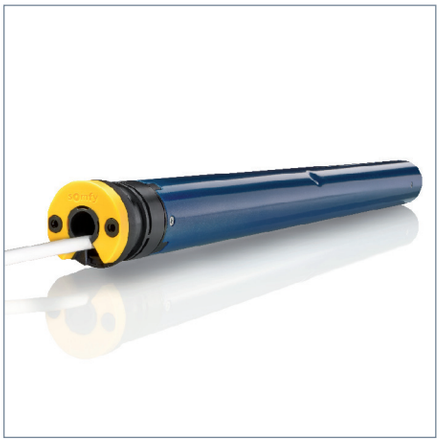
50, avenue du Nouveau Monde
74300 Cluses
Tel. 04 50 96 83 79

Product Environmental Profile

Motor for indoor, outdoor blinds and rolling shutter NL40 LSU
Oximo & Sunea Screen 40 io Range / Altus 40 RTS Range / Ilmo 2 40 WT Range / Actuo & Optuo 40 io Range

– Reference product



> Reference product

OXIMO 40 IO 13/10

Ref **1039946A**

> Functional unit

"To ensure the closing and opening action by performing 14 000 operations cycles, with a torque of 9 N.m and on a length of 2 meters, for a lifetime of 15 years corresponding to a 16 winding turns per half cycle with a tube diameter of 40 mm."

The functional unit is defined by the PSR and meets specific standards.
The lifetime reference has no link with the guarantee of the product.

> Products covered

ILMO2 40 WT 4/16
ILMO2 40 WT 9/16
ILMO2 40 WT 13/10
OXIMO 40 io 4/16
OXIMO 40 io 9/16
OXIMO 40 io 13/10
SUNEA SCR 40 IO 3/30
SUNEA SCR 40 IO 4/16
SUNEA SCR 40 IO 9/16
SUNEA SCR 40 IO 13/10
ACTUO 40 io 3/30
ACTUO 40 io 4/16
OPTUO 40 io 3/30
ALTUS 40 RTS 4/16
ALTUS 40 RTS 9/16
ALTUS 40 RTS 13/10
ALTUS 40 RTS433 3/30
ALTUS 40 3/30 SO
ROLLER-DRIVE
OPTUO 40 3/30 RTS 433
ACTUO 40 SASO RTS 3/30

Some references include motorization system and control.
The PEP only covers product references on the motor part.

– 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		
	g	%		g	%		g	%
Silicon	214,0	12,62	**Steel**	655,0	38,64	**Glass Fiber**	71,3	4,21
PA66	111,0	6,55	**Copper**	128,0	7,55	**Lubricant**	25,0	1,47
PVC	75,0	4,42	**Zamak**	49,6	2,93	**Others**	8,4	0,43
POM	49,0	2,89	**Alu**	26,7	1,57	**Packaging**		
PC	25,0	1,47	**Alloy**	23,2	1,37	**Paper**	92,3	5,46
Thermoset	22,7	1,34	**Others**	7,7	0,45	**Cardboard**	72,8	4,29
Others	39,0	2,30						
Total mass of reference product: 1655,9 g								
Estimated recyclable content: 23,7%								

> CHEMICAL SUBSTANCES

The products covered by this PEP comply with REACH regulation and RoHS directive.

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Manufacturing

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

> Energy model
Polish mix

Distribution

The packaging is 100% recyclable. Paper is 100% recycled fibers and cardboard is minimum 50% recycled fibers. Packaging is continuously improved by reducing the amount and using a maximum of recycled material. Different sorts of packaging exist for this range : unit, by 5 or by 100. For the modelisation, unit pack is the reference.

Installation

> Installation elements
There is no installation element required for that range of products.

> Installation processes
There is no installation process.

> Energy model
No

Use

> For the considered scenario, the product has a power of 110 W in active mode during 0.35% of the time and a standby power of 0.499 W during 99.65% of the time. This corresponds to an energy consumption of 116.47 kWh for the lifetime of 15 years.

> Energy model of the usage phase: Europe mix

> Consumables and maintenance: None

End of life

> Typical transport conditions
Considering the complexity and the lack of knowledge of the electric and electronic recycling channel and processes all around the world, we considered a 1000 km transport of the product at the end of life and a landfill treatment.

> Energy model
European mix

Environmental impacts

Evaluation of the environmental impact covers the following life cycle stages: manufacturing, distribution, installation, usage and end of life. All calculations are done with EIME software version EIME© v5.7.0.4

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Indicators	Global	Unit	Manufacturing	Distribution	Installation	Usage	End of Life
Acidification potential of soil and water	2,86E-01	kg SO_2 eq	3,39E-02	1,43E-02	7,43E-05	2,37E-01	5,35E-04
Abiotic depletion (elements, ultimate reserves)	1,30E-03	kg antimony eq	1,29E-03	1,83E-08	8,66E-10	4,94E-06	7,36E-09
Abiotic depletion (fossil fuels)	7,61E+02	MJ	1,07E+02	6,42E+00	2,20E-01	6,45E+02	1,85E+00
Air pollution	4,14E+03	m^3	1,61E+03	6,93E+01	2,81E+00	2,44E+03	1,24E+01
Eutrophication	2,27E-02	kg$(PO_4)^{3-}$eq	6,02E-03	1,41E-03	2,65E-04	1,43E-02	7,38E-04
Global Warming	6,75E+01	kg CO_2 eq	9,88E+00	5,05E-01	1,88E-01	5,68E+01	1,34E-01
Ozone layer depletion	6,33E-06	CFC-11 eq	2,62E-06	8,66E-10	5,36E-10	3,70E-06	2,34E-09
Photochemical oxidation	1,69E-02	kg C_2H_4 eq	3,06E-03	7,10E-04	4,41E-05	1,30E-02	4,10E-05
Water pollution	4,19E+03	m^3	1,75E+03	7,52E+01	7,12E+00	2,34E+03	1,68E+01
Total Primary Energy	1,33E+03	MJ	1,88E+02	6,46E+00	1,86E-01	1,13E+03	1,55E+00
Total use of renewable primary energy resources	1,50E+02	MJ	5,92E+00	8,25E-03	3,07E-03	1,44E+02	2,50E-02
Total use of non-renewable primary energy resources	1,18E+03	MJ	1,82E+02	6,45E+00	1,83E-01	9,90E+02	1,53E+00
Use of renewable primary energy excluding renewable primary energy used as raw material	1,50E+02	MJ	5,68E+00	8,25E-03	3,07E-03	1,44E+02	2,50E-02
Use of renewable primary energy resources used as raw material	2,37E-01	MJ	2,37E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non renewable primary energy excluding non renewable primary energy used as raw material	1,17E+03	MJ	1,68E+02	6,45E+00	1,83E-01	9,90E+02	1,53E+00
Use of non renewable primary energy resources used as raw material	1,40E+01	MJ	1,40E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non renewable secondary fuels	0,00E+00	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	0,00E+00	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary material	4,32E-01	kg	4,32E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water	2,06E+02	m^3	4,21E-01	3,91E-05	2,97E-05	2,06E+02	8,25E-05
Hazardous waste disposed	1,55E+01	kg	1,55E+01	0,00E+00	1,25E-04	2,96E-02	3,90E-04
Non hazardous waste disposed	2,20E+02	kg	6,37E+00	1,56E-02	1,75E-01	2,12E+02	1,62E+00
Radioactive waste disposed	1,44E-01	kg	2,21E-03	1,08E-05	3,70E-06	1,41E-01	2,92E-05
Components for reuse	0,00E+00	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	5,63E-04	kg	5,63E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	6,60E-09	kg	6,60E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	6,27E-02	MJ	1,05E-02	0,00E+00	5,22E-02	0,00E+00	0,00E+00

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> These environmental impacts are only applicable to the reference product mentioned on page 1. To cover all the «covered references» mentioned on page 1, calculations by extrapolation coefficients are required.

> Extrapolations rules

Extrapolation rules are made for :
- the manufacturing, depending on the variation on electronical composants (and some mecanics for Ilmo 2 40 W)
- the distribution and the end of life, depending on the difference of weight due to this variations
- the use, depending on the couple.

	Manufacturing	Distribution	Installation	Use	End of life	Application example : Global sum for Global Warming indicator (kg CO2 eq)
OXIMO 40 IO 9/16 (REF)	1,00	1,00	1,00	1,00	1,00	6,75E+01
OXIMO 40 IO 13/10	1,00	1,00	1,00	1,28	1,00	8,32E+01
OXIMO 40 IO 4/16	1,00	1,00	1,00	0,90	1,00	6,17E+01
SUNEA SCREEN 40 IO 4/16	1,00	1,00	1,00	0,90	1,00	6,17E+01
SUNEA SCREEN 40 IO 3/30	1,00	1,00	1,00	0,80	1,00	5,62E+01
ILMO 2 40 WT 13/10	1,01	0,94	1,00	1,08	0,94	7,21E+01
ILMO 2 40 WT 9/16	1,01	0,94	1,00	0,80	0,94	5,63E+01
ILMO 2 40 WT 4/16	1,01	0,94	1,00	0,68	0,94	4,95E+01
ACTUO 40 IO 4/16	1,08	0,92	1,00	0,90	0,90	6,27E+01
OPTUO 40 IO 3/30	1,08	0,92	1,00	0,80	0,90	5,72E+01
ALTUS 40 RTS 13/10	1,07	0,94	1,00	1,13	0,93	7,59E+01
ALTUS 40 RTS 9/16	1,07	0,94	1,00	0,90	0,93	6,26E+01
ALTUS 40 RTS 4/16	1,07	0,94	1,00	0,80	0,93	5,71E+01
ALTUS 40 RTS 3/30	1,07	0,94	1,00	0,61	0,93	4,64E+01

Registration number : SOMF-00034-V01.02-EN	Applicable PCR: PCR-ed3-EN-2015 04 02 Supplemented by PSR-0006-ed1.1-EN-2015 10 16
Accreditation number: VH18	Programme information: **www.pep-ecopassport.org**
Edition date: 10-2018	Period of validity: 5 years
Independent verification of the declaration and data, according to ISO 14025 : 2010 Internal ❒ External ☒ Bureau Veritas LCIE	
Document in compliance with ISO 14025:2010: Environmental labels and declarations. Type III environmental declarations.	
PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)	
The elements of the present PEP cannot be compared with elements from another programme.	
Somfy contact: Justine ZAWADA, Sustainable Development Engineer, justine.zawada@somfy.com	