

## Product Environmental Profil

### Solar radio motor for rolling shutters

#### T5Q BHZ DC



A leading player in the housing industry for over 50 years, SOMFY GROUP is working to reduce its carbon emissions by 50% by 2030 and like so helps its customers and partners in their environmental approach.

Our actions to reduce our carbon footprint:

**OFFER ECO-DESIGNED\* PRODUCTS** WITH A REDUCED ENVIRONMENTAL IMPACT THROUGHOUT THEIR LIFE CYCLE

**OFFER SOLUTIONS THAT IMPROVE THE ENERGY EFFICIENCY** OF BUILDINGS AND THUS LIMIT CO<sub>2</sub> EMISSIONS.

[1]. Somfy GROUP's eco-design approach, identified by the ACT FOR GREEN label, aims to reduce the environmental impact of products throughout their life cycle, from the extraction of raw materials to the end of their life, by placing requirements above current regulations.



## — Reference product



### > Reference product

T5Q BHZ DC 06/15 C0,23M/1

Réf. **2009985**

### > Functional unit

Ensure the closing and opening action by performing 14 000 operating cycles, and a reference service life of 15 years, with a torque of 6 Nm, on a length of 2 meters, corresponding to 13 winding turns per half-cycle, with a tube diameter of 50 mm. This product is a motor + battery + autonomous photovoltaic panel kit intended for the motorization of outdoor roller shutters.

### > References covered

2009985	T5Q BHZ DC 06/15 C0,23M/1	2010013	T5Q BHZ DC 06/15 + KIT SOL./1
2009986	T5Q BHZ DC 10/12 C0,23M/1	2010014	T5Q BHZ DC 10/12 + KIT SOL./1
2009987	T5Q BHZ DC 15/12 C0,23M/1	2010015	T5Q BHZ DC 15/12 + KIT SOL./1
2009988	T5Q BHZ DC 20/12 C0,23M/1	2010016	T5Q BHZ DC 20/12 + KIT SOL./1



## — Materials and substances

All useful measures have been adopted to ensure that the materials used in the composition of the product do not contain any substances banned by the legislation in force at the time of marketing.

Plastics		Metals		Other	
	%		%		%
PA66	6.6	Steel	20.3	Nickel hydroxyde	4.7
PET	4.7	Nickel	9.5	Glass fiber	2.7
PE	3.8	Stainless steel	2.7	Water	1.4
PU	2.3	Copper	2.3	Other	7.1
PBT	1.9	Zamak	1.5	Sum	15.8
Other	7.6	Other	0.9	Packaging	
Sum	27.0	Sum	37.3	Cardboard	10.3
				Paper	9.6
				Sum	19.9
Total mass of the reference product : 2410g					
Estimated recyclable content : 57%					

### > CHEMICAL SUBSTANCES

The product covered by this PEP comply with REACH regulation and RoHS directive 2011/65/EU, 2015/863 et 201/2102.



## — Manufacturing

The devices covered in this PEP are manufactured in a production that has adopted an environmental management approach.

### > Energy model

Poland mix



## — Distribution

> Packaging is continuously improved by reducing the amount and using a maximum of recycled materials

> The unit pack has been modeled here. It is made up of:

- 100% recycled fiber paper instructions
- cardboard with a minimum of 50% recycled fibers



## — Installation

### > Installation elements

There is no element included in this phase.

### > Installation processes

There is no installation process

### > Energy model

Not applicable



## — Use

**The product is autonomous, requiring only the energy provided by the included solar panel.**

> **Energy model of the use phase:** None

> **Consumables and maintenance :** 1 battery replacement during life cycle (first battery comes with the product, not the second)



## — End of life

### > Typical transport conditions

Considering the complexity of the electric and electronic recycling channel and our lack of knowledge about the end-of-life processes implemented all around the world, we considered:

- 200 km of transport.
- A waste pretreatment of electrical and electronic equipment, including dismantling and material separation
- A waste incineration of electrical and electronic equipment.

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## — Environmental impacts

Evaluation of the environmental impact covers the following life cycle stages: manufacturing, distribution, installation, use and end of life.  
All calculations are done with EIME software version EIME© v5.9.3 and CODDE 2022-01.

Indicators	Units	Global	Manufacturing	Distribution	Installation	Use	End of life
Acidification potential of soil and water	Kg eq. SO <sub>2</sub>	3.19E-01	1.69E-01	2.04E-02	1.91E-04	1.28E-01	6.82E-04
Abiotic depletion (elements. ultimate reserves)	Kg eq. Antimoine	1.42E-03	1.33E-03	2.78E-08	2.25E-09	9.06E-05	5.98E-09
Abiotic depletion (fossil fuels)	MJ	4.11E+02	2.93E+02	9.75E+00	4.08E-01	1.07E+02	1.27E+00
Air pollution	m <sup>3</sup>	6.44E+03	4.06E+03	9.97E+01	8.46E+00	2.26E+03	2.10E+01
Eutrophication	kg eq. PO <sub>4</sub>	3.32E-02	1.79E-02	2.04E-03	1.29E-03	1.09E-02	1.10E-03
Global Warming	kg eq. CO <sub>2</sub>	4.44E+01	2.73E+01	7.63E-01	7.86E-01	1.32E+01	2.24E+00
Ozone layer depletion	kg eq. CFC-11	1.83E-05	9.71E-06	1.32E-09	2.22E-09	8.56E-06	6.48E-09
Photochemical oxidation	kg eq. ethylene	2.32E-02	1.29E-02	1.02E-03	1.86E-04	9.04E-03	4.40E-05
Water pollution	m <sup>3</sup>	4.47E+03	3.27E+03	1.14E+02	3.41E+01	9.85E+02	6.73E+01
Total Primary Energy	MJ	5.94E+02	4.33E+02	9.81E+00	4.75E-01	1.49E+02	1.60E+00
Total use of renewable primary energy resources	MJ	2.90E+01	2.06E+01	1.26E-02	8.72E-03	8.38E+00	1.43E-02
Total use of non-renewable primary energy resources	MJ	5.65E+02	4.12E+02	9.80E+00	4.66E-01	1.40E+02	1.58E+00
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2.67E+01	1.88E+01	1.26E-02	8.72E-03	7.91E+00	1.43E-02
Use of renewable primary energy resources used as raw material	MJ	2.28E+00	1.82E+00	0.00E+00	0.00E+00	4.69E-01	0.00E+00
Use of nonrenewable primary energy excluding nonrenewable primary energy used as raw material	MJ	5.40E+02	3.93E+02	9.80E+00	4.66E-01	1.36E+02	1.58E+00
Use of nonrenewable primary energy resources used as raw material	MJ	2.43E+01	1.95E+01	0.00E+00	0.00E+00	4.77E+00	0.00E+00
Use of nonrenewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of secondary material	kg	8.89E-01	7.80E-01	0.00E+00	0.00E+00	1.08E-01	0.00E+00
Net use of fresh water	m <sup>3</sup>	2.50E+00	2.01E+00	5.95E-05	8.58E-05	4.96E-01	8.46E-04
Hazardous waste disposed	kg	2.10E+02	1.18E+02	0.00E+00	5.69E-04	9.09E+01	1.41E+00
Non hazardous waste disposed	kg	4.77E+01	2.58E+01	2.37E-02	7.05E-01	1.98E+01	1.35E+00
Non hazardous waste disposed	kg	2.08E-02	1.40E-02	1.65E-05	1.08E-05	6.77E-03	2.04E-05
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	2.82E-02	2.82E-02	0.00E+00	0.00E+00	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
Exported Energy	MJ	2.67E-01	9.42E-02	0.00E+00	1.33E-01	4.01E-02	0.00E+00

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> Here are the impacts of the B module.

Indicators	Units	Use phase	B1	B2	B3	B4	B5	B6	B7
Acidification potential of soil and water	kg SO <sub>2</sub> eq	1.28E-01	0.00E+00	0.00E+00	0.00E+00	1.28E-01	0.00E+00	0.00E+00	0.00E+00
Abiotic depletion (elements, ultimate reserves)	Kg eq. Antimoine	9.06E-05	0.00E+00	0.00E+00	0.00E+00	9.06E-05	0.00E+00	0.00E+00	0.00E+00
Abiotic depletion (fossil fuels)	MJ	1.07E+02	0.00E+00	0.00E+00	0.00E+00	1.07E+02	0.00E+00	0.00E+00	0.00E+00
Air pollution	m <sup>3</sup>	2.26E+03	0.00E+00	0.00E+00	0.00E+00	2.26E+03	0.00E+00	0.00E+00	0.00E+00
Eutrophication	kg PO <sub>4</sub> - -- eq	1.09E-02	0.00E+00	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	0.00E+00
Global Warming	kg CO <sub>2</sub> eq.	1.32E+01	0.00E+00	0.00E+00	0.00E+00	1.32E+01	0.00E+00	0.00E+00	0.00E+00
Ozone layer depletion	kg CFC-11 eq.	8.56E-06	0.00E+00	0.00E+00	0.00E+00	8.56E-06	0.00E+00	0.00E+00	0.00E+00
Photochemical oxidation	kg ethylene eq.	9.04E-03	0.00E+00	0.00E+00	0.00E+00	9.04E-03	0.00E+00	0.00E+00	0.00E+00
Water pollution	m <sup>3</sup>	9.85E+02	0.00E+00	0.00E+00	0.00E+00	9.85E+02	0.00E+00	0.00E+00	0.00E+00
Total Primary Energy	MJ	1.49E+02	0.00E+00	0.00E+00	0.00E+00	1.49E+02	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	MJ	8.38E+00	0.00E+00	0.00E+00	0.00E+00	8.38E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	MJ	1.40E+02	0.00E+00	0.00E+00	0.00E+00	1.40E+02	0.00E+00	0.00E+00	0.00E+00
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	7.91E+00	0.00E+00	0.00E+00	0.00E+00	7.91E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable primary energy resources used as raw material	MJ	4.69E-01	0.00E+00	0.00E+00	0.00E+00	4.69E-01	0.00E+00	0.00E+00	0.00E+00
Use of nonrenewable primary energy excluding nonrenewable primary energy used as raw material	MJ	1.36E+02	0.00E+00	0.00E+00	0.00E+00	1.36E+02	0.00E+00	0.00E+00	0.00E+00
Use of nonrenewable primary energy resources used as raw material	MJ	4.77E+00	0.00E+00	0.00E+00	0.00E+00	4.77E+00	0.00E+00	0.00E+00	0.00E+00
Use of nonrenewable secondary fuels	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
Use of renewable secondary fuels	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
Use of secondary material	kg	1.08E-01	0.00E+00	0.00E+00	0.00E+00	1.08E-01	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m <sup>3</sup>	4.96E-01	0.00E+00	0.00E+00	0.00E+00	4.96E-01	0.00E+00	0.00E+00	0.00E+00
Hazardous waste disposed	kg	9.09E+01	0.00E+00	0.00E+00	0.00E+00	9.09E+01	0.00E+00	0.00E+00	0.00E+00
Non hazardous waste disposed	kg	1.98E+01	0.00E+00	0.00E+00	0.00E+00	1.98E+01	0.00E+00	0.00E+00	0.00E+00
Non hazardous waste disposed	kg	6.77E-03	0.00E+00	0.00E+00	0.00E+00	6.77E-03	0.00E+00	0.00E+00	0.00E+00
Components for reuse	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
Materials for recycling	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
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
Exported Energy	MJ	4.01E-02	0.00E+00	0.00E+00	0.00E+00	4.01E-02	0.00E+00	0.00E+00	0.00E+00

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> Those impacts are only applicable to the reference product on page 1.

#### > Extrapolation rule

For each phase of the life cycle, there is an extrapolation factor. To obtain the impacts of the other product, you need to multiply by the specific extrapolation factor.

	Manufacturing	Distribution	Installation	Use	End of life	Example for Use Phase Global warming (kg eq. CO <sub>2</sub> )
3N.m	0,99	1,00	1,00	1,00	1,00	1,32E+01
6N.m	1,00	1,00	1,00	1,00	1,00	1,32E+01
10N.m	1,02	1,10	1,00	1,00	1,00	1,32E+01
15N.m	1,46	1,28	1,00	1,68	1,51	2,21E+01
20N.m	1,50	1,39	1,00	1,68	1,54	2,21E+01

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Accreditation number: VH18	Programme information: <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue: 08-2022	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2006 Internal <input type="checkbox"/> External <input checked="" type="checkbox"/> Bureau Veritas LCIE	
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)	
PEP are compliant with XP C08-100-1: 2016	
The elements of the present PEP cannot be compared with elements from another program.	
Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"	
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