M-CRPS 60 mm/73.5 mm, 1 + 1 Redundant	
Fan	6 x 6056 Dual Rotor Hot Swap Fan	
Mount Type	EIA 19" Rack, Adjustable Ear	

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5 Edge-MHS Server (2 / 2)



2U Edge-MHS Server-Inter Xeon 6 SoC Application: Telecom ORAN DU Server, AI ORAN Server



Form Factor	2U Rack Mount
Dimension	D430 x W438 x H87.6 mm
Processor	(1) Intel Xeon GNR-D XCC, TDP: up to 325W (POR 64core, 300W)
Memory	(8) DDR5 RDIMM, up to 6400MTs, 1DPC
Management	DC-SCM 2.2 (CFF) BMC AST2600, TPM2.0, Redfish, IPMI 2.0, iKVM, Open BMC Option: RoT (AST1060)
PCIe Expansion	(3) FH PCIe Gen5 x8, or (1) FH PCIe Gen5 x8 + (1) FH PCIe Gen 5x16 (for GPU SKU); or (4) FH PCIe Gen5 x8 or (2) PCIe Gen5x16 if no U.2 SSD
Storage	(2) M.2 2280/22110 NVMe PCIe Gen4 x4 (2) Internal U.2 SSD PCIe G5 x4 (Option: RAID 0, 1 via VROC); or Option: (2) hot swappable U.2 SSD PCIe G5 x4
Networking	1GbE with NCSI via Intel i210 (1) 10G Base T from NIC controller Realtek RTL8127AT (4) 25G SFP28/50G SFP56 from CPU (support Time Sync Ew/DPLL module, IEEE1588 v2 PTP)
I/O Ports	DC-SCM: (1) Dedicated 1 GbE for Mgmt, (1) Min-DP IO board: (1) UID BTN/ LED, (1)PW BTN/LED, (1) Sys LED, (1) Serial port w/ Type A connector for debug, (1) USB 3.2 w/ Type C connector
Power	(1+1) AC/HVDC 1300W CRPS PSU 80Plus Platinum Option: (1+1) 1600W or above CRPS 80Plus for GPU SKU
Cooling	(4+1) Redundant 6056 FANs, 2U Passive CPU Heatsink

Environmental	OP temp: -5C~55C humidity: 5%~85% RH
Option module	1. IEEE1588 v2 10MHz/1PPS input (10Mhz/1PPS) in SMA connector 2. IEEE1588 v2 10MHz/1PPS output (10Mhz/1PPS) in SMA connector 3. GNSS input SMA connector 4. DPLL/OCXO design 5. GPS module
(Nice to have)	VRAN Boot Option: Front Bezel w/filter Anti rust paint appearance Ear mount option, Grounding bar/screw NEBS L3 Compliance
Others	

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6 General Purpose Server (1 / 2)



1U U104

Specifications

Dimensions (W x D x H)	W440 x D650 x H43.6 mm
M/B Form Factor	EEB (12" x 13")
Air Cooling	Fan 4056 x6
Front I/O Buttons	Power On/Off, Reset,
Indicators	Power, HDD
Expansion Slots	PCI/PCIe Riser Card
Storage	3.5" Hot-Swap SAS/SATA x4
Power Supply	1U Single



2U 8 Bays



2U 12 Bays



2U 24 Bays



2U UNS8 (8/12/24 Bays)

Specification

Dimensions (W x D x H)	W435 x D660 x H87 mm W435 x D560 x H87 mm
M/B Form Factor	EEB(12" x 13"), ATX(12" x 9.6")
Drive Bay	8 x 3.5" Hot-Swap SAS/SATA 2 x 2.5" Internal, 1 x Slim ODD 12 x 3.5" Hot-Swap SAS/SATA 24 x 2.5" Hot-Swap SAS/SATA
Backplane	12 Gb/s Mini SAS HD with SGPIO Support 2.5" 8-port PCIe Gen 4, OCuLink
Cooling Fan	8038 Hot-Swap PWM x3
Front I/O Buttons	Power On/Off, System Reset, Alarm Reset
Indicators	Power, HDD, LAN x2, FAN Failure, Overheat
Ports	USB3.0 x2
Expansion Slots	Low Profile x7
Power Supply	2U Single, 2U Redundant

6 General Purpose Server (2 / 2)



4U Workstation

Specification

Dimensions (W x D x H)	W438 x D660 x H176 mm
M/B Form Factor	EEB (12" x 13")
Drive Bay	3.5" Hot-Swap SAS/SATA x 12, 2.5" Internal x 3 3.5" Hot-Swap SAS/SATA x 8, 2.5" Internal x 2 5.25" ODD x 3, Slim ODD x 1
Backplane	12 Gb/s Mini SAS HD with SGPIO Support
Cooling Fan	12025 Fan x 3, 8025 Fan x 2
Front I/O Buttons	Power On/Off, System Reset, Alarm Reset
Indicators	Power, HDD, LAN x 2, Fan Failure, Overheat
Ports	USB3.0 x 2
Expansion Slots	7 Slots
Power Supply	2U Single, 2U Redundant



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Immersion Cooling (1 / 2)



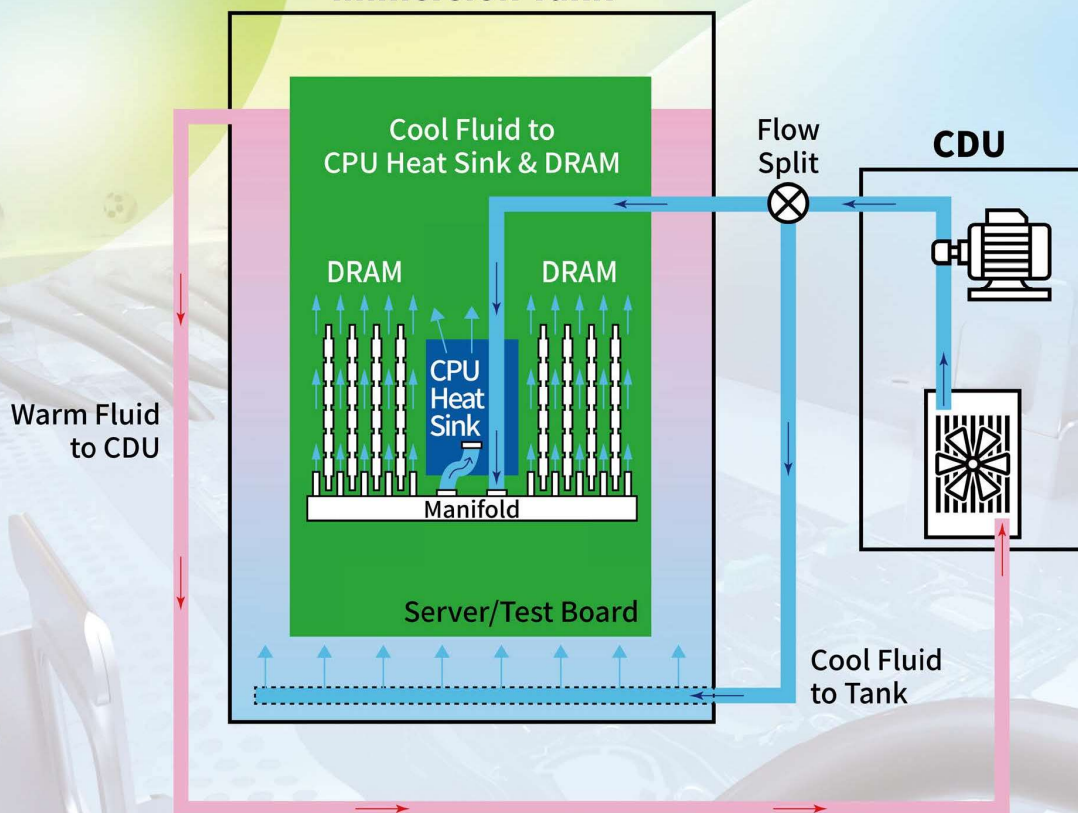
Intel Targeted Flow Immersion Cooling Technology

Technical Specifications

Dimensions	4 RU 800mm Max. Server Depth
IT Gear Capacity (D x W x H)	915 x 942 x 1262 mm
Material	SUS/SGCC/SPCC
Coolant Volume	150 L
Cooling Capacity	7 kW @ air 25 °C/Coolant 45 °C
	CUP Heat Dissipation Enhanced by 300% Using Intel Targeted Flow Immersion Cooling Technology
Immersion Coolant	Castrol ON DC20
Manifold	SUS 304/Up to 8 Port (UNECC)
Cold Plate	Al base + Al connector + Cu fin (JWS)
PUE	< 1.1
Monitoring Sensor	Thermocouple, Liquid Level & Flow Meter
Managing Monitoring	Temperature, Pump
Alarm	Temperature, Pump, Liquid Level
Ambient Air Temperature	-5 °C ~ 35 °C
Power Supply	220 V, 3Ø3 W, 50/60 Hz, 30 A



Immersion Tank

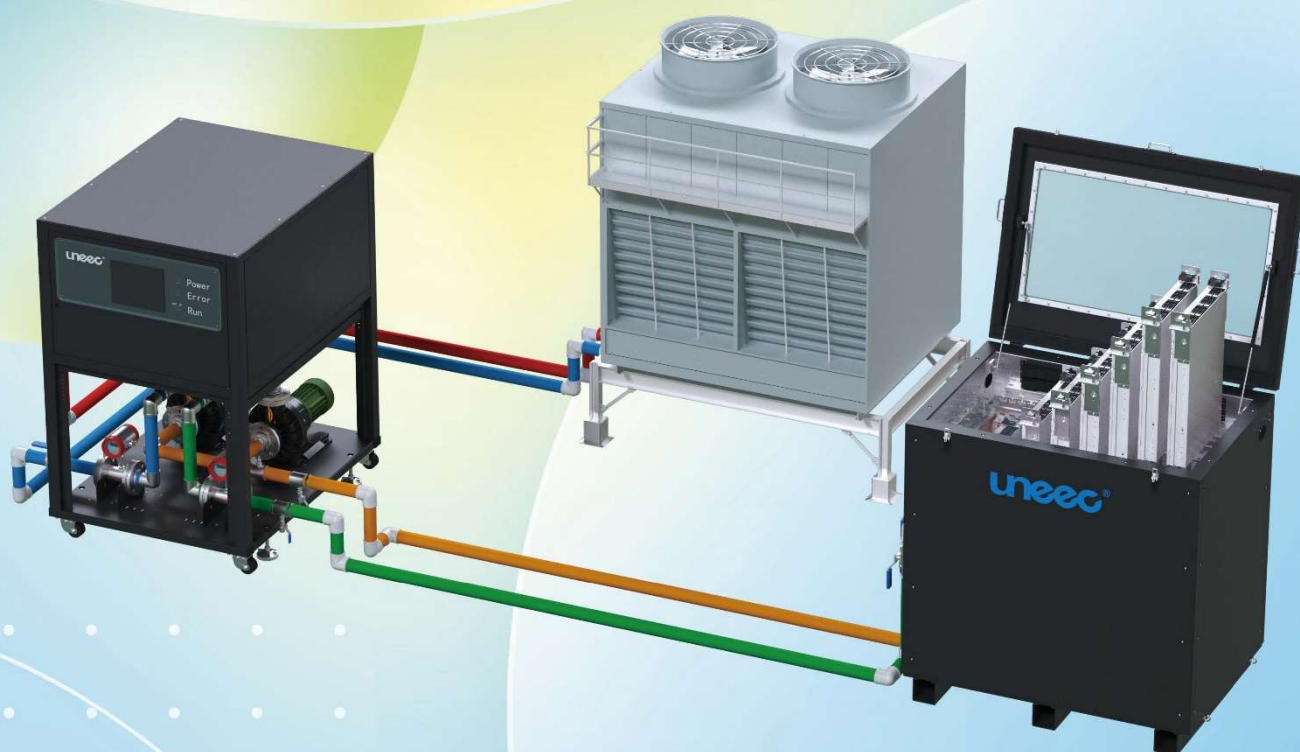


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Immersion Cooling (24U Tank)

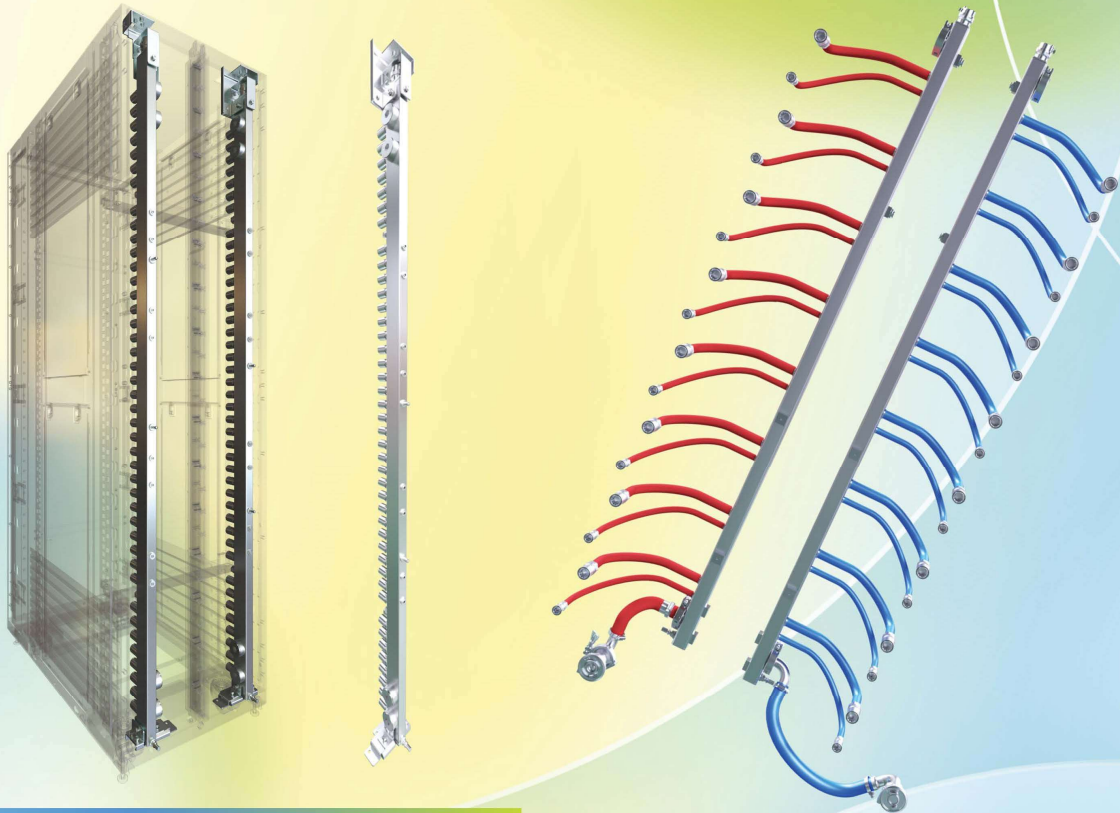
Single Phase Immersion Cooling Solution

IT Gear Capacity	24 RU 850mm Max. Server Depth	PUE	1.02
Dimensions	1354(D) x 959(W) x 1389(H) mm	Monitoring Sensor	Thermocouple, Liquid Level Flow Meter
Material	SUS/SGCC	Managing Monitoring Functions	SNMP, Modbus
Coolant Volume	657L	Alarm	Thermocouple, Pressure Flow Meter, Pump
Coolant Capacity	80kW @ approach temp. 5°C	Ambient Air Temperature	5°C ~ 35°C
Coolant	Synthetic Oil	Power Supply	1P 220VAC 50/60Hz, IEC C20 Socket

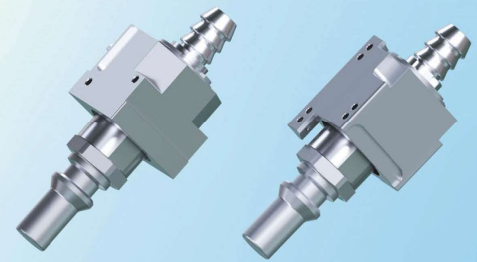


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8 Coolant Distribution Manifold



9 Liquid Cooling Floating Module



Parameters

radial offset	$\pm 2\text{mm}$
Allowed tilt angle	$\pm 0.5^\circ$
Sliding force of the radial direction	$2.5\text{kgf} \pm 0.5\text{kgf}$
Maximum spring load	35 lbs

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10 L6-L10 Server System Integration



Comprehensive L6 to L10 Server Integration

Assembly Line Integration:

Assembly–testing–packaging processes with standardized workflows, enabling high efficiency, consistent build quality, and flexible customization to meet requirements.

Burn-In Room:

A controlled environment maintained at **25°C (±5°C)** with a standard 24-hour burn-in duration (flexible and adjustable based on specific project requirements).

Testing Capacity:

Supports a maximum power load of **5,000W per unit**. Capable of testing up to **42 units of 1U servers** or **21 units of 2U–4U servers**.

Quality Assurance:

Full-process monitoring and anomaly screening to proactively identify potential failure risks, ensuring maximum stability and consistent quality.

Specification & Capacity

Server Type	1U	2U~4U	8U
Parameters			
Load capacity/Cart	6	3	2
Total load capacity	42	21	14
Operating hours (per day)	12	12	12
Testing lead time	3	4	10
Days of operation	22	22	22
Monthly capacity (sets)	2000	2000	300

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11 Anti-Leakage Liquid Cooling System



Key Features

Leak-Safe Design:

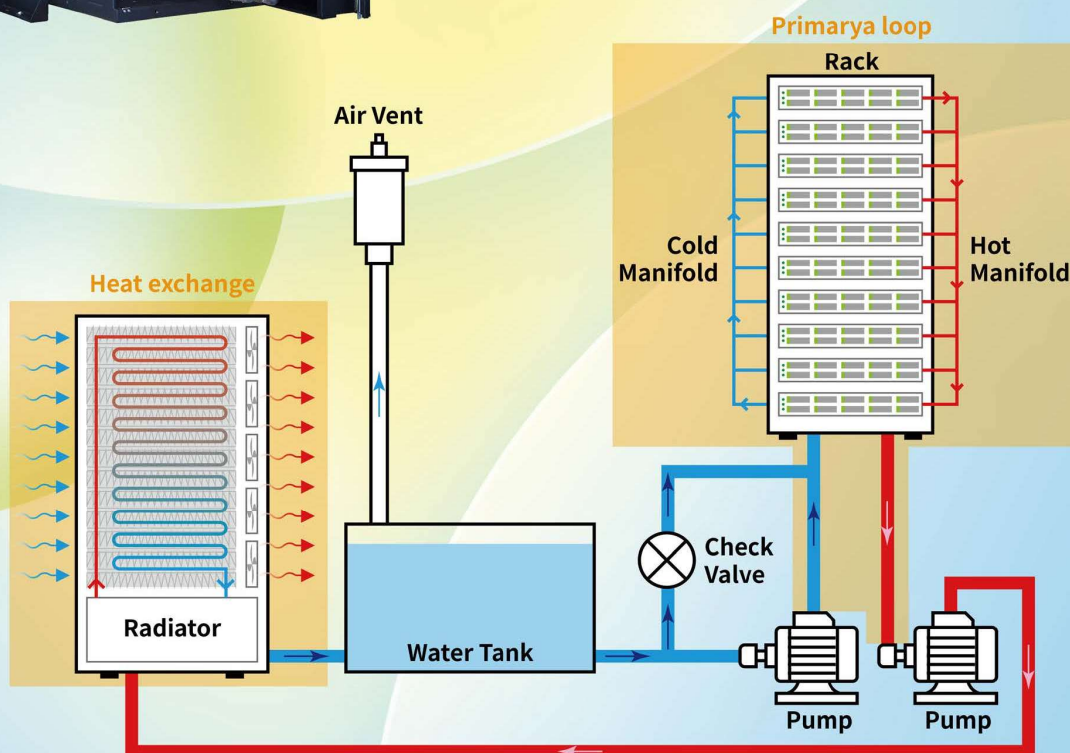
Negative Pressure Architecture Ensures Inward Airflow Under Leak Conditions.

Simplified Infrastructure:

Low-/Negative-Pressure Operation Enables Reducing Fitting Strength and Sensor usage, Driving System Cost.

Maintenance-Friendly:

Leak Detection and Serviceability Optimized for Easy Maintenance.



Operational Procedures

Establishment of Negative Pressure State:

The CDU regulates pump operation to maintain the loop at a defined negative pressure, ensuring sub-atmospheric conditions throughout the primary loop.

Heat Exchange:

The CDU recirculates heated coolant through a radiator, dissipating heat to the ambient environment via fan wall.

Containerized Data Center

**From Silicon to Container:
Accelerating Deployment of Intel-Powered Containerized Data Centers**

**Rapid Deployment of Intel-Powered CDC | Solutions by
Intel, Inventec, Fourier & Uneec**



Leveraging a modular and containerized architecture, it breaks the constraints of traditional data center infrastructure, enabling deploy-anywhere, go-live-instantly flexibility to meet the rapidly evolving demands of the AI era.

Through advanced liquid cooling and a highly integrated system design, Intel, Inventec, Fourier and Uneec jointly deliver a seamless path from silicon to container—creating AI infrastructure that is smarter, power-efficient, sustainable, and massively scalable.

Key Features

Rapid Deployment:

Factory-built and plug-and-play on site, significantly reducing build-out time. 50% faster than traditional build-outs

Modular Scalability:

Expansion based on demand, avoiding large upfront investment

High Integration:

IT, power, and cooling systems are factory-integrated for consistent quality

Portability:

Standard container design enables easy transportation, redeployment, and reuse

Energy Flexibility:

Deployable in locations with sufficient power or renewable energy, ideal for AI and Edge applications

Lower Construction Cost:

Minimizes civil work and facility renovation requirements

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The annual green energy utilization rate is 86.9%, and it will continue to move towards the goal of exceeding 90%.



Location



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