



Fresh Large EVO

CiSDN-Y EF 1 S Size1-Size3

Renewal air unit with Full Inverter R32 thermodynamic recovery



Primary Air: Fresh Large EVO



Why do we need heating and cooling systems? (HVAC – Heating, Ventilation Air Conditioning)

Ensure Indoor Comfort Conditions, in terms of temperature and humidity

(Cooling and dehumidification in summer, Heating and humidification in winter)

Internal Load

Ensure Indoor Air Quality

(make you stay "alive" inside the building breathing clean air)

Ventilation





Primary Air – Fresh Large EVO

In charge to a dedicated system (VRF, Fan Coil, ...)



Hotels and restaurants

Large Residential





Primary Air - Clivet Lineup







Fresh Large EVO Key features

Primary Air- Fresh Large EVO



Fresh Large EVO – **Series summary**









Retail







Light commercial

Fresh Large EVO	Size1	Size2	Size3	
Nom Air Flow Rate [m ³ /h]	500	1000	2000	
Air Flow Rate Range [m ³ /h]	300-720 700-1.500 1.		1.400-2.500	
Compressors (Inverter) / Circuit	1 / 1			
Fans	EC Plug Fan			
Refrigerant	R32			
EER (EN 14511 – Compr + Fans) @ODA = 35°C/40%, @SUPPLY = 24°C	6,83	4,49	4,17	
COP (EN 14511 – Compr + Fans) @ODA = 7°C/90%, @SUPPLY = 20°C	6,09	5,42	4,68	
Height	310	410	590	

Full inverter technology (compressors, fans)			
Costant Airflow, independently from pressure drops			
R32 refrigerant			
Contribuition to indoor load satisfaction at extreme temperature			
Extended envelope in heating -20°C (without electrical resistance)			
Easy unit movement with lightweight EPP structure			
Air flow modulation according CO ₂ concentration			
Contact for double set of Air flow , (e.g. school classes application)			
Enhanced filtration iFD (optional)			
VRF refrigerant network symplification and initial investement reduction			
Integrated in VRF systems, Control4 NGR, INTELLIAIR and ClivetEye			





Fresh Large EVO – Full Inverter Technology - Fans

Past	
solution	

Fix speed fans technology

No self-adjusting according to distribution pressure drops

Renewal airflow rate potentially not corresponding to the design value

Plant distribution calibration needed to fit design values

EC fan, with **continuous speed modulation**

Solution Air flow Self-adjustment according to real air distribution

Air flow **Self-adjustment** according to progressive filters fouling



New







Airflow rate [m3/h]





Fresh Large EVO – Full Inverter Technology - Compressor







Fresh Large EVO – Load satisfaction



CLIVET



Fresh Large EVO – Load satisfaction



CLIVET



Fresh Large EVO – **Thermoregulation**







Fresh Large EVO – Thermoregulation example





SECLIVET





Fresh Large EVO – Working envelope



2. Operating range with possible supply air flow modulation; defrosting may occur



1. Operating range with outdoor relative humidity <40%

2. Possible FREE-COOLING range





Fresh Large EVO – **Design and part load performance**







Fresh Large EVO – Ideal solution for both new and existing buildings

New
buildings
constructionAir quality ensured
all year long

By a dedicated packaged and autonomous solution

Main heating and cooling system can be downsized

Lower initial investment

Energy distribution network simplification





Existing
buildings
renovationLow building
structure impactCompletely independent
installation (just ducts
connection and power input)Primary conditioning
system not modifiedCompletely independent
working mode

Air quality ensured all year long

Contribution to building loads satisfaction with **higher yearly system efficiency**



Fresh Large EVO – physical comparison vs Clivet (1/2)



WLHP included due to similar installation position and application







WLHP included due to similar installation position and application





Fresh Large EVO – EPP structure

EPP structure – *Expanded Polypropylene* Nontoxic and 100% recycable

Thermal and Acoustic Insulating

Lightweight, easy to handle and install

Mechanical resistant, both impact and corrosion

Hygienic, does not retain odours and bacteria and fungi do not proliferate



Material mix with **30% of recycled material** (for a further reduction of -16% of CO₂ emission)







Fresh Large EVO – **Refrigerant charge**

	SERIES	ELFOFresh ²	ELFOFresh Large							
	Size	500	17	21	25	31	41	51	R-410A	
and O O	R410A kg	1.45	2.5	2.5	3	3.5	4.4	4.7		

• -60%, on average

• Up to -90% of Environmental Impact

Refrigerant charge reduction



SERIES		Fresh Large EVO		
Size	Size1	Size2	Size3	
R32 kg	0.5	0.8	1.7	







Fresh Large EVO – no installation and safety constraints



SERIES	Fresh Large EVO				
Size Size1		Size2	Size3		
R32 kg	0.5	0.8	1.7		



R32 is an **A2L** mildly flammable refrigerant

According to **EN 60335**, the refrigerant charge has to be defined as function of the rooms volume

If Refr. charge < 1.84 kg No installation limits for the whole series





Fresh Large EVO Main functions



Functions On/Off

Working mode (Heating, Cooling, Auto, Fan)

Set point adjustment

Daily and weekly schedule

Silent modes selection

Supply Humidity summer set

Alarms display

Service and working parameters display

Language selection (x8 available)





Fresh Large EVO – **Communication Port**

Each port is available with MODBUS RTU protocol

- Remote BMS Supervision (thirdy provided)
- Clivet EYE
- Control4 NRG
- INTELLIAIR
- VRF (V6/V8) integration

Communication Port Management

• Same priority

→ unit logic reacts indifferently to last received command

Unit Management

- Unit control (similarly to HMI features)
- Full parameter access
- Alarm display







Fresh Large EVO – Smart integration solutions





- Energy assistant for the air conditioning system for Residential, Smart Office and commercial & industrial application
- Dedicated system for Primary Air, Hot and Cold water production, energy distribution and Energy storage.

INTELLIAIR

Control4 NRG

- Multi zone system remote control and monitoring
- Dedicated system for air based plant (Primary Air, Rooftop, AHU)







When high efficiency filtration is configured, prefiltration is strongly recommended **Solution 1**: Coarse prefiltration on duct <u>in</u> <u>charge to installer</u>

Solution 2: Coarse prefiltration (G3) will be proposed as accessory (PE) to be installed on renewal air section outside the unit







iFD (Intense Field Dielectric)





Fresh Large EVO – **Double set of Airflow**







Fresh Large EVO – Airflow modulation per CO₂ o CO₂+VOC concentration

Set point CO₂

NOT achieved





Increased airflow, up

airflow per each size

to highest admitted







Fresh Large EVO – **Silent Modes**







Fresh Large EVO – Standard, optional and remote probes









Filter Inspection

Top and down directions available for std

Antivibration mounts

Specific devices accordingly to installation, ceiling or on basement





Fresh Large EVO – **Electrical installation**



Power input

• 230-1-50 Hz for all sizes

Input std available

- Heating / Cooling mode
- Remote On / Off
- Fan mode
- Silent mode enable

Input (optional)

• Thirdy part CO₂ probe (0-5V)

Output std available

Cumulative Alarm

Output (optional)

• Thirdy part Humidifier (Heating mode) → On/Off signal





Fresh Large EVO Economical comparison

Fresh Large EVO – Installation cost comparison with VRF system







Thanks!



MideaGroup