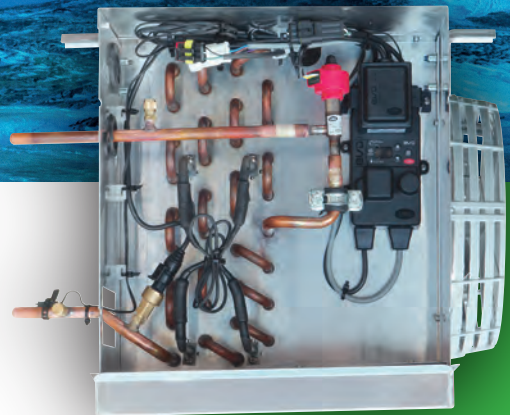


CO₂ SOLUTIONS



Picture by Noé Bauza from Pixabay



CVC PLUG AND PLAY CO₂ COOLERS

with
electronic expansion
valve system

ECO™ heat transfer
coolers





CVC

PLUG AND PLAY CO₂ COOLERS

The new **CVC** range of unit coolers was designed to attain all the benefits of using CO₂ and simplifying installation operations. To achieve these objectives, the CVC unit coolers are equipped with an electronic expansion valve, regulated by a control device that is factory installed and wired.

Thanks to these features the CVC unit cooler can be considered a “plug and play” component that is able to always work with the right amount of refrigerant, either in case of significant load variations or when the load is partial.

The control device instantly measures the superheat value, which is kept at the minimum level necessary with the continuous adjustment of the valve.

The CVC unit coolers, thanks to the electronic system and a distinctive heat exchanger configuration, operate constantly under optimum conditions, allowing the system to reach the maximum COP (coefficient of performance) and reduce energy consumption, in full respect of the environment.

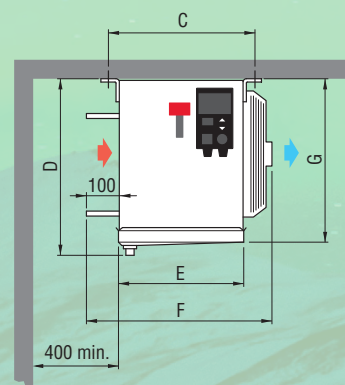
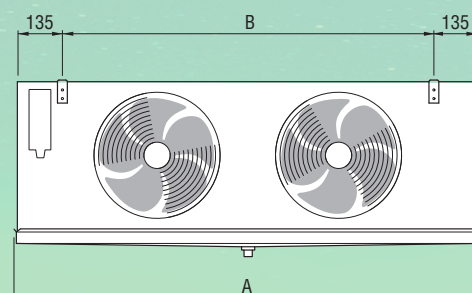
The main benefits are:

- Quick installation thanks to a simplified structure.
- Very simple to use.
- Reduced cold room temperature “pull-down” time.
- Reduced time to reach the “set point”.
- Fine tuning of the superheat setting.
- The electronic valve has a wider regulating range than manual regulators.
- Minimum maintenance: the electronic valve does not require periodic calibration.
- The electronic valve always guarantees emergency shutdown.
- Monitoring of possible anomalies with the control panel.
- Sturdiness and durability: the electronics are incorporated in a compartment made of resin used in the automotive industry.
- Degree of protection against dust and liquids IP 66.
- Wide operating range: from -30 to +40 °C.

Model	Medium temperatures						Low temperatures				
	252E6	253E6	312F6	313F6	351A6	352A6	253G8	312F8	352E8		
Fan motors	nr. x Ø mm	2x250	3x250	2x315	3x315	1x350	2x350	3x250	2x315	2x350	
Dimensions	mm	A	1224	1674	1424	1974	875	1425	1674	1424	1425
	B	930	1380	1130	1680	580	1130	1380	1130	1130	
	C	407	407	407	407	453	453	407	407	453	
	D	431	431	468	468	544	544	431	468	544	
	E	336	336	336	336	382	382	336	336	382	
	F	509	509	561	561	608	608	509	561	608	
	G	387	387	424	424	499	499	387	424	499	
Nominal capacity	kW	2,4	3,5	4,7	7,2	3,15	7,4	2,8	4,2	5,2	
Air flow	m ³ /h	1626	2430	3190	4970	2430	4850	2585	3290	5270	
Air throw	m	9	11	15	17	14	16	13	16	18	
Air throw streamers (1)	m	-	-	23	23	19	23	-	24	25	
Fin spacing	mm	6	6	6	6	6	6	8	8	8	
Internal surface	m ²	0,92	1,38	1,56	2,34	1,12	2,24	1,03	1,56	1,5	
External surface	m ²	13,2	19,9	22,6	33,9	15,8	31,5	11,5	17,3	16,6	
Coil connections	In (mm)	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	
	Out (mm)	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	
Net weight	kg	25	34	36	50	28	51	31	36	43	
Fan motor absorption	A	1,36	2,04	1,04	1,56	0,96	1,92	2,04	1,04	1,92	
Nominal power	w	190	285	220	330	185	370	285	220	370	
EC fan absorption (1)	A	0,44	0,66	-	-	0,87	1,74	0,66	-	1,74	
EC fan nominal power (1)	w	52	78	-	-	150	300	78	-	300	
Circuit capacity	dm ³	2,14	3,21	3,66	5,49	2,64	5,28	2,41	3,66	3,52	
Electric defrost	w	2250	3325	3150	4900	2250	4050	3325	3150	3150	
Enhanced electric defrost	w	2700	3990	-	-	2750	4950	3990	-	3600	
Drain connection	Ø (GAS)	1	1	1	1	1	1	1	1	1	

(1) Option

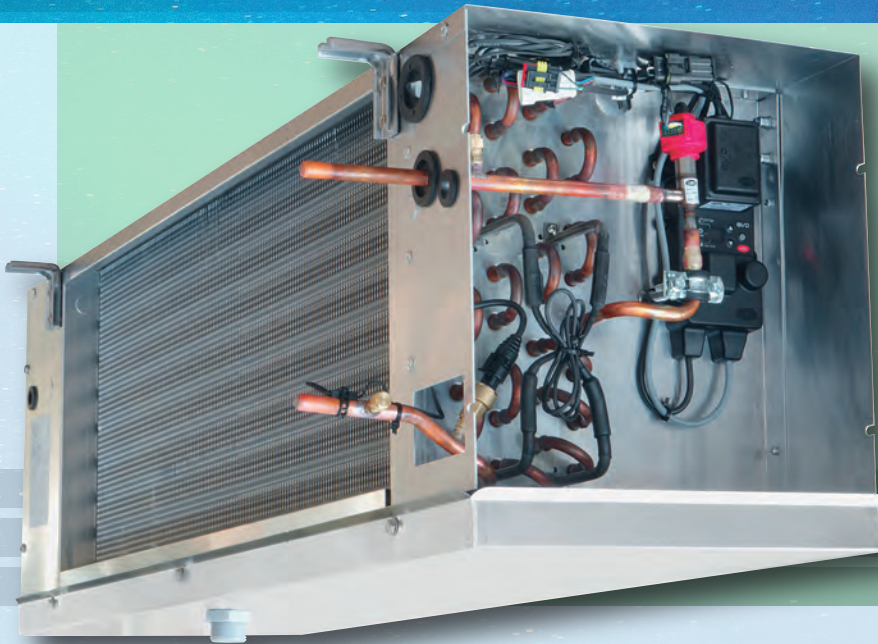
Nominal capacity assessed in practical operating ambient, i.e. in wet conditions, in direct expansion application, CO₂ refrigerant; air inlet temperature 0 °C, evaporating temperature -7 °C; TD 7K



"From an ecological point of view CO₂ is a superior alternative to environmentally damaging hydrofluorocarbons (HFCs), as well as being non-flammable, non-toxic and less expensive. Modine designs and manufactures CO₂ units suitable for your application needs"

ECO™ heat transfer coolers

MODINE®



CAREL eVDiCe

electronic expansion valve system



CVC E6, F6 and A6 are designed for medium cold room temperatures (≥ -15 °C), with 6 mm fin spacing.
CVC G8, F8 and E8 are designed for low cold room temperatures (≥ -35 °C), with 8 mm fin spacing.
 The whole range is equipped with highly efficient coils made from aluminum fins and special copper tubes.
 CVC features electric defrosting system (ED) that uses stainless steel heaters with vulcanised terminals preset for 400V/3/50-60 Hz (\varnothing 315-350 mm only).

CVC employs three types of standard fan motors:

- **Ø 250 mm**, shaded pole single-phase 230V/1/50-60 Hz with fiberglass charged polyamide fan guards and operating temperature: $-40 \div +40$ °C.
- **Ø 315 mm**, external rotor single-phase 230V/1/50-60 Hz with built-in electric capacitor and epoxy coated steel fan guard and operating temperature: $-40 \div +45$ °C.
- **Ø 350 mm**, external rotor single-phase 230V/1/50-60 Hz with built-in electric capacitor and epoxy coated steel fan guard and operating temperature: $-40 \div +50$ °C.

The optional high efficiency EC fan motors have the following features:

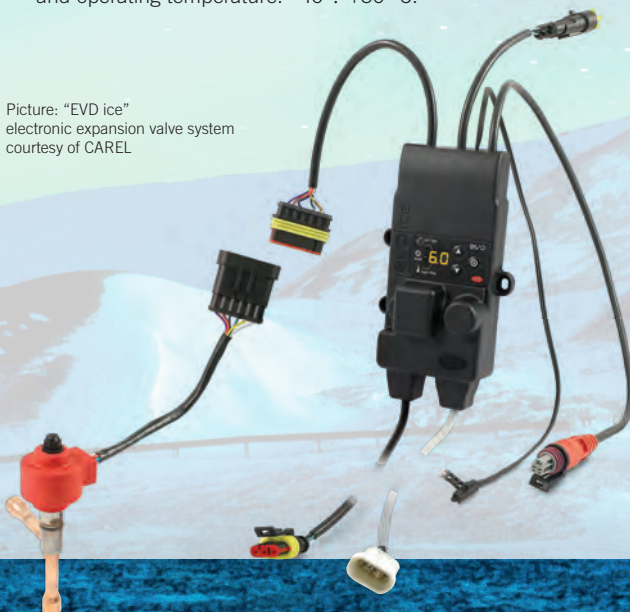
- **Ø 250 mm:**
 - IP 65/67 protection grade;
 - class H insulation;
 - built-in electronic protection;
 - operating temperature: $-40 \div +50$ °C.
- **Ø 315 mm:**
 - IP 65/67 protection grade;
 - class B insulation;
 - built-in electronic protection;
 - operating temperature: $-40 \div +40$ °C.
- **Ø 350 mm:**
 - IP 65/67 protection grade;
 - class B insulation;
 - built-in electronic protection;
 - operating temperature: $-25 \div +60$ °C.

Electric parts and casing are connected to an earth terminal. Wiring of the motors and heaters is carried out in separate IP 54 protection grade junction boxes.

On request the models can be equipped with non-standard coils, defrosting and fan motors.

For special applications and further information please contact us.

Picture: "EVD ice" electronic expansion valve system courtesy of CAREL



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Modine specializes in thermal management systems and components, bringing highly engineered heating and cooling components, original equipment products, and systems to diversified global markets through its three complementary business units: Vehicular Thermal Solutions (VTS); Commercial & Industrial Solutions (CIS); and Building HVAC Systems (BHVAC). Modine is a global company headquartered in Racine, Wisconsin (USA), with operations in North America, South America, Europe and Asia.

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