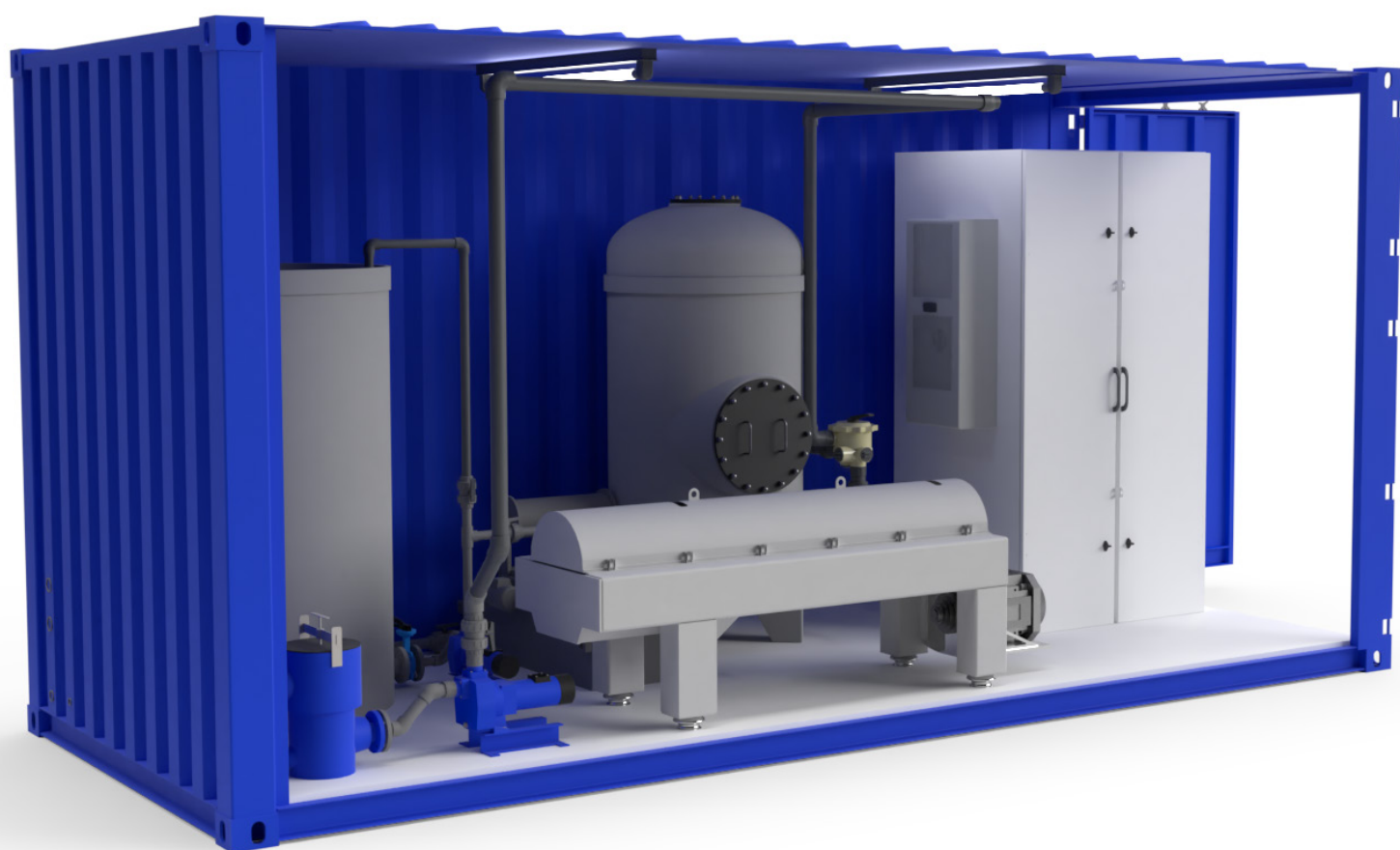


# Protherm

La soluzione per applicazioni Indoor (CVE) e Outdoor (CVO)



# Industrial air conditioners for electrical enclosures

The growing need to reduce consumption has imposed the development of air conditioners strongly oriented to maximum efficiency, while maintaining robustness, reliability and compactness, all characteristics that can be found in Protherm CVE/CVO air conditioners.

The CVE air conditioners, for indoor applications, are characterised by an attractive design, a display installed on the panel for displaying information (except CVE03) and a condensate dissipation device (from CVE11 and CVE07). The CVO air conditioners, suitable for outdoor applications, are able to operate at low external temperatures, even below  $-20^{\circ}\text{C}$ ; moreover the display is supplied as an accessory, in order to avoid vandalism or modifications, and can be integrated with an electric resistance for the heating function, when necessary (from CVO11).



“Energy savings of up to 23% with Smart Energy Management logic”

## Safety

To increase the safety of your installations, the Protherm series air conditioners are equipped with a **condensate evaporator device**, which eliminates the phenomenon of condensation without current absorption.

**IP54 Type 12 protection degree** between the air conditioner and the control cabinet ensures protection against the ingress of dust and splashing water. For more critical applications, **IP55 protection** is available and for the **Outdoor version UL Type 4/4x**.

### FOCUS - Energy efficiency at the core

SEM (Smart Energy Management) and SEM2 logics provide energy savings of up to 23%, combined with an increase in the cooling power of the air conditioner.

Thanks to the micro-channel coil of the Protherm air conditioners, which is thinner than traditional coils, there is a **significant reduction in pressure drops** and a **greater air flow rate** on the condenser, with a consequent reduction in power consumption..

Furthermore, thanks to the management of the evaporator fan by the XCB electronic control, it is possible to achieve a significant **reduction in power consumption**.



# Maximum efficiency

## Microchannel condenser

Thinner than the traditional coils. It reduces the air pressure drops and improves the air flow in the condenser side, reducing the consumption power

## XCB electronic control

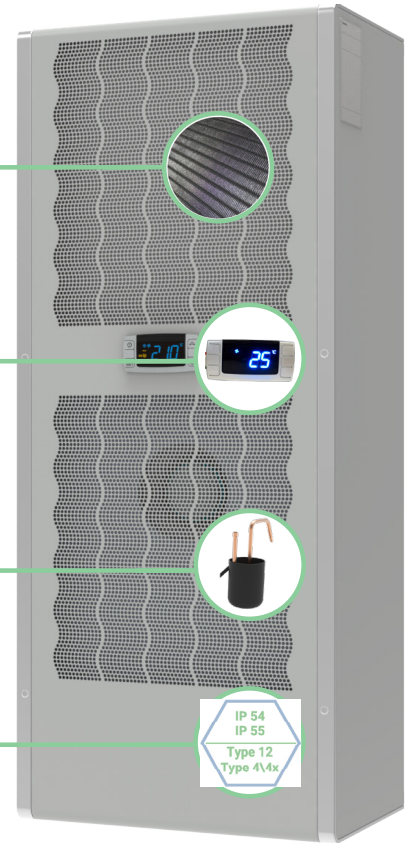
Ensures reduced power consumption, low noise levels, remote monitoring and sequencing capability.

## Condensate evaporator device

to reduce or remove the output condensate water without power consumption

## Protection Degree

Protection degree IP54/Type12 between air conditioner and electrical enclosure allows protection against the entry of dust or splashing water. For more critical application it is possible to increase the protection up to IP55 and for Outdoor UL version up to Type 4/4x



“For all your indoor and outdoor applications, worldwide ”

Protherm offer a wide range of air conditioners to meet different customer requirements, both for cooling of electrical cabinets for **industrial applications** (CVE) and for air conditioning of **shelters/cabinets for telecommunications, power distribution, etc** (CVO).

## Application Practice

### Cooling of the electrical enclosure in water treatment system

Air conditioners may have to cool electrical cabinets in environments with a corrosive atmosphere, where many substances are present, mainly ammonia and sulphur oxides, which make the atmosphere very corrosive.



With two special Protherm CVE0800220Z003 and CVE2000261Z000, Cosmotec offers a solution for the conditioning with higher corrosive resistance. The air conditioners are suitable to work in critical ambient conditions and they have a higher average life than the standard air conditioners. This is possible thanks to special solutions to protection external structure, refrigerant circuit and electronic controller elements.

### Cooling of the electrical enclosure in Energy Storage

The application sectors for the energy storage by batteries are support to electric grid (compensation of the availability of generation by non-programmable renewable sources), management of weekly/seasonal fluctuations, network balancing, peak shaving, micro-grid, isolated system and the electric mobility. The batteries are installed into the cabinet and must be cooled because their efficiency and duration decrease in according to the temperature. Moreover, they must work in protect ambient against sand and dust, present in the ambient.



With range Protherm CVO, Cosmotec offers an Outdoor conditioning solution suitable for the cooling of the energy storage cabinet. The air conditioner is designed to work continuously, 24/7, guarantee maximum reliability and working continuity.

# Technical Features - Protherm Indoor

## Main Features

- Cooling Capacity : 360-5600 W
- CVE (07/15/25)00S semi-flush mounting available
- XCB electronic board + display
- SEM & SEM<sup>2</sup> functions (with accessory)
- Sequencing & Modbus (with dedicated accessories)
- Condensate dissipating device available from CVE11 and on CVE0700S
- Quick connections (CE version except for CVE03)
- µchannel condenser (form CVE11 + CVE0700S)
- General alarm contacts and remote control standard (except CVE03)
- Certifications: CE, EAC, UL Listed

## Options

- Special Color
- Inox AISI304/316 housing
- Low Noise version (230V)
- Relay phase sequence (models 3~)
- Protective treatment on the condenser

## Accessories

- Air Filter
- Baffle
- Semi-flush / external mounting frames
- IP55 Gasket

## Options for accessories

- Sequencing cable
- MODBUS serial port
- Remote probe



CODE		CVE03				CVE05				
Nominal Tension	V,~	230		115	230		115	400,2	460,2	48
Nominal Frequency	Hz	50	60	60	50	60	60	50	60	Vdc
Height	mm	443				642				
Width	mm	324,5				314,5				
Depth	mm	206				223				
Cooling Capacity L35L35	W	360	380	380	550	580	580	500	550	500
Cooling Capacity L35L50	W	220	240	240	410	430	430	380	400	350
Absorbed Power L35L50	W	190	220	220	320	390	390	320	390	300
Sound Pressure	dB(A)	52				60				

CODE		CVE08					CVE11				
Nominal Tension	V,~	230		115	400,2	460,2	230		115	400,2	460,2
Nominal Frequency	Hz	50	60	60	50	60	50	60	60	50	60
Height	mm	642				913					
Width	mm	314,5				413					
Depth	mm	223				248					
Cooling Capacity L35L35	W	850	900	900	800	850	1100	1150	1150	1050	1100
Cooling Capacity L35L50	W	620	700	700	600	650	840	890	890	790	840
Absorbed Power L35L50	W	420	600	600	420	600	510	650	650	510	650
Sound Pressure	dB(A)	64				65					

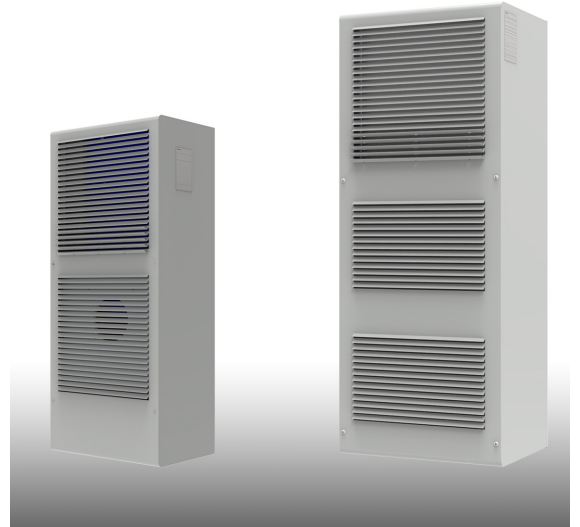
CODE		CVE15						CVE20				
Nominal Tension	V,-	230	115	400.2	460.2	460.3	230	115	400.3	460.3		
Nominal Frequency	Hz	50	60	60	50	60	60	50	60	60	50	60
Height	mm	913						1005				
Width	mm	413						413				
Depth	mm	248						263				
Cooling Capacity L35L35	W	1500	1600	1600	1400	1500	1500	2100	2200	2200	2000	2100
Cooling Capacity L35L50	W	1200	1280	1280	1150	1200	1200	1750	1850	1850	1700	1800
Absorbed Power L35L50	W	750	825	825	750	825	830	1120	1240	1240	900	1100
Sound Pressure	dB(A)	65						66				

CODE		CVE30					CVE40					
Nominal Tension	V,-	230		400.3	460.3		230		400.3	460.3		
Nominal Frequency	Hz	50	60	50	60		50	60	50	60		
Height	mm						1219					
Width	mm						514					
Depth	mm						347.5					
Cooling Capacity L35L35	W	3000	3150	2850	3000		4000	4100	3950	4050		
Cooling Capacity L35L50	W	2400	2600	2300	2500		3000	3300	2960	3260		
Absorbed Power L35L50	W	1100	1370	1330	1590		1730	1950 / 1850	1730	1950 / 1840		
Sound Pressure	dB(A)	67					67					

CODE		CVE60				CVE700S			
Nominal Tension	V,-	400.3		460.3		230			
Nominal Frequency	Hz	50		60		50		60	
Height	mm	1406				550			
Width	mm	556				279			
Depth	mm	403				286			
Cooling Capacity L35L35	W	5600		5950		800		850	
Cooling Capacity L35L50	W	4550		4850		560		580	
Absorbed Power L35L50	W	2670		3600		450		490	
Sound Pressure	dB(A)	71				58			

CODE		CVE1500S					CVE2500S					
Nominal Tension	V,-	230		400.3	460.3		230		400.3	460.3		
Nominal Frequency	Hz	50	60	50	60		50	60	50	60		
Height	mm	950					1580					
Width	mm	400					400					
Depth	mm	304					305					
Cooling Capacity L35L35	W	1500	1600	1400	1500		2550	2750	2400	2600		
Cooling Capacity L35L50	W	1200	1280	1150	1200		2000	2200	1900	2100		
Absorbed Power L35L50	W	700	890	700	830		1050	1300	1050	1290		
Sound Pressure	dB(A)	65					69					

# Technical Features - Protherm Indoor



## Main Features

- Cooling Capacity: 500-4000 W
- XCB electronic board + display (accessory)
- SEM & SEM<sup>2</sup> functions (with accessory)
- Sequencing & Modbus (with dedicated accessories)
- Quick Connections (CE version)
- $\mu$ channel condenser (from CVO11)
- General alarm contacts and remote control standard
- Operations up to -40°C ambient T for UL units
- Condenser protective treatment standard on UL units
- Certificazioni: CE, EAC, UL Listed

## Options

- Special Color
- Inox AISI304/316 housing
- Low Noise version (230V)
- Relay phase sequence (models 3~)
- Condenser protective treatment (CE units)
- Electrical heating

## Accessories

- Keypad
- Air Filter
- Semi-flush / external mounting frames
- IP55 gasket (CE units)

## Options for accessories

- Sequencing cable
- MODBUS serial port
- Remote probe

CODE	UM	CVO05						CVO08					
Nominal Tension	V,~	230	115	400,2	460,2	48	230	115	400,2	460,2			
Nominal Frequency	Hz	50	60	60	50	60	Vdc	50	60	60	50	60	
Height	mm							636					
Width	mm							314,5					
Depth	mm							233					
Cooling Capacity L35L35	W	550	580	580	500	550	500	850	900	900	800	850	
Cooling Capacity L35L50	W	410	430	430	380	400	350	620	700	700	600	650	
Absorbed Power L35L50	W	320	390	390	320	390	300	420	600	600	420	600	
Sound Pressure	dB(A)	60				64			64				

CODE	UM	CVO11						CVO15					
Nominal Tension	V,~	230	115	400,2	460,2	230	115	400,2	460,2	460,3			
Nominal Frequency	Hz	50	60	60	50	60	50	60	60	50	60	60	
Height	mm							906					
Width	mm							412,5					
Depth	mm							271,5					
Cooling Capacity L35L35	W	1100	1150	1150	1050	1100	1500	1600	1600	1400	1500	1500	
Cooling Capacity L35L50	W	840	890	890	790	840	1200	1280	1280	1150	1200	1200	
Absorbed Power L35L50	W	510	650	650	510	650	750	825	825	750	825	830	
Sound Pressure	dB(A)	65				65							

CODE	UM	CVO20						CVO40				
Nominal Tension	V,~	230	230	400,3	460,3	230	400,3	460,3				
Nominal Frequency	Hz	50	50	60	50	50	50	60	60			
Height	mm	999						1211				
Width	mm	412,5						514				
Depth	mm	286						370				
Cooling Capacity L35L35	W	2100	2200	2200	2000	2100	4000	4100	3950	4050		
Cooling Capacity L35L50	W	1750	1850	1850	1700	1800	3000	3300	2960	3260		
Absorbed Power L35L50	W	1120	1240	1240	900	1100	1730	1950	1730	1950		
Sound Pressure	dB(A)	66						67				

CODE	UM	CVO60			
Nominal Tension	V,~	400,3		460,3	
Nominal Frequency	Hz	50		60	
Height	mm	1400			
Width	mm	556			
Depth	mm	428			
Cooling Capacity L35L35	W	5600		5950	
Cooling Capacity L35L50	W	4550		4850	
Absorbed Power L35L50	W	2670		3600	
Sound Pressure	dB(A)	71			

