CONTAINER COOLING SOLUTIONS

Adwatec container cooling solutions is a product family from which you can choose needed single cooling modules or build an optimized turnkey cooling solution including everything!

The container cooling solution may include one or more of the following modules (detailed description on the next page):

- **1 Adwatec cooling station (C- or B-series)**
- **2.1 Water-to-air heat exchanger**
- **2.2 Water-to-water heat exchanger**
- **3 Container indoor air cooling**
- **4 Process and piping design and delivery**
- **5 Commissioning**

KEY BENEFITS

- **Water cooling experts** take care of everything related to cooling. You can focus on your core business
- **Proven** component and material selections. Any risk for galvanic couples eliminated.
- **DNV-GL type approved** and fully tested C-series cooling modules ensure easy commissioning and safe use.
- **PLC system** for the total cooling system. You will avoid all project-specific PLC design.
- **Warranty and service packages** according your needs

Cooperation with following classification societies:

DNV·GL Lloyd's Register BUREAU VERITAS ABS RINA KR KOREAN REGISTER

1. COOLING STATIONS

C-SERIES | The right choice when ΔT>3°C (Coolant OUT - Ambient temperature)					
PRODUCT CODE (S= single, R= 2 pumps)	**Motor frequency (Hz)**	**Flow rate range (l/min)**	**Main dimensions W x D x H**	**Electric power (kW)**	**Dry weight (kg)**
CCE36S / CCE36R*	50	15 - 70	300 x 560 x 1490 / 500 x 575 x 1800	0,6	120 / 180
	60	15 - 90		1,1	
CCE56S / CCE56R*	50	40 - 140	300 x 560 x 1490 / 500 x 575 x 1800	1,1	140 / 200
	60	50 - 170		2,2	
CCE104S* / CCE104R*	50	90 - 210	500 x 575 x 1800	1,5	200 / 230
	60	100 - 250		3	
CCE153S* / CCE153R*	50	150 - 360	500 x 595 x 1835	3	210 / 290
	60	175 - 470		4	
CCE204S / CCE204R	50	200 - 480	550 x 715 x 2000 / 690 x 745 x 2000	5,5	320 / 390
	60	250 - 580		7,5	
CCE322S / CCE322R	50	250 - 660	550 x 715 x 2000 / 690 x 745 x 2000	4	400 / 660
	60	300 - 800		7,5	

Detailed sizing instructions and descriptions in C-series data sheet.

B-SERIES Chillers | The right choice when ΔT<3°C					
PRODUCT CODE	**Cooling power (kW)**	**Motor frequency (Hz)**	**ADD-ON footprint dimensions W x D**	**Electric power (kW)**	**ADD-ON Dry weight (kg)**
BCD10	10	50	600 x 575	2,9	230
		60		2,8	
BCD20	20	50	600 x 575	5,5	270
		60		5,5	
BCD30	30	50	600 x 700	7,7	330
		60		8,2	
BCD60	60	50	900 x 700	17,9	380
		60		14,8	

If the cooling power requirement is more than 60kW the modules can be combined.
Detailed sizing instructions and descriptions in B-series data sheet.

(*) Marked cooling stations have the DNV-GL type approval. For the rest cooling stations the type approval is coming soon. All cooling stations can be approved project-specifcally by any classification society.

2. EXTERNAL HEAT EXCHANGERS

2.1. WATER-TO-AIR HEAT EXCHANGER, TECHNICAL DATA	
Cooling power	According customer need
Installation	Dimensions suitable for
Corrosion protection	C3 / C5-M
Sound power level	According customer need
Control	EC fans are controlled by PLC in
Piping material	Stainless steel 1.4301 / 1.4404
Coolant out - Ambient °C	ΔT min. 3°C

2.2 WATER-TO-WATER HEAT EXCHANGER, TECHNICAL DATA	
Cooling power	According customer need
Materials	Titanium plates for **sea water**
	SS plates for other mediums
Dimensions (WxHxD mm)	CCE36/56: 150x400x150 CCE104: 190x500x400 CCE153: 340x900x550 CCE204/322: 340x900x550
Max particle size	0,8mm without filters
Coolant out - Raw water °C	ΔT min. 3°C
Optional	Secondary circuit pipes and process components

3. CONTAINER INDOOR AIR COOLING

2.2 AIR COOLER, TECHNICAL DATA	
Cooling power	20kW, 40kW, 60kW
Materials	Coil: Cu / Al Casing: galvanized
Dimensions	20kW: W1070xH620xD640 40kW: W1740xH620xD640 60kW: W2400xH620xD640
Control	EC fans are controlled by PLC in Adwatec cooling station
Optional	Marine resistant materials: SS casing and AlMg fins
To be used with an external chiller cooling station in most cases	

4. PROCESS AND PIPING DESIGN AND DELIVERY

The process and piping design and a pipe delivery offering may include one or more of the following modules depending on your specific needs

4.1 Site inspection and measurements

4.2 Cooling process design and component selections

4.3 3D Engineering / piping design

4.4 Pipe delivery including installation instructions

4.5 Site installation supervision

5. SERVICES

Services offering may include one or more of the following modules depending on your specific needs

5.1 Engineering and cooling consultation

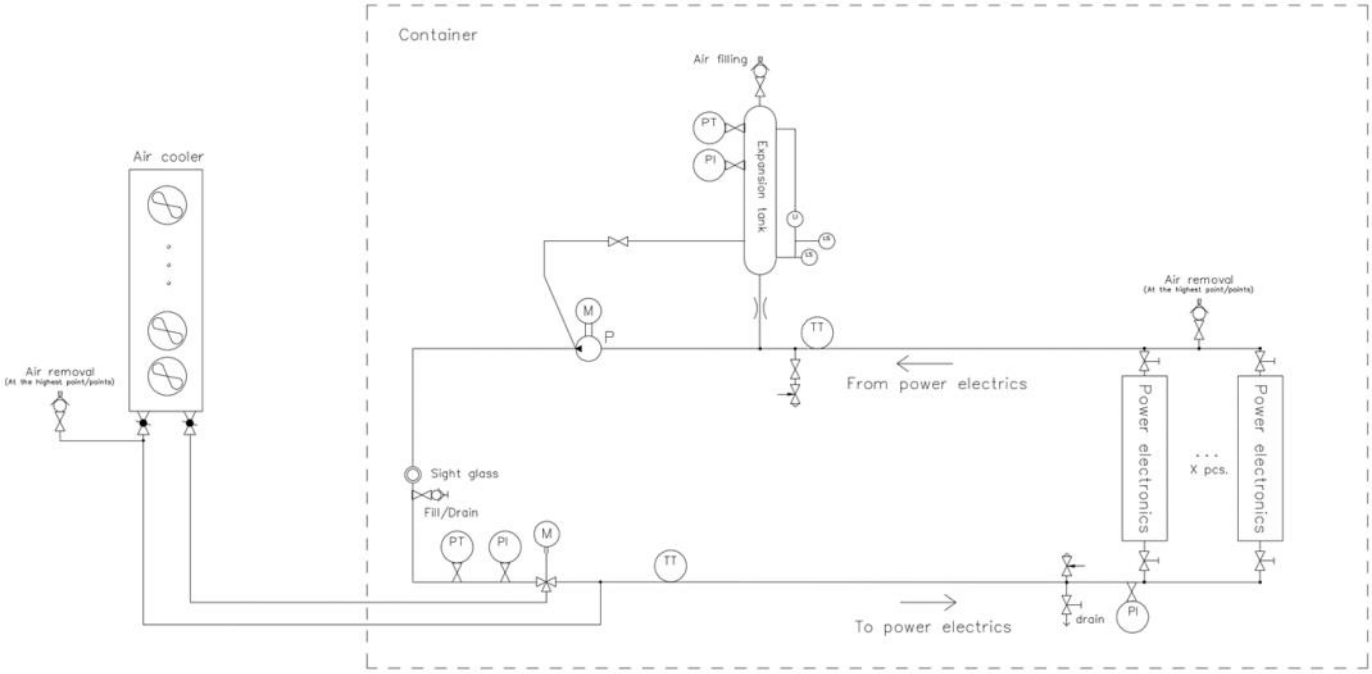
5.2 Site installation

5.3 Commissioning and supervision

5.4 Remote FAT and Remote Site Support

5.5 After sales and retrofit solutions

6. PROCESS DIAGRAM EXAMPLE



Picture: single pump cooling system with C-series cooling station and external water-to-air heat exchanger. Inroom air cooler not shown here.