Product Environmental Profile

Variable speed drive, Altivar Machine ATV320, 22 kW

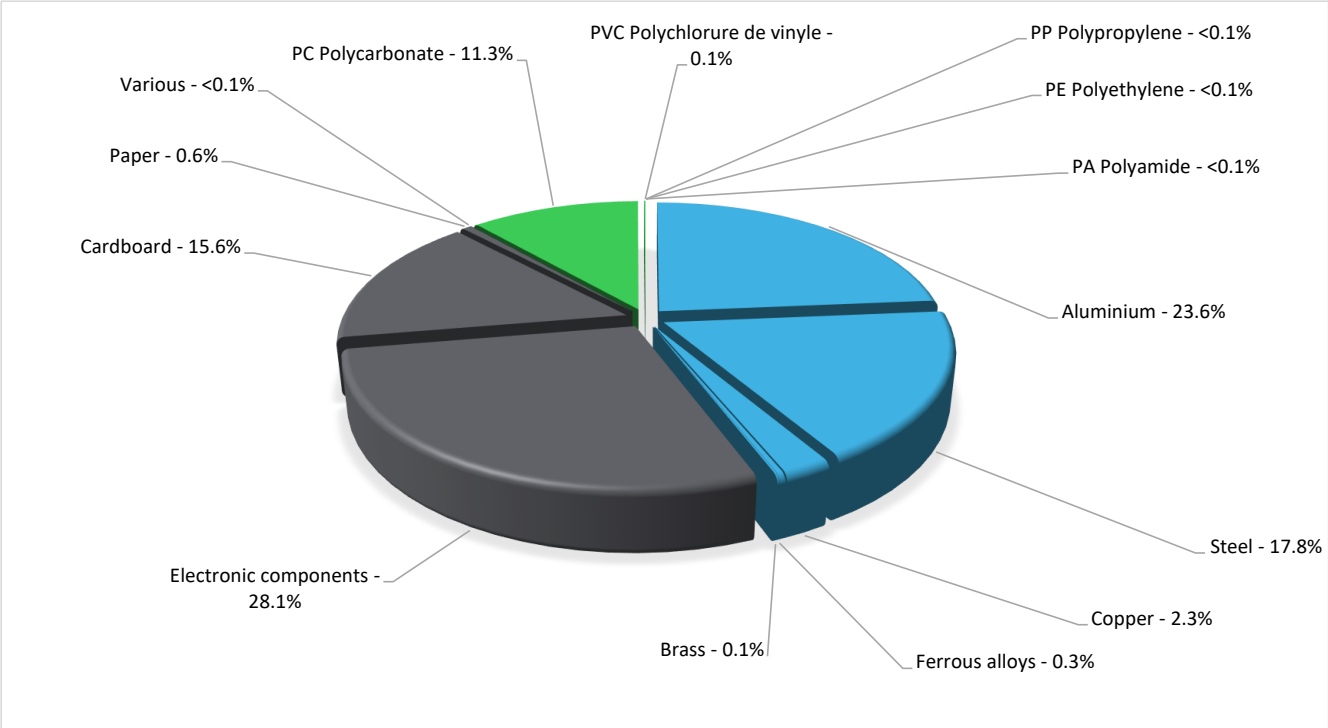
Altivar Machine ATV320

General information

Reference product	Variable speed drive, Altivar Machine ATV320, 22 kW, 380 to 500 V, 3 phases, compact - ATV320D22N4C
Description of the product	The main function of the Altivar Machine 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	The products of the range are: This range consists of products Altivar Machine ATV320, a variable speed drive designed for Original Equipment Manufacturers (OEMs) that meets simple and advanced application requirements for 3 Phases synchronous and asynchronous motors from 18.5 to 22 kW (25 to 30 HP) 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.
Functional unit	To adapt the speed and torque of synchronous, asynchronous or reluctance motor to the machine's operating point for 22 kW for heavy duty electric motors for fluid management and industrial applications in IP20/UL type 1 conditions, at 380V to 500V rated 3-phases 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	11.9 kg	including the product, its packaging and additional elements and accessories



	Plastic	11.40%
	Metals	44.10%
	Others	44.50%

Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
https://www.se.com/ww/en/work/support/green-premium/

Additional environmental information

End Of Life	Recyclability potential:	**52%**	The recyclability rate was calculated from the recycling rates of each material making up the product with the exception of data using the ESR database. For materials or components using the ESR database or the absence of data the conservative hypothesis "0% recyclability" was used.

Environmental impacts

Reference service life time	10 years
Product category	Other equipments - Active product
Installation elements	The product does not require any installation operations
Use scenario	The product is in active phase 80% of the time at 75% loading rate with a power use of 379 W and in stand-by phase 20% of the time with a power use of 16 W, under 500VAC,for 10 years.
Time representativeness	The collected data are representative of the year 2024
Technological representativeness	The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are Similar and representative of the actual type of technologies used to make the product in production
Geographical representativeness	Europe

Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Low voltage; 2018; Indonesia, ID	Electricity Mix; Low voltage; 2018; Europe, EU-27	Electricity Mix; Low voltage; 2018; Europe, EU-27	Electricity Mix; Low voltage; 2018; Europe, EU-27

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.schneider-electric.com/contact

Mandatory Indicators		**Variable speed drive, Altivar Machine ATV320, 22 kW, 380 to 500 V, 3 phases, compact - ATV320D22N4C**						
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	1.12E+04	1.88E+02	2.33E+00	2.01E+00	1.10E+04	2.21E+01	-4.89E+01
Contribution to climate change-fossil	kg CO2 eq	1.12E+04	1.86E+02	2.33E+00	1.92E+00	1.10E+04	2.20E+01	-4.75E+01
Contribution to climate change-biogenic	kg CO2 eq	1.69E+01	2.06E+00	0*	9.53E-02	1.47E+01	6.29E-02	-1.43E+00
Contribution to climate change-land use and land use change	kg CO2 eq	1.88E-03	1.88E-03	0*	0*	0*	1.07E-06	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	7.00E-05	2.28E-05	0*	2.60E-08	4.70E-05	1.28E-07	-6.53E-06
Contribution to acidification	mol H+ eq	6.45E+01	1.69E+00	1.47E-02	0*	6.28E+01	4.54E-02	-3.54E-01
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	3.32E-02	9.09E-04	0*	4.60E-05	3.01E-02	2.09E-03	-1.86E-04
Contribution to eutrophication marine	kg N eq	7.37E+00	2.16E-01	6.90E-03	2.56E-03	7.13E+00	1.23E-02	-2.90E-02
Contribution to eutrophication, terrestrial	mol N eq	1.10E+02	2.34E+00	7.57E-02	1.78E-02	1.07E+02	1.33E-01	-3.13E-01
Contribution to photochemical ozone formation - human health	kg COVNM eq	2.37E+01	7.31E-01	1.91E-02	4.08E-03	2.29E+01	3.80E-02	-1.06E-01
Contribution to resource use, minerals and metals	kg Sb eq	4.97E-02	4.89E-02	0*	0*	7.97E-04	6.39E-05	-2.89E-03
Contribution to resource use, fossils	MJ	2.84E+05	3.48E+03	3.24E+01	0*	2.80E+05	4.81E+02	-7.16E+02
Contribution to water use	m3 eq	4.88E+02	9.45E+01	0*	1.55E-01	3.89E+02	4.32E+00	-1.32E+01

Additional indicators for the French regulation are available as well

Inventory flows Indicators		Variable speed drive, Altivar Machine ATV320, 22 kW, 380 to 500 V, 3 phases, compact - ATV320D22N4C						
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 use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5.39E+04	7.50E+01	0*	0*	5.38E+04	0*	-2.02E+01
Contribution to use of renewable primary energy resources used as raw material	MJ	3.87E+01	3.87E+01	0*	0*	0*	0*	-2.78E+01
Contribution to total use of renewable primary energy resources	MJ	5.39E+04	1.14E+02	0*	0*	5.38E+04	0*	-4.80E+01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.84E+05	3.40E+03	3.24E+01	0*	2.80E+05	4.81E+02	-7.16E+02
Contribution to use of non renewable primary energy resources used as raw material	MJ	8.06E+01	8.06E+01	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	2.84E+05	3.48E+03	3.24E+01	0*	2.80E+05	4.81E+02	-7.16E+02
Contribution to use of secondary material	kg	1.23E-02	1.23E-02	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 freshwater	m^3	1.14E+01	2.22E+00	0*	3.61E-03	9.06E+00	1.01E-01	-3.08E-01
Contribution to hazardous waste disposed	kg	9.78E+02	7.69E+02	0*	0*	2.06E+02	3.15E+00	-2.36E+02
Contribution to non hazardous waste disposed	kg	1.75E+03	1.61E+02	0*	8.59E-01	1.58E+03	2.04E+00	-7.10E+01
Contribution to radioactive waste disposed	kg	4.11E-01	7.95E-02	5.81E-05	1.06E-04	3.31E-01	1.46E-04	-5.39E-02
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	5.76E+00	7.52E-01	0*	0*	0*	5.01E+00	0.00E+00
Contribution to materials for energy recovery	kg	1.06E-07	1.06E-07	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	1.57E-01	7.64E-03	0*	8.20E-02	0*	6.70E-02	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 de C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	5.33E-01

Life cycle assessment performed with EIME version v6.1, database version 2023-02 in compliance with ISO14044, EF 3.0 method is applied, for biogenic carbon storage, assessment methodology 0/0 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

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 :	ENVPEP2404015_V2	*Drafting rules*	PCR-4-ed4-EN-2021 09 06
		Supplemented by	PSR-0005-ed3-EN-2023 06 06
Date of issue	11-2024		
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14025 : 2006

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 14025:2006 "Environmental labels and declarations. Type III environmental declarations"

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Published by Schneider Electric

11-2024