

ORION

R 冷熱と真空でイノベーション
Innovating with Thermal Control and Vacuum

Water-Soluble Coolant
Temperature Control Equipment

DC Inverter Coolant Chiller

Essential for Maintaining Machine Precision!

● Effective

Increase processing precision by keeping the liquid coolant temperature within ± 0.5 °C of the set temperature.

● Economy

Energy saving operation with our DC motor and inverter control. Coolant evaporation loss cut in half!

● Ecology

Improves the environment by inhibiting bacteria propagation and reducing decomposition and odors.

**Just hook up to the tank piping
and you're done !**

Optional Piping Unit (piping connection parts set)
is available to make piping connections even quicker.

Heater Spec.
Model Line-Up
also Available



RCC750B1

RCC1500B1

RCC2200A

eco Products: Energy Savings of 30% or More
(Compared with previous models.)
eco means Economy (energy savings)
and Ecology (environmental protection)
and reduced CO₂ emissions.



Features

1 Circulating type configuration makes set up easy, even with shallow tanks.

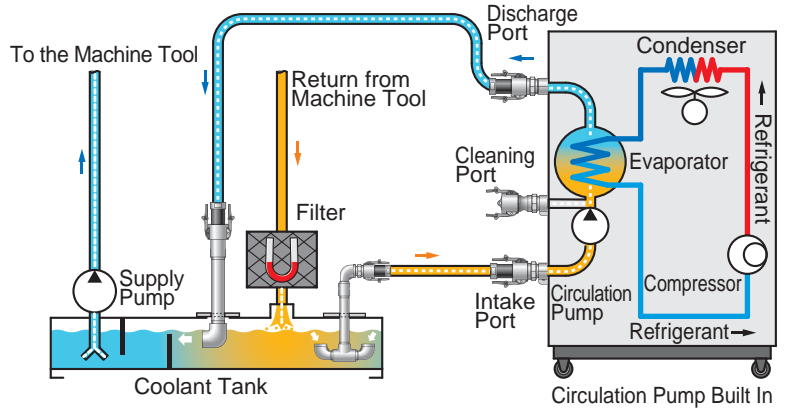
Can be used with shallow tanks. Post installation is easy. Previous immersion type units required deep tanks.

Using the Piping Option (see photo), installation is made even easier.



Piping Option*

* For RCC 750/1500 models, use part no. 03105772020.
For RCC 2200 models, use part no. 03107763010.



Example Set-Up Using the Piping Option

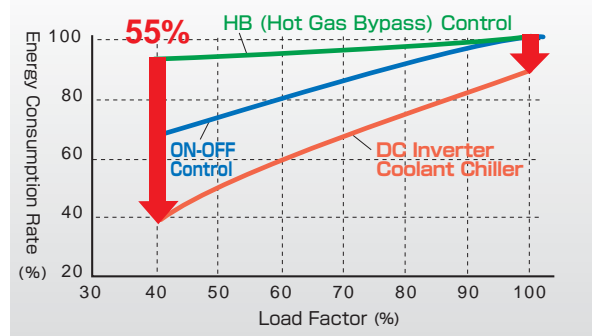
2 DC Inverter Control Gives Energy Savings and High Precision Control

Control is simple with ORION's special digital electronic temperature controller. Temperature settings, measured temperature, and error codes are shown on the digital display. On the off chance that trouble occurs, the displayed error code informs you of the operating state at a glance.

DC inverter control offers wide ranging energy savings over older models using HB or ON-OFF control. In addition, the Power Indicator shows the operating rate (load factor) in an intuitive, easy-to-read way.



Comparison of Energy Savings by Control Method



Easy Temperature Setting with ▼▲ Keys

Differential temperature control operation functionality is built in. Easy switching is possible by installing the optional machine temperature sensor, and changing parameter settings. Includes remote operation terminals and also combined alarm output terminals. Easy to operate along with your machine tool.

3 Evaporator Construction Allows for Easy Disassembly and Cleaning

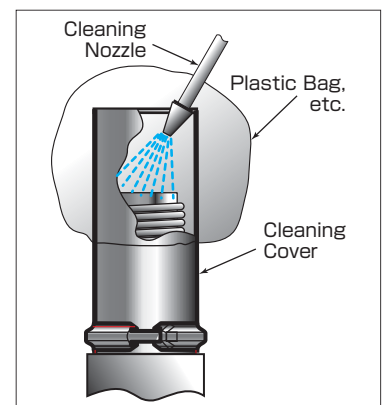
Easy to disassemble. Cleaning of the evaporator is made easier using the special cleaning cover.



Easy to Disassemble



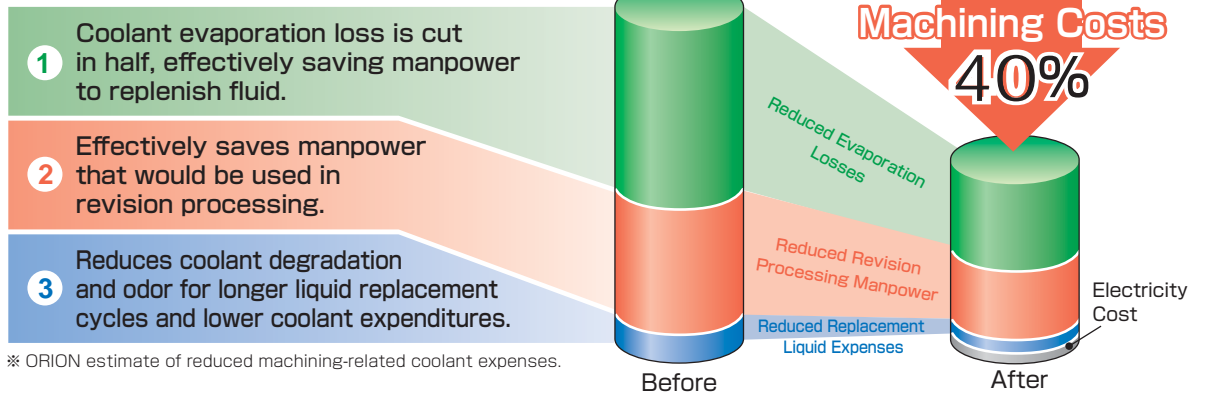
Spot dirt on the evaporator at a glance!



The piping system has a cleaning port to allow for simple backwashing. The control panel shows when the evaporator is dirty. "C45" on the display means you it's time to clean.

Cleaning is simple using the cleaning cover and a high pressure cleaner.

Operable Effectiveness



System Example

Easy to Set Up Next to the Machine Tool Tank



Example: Added to an Existing Immersion Chiller Built into a CNC Lathe



Example: Installation on a new CNC Lathe



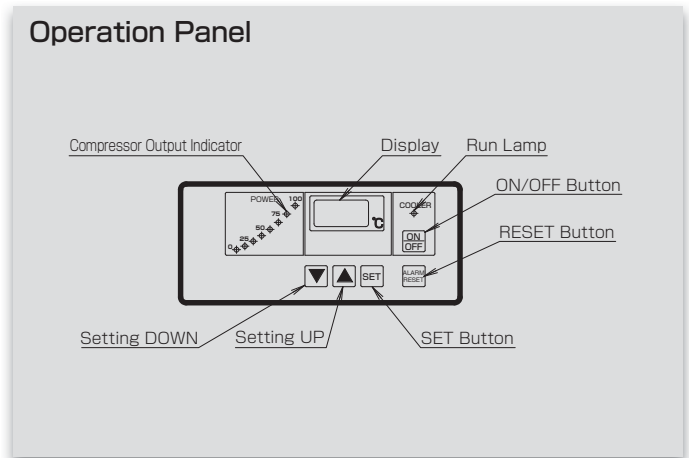
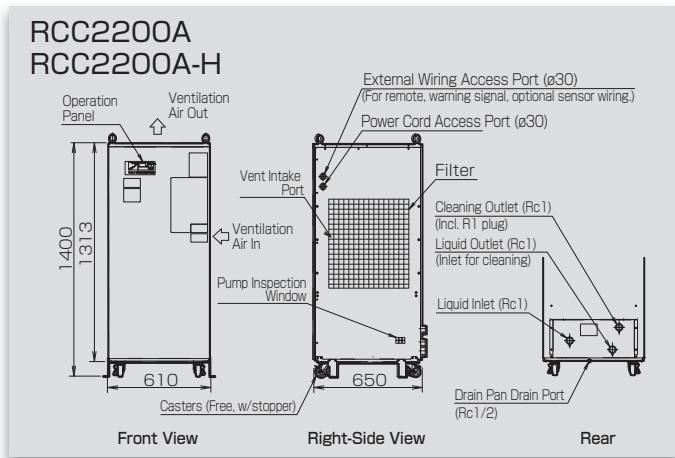
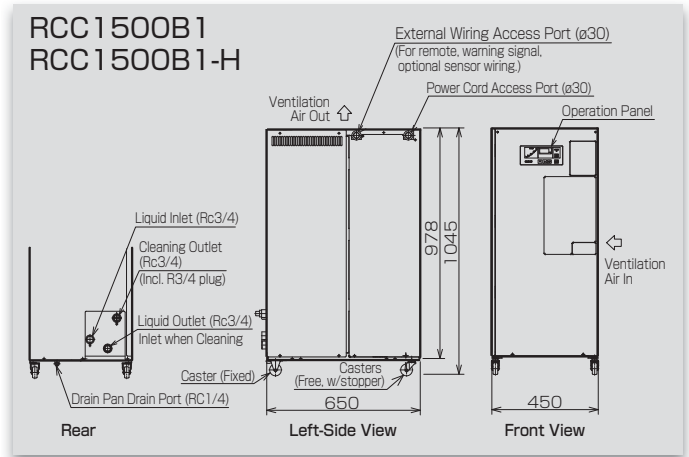
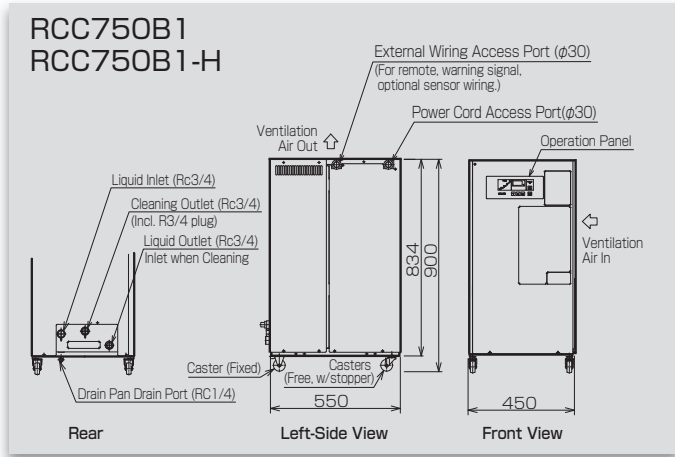
Example: Installation on a CNC Lathe Using the Piping Option

Specifications

Model		RCC750B1	RCC1500B1	RCC2200A	RCC750B1-H	RCC1500B1-H	RCC2200A-H
Cooling Capacity	※1 kW	2.50	4.65	7.20	2.50	4.65	7.20
Electric Heater	※7 kW	—	—	—	1.2	2.1	2.1×2
Outside Dimensions (H x D x W)	mm	900×550×450	1045×650×450	1400×650×610	900×550×450	1045×650×450	1400×650×610
Product Mass	kg	70	85	150	74	89	160
Operable Ambient Temp. Range	℃	10~40					
Control Precision	※1 ※5 ℃	±0.5 or lower					
Operable Liquid Temp. Range	※6 ℃	15 to 40 (Fixed Temp. Control / Differential Temp. Control)					
Operable Circulating Load Range	L/min	(20~60)	(20~80)	(40~160)	(20~60)	(20~80)	(40~160)
Fluid Inlet/Outlet Port Size	Rc	3/4	3/4	1	3/4	3/4	1
Power Supply	※2 V·Hz	Three-phase 200±10% (50/60), 220±10% (60)				Three-phase 200±10% (50/60)	
Power Consumption (When using electric heater) ※1	kW	1.2/1.3	1.8/2.1	4.8/4.9	1.2/1.3(1.5/1.5)	1.8/2.1(2.4/2.4)	4.8/4.9(5.1/5.1)
Current (When using electric heater) ※1	A	4.5/5.1	6.8/8.1	16.2/16.6	4.5/5.1(4.6/4.7)	6.8/8.1(7.5/7.6)	16.2/16.6(14.6/14.6)
Power Supply Capacity	※3 kVA	3.0	4.0	6.6	3.0	4.0	6.6
Compressor		Fully sealed rotary type (Inverter driven)					
Evaporator Construction, Material		Shell and Coil (Disassembly possible), SUS304					
Circulation Pump Type	※4	Self-priming coolant (Spiral)					
Circulation Pump Output	W	180	250	400	180	250	400
Fan Diameter, Motor Output	φ·W	300·30	300·30×2台	300·180	300·30	300·30×2台	300·180
Refrigerant		R-410A					
Applicable Coolant Tank Capacity (Estimate)	L	100~250	250~700	300~1500	100~250	250~700	300~1500

※1 Liquid temp.: 20℃, ambient temp.: 32℃, circulating load for 750 model: 32 L/min, for 1500 model: 35 L/min, for 2200 model: 60 L/min. Cooling capacity is -5% of the noted value or better. (Chilled liquid: Syntilo 77 EF, concentration: 5%) ※2 The power supply voltage phase imbalance should be 3% or less. ※3 The figure noted is when the product is operating at its maximum rated capacity. ※4 Priming liquid is required to operate the circulation pump. ※5 The load and ambient temperature are stable. Note that the following cases are excluded: ① Approx. 4 minutes after the compressor starts. ② When the compressor is cycling on and off due to small compressor loads. ③ When the liquid temperature setting is 31℃ to 40℃. ※6 Changeover between fixed and differential temperature control is possible. Differential control requires the optional machine temperature sensor. ※7 The operable set fluid temperature range when using the electric heater is 25℃ or lower. The noted heater capacity is when operating at 200 V.

External Dimensions (Units : mm)



Filter



When Using this Product :
Please clean the coolant with a drum filter,
magnetic separator, cyclone filter, paper filter,
or other filtration method before use.

Filtering effectively improves production surfaces,
prevents dirt in the tank and on the cooling coil,
prevents degradation of cooling capacity,
and increases circulation pump lifespan.

Effect



Safety
Precautions

- Consult a qualified professional or your ORION dealer for product installation and wiring.
- Please select a product that is suitable for the desired application. Do not use for other than intended purposes. Using for other than intended purposes can lead to accidents or product breakdown.
- This product is designed and produced as a commodity for general manufacturing. Accordingly, the warranty does not apply to, nor covers, the following applications. However, in cases where the customer/user takes full responsibility and confirms the performance of the product in advance, and takes necessary safety precautions, please consult with ORION and we will consider if use of the product in the desired application is appropriate.
 - ① Atomic energy, aviation, aerospace, railway works, shipping, vehicles (cars and trucks), medical applications, transportation/communications applications, and/or any applications where it might have a great effect on human life or property.
 - ② Electricity, gas, or water supply systems, etc. where high levels of reliability and safety are demanded.

For inquiries, please contact the following representative:

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This catalog contains product specifications as of Sep. 2018.

- Actual product colors may vary slightly from the pictures.
- Please note that the structure or specifications of products contained in this catalog are subject to change without prior notice. Thank you for your understanding.