

ACT *Advanced Cooling Technology*
One-stop liquid cooling solution provider



CDU Product Catalogue

Advanced Cooling Technology SDN.BHD

► Introduction

The ECU / AECU / RCU / ARCU(AALC) coolant distribution unit is a device mainly used to achieve physical isolation and heat exchange of primary and secondary cooling media. It integrates secondary side drive modules, stabilizing and replenishing liquid modules, degassing modules, filtering modules, and real-time monitoring functions for temperature, flow, and pressure. It has the features of high redundancy and reliability of key components, fast installation of interface support, and real-time intelligent control of key parameters, and is suitable for application scenarios in multi cabinet computer rooms.

► Features

1. High Reliability

- 1+1 redundant design for circulating pumps, frequency converters, and key instruments.
- The automatic fluid replenishment system can achieve automatic fluid replenishment and replacement.
- Equipped with liquid leakage alarm function.
- Design life of 10 years.
- Three levels of operating authority, automatic recording of operation traces, effectively preventing and locating misoperations.
- Dual power input, communication interface 1+1 redundant.
- Anti condensation function.
- High pressure resistance of stainless steel pipelines.

2. High-Performance

- Reserve signal interfaces based on possible application scenarios.
- Secondary side temperature control accuracy $\pm 1\text{ }^{\circ}\text{C}$.
- Dual power switch, touch screen does not power off, water pump and electric regulating valve status self maintains.
- It has the function of power-off restart and state self maintenance.

3. Convenient Deployment and Flexible Operation and Maintenance

- Centralized RCU, can be maintained on three sides, easy to maintain and install.
- Adapt to W1-W5 cooling system.
- Level 3 alarm mechanism to assist operation and maintenance personnel in quickly and accurately locating system abnormalities. 1+1 redundant design (RCU) for primary and secondary side filters, which can be maintained online.
- Cooperate with prefabricated cold sources to achieve rapid deployment.
- With historical alarm recording function and operating parameter time curve.

4. Green Energy-Saving

- Energy saving and consumption reduction, PUE<1.2
- Based on the load of the cabinet, precise control of RCU flow rate and temperature, high return water temperature, combined with secondary side ring network, can achieve heat recovery
- Low noise, <62dB (GB50174)

► Liquid to Liquid series

ECU Series

4U/6U Embedded CDU



RCU Series

Row-mount CDU



► Liquid to Air series

AECU Series

Air-cooled Embedded CDU



AALC Series

Air-cooled Row-mount CDU



Technical Parameter

Parameters		ECU Series (Liquid to Liquid, Embedded)			
Platform		EC32	EC40		
Model		EC32-35G	EC40-100G	EC40-100G	EC40-120G
Cooling Performance	Cooling Capacity(kW)	35	100	100	120
	Heat Exchange AT(°C)	5	5	5	5
	2nd side Flow Rate(LPM)	50	150	100	130
	2nd Side Head(Bar) 1*	0.8	1.0	1.0	1.3
	Pri-side Flow Rate(LPM)	50	150	100	130
	Pri-side Pressure Drop (Kpa)	40	120	80	120
	Pump 2*	1+1 Redundant Optional Cold/Hot stand-by mode	1+1 Redundant, Hot Swap support Optional Cold/Hot stand-by mode	1+1 Redundant, Hot Swap support Optional Cold/Hot stand-by mode	1+1 Redundant Optional Cold/Hot stand-by mode
	Fan (L2A CDU)	/			
	2nd side Fliter Accuracy (μm)	Standard Config 100 Optional 25/50/100			
	1st side Fliter Accuracy (μm)	200/500	300/500	300/500	300/500
	Design/Test Pressure	6bar/10bar			
Interface	Outlet Interface	DN32 Clamp Dia. 50.5mm	DN40 TBV40/Clamp Dia. 50.5mm	DN40 Clamp Dia. 50.5mm	DN40 Clamp Dia. 50.5mm
	Replenishment	Manual	Automatic	Automatic	Automatic
	Replenishment Interface	UQD04			
PSU	Power Interface	2*AC220V~50Hz/ 2*C14	2*AC220V~50Hz / 2*C14	DC48V-54V / 1*ORV3	DC48V-54V / 1*ORV3
	Power Consumption 3*	≤650W	≤1700W	≤1890W	≤1300W
Comm- and Monitor	Touch panel	7" Landscape	4.3" Portrait	4.3" Portrait	4.3" Landscape
	Communication Interface	2*RJ45	2*RJ45	4*RJ45	3*RJ45
	Communication Protocol	Support Modbus RTU、Modbus TCP/IP			
	Sensor	Temp. Sensor/Pressure Sensor/Flow Sensor/HTS/ Leakage Detection	Temp. Sensor/Pressure Sensor/Flow Sensor/HTS/Leakage Detection/Liquid Level Sensor		
Mechanial	Data Center Footprint (W×D×H)(mm)	19 "/4U 446*950*171.5	21 "/4U 535*950*174	19 "/4U 447*850*174	19 "/4U 447*850*174
	Noise 4*	≤65dBA@1.5m	≤70dBA@1.5m	≤70dBA@1.5m	≤70dBA@1.5m

- Notes: 1* Pump head is related to fliter accuracy
2* Cold stand-by mode: one main circulating pump runs, and the other standby main circulating pump stops.
Hot stand-by mode: Two main circulating pumps operate simultaneously.
3* Power consumption is cal based on single pump
4* Noise is tested in full loading

Technical Parameter

Parameters		RCU Series (Liquid to Liquid, In row)			
Platform		RC50	RC80	RC100	RC125
Model		RC50-350G	RC80-900G	RC100-1000G	RC125-2000G
Cooling Performance	Cooling Capacity(kW)	350 (100~400)	900 (400~900)	1500 (900~1500)	2000 (1500~2000)
	Heat Exchange AT(°C)	4	4	4	4
	2nd side Flow Rate(LPM)	500	1000	1500	2400
	2nd Side Head(Bar) 1*	2.5	2.5	2.0	2.0
	Pri-side Flow Rate(LPM)	500	1000	1500	2400
	Pri-side Pressure Drop (Kpa)	60	70	100	135
	Pump 2*	1+1 Redundant,on-line maintain,W/O CDU stop Optional Cold/Hot stand-by mode			
	Fan (L2A CDU)	/			
	2nd side Fliter Accuracy (μm)	Standard Config 50, Optional 25/50/100, Hot Swap Support			
	1st side Fliter Accuracy (μm)	200/500	200/500	200/500	200/500
	Design/Test Pressure	10bar/12bar			
Interface	Outlet Interface	DN50 Clamp Dia. 77.5mm	DN80 Clamp Dia. 106mm	DN100 Clamp Dia. 119mm	DN125 Clamp Dia. 155mm
	Replenishment	Automatic	Automatic	Automatic	Automatic
	Replenishment Interface	MDC06			
PSU	Power Interface	2*AC380V±10%, TN-C-S 50/60±5Hz/ Screw terminal	2*AC480V±10%, TN-C-S 60±5Hz/ Screw terminal	2*AC380V±10%, TN-C-S 50/60±5Hz/ Screw terminal	2*AC460V±10%, TN-C-S 60±5Hz/ Screw terminal
	Power Consumption 3*	≤6kW	≤13kW	≤18kW Single Pump ≤32kW Dual Pump	≤32kW Single Pump ≤62kW Dual Pump
Comm- and Monitor	Touch panel	10.1" Landscape	10.1" Landscape	10.1" Landscape	10.1" Landscape
	Communication Interface	Host: 2*RJ45 Group Control: 2*RJ45	Host: 3*RJ45 Group Control: 2*RJ45	Host: 3*RJ45 Group Control: 2*RJ45	Host: 3*RJ45 Group Control: 3*RJ4
	Communication Protocol	Support Modbus RTU、Modbus TCP/IP、SNMP			
	Sensor	Temp. Sensor/Pressure Sensor/Flow Sensor/HTS/Leakage Detection/Liquid Level Sensor			
Mechanical	Data Center Footprint (W×D×H)(mm)	Single Rack Footprint 600*1200*2105	Two Rack Footprint 1200*1200*2000	Two Rack Footprint 950*1300*2300	>Two Rack Footprint 1400*2000*2100
	Noise 4*	≤65dBA@1.5m	≤81dBA@1.5m	≤87dBA@1.5m	≤88dBA@1.5m

Notes: 1* Pump head is related to fliter accuracy

2* Cold stand-by mode: one main circulating pump runs, and the other standby main circulating pump stops.
Hot stand-by mode: Two main circulating pumps operate simultaneously.

3* Power consumption is cal based on single pump

4* Noise is tested in full loading

Technical Parameter

Parameters		AECU Series (Liquid to Air, Embedded)		
Platform		AE25		AE32
Model		AE25-06G	AE25-15G	AE32-36G
Cooling Performance	Cooling Capacity(kW)	6	15	36
	Heat Exchange AT(°C)	15	15	15
	2nd side Flow Rate(LPM)	15	20	50
	2nd Side Head(Bar) 1*	0.9	1.3	1.2
	Pri-side Flow Rate(LPM)	15	20	50
	Pri-side Pressure Drop (Kpa)	/	/	/
	Pump 2*	1+1 Redundant		
	Fan (L2A CDU)	N+1 Redundant,6 Fans Airflow:Front-In/Rear-Out	N+1 Redundant,6 Fans Airflow:Front-In/Rear-Out	N+1 Redundant,5 Fans Airflow:Front-In/Rear-Out
	2nd side Fliter Accuracy (μm)	Standard Config 50 Optional 25/50/100		
	1st side Fliter Accuracy (μm)	/	/	/
	Design/Test Pressure	4bar/6bar	6bar/8bar	8bar/10bar
Interface	Outlet Interface	DN25(Rear) Clamp Dia. 25.4mm	DN25(Rear) Clamp Dia. 50.5mm	DN32(Rear) Clamp Dia. 50.5mm
	Replenishment	Automatic	Automatic	Automatic
	Replenishment Interface	UQD04		
PSU	Power Interface	1*AC220V 50Hz 1*C14	1*AC220V 50Hz + 1*DC240V Or 2*AC220V 50Hz, 2*C20	1*AC220V 50Hz+1*DC240V Or 2*AC220V 50Hz, 2*C20
	Power Consumption 3*	≤1.2kW	≤2.5kW	≤3.5kW
Comm- and Monitor	Touch panel	4.3" Landscape	4.3" Landscape	4.3" Landscape
	Communication Interface	1*RJ45 (Rear)	1*RS485 (Front) +1*RJ45 (Rear)	1*RS485 (Front) +1*RJ45 (Rear)
	Communication Protocol	Support Modbus RTU、Modbus TCP/IP		
	Sensor	Temp. Sensor/Pressure Sensor/Flow Sensor/Leakage Detection/Liquid Level Sensor		
Mechanial	Data Center Footprint (W×D×H)(mm)	19" /4U 447*950*177	19" /10U 445*850*443	19" /20U 445*850*885
	Noise 4*	≤88dBA@1.5m	≤95dBA@1.5m	≤90dBA@1.5m

Notes: 1* Pump head is related to fliter accuracy

2* Cold stand-by mode: one main circulating pump runs, and the other standby main circulating pump stops.
Hot stand-by mode: Two main circulating pumps operate simultaneously.

3* Power consumption is cal based on single pump

4* Noise is tested in full loading

► Technical Parameter

Parameters		AALC Series (Liquid to Air, In Row)	
Platform		AR40	
Model		AR40A-75G	AR40A-180G
Cooling Performance	Cooling Capacity(kW)	75	180
	Heat Exchange AT(°C)	10	10
	2nd side Flow Rate(LPM)	120	225
	2nd Side Head(Bar) 1*	1.4	2.5
	Pri-side Flow Rate(LPM)	/	/
	Pri-side Pressure Drop (Kpa)	/	/
	Pump 2*	1+1 Redundant	
	Fan (L2A CDU)	N+1 Redundant,14 Hot-Swap Fans Airflow:Front-In/Rear-Out	N+1 Redundant,6 Fans Airflow:Front-In/Rear-Out
	2nd side Fliter Accuracy (μm)	Standard Config 25 Optional 25/50/100	Standard Config 50 Optional 25/50/100
	1st side Fliter Accuracy (μm)	/	/
	Design/Test Pressure	8bar/10bar	
Interface	Outlet Interface	DN40A(Top) Clamp Dia. 64.0mm	DN40A(Top) Clamp Dia. 64.0mm
	Replenishment	Automatic	Automatic
	Replenishment Interface	UQD04	
PSU	Power Interface	2*208V±5%, 50/60Hz(±3Hz) TN-C	2*AC480V±10% 60±3Hz, TN-C
	Power Consumption 3*	≤7.8kW	≤18kW
Comm- and Monitor	Touch panel	7" Landscape	7" Landscape
	Communication Interface	2*RJ45	2*RS485+3*RJ45
	Communication Protocol	Support Modbus RTU、Modbus TCP/IP、SNMP	
	Sensor	Temp. Sensor/Pressure Sensor/Flow Sensor Leakage Detection/Liquid Level Sensor	
Mechanial	Data Center Footprint (W×D×H)(mm)	Single Rack Footprint 600*1200*2000	Two Rack Footprint 1200*1200*2100
	Noise 4*	≤95dB@1.5m	≤88dB@1.5m

Notes: 1* Pump head is related to fliter accuracy

2* Cold stand-by mode: one main circulating pump runs, and the other standby main circulating pump stops.
Hot stand-by mode: Two main circulating pumps operate simultaneously.

3* Power consumption is cal based on single pump

4* Noise is tested in full loading

► Instructions

1. The coolant is pure water in testing.
2. The standard ECU and AECU Series products have a depth of frame size and do not include pipe joints.
3. Standard RCU and ARCU (AALC) Series products have pipe joints downwards.
4. Due to product version upgrading, the content of this document may be updated periodically. This document is for purchase and use only and does not constitute any express or implied warranty.
5. If you have any questions or product requirements that differ from the above information, please contact Advanced Cooling Technology SDN.BHD.

► Application Environment

Item	Index
Operating Temperature	0~65°C
Operating Humidity	5~95%
Altitude	Below 3000m
Storage Temperature	-40°C~55°C
Storage Humidity	5~95%

ACT *Advanced Cooling Technology*

One-stop liquid cooling solution provider

Welcome to contact us!

- Coolant Distribution Unit (CDU)
- Rear Door Heat Exchanger (RDHx)
- Rack Manifold (MANIFOLD)
- Quick Disconnect (QD)
- Cold Plate
- Thermal Test Vehicle(TTV)
- Immersion Tank
- Coolant
- Leakage Detection Product
- Liquid Cooling Solution

Advanced Cooling Technology SDN.BHD

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