arvane THERMAL

TP-C1200

In-Row Coolant Distribution Unit

Tidepath direct-to-chip liquid cooling · 1.2 MW per row



1.2 MW
Cooling capacity at 6 K approach

N+1 pumps
Variable speed, hot-swap from the front

±0.5 K
Supply temperature control

1,800 L/min
Coolant flow to the row

50 µm
Duplex filters, changed while running

A + B
Dual power feeds, internal transfer

Your plant, 32 °C water → **TP-C1200** → Supply header, 38 °C → **TP-M48 manifolds** → Cold plates on CPUs and GPUs

OVERVIEW

The TP-C1200 cools a full row of high-density AI racks. Facility water comes in one side. Clean, filtered server coolant goes out the other. A plate heat exchanger moves the heat between the two loops, and they never mix.

Three pumps run N+1, so one can fail or be swapped while the row keeps running. Every flow, pressure and temperature reading shows on the front screen, in TP-View, and in your BMS.

APPLICATIONS

- AI training and inference rows, 60 to 150 kW per rack
- Retrofits of air-cooled halls that have warm facility water
- New builds that want dry coolers instead of chillers

FEATURES

- 1,200 kW at 6 K approach temperature
- Supply temperature held to ±0.5 K, 25 to 45 °C
- Three variable-speed pumps, N+1, hot-swap
- Duplex 50 µm filters with live changeover
- Dual A/B power with internal transfer
- 10" touchscreen with trends and alarm history
- BACnet/IP, Modbus TCP and RTU, SNMPv3, REST API
- Front service only. Sits in a standard row
- Five-year warranty, advance replacement on pumps

Specifications TP-C1200

THERMAL

Cooling capacity	1,200 kW at 6 K approach
Capacity at 4 K approach	850 kW
TCS supply temperature	25 to 45 °C, adjustable
Supply stability	±0.5 K at steady load
Design rack ΔT	10 K
FW supply temperature	Up to 35 °C
FW flow at full load	About 1,500 L/min

HYDRAULICS, SERVER SIDE (TCS)

Flow	Up to 1,800 L/min
Available external head	2.5 bar at full flow
Pumps	3 (N+1), EC, variable speed
Filtration	Duplex, 50 µm, live changeover
Expansion	Internal tank, 120 L
Coolant	PG25 or treated water
Connections	DN100 flanged, top
Max working pressure	10 bar

HYDRAULICS, FACILITY SIDE (FW)

Pressure drop at full flow	0.6 bar
Connections	DN100 grooved, top
Control valve	2-way, modulating
Max working pressure	16 bar

ELECTRICAL

Input	2x 400-480 VAC, 3-phase, 50/60 Hz
Power draw	Up to 15 kW, typical 6 kW
Feed transfer	Internal, A to B, no pump stop
Protection	Per-pump breakers, surge protection

CONTROLS AND COMMUNICATION

Local	10" color touchscreen
Network	BACnet/IP, Modbus TCP, SNMPv3, REST API
Serial	Modbus RTU over RS-485
Ports	2x RJ45 (BMS, management), 1x RS-485
Logs	12 months of trends and alarms
Firmware	Signed, updated from TP-View

PHYSICAL

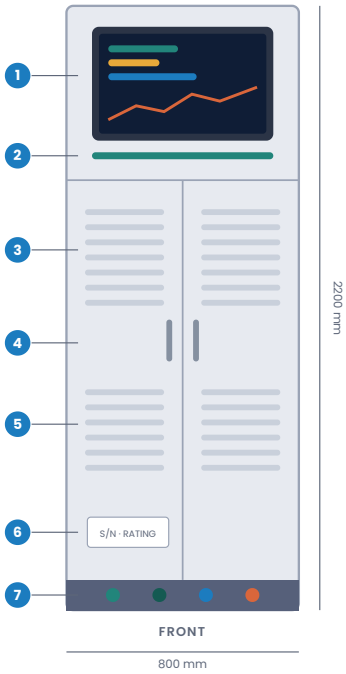
Dimensions	800 W x 1200 D x 2200 H mm
Weight	1,150 kg dry, 1,320 kg filled
Floor loading	13.7 kN/m² filled
Service access	Front only, 1,000 mm clearance
Color	Arvane light gray

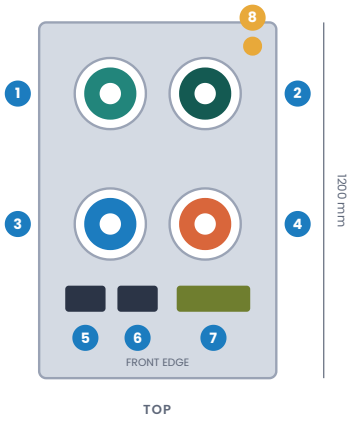
ENVIRONMENTAL

Ambient, operating	10 to 40 °C
Humidity	5 to 90% RH, non-condensing
Altitude	Up to 2,000 m
Noise	Under 65 dBA at 1 m

Drawings and ordering

FRONT AND TOP VIEWS





Front

1. Touchscreen, 10"
2. Status light: green, amber, red
3. Lower doors: pumps and filters behind
4. Door handles, keyed
5. Cooling air vents
6. Nameplate and serial
7. Fill and drain ports, color coded

Top

1. FW in, DN100 grooved
2. FW out, DN100 grooved
3. TCS supply out, DN100 flanged
4. TCS return in, DN100 flanged
5. Power A gland
6. Power B gland
7. Network and RS-485
8. Pressure relief outlet

ORDERING INFORMATION

TP-C1200-S	In-row CDU, standard pumps
TP-C1200-H	In-row CDU, high-head pumps, 3.5 bar
TP-C1200-SM	Standard unit, seismic floor kit

ACCESSORIES AND SPARES

TP-PMP-1200	Spare pump module
TP-FLT-50	Filter element, 50 µm, pack of 2
TP-FILL	Fill and service cart, 200 L
PG25-200	Coolant, PG25, 200 L drum
TP-VIEW-C	TP-View license, per CDU
TP-FLEX-100	Flexible connector kit, DN100, set of 4

WORKS WITH

- TP-M48 rear rack manifold
- TP-V motorized isolation valves
- TP-RD50 rear-door heat exchanger
- TP-LX leak controller and TP-LR rope
- TP-View monitoring software

COMPLIANCE

CE · UKCA · RoHS · REACH · WEEE

WARRANTY

Five years on parts and labor. Advance replacement on pumps and controllers.

Arvane Thermal and the TP-C1200 are fictional. Every specification on this sheet is mock data for a portfolio sample. Specifications subject to change without notice.