

Product Specification

8-Series All-In-One Liquid Cooler

Revision History

Date:	Notes:	Revision:
Apr 14, 2021	Initial Version	0.1
May 14, 2021	Updated with Asetek SKU numbers	0.2
Jun 29, 2021	Updated tach signal operation	0.3
Mar 7, 2022	Updated details for weight and keep-in model	0.4
Jun 21, 2022	Update weight information: liquid, LC Loop, carton & pallet	0.5
Apr 17, 2023	Initial Product Specification (PS) for 8-Series AIO Coolers	1.0

** Specification subject to change without notice **

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1 General Information

The 8-Series Liquid Cooler is an all-in-one (AIO) liquid cooler for use in do-it-yourself (DIY) PC and Workstation systems specifically designed. The liquid cooler is designed to deliver superior cooling capability for AMD Threadripper CPUs to enable higher and more stable overclocking and quieter system operation.

1.1 Basic Components

The 8-Series Liquid Cooler consists of:

1. Pump & Cold plate assembly with integrated retention
2. Tubes with black braided sleeves
3. Radiator
4. Coolant (pre-filled at factory)



1.2 Basic Specifications

Specification	Value
Asetek SKU Number	240mm: 35-102-0000352 280mm: 35-102-0000353 360mm: 35-102-0000354
Asetek SKU Description	240mm: Asetek 824SA-M1 280mm: Asetek 828SA-M1 360mm: Asetek 836SA-M1
Storage Temperatures	-20°C to 70°C
Operating Liquid Temperature	2° to 60°C
Permeation Lifetime	> 50,000 Hours in typical use

2 Product Specification

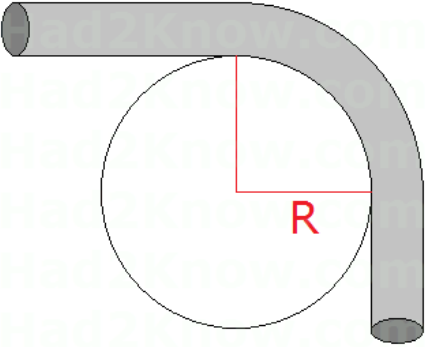
2.1 8-Series Liquid Cooler Specification

SPECIFICATION	VALUE
Socket Type	AMD TR4/sTRX4/SP3
Pump Information	
Pump Type	Gunhild
Pump Speed, at full power & 100% PWM	3450 RPM \pm 10%
Motor Type	3-phase
Cold Plate	
Material	Copper
Mechanical (Pump/Cold Plate)	
Length (Pump w/ Retention)	121mm
Width (Pump w/ Retention)	78mm
Height (Pump w/ Retention)	25mm
Retention	Integrated retention bracket
Electrical	
Rated Voltage	12 VDC
Operating Voltage	10.8 – 13.2 VDC
Rated Current	458 mA
Rated Power	5.5 W
Pump Electrical Connection	Pin1: GND Pin2: PWR 12V Pin3: TACH Pin4: PWM
Power Cable Length (pump to connector)	330mm (measured from cable exiting from underneath retention)
Cable Connector	Molex KK 254 (2.54mm pitch) 4-pin connector or equivalent
Reporting Options (via Tach Signal)	
Tach Pin Connection (Pin3)	The tach signal is provided on an open collector output pin. The pin must be left open if unused. The tach pin can withstand up to max 20V and it can draw max 10 mA.
Pump Speed	Tach signal is a square wave during normal operation, Pump speed in RPM = Square wave frequency x 60 / 2
Working Fluid	
Coolant	Deionized Water & Propylene Glycol – 78:22 (22%)
Thermal Interface Material (TIM)	
Material	Asetek standard
Area & Nominal Thickness	64 mm x 40 mm x 0.12mm ¹

¹ 0.12mm define the thickness of the stencil mask used for TIM application

2.2 Liquid Tube Specification

The tubes are designed to transport the coolant between the different components inside the server. The tubes are flexible for easier installation.

Specification	Value
Tube Type	EPDM with black braided sleeves
Minimum bending radius	R ≥ 22mm 
Outer diameter (OD)	10.8mm (nominal) + sleeving
Inner diameter (ID)	5.4mm (nominal)
Length	400mm (for all 3 SKUs)

2.3 Radiator

The radiator serves to reject the heat captured in the coolant out of the chassis. The fans mounted on the radiator cool the warm liquid.

Specification	Value
Radiator sizes	120x240x27mm 140x280x30mm 120x360x27mm
Material	Aluminum
Color	Matte Black

2.4 Liquid Coolant Specification

The coolant is a mixture of demineralized water and propylene glycol with the following benefits: Anti-Freeze, Anti-Corrosion, and Anti-Bacterial. Unlike automotive anti-freeze, the coolant is safe and environmentally friendly.

Specification	Value
Hazards identification	This product is not classified as dangerous according to EC or OSHA criteria.
EC Classification	This product does not require classification according to the criteria of the Commission of the European Communities.

2.5 Included Accessories

The following accessories are provided with each 8-Series AIO liquid cooler.

Screws

	Radiator Size	240mm	280mm	360mm
Fan Screws – UNC 6-32 x 30mm, matte black, pan head-type		8pcs	8pcs	12pcs
Case Screws – UNC 6-32 x 5mm, matte black, pan head-type		8pcs	8pcs	12pcs
Case Screws – UNC 6-32 x 8mm, matte black, pan head-type		8pcs	8pcs	12pcs
Washers – Sized for UNC 6-32 screws, matte black		8pcs	8pcs	12pcs

Retention Hardware

- Standoffs – qty 4pcs
- Springs – qty 4pcs
- M3 nuts – qty 4pcs

2.6 Compliance with Standards

The product complies with the following external standards:

Safety and Environmental:

- CE
- UL
- RoHS
- REACH
- CA Prop 65
- Packaging (Shock/Vib tests)

Electromagnetic Compatibility (EMC):

- EN 61000-4-2 Magnetic Discharge
- EN 61000-4-3 RF Field Immunity
- EN 61000-4-4 Burst, Fast transients
- EN 61000-4-6 RF Conducted Immunity
- EN 61000-4-8 Magnetic field 50/60 Hz
- EN55022/CISPR22 RF Field Emission [and other EMC requirements from non-EU markets i.e. FCC, C-Tick, CCC, KCC, etc]

2.7 Label Marking Requirements

Product label will have the following marks:

- CE
- UL

2.8 Packaging for SKU 35-102-0000352

Specification	Value
Packaging Type	Bulk packed
Shipping box	
- Units per shipping box	8pcs
- Dimensions of shipping box (LxWxH)	579x504x294 (mm)
- Gross weight per carton incl. goods	1258g
Palletization	
- Shipping box per pallet	12pcs
- Pallet size (LxWxH)	1120x1120x120 (mm)
- Dimensions of loaded pallet	1120x1120x1090 (mm)
- Gross weight (not including pallet)	100kg

2.9 Packaging for SKU 35-102-0000353

Specification	Value
Packaging Type	Bulk packed
Shipping box	
- Units per shipping box	12pcs
- Dimensions of shipping box (LxWxH)	564x422x462 (mm)
- Gross weight per carton incl. goods	1389g
Palletization	
- Shipping box per pallet	8pcs
- Pallet size (LxWxH)	1050x1050x120 (mm)
- Dimensions of loaded pallet	1050x1050x1094 (mm)
- Gross weight (not including pallet)	188kg

2.10 Packaging for SKU 35-102-0000354

Specification	Value
Packaging Type	Bulk packed
Shipping box	
- Units per shipping box	8pcs
- Dimensions of shipping box (LxWxH)	579x504x294(mm)
- Gross weight per carton incl. goods	1000g
Palletization	
- Shipping box per pallet	12pcs
- Pallet size (LxWxH)	1120x1120x120 (mm)
- Dimensions of loaded pallet	1120x1120x1094 (mm)
- Gross weight (not including pallet)	80kg