Environmental Product Declaration

In accordance with ISO 14025 for:

RUN 2500

Gear motor for sliding gates up to 2500kg

From:
Nice S.p.A.

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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An EPD should provide current information and may be updated if conditions change. The stated validity is therfore subject to the continued registration and publication at www.environdec.com

Company information

A world without barriers.

This is the aspiration, the *vision* of Nice, an Italian multinational company and international leader in the **Home Automation**, **Home Security** and **Smart Home** sectors.

A *mission* that aims to improve people's quality of life by **simplifying everyday movements** in total safety and maximum comfort, for a 100% living space.

The Nice world

Founded in 1993 in Oderzo (Treviso) by Lauro Buoro, current Chairman, Nice designs, manufactures and commercialises integrated and connected solutions for applications in residential, commercial and industrial contexts, in the field of:

- Smart Home
- Smart Home Security
- Solar Shading automations
- Gate & Garage Doors automations
- Access control

Today Nice count on an organization of more than 3,000 people on 5 continents, with a rich background of competences and different cultures, as well as 15 R&D centers (Italy, Germany, Poland, Brazil, USA, South Africa Canada, India, Russia, China) and 13 production plants (Germany, Italy, Poland, Brazil, USA, Australia, South Africa and Canada) serving its partners and customers in over 100 countries worldwide.

Thanks to its global presence, Nice contributes to promoting the excellence, style and know-how of *Made in Italy* in the world with the high quality of its Home Automation solutions: products that skilfully combine technology, design, innovation and ease of use.

The value of Sustainability – Nice*Love*Earth

For Nice sustainability means ensuring comfort and wellbeing, simplifying people's daily gestures, thanks to the quality and advanced technology of its products, which reduce the environmental impact of living spaces.

For people

Nice is actively committed to improving people's quality of life, making it more sustainable, by developing solutions that optimise the management of natural light and heat. Wellbeing is a top priority for Nice, thanks to the solutions for humidity control, intelligent heating and cooling, air quality measurement, carbon monoxide detection and notification in case of dangerous situations, in order to always guarantee the right environmental conditions to protect the wellbeing of people living in the home.

For products

Nice is committed to lowering the environmental impact of its products, following ecodesign principles, reducing the energy consumption of home automations and using recycled materials. The packaging of the products is made of natural cardboard, 100% recyclable, all plastic parts have been removed and instructions are available in digital format. Furthermore, in a circular economy perspective, Nice works to limit the production of industrial waste, encouraging recovery systems.

For buildings

Nice technology makes life for individuals and communities more connected, easier and safer, ensuring greater well-being inside buildings. The application of Nice solutions contributes to making buildings sustainable, minimising the environmental impact of our homes, promoting energy efficiency through intelligent control of heating, cooling, lighting and monitoring of electrical loads to reduce consumption. Nice is a facilitator of simple daily gestures that can have a great impact on the entire planet and encourage the green evolution of buildings.

NiceLoveEarth

Nice Innovation

Nice continuously invests in its 15 research and development centres located in **Italy**, **Poland**, **Germany**, **Brazil**, **USA**, **Canada**, **South Africa, India and China**. This is where the international R&D team operates, made up of highly specialized professionals who, in addition to performing rigorous and accurate tests to ensure the highest standards of quality and safety, work constantly to study, develop and implement cutting-edge solutions able of meeting, and anticipating market demands.

*"Human capital - declares **Lauro Buoro, Chairman and Founder of Nice** - is a fundamental asset for the development and expansion strategy of our company. Thanks to the excellent professionals who work in Nice and to their ideas, we create innovation to facilitate even the smallest daily gestures".*

Product information

RUN is a range of electromechanical, irreversible operators for automatize sliding gates. Integrated, electronic control Unit is equipped with “plug-in” receiver and “BlueBUS” technology that allows an easier connection of several accessories by means of just 2 wires. Programming units can be connected for a quick and easier settings, maintenance, troubleshooting of any malfunctions. In case of a power failure, it can be released by means of the special key, to enable manual movement of the gate.

This EPD refers to the following product codes:

- Ventilated standard motor: RUN2500MS, RUN2500PR01/A, RUN2500R01/A, RUN2500S/A (differences in inventory among these codes are <10%)
- Ventilated motor with built-in inverter: RUN2500IR01/A

The nominal mechanical power of the RUN2500 gear motor is equal to 141.1 W (105.0 W in the model with inverter) and it allows the movement of applications with a weight that can reach up to 2500 kg. Secondary packaging is composed by a cardboard box and a LDPE bag; tertiary packaging is composed by a wooden pallet.

TECHNICAL INFORMATION	U.M.	Codes: RUN2500MS, RUN2500PR01/A, RUN2500R01/A, RUN2500S/A	Code: RUN2500IR01/A
Nominal Force	N	830	700
Nominal velocity	m/s	0,17	0,26
Electric power assimilated in the motion phase	W	600	450
Electric power assimilated in the stand-by phase	W	5	5

TECHNICAL INFORMATION	U.M.	Codes: RUN2500MS, RUN2500PR01/A, RUN2500R01/A, RUN2500S/A	Code: RUN2500IR01/A
Time for performing one operating cycle	S	60	60
Number of cycles per day*	N	100	100
Reference service life	Y	10	10

UN CPC code for RUN2500 is 46112 - Universal AC/DC motors of an output exceeding 37.5 W; other AC motors; AC generators (alternators).

The presence of the different materials in both products RUN2500 and RUN2500 WITH INVERTER is reported below:

MATERIALS	PERCENTAGE
Metals	89,03%
Plastic	6,42%
Circuit boards	2,37%
Cables and connectors	1,20%
Other	0,97%

The products do not contain any of the substances of very high concern (SVHC) regulated by the Regulation (EC) No 1907/2006 (REACH) or the Regulation (EC) No 1272/2008 of European parliament.

Nice Green Products, with specific technological innovations or materials that permit **energy efficency of the buildings** and a **low impact on the environment.**

Methodology

Inventory analysis was conducted using specific data from Nice S.p.A., relating to the year 2023 and to the production site "Nice 3". The data refer to the consumption of raw materials and electricity, the production of the gearmotor and the waste connected to it.

Selected generic data from international databases were used (in particular SimaPro 9.6 and Ecoinvent 3.10) regarding the production processes of raw materials and auxiliary materials used for the gearmotor production, generation and distribution of electricity, means of transport and waste treatment processes related to the production that takes place in the Nice plant. In the reference year, Nice used energy 100% renewable in its facilities.

Data on ground transportation distances were calculated using the Google Maps online calculator and those by sea using the Searates online tool.

The calculation method adopted for the LCA study reported in this EPD is described in the document "GPI for an International EPD® System" version 3.01, while the characterization factors, used to convert the data deriving from the inventory analysis of the life cycle in impact categories, are described in the reported at www.environdec.com.

LCA information

Functional Unit

Following the indications of the PCR 2019:11 version 1.02, the functional unit for the life cycle is represented by a a drive capable of assure a rated output equal to 10 W for the movement of an object.

The complete use phase has been calculated dor the service life of 10 years, according to PCR 2019:11.

System borders

The present study is defined "from-cradle-to-grave", therefore the life cycle of product for the automation under study is subdivided into Upstream, Core and Downstream phases. The EPD only refers to the gear motor and no other components that can be necessary for the movement of an automation (transmitters, sensors, tracks or other accessories).

Upstream phase includes the production of all the materials (raw and auxiliary) that enter the production process, as detailed below:

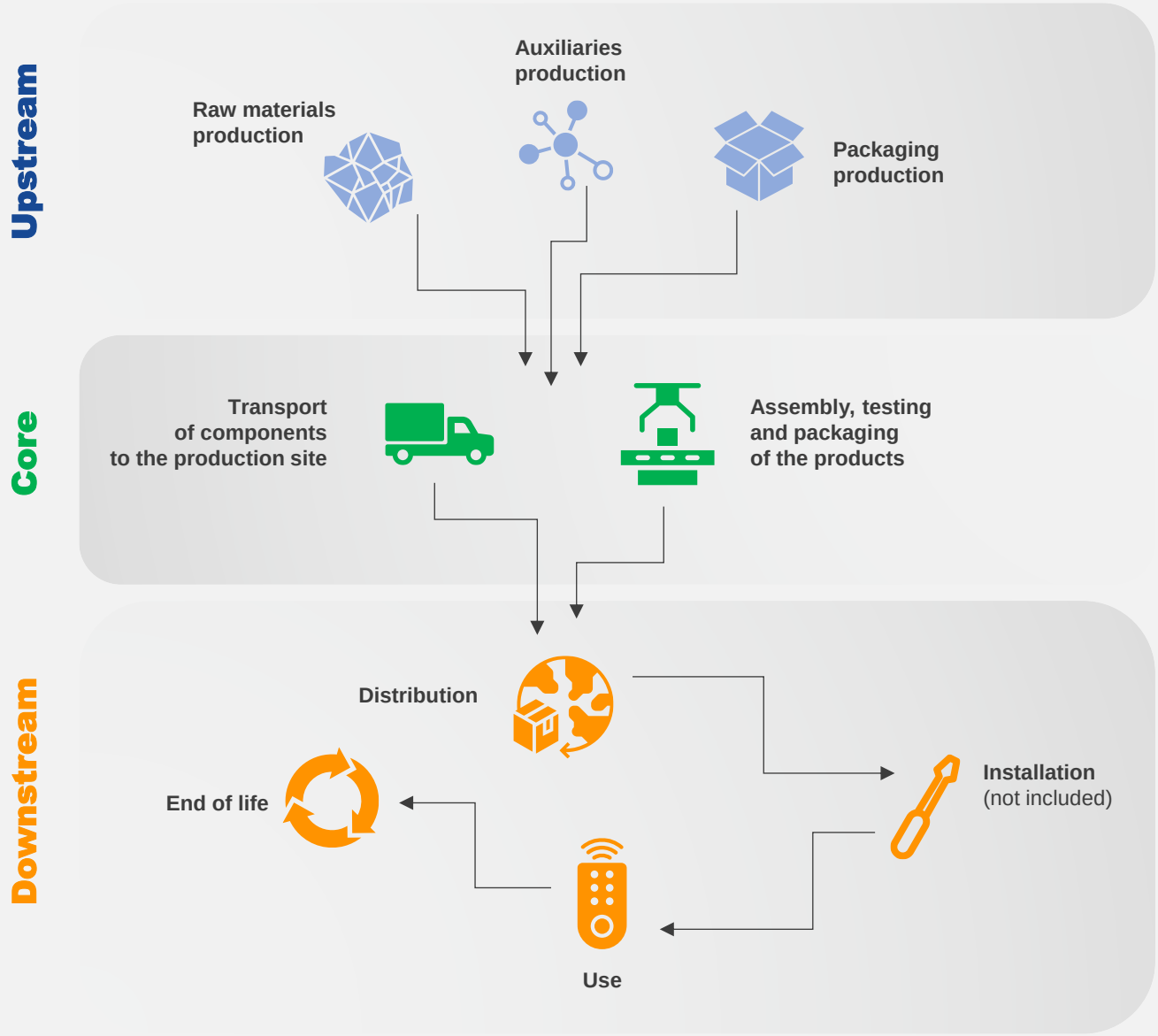
- operations of extraction, transport and treatment of resources;
- the production of raw materials (components) that make up the product, including their packaging;
- the production of auxiliary for the assembly, printing and lubrication materials;
- packaging production;
- the production of electricity and fuels used at the companies that produce the materials described in the previous points.

Core phase includes the following processes, which are associated with transport and processing that combine to create the finished product:

- transport of materials from the place of production to the manufacturing site. The specific transport of every component has been calculated; for the suppliers of Nice's suppliers, an estimated distance of 100 km has been applied.
- consumption of electricity for product assembly;
- storage and packaging;
- treatment of waste produced during manufacture;

Finally, the Downstream phase includes the following processes, which take place outside the plant and involve the finished product:

- transport from production site to the final retailer;
- use of the product (throughout its reference service life);
- end-of-life of the product after use;
- end-of-life of packaging after use.



Data quality and cut-off

In accordance with the cut-off rule, flows less than 1% of the total inventory were excluded, i.e.:

- construction of company plants and processing machinery (with a life of more than three years);
- staff travel and home-work transfers;
- research and development activities;
- the materials necessary for cleaning the machinery;
- product installation and its maintenance.

Energy consumption calculation:

Based on the technical information regarding the product, energy consumption in the use phase has been calculated as follow:

$$\text{Consumption } [kWh/y] = \left[\left(\frac{P_m}{1000} \times t_m\right) + \left(\frac{P_s}{1000} \times t_s\right)\right] \times 24 \times 365$$

Where:

Pm = electric power assimilated in the motion phase [W]

tm = motion ratio [%]

Ps = electric power assimilated in the stand-by phase [W]

ts = stand-by ratio [%]

Motion ratio is a measure of the period the gear motor spends applying force/torque to move an object, i. e. an automation system. It has been calculated as

$$t_m = \frac{T \times C}{3600 \times 24}$$

Where:

T = time for performing one operating cycle [seconds]

C = number of cycles per day [number]

For this product, the calculation has been integrated with assumptions from the gear motor's designers, resulting in a motion ratio equal to 6,94% for RUN2500.

Stand-by ratio has been therefore calculated as:

$$t_s = 1 - t_m$$

The presented formula refers to the electricity that the product consumes in one year (kWh/y); the complete use phase has been therefore calculated for the service life of 10 years (PCR 2019:11).

EPD validity

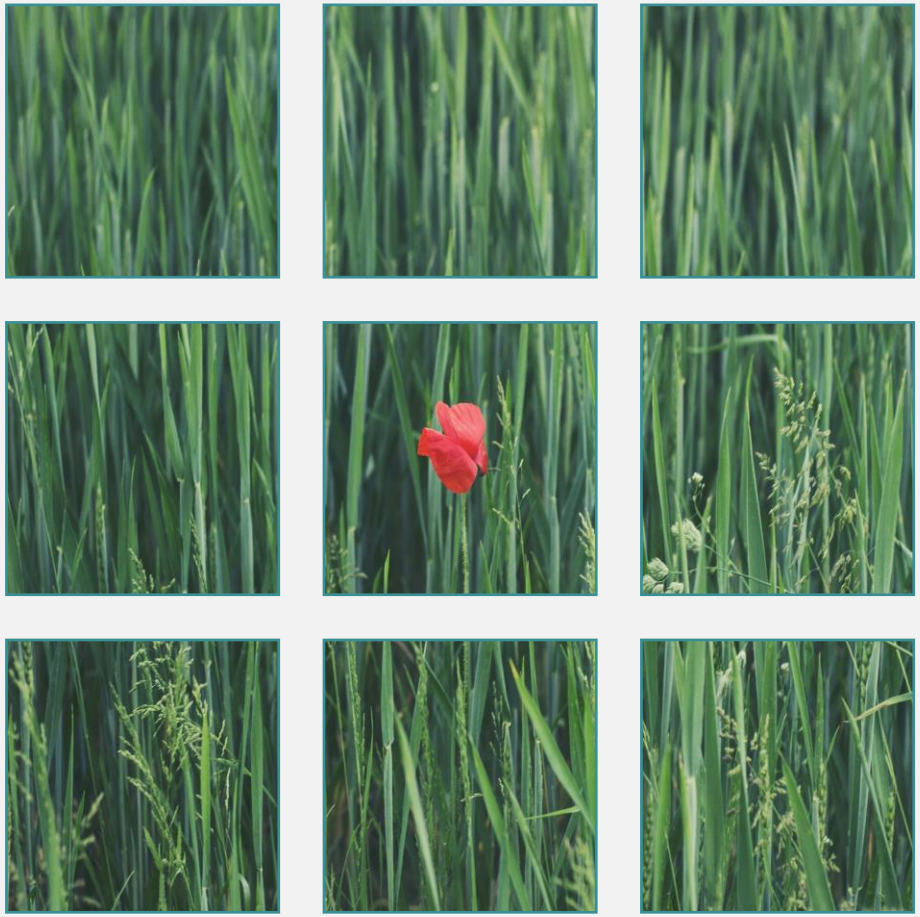
This EPD is valid globally and has a validity of 5 year starting from the approval date.

Environmental performance

In order to reach the results reported below, the most recent databases on the production of materials, the production cycles in the metallurgical and chemical sector, transports and energy systems were used (GaBi Professional and Ecoinvent).

The impact categories are:

- Global warming potential (GWP)
- Acidification potential (AP)
- Eutrophication potential (EP) freshwater, marine and terrestrial
- Photochemical oxidant formation potential (POFP)
- Abiotic depletion potential – Elements
- Abiotic depletion potential – Fossil resources
- Water scarcity potential
- Use of resources



RUN 2500

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream		TOTAL
					Distribution + end-of-life	Use phase	
Global warming potential (GWP)	Fossil	kg CO_2 eq.	9,48E+00	5,21E-02	2,53E+00	1,94E+02	2,06E+02
	Biogenic	kg CO_2 eq.	5,78E-02	4,14E-05	1,58E-03	2,83E-01	3,42E-01
	Land use and land transformation	kg CO_2 eq.	1,41E-02	2,55E-04	1,57E-04	6,18E-01	6,33E-01
	TOTAL	**kg CO_2 eq.**	9,55E+00	5,24E-02	2,53E+00	1,95E+02	2,07E+02
Acidification potential (AP)		mol H+ eq.	7,06E-02	5,24E-04	5,38E-03	1,06E+00	1,13E+00
Eutrophication potential (EP) - freshwater		kg P eq.	6,13E-03	3,57E-07	5,58E-05	1,49E-01	1,56E-01
Eutrophication potential (EP) - marine		kg N eq.	1,08E-02	1,54E-04	1,65E-03	1,89E-01	2,02E-01
Eutrophication potential (EP) - terrestrial		mol N eq.	1,06E-01	1,70E-03	1,69E-02	1,75E+00	1,87E+00
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	3,52E-02	5,05E-04	4,61E-03	5,62E-01	6,03E-01
Ozone depletion (ODP)		Kg CFC-11 eq.	1,41E-07	3,08E-09	5,10E-09	1,58E-06	1,73E-06
Abiotic depletion potential – Elements*		kg Sb eq.	9,73E-04	1,50E-09	3,49E-08	1,46E-04	1,12E-03
Abiotic depletion potential – Fossil resourses*		MJ	6,19E+01	6,73E-03	7,79E-01	1,46E+03	1,52E+03
Water scarcity potential*		m^3 eq.	-6,44E+00	1,11E-03	4,70E-02	4,03E+01	3,39E+01

*The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.
NOTE: No significant aircraft GHG emissions have been detected in life cycle of the gear motor.

Use of resourses

PARAMETER		UNIT	Upstream	Core	Downstream		TOTAL
					Distribution + end-of-life	Use phase	
Primary energy resourses Renewable	Use as energy carrier	MJ	1,11E+01	3,03E-01	1,66E+00	4,92E+02	5,05E+02
	Used as raw materials	MJ	1,71E+00	-1,78E-01	-1,53E+00	0,00E+00	-2,22E-16
	TOTAL	MJ	1,28E+01	1,25E-01	1,25E-01	4,92E+02	5,05E+02
Primary energy resourses Non-renewable	Use as energy carrier	MJ	5,77E+01	6,37E-02	4,85E+00	1,46E+03	1,52E+03
	Used as raw materials	MJ	4,12E+00	-5,70E-02	-4,07E+00	0,00E+00	0,00E+00
	TOTAL	MJ	6,19E+01	6,73E-03	7,79E-01	1,46E+03	1,52E+03
Secondary material		Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renewable secondary fuels		Mj	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-renewable secondary fuels		MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh		M^3	3,37E-01	2,05E-04	2,07E-03	1,14E+00	1,48E+00

RUN 2500 with inverter

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream		TOTAL
					Distribution + end-of-life	Use phase	
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1,09E+01	4,04E-02	2,00E+00	8,71E+01	1,00E+02
	Biogenic	kg CO_2 eq.	4,91E-02	3,21E-05	1,36E-03	2,25E-01	2,76E-01
	Land use and land transformation	kg CO_2 eq.	1,62E-02	1,98E-04	1,24E-04	5,58E-01	5,75E-01
	TOTAL	**kg CO_2 eq.**	1,10E+01	4,06E-02	2,00E+00	8,79E+01	1,01E+02
Acidification potential (AP)		mol H+ eq.	7,92E-02	4,06E-04	3,62E-03	4,76E-01	5,60E-01
Eutrophication potential (EP) - freshwater		kg P eq.	1,01E-02	2,76E-07	4,42E-05	6,85E-02	7,87E-02
Eutrophication potential (EP) - marine		kg N eq.	1,35E-02	1,19E-04	1,16E-03	8,49E-02	9,97E-02
Eutrophication potential (EP) - terrestrial		mol N eq.	1,37E-01	1,32E-03	1,18E-02	7,84E-01	9,34E-01
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	4,26E-02	3,91E-04	3,25E-03	2,59E-01	3,05E-01
Ozone depletion (ODP)		Kg CFC-11 eq.	3,09E-07	2,38E-09	4,08E-09	8,99E-07	1,22E-06
Abiotic depletion potential – Elements*		kg Sb eq.	2,34E-03	1,17E-09	2,89E-08	2,03E-04	2,54E-03
Abiotic depletion potential – Fossil resourses*		MJ	7,63E+01	5,22E-03	6,18E-01	5,55E+02	6,31E+02
Water scarcity potential*		m^3 eq.	-4,26E+00	8,62E-04	3,72E-02	4,83E+01	4,41E+01

*The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.
NOTE: No significant aircraft GHG emissions have been detected in life cycle of the gear motor.

Use of resourses

PARAMETER		UNIT	Upstream	Core	Downstream		TOTAL
					Distribution + end-of-life	Use phase	
Primary energy resourses Renewable	Use as energy carrier	MJ	1,33E+01	2,35E-01	1,29E+00	4,39E+02	4,54E+02
	Used as raw materials	MJ	1,33E+00	-1,38E-01	-1,19E+00	0,00E+00	0,00E+00
	TOTAL	MJ	1,47E+01	9,69E-02	9,84E-02	4,39E+02	4,54E+02
Primary energy resourses Non-renewable	Use as energy carrier	MJ	7,28E+01	4,94E-02	4,02E+00	5,55E+02	6,31E+02
	Used as raw materials	MJ	3,45E+00	-4,42E-02	-3,41E+00	0,00E+00	0,00E+00
	TOTAL	MJ	7,63E+01	5,22E-03	6,18E-01	5,55E+02	6,31E+02
Secondary material		Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renewable secondary fuels		Mj	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-renewable secondary fuels		MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh		M^3	2,92E-01	1,59E-04	1,67E-03	1,41E+00	1,71E+00

Additional Information

The gear motor presented in the EPD responds to the CE marking

Differences versus previous version

2023-08-04 Version 1: first publication.

2024-12-20 Version 2: update to year 2023 specific data; modified calculation method for Primary Energy indicators; update of Ecoinvent database to version 3.10 and Simapro 9.6.1 ; some small modification to the bill of material.

Programme information

Programme

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Product category rules (PCR): 2019:11: AC and DC Gear Motors for Automation Systems, v. 1.02

UN CPC 46111 AND 46112

PCR review was conducted by:
The Technical Committee of the International EPD® System. A full list of members available on www.environdec.com. The review panel may be contacted via info@environdec.com.
Chair of the PCR review: Gorka Benito Alonso

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

☒ EPD Process verification

☐ EPD verification

Third party verifier:
DNV Business Assurance Italy Srl

Procedure for follow-up of data during EPD validity involves third party verifier:

☒ Yes

☐ No

References:

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