

ETHRA TECH
Industrial air conditioning

Product overview
2019



Designed to get the ideal CLIMATE for any season

HISTORY

Ethra Tech is a company with a long-standing industrial tradition. Since the beginning, in 1999, it has been designing, producing and installing air conditioning systems for civil, industrial and military applications.

The Telecommunications sector has grown and developed rapidly for more than 20 years, so that all the Network Operators have sought partners capable of offering technologically advanced and reliable solutions, able to resolve any technical difficulty in the implementation of their own Networks.

In such a dynamic and complex scenery was founded AEA in 1999 (today Ethra Tech), and thanks to investments in R&D and qualified personnel, has become a modern industrial reality in very few years.

The company has developed with the market and from the beginning it was able to guarantee quality, reliability, the search for new solutions and service to the customer.

Technological innovation, continuous training of personnel, team work, immediate response to the needs of the market, are the elements that Ethra Tech has emphasised and continued to emphasise in order to satisfy the needs of the various sectors; all of this has ensured a good level of competitiveness both from a technical and economic point of view.

Operating in the field of refrigeration and air conditioning, achieving excellent results in the design and production of devices for the control of temperature in technological premises and the like, Ethra Tech has over the years developed products also for markets outside the Telecommunications sector. Thanks to a qualified organization, the company today can offer a wide range of air conditioning appliances.

In the productive area Ethra Tech supplies refrigeration systems for:

- Telecommunications
- Data Center
- Industrial environments
- Automotive refrigeration
- For indoor and outdoor cabinets

Its Main Office is located in Umbria in Massa Martana, and thanks to partnerships with selected companies of the sector Ethra Tech has succeeded in covering the entire country with direct or indirect personnel. This territorial coverage enables us to guarantee on-site technical service within few hours.

Moreover, since 2010 the company has been producing and assembly integrated Outdoor and Indoor Cabinets. Cabinets for which it is necessary to eliminate the heat generated by the internal devices, by means of systems of integrated refrigeration or elimination by air dissipation or extraction when the environmental conditions allow it. Such cabinets are designed and supplied, if requested, complete with power supply, electric system and batteries

As regards the Future of the company, there will be a consolidation of its own position in the markets which see it as one of the main air conditioner suppliers, as well as a development towards Foreign Markets creating new collaboration with foreign local companies with the aim of providing high quality products and services.





A background image showing several hands in business attire stacking wooden blocks on a wooden surface. The blocks are arranged in a bar chart-like structure, with some taller than others. The hands are positioned as if they are actively building or adjusting the structure.

MISSION

PLANNING, PRODUCING, INSTALLING and PROVIDING SERVICING to the customer during all the work phases represents ETHRATECH's business MISSION.

Ethra Tech is able to develop CUSTOMIZED SOLUTIONS even for requests for a limited number of units, in order to meet increasingly specific requirements. Business FLEXIBILITY enables us to "CUSTOMIZE" the product according to the installation needs of the customer. The added value of the solutions proposed lies in a research and development team capable of interacting with the customer during each planning phase.

In this respect Ethra Tech offers itself as a top level partner from an economic, productive and organizational point of view.

Thanks to partnership with numerous leading companies in the electronics and air conditioning sectors, ETHRATECH has at its disposal innovative systems for the supply of its products that allow the customer always to keep up with the increasingly demanding requirements of the market.

Ethra Tech considers research activity to be fundamental. Such activity is developed both in collaboration with research laboratories (Private, public or University Bodies) and within the company where the planning, engineering and testing of the products is carried out.

In recent years particular attention has been dedicated to the search for solutions for Energy Saving and Noise reduction.

To complete the MISSION we have the TECHNICAL TRAINING of the customer. The results obtained by our research are then passed on to our customers technical courses through organized by Ethra Tech .

Ethra Tech regularly organizes for our partners, at the Massa Martana branch, technical courses regarding the equipment, their installation and maintenance.



QUALITY AND ENVIRONMENT

Achieving excellence is the main aim of the business Functions: from research and development to planning, from production to distribution and technical assistance.

The ISO9001 certification, is the result of the company's desire to satisfy globally any request from any customer.

In the area of production each stage is controlled methodically and constantly by expert and qualified personnel, from the raw materials to the final tests. All the products are analysed one by one before being released for the customer.

Thanks to all of this Ethra Tech is able to guarantee high qualitative standards in all phases of project realization.

Ethra Tech operates according to an integrated Quality, Environment, Safety System developing products with the least environmental impact that respect people and the environment, making each day better than the one before.

All Ethra Tech products are guaranteed MADE IN ITALY, and comply with all the regulations in force on the international market.

In recent years the design of new machines has dedicated particular attention to air conditioners that operate:

- using ecological refrigerant gases such as R407C and R134a
- saving energy
- avoiding noise pollution (maximum noise reduction)



REFERENCES

Ethra Tech has a consolidated experience with the main Telecommunications Operators in Italy and Abroad, obtaining the homologation of its own solutions by Customers like TELECOM ITALIA, WIND TRE, VODAFONE, ORANGE, CELLNEX and others.

Tens of thousands of solutions with our air conditioners testify to Ethra Tech leadership in this sector.

Ethra Tech works both in Italy and abroad as a strategic partner of the main Technology Providers, like ERICSSON NETWORKS, NOKIA SIEMENS NETWORKS, ALCATEL-LUCENT and HUAWEI, ZTE.

Moreover, it produces appliances of low refrigerant power, for ABB, for the refrigeration of cabinets and power panels.

Many companies, that work in the industrial sector, in particular siderurgy, have chosen to install our line of products inside foundries or other exacting environments in which very high temperatures and the problem of dust particles are found.

In the past, thanks to collaboration with the MINISTRY OF DEFENCE and the ITALIAN ARMY, Ethra Tech has supplied air conditioners for military applications, for the cooling of shelters and technological rooms.

The company is able to provide pre- and post-sale services also abroad, through qualified partners.



TECHNOLOGIES

INVERTER

Air conditioners with Inverter technology make it possible to obtain considerable energy saving with advantages also in terms of thermal and acoustic comfort; specifically, the regulation of temperature is obtained by means of variation of the rotation speed of the compressor

ASC AND MP16 CONTROLLER

ASC and MP16 controllers installed on the air conditioners to manage all their functions and control simultaneously free-cooler and free-cooling systems, ensuring control of the whole air-conditioning process in technological premises and the like where, in addition to guaranteeing all of the above, they ensure high levels of reliability.

The large number of inlets and outlets make our controllers as flexible as a PLC.

FREE-COOLER SYSTEM

A solution that was designed to make possible ENERGY SAVING even on those sites where air-conditioners without free-cooling system have been previously installed.

The unit includes: an air intake system (free-cooler ventilator) and an air extraction system (over pressure shut-off dampers).

TELECOMMUNICATIONS

OUTDOOR PACKAGED UNIT — EF SERIE

R407C



DC INVERTER

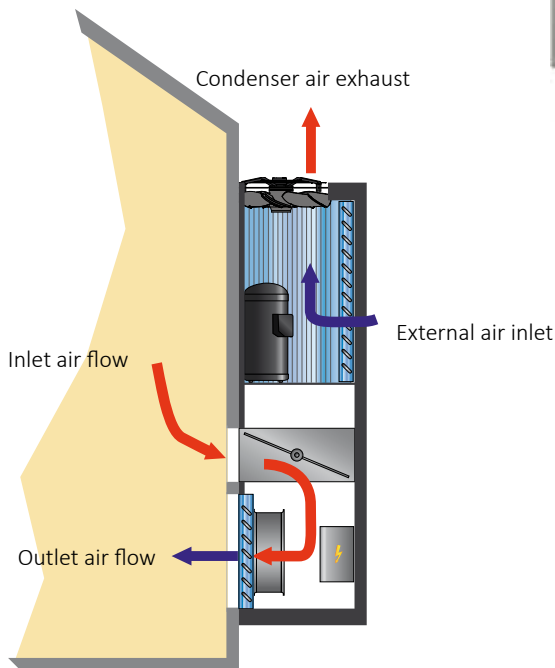


Cooling capacity 5 ÷ 14kW
 Operation limits -20°C ÷ +45°C
 On-off / inverter
 Electronic temperature control



Air cooled air conditioning units designed and manufactured mainly for technological sites, with particular focus to energy efficiency. The flexibility of these systems allows to the customer to configure the air conditioner according to his needs.

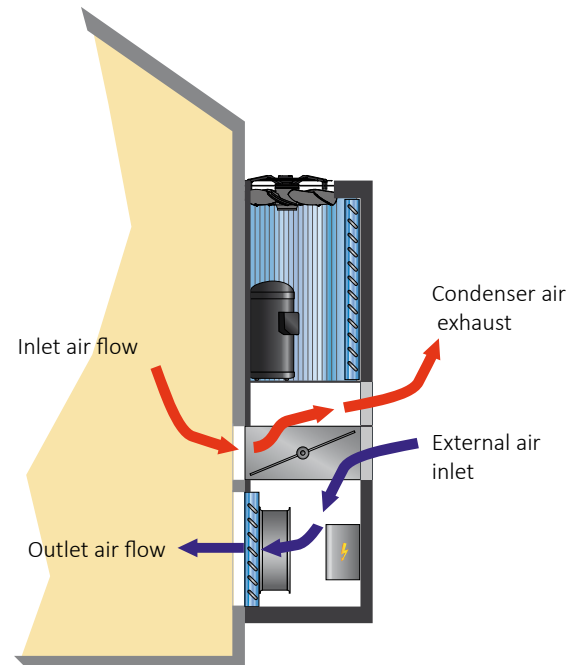
Cooling mode



Main Features

- Mainframe and panels made of galvanized steel
- High corrosion resistant
- Electrical board with external interface user panel
- Automatic restart after absence power supply

Free Cooling mode



Model		AE50EF1CP	AE80EF1CP	AE80EF3CP	AE100EF3CP	AE140EF3CP
Compressor		Hermetic	Hermetic	Hermetic	Hermetic	Hermetic
Total cooling capacity ⁽¹⁾	W	6300	7200	7200	10300	14100
Sensitive cooling capacity	W	5600	6500	6500	9200	12700
Heating capacity (optional)	W	1500	3000	3000	3000	3000
Voltage supply	V/pH/Hz	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50

(1) External Temperature 35°C- Inside Temperature 27°C- R.H. =50%

INDOOR PACKAGED UNIT — IF SERIE

R407C



DC INVERTER

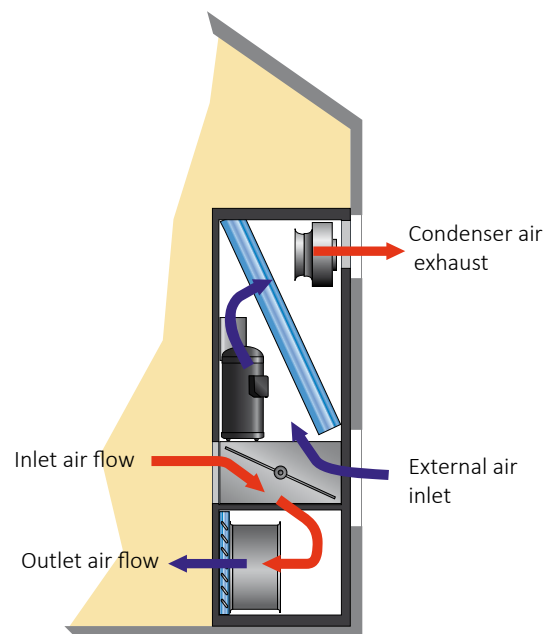


Cooling capacity 5 ÷ 14kW
 Operation limits -20°C ÷ +45°C
 On-off / inverter
 Electronic temperature control

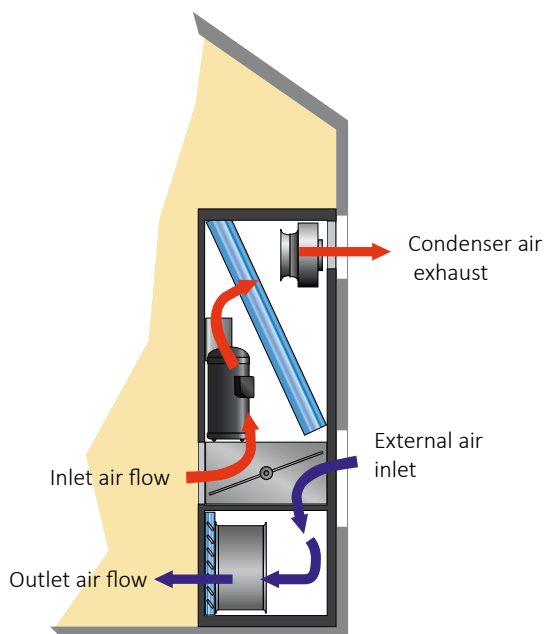


- The fans of the evaporation section have a variable speed in accordance with the evaporation pressure
- The fans of the condensation section have a variable speed in accordance with the condensation pressure
- 48Vdc air treatment section
- Eu3 class air filter

Cooling mode



Free Cooling mode



Model		AE50IF1CP	AE80IF1CP	AE80IF3CP	AE100IF3CP	AE140IF3CP
Compressor		Hermetic	Hermetic	Hermetic	Hermetic	Hermetic
Total cooling capacity ⁽¹⁾	W	6300	7200	7200	10300	14100
Sensitive cooling capacity	W	5600	6500	6500	9200	12700
Heating capacity (optional)	W	1500	3000	3000	3000	3000
Voltage supply	V/pH/Hz	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50

(1) External Temperature 35°C- Inside Temperature 27°C- R.H. =50%

TELECOMMUNICATIONS

SPLIT SYSTEM – CEALING SERIES

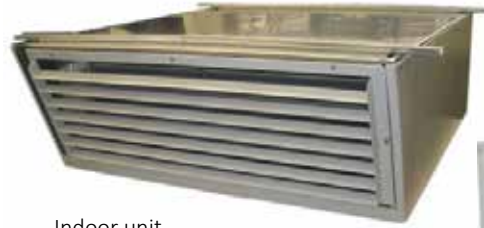
R407C



DC INVERTER



Cooling capacity 5 ÷ 14kW
 Operation limits -20°C ÷ +45°C
 On-off / inverter
 Electronic temperature control



Indoor unit

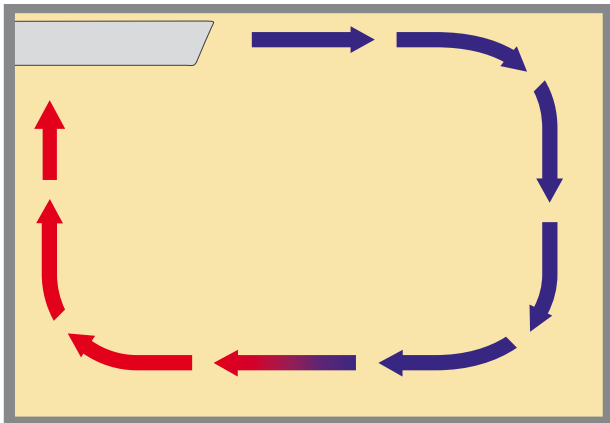


Outdoor unit

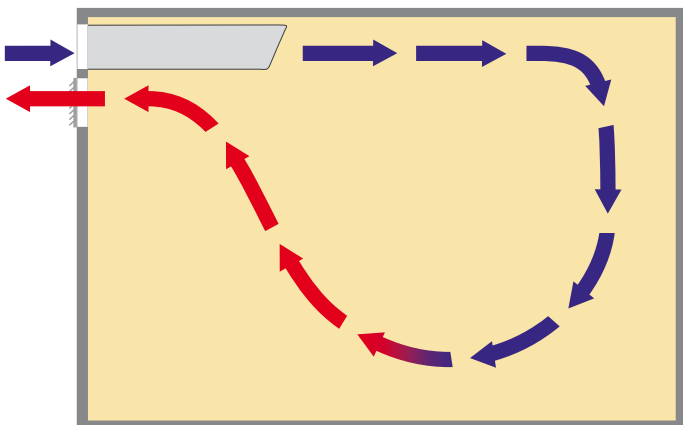
Other versions

Vertical
 T Series (Three units)

Cooling mode



Cooling mode



Main Features

- External Unit with mainframe made of steel and panels in aluminum
- Internal Unit with mainframe and panels made of aluminum
- High corrosion resistant
- Electrical board with external interface user panel
- Automatic restart after absence power supply
- The fans of the evaporation section have a variable speed in accordance with the evaporation pressure
- The fans of the condensation section have a variable speed in accordance with the condensation pressure
- 48Vdc air treatment section
- EU3 class air filter

Model		AE40SF1DP	AE50SF1DP	AE80SF1DP	AE80SF3DP	AE100SF3DP	AE140SF3DP
Compressor		Inverter Hermetic		Inverter Hermetic	Inverter Hermetic	Inverter Hermetic	
Total cooling capacity ⁽¹⁾	W	4100	6100	8600	8600	10000	14800
Sensitive cooling capacity	W	3690	5490	7740	7740	9000	13320
Heating capacity (optional)	W	1500	1500	3000	3000	3000	3000
Voltage supply	V/pH/Hz	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50

(1) External Temperature 35°C- Inside Temperature 27°C- R.H. =50%

SPLIT SYSTEM – UP SERIES

R407C



DC INVERTER



Cooling capacity 5 ÷ 14kW
 Operation limits -20°C ÷ +45°C
 On-off / inverter
 Electronic temperature control

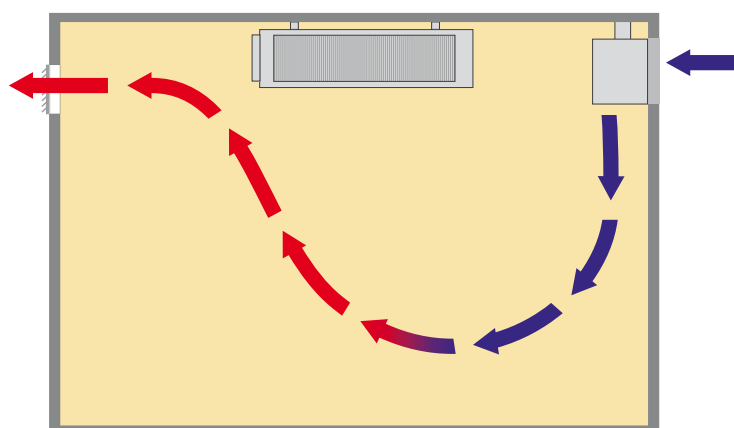
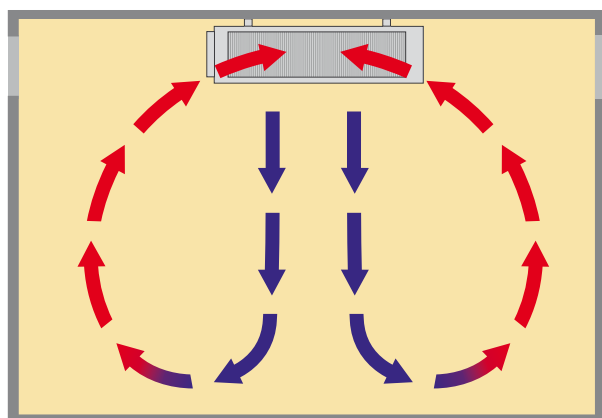


Indoor unit



Outdoor unit

Cooling mode



Main Features

- External Unit with mainframe made of steel galvanized and aluminum panels- Internal Unit with mainframe and aluminum panels
- High corrosion resistant
- Electrical board with external interface user panel
- Automatic restart after absence power supply
- Fans evaporating section and form free-cooling type EC
- The fans of the evaporation section have a variable speed in accordance with the evaporation pressure
- The fans of the condensation section have a variable speed in accordance with the condensation pressure
- 48Vdc air treatment section
- Eu3 class air filter

Model		2_6	3_8	3_10	5_14
Compressor		Inverter Hermetic	Inverter Hermetic	Inverter Hermetic	Inverter Hermetic
Total cooling capacity ⁽¹⁾	W	2000 / 5800	3000 / 8200	3000 / 10300	5000 / 13800
Sensitive cooling capacity	W	5100	7400	9200	12350
Heating capacity (optional)	W	2000	2000	3000	3000
Voltage supply	V/pH/Hz	230/1/50	230/1/50	400/3+N/50	400/3+N/50

(1) External Temperature 35°C- Inside Temperature 27°C- R.H. =50%

DATA CENTER

IN ROW DIRECT EXPANSION



Main Features

- Compressor with inverter technology – Brushless type - vers. Twin Rotary
- Precision temperature control with electronic PLC
- Electrical board removable on rails
- Evaporation fans 230Vac / 48Vdc of the EC type
- Electronic expansion valve
- Cable entry point from bottom (from top on request)
- High energy efficiency
- Remote connections for alarm management
- Acoustic attenuation of the optimized type

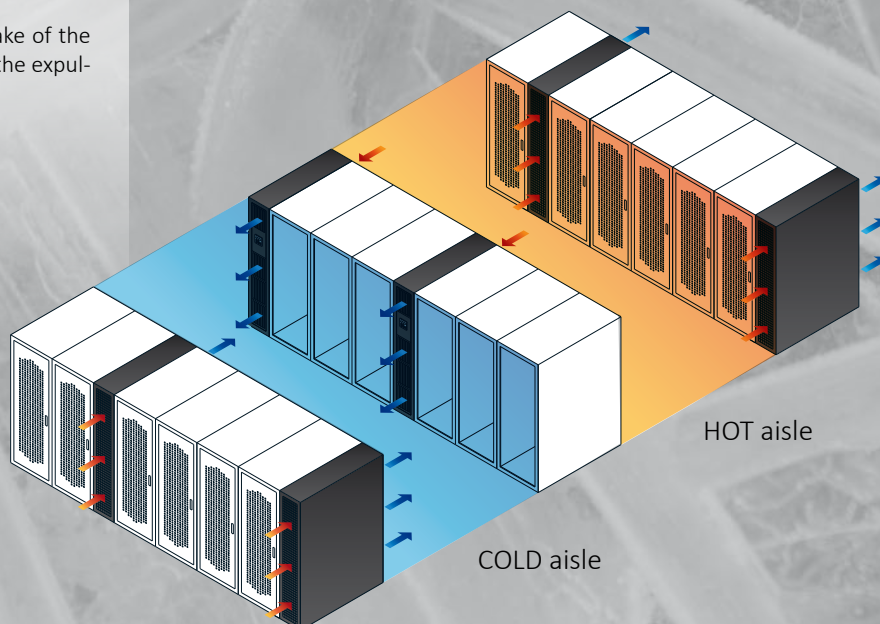
Model	3/10		4/15		4/20		6/25		
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	
Compressor	Hermetic/Inverter		Hermetic/Inverter		Hermetic/Inverter		Hermetic/Inverter		
Total cooling capacity	W	3000/10200	3000/9300	4000/15300	4000/13600	6000/2100	6000/19500	6000/22500	6000/20400
Sensitive cooling capacity	W	3000/9000	3000/8500	4000/13800	4000/13000	6000/18000	6000/17200	6000/1950	6000/19100
Voltage Supply	V/pH/Hz	400/3+N/50-60		400/3+N/50-60		400/3+N/50-60		400/3+N/50-60	
Dimensions (WxDxH)	mm	300x1200x2000		300x1200x2000		300x1200x2000		300x1200x2000	

(1) External Temperature 35°C- Inside Temperature 35°C- R.H.=50%

(2) External Temperature 35°C- Inside Temperature 30°C- R.H.=50%

Hot aisle / cold aisle mode

The "hot aisle / cold aisle" mode has the intake of the hot air in the back of the air conditioner and the expulsion of the cooled air in the front.



IN ROW AIR CONDITIONER



Main Features

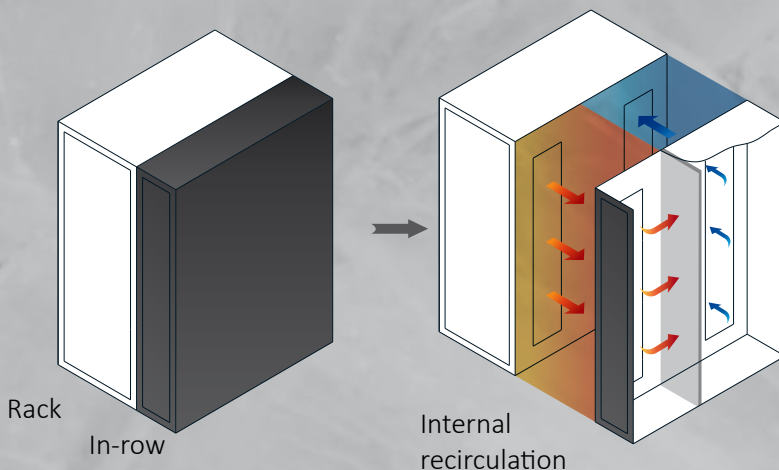
- Compressor with inverter technology – Brushless type - vers. Twin Rotary
- Precision temperature control with electronic PLC
- Electrical board removable on rails
- Evaporation fans 230Vac / 48Vdc of the EC type
- Electronic expansion valve
- Cable entry point from bottom (from top on request)
- High energy efficiency
- Remote connections for alarm management
- Acoustic attenuation of the optimized type

Model		10	20	25
Total cooling capacity ⁽¹⁾	W	10500	20000	22000
Sensitive cooling capacity ⁽¹⁾	W	10500	20000	22000
Voltage Supply	V/pH/Hz	230/1+N/50	230/1+N/50	230/1+N/50
Dimensions (WxDxH)	mm	300x1200x2000	300x1200x2000	300x1200x2000

(1) External Temperature 35°C- Inside Temperature 35°C- R.H.=50%

Internal recirculation inside the rack cabinet

The "internal recirculation inside rack cabinet" mode has the intake of the hot air from the interior of the rack and the expulsion of the cooled air to the internal front part of the same rack .



INDUSTRIAL ENVIRONMENT

OUTDOOR PACKAGED UNITS — ACU SERIES

R134a



Cooling capacity 4 ÷ 6 kW
 Operation limits -40°C ÷ +80°C
 Electronic temperature control

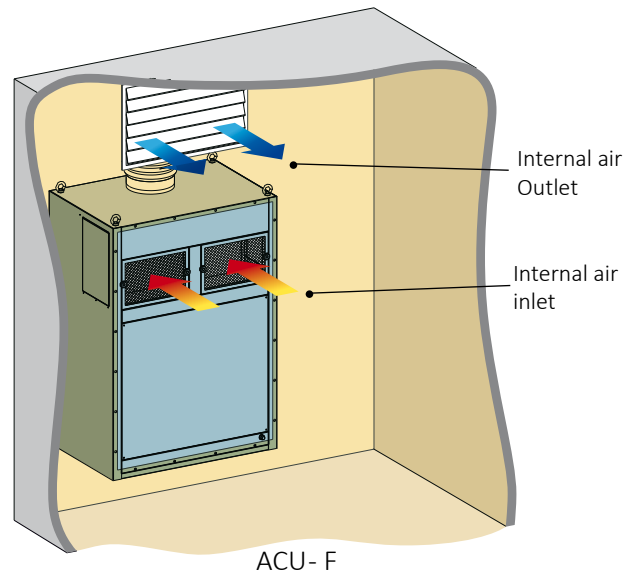
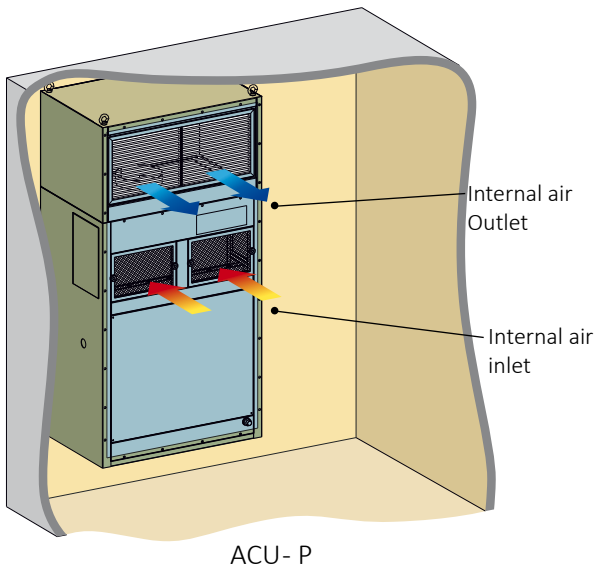


Packaged air conditioning units, specifically designed and manufactured to operate in extreme conditions in presence of dust and vibration and high temperature.

Main Features

- Mainframe and panels made of galvanized steel
- High corrosion resistant
- Electrical board with external interface user panel
- Automatic restart after absence power supply

Operating mode



Model		ACU401	ACU601
Compressor		Scroll	Scroll
Total cooling capacity ⁽¹⁾	W	4200	5850
Sensitive cooling capacity ⁽¹⁾	W	3950	5500
Voltage supply	V/pH/Hz	400/3/50	400/3/50

(1) External Temperature 60°C- Inside Temperature 30°C- R.H. =50%

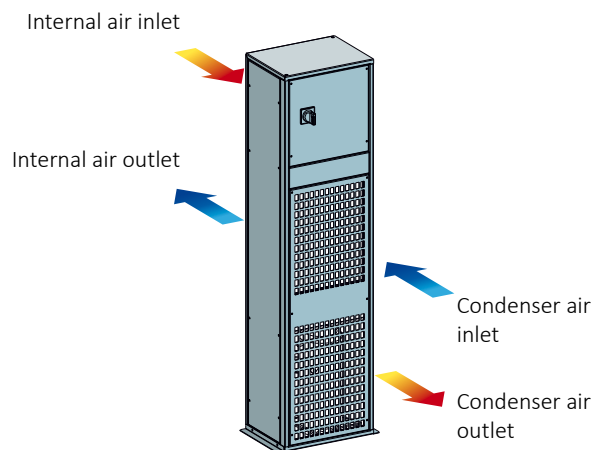
INDOOR PACKAGED UNITS – CUS SERIES

R134a 

Cooling capacity 1,8 ÷ 3 kW
 Operation limits -40°C ÷ +80°C
 Electronic temperature control



Operating mode



- The fans of the condensation section have a variable speed in accordance with the condensation pressure
- Metallic air filter
- Working at external temperatures from -40°C up to 80°C
- Resistance to dust and vibrations

Model		CUS183	CUS222	CUS301
Compressor		Scroll	Scroll	Scroll
Total cooling capacity ⁽¹⁾	W	1800	2500	2800
Sensitive cooling capacity ⁽¹⁾	W	1700	2350	2600
Voltage supply	V/pH/Hz	230/1/50	460/3/60	400/3/50

(1) External Temperature 35°C- Inside Temperature 27°C- R.H. =50%

SPLIT AIR CONDITIONING UNITS – AIS SERIES

R134a 

Cooling capacity 5 ÷ 8 kW
 Operation limits -20°C ÷ +75°C
 Electronic temperature control



Main Features

- Mainframe and panels made of galvanized steel
- High corrosion resistant
- Electrical board with external interface user panel
- Automatic restart after absence power supply
- HP fan is regulated by pressure switch
- Working at external temperatures from -20°C up to 75°C
- Resistance to dust and vibrations

Model		60	80
Compressor		Semiermetic	Semiermetic
Total cooling capacity ⁽¹⁾	W	6200	8700
Sensitive cooling capacity ⁽¹⁾	W	6000	8300
Voltage supply	V/pH/Hz	400/3/50 + N + T	400/3/50 + N + T

(1) External Temperature 60°C- Inside Temperature 30°C- R.H. =50%

ELECTRICAL BOARDS

HEAT EXCHANGERS - CU HE SERIES

R134a

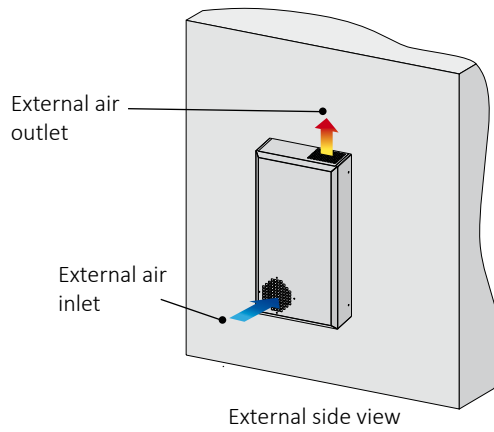
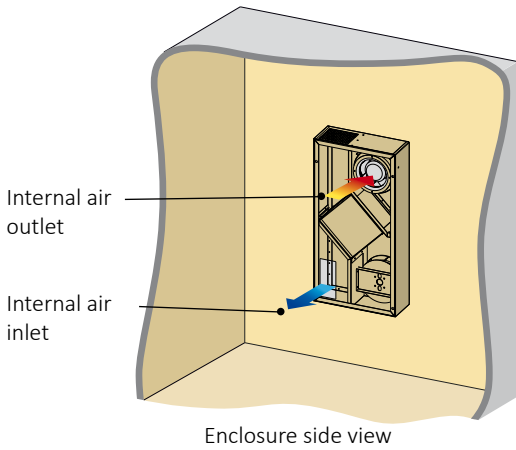


Specific heat transmission 35 ÷ 85 W/K

Operation limit -30°C ÷ +60°C

Air conditioning units and heat exchangers designed and manufactured for the cooling of electrical boards or for similar applications. Such units can be mounted externally, internally or directly on the roof to satisfy any kind of needs.

Operation mode



Model		CUHE35		CUHE85	
Voltage supply	V/pH	230/1		230/1	
Frequency	Hz	50	60	50	60
Specific heat transmission	W/K	35	35	85	85
Absorbed power	W	116	150	170	180

INDOOR AIR CONDITIONING UNITS - CU AL SERIES

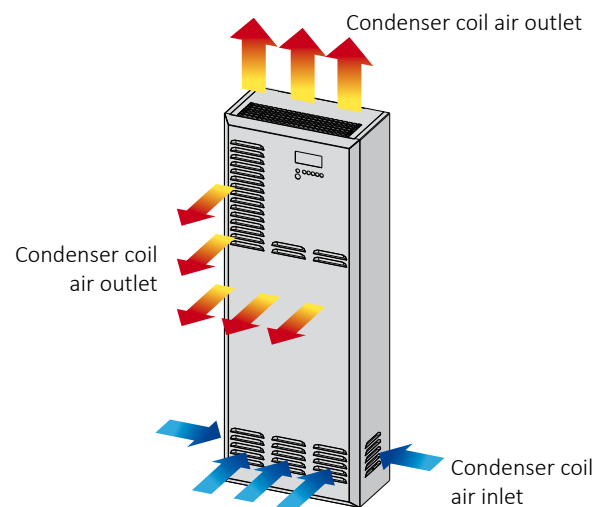
R134a



Specific heat transmission 0,5 ÷ 2 kW

Operation limit -20°C ÷ +55°C

Operation mode



Model		CU050AL		CU065AL		CU100AL		CU140AL		CU160AL		CU200AL	
Voltage supply	V/pH	230/1		230/1		230/1		230/1		230/1		230/1	
Frequency	Hz	50	60	50	60	50	60	50	60	50	60	50	60
Cooling capacity ⁽¹⁾	W	605	670	806	904	1000	1100	1400	1600	1650	1900	2010	2250
Absorbed power	W	330	360	420	470	480	560	680	750	740	840	840	960

(1) External Temperature 35°C- Inside Temperatura 30°C- R.H. =50%

AIR CONDITIONING UNITS - CU ROOF SERIES

R134a

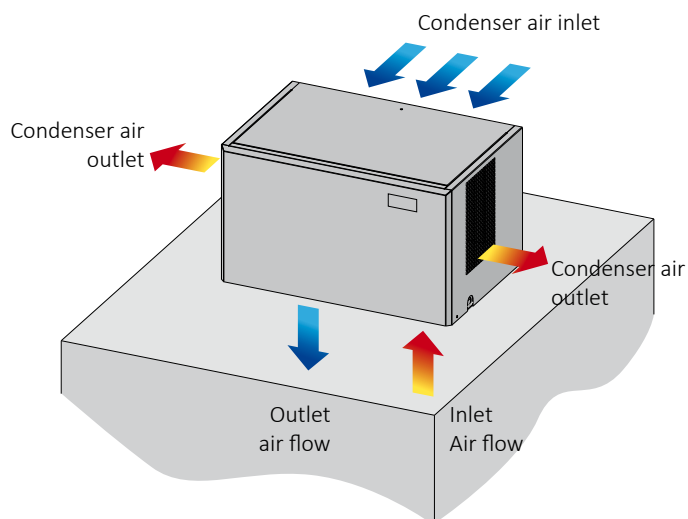


Cooling capacity 0,8 ÷ 1,6 kW

Operation limit -20°C ÷ +55°C



Operation mode



Model		CU085ROOF		CU100ROOF		CU140ROOF	
Voltage supply	V/pH	230/1		230/1		230/1	
Frequency	Hz	50	60	50	60	50	60
Cooling capacity ⁽¹⁾	W	860	940	1000	1100	1400	1600
Absorbed power	W	420	470	480	560	680	750

(1) External Temperature 35°C- Inside Temperature 30°C- R.H. =50%

AIR CONDITIONING UNITS - RACK CR SERIES

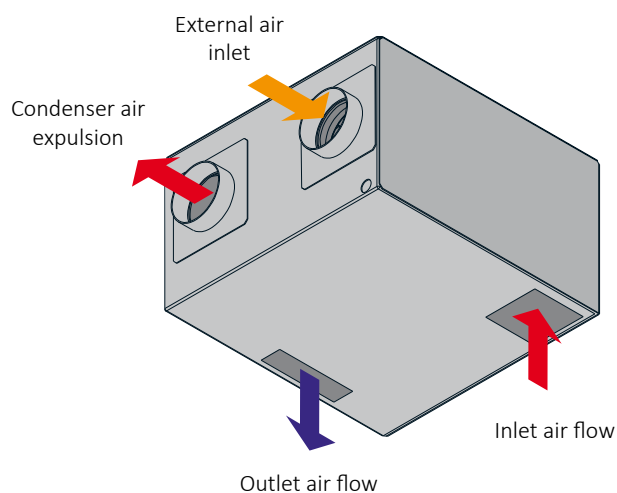
R134a



Specific heat transmission 3 kW



Operation mode



Model		CU085ROOF
Voltage supply	V/pH	230/1
Frequency	Hz	50
Cooling capacity ⁽¹⁾	W	300
Absorbed power	W	260

(1) External Temperature 35°C- Inside Temperature 30°C- R.H. =50%

FREE COOLING SYSTEMS

Solutions designed and implemented to achieve great ENERGY SAVINGS targets also for those sites where air conditioning units are already existing. The Free-cooling system guarantees a continuous air exchange with the first purpose to transfer the internal heating generated by the equipment towards the external environment.

INTERNAL FREE-COOLER KIT - PASCI SERIES



The system is designed to be managed by its own PLC PB13 to manage the operation cycle and detect the possible causes of alarm conditioning system. This system when coupled with an Ethra Tech air conditioner can be managed by the same air conditioner PLC, in this way it is not necessary a dedicated PLC.

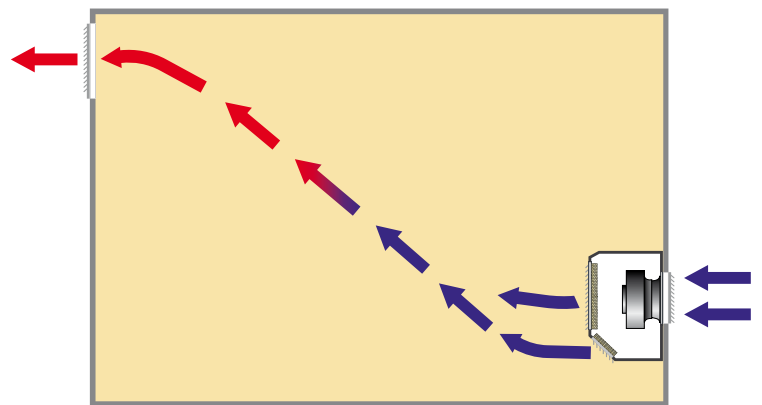
Indoor installation

Air flow rate 1500 m³/h- 3000 m³/h

Power supply 48vdc (230vac on request)



Operation mode



EXTERNAL FREE-COOLER KIT - PASCE SERIES



The system is designed to be managed by its own PLC PB13 to manage the operation cycle and detect the possible causes of alarm conditioning system. This system when coupled with an Ethra Tech air conditioner can be managed by the same air conditioner PLC, in this way it is not necessary a dedicated PLC.

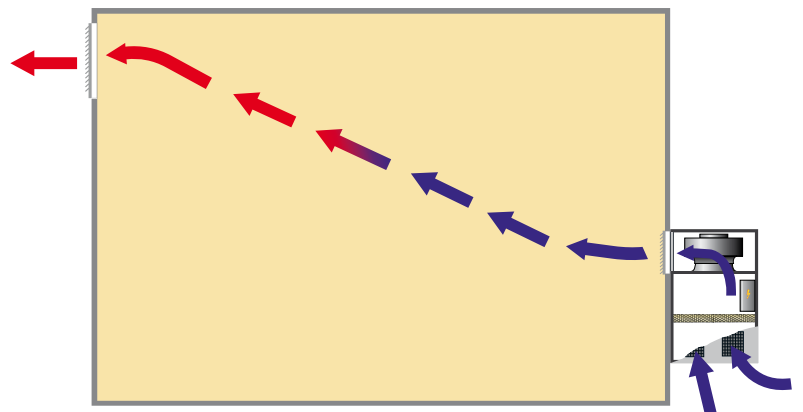
Indoor installation

Air flow rate 1500 m³/h- 3000 m³/h

Power supply 48vdc (230vac on request)



Operation mode



EXTRACTION AIR SYSTEM WITH GRIDS - FCGR SERIES



The system is designed to be managed by its own PLC PB13 to manage the operation cycle and detect the possible causes of alarm conditioning system. This system when coupled with an Ethra Tech air conditioner can be managed by the same air conditioner PLC, in this way it is not necessary a dedicated PLC.

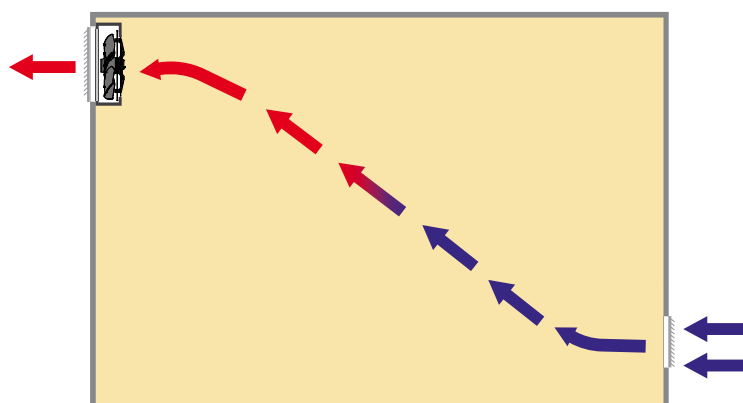
Indoor installation

Air flow rate 1000 m³/h ÷ 4000 m³/h

Power supply 48vdc (230vac on request)



Operation mode

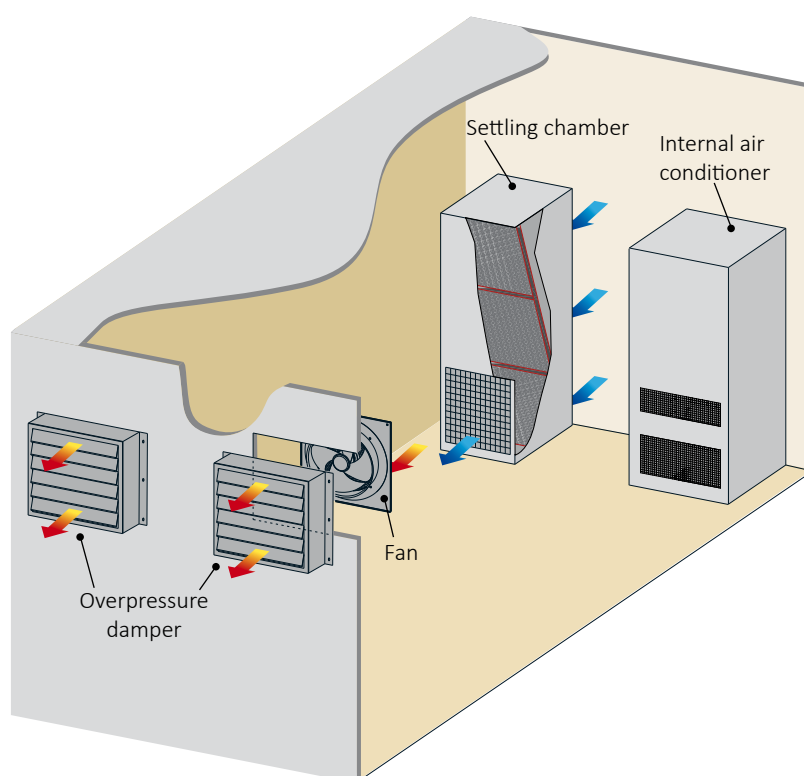


COMBINED SYSTEM - ONE CDZ SERIES



The air conditioning system, called "ONE CDZ_ES", consists of a high energy efficiency air conditioner (Indoor-Outdoor-Split system) and an air extraction system (free-cooler).

Operation mode





Ethra Tech srl

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