

TC-CDU-A300C In-Row Liquid-to-Air CDU

Liquid-to-Air Coolant Distribution Unit • 300 kW • In-row • liquid cooling without facility water

Model: TC-CDU-A300C	Document: TC-DS-CDU-A300C	Revision: Rev A	Date: 2026-09-18
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300 kW Rated capacity	10 °C Approach temp.	500 LPM Secondary flow	1+1 Redundant pumps	In-row Installation	Modbus RTU / TCP
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OVERVIEW

- Liquid-to-air CDU: PG25 to the cold plates on the secondary side, heat rejected to room air by the built-in heat exchanger and fans, no facility water required
- 300 kW rated at 25 °C inlet air, 10 °C approach, 500 LPM secondary flow, variable 20–100%
- 1+1 redundant pumps with auto switchover, dual-feed ATS, leak detection, coolant quality monitoring, 25 µm filter, bypass online-replaceable filter and auto refill
- PID control of both airflow and coolant flow; Modbus RTU / TCP for BMS / DCIM
- In-row floor-standing, 3000 × 1200 × 2000 mm, approx. 850 kg, IP55
- For retrofit rooms and small AI clusters without chilled water or cooling towers



In-row liquid-to-air CDU cabinet (built-in heat exchanger and fans)



In-row CDU cabinet

Key specifications		Performance & control		Monitoring • interfaces • environment	
Rated cooling capacity	300 kW	Approach temperature	10 °C	Leak detection	Yes
Installation	In-row, floor-standing	Primary air in / out	25 °C / 35 °C	Coolant quality monitoring	Yes
Dimensions (W × D × H)	3000 × 1200 × 2000 mm	Secondary liquid out / in	35 °C / 45 °C	Secondary filter	25 µm
Weight	approx. 850 kg	Secondary rated flow	500 LPM	Bypass online-replaceable filter	Yes
Coolant	PG25 (25 % propylene glycol / water)	Flow range	20–100%	Automatic refill	Yes
Power supply	3-ph AC 380 V 50/60 Hz or 480 V 60 Hz	Pump head	25 m	Communication	Modbus RTU & TCP/IP
Dual-feed ATS	Yes	Redundant pumps, auto switchover	1+1	Operating environment	–10 to 55 °C, 5–90 % RH
Power consumption	< 15 kW	Control	PID, airflow and flow vs. temperature	Storage environment	–45 to 70 °C, 5–93 % RH
Ingress protection	IP55	Flow check	300 kW ÷ (1030 × 3.9 × 10 K) ≈ 448 LPM; 500 LPM rated incl. margin	Heat rejection	Built-in fans to room air; 25 °C inlet air and a return-air path required
Display	10.1" touch HMI				

ENGINEERING FIT

For retrofit rooms and small AI clusters without chilled water or cooling towers: only power and room air conditioning are needed to run direct-to-chip liquid cooling — no chilled water or cooling tower. 35 °C secondary supply is obtained from 25 °C room inlet air (10 °C approach); capacity derates with warmer room air per the selection table. Pairs with ToneCooling cold plates, manifolds and hose assemblies from the same factory.

DOCUMENTS & FACTORY TESTS

Supplied: dimensional / connection drawing, P&ID, Modbus register map, flow–pressure-drop curve, selection table, user manual. Factory tests: pressure hold, leak test, flow resistance at rated flow, pump / ATS switchover, leak-sensor / coolant-quality / comms check; records ship with every unit. Combined cold plate + manifold + CDU report for full-rack projects.

Note: rated at 25 °C inlet air, 35 °C secondary supply, PG25; derate per selection table for other inlet air temperatures. Platform names indicate compatibility only and imply no endorsement or partnership. Specifications subject to change.