



Environmental Product Declaration

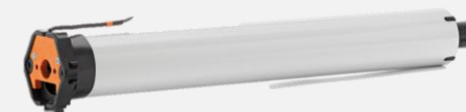
In accordance with ISO 14025 for:

Tubular Drive

Rol Top M10, Rol Top M7/23,
 Rol Motion M10, Rol Motion M6, Sun Top M10

From:
 Nice S.p.A.

Programme:	The International EPD® System, www.environdec.com
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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

EPD for multiple products, based on the worst-case result.

Company information

True freedom is an open world.

This is the aspiration, the *vision* of Nice, a global leader in the **Home Management Solutions**.

A *mission* that aims to improve people's quality of life by **simplifying the everyday**, while making experiences enjoyable and places more sustainable.

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:

- Gates and Barriers
- Doors & Industrial Doors
- Sun Shading
- Smart Home
- Audio/Video and Power Management
- Smart Security

Today Nice count on an organization of more than 2,000 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, China, Australia) and 15 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 – NiceLoveEarth

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 creating connected, comfortable, secure and sustainable spaces. Wellbeing and safety are top priorities for Nice, through solutions that optimise the management of natural light and heat, ensure air quality, and provide intelligent heating, cooling and humidity control. Nice also guarantees the protection and safety of its employees and all stakeholders in its value chain by selecting suppliers that meet defined social standards and ensure respect for the fundamental rights of workers.

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.

Product information

ROL TOP

With a diameter of 45 mm and a minimum length of 403 mm (K version), the tubular drives of the RolTop M series are suitable for space-saving roller shutters, blinds and screens. Most drives are available with or without an integrated radio system. Drives with torque ratings ranging from 2.5 to 50 Nm are available, operating at speeds of 14 to 90 rpm, depending on the version. Drives with soft brakes (up to a maximum of 20 Nm) are suitable for low-noise operation of the blind. All drives are easy to install and adjust in a time-saving manner. With the RH and SH tubular drives, the range of applications of the M series has been further expanded. The main feature of the RH drives is the wrap-around round head, which reduces the space required on the side significantly. Drives of the SH series (star head motor bearing) fit, among others, in motor bearings of various competitors.

This EPD refers to the following products: Rol Top M7/23 and Rol Top M10.

ROL MOTION

RolMotion drives ensure slower and quieter movement of motorized roller shutters thanks to their optimized running behavior. In addition to proven technologies, such as the soft brake and obstacle and blockage detection, quiet mode offers you even greater living comfort at minimal noise pollution. The RolMotion M-868 and M tubular drives are available both with and without an integrated radio system. They have a diameter of 45 mm and a minimum length of 478 mm. Configurations of 6 to 25 Nm and, depending on the version, 5 to 14 rpm are available. All drives can be easily installed and adjusted in a time-saving manner. With the RH and SH tubular drives, the range of applications of the M series has been further expanded. The main feature of RH drives is that the round head can be wound over, which significantly reduces the space required on the side.

This EPD refers to the following products: Rol Motion M6 and Rol Motion M10.

SUN TOP

The SunTop tubular drive is designed for reliable and precise operation in awnings, roller blinds and screens. Equipped with intelligent force measurement, the drive continuously monitors the load to ensure optimal fabric tension and protect the system from damage. The integrated obstacle detection in both directions (up and down) enhances safety and prevents unnecessary strain on the material.

For additional comfort, the load relief function can be activated at the end position to minimize tension on the fabric when fully extended or retracted. The end positions can be easily adjusted via the installation wire, making setup and fine-tuning straightforward and efficient. Thanks to the option for parallel connection, multiple drives can be operated simultaneously, ideal for larger installations.

The silent soft brake ensures particularly quiet operation, reducing noise during start and stop phases, while the mechatronic end position detection with soft stop provides smooth and precise positioning. Built with the elero standard motor head and protected to IP 44, all variants of SunTop drives are both robust and dependable, even under demanding conditions.

This EPD refers to the following product: Sun Top M10

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 efficiency of the buildings** and a **low impact on the environment**.

Product information

The functional unit is a motor that can provide a mechanical power rating of 10 W for moving an object. Mechanical power is calculated as torque per speed in gearmotors for angular movements.

TECHNICAL INFORMATION	U.M.	Rol Motion M10
Nominal Torque	Nm	10
Angular speed	rpm	14
Electric power absorbed in the motion phase	W	87
Electric power absorbed in the stand-by phase	W	0,4
Time for performing one operating cycle	S	0,4
Number of cycles per day*	N	4
Reference service life	Y	10

* The complete opening and closing of an application.



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

The following table shows the presence of different materials in the Rol Motion M10 product.

MATERIALS	TYPE OF MATERIAL	WEIGHT	QUANTITY
Metals	Steel	0,926 kg	50,84%
	Stainless steel	0,009 kg	0,49%
	Magnet	0,012 kg	0,66%
Plastic	Rubber	0,002 kg	0,11%
	PA	0,357 kg	19,58%
	PBT	0,123 kg	6,75%
	POM	0,117 kg	6,42%
	PP	0,003 kg	0,16%
Circuit boards		0,099 kg	5,44%
Cables and connectors		0,167 kg	9,17%
Other		0,007 kg	0,38%

Methodology

Inventory analysis was conducted using specific data from Nice S.p.A., relating to the year 2024 and to the production site "Elero". 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 10.2.0.2 and Ecoinvent 3.11) 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 Elero plant. In the reference year, Elero 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 5.0.1, 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 2.0.1, the functional unit for the life cycle is represented by 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 during the service life of 10 years, as defined in the Product Category Rules (PCR) 2019:11.

System borders

The present study is defined "from-cradle-to-grave", therefore the life cycle of the product for 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:

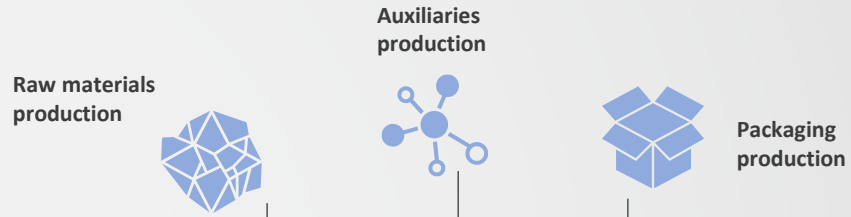
- transport of materials from the place of production to the manufacturing site. The specific transport of every component has been calculated; for the suppliers of Nice's suppliers, an estimated distance of 100 km has been applied.
- consumption of electricity for product assembly;
- storage and packaging;
- 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, estimated from the products that will be substituted on the market;
- use of the product (throughout its reference service life);
- Substitution of pieces during the RSL (production and end-of-life of substituted items);
- end-of-life of the product after use;
- end-of-life of packaging after use.



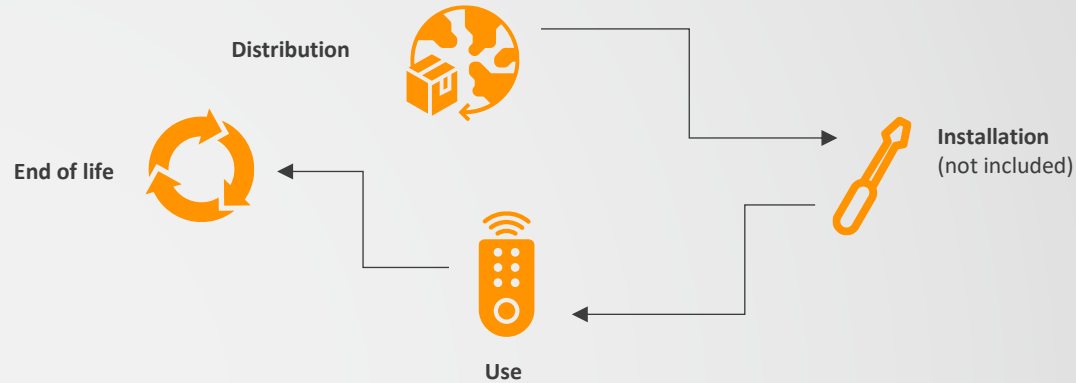
Upstream



Core



Downstream



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:

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

Where:

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

t_m = motion ratio [%]

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

t_s = 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 0.002%.

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

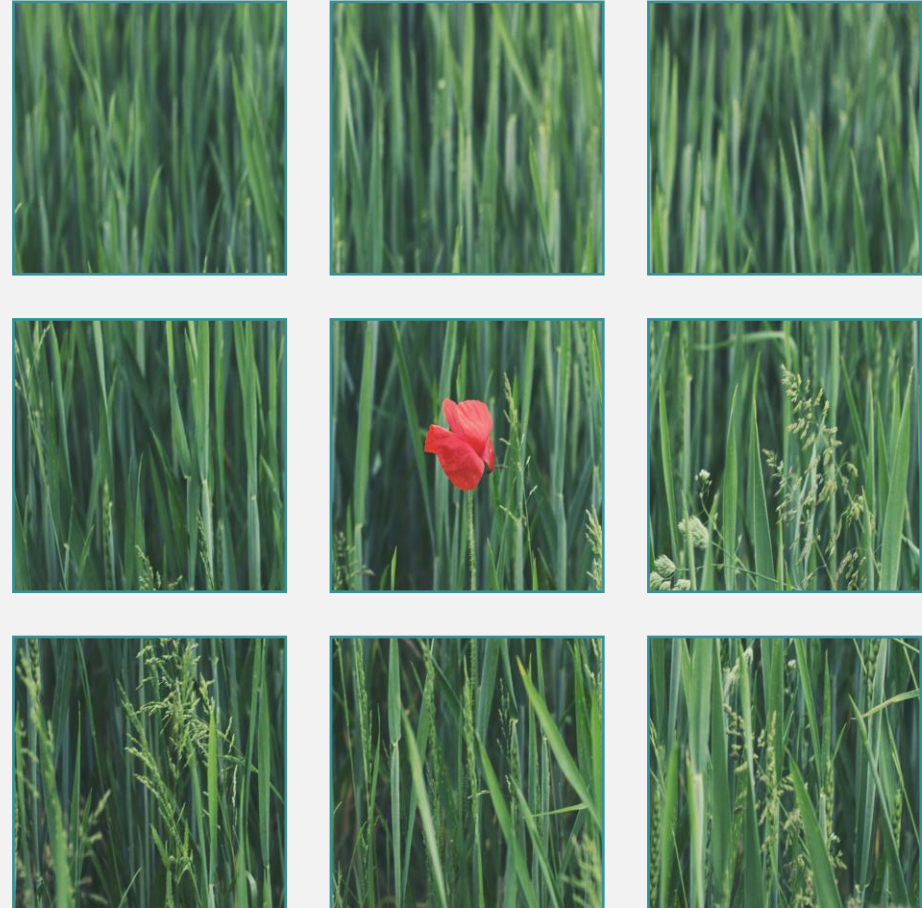
This EPD is valid globally and has a validity of 5 years starting from the approval date.

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 (Sphera 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





PRODUCT RESULT

Potential environmental impact

PARAMETER	UNIT	Upstream	Core	Downstream		TOTAL	
				Distribution + end-of-life	Use phase		
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	5,22E+00	6,83E-01	1,89E+00	1,65E+01	2,42E+01
	Biogenic	kg CO ₂ eq.	6,79E-02	6,15E-05	3,18E-03	5,61E-03	7,67E-02
	Land use and land transformation	kg CO ₂ eq.	4,63E-03	4,27E-05	1,55E-04	7,04E-03	1,19E-02
	TOTAL	kg CO₂ eq.	5,29E+00	6,83E-01	1,89E+00	1,65E+01	2,43E+01
Acidification potential (AP)	mol H+ eq.	7,56E-02	1,66E-03	1,32E-03	4,45E-02	1,23E-01	
Eutrophication potential (EP) - freshwater	kg P eq.	6,35E-03	3,25E-04	5,03E-05	8,58E-03	1,53E-02	
Eutrophication potential (EP) - marine	kg N eq.	1,38E-02	4,60E-04	5,92E-04	1,10E-02	2,59E-02	
Eutrophication potential (EP) - terrestrial	mol N eq.	7,83E-02	4,43E-03	5,51E-03	1,04E-01	1,93E-01	
Photochemical oxidant formation potential (POFP)	kg NMVOC eq.	2,51E-02	1,31E-03	1,61E-03	2,98E-02	5,79E-02	
Ozone depletion (ODP)	kg CFC-11 eq.	6,34E-08	9,24E-09	3,08E-09	2,07E-07	2,83E-07	
Abiotic depletion potential – Elements*	kg Sb eq.	7,17E-04	4,73E-09	2,90E-08	6,88E-07	7,18E-04	
Abiotic depletion potential – Fossil resources*	MJ	6,36E+01	7,13E+00	3,72E+00	2,92E+02	3,66E+02	
Water scarcity potential*	m ³ eq.	2,26E+00	4,38E-03	3,10E-02	5,60E-01	2,86E+00	

*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 resources

PARAMETER	UNIT	Upstream	Core	Downstream		TOTAL	
				Distribution + end-of-life	Use phase		
Primary energy resources Renewable	Use as energy carrier	MJ	8,78E+00	7,54E-01	2,11E-01	1,86E+01	2,83E+01
	Used as raw materials	MJ	4,55E-01	-3,88E-01	-6,74E-02	0,00E+00	0,00E+00
	TOTAL	MJ	9,24E+00	3,66E-01	1,44E-01	1,86E+01	2,83E+01
Primary energy resources Non-renewable	Use as energy carrier	MJ	5,29E+01	7,37E+00	1,42E+01	2,92E+02	3,66E+02
	Used as raw materials	MJ	5,80E+00	-1,27E-01	-5,68E+00	0,00E+00	0,00E+00
	TOTAL	MJ	5,87E+01	7,24E+00	8,52E+00	2,92E+02	3,66E+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	6,38E-02	9,43E-04	1,93E-03	7,35E-02	1,40E-01	

Additional Information

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

Differences versus previous version

Version 0: first publication.

Programme information

Programme

The International EPD® System

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**Product category rules (PCR): 2019:11:
AC and DC Gear Motors for Automation
Systems, v. 2.0.1**

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:

- No
 Yes

References:

- General Programme Instructions of the International EPD® System. Version 5.0.1.
- PCR 2019:11. Version 2.0.1 - "AC and DC gear motors for automation systems"
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- ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and Guidelines
- Eurostat, <http://ec.europa.eu/eurostat/data/database>, aggiornamento dati 2020
- Rapporto rifiuti ISPRA 2023, aggiornamento dati 2022
- PCR Guidance-Texts for Building Related Products and Services; Part B: Requirements on the EPD for Automatic doors, automatic gates, and revolving door systems; Version 1.6
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- Olivetti, E., Duan, H., & Kirchain, R., 2013. Exploration of carbon footprint of electrical products: guidance document for product attribute to impact algorithm methodology. A publication of the Materials Systems Laboratory, Massachusetts Institute of Technology, Cambridge.



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