cosmotec

your cooling solutions

R513A
R1234yf



Protherm

CVE-CVO / CVY-CVH

R513A R1234yf

The solution for **indoor** & **outdoor** applications

Efficient and Sustainable

The use of the **R513A and R1234yf refrigerants**, combined with high efficiency and reduced refrigerant charge, lowers resource consumption and CO_2 impact, making Compact Protherm air conditioners "Green."



cosmotec, with its *Protherm line*, offers a wide range of air conditioners designed to meet various needs, whether for electrical panels in industrial applications or for shelters and cabinets used in telecommunications, power distribution, and other sectors.

The growing need to reduce energy consumption has driven the development of **highly efficient air conditioners**, without compromising **durability, reliability, or compactness**.

Protherm units feature high EER values, leading to economic savings, excellent performance, and reduced stress on components, thanks to:

- Proper design of components and airflow
- High-performance compressors and fans
- Microchannel condensers, whose reduced thickness allows for better airflow
- Energy-saving functions (SEM and SEM2)

The R1234yf refrigerant has a GWP of 0.5, in compliance with Regulation (EU) 2024/573 and well below the limit of 150.

If, for safety reasons, the specific application does not allow the use of air conditioners with flammable refrigerants, the R513A version is available, with a GWP of 631, lower than the 750 limit specified in Annex IV of the Regulation.

R1234yf and R513A refrigerants offer high energy efficiency and environmental sustainability. They do not damage the ozone layer and are available in the medium to long term not only for production but also for maintenance purposes.

Flexible

Suitable for any temperature condition
Designed for **Indoor (CVE/CVY)** and **Outdoor (CVO/CVH)** installations, covering the full range of applications.



Wide offering in terms of:

cooling capacity
From 300 to 6000W

power supply
115V, 230V, 400V, 460V

Also suitable for critical temperatures
The extended operating range allows installation in all industrial environments and the ability to **operate even in outdoor settings with critical temperatures.**



c UL us LISTED

R513A version only

UL Certification

CE and **UL Listed** certifications facilitate market access and avoid customs issues, while also saving time and money for subsequent approvals and increasing reliability

Stulz Spa is authorized to perform UL tests in its own laboratory and independently prepare test reports

Reliable

IP55, Type 12/4/4x



Protherm units are **suitable for operation in all industrial environments**, ensuring the correct level of protection even in critical and harsh conditions.

Remote monitoring
The air conditioners can be connected to a **Modbus monitoring system** for direct communication with the unit. This allows saving operating parameters and quickly identifying potential issues for fast service intervention

Sequencing
Some critical applications require redundancy in the cooling system. To meet this need, **two Protherm units can be interconnected** to manage:

- automatic rotation to balance operating hours
- mutual support in case one unit has an alarm preventing operation or if the cabinet temperature exceeds the backup unit's threshold



XCB, a control for...

Cooling and Heating
The control board manages the compressor and fans to cool the panel, and optionally an electric heater to prevent low temperatures inside the cabinet

Enhanced Protection
The electronic board installed inside the unit provides adequate protection against external agents (dust, oils, etc.) present in the environment

Energy Saving
Reduced power consumption through evaporator fan management

Quiet Operation
Condenser fan management for applications requiring low noise levels

Reliability
System redundancy is possible via sequencing function and communication between two air conditioners

Precise Cooling
Eliminates hot spots with the option of using a remote sensor

Safety
Remote monitoring via RS485 serial port and Modbus RTU protocol

Alarms
Includes a change-over alarm contact (NO/NC) and a remote/door-open contact

Easy installation

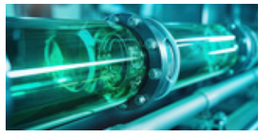
Simpler and Faster Installation

Protherm R513A units feature a **new connection system** that makes installation simpler and faster, especially for UL-certified units. It consists of a **power connector**, a **signal connector**, and, where applicable, a **connector for voltage change (460V–400V)**.



- Easier identification of the electrical connection to be made (procedure to check component functionality during unit start-up)
- No need to open the unit (installation and/or replacement/ cleaning of the filter accessory via magnetic support)
- Easy access to the electrical connection
- Less time required for installation activities (two inserts facilitate positioning and securing the unit)
- Standardization
- Drilling templates remain unchanged compared to previous modelsmodelli

Applicazioni



Hydrogen



Machine tools



Automotive/ E-Mobility



Energy Storage



Food & Beverage



Plastic



Chemical/Pharma.



Printing



Aggressive Environments

In various industrial sectors or specific applications, air conditioners may operate in environments containing aggressive chemicals and corrosive substances. These include chloride and sulfide compounds typical of coastal areas, sulfur and nitrogen oxides common in polluted industrial zones, as well as suspended particles, cutting oils, solvents, iron dust, and ammonia present in production environments. These elements accelerate oxidation and corrosion, particularly affecting external panels, electrical components, and the condenser side of the refrigeration circuit.

To address these challenges, Cosmotec offers Protherm R513A CVE080022080Z01 and CVE200026180Z00 units, designed with specific solutions to enhance corrosion resistance. Thanks to dedicated treatments and protections on the panels, refrigeration circuit, and electronic control, these models ensure reliable operation even in highly demanding conditions and provide a longer lifespan compared to standard air conditioners.

Technical Features

	CVE/CVY	CVO/CVH
Application	Indoor	Outdoor
Mounting	Wall-mounted	
Installation	External	
Cooling Capacity	300...6000 W	500...6000 W
Power Supply	115V, 230V, 400/460V	
Refrigerant	R513A - R1234yf	
XCB Electronic Controller + Display	Standard (except mod. 03)	Standard (display available as an accessory)
General Alarm + Remote Control	Standard (except mod. 03)	Standard
Certifications	CE - UL Listed (R513A models only)	
Condensate Evaporator	From mod. 11 e 07S	Not available
IP54 Protection Rating (IP55 with Accessories)	Standard	
Type 12	Only CVE (UL)	Not available
NEMA 4 (4X Optional)	Not available	Only CVO (UL)
Microchannel Condenser	From mod. 11 e 07S	From mod. 11
SEM / SEM² Functions	With accessory only	
Sequencing and Modbus	With dedicated accessories only	
Operation down to -40°C Ambient Temperature	Not available	CVO UL only
Semi-Recessed Mounting	Mod. 07/16/26	Not available

Options

- Special color
- Stainless steel panels (AISI304/316
- LN version (230V models only)
- Phase Control Module (~3 models only)
- Condenser Protective Treatment
- Electric Heating (CVO/CVH 230V models only)

Accessories

- Air filter (painted version only)
- Deflector (CVE/CVY only)
- Keypad (CVO/CVH only)
- Semi-recessed / Recessed frame
- IP55 gasket (CE models only)
- Sequencing cable
- Modbus serial port
- Remote sensor

Technical data

	CVE/CVY	03	05	08	11	15	20	30	40	60	07S	16S	26S
Cooling Capacity [W]	@L35L35,230V/50Hz	310	525	800	1000	1500	2000	3200	3900	5800	800	1400	2400
Power Supply	115-1-60 (CVE)	·		·			·						
	230-1-50/60	·	·	·	·	·	·	·	·		·		
	400-2-50 460-2-60		·	·	·	·							
	400-3-50 460-3-60					·	·	·	·	·		·	·
Dimensions [mm]	Height	443	642	642	913	913/1005	1005	1219	1219	1406	550	950	1580
	Width	325	315	315	413	413	413	514	514	556	279	400	400
	Depth	206	221	221	248	248/263	263	347	347	403	286	304	305

	CVO/CVH	05	08	11	15	20	40	60
Cooling Capacity [W]	L35L35 @230V,50Hz	550	750	1000	1500	2000	3900	5800
Power Supply	115-1-60 (CVO)	·	·	·	·	·		
	230-1-50/60	·	·	·	·	·	·	
	400-2-50 460-2-60	·	·	·	·			
	400-3-50 460-3-60				·	·	·	·
Dimensions [mm]	Height	636	636	906	906/999	999	1211	1399
	Width	315	315	413	413	413	514	556
	Depth	233	233	272	272/286	286	370	428

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