Galletti
AIR CONDITIONING

EPD®
THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM
EPD
VERIFIED

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

FAN COILS – ACQVARIA AND ACQVARIA i

from

Galletti S.p.A

EPD of multiple products, based on representative product.
The list of the products is available on page 6.

Programme	The International EPD® System, www.environdec.com
Programme operator	EPD International AB
EPD registration number	EPD-IES-0016462
Publication date	2024-10-09
Valid until	2029-10-08

An EPD should provide current information and may be updated if conditions change.
The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General Information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification	
Product Category Rules (PCR)	
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)	
Product Category Rules (PCR): Construction Products, 2019:14, version 1.3.2 and c-PCR-027 Fan coils (c-PCR to PCR 2019:14)	
PCR review was conducted by: Techincal Committee of the International EPD System. A full list of member is available at www.environdec.com. The review panel may be contacted via info@invirondec.com. c-PCR review was conducted by: Gorka Benito Alonso	
Life Cycle Assessment (LCA)	
LCA accountability: **Spinlife S.r.l.** – Via Carlo Cerato 14, 35122, Padova (PD) **Tecno ESGS.r.l. Società Benefit** – Riviera di Chiaia, 270 – 80122 Napoli (NA)	
Third-party verification	
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:	
☒ EPD verification by accredited certification body	
Third-party verification: **SGS Italia S.p.A., Via Caldera, 21, Milano (MI),** www.it.sgs.com is an approved certification body accountable for the third-party verification	
The certification body is accredited by: **Accredia, Accreditation certification n. 0005VV**	
Procedure for follow-up of data during EPD validity involves third party verifier:	
☐ Yes	☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company Information

Owner of the EPD: Galletti S.p.A
Contact: Riccardo Galletti – riccardo@galletti.it

Description of the organisation:
Galletti, a **family brand**, was founded over a hundred years ago, in **1906**, in Castel Maggiore, near Bologna, in a small ironworks and repair shop for agricultural tools and machinery.
The partial destruction of the factory during the Second World War did not prevent the small workshop from growing into a company with over two hundred employees today.
Until the 1950s, Galletti had various experiences as a subcontractor. These included an exciting foray into the world of motorcycles as a frame builder, which gave Galletti considerable expertise in working with sheet metal.
In the 1960s, Galletti entered the comfort air-conditioning sector, launching a product under its own brand name in a market that was just starting to emerge. This is how the company began manufacturing **hydronic indoor units**, which remain a key focus for the company today and are included in one of the most extensive product catalogues in the industry. Over time, the hydronic indoor units were joined by **chillers** and **heat pumps**, which have now become one of the company's most strategic business areas.

Galletti is now one of the international benchmarks in the HVAC industry and is determined to position itself in the market as an ***Advanced Design Company***. Using "advanced" highlights our forward-thinking approach. Unlike traditional design, we look far into the future, making today's decisions based on anticipated, if not inevitable, future scenarios.
Galletti is convinced that businesses are key to safeguarding our planet and future generations. As a company deeply connected to its local community, this commitment has been at the heart of our operations for over a century.
With this spirit, Galletti felt the need to first obtain the certification of the environmental management system (in 2021) and now the publication of EPDs *(Environmental Product Declarations)* for its flagship products, in this case **Acqvaria**, empowering customers to make informed, sustainable choices.
This is an important step towards a continuously growing responsibility towards future generations. In this sense, the upcoming publication of the sustainability report will be a first milestone. The goal that Galletti wants to achieve, step by step, is to offer high-quality products that satisfy the needs of its customers while always respecting the well-being of the planet, continuously improving: critically rethinking processes and products through an innovation capacity grounded in the awareness that any possible development must be increasingly sustainable.

Company Information

Product-related or management system-related certifications:
Galletti is part of the Eurovent certification program, which is responsible for guaranteeing the thermal, aeraulic and efficiency performance of the products of the companies participating in the certification program. In addition to this certification, a guarantee of quality and reliability, Galletti holds the following certifications (certified by the accredited organization Kiwa):

- Quality system certification in accordance with UNI EN ISO 9001:2015;
- Certification of the environmental management system in accordance with UNI EN ISO 14001:2015;
- Health and safety management system certification in accordance with ISO 45001:2018.

Name and location of production site(s):
Galletti plant involved in the production of fan coils is located in:
Via L. Romagnoli, 12/A
40010 Bentivoglio (BO), ITALY

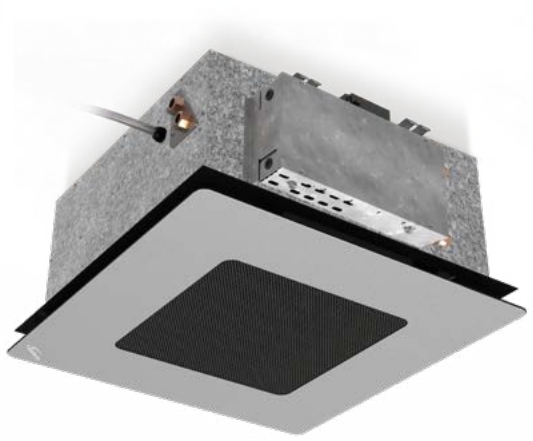
Product Information

Product name: Fan coil Acqvaria e Acqvaria i

Product description:
The product family under study, called Acqvaria, falls under the category of hydronic cassette terminals, for which installation in false ceilings is expected. The products are available in both On-Off (ACQVARIA) and inverter-controlled permanent magnet EC motor (ACQVARIAi) versions.

Both families include models with power ranges from 3 to 10 kW (in 6 different sizes), available in both 2 and 4 pipe versions. Altogether, therefore, there are 24 different combinations of motor, power ratings and number of tubes. The range of fan coils is developed in two size frames (600x600 mm and 900x900 mm). The structure of the unit in the false ceiling houses all components: heat exchange coil, motor-fan unit, condensate collection and drainage system. Its structure is arranged for the supply of primary air into the room, its mixing with recirculated air and the distribution of the air treated by the box to adjacent rooms. The benefits result in greater accuracy in achieving and maintaining desired comfort conditions through appropriate modulation of fan speed; it also reduces noise emissions that match the actual heat load.

In accordance with the reference c-PCR , the RSL was considered to be 20 years.



ACQVARIA 3 - 10 kW

This EPD covers every model of the two families Acqvaria and Acqvariai. To express the results, a representative product was selected. This product was identified in the Acqvariai family with EC motor, in particular in the AQ-30QI model, because it is the best-selling model within the best-selling family.

The chosen reference product is highlighted in bold in the table below.

Number	Model	Dimensions	Pipe system
1	Acqvaria - AQ10Q0B0	600x600mm	2-pipe
2	Acqvaria - AQ20Q0B0	600x600mm	2-pipe
3	Acqvaria - AQ30Q0B0	600x600mm	2-pipe
4	Acqvaria - AQ40Q0B0	900x900mm	2-pipe
5	Acqvaria - AQ50Q0B0	900x900mm	2-pipe
6	Acqvaria - AQ60Q0B0	900x900mm	2-pipe
7	Acqvaria - AQ10Q0BB	600x600mm	4-pipe
8	Acqvaria - AQ20Q0BB	600x600mm	4-pipe
9	Acqvaria - AQ30Q0BB	600x600mm	4-pipe
10	Acqvaria - AQ40Q0BB	900x900mm	4-pipe
11	Acqvaria - AQ50Q0BB	900x900mm	4-pipe
12	Acqvaria - AQ60Q0BB	900x900mm	4-pipe
13	Acqvariai - AQ10QIB0	600x600mm	2-pipe
14	Acqvariai - AQ20QIB0	600x600mm	2-pipe
15	Acqvariai - AQ30QIB0	600x600mm	2-pipe
16	Acqvariai - AQ40QIB0	900x900m	2-pipe
17	Acqvariai - AQ50QIB0	900x900mm	2-pipe
18	Acqvariai - AQ60QIB0	900x900mm	2-pipe
19	Acqvariai - AQ10QIBB	600x600mm	4-pipe
20	Acqvariai - AQ20QIBB	600x600mm	4-pipe
21	**Acqvariai - AQ30QIBB**	**600x600mm**	**4-pipe**
22	Acqvariai - AQ40QIBB	900x900mm	4-pipe
23	Acqvariai - AQ50QIBB	900x900mm	4-pipe
24	Acqvariai - AQ60QIBB	900x900mm	4-pipe

TECHNICAL DATA

		AQ10Q0BB			AQ30Q0BB			AQ60Q0BB			AQ10QIBB			AQ30QIBB			AQ60QIBB		
Speed		MIN	MED	MAX	MIN	MED	MAX	MIN	MED	MAX	min	med	max	min	med	max	min	med	max
Air flow	m3/h	289	366	533	479	717	805	902	1544	1651	356	460	583	395	643	982	956	1314	1823
Cooling total emission	kW	1,56	1,85	2,35	2,58	3,38	3,62	5,83	8,48	9,00	1,85	2,18	2,60	2,62	3,53	4,41	6,09	7,62	9,50
Heating emission	kW	2,53	2,88	3,55	3,67	4,54	4,81	8,64	11,7	12,4	2,90	3,34	3,86	3,73	4,38	5,51	8,96	10,8	12,9
Motor power input	W	18	23	42	57	74	89	64	108	147	7	10	18	9	22	67	25	60	150
Approx. weight with packaging	kg	28			29			50			28			29			50		

UN CPC code: 43912

Geographical scope:
The distribution and use phase scenario is based on sales
A1-A2 Global,
A3 European,
A4, A5, B6, C Global.

LCA INFORMATION

Methodology:
The environmental burden of the product has been calculated according to the GPI 4.0 issued by the International EPD System (Cradle to grave).
This declaration is based on the application of Life Cycle Assessment (LCA) methodology to the whole life-cycle system. Customized LCA2 questionnaires were used to gather in-depth information about all aspects of the production system (for example, raw materials specifications, pre-treatments, process efficiencies, air emissions, waste management), ultimately providing a complete picture of the environmental burden of the system. Data quality has been assessed and validated during data collection process.
According to EN:15804 the applied cut-off criterion for mass and energy flows is 5%.

Functional unit:
The functional unit is 1 kWh of thermal energy exchanged with the air of the room in cooling and/or heating mode by a heating/cooling equipment using small scale HVAC as defined in CPC 43912 and HS 8415.83 and, specifically, using an Hydronic Fan Coil Unit (FCU) as defined into EN 1397.
The 1 kWh of thermal energy is provided to/subtracted from the air of the room at the standard rating conditions as defined in the standards EN 1397. The results in this EPD is given per functional unit.

Reference service life:
The lifetime for fan coil is considered to be 20 years.

Time representativeness:
The LCA study is conducted in 2024 with data relating to 2023.

Database(s) and LCA software used:
The database used is Ecoinvent v.3.9.1 (www.ecoinvent.org) and LCA software used is SimaPro 9.5.
The electricity consumption of module A3 was characterized using the ecoinvent dataset representative of the residual energy mix in medium voltage (0,619 kgCO_2eq/kWh).

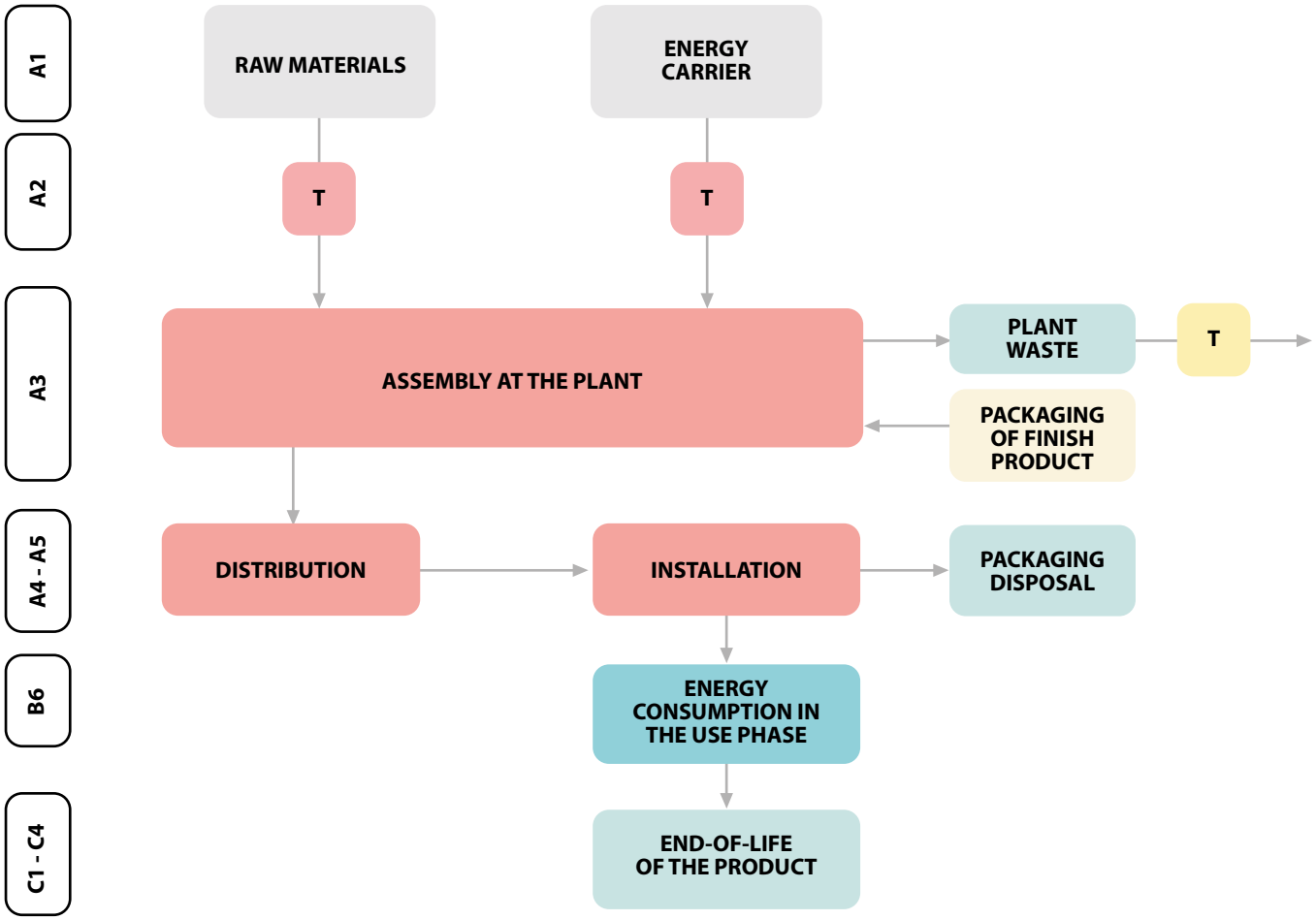
Cut-off rules:
- The criteria chosen for the initial inclusion of input and output items is based on the definition of a 5% cut-off level. However, all processes for which data are available were taken into account, even if they

contributed less than 5 percent.
- In this study, the inputs subjected to the cut-off are related to the packaging of raw materials entering the plant.

Allocation rules:
- To calculate the electrical energy required to produce Acqvaria/Acqvariai an allocation was made on the man-hours required.

Environmental impact method:
EN 15804 +A2 based on EF 3.1 characterization factor.

Description of system boundaries:
The detailed environmental performance (in terms of potential environmental impacts, use of resources



Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

and waste generation) is presented for the phases cradle to grave, module D included.

System diagram:

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	X	ND	X	X	X	X	X
Geography	GLO	GLO	EUR	GLO	GLO	-	-	-	-	-	GLO	-	GLO	GLO	GLO	GLO	GLO
Specific data used	0,70%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-5%/37%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Description of the production process

The production process for fan coils begins with clinch joining, where sheet metal components are assembled without the use of fasteners. This is achieved through the application of a hydraulic tool, ensuring a secure and durable bond between the metal parts. Following this, components are joined using self-tapping screw with the help of pneumatic or electric screwdrivers in the screwing phase. Once the individual parts are ready, they are moved and brought together in the assembly process to form a semi-finished group. Sheet metal bending is also carried out, where laminated materials are shaped according to the product's design requirements. During the production, electrical wiring is installed, but without power, ensuring safe handling and connection of the electrical components. Before the fan coils are considered complete, a functionality test is conducted to ensure that all parts are operating correctly. In parallel, semi-finished parts are constructed, which will later be integrated into the main assembly lines. Once the fan coil is fully assembled, the final product undergoes packaging, preparing it for shipment. Throughout the process, materials are replenished using manual carts on wheels to ensure a continuous flow of parts and components. Finally, the finished products are transported to their destination, while raw materials are collected and prepared for the next production cycle.

LIFE CYCLE STAGES

The groups identified for the life cycle are as follows (in line with the requirements of Standard EN 15804+A2):

A1, which includes:

- Raw Materials. This unit groups together the impacts associated with the use of raw materials and semi-finished products, e.g., steel, ABS, polystyrene, HDPE, copper cables, electronic boards, motor, etc..
- Electricity. Impacts associated with electricity consumption are grouped in this unit.

A2, which includes:

- Transportation. In this unit are grouped the impacts associated with transportation of incoming materials

A3, which includes:

- Packaging. Impacts associated with packaging to package the finished product are grouped in this unit.
- Treatment of manufactured waste. Impacts associated with other waste generated by the process and plant consumption are grouped in this unit

A4, which includes:

- Distribution. Impacts associated with transportation of finished products to destination locations are grouped in this unit.

A5, which includes:

- Installation. This unit groups together the impacts associated with the disposal of the packaging used for the finished product packaging. [

B6, which includes:

- Use phase. Impacts associated with energy consumption during the operation of the product during its useful life are grouped in this unit.

C2, which includes:

- End-of-life transport. This unit groups together the impacts associated with the transportation of the product at end-of-life to treatment facilities for disposal

C3, which includes:

- Disassembly processes. Impacts associated with consumption due to end-of-life product disassembly processes are grouped in this unit.
- End-of-life waste treatment. Impacts associated with the processing of waste for recycling are grouped in this unit.

C4, which includes:

- End-of-life waste disposal. Impacts associated with the type of waste disposal and its management at the destination facility are grouped in this unit

D, which includes:

- Benefits beyond the boundaries of the product system. This unit groups together the net benefits that result from the use of recycled material as a secondary raw material.

CONTENT INFORMATION

Product components	Weight-% (versus product)	Post-consumer material, weight-%	Biogenic material, weight-%, kg C/kg
Steel sheets	37%	0	0
Aluminium- Copper	23%	0	0
EC Engine	9%	0	0
Diffuser	10%	0	0
Pump	6%	0	0
HDPE	6%	0	0
ABS	5%	0	0
Electronic board	2%	0	0
Cable (PVC and copper)	1%	0	0
Chromium steel	< 1%	0	0
Synthetic rubber	1%	0	0
PVC	< 1%	0	0
Nylon	< 1%	0	0
Labels	< 1%	0	0
TOTAL	**25,7 kg**	**0**	**0**
Packaging materials	**Weight-% (versus total packaging)**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**
Cardboard packaging	75%	9,9%	0,43
PS packaging	24%	3,2%	0
Nylon straps packaging	1%	0,1%	0
TOTAL	3,4 kg	13,2%	0,43

None of the configurations contain substances on the "Candidate list of substances of very high concern (SVHC) for authorization".

RESULTS OF THE ENVIRONMENTAL PERFORMANCE INDICATORS

Mandatory impact category indicators according to EN 15804:2012+A2:2019/AC:2021

Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	1,88E-03	2,43E-05	4,51E-06	1,52E-03	0,00E+00	1,34E-07	2,27E-06	3,28E-05	-7,79E-05
GWP-biogenic	kg CO_2 eq.	-1,51E-05	7,76E-09	2,13E-05	1,60E-05	0,00E+00	4,56E-11	2,40E-08	9,87E-09	1,27E-06
GWP-luluc	kg CO_2 eq.	2,90E-06	1,19E-08	5,20E-11	3,06E-06	0,00E+00	6,19E-11	4,58E-09	6,80E-09	1,22E-07
GWP-total	kg CO_2 eq.	1,87E-03	2,43E-05	2,58E-05	1,54E-03	0,00E+00	1,34E-07	2,30E-06	3,28E-05	-7,65E-05
ODP	kg CFC 11 eq.	1,97E-07	1,04E-07	1,19E-09	6,70E-06	0,00E+00	5,27E-10	1,00E-08	2,49E-08	-3,30E-07
AP	mol H^+ eq.	2,40E-05	1,71E-09	1,67E-11	9,14E-07	0,00E+00	9,32E-12	1,37E-09	1,50E-09	-2,95E-08
EP-freshwater	kg P eq.	2,67E-06	3,92E-08	4,47E-09	1,17E-06	0,00E+00	2,00E-10	1,75E-09	3,28E-08	-5,32E-08
EP-marine	kg N eq.	4,00E-06	4,19E-07	5,60E-09	1,17E-05	0,00E+00	2,13E-09	1,75E-08	7,33E-08	-7,58E-07
EP-terrestrial	mol N eq.	3,31E-05	1,49E-07	1,50E-09	4,35E-06	0,00E+00	7,75E-10	6,50E-09	2,06E-08	-3,90E-07
POCP	kg NMVOC eq.	9,02E-06	7,82E-11	2,65E-13	1,88E-08	0,00E+00	4,31E-13	2,82E-11	2,86E-11	-5,99E-10
ADP-minerals&metals*	kg Sb eq.	6,71E-04	3,46E-04	1,30E-06	2,80E-02	0,00E+00	1,90E-06	4,19E-05	4,91E-05	-9,72E-04
ADP-fossil*	MJ	2,32E-02	1,41E-06	2,20E-07	6,66E-04	0,00E+00	7,21E-09	9,97E-07	2,01E-06	-1,39E-05
WDP*	m^3	5,49E-04	2,43E-05	4,51E-06	1,54E-03	0,00E+00	1,34E-07	2,30E-06	3,28E-05	-7,65E-05

Acronyms: GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption.

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*
The use of the results of module A1-A3 without considering the results of module C is discouraged.

Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	1,89E-03	2,43E-05	4,51E-06	1,54E-03	0,00E+00	1,34E-07	2,30E-06	3,28E-05	-7,65E-05

[1]This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Resource use indicators

Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	2,57E-03	5,36E-06	4,38E-08	8,72E-03	0,00E+00	3,32E-08	1,30E-05	5,22E-06	-2,61E-04
PERM	MJ	1,76E-04	0,00E+00	-1,74E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	2,74E-03	5,36E-06	-1,74E-04	8,72E-03	0,00E+00	3,32E-08	1,30E-05	5,22E-06	-2,61E-04
PENRE	MJ	2,25E-02	3,46E-04	1,30E-06	2,80E-02	0,00E+00	1,90E-06	4,19E-05	4,91E-05	-9,71E-04
PENRM	MJ	1,31E-03	0,00E+00	-3,51E-05	0,00E+00	0,00E+00	0,00E+00	-2,13E-04	0,00E+00	0,00E+00
PENRT	MJ	2,38E-02	3,46E-04	-3,38E-05	2,80E-02	0,00E+00	1,90E-06	-1,71E-04	4,91E-05	-9,71E-04
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m^3	1,67E-05	4,93E-08	6,84E-09	2,28E-05	0,00E+00	2,75E-10	3,40E-08	6,64E-08	-3,07E-07

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water.

Waste indicators

Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-hazardous waste disposed	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Radioactive waste disposed	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Output flow indicators

Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	1,40E-05	0,00E+00	1,44E-05	0,00E+00	0,00E+00	0,00E+00	4,78E-05	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Impact category	Variation product
GWP-GHG	-17% / 110%
GWP-total	-21% / 117%
GWP-fossil	-21% / 117%
GWP-biogenic	-28% / 208%
GWP-luluc	-26% / 131%
ODP	-15% / 25%
AP	-4% / 49%
EP-freshwater	-10% / 45%
EP-marine	-18% / 54%
EP-terrestrial	-12% / 52%
POCP	-14% / 76%
ADPminerals&metals*	-56% / -4%
ADP-fossil*	-25% / 151%
WDP*	-24% / 168%

ADDITIONAL ENVIRONMENTAL INFORMATION

Parameter	AQ30QIBB
Total cooling capacity P(c)high [kW]	5,23
Total cooling capacity P(c)med [kW]	3,95
Total cooling capacity P(c)low [kW]	2,76
Heating capacity P(c)high [kW]	5,55
Heating capacity P(c)med [kW]	4,09
Heating capacity P(c)low [kW]	2,77
RLS [years]	20
hcooling [hrs]	1100
hheating [hrs]	1500
Total electrical consumption [kWh]	**802,1**

The conditions for these measurements are defined by EN1397:2021. The data have been certified by EUROVENT.

REFERENCES

- CEN, 2019. EN 15804:2012+A2:2019 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products.
- c-PCR-027 (to PCR 2019:14) Fan coils (emission data 12/19/2023);
- General Programme Instructions for the international EPD System (GPI) di Environdec versione 4.0 (emission 03/29/2021).
- European Commission, 2018. Product Environmental Footprint Category Rules Guidance 6.3, s.l.: European Commission.
- Litardo, J., Gomez, D., Boero, A., Hidlago-Leon, R., Soriano, G., Ramirez, A.D., 2023. Air-conditioning life cycle assessment research: A review of the methodology, environmental impacts, and areas of future improvement. Energy and Builidngs.
- ILCD, 2010. General guide for Life Cycle Assessment. s.l.:JRC European Commission.
- ISO, 2020. ISO 14040:2006+Amd 1:2020 Environmental management - Life cycle assessment - Principles and frameword, s.l.: s.n.
- ISO, 2020. ISO 14044:2006+Amd 2:2020 Environmental management - Life cycle assessment - Requirements and guidelines, s.l.: s.n.
- Galletti, Report LCA ACQVARIA e ACQVCARIAi, September 2024 Rev1.

Galletti S.p.A.
Via L.Romagnoli, 12/a | 40010 Bentivoglio (BO) ITALY
T +39 051 8908111 | F +39 051 8908122/3
info@galletti.it | www.galletti.com