

The C10372 series and C10373 series are water-cooled thermoelectric coolers designed to reduce thermal electrons emitted from the photocathode of photomultiplier tubes (PMTs) in order to improve signal-to-noise ratio (S/N ratio). The C10372 series further contains an electrostatic and magnetic shield that minimizes the influence of the ambient environment.

The C10372 series are for 28 mm and 51 mm diameter head-on PMTs, while the C10373 series are for MCP-PMTs.

FEATURES

- Thermoelectric cooling using Peltier module
- About -30 °C cooling temperature (with +20 °C cooling water)
- Temperature can be set in the range of -30 °C to 0 °C (dial type)
- Evacuated, double-pane window with heater for frost prevention
- Built-in electrostatic and magnetic shielding (C10372 series)
- Internal protective circuit safeguards Peltier element module in case of low water
- Internal protection circuits prevent output short-circuit, output overvoltage, and excessive temperature rise in power supply
- Stable operation due to a regulated power supply



Left: Power Supply Right: Cooled PMT Housing

SPECIFICATIONS

COOLED PMT HOUSING

Parameter		Description / Value
Cooling Method		Thermoelectric cooling using Peltier module
Heat Exchange Medium		Water
Amount of Cooling Water		1 L/min to 3 L/min (water pressure: below 0.3 MPa)
Cooling Temperature (with cooling water at +20 °C)		Approx. -30 °C
Temperature Controllable Range (with cooling water at +20 °C)		-30 °C to 0 °C (continuously adjustable)
Cooling Time		Approx. 120 min
Optical Window Material		Evacuated double-pane synthetic silica window with heater (185 nm to 2200 nm)
Applicable PMTs (sold separately)	C10372 series	28 mm (1-1/8") Dia., 51 mm (2") Dia. Head-on
	C10373 series	MCP-PMT (R3809U-50 Series, R3809U-61/-63/-64)
Applicable Socket Assembly (sold separately)	C10372 series	E2762 Series ^(A)
Applicable PMT Holder (sold separately)	C10373 series	E3059-500 (R3809U-50 Series, R3809U-61/-63/-64)
Operating Ambient Temperature / Humidity ^(B)		+5 °C to +40 °C / Below 75 %
Storage Temperature / Humidity ^{(B)(C)}		-15 °C to +50 °C / Below 80 %
Weight		C10372 5.8 kg / C10373 5.5 kg

NOTE: ^(A)See the section of sold separately ^(B)No condensation ^(C)No cooling water

POWER SUPPLY

Parameter		Description / Value
AC Input Voltage	C10372, C10373	100 V (50 Hz / 60 Hz)
	C10372-01, C10373-01	120 V (50 Hz / 60 Hz)
	C10372-02, C10373-02	240 V (50 Hz / 60 Hz)
Power Consumption		200 V·A
Output Voltage		24 V to 27 V
Output Current		4.2 A
Protection Circuit		Protective circuits to safeguard Peltier element module in case of low water and to prevent output short-circuit, output overvoltage, and excessive temperature rise in power supply.
Operating Ambient Temperature / Humidity ^(B)		+5 °C to +40 °C / Below 75 %
Storage Temperature / Humidity ^(B)		-15 °C to +50 °C / Below 80 %
Weight		2.1 kg

NOTE: ^(B)No condensation

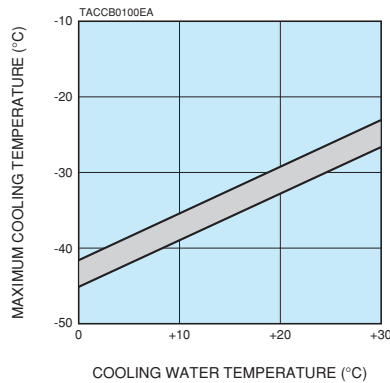
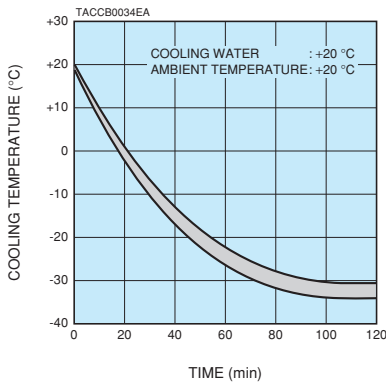
COMPONENTS AND ACCESSORIES

- Cooled PMT housing (Including an input window)
- Power supply
- Light shield cap
- Water hose clamps (2 pcs)
- Connection cable (1.5 m)
- AC line cable (2.5 m: -02 type, 2.0 m: other types)
- Socket assembly / PMT holder mounting screw (4 pcs)

* To use these coolers, water hoses with an inner diameter of 15 mm and a water supply line with the matching round faucet are required. Prepare those hoses of the desired length. In addition, prepare a filter for removing impurities such as chlorine ions.

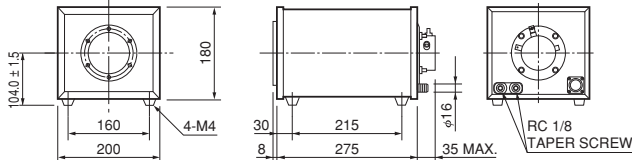
HIGH PERFORMANCE THERMOELECTRIC COOLERS C10372, C10373 SERIES

COOLING CHARACTERISTICS



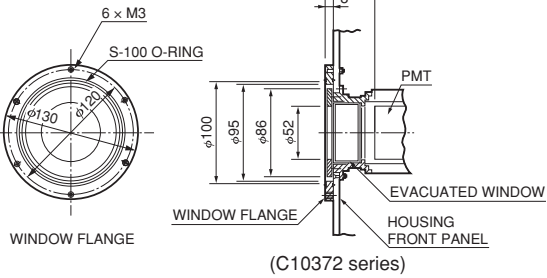
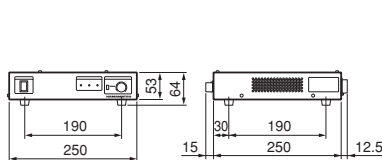
DIMENSIONAL OUTLINE (Unit: mm)

HOUSING



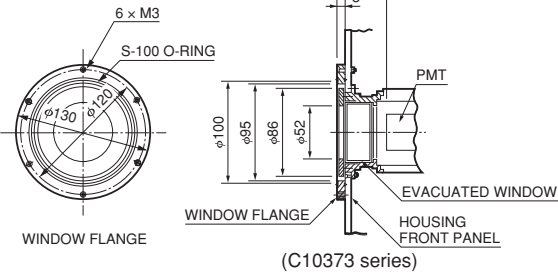
* The 1 mm thickness of the folded aluminum plate is not included in.

POWER SUPPLY



(C10372 series)

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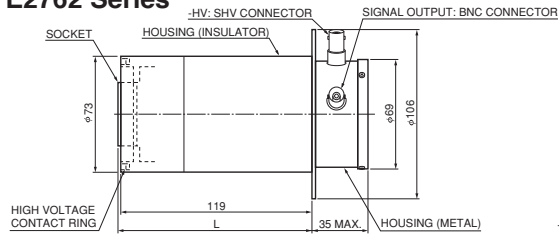


(C10373 series)

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SOLD SEPARATELY (Unit: mm)

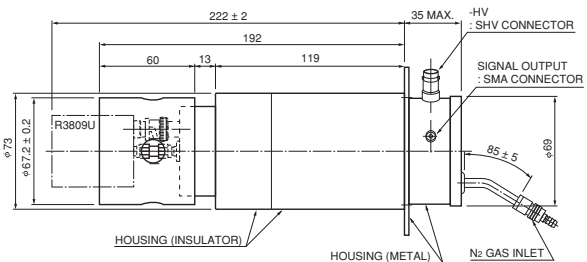
Socket Assemblies for C10372 Series E2762 Series



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L: E2762-506...144.5 E2762-511...120.5 * The high voltage contact ring is used for internal electrical connection to the magnetic shield case in the cooler.
E2762-509...106.5 E2762-513...120.5
E2762-510...106.5

MCP-PMT Holder for C10373 Series E3059-500



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NOTE: (A)

E2762 Series	PMT
E2762-506	R943-02, R3310-02
E2762-509	R464, R585, R649
E2762-510	R329-02, R331-05, R2257
E2762-511	R316-02, R374, R2228, R5929, R6249
E2762-513	R375, R669

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