Respect
Integrity
Cooperation
Positivity
Vision

Accessen LinkedIn

Accessen Website

Accessen

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DAIS 2607 Rv2 EN

Accessen

Data Center Prefabricated Modular Cooling Solution

Access to Prefabricated Cooling Solution

Accessen is a globally leading provider of Low-Carbon Data Center cooling solutions and on-demand Heat Exchange solutions, committed to delivering high-efficiency thermal management technologies and advancing clean energy utilization. With more than two decades of industry experience and innovation, Accessen offers a fully integrated value chain encompassing design, manufacturing, testing, installation, and after-sales service. Headquartered in Shanghai, China, with subsidiaries in Hong Kong, Singapore, Malaysia, and Thailand, we serve customers in over 50 countries, ensuring fast, reliable, and localized support worldwide.

Our solutions span a wide range of industries, including data centers, semiconductors, new energy, petrochemicals, power generation, pharmaceuticals, metallurgy, marine engineering, and environmental processing. By providing diversified heat exchange equipment and integrated systems, we meet the dynamic and demanding needs of clients across various sectors for efficient, stable, and sustainable heat transfer solutions.

30+	100+
150+	30,000+

Among these sectors, data centers have emerged as a strategic focus for Accessen. In response to the increasing demand for intelligent, low-carbon infrastructure, we have developed a suite of prefabricated cooling systems tailored specifically for modern data center applications. Leveraging prefabrication and BIM integration technologies, our modular cooling units significantly shorten construction timelines, reduce on-site workload, and lower overall costs, while ensuring consistent product quality and operational safety.

30+ National & Industrial Standard Participating Compiler
100+ R&D Technical Team Members
150+ Patents & Copyrights
30,000+ Implementation Cases

Automated Production Lines

Our facility is equipped with automated cutting production lines, fully automated welding robots and automatic general assembly lines.

All core manufacturing procedures are fully automated, enabling us to maintain top-tier machining accuracy and production efficiency across the industry.

13+

Plant Area: 130,000m²

Automated Production Lines

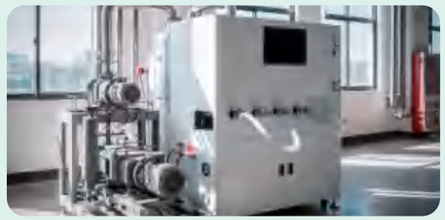
Introduced automated cutting production lines, fully automatic welding robots, electrophoretic coating production lines and automated final assembly lines. It realizes full automation of core processes, with leading processing precision and production efficiency in the industry.

Full-process Digital Management

Equipped with digital management systems including ERP, MES and CRM, we realize full-process digital traceability covering raw material warehousing, production processing, finished product inspection and delivery, ensuring stable and controllable product quality.

Full-Performance Testing Center

A full-performance testing platform has been established to conduct comprehensive performance tests for heat exchangers, heat exchange units and integrated cooling stations. Every product undergoes full-condition testing and verification before delivery, ensuring factory-certified quality.



Large-Scale Prefabrication Capacity

Equipped with large-scale prefabricated module production workshops, the company realizes factory pre-assembly and pre-commissioning of large integrated cooling station modules, meeting the fast delivery demands of large-scale data center projects.

Digital-Intelligent Simulation, Full-Link Optimization

Taking full-process BIM design and multi-physics field simulation calculation as its dual cores, Accessen builds an integrated design system covering scheme planning, detailed design, prefabricated production and installation & operation maintenance. Professional computing power supports the efficient, stable and cost-effective implementation of every cooling system.

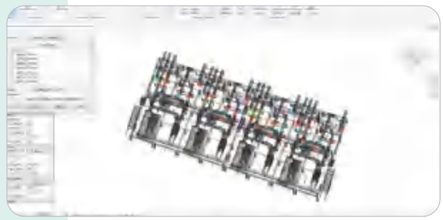
BIM Full-process Design Capability

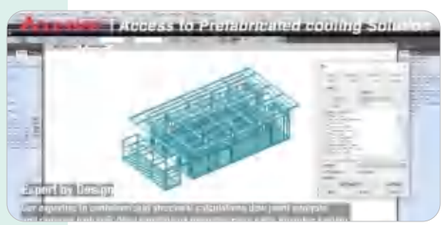
Leveraging industry-leading full-process BIM design capabilities, Accessen adopts 1:1 full parametric modeling, pipeline collision analysis, prefabricated precision design, multi-condition simulation and digital delivery. It enables full-lifecycle digital management from design to operation and maintenance, effectively eliminating disconnection between design and construction. This ensures zero installation errors, high construction efficiency and optimal system energy efficiency.

Simulation & System Optimization Capabilities

Accessen, backed by a professional simulation and calculation team and supporting software, provides customized system optimization solutions for each project.

Through four core capabilities — hydraulic simulation, multi-condition operation simulation, structural mechanics simulation, and noise simulation optimization — we achieve reduced pipeline energy consumption, optimized system control logic, full-scenario structural safety assurance, and quiet equipment operation, ensuring the optimal system design.





A Masterpiece of Cooling Power for the AI Era

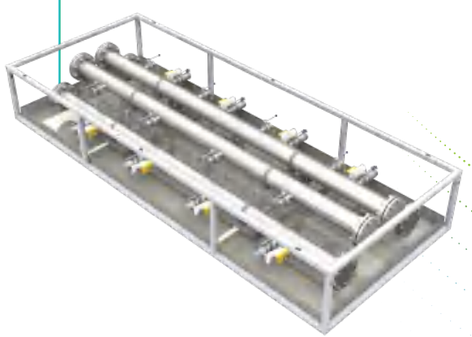
Prefabricated Outdoor Cooling Station
Medium-Temperature Type (AIS-M)

High-Efficiency Plate Heat Exchanger (AQ/AA)

Prefabricated Outdoor Cooling Station
Low-Temperature Type (AIS-L)

Cooling Distribution Unit (ACDU)

Secondary Fluid Network (ASFN)



90%
Off-Site Prefabrication

90% Productization

Standardized product design enables unified specifications, interfaces, manufacturing processes and acceptance criteria, delivering high-quality, high-efficiency and high-reliability full-lifecycle value for data centers.

-70%
Shorter On-Site Construction Time

Construction Cycle Reduced by 70%

Prefabricated & Integrated for Rapid Delivery
Adopting full-system BIM design combined with factory prefabrication, over 90% of engineering work can be completed off-site, with only simple on-site assembly required.
The construction cycle is drastically shortened by more than 70%, and delivery can be achieved within 60 days at the earliest.
It effectively reduces pollution and uncertainties caused by on-site construction, ensuring stable and controllable project quality.

-40%
Less Plant-Room Space

Building Space Saved by 40%

Space Optimization & Controllable Costs
Featuring a compact structure via modular integrated design, this unit saves up to 40% building space compared with conventional chiller stations, greatly cutting civil engineering costs.
Large-scale factory prefabrication strikes an optimal balance between high quality and cost control, substantially optimizing the total full-lifecycle cost.

Intelligent Operation & Maintenance | Independent Control

The unit is equipped with a self-developed intelligent control system, supporting real-time monitoring, fault early warning, predictive maintenance and independent energy efficiency optimization.
Combined with Augmented Reality (AR) and cloud-based remote management, it enables unmanned intelligent operation and maintenance, minimizing downtime and cutting O&M costs.

High-Efficiency Plate Heat Exchanger (AQ/AA)

Accessen AQ/AA series high-efficiency plate heat exchangers are core heat exchange components for data center cooling systems. Optimized exclusively for data center heat exchange scenarios with large flow rate and small temperature difference, they adopt independently developed plate patterns to achieve an ultra-high heat transfer coefficient.

Core Application Scenarios

Data center free cooling system, liquid cooling system heat exchange, water thermal storage system and air conditioning water system heat exchange.

Ultra-high Heat Transfer Efficiency
Specially optimized plate patterns with high turbulence intensity deliver heat transfer coefficients far exceeding industry standards, enabling efficient heat exchange at a minimal 1°C temperature difference.

Adhesive-free Gasket Design
Exclusive snap-in, adhesive-free gaskets enable quick installation and maintenance with excellent sealing performance, reducing long-term maintenance costs.

Safe, Reliable & Durable
Constructed from 304/316L stainless steel plates, offering high pressure resistance, corrosion resistance, and a long service life. Performance is certified by the third-party AHRI.

Flexible Customization & Adaptability
A full range of models with the same channel depth but different aspect ratios allows precise matching to various data center heat exchange scenarios, with customization available on demand.

Easy Maintenance
Removable design enables convenient cleaning and maintenance, significantly reducing downtime for service.

Specifications

Maximum Processing Capacity
5,000m³/h

Maximum Design Pressure
25bar

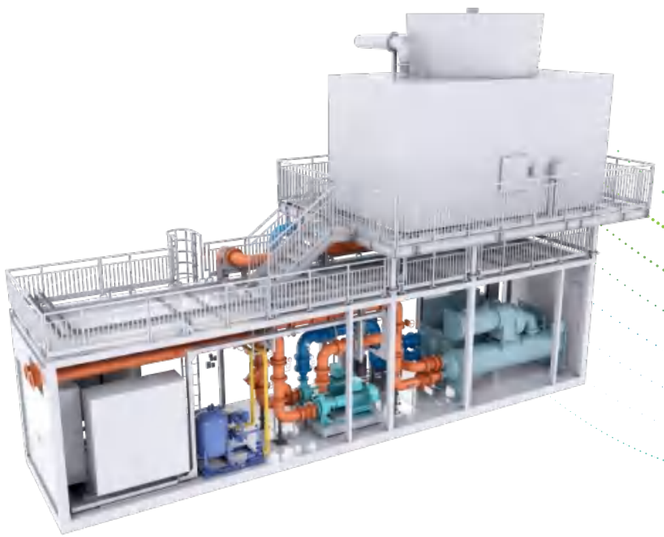
Maximum Heat Exchange Capacity
80MW

Minimum Temperature Difference
0.5-1°C

Primary Construction Material
AISI 304, 316, 316L, Ti, SMO 254

Maximum Design Temperature
200°C

Prefabricated Outdoor Cooling Station Low-Temperature Type (AIS-L)



Fully integrated prefabrication
Integrate chillers, pumps, valves, instruments, and control systems, pre-assemble and debug at the factory, and enable on-site plug-and-play functionality.

Rapid delivery and launch
Container modularization enables rapid deployment, boosting delivery efficiency by 80%.

Outdoor-specific design
Windproof, rainproof, and sunscreen, suitable for various outdoor environments, with a long lifespan.

Flexible expansion and renovation
Modularization allows for plug-and-play functionality, accommodating phased construction, capacity expansion and renovation, as well as emergency cooling needs.

Intelligent operation and maintenance management
Remote intelligent control, unattended outdoor operation, real-time monitoring + fault warning, ensuring stable operation.

Accessen's low-temperature prefabricated outdoor cooling station provides an adjustable leaving-water temperature range of 12~20 °C. Designed for outdoor installation, the system integrates the complete cooling plant within a weather-resistant enclosure using a skid-mounted configuration. It is pre-assembled, tested, and commissioned at the factory, requiring only lifting, positioning, piping interconnection, and electrical connection on site. No separate plant room is required, helping reduce building space requirements as well as construction and installation costs.

Core Application Scenarios

Medium and large-scale data centers, edge computing rooms, and rapid expansion scenarios.

Prefabricated Outdoor Cooling Station Low-Temperature Type (AIS-L)

Model		MP-AIS/L-1-1.0/C	MP-AIS/L-2-1.0/C	MP-AIS/L-3-1.0/C	MP-AIS/L-4-1.0/C	MP-AIS/L-5-1.0/C
Total Cooling Capacity / kW		1000	2000	3000	4000	5000
Size	Length / mm	13500	14000	15000	16500	16500
	Width / mm	3500	3500	3700	4000	4000
	Height / mm	3500	3800	4000	4000	4000
Weight	Net Weight / Kg	30091	36883	43851	52821	56300
	Transportation weight / Kg	32091	38883	45851	54820	58300
	Operating Weight / Kg	33927	43817	53189	66594	71018
Total Power / kW		265.8	442.2	677.7	897.1	1060.3
Function Configuration		Cooling, water treatment, power distribution, automatic control, lighting, ventilation, fire protection				

Note: The above data is for reference only, and the actual equipment selection shall prevail.

Specifications

Storage Temperature Range
-40°C~70°C

Operating Temperature Range
5°C~50°C

Operating Relative Humidity
5%~95%

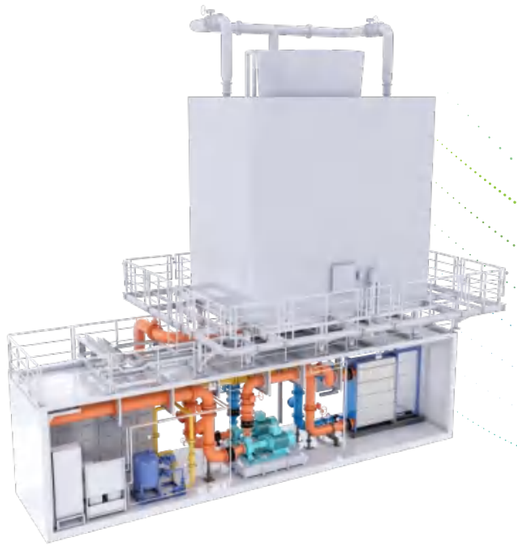
Altitude Range
0m~3000m

Medium
Water/ Ethylene Glycol-based Solutions

Primary Filtration Rating
200μm~300μm

Power Supply
380V~415VAC/50~60Hz

Prefabricated Outdoor Cooling Station Medium-Temperature Type (AIS-M)



Accessen outdoor prefabricated integrated cooling station (medium temperature type) features a water outlet temperature range of 30~40 °C (adjustable). It integrates core functions such as heat exchange, distribution, control, and water quality management. With modular integration and prefabricated production, it allows for flexible configuration, significantly simplifying system design and shortening the construction period.

Core Application Scenarios

Medium and large-scale computing power centers, liquid-cooled computer room renovation and upgrading, and rapid expansion scenarios.

Fully integrated prefabrication
Integrate heat exchangers, pumps and valves, instruments, and control systems, pre-assemble and debug at the factory, and deploy quickly on-site.

Efficient energy-saving optimization
Multi-condition simulation adapts to natural cold sources, achieving optimal energy efficiency throughout the year and significantly reducing energy consumption in transmission and distribution.

Intelligent operation and maintenance management
The intelligent monitoring system supports data collection, fault early warning, and predictive maintenance, enabling unattended operation.

Compact and flexible structure
The modular design occupies a small area, allows for flexible expansion, and is suitable for data centers of different sizes.

Safe, reliable, and easy to maintain
Easy to maintain, stable in operation, and long-lasting.

Prefabricated Outdoor Cooling Station Medium-Temperature Type (AIS-M)

Model		MP-AIS/M-1-1.0/C	MP-AIS/M-2-1.0/C	MP-AIS/M-3-1.0/C	MP-AIS/M-4-1.0/C	MP-AIS/M-5-1.0/C
Total Cooling Capacity / kW		1000	2000	3000	4000	5000
Size	Length / mm	11500	12500	13000	16500	16500
	Width / mm	3500	3500	3700	4000	4000
	Height / mm	3500	3800	4000	4000	4000
Weight	Net Weight / Kg	24102	29849	34479	39233	44864
	Transportation weight / Kg	26102	31849	36479	41233	46864
	Operating Weight / Kg	27466	35785	43318	51168	57783
Total Power / kW		57.8	105.9	159.6	199.3	244.0
Function Configuration		Cooling, water treatment, power distribution, automatic control, lighting, ventilation, fire protection				

Note: The above data is for reference only, and the actual equipment selection shall prevail.

Specifications

Storage Temperature Range
-40°C~70°C

Operating Temperature Range
5°C~50°C

Operating Relative Humidity
5%~95%

Altitude Range
0m~3000m

Medium
Water/ Ethylene Glycol-based Solutions

Primary Filtration Rating
200μm~300μm

Power Supply
380V~415VAC/50~60Hz

Cooling Distribution Unit (ACDU)

ACDU-L Series (L2L CDU)

ACDU-A Series (L2A CDU)

Developed independently by Accessen, the Cooling Distribution Unit adopts liquid-to-liquid or liquid-to-air heat exchange mode. As the core equipment connecting the cold source and liquid-cooled servers, it meets the full-scenario heat dissipation needs of cold-plate liquid-cooled servers and immersion liquid cooling pools/cabinets. It enables the overall data center PUE to be ≤1.15, perfectly adapting to the construction requirements of high-density intelligent computing centers.

Core Application Scenarios

AI Intelligent Computing Centers, Supercomputing Centers, High-Density Cloud Computing Data Centers, and Edge Liquid-Cooled Facilities.

Wide Compatibility
Compatible with mainstream liquid-cooled servers, supporting cold-plate/immersion liquid cooling and customization.

High Heat Transfer Efficiency
Self-developed high-efficiency plate heat exchanger with 1°C small temperature difference, maximizing natural cold source utilization.

High Safety & Reliability
Multi-redundant protection + leak detection to ensure stable system operation.

Intelligent Control
Real-time monitoring and dynamic adjustment by smart system to achieve optimal energy efficiency.

Prefabricated Fast Delivery
Factory prefabricated and tested, plug-and-play on-site, significantly shortening delivery cycles.

Specifications

Storage Temperature Range
-40°C~75°C

Operating Temperature Range
5°C~50°C

Operating Relative Humidity
10%~90% (condensation-free)

Altitude Range
0m~3000m

Primary Side Coolant
Water/ Ethylene Glycol-based Solutions

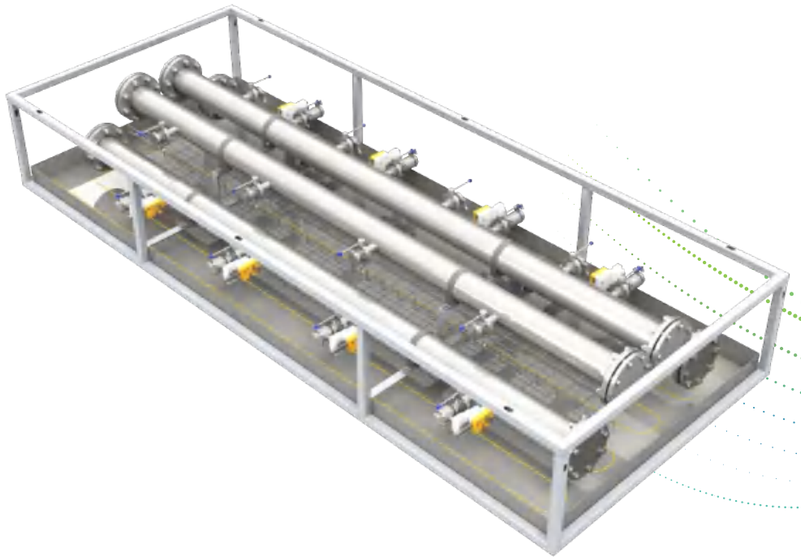
Primary Filtration Rating
200μm~300μm

Secondary Side Coolant
Deionized Water/ Ethylene Glycol/ Propylene Glycol/ Fluorinated Fluids

Secondary Filtration Rating
25μm~50μm

Power Supply
380V~415VAC/50~60Hz

Secondary Fluid Network (ASFN)



Accessen Secondary Fluid Network, built on factory-integrated prefabrication processes, 304/316L stainless steel clean tubing, and an automated welding and inspection system, solves the pain points of traditional onsite pipe construction—leakage, insufficient cleanliness, and prolonged schedules—while delivering construction efficiency, long-term operational safety, and convenient maintenance. It is purpose-built for secondary-loop liquid cooling systems in data centers.

Core Application Scenarios

AI Intelligent Computing Centers, Supercomputing Centers, High-Density Cloud Computing Data Centers, and Edge Liquid-Cooled Facilities.

Full-process prefabrication
BIM-prefabricated modules with factory testing ship sealed for flange-only site assembly—no welding, 65% less time, 80% fewer welders, scalable for AI data centers.

Corrosion-resistant, compatible with all coolants
Passivated stainless steel piping compatible with all secondary coolants—anti-corrosion, low ion release, no fouling, up to 80°C, 15-year service life.

Clean piping, no clogging, stable computing
Factory cleaning removes all debris; ultra-smooth piping prevents clogging, cuts maintenance, lowers PUE and pump energy.

Auto-welded, leak-tested, zero leakage guaranteed
Auto orbital welding, triple inspection, standard joints—zero leak, A-grade safety, no costly fluid damage to hardware.

Modular design adaptable for all data halls
Unified parts with BIM tags for quick repair; modular design suits new/retrofit data halls allows replacement without system outage.

Specifications

Storage Temperature Range
-40°C~70°C

Operating Temperature Range
up to 80°C

Operating Relative Humidity
5%~95% (condensation-free)

Altitude Range
-30m~3000m

Primary Side Coolant
Water / Ethylene Glycol-based Solutions

Nominal Diameter Range
DN80-DN250

Other Options
Smart control valve, flow balancing valve, emergency shut-off valve, drip tray, leak sensor.

Secondary Filtration Rating
100μm~200μm

Benchmark Projects Proven Strength

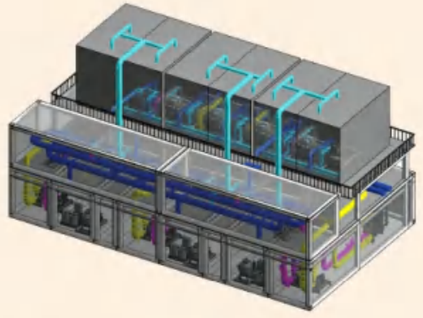
Cloud Computing R&D and Data Interaction Center Project

17MW

a total load of 17 MW

Project Overview
The building is classified as a Class C factory building, with one full story above ground and a partial second story. It has a gross floor area of 24,699.79 m² and a total building height of 13.60 m.

Project Solutions
The cooling system adopts a prefabricated integrated cooling station as its cold source, with cooling towers mounted on top of the station. The total system load reaches 17 MW.



Benchmark Projects Proven Strength

Gangcheng Intelligent Manufacturing Big Data Industrial Park Project

60MW
IT load of 60 MW

4
Complete project delivery within 4 months

Project Overview
Located in Zhangjiagang City, the project has a construction area of 135,000 square meters and an IT load of 60 MW. It is the largest intelligent computing industrial park in East China built with compatible air and liquid cooling systems.

Unified Cooling Source for Air & Liquid Cooling
The compatible air and liquid cooling design adopts shared cooling tower plate heat exchangers, with air walls and liquid cooling CDUs (Coolant Distribution Units) connected in parallel. The architecture supports cooling ratios ranging from 50% air cooling / 50% liquid cooling to 85% liquid cooling.

Flexible Architectural Design
Equipped with outdoor steel structures and roof structures, the project is compatible with prefabricated cooling stations and power modules, and flexibly supports 50–60MW capacity configurations.

Ultra-fast Delivery
Through partial prefabrication of mechanical and electrical systems (including prefabricated cooling stations, power modules and liquid cooling pipelines), the project can be fully delivered within 4 months.

Benchmark Projects
Proven Strength

Sinnet Baodi Cloud Computing Base Phase III Project

35MW

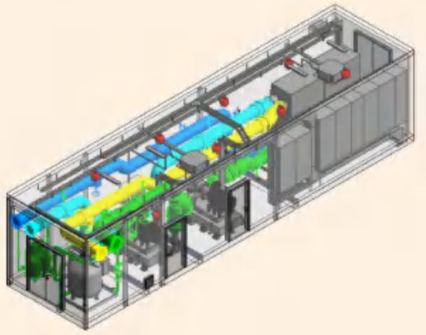
Total cooling load

1.25

PUE: 1.25

Project Overview
The project is located in the Baodi District Economic Development Zone of Tianjin, with a total cooling load of 35 MW.

Cold Source Configuration
Open cooling towers paired with prefabricated integrated plate heat exchanger modules are adopted, which are installed in prefabricated cooling stations on the roof floor. There are 2 complete cold source sets in total, each operating in a 2-duty / 1-standby mode. The cooling towers are integrated with plate heat exchangers, water pumps, water treatment equipment and other components, and mounted on the steel platforms on the building roof.



Benchmark Projects
Proven Strength

Boda Data Philippines
Data Center

3,600

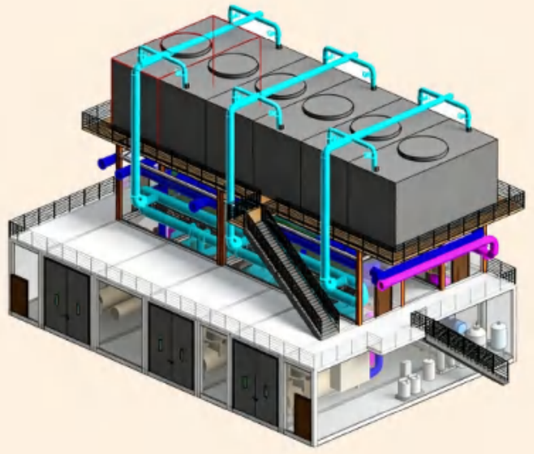
3,600 server racks

< 1.35

PUE < 1.35

Project Overview
Located in the core area of Manila, the data center has a total construction area of 25,000 square meters and can accommodate over 3,600 server racks. The entire facility is constructed in compliance with the Uptime Tier III standard.

Chiller Plant System
Serving as the cold source, the chiller plant is configured with 3 sets of 1200 RT (4220 kW) chiller units in a 2-duty / 1-standby arrangement. Each cooling unit consists of a chiller, chilled water pumps, cooling towers and other supporting equipment. All chilled water pumps, cooling water pumps and cooling tower fans adopt variable frequency control.



Benchmark Projects
Proven Strength

Johor Bahru, Malaysia
ByteDance

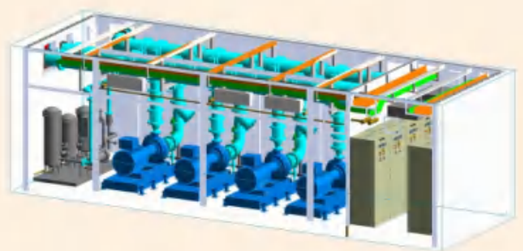
Accessen

25MW

Total cooling load

Project Overview
The project is located in Johor Bahru, Malaysia, with a total load of 25 MW.

Cooling Source Configuration
The main equipment of the cold source system includes closed cooling towers, cooling water circulation pumps, constant pressure water make-up units and automatic dosing devices. The closed cooling towers are installed on the equipment platform on the building roof.
Each system adopts a 3+1 equipment configuration, with a rated cooling load of 3,150 kW per unit. The circulation pumps, together with the constant pressure water make-up and dosing devices, are housed in containerized hydraulic modules placed on the roof equipment platform. Prefabricated pipelines are applied indoors to enable rapid project delivery.



Benchmark Projects Proven Strength

Johor Bahru, Malaysia
A Mega-Scale Intelligent Computing Center

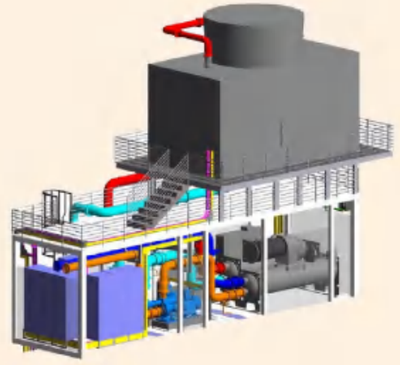
63MW

Total cooling load

Project Overview
The project is located in Johor Bahru, Malaysia, with a total load of 63 MW.

Cooling Source Configuration
The air cooling and liquid cooling systems of this project share a single integrated cooling station as the common cold source system. Cold plate liquid cooling and water-cooled air walls are adopted as terminal cooling units in the computer rooms, bearing 80% and 40% of the total cooling load respectively.

The main equipment of the cold source system includes integrated cooling stations, open cooling towers, containerized water treatment units and modular cold storage tanks. There are 3 sets of cold source systems in total, and all cold source equipment is installed on the equipment platform on the building roof.



Benchmark Projects
Proven Strength

GLP Changshu Cloud Computing R&D and Data Exchange Center, Changshu, Jiangsu (Pinduoduo)

GLP Changshu Southeast Data Center, Jiangsu

GLP Changshu Sanyi Data Center Phase II, Jiangsu (Tencent)

Gangcheng Intelligent Manufacturing Data Center, Suzhou, Jiangsu

GLP Changshu Cloud Computing R&D and Data Exchange Center, Changshu, Jiangsu (Kingsoft Cloud)

GLP Changshu Sanyi Data Center Phase I, Jiangsu (Tencent)

XX Cloud Data Center, Wuhu, Anhui

Zhongpeng Cloud Yunfeng Data Center, Langfang, Hebei (Alibaba)

ZTE Dr. Peng Telecommunication & Media Group Data Center, Manila, Philippines

XX Data Center, Penang, Malaysia

ZTE Zhongming Intelligent Computing Center, Zhangjiakou, Hebei

Tencent Yangtze River Delta AI Supercomputing Center, Songjiang, Shanghai

Benchmark Projects
Proven Strength

Shanghai Chengdi & Xiangjiang Lingang Intelligent Technology Innovation Industrial Park Data Center, Shanghai (ByteDance)

Beijing City Cloud Data Center, Beijing

China Telecom Cloud Computing Base, Chongqing

Hehuayuan Big Data Center, Wuhan, Hubei

GLP Liquid Cooling Pilot Project, Changshu, Jiangsu

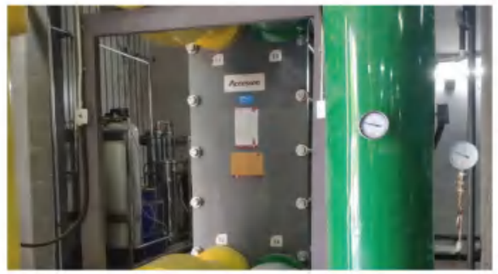
XX Intelligent Computing Data Center, Malaysia

China Telecom Cloud Computing Base, Qingdao, Shandong

Huawei Cloud Data Center, Daqing, Heilongjiang

National Supercomputer Center in Guangzhou (Tianhe-2), Guangzhou, Guangdong

China Unicom Belt and Road Data Center, Xinjiang



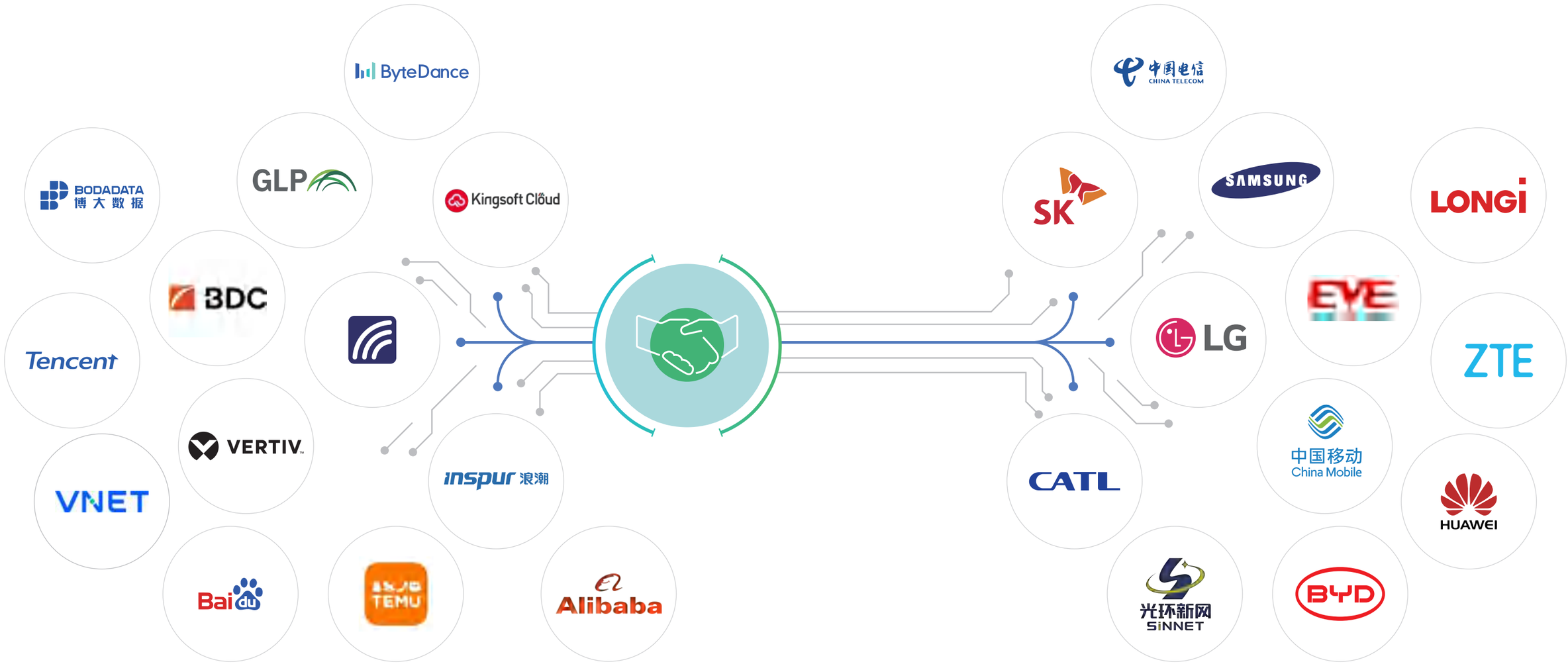
State Grid Intelligent IoT Data Center, Beijing

China Telecom Inner Mongolia Information Park Data Center, Hohhot, Inner Mongolia

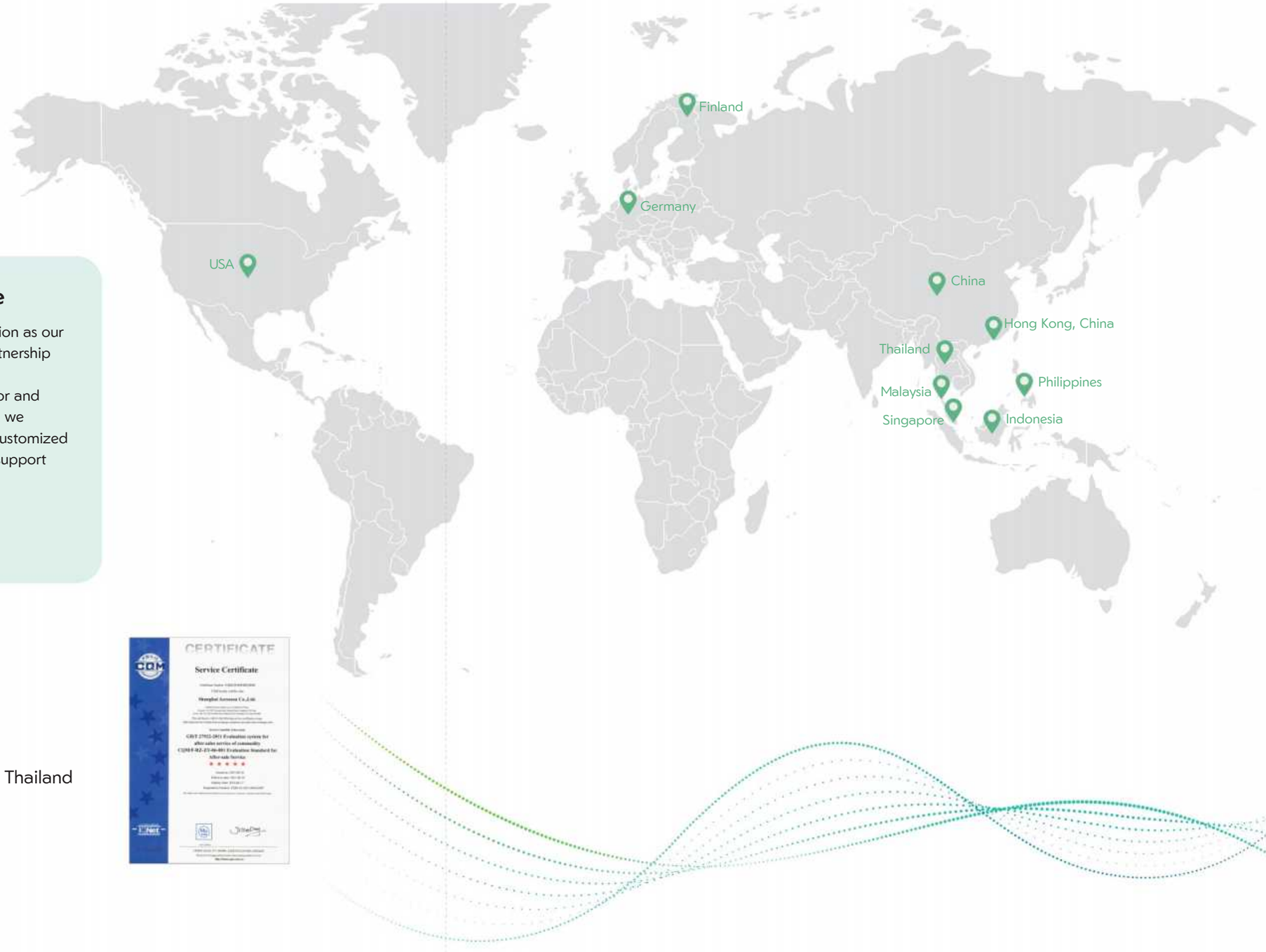
Universal Trust
Eternal Partnership

Accessen's cooling solutions are widely used in supercomputing facilities, cloud data centers, telecom data centers, financial data centers, and government and enterprise campuses.

We have served hundreds of large-scale data center projects across multiple markets worldwide. With stable and reliable product performance, superior energy-saving effects and efficient delivery capability, we have gained wide recognition from customers.



Premium Service
Whole-lifecycle Assurance



Fast and Efficient Localized Service

We are customer-centric and take customer satisfaction as our benchmark, committed to building a sustainable partnership with clients.

We have established sales and service outlets in major and medium-sized cities nationwide. For strategic clients, we provide on-site service within 24 hours, and deliver customized one-to-one exclusive services with a comprehensive support system.

Our service journey never ends...

Global Operation

Service Centers

Asia

China (Mainland)

Hong Kong, China

Indonesia, Malaysia, Philippines, Singapore, Thailand

North America

USA

Europe

Finland, Germany

CERTIFICATE

Service Certificate