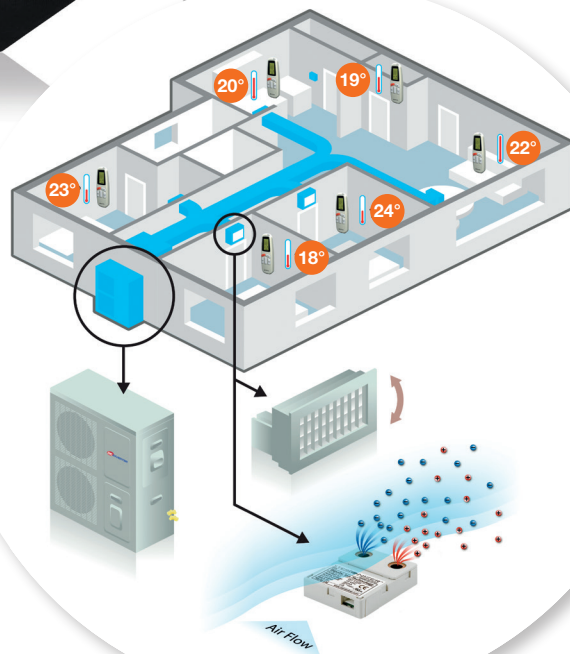


Airwell

■ *Just feel well*

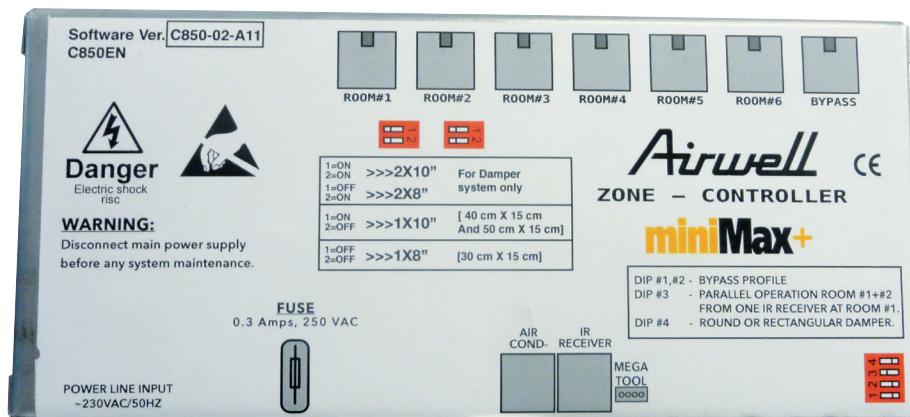
Airwell Residential,
delivering
pure air
for 60 years
in all weathers,
and improving
all the while

DLSE + VAV System



Room by room control

[ZONE CONTROLLER]



- The zone controller allows the management of up to a maximum of 6 zones.
- In order to ensure correct functioning, an air Bypass must be connected to the control unit.
- The indoor unit must be connected to the zone controller.
- The control unit system power requirements are 220V AC.
- On the rectangular damper, the RJ45 connector is connected to the zone controller to control the air damper.

[RJ45 CABLE]

Connection between the control unit and the different dampers:

- Maximum length recommended by Airwell Residential: 10m.
- Cable may be extended with a maximum length of: 15m.
- Cable may have a minimum length of: 3 to 4m.
- Type of cable supplied: Straight cable

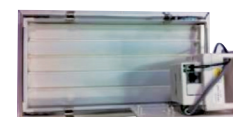


[AIR BYPASS DAMPERS ARE REQUIRED]

- The air Bypass damper enables the extraction of surplus air according to the number of dampers in the different individual rooms.
- The air Bypass damper must be fitted to the air conditioning fresh air duct (outline diagram page 4) and then connected to the indoor unit return air via the plenum return air duct.
- The system can work with :
 - circular dampers (best solution) (page 3),
 - rectangular dampers (page 5).



Circular damper



Rectangular damper

Control with circular dampers

→ Circular Dampers (usage approved and recommended)



→ **Example and explanation with circular dampers:**

Application in 3 bedrooms and a living room

Requirements:

- 4 circular dampers

- 1 control unit

- 1 air Bypass damper

Product reference	Product code
Main Controller VAV	7ACEL1641
Motorised circular damper (D=150mm)	7ACEL1648
Motorised circular damper (D=200mm)	7ACEL1649
Motorised circular damper (D=250mm)	7ACEL1650
Motorised bypass damper (D=200mm)	7ACEL1651
Motorised bypass damper (D= 250mm)	7ACEL1652

[PRODUCT INSTALLATION WITH CIRCULAR DAMPERS]

→ These circular dampers are fitted directly to the plenum outlet.

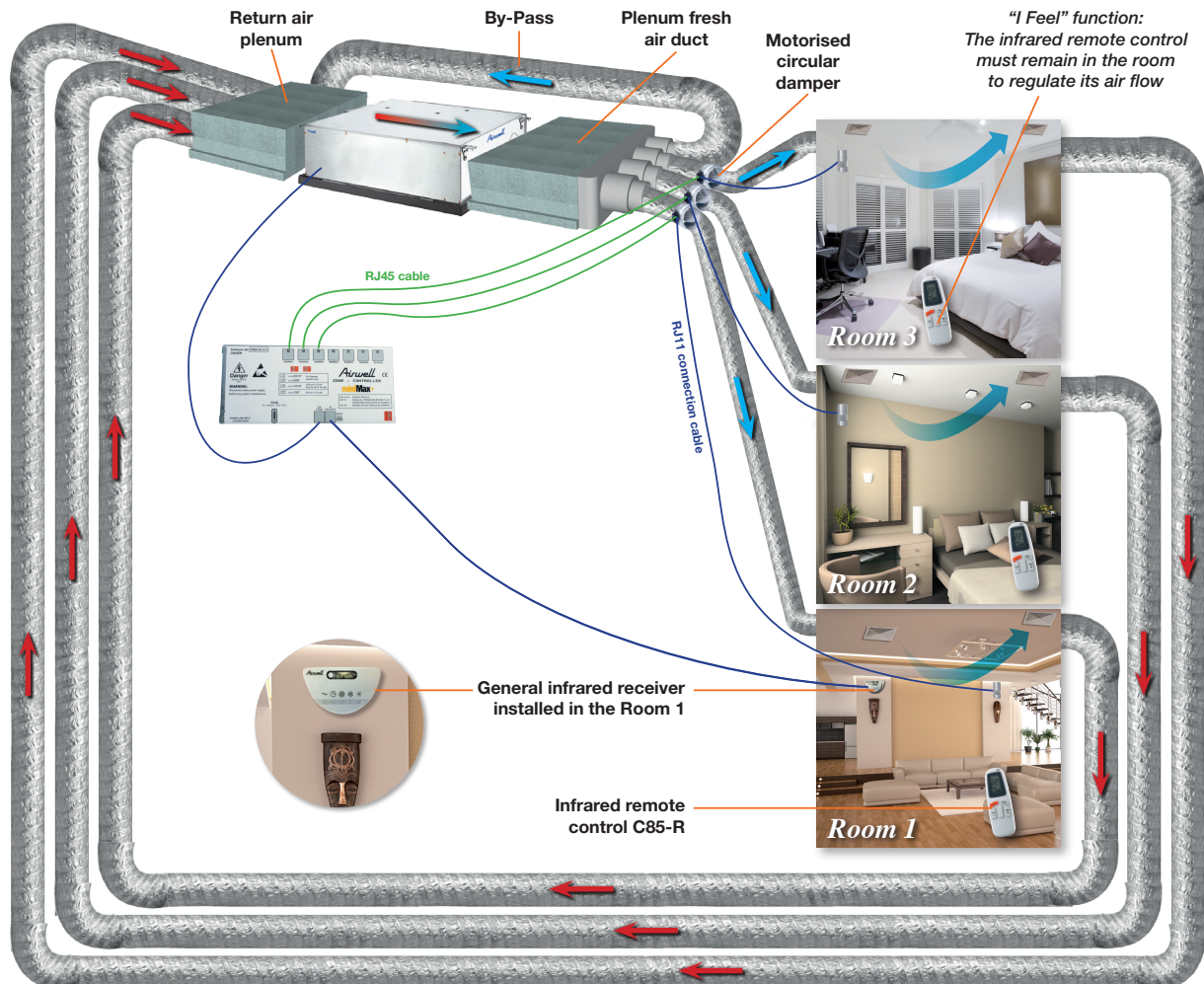
The plenum fresh air duct is fitted directly to the indoor unit outlet.

→ The different infrared receivers are then fitted in the rooms to be air-conditioned.

No (or very little) noise can be heard from the air conditioning system due to the space between the circular damper (plenum fresh air outlet) and the fresh air supply grille in the room. In fact, the soundproof flex duct absorbs acoustic noise.

*NB: We recommend installation a return air duct in every room.
The professional should buy different grilles and soundproof flex duct.*

[OUTLINE DIAGRAM OF A TYPICAL INSTALLATION]



Recommendations for aeraulic system:

It is recommended to have one return air duct by room.

A solution with one general air return duct for all the room can be accepted by ensuring the following:

- The room volume is "acceptable" compared to indoor unit air flow,
- There is raised doorways to insure minimum air flow between rooms.

If there is a general air return duct, it won't be on a room air-conditioned by the system DLSE+VAV (only corridor for example, with volume satisfying).

Fresh air plenum:

- 3 outlets (7ACVF0127)
- 4 outlets (7ACVF0128)
- 6 outlets (7ACVF0129)

Return air plenum (width x length x depth) :

- DLSE 18, 24, 30: 357 x 162 x 62 mm
- DLSE 36, 43: 715 x 240 x 62 mm

Different aeraulics rules

[AIR FLOW RATES, WHICH MUST BE COMPLIED WITH, ACCORDING TO THE DIAMETER OF THE SOUNDPROOF FLEX DUCT]

Example:

- Diameter 160 mm: maximum air flow rate of 300 m³/h
- Diameter 200 mm: maximum air flow rate of 450 m³/h
- Diameter 250 mm: maximum air flow rate of 700 m³/h
- Diameter 315 mm: maximum air flow rate of 1200 m³/h

[LINEAR FRICTION LOSS ACCORDING TO DIAMETER AND AIR FLOW RATES]

Example:

- Diameter 160 mm: maximum air flow rate of 300 m³/h, friction loss = 3.0 Pa/m
- Diameter 200 mm: maximum air flow rate of 450 m³/h, friction loss = 2.4 Pa/m
- Diameter 250 mm: maximum air flow rate of 700 m³/h, friction loss = 1.6 Pa/m
- Diameter 315 mm: maximum air flow rate of 1200 m³/h, friction loss = 1.4 Pa/m

Installation with motorised rectangular dampers

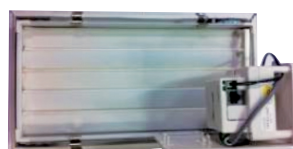
- Each room is controlled completely independently. The control sensor is incorporated into the infrared remote control supplied with each damper ("I feel" function).
- The damper closes immediately once the desired temperature has been achieved in the room. This causes a quiet hissing with our rectangular dampers.
- The air Bypass damper automatically adjusts the surplus of air depending on the number of open or closed dampers.
- Each motorised damper is managed by our automated management system; no parts are operated manually.

[RECTANGULAR TYPE ACCESSORIES]

Part Description	Product Code
Main Controller VAV Kit	7ACEL1641
Motorized Grill (30cm x 15cm) Kit	7ACEL1642
Motorized Grill (40cm x 15cm) Kit	7ACEL1643
Motorized Grill (50cm x 15cm) Kit	7ACEL1644
Motorized Bypass damper (40cm x 15cm) Kit	7ACEL1645
Motorized Bypass damper (50cm x 15cm) Kit	7ACEL1646
Duct Frame profile for grille 150mm	7ACVF0551
Duct Frame profile for grille 300mm	7ACVF0552
Duct Frame profile for grille 400mm	7ACVF0553
Duct Frame profile for grille 500mm	7ACVF0554

[CONTROL WITH RECTANGULAR DAMPERS]

- The fresh air damper is to be fitted in the room to be air-conditioned.
- This system is not for the French market (Spanish market).



NB: If the end customer requests rectangular dampers, they must be advised that when the damper that is in the room closes it can cause a quiet hissing sound.

Guidelines for starting up a DLSE+VAV installation

- Correctly install the whole system (ducts + units) in accordance with the recommendations from Airwell Residential.
- Install the infrared receiver for the duct system.
- Check that the whole of the DLSE+VAV system has been correctly installed and connected to the control unit.
- Check that the whole system has electrical power.
- Check that the ducts + units work correctly.
- Ensure that Dip Switch number 4 on the control unit is set to "Off" for systems with circular dampers.

BE CAREFULL: If your system has a RC08W you have to configure your remote controller (procedure available page 7).

Guidelines for starting up a full DLSE system - Heating Mode example

- Start up the air conditioning system via its infrared remote control in heating mode with a high setting point.
- With the remote control of the damper, start up each room with a different temperature setting, whilst ensuring that the high setting for the indoor unit system is not exceeded.
- Configuring the remote controls for specific rooms:
 - Press the ON/OFF button and the temperature + button for 6 seconds
 - Allocate a room from 1 to 6 by using the "+" and "-" temperature buttons
 - Confirm by pressing the "Damper" button
- In order to ensure that the control has been correctly configured, send a command to the receiver and look to see how the damper responds to the command.






Setting of the IR remote controller RC08W to RC7

Explanation

IR remote controller RC08W can lose its memory and can occur a bad operation of DLSE with VAV kit in heating → compressor is refusing to start or the system is regulating randomly.

Corrective action is to program the RC08W to RC7.

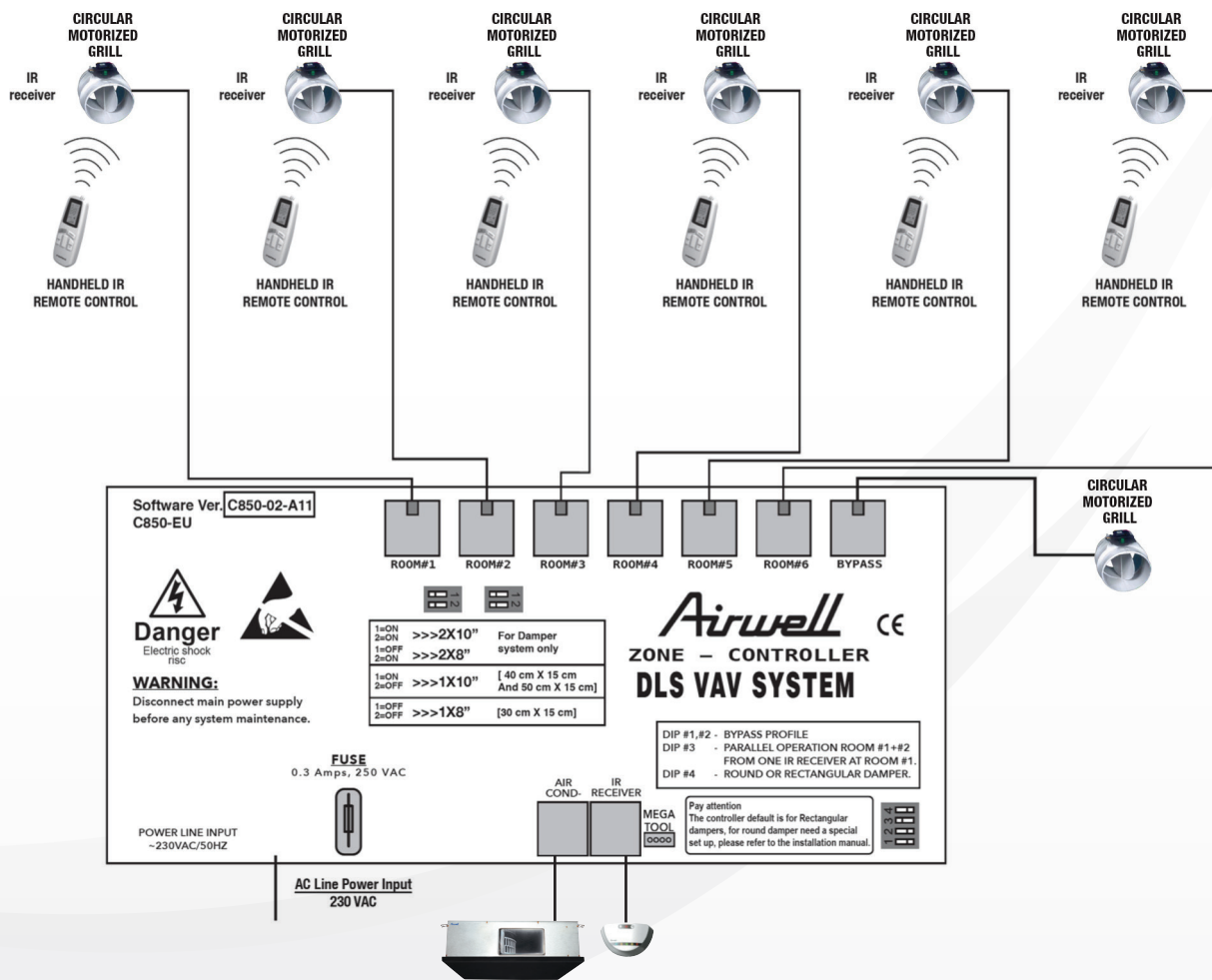
Procedure to set IR remote controller RC08W to RC7

 <p>region 1</p> <p>region 2</p> <p>region 3</p> <p>region 4</p> <p>region 5</p>		<p>Step 1:</p> <ul style="list-style-type: none"> • IR remote controller is OFF • Hold Fan and Timer+ buttons during 3 to 5 seconds <p><i>Icons of the mode are displayed in the region 1 and « 1 » is displayed in the region 2</i></p>
 <p>Symbole « v »</p>		<p>Step 2:</p> <ul style="list-style-type: none"> • Press 4 times on Temp+ button <p><i>Symbol « v » is displayed in region 1 and « 5 » is displayed in the region 2</i></p> <p>Step 3:</p> <ul style="list-style-type: none"> • Press on Fan button <p><i>Symbol « v » in region 1 is disappearing</i></p>
		<p>Step 4:</p> <ul style="list-style-type: none"> • Press on Timer+ buttons to save new setting

Products concerned

- AWSI-DLSE018-N11 (7SP032154)
- AWSI-DLSE024-N11 (7SP032155)
- AWSI-DLSE030-N11 (7SP032156)
- AWSI-DLSE036-N11 (7SP032156)
- DLSE 043 DCI (7SP032087)

VAV system control with circular dampers



Our Aftersales Service

Export

Tel. ■ +33 (0)1 76 21 82 95

SPARE PARTS ORDERS:
e-mail ■ sp@airwell-res.com

TECHNICAL SUPPORT:
e-mail ■ technical-spfr@airwell-res.com

Airwell
Residential