



# RCC

## Refrigerant condensers



### Key benefits

- Long reliable service life
- Low energy consumption
- Easy maintenance

#### RCC characteristics

- Counterflow configuration
- Axial fan, induced draft
- Pultruded FRP construction

#### Capacity Range

- 331-2728 kW (for single cell model, nominal R717 kW's)

#### Typical applications

- Industrial refrigeration applications



## Long and reliable service life

- Corrosion resistant and superior structure strength: [pultruded composite construction](#) combined with BAC's patented "Bonded Panel to Post Connection" guarantee a long service life.

## Low energy consumption

- [Evaporative cooling](#) for system-wide energy saving at lower operating temperatures.
- **Axial fan** uses **half the energy** of similar centrifugal fan units.
- Factory tested **high efficiency coil**.
- **High efficiency/VFD duty fan motors**

## Easy maintenance

- **Full cold water basin access** when removing the combined inlet shields.
- Easy no-tool **removal of side panel** gives access to all internal cooling tower components.
- **Extended bearing lube lines** fitted for ease of maintenance.
- **Sloped basin** to flush out dirt and debris.
- **Easy removable** spray branch arms, eliminators and combined inlet shields.
- Easy **access to motor and drives** from outside.
- Upgrade the unit with **external service platform, ladder, safety cage and gate** for quick and safe access to all unit components.

## Low installation cost

- Motors and drives are **factory aligned**.
- Reduce rigging time with the **coil section self aligning** with the basin section. Motors and drives are factory aligned.
- All models **mount directly** on three parallel I-beams.
- **Use smaller, less costly** cranes by shipping in multiple sections to minimize the size and weight of the heaviest lift.
- **Container shipment** often possible!

## Operational safety

- **Closed loop**, no airborne contaminants enter and foul the system.
- Easy-clean and easy-inspect RCC condensers **reduce hygiene risks from bacteria** (e.g. Legionella) or biofilm inside.
- **Combined inlet shields** block sunlight to prevent biological growth in the condenser, filter the air and stop water splashing outside.



Interested in the RCC evaporative condenser for your industrial refrigeration application? Contact your local [BAC representative](#) for more information.

## Downloads

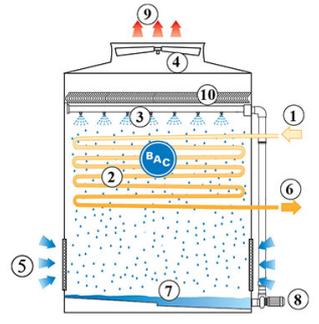
- [RCC refrigerant condenser](#)
- [Operating and maintenance RCF-RCC](#)
- [Rigging and installation RCF-RCC](#)

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## Refrigerant condensers

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The **vapour (1)** circulates through a **condensing coil (2)**, which is wetted by a **spray system (3)**. An **axial fan (4)** draws **air (5)** over the coil. The evaporation process condenses the vapour into **liquid (6)**. The spray water falls into the sloping **water basin (7)** or sump. The **spray pump (8)** recirculates the water to the top of the unit. The **warm saturated air (9)** leaves the condenser through the **drift eliminators (10)** which remove water droplets from the air.



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## Refrigerant condensers

### Construction details

#### 1. Material options

- **High strength** [pultruded composite](#) material is used for external unit panels and structural elements.
- Mould formed, hand laid, heavy-duty [fibreglass reinforced polyester](#) (FRP) with smooth internal finish, is used for the cold water basin and fan cylinder.
- **Option:** Tower without cold water basin for on-site **assembly on concrete tank**.



#### 2. Heat transfer media

- Our heat transfer media is a [cooling coil](#). In comprehensive [lab thermal performance tests](#), it showed proved thermal cooler performance and offers you unrivalled system efficiency.
- The coil is constructed of continuous length of prime surface steel, hot-dip galvanized after fabrication. Designed for maximum 18 bar operating pressure according to PER. Pneumatically tested at 26.5 bar.
- **Sloped tubes** for free drainage of the coil.
- **Optional stainless steel coils** are in type 304L or 316L.



### 3. Air movement system

- **RCC fan system** features **low kW and noise axial fan(s)** in corrosion resistant aluminum, with polypropylene blades encased in FRP fan cylinder with removable fan guard. Together with the stainless steel fan shaft and heavy duty ball bearings and extended lubrication lines, this guarantees optimal and year-round operational efficiency.
- Models RCC 0505 to RCC 0707 use **direct drive motor**.
- Larger units have the fan motor outside the discharge air stream and use **V-belt drives**. This drive system is on a stainless steel mechanical support frame with stainless steel fan guards.
- **Our drift eliminators** come in UV-resistant plastic, which will not rot, decay or decompose. They are assembled in **easily handled and removable sections**, for optimal internal access.
- Easy removable UV-resistant plastic **combined inlet shields** at air inlet, block sunlight to prevent biological growth in tower, filter air and stop water splash-out.



### 4. Water distribution system

These consist of:

- **Spray branches** with non-clog plastic **nozzles** secured by rubber grommets. **Tool free branch removal** for easy inspection and flushing.
- Easy accessible **sloped cold water basin**, including anti-vortexing stainless steel strainer, make up and overflow connection.
- Quick fill connection.
- Close coupled, bronze fitted centrifugal **spray pump** with totally enclosed fan cooled (TEFC) motor.
- Bleed line with metering valve installed from pump discharge to overflow.





## 5. Construction \_

- Easy no-tool **removal of one side panel** gives complete access to drift eliminators, spray system and coil.

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# RCC

## Refrigerant condensers

### Options and accessories

Below is a listing of the main RCC options and accessories. If your required option or accessory is not listed, look no further than your [local BAC representative](#).



#### Low sound fan

Reduce noise even further with **ultra low-noise factory-tested fans**.



#### Platforms, ladders, safety cage and handrail

To inspect and maintain from the top of the unit more **easily and safely**, platforms, a ladder, safety cage and handrails can be installed.



## Basin heater package

Thanks to our factory-installed heaters, the water stays at 4°C and **never freezes**, even during equipments downtime and however cold it gets outside.



## Electric water level control package

For perfectly precise water level control, replace the standard mechanical valve with our electrical water level controller.



## Vibration cut out switch

When excessive vibration occurs, this switch shuts down the fan, ensuring your cooling equipment **operates safely**.



## Standby pump

Install a standby **reserve spray pump** as failure backup.



## Mechanical equipment removal system

This **helps** you **remove or install** fan motors.



## Nitrogen filling of coil

Charge the cooling coil with nitrogen for **anti-corrosion protection** during long shipment periods (ocean freight) or on-site storage.



## Filter

Separators and media filters efficiently **remove suspended solids** in the recirculating water, reducing system cleaning costs and optimizing water treatment results. Filtration helps you keep the recirculating water clean.



## Sump sweeper piping

Sump sweeper piping **prevents sediment collecting in the cold water basin** of the unit. A complete piping system, including nozzles, is installed in the basin of the condenser **for connection to side stream filtration** equipment.



## Water treatment equipment

Devices to control water treatment are needed to ensure proper **condenser water care**. Not only does this help protect the components and fill pack, controlling corrosion, scaling and fouling, it also avoids the proliferation of harmful bacteria, including **legionella**, in the recirculating water.



# RCC

## Refrigerant condensers

### Engineering data

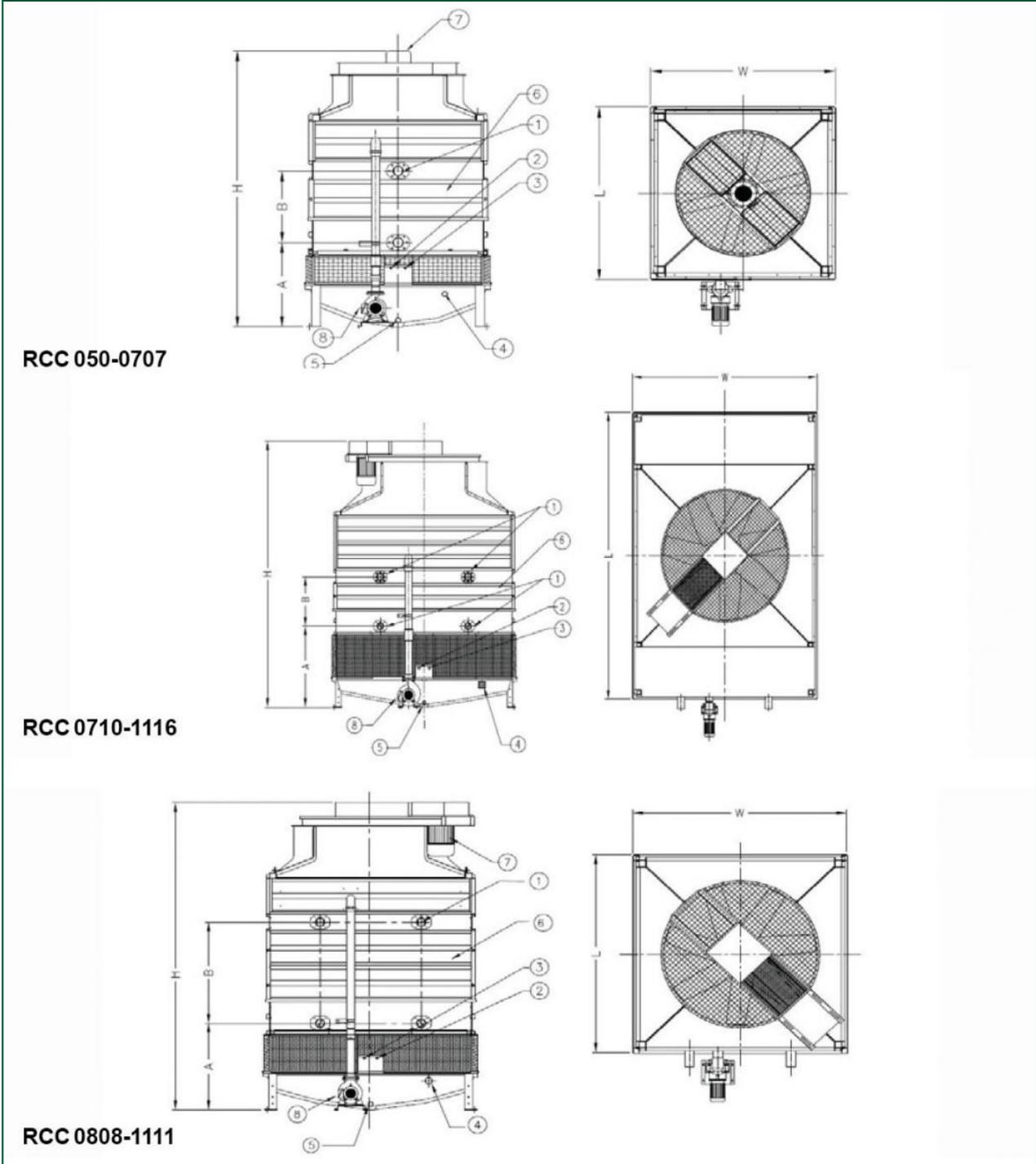
**REMARK:** Do not use for construction. Refer to factory certified dimensions & weights. This page includes data current at time of publication, which should be reconfirmed at the time of purchase. In the interest of product improvement, specifications, weights and dimensions are subject to change without notice.

#### General notes

1. Dimensions showing location of refrigerant connections are approximate and should not be used for prefabrication of connecting piping.
2. Refrigerant inlet and outlet connections are beveled for welding. standard size for inlet and outlet connections is 100NB.
3. Maximum drain size is based on a bottom connection.
4. Standard make-up, drain and overflow connections are MPT.
5. Unit height is indicative, for precise value please refer to certified print.
6. Operating weight is for the unit with the water level at the overflow.
7. Dimensions, shipping and operating weights indicated are for units without accessories. Consult your local BAC representative for further information.

**Last update:** 30/06/2019

#### RCC 0505-1116



1. Coil inlet and outlet connections; 2. Make-up; 3. Quick fill; 4. Overflow; 5. Drain; 6. Access door; 7. Fan motor; 8. Recirculation spray pump



Model	Weights (kg)			Dimensions (mm)			Air Flow (m <sup>3</sup> /s)	Fan Motor (kW)	Water Flow (l/s)	Pump Motor (kW)	R717 charge (kg)
	Oper. Weight (kg)	Ship. Weight(kg)	Heaviest Section (kg)	L	W	H					
RCC 0505-0-G	1900	1020	690	1674	1674	2600	7.42	(1x) 2.2	6.8	(1x) 0.55	18.0
RCC 0505-0-I	1900	1020	690	1674	1674	2600	8.07	(1x) 4.0	6.8	(1x) 0.55	18.0
RCC 0505-1-G	2100	1210	880	1674	1674	2900	6.92	(1x) 2.2	6.8	(1x) 0.55	28.0
RCC 0505-2-G	2300	1380	1050	1674	1674	3010	6.5	(1x) 2.2	6.8	(1x) 0.55	37.0
RCC 0505-2-I	2300	1380	1050	1674	1674	3010	7.86	(1x) 4.0	6.8	(1x) 0.55	37.0
RCC 0505-3-I	2550	1560	1230	1674	1674	3315	7.5	(1x) 4.0	6.8	(1x) 0.55	46.0
RCC 0505-3-J	2550	1560	1230	1674	1674	3315	8.11	(1x) 5.5	6.8	(1x) 0.55	46.0
RCC 0606-2-I	3150	1830	1550	1979	1979	3280	9.95	(1x) 4.0	9.8	(1x) 0.75	54.0
RCC 0606-2-J	3150	1830	1550	1979	1979	3280	11.1	(1x) 5.5	9.8	(1x) 0.75	54.0
RCC 0606-3-I	3500	2080	1800	1979	1979	3585	9.54	(1x) 4.0	9.8	(1x) 0.75	67.0
RCC 0606-3-J	3500	2080	1800	1979	1979	3585	11.0	(1x) 5.5	9.8	(1x) 0.75	67.0
RCC 0606-3-K	3500	2080	1800	1979	1979	3585	11.6	(1x) 7.5	9.8	(1x) 0.75	67.0
RCC 0707-2-I	4100	2390	2050	2284	2284	3470	12.4	(1x) 4.0	13.3	(1x) 0.75	146.0
RCC 0707-2-J	4100	2390	2050	2284	2284	3470	13.6	(1x) 5.5	13.3	(1x) 0.75	146.0
RCC 0707-2-K	4100	2390	2050	2284	2284	3470	13.6	(1x) 7.5	13.3	(1x) 0.75	146.0
RCC 0707-3-J	4600	2730	2390	2284	2284	3775	13.1	(1x) 5.5	13.3	(1x) 0.75	182.0
RCC 0707-3-K	4600	2730	2390	2284	2284	3775	14.7	(1x) 7.5	13.3	(1x) 0.75	182.0
RCC 0707-3-L	4600	2730	2390	2284	2284	3775	15.6	(1x) 11.0	13.3	(1x) 0.75	182.0
RCC	6150	3580	3070	3420	2284	4125	18.1	(1x)	20.4	(1x)	226.0



0710-2-J								5.5		1.5	
RCC 0710-2-K	6150	3580	3070	3420	2284	4125	19.8	(1x) 7.5	20.4	(1x) 1.5	226.0
RCC 0710-2-L	6150	3580	3070	3420	2284	4125	22.5	(1x) 11.0	20.4	(1x) 1.5	226.0
RCC 0710-3-L	6850	4090	3580	3420	2284	4535	21.5	(1x) 11.0	20.4	(1x) 1.5	284.0
RCC 0710-3-M	6850	4090	3580	3420	2284	4535	23.9	(1x) 15.0	20.4	(1x) 1.5	284.0
RCC 0808-2-K	5250	3050	2790	2588	2588	3450	18.7	(1x) 7.5	17.4	(1x) 0.75	188.0
RCC 0808-2-L	5250	3050	2790	2588	2588	3450	20.5	(1x) 11.0	17.4	(1x) 0.75	188.0
RCC 0808-3-K	5850	3500	3230	2588	2588	3755	17.6	(1x) 7.5	17.4	(1x) 0.75	236.0
RCC 0808-3-L	5850	3500	3230	2588	2588	3755	20.1	(1x) 11.0	17.4	(1x) 0.75	236.0
RCC 0812-2-L	7850	4560	4180	3876	2588	4145	26.6	(1x) 11.0	26.5	(1x) 2.2	292.0
RCC 0812-2-M	7850	4560	4180	3876	2588	4145	29.4	(1x) 15.0	26.5	(1x) 2.2	292.0
RCC 0812-3-L	8750	5230	4850	3876	2588	4465	25.2	(1x) 11.0	26.5	(1x) 2.2	292.0
RCC 0812-3-M	8750	5230	4850	3876	2588	4465	28.4	(1x) 15.0	26.5	(1x) 2.2	292.0
RCC 0812-3-N	8750	5230	4850	3876	2588	4465	30.4	(1x) 18.5	26.5	(1x) 2.2	292.0
RCC 0909-2-K	6450	3810	3500	2893	2893	3580	21.6	(1x) 7.5	22.0	(1x) 1.1	242.0
RCC 0909-2-L	6450	3810	3500	2893	2893	3580	24.3	(1x) 11.0	22.0	(1x) 1.1	242.0
RCC 0909-3-L	7200	4380	4060	2893	2893	3885	23.3	(1x) 11.0	22.0	(1x) 1.1	304.0
RCC 0909-3-M	7200	4380	4060	2893	2893	3885	23.3	(1x) 15.0	22.0	(1x) 1.1	304.0
RCC 0913-2-M	9650	5710	4250	4330	2893	4205	32.0	(1x) 15.0	33.5	(1x) 2.2	374.0
RCC 0913-2-N	9650	5710	4250	4330	2893	4205	35.0	(1x) 18.5	33.5	(1x) 2.2	374.0
RCC 0913-3-	10800	6560	6090	4330	2893	4525	33.8	(1x) 15.0	33.5	(1x) 2.2	468.0



M												
RCC 0913-3-N	10800	6560	6090	4330	2893	4525	36.0	(1x) 18.5	33.5	(1x) 2.2	468.0	
RCC 0913-3-O	10800	6560	6090	4330	2893	4525	38.3	(1x) 22.0	33.5	(1x) 2.2	468.0	
RCC 1010-2-L	7750	4580	4210	3200	3200	3820	28.3	(1x) 11.0	27.1	(1x) 2.2	304.0	
RCC 1010-2-M	7750	4580	4210	3200	3200	3820	30.9	(1x) 15.0	27.1	(1x) 2.2	304.0	
RCC 1010-3-L	8700	5280	4910	3200	3200	4125	27.3	(1x) 11.0	27.1	(1x) 2.2	380.0	
RCC 1010-3-M	8700	5280	4910	3200	3200	4125	29.8	(1x) 15.0	27.1	(1x) 2.2	380.0	
RCC 1010-3-N	8700	5280	4910	3200	3200	4125	31.9	(1x) 18.5	27.1	(1x) 2.2	380.0	
RCC 1015-2-N	11600	6870	6310	4787	3200	4400	39.3	(1x) 18.5	41.3	(1x) 3.0	466.0	
RCC 1015-2-O	11600	6870	6310	4787	3200	4400	41.4	(1x) 22.0	41.3	(1x) 3.0	466.0	
RCC 1015-3-N	13000	7920	7360	4787	3200	4720	40.3	(1x) 18.5	41.3	(1x) 3.0	582.0	
RCC 1015-3-O	13000	7920	7360	4787	3200	4720	42.5	(1x) 22.0	41.3	(1x) 3.0	582.0	
RCC 1015-3-P	13000	7920	7360	4787	3200	4720	47.2	(1x) 30.0	41.3	(1x) 3.0	582.0	
RCC 1111-2-M	9150	5450	5040	3500	3500	3985	35.7	(1x) 15.0	32.8	(1x) 2.2	370.0	
RCC 1111-2-N	9150	5450	5040	3500	3500	3985	37.7	(1x) 18.5	32.8	(1x) 2.2	370.0	
RCC 1111-3-M	10300	6300	5880	3500	3500	4290	33.5	(1x) 15.0	32.8	(1x) 2.2	464.0	
RCC 1111-3-N	10300	6300	5880	3500	3500	4290	36.1	(1x) 18.5	32.8	(1x) 2.2	464.0	
RCC 1111-3-O	10300	6300	5880	3500	3500	4290	37.1	(1x) 22.0	32.8	(1x) 2.2	464.0	
RCC 1116-2-O	13700	8180	7560	5247	3500	4585	50.9	(1x) 22.0	49.9	(1x) 4.0	568.0	
RCC 1116-2-P	13700	8180	7560	5247	3500	4585	57.9	(1x) 30.0	49.9	(1x) 4.0	568.0	
RCC 1116-3-O	15400	9450	8820	5247	3500	4905	50.0	(1x) 22.0	49.9	(1x) 4.0	710.0	



<b>RCC 1116-3- P</b>	<b>15400</b>	<b>9450</b>	<b>8820</b>	<b>5247</b>	<b>3500</b>	<b>4905</b>	<b>54.3</b>	<b>(1x) 30.0</b>	<b>49.9</b>	<b>(1x) 4.0</b>	<b>710.0</b>
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