

Product Environmental Profile

VARIABLE SPEED DRIVE ATV630 IP21 90KW 400V/480V

Altivar Process ATV600/900 / Altivar Machine ATV340





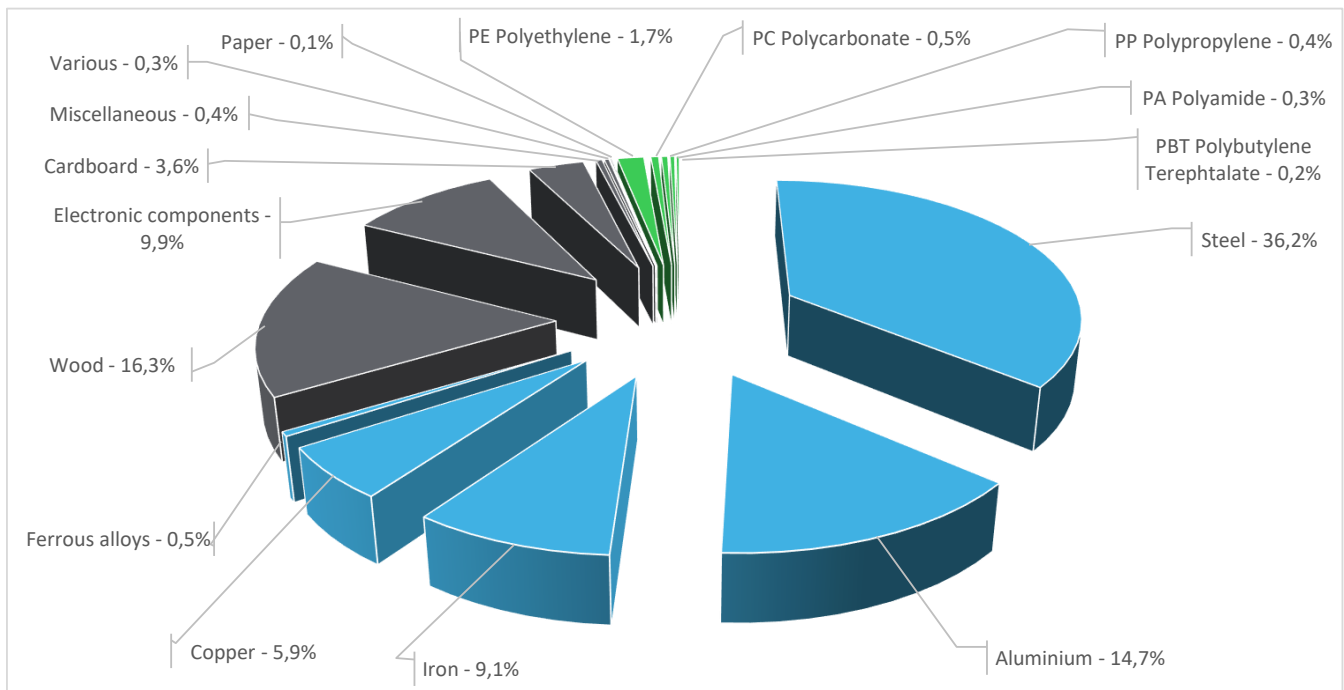
General information

| | |
|-----------------------------------|---|
| Representative product | VARIABLE SPEED DRIVE ATV630 IP21 90KW 400V/480V - ATV630D90N4 |
| Description of the product | The main function of the Altivar Process product range is the speed control and variation of a synchronous, asynchronous or reluctance electric motor for fluid management and industrial applications. |
| Description of the range | <p>This range consists of products Altivar 630, Altivar 930 and Altivar 955 with ratings from 30 to 45 kW for operation on 200V/240V and ratings from 55 to 90 kW for operation on 400V/480V and of products Altivar 340 with ratings from 45 to 75 kW in heavy duty and 55 to 90 kW in normal duty cycle for operation on 400V/480V, 3-phase supplies IP21/UL type 1. For the Altivar 340 products, the normal duty mode constitutes the referential mode.</p> <p>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.</p> |
| Functional unit | To adapt the speed and torque of synchronous, asynchronous or reluctance motor to the machine's operating point for 90 kW electric motors for fluid management and industrial applications in IP21/UL type 1 conditions, at 380V to 480V rated 3-phase voltage supply. Calculation of the environmental impacts is based on 10 years of product service lifetime. The usage profile taken into account is 80% uptime in use phase at 75% loading rate and 20% uptime in stand by phase. |



Constituent materials

Reference product mass 74,5 kg including the product, its packaging and additional elements and accessories



| | |
|----------|-------|
| Plastics | 3,0% |
| Metals | 66,4% |
| Others | 30,6% |

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

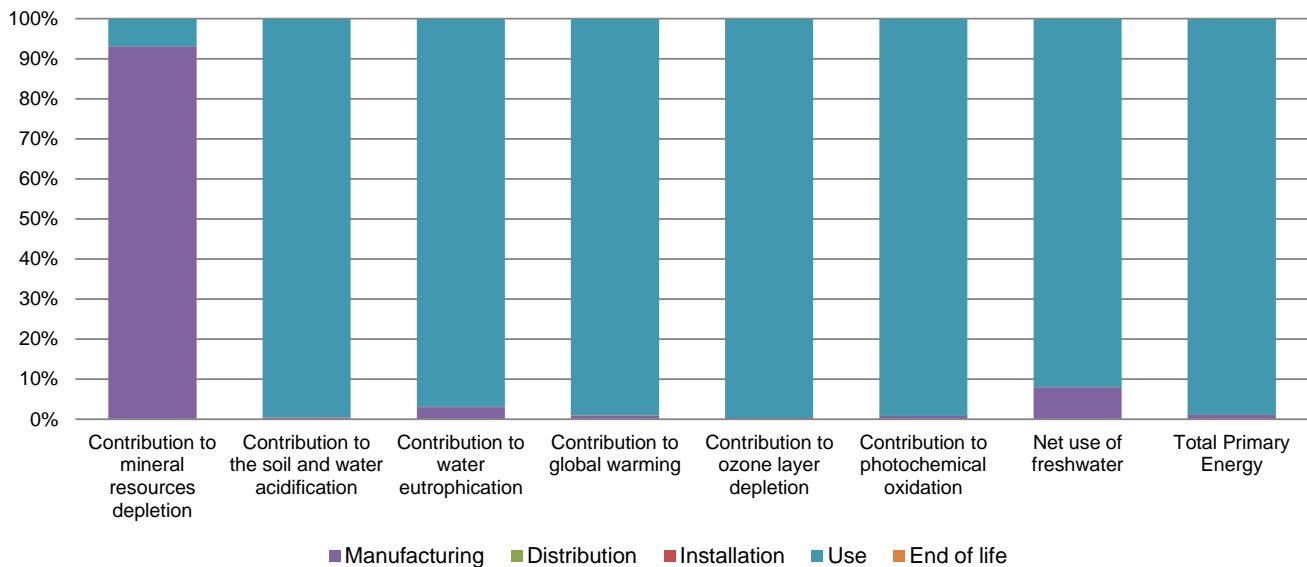
The VARIABLE SPEED DRIVE ATV630 IP21 90KW 400V/480V presents the following relevant environmental aspects

| | |
|----------------------|--|
| Design | The variable speed drive saves up to 50% energy by optimising the operating cycles of the machines used for fluid applications with Altivar Process. |
| 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 |
| Installation | The product does not require any installation operation. |
| Use | The product does not require special maintenance operations. |
| End of life | <p>End of life optimized to decrease the amount of waste and allow recovery of the product components and materials</p> <p>This product contains Electronic cards (4369 g), cables (1177 g), Electrolyte capacitors (3200 g), LCD (25 g) and batteries (2.9 g) that should be separated from the stream of waste so as to optimize end-of-life treatment.</p> <p>The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website</p> <p>http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page</p> <p>Recyclability potential: 81% 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).</p> |

Environmental impacts

| | | | | |
|---|---|---|---|---|
| Reference life time | 10 years | | | |
| Product category | Other equipments - Active product | | | |
| Installation elements | The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal). | | | |
| Use scenario | The product is in active phase 80% of the time at 75% loading rate with a power use of 1374 W (Supply voltage is 400V, switching frequency is 4 kHz, and loading rate is 75%) and in stand-by phase 20% of the time with a power use of 30 W, for 10 years. | | | |
| Geographical representativeness | Europe | | | |
| Technological representativeness | The main function of the Altivar Process product range is the speed control and variation of a synchronous, asynchronous or reluctance electric motor for fluid management and industrial applications. | | | |
| Energy model used | Manufacturing | Installation | Use | End of life |
| | Energy model used: China | Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27 |

| Compulsory indicators | | VARIABLE SPEED DRIVE ATV630 IP21 90KW 400V/480V - ATV630D90N4 | | | | | |
|--|-------------------------------------|---|---------------|--------------|--------------|----------|-------------|
| Impact indicators | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Contribution to mineral resources depletion | kg Sb eq | 3,76E-02 | 3,50E-02 | 0* | 0* | 2,60E-03 | 0* |
| Contribution to the soil and water acidification | kg SO ₂ eq | 4,34E+02 | 2,07E+00 | 4,39E-02 | 0* | 4,32E+02 | 0* |
| Contribution to water eutrophication | kg PO ₄ ³⁻ eq | 1,67E+01 | 5,03E-01 | 1,01E-02 | 3,74E-03 | 1,62E+01 | 6,09E-03 |
| Contribution to global warming | kg CO ₂ eq | 5,78E+04 | 5,73E+02 | 9,61E+00 | 1,31E+01 | 5,72E+04 | 1,31E+01 |
| Contribution to ozone layer depletion | kg CFC11 eq | 1,39E-02 | 4,62E-05 | 0* | 0* | 1,39E-02 | 0* |
| Contribution to photochemical oxidation | kg C ₂ H ₄ eq | 2,06E+01 | 1,64E-01 | 3,13E-03 | 3,04E-03 | 2,04E+01 | 0* |
| Resources use | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Net use of freshwater | m3 | 1,62E+02 | 1,29E+01 | 0* | 0* | 1,49E+02 | 0* |
| Total Primary Energy | MJ | 1,17E+06 | 1,29E+04 | 1,36E+02 | 0* | 1,16E+06 | 0* |



| Optional indicators | | VARIABLE SPEED DRIVE ATV630 IP21 90KW 400V/480V - ATV630D90N4 | | | | | |
|---|----------------|---|---------------|--------------|--------------|----------|-------------|
| Impact indicators | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Contribution to fossil resources depletion | MJ | 5,96E+05 | 6,78E+03 | 1,35E+02 | 0* | 5,89E+05 | 8,01E+01 |
| Contribution to air pollution | m ³ | 2,53E+06 | 7,32E+04 | 4,09E+02 | 3,19E+02 | 2,45E+06 | 6,93E+02 |
| Contribution to water pollution | m ³ | 2,46E+06 | 5,73E+04 | 1,58E+03 | 0* | 2,40E+06 | 2,16E+03 |
| Resources use | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Use of secondary material | kg | 1,67E+01 | 1,67E+01 | 0* | 0* | 0* | 0* |
| Total use of renewable primary energy resources | MJ | 8,33E+04 | 4,57E+02 | 0* | 0* | 8,29E+04 | 0* |
| Total use of non-renewable primary energy resources | MJ | 1,09E+06 | 1,25E+04 | 1,36E+02 | 0* | 1,08E+06 | 0* |
| Use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 8,30E+04 | 1,48E+02 | 0* | 0* | 8,29E+04 | 0* |
| Use of renewable primary energy resources used as raw material | MJ | 3,09E+02 | 3,09E+02 | 0* | 0* | 0* | 0* |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 1,09E+06 | 1,23E+04 | 1,36E+02 | 0* | 1,08E+06 | 0* |
| Use of non renewable primary energy resources used as raw material | MJ | 2,02E+02 | 2,02E+02 | 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 | 8,66E+02 | 7,87E+02 | 0* | 0* | 0* | 7,86E+01 |
| Non hazardous waste disposed | kg | 2,14E+05 | 2,33E+02 | 0* | 0* | 2,14E+05 | 0* |
| Radioactive waste disposed | kg | 1,74E+02 | 1,83E-01 | 0* | 0* | 1,74E+02 | 0* |
| Other environmental information | Unit | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Materials for recycling | kg | 5,93E+01 | 5,27E+00 | 0* | 6,55E+00 | 0* | 4,75E+01 |
| Components for reuse | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Materials for energy recovery | kg | 1,91E+00 | 0* | 0* | 0* | 0* | 1,91E+00 |
| Exported Energy | MJ | 8,25E+00 | 7,08E-01 | 0* | 7,54E+00 | 0* | 0* |

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

Life cycle assessment performed with EIME version EIME v5.9.1, 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.

To extrapolate the impact to another product from the range, apply the following extrapolation rules to each indicator per life cycle stage:

MANUFACTURING(i) = Mass of (product+packaging) in grams / Mass of (reference product+reference packaging) in grams

DISTRIBUTION (i) = Mass of (product+packaging) in grams / Mass of (reference product+reference packaging) in grams

INSTALLATION (i) = Mass of (packaging) in grams / Mass of (reference packaging) in grams

USE (i) = Power dissipated in Watts / Power dissipated of the reference product in Watts

END OF LIFE (i) = Mass of (product) in grams / Mass of (reference product) in grams

TOTAL (i) = Σ Life Cycle Stages (i)

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 : | SCHN-00674-V01.01-EN | Drafting rules | PCR-ed3-EN-2015 04 02 |
| Verifier accreditation N° | VH39 | Information and reference documents | www.pep-ecopassport.org |
| Date of issue | 11/2021 | Validity period | 5 years |
| Independent verification of the declaration and data, in compliance with ISO 14025 : 2010 | | | |
| Internal | External | X | |
| 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 : 2010 « Environmental labels and declarations. Type III environmental declarations » | | | |



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