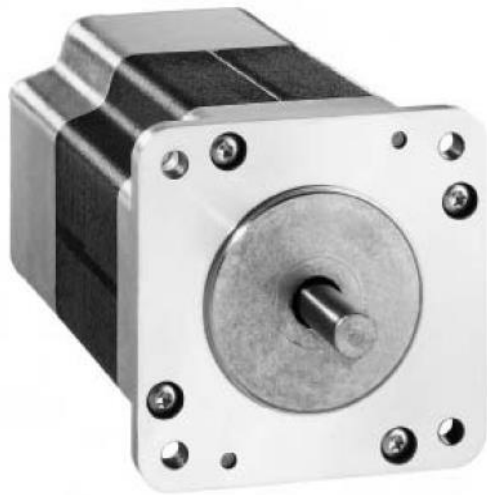


Product Environmental Profile

Lexium BDM43 to BDM77





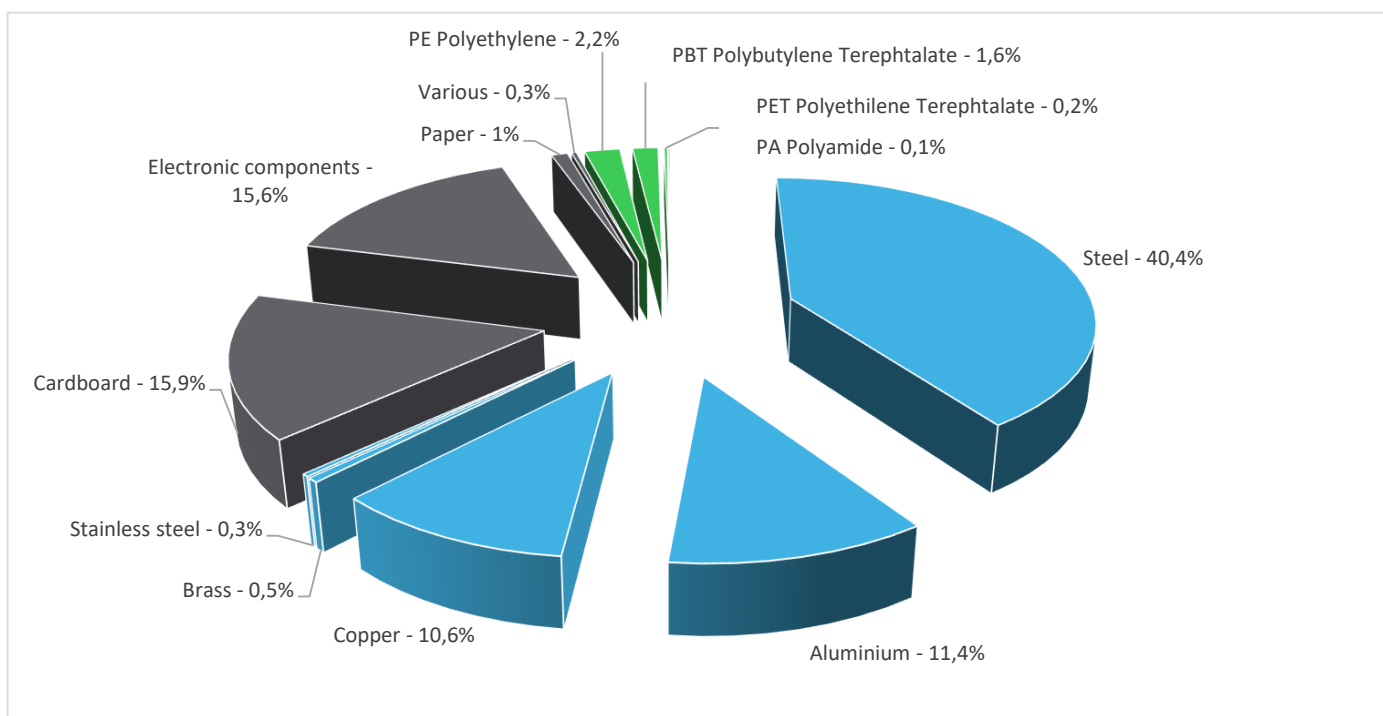
General information

| | |
|-----------------------------------|--|
| Representative product | Lexium BDM43 to BDM77 - Lexium BDM7442S0079 |
| Description of the product | The main purpose of the Lexium BDM43 to BDM77 product range is to control the variation of the rotational speed and position of a DC brushless electric motor. |
| Description of the range | This range consists of BDM Motors with ratings from 57 W to 370 W. The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology. |
| Functional unit | To coordinate and synchronize motion control 70% of the time for 10 years |



Constituent materials

Reference product mass 1637 g including the product, its packaging and additional elements and accessories



| | |
|----------|-------|
| Plastics | 4,1% |
| Metals | 63,2% |
| Others | 32,8% |



Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 2 January 2013, amended in March 2015, 2015/863/EU and in November 2017, 2017/2102/EU) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers – PBDE), Bis (2-ethylhexyl)phthalate - DEHP, Benzyl butyl phthalate– BBP, Dibutyl phthalate - DBP, Diisobutyl phthalate - DIBP) as mentioned in the Directive.

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>



Additional environmental information

The Lexium BDM43 to BDM77 presents the following relevant environmental aspects

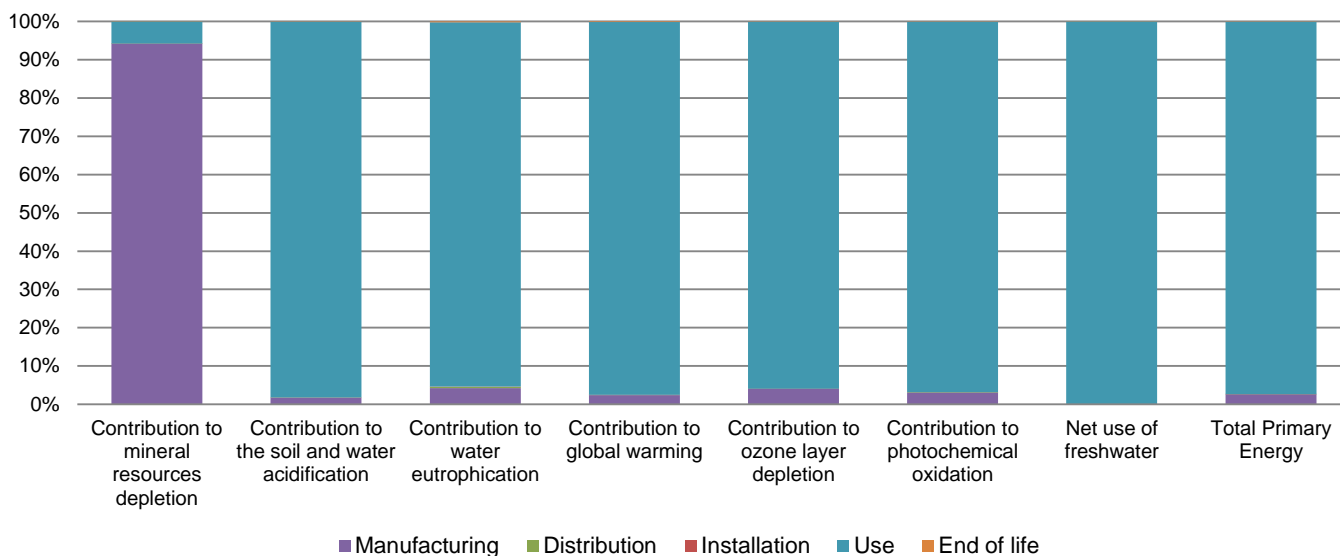
| | |
|----------------------|---|
| Manufacturing | Manufactured at a Schneider Electric production site ISO14001 certified |
| Distribution | Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 318,5 g, consisting of cardboard (82,8%), PE film (12%) and paper (5,2%) Product distribution optimised by setting up local distribution centres |
| Installation | BDM7442S0079 does not require any installation operations. |
| Use | The product does not require special maintenance operations. |
| End of life | End of life optimized to decrease the amount of waste and allow recovery of the product components and materials This product contains electronic card (10,9g) and two external cables (245,4g) that should be separated from the stream of waste so as to optimize end-of-life treatment. http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page Recyclability potential: 78% Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME). |



Environmental impacts

| | | | | |
|---|---|--|--|--|
| Reference life time | 10 years | | | |
| Installation elements | No special components needed | | | |
| Use scenario | The use scenario for 10 years is : - Active phase: consumed power 27 W during 20 % uptime. - Standby phase: consumed power 1 W during 50 % uptime. - Off phase: consumed power 0 W during 30 % uptime. | | | |
| Geographical representativeness | Europe | | | |
| Technological representativeness | The main purpose of the Lexium BDM43 to BDM77 product range is to control the variation of the rotational speed and position of a DC brushless electric motor. | | | |
| Energy model used | Manufacturing | Installation | Use | End of life |
| | Energy model used: Germany | Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27 |

| Compulsory indicators | | Lexium BDM43 to BDM77 - Lexium BDM7442S0079 | | | | | |
|--|-------------------------------------|---|---------------|--------------|--------------|----------|-------------|
| Impact indicators | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Contribution to mineral resources depletion | kg Sb eq | 3,80E-04 | 3,58E-04 | 0* | 0* | 2,20E-05 | 0* |
| Contribution to the soil and water acidification | kg SO ₂ eq | 1,08E+00 | 1,81E-02 | 9,64E-04 | 0* | 1,06E+00 | 4,99E-04 |
| Contribution to water eutrophication | kg PO ₄ ³⁻ eq | 6,70E-02 | 2,83E-03 | 2,22E-04 | 2,90E-05 | 6,38E-02 | 1,48E-04 |
| Contribution to global warming | kg CO ₂ eq | 2,60E+02 | 6,28E+00 | 2,11E-01 | 0* | 2,53E+02 | 3,63E-01 |
| Contribution to ozone layer depletion | kg CFC11 eq | 1,72E-05 | 7,02E-07 | 0* | 0* | 1,65E-05 | 1,77E-08 |
| Contribution to photochemical oxidation | kg C ₂ H ₄ eq | 6,00E-02 | 1,79E-03 | 6,88E-05 | 0* | 5,80E-02 | 5,48E-05 |
| Resources use | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Net use of freshwater | m ³ | 9,18E+02 | 1,02E-01 | 0* | 0* | 9,18E+02 | 0* |
| Total Primary Energy | MJ | 5,20E+03 | 1,36E+02 | 2,99E+00 | 0* | 5,06E+03 | 2,91E+00 |



| Optional indicators | | Lexium BDM43 to BDM77 - Lexium BDM7442S0079 | | | | | |
|---|----------------|---|---------------|--------------|--------------|----------|-------------|
| Impact indicators | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Contribution to fossil resources depletion | MJ | 2,94E+03 | 6,20E+01 | 2,97E+00 | 0* | 2,87E+03 | 2,05E+00 |
| Contribution to air pollution | m ³ | 1,26E+04 | 1,63E+03 | 8,98E+00 | 0* | 1,09E+04 | 1,89E+01 |
| Contribution to water pollution | m ³ | 1,12E+04 | 4,20E+02 | 3,47E+01 | 2,75E+00 | 1,04E+04 | 2,80E+02 |
| Resources use | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Use of secondary material | kg | 4,13E-01 | 4,13E-01 | 0* | 0* | 0* | 0* |
| Total use of renewable primary energy resources | MJ | 6,50E+02 | 7,37E+00 | 0* | 0* | 6,43E+02 | 0* |
| Total use of non-renewable primary energy resources | MJ | 4,55E+03 | 1,28E+02 | 2,98E+00 | 0* | 4,41E+03 | 2,91E+00 |
| Use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 6,45E+02 | 2,19E+00 | 0* | 0* | 6,43E+02 | 0* |
| Use of renewable primary energy resources used as raw material | MJ | 5,19E+00 | 5,19E+00 | 0* | 0* | 0* | 0* |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 4,54E+03 | 1,20E+02 | 2,98E+00 | 0* | 4,41E+03 | 2,91E+00 |
| Use of non renewable primary energy resources used as raw material | MJ | 8,47E+00 | 8,47E+00 | 0* | 0* | 0* | 0* |
| Use of non renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Use of renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Waste categories | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Hazardous waste disposed | kg | 2,29E+01 | 2,09E+01 | 0* | 0* | 1,32E-01 | 1,87E+00 |
| Non hazardous waste disposed | kg | 9,48E+02 | 3,71E+00 | 0* | 0* | 9,44E+02 | 0* |
| Radioactive waste disposed | kg | 6,32E-01 | 1,85E-03 | 0* | 0* | 6,31E-01 | 0* |
| Other environmental information | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Materials for recycling | kg | 1,45E+00 | 1,35E-01 | 0* | 2,86E-01 | 0* | 1,03E+00 |
| Components for reuse | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Materials for energy recovery | kg | 5,83E-03 | 0* | 0* | 0* | 0* | 5,83E-03 |
| Exported Energy | MJ | 1,02E-02 | 9,36E-03 | 0* | 7,94E-04 | 0* | 0* |

* represents less than 0.01% of the total life cycle of the reference flow

Life cycle assessment performed with EIME version EIME v5.8.1, database version 2016-11 in compliance with ISO14044.

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range.

Depending on the impact analysis, the environmental indicators (without "contribution to Mineral Resources Depletion") of other products in this family may be proportional extrapolated by energy consumption values. For mineral resources depletion, the impact may be proportional extrapolated by mass of the product.

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

| | | | |
|--|-------------------|-------------------------------------|--|
| Registration number | ENVPEP111237EN_V2 | Drafting rules | PCR-ed3-EN-2015 04 02 |
| Date of issue | 07/2020 | | |
| Validity period | 5 years | Information and reference documents | www.pep-ecopassport.org |
| <i>Independent verification of the declaration and data</i> | | | |
| Internal | X | External | |
| <i>The elements of the present PEP cannot be compared with elements from another program.</i> | | | |
| <i>Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »</i> | | | |

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