# Product Environmental Profile

## Erie AG PopTop, 24 VAC 2 Position, Electric Rotary Actuator

## Erie Zone Valve Actuator

# General information

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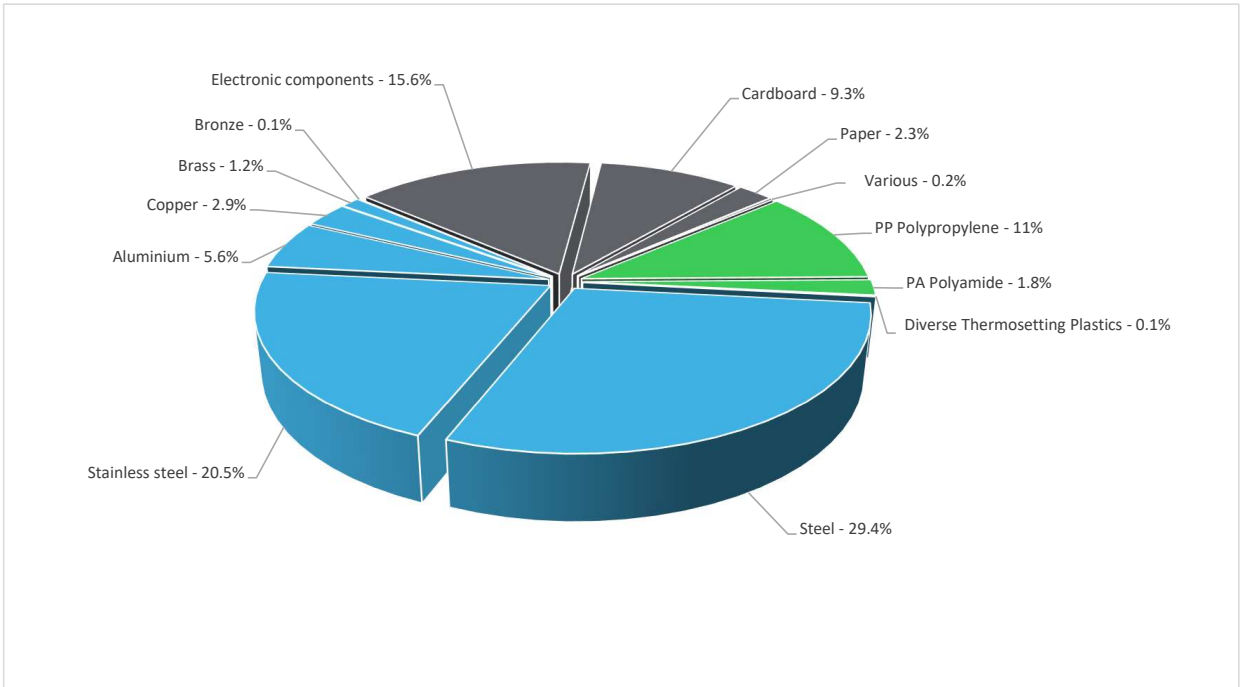
|---|---|
| **Reference product** | Erie AG PopTop, 24 VAC 2 Position, Electric Rotary Actuator - AG13A02A |
| **Description of the product** | AG13A02A is an electric rotary General Close Off actuator from Schneider Electric's Erie PopTop series, designed for HVAC and building automation systems. It operates on 24 VAC and features a 2-position, spring return mechanism with a Single Pole Double Throw (SPDT) switch. This actuator is known for its easy installation, as it mounts directly onto the valve body without the need for linkages or calibration. It includes 18" leads for wiring, a manual override, and auxiliary contacts that support a range of voltages. |
| **Description of the range** | The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology. |
| **Other Products in the range** | AG13A000 AG13A01A AG13A020 AG13A02001 AG13A020J AG13A020Q1 AG13A030 AG13A03A AG13A060 AG13A060E1 AG13A060Q1 AG13A230 AG13A23A AG13A650T<br>AG13B000 AG13B020 AG13B020J AG13B02A AG13B030 AG13B060 AG13B060E1 AG13BM30<br>AG13D020 AG13T000 AG13T020 AG13T02A AG13T030 AG13T060<br>AG13U000 AG13U020 AG13U02A AG13U230 AG13U230M AG13U23A AG13U23AM AG13UM30 AG13UM60<br>AG14A000 AG14A020 AG14A020Q1 AG14A02A AG14A060 AG14A060E1<br>AG14B000 AG14B020 AG14B020Q1 AG14B02A AG14B060 AG14B060E1<br>AG14D020 AG14D02001 AG14D020Q1 AG14D02A AG14D030 AG14T020 AG14T060 AG14T060E1 AG14U020<br>AG23A000 AG23A01A AG23A020 AG23A020J AG23A020Q1 AG23A02A AG23A060Q1 AG23A230 AG23A650T1<br>AG23B000 AG23B020 AG23B02A AG23D020 AG23T020 AG23U020 AG23U230<br>AG24A020 AG24A020Q1 AG24A02A AG24B020 AG24B020Q1 AG24D020 AG24D020Q1 AG24D640 AG24T020 AG24U020 |
| **Functional unit** | Other switchgear and controlgear solutions mentioned in the scope (e.g. fuses TC32, all-or-nothing relays TC94, Measuring relays and protection equipment TC95), apply the general rules of PCR and mention in the accompanying report the functional unit, the reference product characteristics, the reference lifetime and the use scenario which are applied consistently with the relevant IEC technical standards. |
| **Specifications are:** | For AG13A02A, to deliver the easy installation and reliable temperature control performance in HVAC and building automation systems, for 10 years:<br>- Control Signal: 2-Position<br>- IP Rating: IP10<br>- Lossof Power type: Spring return<br>- Mechanical Movement: Rotary<br>- Temperature Ambient Operating Range: 32…200 °F (0…93.3 °C)<br>- Humidity: 5…95 % non-condensing |

# Constituent materials

| | | |
|---|---|---|
| **Reference product mass** | 492 g | including the product, its packaging, additional elements and accessories |




| | | |
|---|---|---|
| | Plastics | 12.9% |
| | Metals | 59.7% |
| | Others | 27.4% |

## Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric website
https://www.se.com

## Additional environmental information

| | | | |
|---|---|---|---|
| End Of Life | Recyclability potential: | 71% | The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability). |

## Environmental impacts

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|---|---|
| Reference service life time | 10 years |
| Product category | Other equipments - Active product |
| Life cycle of the product | The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study |
| Electricity consumtion | The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligable consumption |
| Installation elements | The product does not require any istallation operations. |
| Use scenario | The product is in active mode 29.45% of the time with a power use of 5.41W and in off mode 70.55% of the time with a power use of 0W, for 10 years. |
| Time representativeness | The collected data are representative of the year 2025 |
| Technological representativeness | The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and représentaive of the actual type of technologies used to make the product. |

| Geographical representativeness | Final assembly site | Use phase | | End-of-life |
|---|---|---|---|---|
| | Monterrey, Mexico | North America | | North America |
| Energy model used | [A1 - A3] | [A5] | [B6] | [C1 - C4] |
| | Electricity Mix; Low voltage; 2020; Mexico, MX | No energy used | Electricity Mix; Low voltage; 2020; United States, US | Global, European and French datasets are used. |

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.se.com/contact

| Mandatory Indicators | | Erie AG PopTop, 24 VAC 2 Position, Electric Rotary Actuator - AG13A02A | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Impact indicators | Unit | Total (without Module D) | [A1 - A3] - Manufacturing | [A4] - Distribution | [A5] - Installation | [B1 - B7] - Use | [C1 - C4] - End of life | [D] - Benefits and loads |
| Contribution to climate change | kg CO2 eq | 8.08E+01 | 3.24E+00 | 9.30E-02 | 0* | 7.63E+01 | 1.21E+00 | -1.55E+00 |
| Contribution to climate change-fossil | kg CO2 eq | 8.07E+01 | 3.20E+00 | 9.30E-02 | 0* | 7.62E+01 | 1.20E+00 | -1.53E+00 |
| Contribution to climate change-biogenic | kg CO2 eq | 1.28E-01 | 3.98E-02 | 0* | 0* | 8.06E-02 | 7.24E-03 | -2.07E-02 |
| Contribution to climate change-land use and land use change | kg CO2 eq | 1.36E-07 | 1.38E-08 | 0* | 0* | 0* | 1.23E-07 | 0.00E+00 |
| Contribution to ozone depletion | kg CFC-11 eq | 8.80E-07 | 5.49E-07 | 1.42E-10 | 0* | 3.24E-07 | 6.48E-09 | -3.18E-07 |
| Contribution to acidification | mol H+ eq | 4.35E-01 | 2.72E-02 | 5.89E-04 | 0* | 4.04E-01 | 3.92E-03 | -1.46E-02 |
| Contribution to eutrophication, freshwater | kg P eq | 3.83E-04 | 3.39E-05 | 0* | 0* | 1.18E-04 | 2.32E-04 | -4.00E-06 |
| Contribution to eutrophication, marine | kg N eq | 5.21E-02 | 3.02E-03 | 2.76E-04 | 0* | 4.80E-02 | 7.94E-04 | -9.04E-04 |
| Contribution to eutrophication, terrestrial | mol N eq | 6.08E-01 | 3.26E-02 | 3.03E-03 | 0* | 5.64E-01 | 8.98E-03 | -1.03E-02 |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 1.74E-01 | 1.11E-02 | 7.64E-04 | 0* | 1.59E-01 | 2.77E-03 | -3.96E-03 |
| Contribution to resource use, minerals and metals | kg Sb eq | 4.05E-04 | 3.94E-04 | 0* | 0* | 3.08E-06 | 7.38E-06 | -2.98E-04 |
| Contribution to resource use, fossils | MJ | 1.74E+03 | 6.53E+01 | 1.30E+00 | 0* | 1.62E+03 | 5.51E+01 | -2.63E+01 |
| Contribution to water use | m3 eq | 4.63E+00 | 1.40E+00 | 0* | 0* | 2.74E+00 | 4.88E-01 | -8.10E-01 |

| Inventory flows Indicators | | Erie AG PopTop, 24 VAC 2 Position, Electric Rotary Actuator - AG13A02A | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Inventory flows | Unit | Total (without Module D) | [A1 - A3] - Manufacturing | [A4] - Distribution | [A5] - Installation | [B1 - B7] - Use | [C1 - C4] - End of life | [D] - Benefits and loads |
| Contribution to renewable primary energy used as energy | MJ | 2.04E+02 | 6.77E-01 | 0* | 0* | 2.03E+02 | 1.79E-01 | -5.41E-01 |
| Contribution to renewable primary energy used as raw material | MJ | 1.11E+00 | 1.11E+00 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total renewable primary energy | MJ | 2.05E+02 | 1.79E+00 | 0* | 0* | 2.03E+02 | 1.79E-01 | -5.41E-01 |
| Contribution to non renewable primary energy used as energy | MJ | 1.74E+03 | 6.15E+01 | 1.30E+00 | 0* | 1.62E+03 | 5.51E+01 | -2.63E+01 |
| Contribution to non renewable primary energy used as raw material | MJ | 3.78E+00 | 3.78E+00 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total non renewable primary energy | MJ | 1.74E+03 | 6.53E+01 | 1.30E+00 | 0* | 1.62E+03 | 5.51E+01 | -2.63E+01 |
| Contribution to use of secondary material | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to use of renewable secondary fuels | MJ | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to use of non renewable secondary fuels | MJ | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to net use of fresh water | $m^3$ | 1.08E-01 | 3.27E-02 | 0* | 0* | 6.38E-02 | 1.14E-02 | -1.89E-02 |
| Contribution to hazardous waste disposed | kg | 2.65E+01 | 2.49E+01 | 0* | 0* | 1.49E+00 | 5.73E-02 | -2.37E+01 |
| Contribution to non hazardous waste disposed | kg | 1.43E+01 | 2.99E+00 | 3.26E-03 | 0* | 1.13E+01 | 8.28E-02 | -1.28E+00 |
| Contribution to radioactive waste disposed | kg | 3.23E-03 | 1.10E-03 | 2.32E-06 | 0* | 2.12E-03 | 5.64E-06 | -8.07E-04 |
| Contribution to components for reuse | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to materials for recycling | kg | 3.57E-01 | 4.36E-02 | 0* | 0* | 0* | 3.14E-01 | 0.00E+00 |
| Contribution to materials for energy recovery | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to exported energy | MJ | 3.33E-03 | 4.40E-04 | 0* | 0* | 0* | 2.89E-03 | 0.00E+00 |

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

| | | |
|---|---|---|
| Contribution to biogenic carbon content of the product | kg of C | 0.00E+00 |
| Contribution to biogenic carbon content of the associated packaging | kg of C | 1.73E-02 |

** The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)*

| Mandatory Indicators | | Erie AG PopTop, 24 VAC 2 Position, Electric Rotary Actuator - AG13A02A | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Impact indicators | Unit | [B1 - B7] - Use | [B1] | [B2] | [B3] | [B4] | [B5] | [B6] | [B7] |
| Contribution to climate change | kg CO2 eq | 7.63E+01 | 0* | 0* | 0* | 0* | 0* | 7.63E+01 | 0* |
| Contribution to climate change-fossil | kg CO2 eq | 7.62E+01 | 0* | 0* | 0* | 0* | 0* | 7.62E+01 | 0* |
| Contribution to climate change-biogenic | kg CO2 eq | 8.06E-02 | 0* | 0* | 0* | 0* | 0* | 8.06E-02 | 0* |
| Contribution to climate change-land use and land use change | kg CO2 eq | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to ozone depletion | kg CFC-11 eq | 3.24E-07 | 0* | 0* | 0* | 0* | 0* | 3.24E-07 | 0* |
| Contribution to acidification | mol H+ eq | 4.04E-01 | 0* | 0* | 0* | 0* | 0* | 4.04E-01 | 0* |
| Contribution to eutrophication, freshwater | kg P eq | 1.18E-04 | 0* | 0* | 0* | 0* | 0* | 1.18E-04 | 0* |
| Contribution to eutrophication marine | kg N eq | 4.80E-02 | 0* | 0* | 0* | 0* | 0* | 4.80E-02 | 0* |
| Contribution to eutrophication, terrestrial | mol N eq | 5.64E-01 | 0* | 0* | 0* | 0* | 0* | 5.64E-01 | 0* |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 1.59E-01 | 0* | 0* | 0* | 0* | 0* | 1.59E-01 | 0* |
| Contribution to resource use, minerals and metals | kg Sb eq | 3.08E-06 | 0* | 0* | 0* | 0* | 0* | 3.08E-06 | 0* |
| Contribution to resource use, fossils | MJ | 1.62E+03 | 0* | 0* | 0* | 0* | 0* | 1.62E+03 | 0* |
| Contribution to water use | m3 eq | 2.74E+00 | 0* | 0* | 0* | 0* | 0* | 2.74E+00 | 0* |

| Inventory flows Indicators | | Erie AG PopTop, 24 VAC 2 Position, Electric Rotary Actuator - AG13A02A | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Inventory flows | Unit | [B1 - B7] - Use | [B1] | [B2] | [B3] | [B4] | [B5] | [B6] | [B7] |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 2.03E+02 | 0* | 0* | 0* | 0* | 0* | 2.03E+02 | 0* |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to total use of renewable primary energy resources | MJ | 2.03E+02 | 0* | 0* | 0* | 0* | 0* | 2.03E+02 | 0* |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 1.62E+03 | 0* | 0* | 0* | 0* | 0* | 1.62E+03 | 0* |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to total use of non-renewable primary energy resources | MJ | 1.62E+03 | 0* | 0* | 0* | 0* | 0* | 1.62E+03 | 0* |
| Contribution to use of secondary material | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to use of renewable secondary fuels | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to use of non renewable secondary fuels | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to net use of freshwater | m³ | 6.38E-02 | 0* | 0* | 0* | 0* | 0* | 6.38E-02 | 0* |
| Contribution to hazardous waste disposed | kg | 1.49E+00 | 0* | 0* | 0* | 0* | 0* | 1.49E+00 | 0* |
| Contribution to non hazardous waste disposed | kg | 1.13E+01 | 0* | 0* | 0* | 0* | 0* | 1.13E+01 | 0* |
| Contribution to radioactive waste disposed | kg | 2.12E-03 | 0* | 0* | 0* | 0* | 0* | 2.12E-03 | 0* |
| Contribution to components for reuse | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to materials for recycling | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to materials for energy recovery | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to exported energy | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |

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

*Life cycle assessment performed with EIME version v6.2.5-6, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 is used*

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

*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 :* | ENVPEP2504015_V1 | *Drafting rules* | PEP-PCR-ed4-2021 09 06 |
| | | *Supplemented by* | PSR-0005-ed3-2023 06 06 |
| *Date of issue* | 04-2025 | *Information and reference documents* | www.pep-ecopassport.org |
| | | *Validity period* | 5 years |
| *Independent verification of the declaration and data, in compliance with ISO 14021 : 2016* | | | |
| Internal X External | | | |
| *The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)* | | | |
| *PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022* | | | |
| *The components of the present PEP may not be compared with components from any other program.* | | | |
| *Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"* | | | |

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