

ECOTM heat transfer
coolers



CVC

PLUG AND PLAY CO₂ COOLERS
with electronic expansion valve system



Engineering a Cleaner, Healthier World

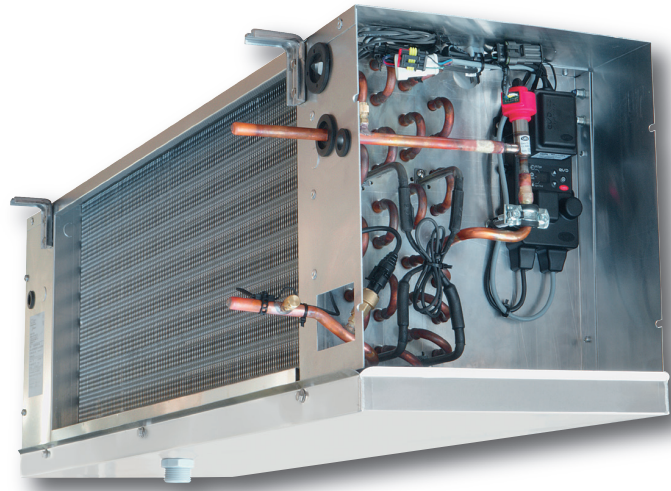
CVC PLUG AND PLAY CO₂ COOLERS

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

Thanks to these features the CVC can be considered a "plug & play" unit that can always function with the right amount of refrigerant, both with significant load variations and when the load is partial.

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

CVC unit coolers, thanks to the electronics used and a distinctive heat exchanger configuration, constantly operate under optimum conditions allowing systems to reach the maximum COP (coefficient of performance) with reduced power consumption in full respect of the environment.



Key Benefits

- Quick installation thanks to a simplified structure.
- Easy to use.
- Reduced cold room temperature pull-down time.
- Reduced time to reach the set point.
- Fine tuning of the superheat setting.
- Electronic valve with a wider regulating range than manual regulators.
- Minimum maintenance: the periodic calibration of the valve is not required.
- The electronic valve guarantees emergency shutdown.
- A control panel to monitor and detect possible anomalies.
- Sturdiness and durability: electronics incorporated in a compartment made from resin used in the automotive industry.
- Control device with IP 66 protection grade against dust and liquids.
- Broad operating range: from -30 °C to +40 °C.

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:

- \varnothing 250 mm, shaded pole single-phase 230V/1/50-60 Hz with fiberglass charged polyamide fan guards and operating temperature: from -40 to +40 °C.
- \varnothing 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: from -40 to +45 °C.
- \varnothing 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: from -40 to +50 °C.

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

- \varnothing 250 mm:
 - IP 54 protection grade;
 - class H insulation;
 - built-in electronic protection;
 - operating temperature: from -40 to +50 °C.
- \varnothing 315 mm:
 - IP 54 protection grade;
 - class B insulation;
 - built-in electronic protection;
 - operating temperature: from -40 to +40 °C.
- \varnothing 350 mm:
 - IP 54 protection grade;
 - class B insulation;
 - built-in electronic protection;
 - operating temperature: from -25 to +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.

Electronic expansion valve system

eVDice

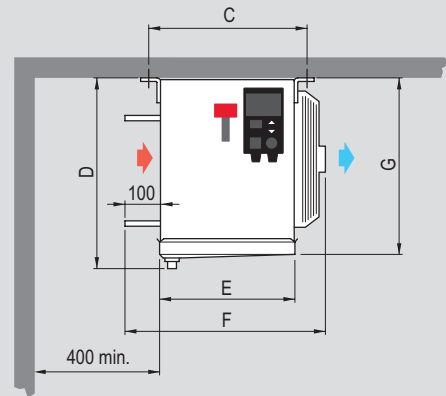
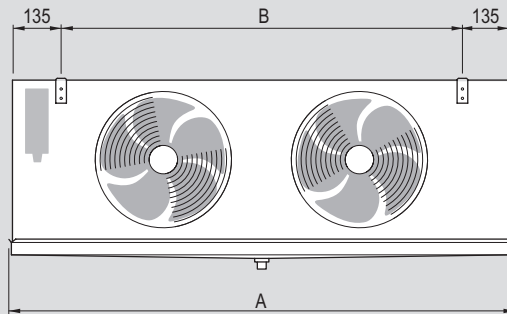




“From an ecological point of view, CO₂ is a superior alternative to environmentally damaging hydrofluorocarbons (HFCs), as well as being non-flammable, non-toxic and less expensive. Modine designs and manufactures CO₂ units suitable for your application needs”

		MEDIUM TEMPERATURE						LOW TEMPERATURE		
Model		252 E6	253 E6	312 F6	313 F6	351 A6	352 A6	253 G8	312 F8	352 E8
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
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	A	0,44	0,66	-	-	0,87	1,74	0,66	-	1,74
EC fan nominal power	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

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



Model		252 E6	253 E6	312 F6	313 F6	351 A6	352 A6	253 G8	312 F8	352 E8
Fan motors	nr. x Ø mm	2x250	3x250	2x315	3x315	1x350	2x350	3x250	2x315	2x350
Dimensions mm	A	1224	1674	1425	1974	875	1425	1674	1425	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



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Enter the world of refrigeration with ECO™ products.
Our experience and the technologies we employ
enable us to guarantee the highest level of performance and energy efficiency.
Our units ensure reliability and flexibility of use
in a wide range of applications.
Opting for our products means favoring quality solutions
that are respectful of the environment.

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