

Airwell

Just feel well

AIRWELL SPARE PARTS

Guide

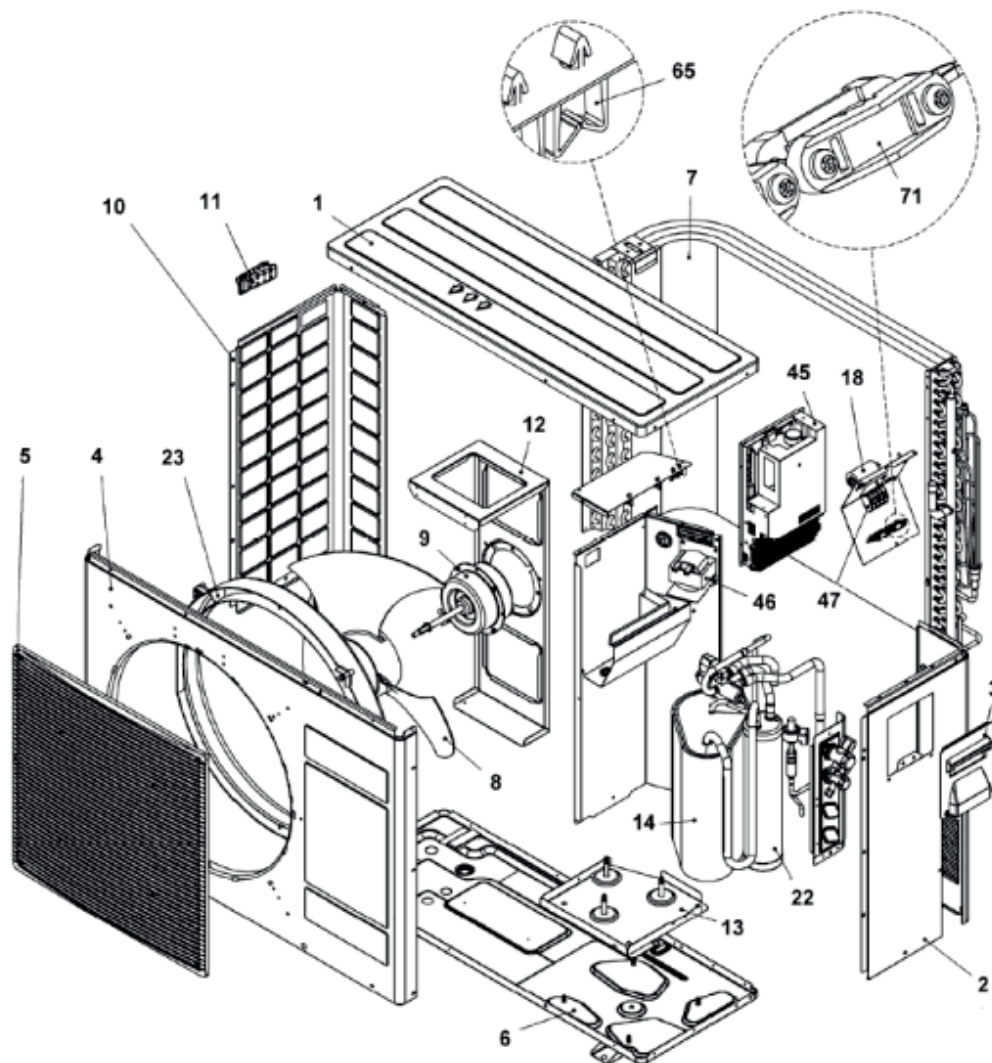


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1. INTRODUCTION

This practical guide is intended for anyone who has to select AIRWELL spare parts.

You will find a quick presentation of the basic principles of cold production in order to understand the role of the main parts of an installation.

Then, you will find explanations on the selection of spare parts for the Airwell brand.

Enjoy your reading.

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Key concepts

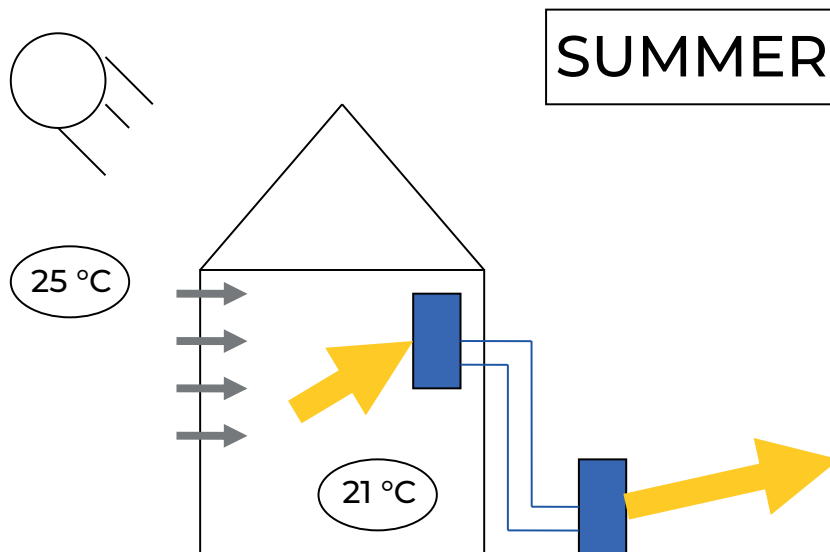
2. BASIC PRINCIPLES

2.1. COOLING AND ENERGY

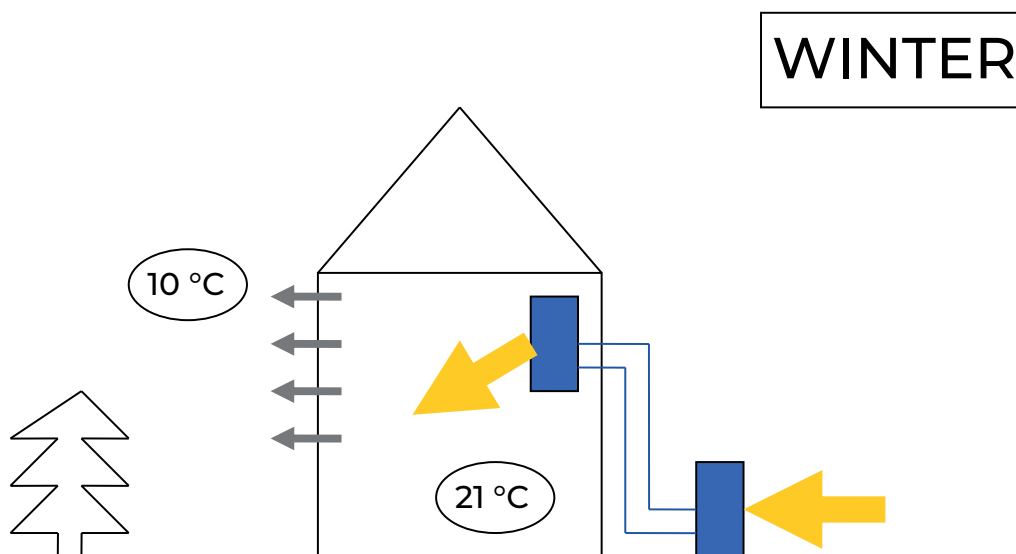
Cold is not created. To make cold, energy must be removed.

As a matter of principle, it is assumed that the energy movement is always from hot to cold.

The role of a refrigeration system such as air conditioning is therefore to transfer energy.

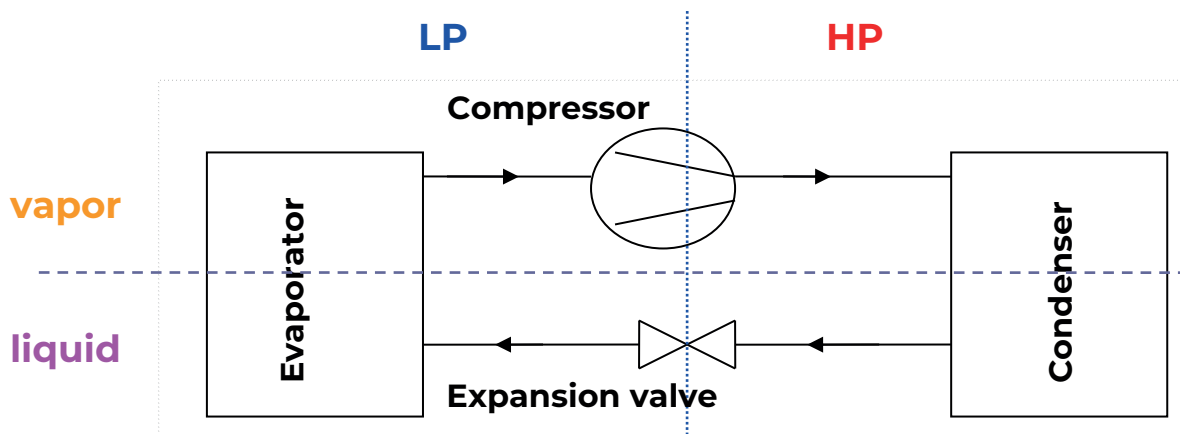


In the summer, the room is heated by indoor and outdoor heat. To cool the room, energy must be removed.



In winter, there are energy losses. In order to warm up the space, energy must be supplied.

2.2. THE REFRIGERATION SYSTEM



As seen before, producing cold means removing energy from an environment. To make cold, we use the thermodynamic properties of a fluid. As the fluid evaporates, it absorbs heat.

The energy is absorbed at the evaporator when the liquid fluid changes to vapour form. The refrigerant is circulated through the compressor where its pressure increases. The pressure increases from low pressure to high pressure.

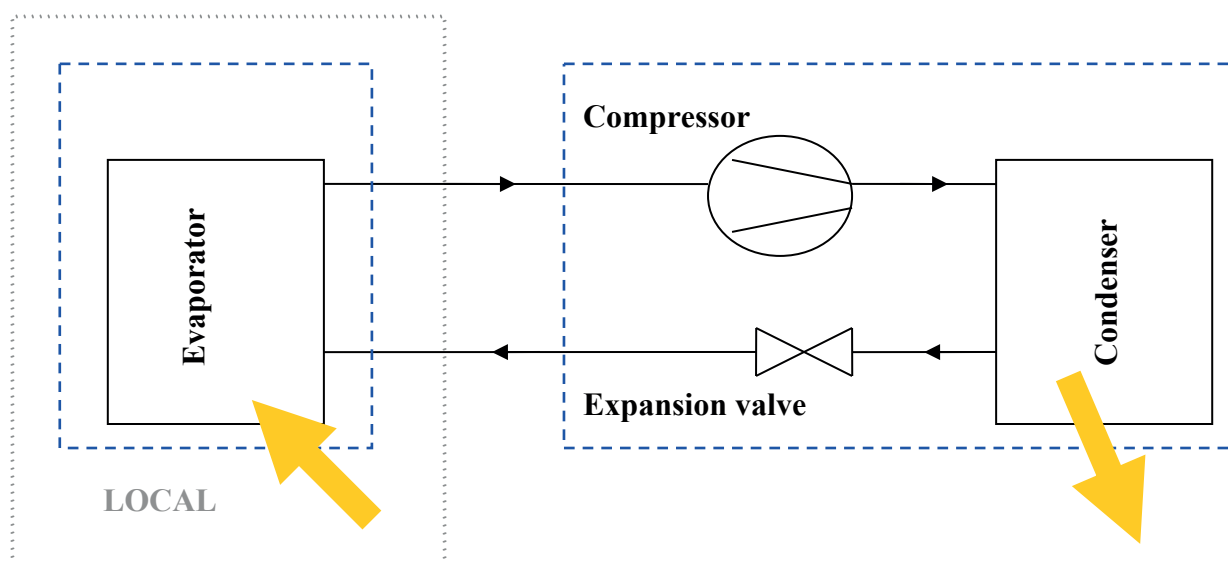
The energy absorbed at the evaporator is released at the condenser. The fluid changes to a liquid state, releasing heat.

Then, in the expansion valve, the fluid changes from high pressure to low pressure. Low pressure liquid arrives in the evaporator where it changes state and so on.

In residential air conditioning (summer operation in «cold» mode), the evaporator is in the indoor unit. The compressor, condenser and expansion valve are located in the outdoor unit.

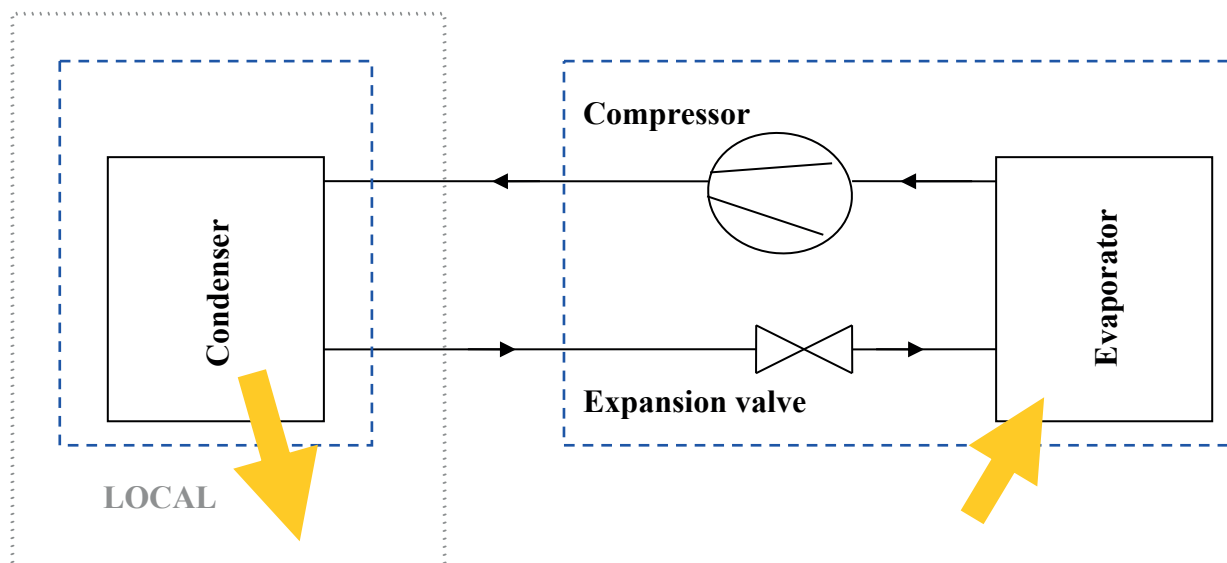
2.2.1. Concept of a reversible system

Here is an installation in summer (Cooling mode):



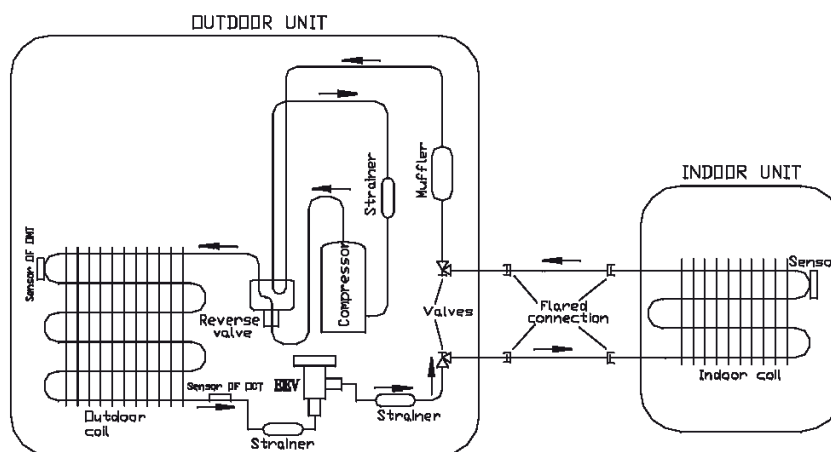
In winter, the aim is to heat the room. Therefore, it is sufficient to reverse the refrigeration cycle to provide energy to the air in the room.

Overall, we want to obtain this:

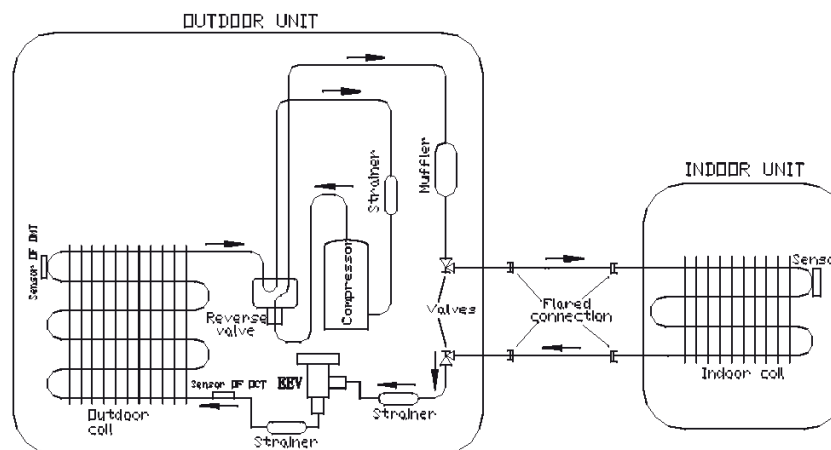


However, to reverse the direction of flow without moving the equipment, a component called a **4-way valve** or **cycle reversal valve** is used.

Cooling and Dry Mode



Heating Mode



Extrait de SM_YBD018 DCI Series(Airwell).pdf

3. IDENTIFICATION OF AIRWELL EQUIPMENT

DESIGNATION	ILLUSTRATION	NOTES
Floor Ceiling		Can be placed on the ceiling or on a wall.
Cassette 600x600		Placed on the ceiling, usually when there is a false ceiling
Cassette 900x900		
Ducted		This unit is ducted. It is concealed and the supply air passes through a grill into the treated room
High Wall		Widespread and wall-mounted unit
Window		Used for small rooms. This unit is placed in the middle of a wall
Portable (monoblock)		A unit that has the advantage of being easily used without installation by a professional.
Portable (bi-split)		Similar to the previous unit but in two parts
Rooftop		Unit for large rooms that is placed on the roof. It is ducted.

<p>Air Cabinet</p>		<p>Unit used in tertiary and commercial premises to treat a large volume</p>
<p>Water-cooled console (heat pump)</p>		<p>A water-based system that is recommended when the installation of an external unit is not possible.</p>
<p>Water-cooled condensing unit (Heat pump)</p>		<p>Same as the previous unit but in two parts</p>
<p>Heat Pump</p>		<p>Allows the house to be heated by a water circuit and make hot water (*In the case of an Air-Water heat pump)</p>
<p>Thermodynamic Water Heater</p>		<p>Used for the production of domestic hot water (DHW) production</p>
<p>Thermodynamic dual-flow CMV</p>		<p>CMV is the acronym for Mechanical Controlled Ventilation. This system allows stale air to be evacuated from the home and outside air to enter. The advantage of a thermodynamic system is that it recovers energy from the outgoing air and transfers it to the incoming air</p>
<p>VRF</p>		<p>VRF stands for Débit de Réfrigérant Variable. It can also be called VRF (Variable Refrigerant Flow) or VRV. This system is used in tertiary sector buildings such as for example an office building where a lot of where high power is required.</p>

Select a spare part on an Airwell unit

4. ACCESSING THE INTERFACE

The spare parts selection interface is accessible on the website:

<https://www.airwell-pro.com/log-in/>

If you do not have an account and you are a professional, you can create one by filling in the online form.

If you have any difficulties in creating an account, you can write to the marketing team via the email address: mkg@airwell.com

Once you are logged in, click on **OUR DOCUMENTATION > Select spare parts**

The screenshot displays the Airwell Pro website interface. At the top, the Airwell PRO logo is on the left, and navigation links for 'Installers? Make yourself know', 'Find a distributor', 'Contact after-sales service', 'My account', and a language selector are on the right. Below the logo, a horizontal menu lists 'AIR/AIR', 'AIR/WATER', 'WATER/AIR', 'SOLAR', and 'OUR SERVICES'. The 'OUR DOCUMENTATION' menu is expanded, showing options for 'Catalog', 'Select spare parts', 'Document library', and 'BIM library'. The main content area features a personalized greeting 'Bonjour Margaux' and 'Welcome on your Airwell account'. Below this, there is a 'Document library' section with a list of technical documentation types: Commercial leaflet, user's manual, certificates, installation manual, technical documentation, and energy label. A button labeled 'Access to the document library' is provided. At the bottom, there is a 'My list of products' section with a heart icon. On the right side, there are two blue call-to-action buttons: 'Contact' and 'Access to the training space' (under the 'Airwell ACADEMY' logo). At the bottom right, there is a 'Join the Expert club' button with a trophy icon.

5. THE SPARE PARTS INTERFACE: SP CATALOGUE

5.1. USING THE SPARE PARTS INTERFACE

At Airwell we call this interface: SP Catalog.

Having a product code is essential for consulting the associated exploded view.

An Airwell product code usually starts with 7SP, 7OG or 7HP and an Electra product code usually starts with ESP or EOG.

In the Product or Part Search tab, enter the product code in Material Number as follows:

The screenshot shows the Airwell Residential SP Catalog interface. At the top left is the Airwell Residential logo. Below it are navigation links: View, Options, and Help. A 'Main selection' button with a compass icon is highlighted. To its right are 'Search', 'Back', and 'Next' buttons with corresponding icons. Below these is a search bar with 'Serial number' and 'Unit or Parts Search' tabs. The search bar contains the text 'Material goods number' followed by an input field with '7SP091196'. Below the search bar are input fields for 'Description' and 'Replaced by'. The search results are displayed in a table with columns: Material goods number, Description, and Replaced by. The first row is expanded, showing a gear icon, the material goods number '7SP091196', and the description 'ZDAA-3080-09M25'. The second row is highlighted in blue and shows a gear icon, the material goods number '7SP091196', and the description 'ZDAA-3080-09M25'. The third row shows a gear icon, the material goods number 'Multisplit DCI', and the description 'Outdoor Unit Multisplit DCI'.

Material goods number	Description	Replaced by
7SP091196	ZDAA-3080-09M25	
7SP091196	ZDAA-3080-09M25	
Multisplit DCI	Outdoor Unit Multisplit DCI	

After double-clicking on the second line (highlighted in blue), you can access the exploded view.

5.2. DESCRIPTION OF THE INTERFACE

Display type: To put the parts list on the right or below

The screenshot shows the 'Spare-Parts' interface for a unit with part number ZDAA-3080-09M25. On the left is a 'General info' sidebar. In the center is an exploded view of the unit with numbered callouts (1-29) pointing to various components. On the right is a table listing the parts with their positions, part numbers, descriptions, quantities, units, and stock status.

Pos.	Part No.	Description	Quant.	Unit	Stock dispo
1	1PR070030	Temperature sensor	1		0
2	12222000013085	Grill	1		0
3	1PR150730	Condenser	1		0
5	12222000015070	Support	1		0
6	12222000015245	Chassy	1		0
7	1PR191272	Panel	1		0
8	12122000029121	Handle	1		0
11	1PR191285	Panel	1		0
11.1	1PR191281	Grill	1		0
13	1PR110531	Fan	1		0
14	1PR080717	Fan motor	1		0
15	12222000012371	Support	1		0
16	15422000020135	Reversing valve assy	1		0
16.1	1PR140335	Service valve	3		0
17	1PR191295	Panel	1		0
18	1PR191273	Panel	1		0
19	12222000015085	Panel	1		0
20	1PR031748	Electronic board assy	1		0
20.1	12222000015087	Cover	1		0
20.2	12122000028843	Electrical box	1		0
20.3	1PR031745	Electronic board	1		0
20.5	12122000028844	Support	1		0
20.6	12222000015088	Electrical box	1		0
21	17222000037121	Terminal board	1		0
21.1	12222000015089	Terminal board	1		0
21.2	17400401000097	Terminal board	1		0
21.2	17400401000095	(CNR)Terminal board	1		0
22	15422000020134	Service valve assy	1		0
22.1	1PR140339	Service valve	3		0
22.2	1PR170295	Electronic expansion valve	3		0
23	15422000020833	Reversing valve assy	1		0
23.2	1PR140127	Reversing valve	1		0
24	1PR010644	Compressor	1		0
29	15500406000010	Flare nut	3		0
29	15500406000016	Flare nut	3		0

Info area
Important: It may contain additional information and replacement part numbers.

Exploded view with parts marked with numbers.

Parts list with references.

At Airwell all **part numbers start with IPR** followed by 6 digits.

If the part you are looking for does not have a code starting with IPR, consider it unavailable and not replaced.

By exception some codes correspond to accessories such as remote controls. **The accessory codes start with 7AC.**

The acronyms to know are:

- ▶ **CR** : Cancel and Replaced, meaning that the original part no longer exists but has been replaced by another reference.
- ▶ **CNR** : Cancel not Replaced means that the original part is unavailable and is not replaced.
- ▶ **B-C** : B-C: Buy and Cancel means that it is an end of stock part that will not be renewed. Then, this part will be classified as CNR.

To facilitate your search, you can sort the list of parts alphabetically by clicking on **Description**.



	Pos.	Part No.	Description	Quant.	Unit	Stock dispo
⚙️ ⓘ	1	1PR070630	Temperature sensor	1		0
⚙️ ⓘ	2	12222000013085	Grill	1		0
⚙️ ⓘ	3	1PR150730	Condenser	1		0
⚙️ ⓘ	5	12222000015070	Support	1		0
⚙️ ⓘ	6	12222000015245	Chassy	1		0
⚙️ ⓘ	7	1PR191272	Panel	1		0
⚙️ ⓘ	8	12122000029121	Handle	1		0
⚙️ ⓘ	11	1PR191255	Panel	1		0
⚙️ ⓘ	11.1	1PR191251	Grill	1		0
⚙️ ⓘ	13	1PR110531	Fan	1		0
⚙️ ⓘ	14	1PR060717	Fan motor	1		0
⚙️ ⓘ	15	12222000012371	Support	1		0
⚙️ ⓘ	16	15422000020135	Reversing valve assy	1		0
⚙️ ⓘ	16.1	1PR140335	Service valve	3		0
⚙️ ⓘ	17	1PR191265	Panel	1		0
⚙️ ⓘ	18	1PR191273	Panel	1		0
⚙️ ⓘ	19	12222000015066	Panel	1		0
⚙️ ⓘ	20	1PR031748	Electronic board assy	1		0
⚙️ ⓘ	20.1	12222000015067	Cover	1		0
⚙️ ⓘ	20.2	12122000028843	Electrical box	1		0
⚙️ ⓘ	20.3	1PR031745	Electronic board	1		0
⚙️ ⓘ	20.5	12122000028844	Support	1		0
⚙️ ⓘ	20.6	12222000015068	Electrical box	1		0
⚙️ ⓘ	21	17222000037121	Terminal board	1		0
⚙️ ⓘ	21.1	12222000015069	Terminal board	1		0
⚙️ ⓘ	21.2	17400401000097	Terminal board	1		0
⚙️ ⓘ	21.2	17400401000065	(CNR)Terminal board	1		0
⚙️ ⓘ	22	15422000020134	Service valve assy	1		0
⚙️ ⓘ	22.1	1PR140339	Service valve	3		0
⚙️ ⓘ	22.2	1PR170296	Electronic expansion valve	3		0
⚙️ ⓘ	23	15422000020833	Reversing valve assy	1		0
⚙️ ⓘ	23.2	1PR140127	Reversing valve	1		0

6. COMMON PARTS

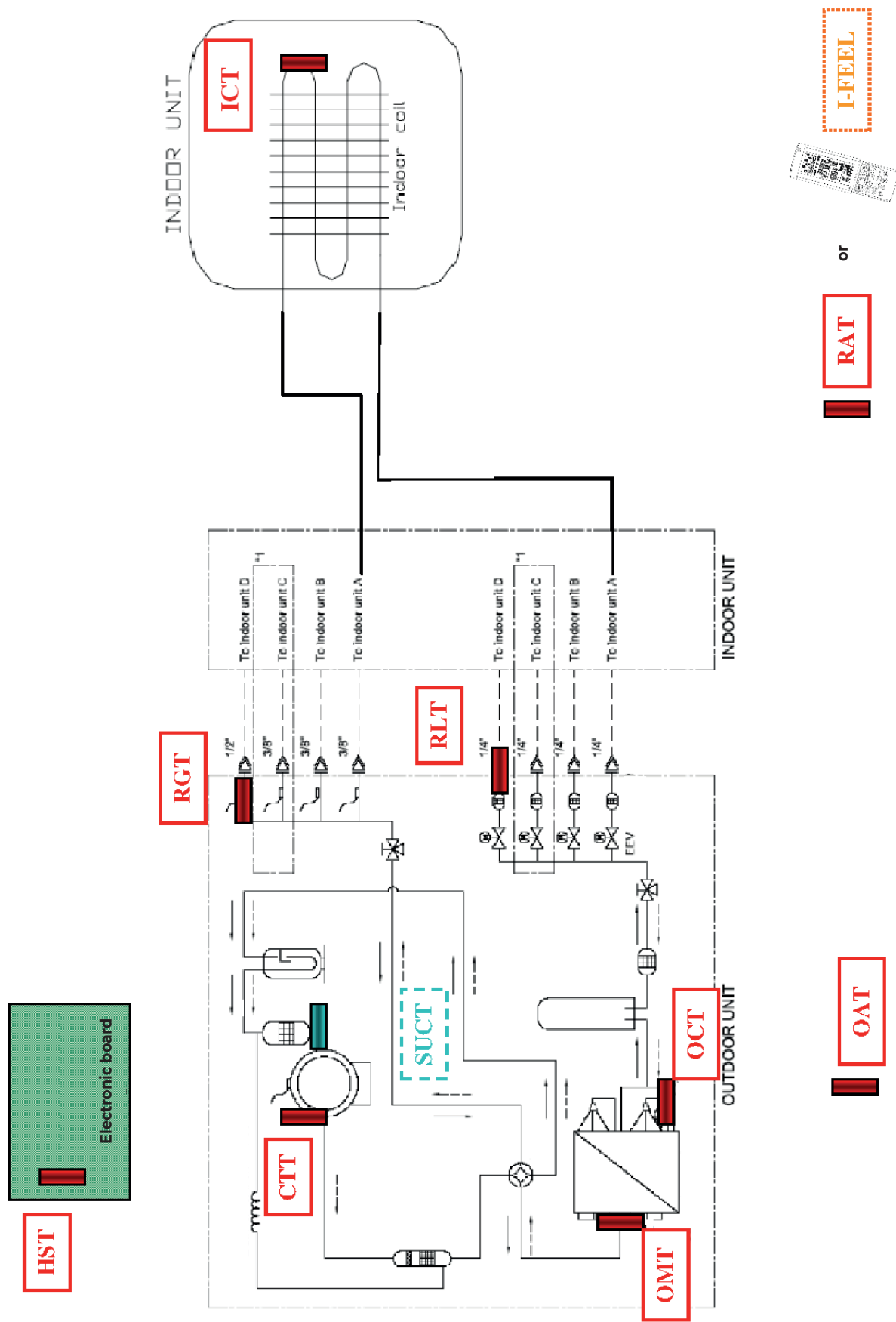
6.1. TEMPERATURE SENSORS

As Airwell units evolve and have different technologies, there are different sensor names.

The equivalents are as follows:

	LETTER MARKING	NUMBER MARKING	TDF AND TNF THERMODYNAMIC WATER HEATER
Indoor room sensor	RAT	T1	
Indoor heat exchanger sensor	ICT	T2	
Gas return sensor	RGT	T2B	
Liquid return sensor	RLT		
Outdoor exchanger sensor	OCT	T3	T3
Outdoor room sensor	OAT	T4	T4
Compressor discharge probe	CTT	T5	Tp
Compressor suction probe	SUCT		
Return probe			Th
Top of tank probe			T5U
Bottom probe			T5L

General diagram of sensor locations on a refrigeration diagram:



Note: Not all sensors appear on all installations. For example, we will not find RGT /RLT sensors on a monosplit.

Specific case of sensors on the MFL range (outdoor unit):

- ▶ **OIL1** : Oil sensor N°1
- ▶ **OIL2** : Oil sensor N°2
- ▶ **AIR TEMP** : Outdoor temperature sensor
- ▶ **DISH1** : Compressor discharge sensor N°1
- ▶ **DISH2** : Compressor discharge sensor N°2
- ▶ **SCT** : Compressor suction probe
- ▶ **EXL1** : Liquid probe N°1
- ▶ **EXL2** : Liquid probe N°2
- ▶ **EXG1** : Gas probe N°1
- ▶ **EXG2** : Gas probe N°2

Example EXG1 sensor on MFL 100 / R410 7SP141013

MFL 100 / R410 - 7SP141013

MFL 100 / R410 - 7SP141013
Inverter outdoor unit - Others

General info

Pos. 92

Part No. 6231793162

Description Probe PBM-41E (EXG1) green connector 2 point

Quant. 1

Unit

Replaced by

Obs.

Stock dispo 0

Prochaine arrivée

Stock dispo à terme 0

Info

Matching 2

Pos.	Part No.	Description
47	6380132164	(CNR) Terminal block
48	6380193875	(CNR) Terminal board
54	1PR030948	Electronic board
60	1PR060427	(B-C) Motor
61	1PR100691	Diode
62	6231515382	(CNR) Coil
70	6231793100	Casing resistor
71	6231793094	Casing resistor
78	6231774499	High pressure probe (HPS/CN0...
85	6231774871	(CNR) Solenoid valve
88	6230709300	(CNR) Refrigerant filter assy
89	1PR100609	Relay
91	1PR070093	(CNR) Temperature Sensor
92	6231793162	Probe PBM-41E (EXG1) green ...
93	6231793155	Probe PBM-41E (EXL1) black c...
99	6231793223	(CNR) Pressure switch
101	6231626620	(CNR) Solenoid valve
105	6231793261	(CNR) Coil reversing valve
106	1PR031593	Electronic board
107	6231793452	Compressor fix C-SBN453H8F
109	6231568142	Protector
118	1PR070136	(CNR) Temperature sensor
119	1PR070095	(B-C) Temperature Sensor
120	1PR070447	(B-C) Temperature Sensor
121	1PR070095	(B-C) Temperature Sensor
140	6231721066	(CNR) Check valve assy
144	1PR100160	Electronic Expansion Valve coil

And on indoor units of the MFL range (NKFL, NK2FL, NWFL, NDLP, NDHP, NWFL), the probes are:

- ▶ **TH1** : Indoor room sensor
- ▶ **TH2** : E1 exchanger sensor
- ▶ **TH3** : E2 exchanger sensor
- ▶ **TH4** : E3 exchanger sensor
- ▶ **TH5** : Air outlet sensor

Airwell technical note: The products named on this page are old (~year 2008).

For simplicity, we recommend replacing the complete set of sensors on an indoor unit when there is a request for a part. Indeed, it is important to know that a temperature sensor loses its reliability after several years.

6.2. ELECTRONIC CARDS

On monosplits (one unit connected to one indoor unit), there are very often «all-in-one» electronic boards. When the power input is higher like in multisplits (a single outdoor unit connected to 2, 3, 4 or 5 indoor units) there are several electronic boards.

Let's take the YDZC group as an example:

AW-YDZC436-H91 - 7SP091183

General info	
Pos.	19.7
Part No.	1PR030476
Description	Electronic board
Quant.	1
Unit	
Replaced by	
Obs.	
Stock dispo	0
Prochaine arrivée	
Stock dispo à terme	0
Info	Inverter
Matching 2	
Matching 3	

AW-YDZC436-H91 - 7SP091183

General info	
Pos.	19.2
Part No.	1PR031746
Description	Electronic board
Quant.	1
Unit	
Replaced by	
Obs.	
Stock dispo	0
Prochaine arrivée	
Stock dispo à terme	0
Info	Main
Matching 2	
Matching 3	

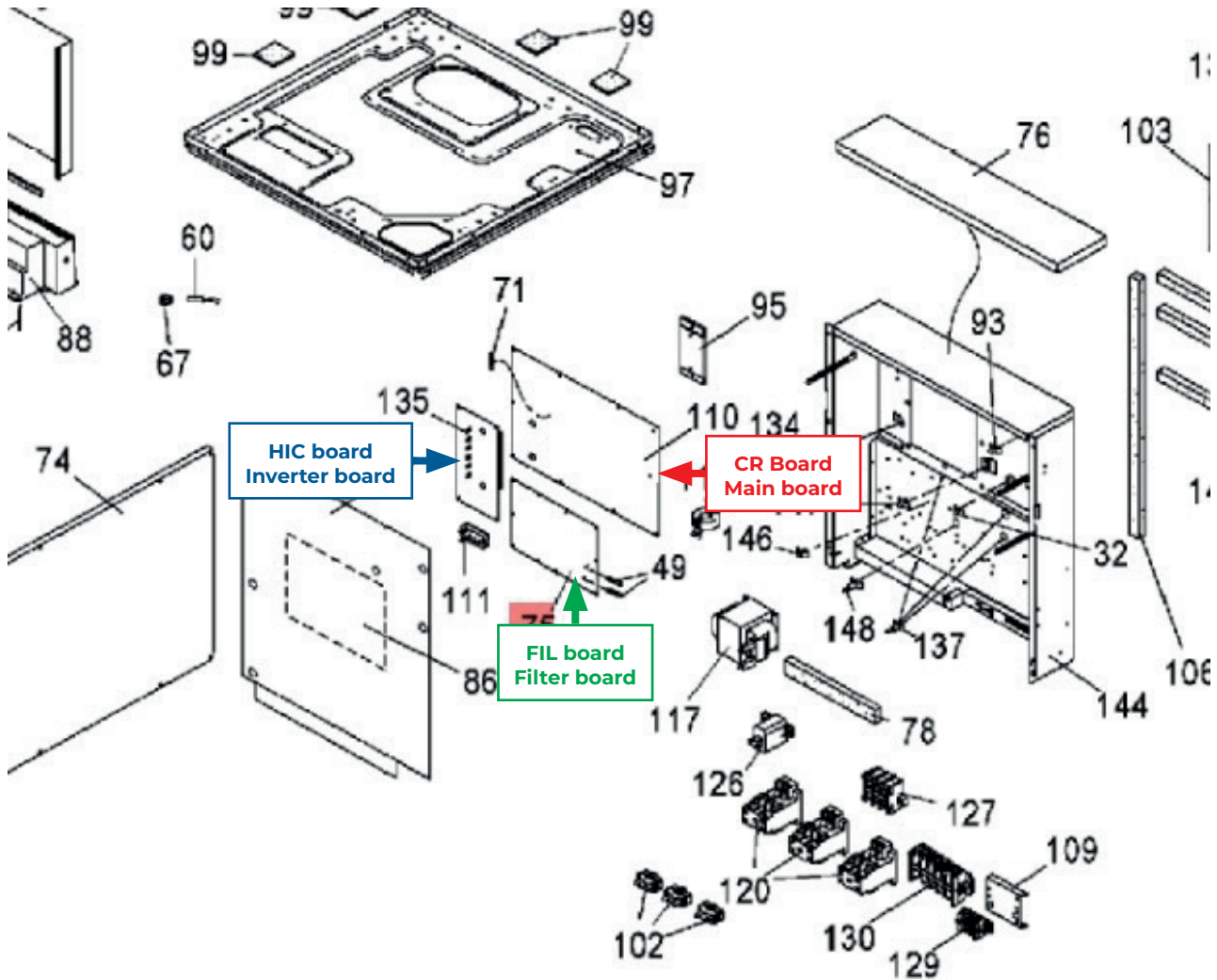
This group contains a main board 1PR031746 and an inverter board (whose role is to manage the motor speed) 1PR030476.

Specific case of electronic boards on the MFL range (outdoor unit)

The MFL model groups are old (released around 2008), they have unusual board names compared to other units.

On an MFL140R-3 7SP14R029, there are 3 electronic boards:

- ▶ The FIL board / filter board which protects the other boards by filtering the power supply.
- ▶ The CR board / main board which centralises all the functions
- ▶ The HIC board / inverter board which manages the speed of the inverter compressor



Tip: Remember to check the **Info** box in **General Info** for details.

7. ADDITIONAL INFORMATION

7.1. ABBREVIATIONS AND ACRONYMS

Refrigeration professionals including AIRWELL often use abbreviations and acronyms. Care must be taken not to confuse an acronym with a unit type.

Example:

SX : AIRWELL Residential floor ceiling

CTA : Air Handling Unit AHU (this is not a reference)

► **List of general abbreviations and acronyms in Refrigeration and Air Conditioning**

Comp	Compressor
CTA	Air Handling Unit (AHU)
PAC	Heat pump
EEV	Electronic expansion valve
DRV=VRF=VRV	Variable Refrigerant Flow
UI / IDU	Unité Intérieure / Indoor Unit
UE / ODU	Unité Extérieure / Outdoor Unit
BP	Low Pressure
HP	High Pressure
ECS/DHW	Eau Chaude Sanitaire / Domestic Hot Water
IPM	Inverter Power Module

► **List of abbreviations and acronyms used at Airwell**

DS	Follow-up file. This is a file number used by the After Sales Service
BL	Bill of Lading
ODS	Service Order (used by the intervention department)
FG	Finish Good
WFG	Warranty on finished goods
SB	Service Bulletin: Part or handling specific notice, an update
SM	Service Manual
IOM	Installation and Operation Manual
ASM	Area Sales Manager (for new products and accessories)

These lists are non-exhaustive.

7.2. FREQUENTLY ASKED QUESTIONS

The customer asks me for a part that I don't know or I'm not sure what to do between two markers. What should I do?

The technician is always in the best position to determine the correct reference.

In case of doubt, don't hesitate to send him the exploded view so that he can find the part he wants himself.

How do I know if an old Airwell France product is managed by Systemair or by Airwell Group?

Start by checking in this list whether it is a product managed by Systemair.

Systemair is the new owner of Airwell France since 2014.

RESIDENTIAL HEAT PUMPS	CWP-V
WATER CHILLERS CONSENSATION AR	MQL / AQL / AQVSL / AQVL / AQCL / VLS / AQTL / SLS / CWP RC / SWR / RWR
INDUSTRIAL HEAT PUMPS	MQH / AQH / AQVSH / AQVH / AQCH / VLH / AQTH / SLH / CWP-HP
AIR CONDITIONING CABINETS	X AO Systemair / X AR Systemair / UC Systemair / CW / CD / MD
ICE WATER TERMINALS	AWC / AWN / AHC / AHN / VHC / VH / VPF / VPX / VPU / VH2N / WKW / VHF / KCO / HAWAIR KOG / XLMOG / WSWOG / DKWOG
WATER LOOP HEAT PUMPS	HRW / CWAR / EFTYS
ROOFTOP	HA / HAN / ROOFAIR (RT-RTH) / ROOTECH (RTCL/RTCH)
CONDENSING UNITS	CDN / AQC / AQVC / VLC / AQTC
WATER-COOLED CONDENSING UNITS	CWPCO / RWC / SWS

- ▶ If the product appears in this list, you can redirect the request to Systemair by phone at 08.91.70.04.07, by fax at 02.32.32.50.33 or by email at: parts.france@systemair.fr
- ▶ If the product does not appear in this list or if you have any doubts, please contact Airwell Group by phone at 01.76.21.92.84 or by e-mail at service@airwell.com

What is the difference between a condenser and a capacitor?

- ▶ A condenser is a heat exchanger.
- ▶ A condenser is an electrical part connected to a motor.

Is it possible to order a part that does not have a 1PR reference but a sequence of numbers?

- ▶ No. If the part number is not a code starting with 1PR or an accessory code starting with 7AC, this part is unavailable.
- ▶ These are old references kept for archive and not used nowadays.

Where can I find documentation (product sheet, installation manual, technical manual)?

On the Airwell documentation library via this link: <http://lh.airwell-res.com/>

I have read the whole manual, I have searched the whole exploded view but I cannot find the spare part. What should I do?

You can call us at 01.76.21.82.95. The technical team will answer you with a smile!

Sources used

Airwell Documentary Library:

<https://lh.airwell-res.com/>

SpareParts :

http://airwell-spcatalogue.fr/ipp/app?__bk_&__windowid=RHX28383663&__rid=KD-N1660888824997#2V10C9D9248E4C6405



HEAT PUMPS - AIR CONDITIONING - RENEWABLE ENERGY

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Monday to friday from 8am to 6pm

TECHNICAL SUPPORT

service@airwell.com