SMARDT

INNOVATION ENGINEERED,
ENERGY OPTIMISED

Coolant Distribution Unit



Product Overview

CDU utilises the superior thermal conductivity and heat capacity of liquid cooling to provide highly efficient heat dissipation, delivering low energy consumption.

Product Features

Auto-Intelligent Control

- Differential pressure control mode / flow rate control mode
- Target temperature / anti-condensation / dew point tracking mode
- Intelligent recognition of varying load conditions

High-Precision Control

- Secondary-side liquid temperature control accuracy ±0.5 °C
- Differential pressure control accuracy ±0.1bar

Controller Power Failure Memory

- The controller is equipped with a UPS, enabling online monitoring even when the whole system is powered down

Quiet Operation

- Noise ≤ 65 dB(A), delivering a quiet data centre environment

Convenient Management

- Real-time operational trend and performance monitoring

High Reliability Operation

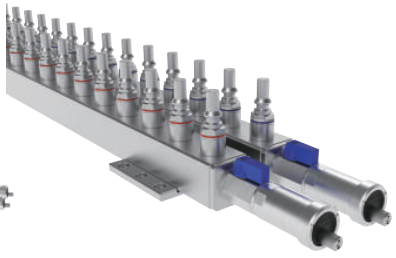
- Redundancy design of core components, ensuring continued operation in the event of a single component failure

CDU Technical Parameter List

CDU			CDU0300	CDU0450	CDU0800	CDU1350	CDU2500
Heat Exchange Capacity		kW	300	450	800	1350	2500
Primary-Side	Supply Temp	℃	35	35	35	35	35
	Coolant	/	water	water	water	water	water
	Pipe Diameter	DN	80	80	100	100	150
Secondary-Side	Supply Temp	℃	39	39	39	39	39
	Coolant	/	water	water	water	water	water
	Pipe Diameter	DN	80	80	100	100	150
Rated Flow		m^3/h	20.4	30	78	120	196.5
Rated Head		bar	1.5	1.5	2	2	2.5
Rated Power		kW	4.5	5.5	14	21	44
Supply Power		/	380~415V/3Ph/50Hz				
Dimension(WxDxH)		mm	600×1200×2000		900×1200×2200		1000×1500×2300
Net Weight		kg	470	750	900	1100	2500

T Manifold







- Simulation of fluid distribution imbalance rate
- Fluid distribution imbalance rate test
- Sanitary-grade stainless steel square pipe
- Installation and cleaning in dust-free manufacturing environment
- Arc angle transition design for reducing hygiene dead zones

T Manifold	
Size	30x30mm / 40x40mm / 50x50mm
Branch	20-50pcs
Branch flow	1-3L/min
Distribution non-uniformity rate	≤10%
Material	SUS304/SUS316

Asia Pacific

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Subject to design conditions and selected refrigerants.

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Dry Cooler



Product Overview

The Dry Cooler fully utilises outdoor ambient cooling to reduce heat within the data centre or server room. It is installed outdoors, where ambient air enters the unit and exchanges heat with the cooling medium (water or ethylene/propylene glycol solution). The cooled medium is then circulated back to the indoor terminal cooling equipment, where heat is transferred within the indoor cooling loop. Wet film and spray systems are available, which can reduce the effective intake air temperature during high-temperature seasons, thereby improving heat transfer performance and overall energy efficiency. Dry Coolers are widely used in regions with abundant natural cooling resources and offer significant economic advantages.

Product Features

High Efficiency

- Utilises natural cooling sources, combined with a multi-fan forced-convection design, delivering high heat exchange efficiency and low power consumption.
- Integrates wet film and spray technologies; fan speed can be reduced during high-temperature seasons to achieve energy savings.

Compact Structure

- Large V-shaped heat exchanger design provides sufficient heat transfer surface area while optimising installation footprint.

Environmentally Friendly

- Optional wet film circulating water pre-cooling system significantly reduces water consumption compared to cooling towers, enabling ultra-low WUE operation.

Easy Maintenance

- Front-access maintenance design; pumps, valves, and the electrical control panel can all be serviced from the front, ensuring convenient access to all maintenance points.

Modular Design

- Dry cooler units can be added on demand.
- Flexibly adapts to data centre expansion needs and prevents over-investment.

Low Noise

- High-efficiency EC fans with stepless speed regulation, ensuring stable operation, high efficiency, and low noise.

Specifications

Technical parameters - Land application with spray and wet-film(Power Supply:380~415V/3Ph/50Hz)

Model	-	TDR0350AEWSA		TDR0450AEWSA		TDR0550AEWSA		TDR0650AEWSA		TDR0750AEWSA		TDR0900AEWSA		TDR1000AEWSA		TDR1150AEWSA	
Mode	-	Spray	Dry	Spray	Dry	Spray	Dry	Spray	Dry	Spray	Dry	Spray	Dry	Spray	Dry	Spray	Dry
Ambient DB	℃	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Ambient WB	℃	28	-	28	-	28	-	28	-	28	-	28	-	28	-	28	-
Heat Dissipation	kW	348		458		586		660		786		914		1042		1170	
EWT	℃	47															
LWT	℃	41															
Num of Fans	-	6		8		10		12		14		16		18		20	
Air Flow	m³/h	61200	120000	81000	160000	103000	200000	118000	240000	140000	280000	162000	320000	184000	360000	206000	400000
Input Power	kW	2.6	12.7	3.4	16.9	4.3	21.1	4.8	25.3	5.8	29.5	6.7	33.7	7.7	37.9	8.6	42.1
Media	-	50%EG															
Width(W)	mm	2885															
Height(H)	mm	2888															
Depth(D)	mm	4400		5600		6800		8000		9200		10400		11600		12800	
Net Weight	kg	3100		4100		5100		6100		7100		8100		9100		10100	

Technical parameters - Land application without spray or wet-film(Power Supply:380~415V/3Ph/50Hz)

Model	-	TDR0400AENNA	TDR0550AENNA	TDR0650AENNA	TDR0800AENNA	TDR0950AENNA	TDR1100AENNA	TDR1250AENNA	TDR1400AENNA
Ambient DB	℃	35							
Heat Dissipation	kW	420	554	642	796	952	1106	1262	1418
EWT	℃	47							
LWT	℃	41							
Num of Fans	-	6	8	10	12	14	16	18	20
Air Flow	m³/h	150000	200000	250000	300000	350000	400000	450000	500000
Input Power	kW	13.4	17.8	22.2	26.7	31.1	35.5	40.0	44.4
Media	-	50%EG							
Width(W)	mm	2800							
Height(H)	mm	2920							
Depth(D)	mm	4400	5600	6800	8000	9200	10400	11600	12800
Net Weight	kg	3000	4000	5000	6000	7000	8000	9000	10000

Technical parameters - Marine application without spray or wet-film(Power Supply:380~415V/3Ph/50Hz)

Model	-	TDR0350AENNA	TDR0450AENNA	TDR0550AENNA	TDR0650AENNA	TDR0800AENNA	TDR0950AENNA	TDR1050AENNA	TDR1200AENNA
Ambient DB	℃	35							
Heat Dissipation	kW	340	472	586	680	812	946	1080	1214
EWT	℃	47							
LWT	℃	41							
Num of Fans	-	6	8	10	12	14	16	18	20
Air Flow	m³/h	132000	176000	220000	264000	308000	352000	396000	440000
Input Power	kW	13.8	18.4	22.9	27.5	32.1	36.7	41.3	45.9
Media	-	50%EG							
Width(W)	mm	2280							
Height(H)	mm	2530							
Depth(D)	mm	4400	5600	6800	8000	9200	10400	11600	12800
Net Weight	kg	2900	3800	4600	5400	6300	7200	8100	9000

Notes: 1. The power supply specifications can be adjusted accordingly. For details, please consult Smardt technical support.
2. The unit capacity is highly dependent on operating conditions. The above data is for reference only. For other media (such as water or glycol), different operating conditions, or altitudes above 1,000 m, please contact Smardt technical support for verification and proper selection.

Asia Pacific

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