

# Product Environmental Profile

**Altivar Process ATV6100, 6.6 kV, 1490 kVA**

**Altivar Process ATV6100**

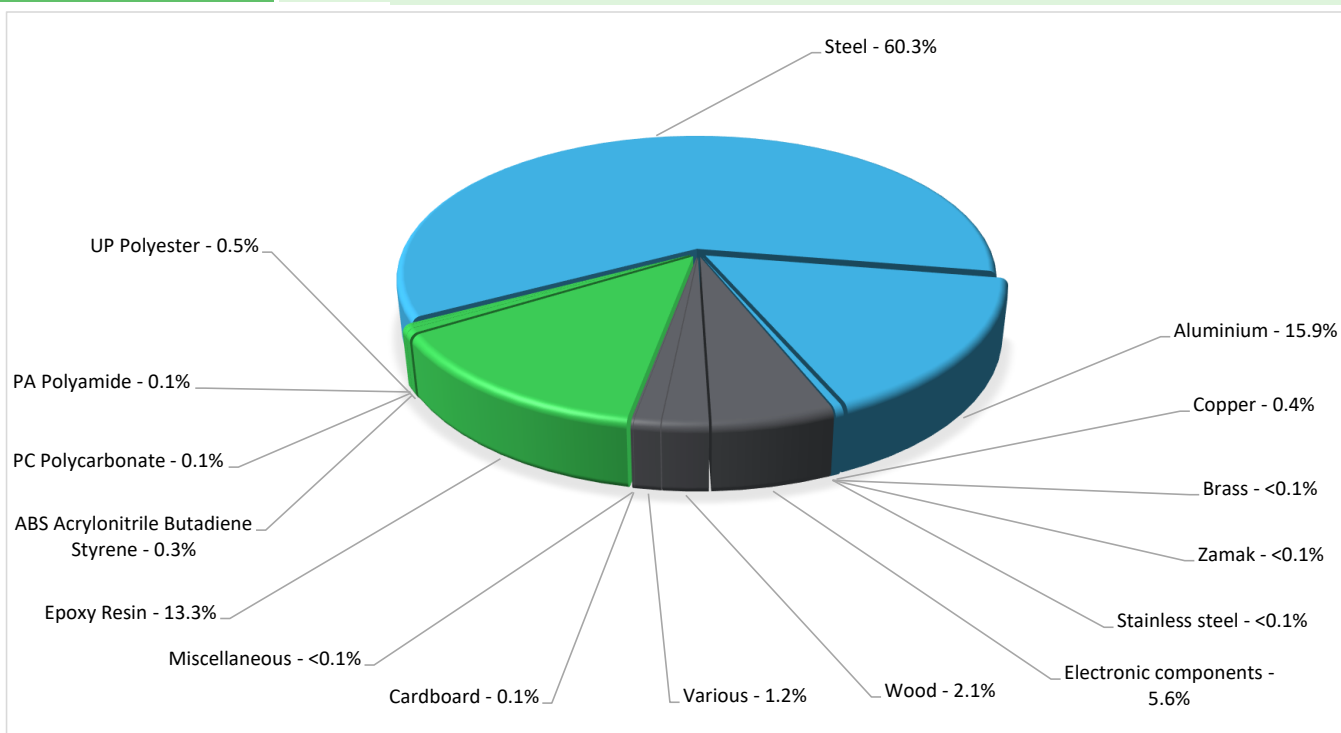


## General information

Reference product	Altivar Process ATV6100, 6.6 kV, 1490 kVA - ATV6100C149A6666NA
Description of the product	This Altivar process ATV6100 drive system is designed for medium voltage control asynchronous and synchronous motors
Description of the range	This range consists of Medium Voltage Drives System with multi-pulse transformer and low voltage inverter cascade of voltage class 6.6KV, provides a sinusoidal wave at both input and output with low THD. Transformer rating from 1130KVA to 2210KVA 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 and asynchronous motor to the machine's operating point. Calculation of the environmental impacts is based on 5.000 operating hours per year and 10 years of product service lifetime according to CEMCEP. The usage profile taken into account is 4 operation points with relative speed and torque
Specifications are:	-Technical data: -Voltage class:6.6kV -Transformer rating:1490kVA -Number of cells per phase:5 -Degree of protection (cabinet):IP 41, IP 22 air exhaust -Cooling type:Air cooled

## Constituent materials

Reference product mass	6076kg	including the product, its packaging, additional elements and accessories
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Plastics	14.30%
Metals	76.70%
Others	9.00%

## 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:	77%	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECYLAB 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).
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## Environmental impacts

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 consumption	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligible consumption			
Installation elements	Installation of VSD does not need specific tools or services, only packaging of the product needs to be eliminated.			
Use scenario	The product is in active mode 5000h uptime in use phase at different loading rate(full operation 6% of the time with power of use 40217 W and Medium high operation 15% of the time with power of use 15072 W and Medium low operation 35% of the time with power of use 9264 W and Low operation 44% of the time with power of use 7884 W) and 1000h uptime in stand-by phase with power of use 4140 W, 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 processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and Representative of the actual type of technologies used to make the product.			
Final assembly site	China			
Geographical representativeness	Rest of the World			
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	China, CN; Low voltage	Electricity Mix; High voltage; 2020; Asia Pacific, APAC	Electricity Mix; High voltage; 2020; Asia Pacific, APAC	Electricity Mix; High voltage; 2020; Asia Pacific, APAC
		Electricity Mix; High voltage; 2020; Europe, EU-27	Electricity Mix; High voltage; 2020; Europe, EU-27	Electricity Mix; High voltage; 2020; Europe, EU-27
		Electricity Mix; High voltage; 2020; United States, US	Electricity Mix; High voltage; 2020; United States, US	Electricity Mix; High voltage; 2020; United States, US
		Electricity Mix; High voltage; 2020; Brazil, BR	Electricity Mix; High voltage; 2020; Brazil, BR	Electricity Mix; High voltage; 2020; Brazil, BR
Electricity Mix; High voltage; 2020; Egypt, EG		Electricity Mix; High voltage; 2020; Egypt, EG	Electricity Mix; High voltage; 2020; Egypt, EG	

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		Altivar Process ATV6100, 6.6 kV, 1490 kVA - ATV6100C149A6666NA							
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	3.50E+05	5.16E+04	8.91E+02	2.03E+02	2.88E+05	9.30E+03	-2.58E+04	
Contribution to climate change-fossil	kg CO2 eq	3.43E+05	4.75E+04	8.91E+02	0*	2.85E+05	9.28E+03	-2.54E+04	
Contribution to climate change-biogenic	kg CO2 eq	6.73E+03	4.11E+03	0*	1.97E+02	2.39E+03	2.37E+01	-4.12E+02	
Contribution to climate change-land use and land use change	kg CO2 eq	1.74E-02	1.52E-02	0*	0*	0*	2.20E-03	0.00E+00	
Contribution to ozone depletion	kg CFC-11 eq	7.62E-03	5.67E-03	7.89E-04	0*	9.06E-04	2.52E-04	-3.68E-03	
Contribution to acidification	mol H+ eq	1.59E+03	3.55E+02	4.02E+00	0*	1.19E+03	3.62E+01	-1.70E+02	
Contribution to eutrophication, freshwater	kg (PO4) <sup>3-</sup> eq	5.95E-01	3.25E-01	1.05E-04	0*	2.47E-01	2.30E-02	-6.70E-02	
Contribution to eutrophication, marine	kg N eq	2.05E+02	4.34E+01	1.86E+00	0*	1.53E+02	7.12E+00	-1.46E+01	
Contribution to eutrophication, terrestrial	mol N eq	2.72E+03	4.83E+02	2.01E+01	0*	2.14E+03	8.09E+01	-1.65E+02	
Contribution to photochemical ozone formation - human health	kg NMVOC eq	6.73E+02	1.48E+02	6.53E+00	0*	4.96E+02	2.21E+01	-5.70E+01	
Contribution to resource use, minerals and metals	kg Sb eq	6.23E+00	6.17E+00	0*	0*	6.40E-02	0*	-4.42E+00	
Contribution to resource use, fossils	MJ	6.56E+06	1.09E+06	1.11E+04	0*	5.36E+06	9.74E+04	-4.82E+05	
Contribution to water use	m3 eq	3.46E+04	1.71E+04	4.54E+01	2.25E+01	1.62E+04	1.23E+03	-8.65E+03	

Inventory flows Indicators		Altivar Process ATV6100, 6.6 kV, 1490 kVA - ATV6100C149A6666NA						
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	1.12E+06	3.34E+04	0*	0*	1.08E+06	5.04E+03	-1.07E+04
Contribution to renewable primary energy used as raw material	MJ	2.71E+03	2.71E+03	0*	0*	0*	0*	0.00E+00
Contribution to total renewable primary energy	MJ	1.12E+06	3.61E+04	0*	0*	1.08E+06	5.04E+03	-1.07E+04
Contribution to non renewable primary energy used as energy	MJ	6.52E+06	1.06E+06	1.11E+04	0*	5.36E+06	9.74E+04	-4.82E+05
Contribution to non renewable primary energy used as raw material	MJ	3.45E+04	3.45E+04	0*	0*	0*	0*	0.00E+00
Contribution to total non renewable primary energy	MJ	6.56E+06	1.09E+06	1.11E+04	0*	5.36E+06	9.74E+04	-4.82E+05
Contribution to use of secondary material	kg	3.56E-04	3.56E-04	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	m³	8.13E+02	3.98E+02	1.06E+00	5.23E-01	3.78E+02	3.59E+01	-2.02E+02
Contribution to hazardous waste disposed	kg	4.08E+05	4.03E+05	0*	0*	4.82E+03	3.77E+02	-3.49E+05
Contribution to non hazardous waste disposed	kg	9.26E+04	4.25E+04	0*	1.34E+02	4.43E+04	5.70E+03	-3.20E+04
Contribution to radioactive waste disposed	kg	3.93E+01	2.70E+01	1.78E-01	4.27E-03	1.19E+01	2.93E-01	-2.16E+01
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	4.80E+03	3.28E+02	0*	0*	0*	4.47E+03	0.00E+00
Contribution to materials for energy recovery	kg	7.02E-09	7.02E-09	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	1.63E+02	1.19E+02	0*	0*	0*	4.37E+01	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	4.96E+01

\* 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		Altivar Process ATV6100, 6.6 kV, 1490 kVA - ATV6100C149A6666NA							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	2.88E+05	0*	0*	0*	0*	0*	2.88E+05	0*
Contribution to climate change-fossil	kg CO2 eq	2.85E+05	0*	0*	0*	0*	0*	2.85E+05	0*
Contribution to climate change-biogenic	kg CO2 eq	2.39E+03	0*	0*	0*	0*	0*	2.39E+03	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	9.06E-04	0*	0*	0*	0*	0*	9.06E-04	0*
Contribution to acidification	mol H+ eq	1.19E+03	0*	0*	0*	0*	0*	1.19E+03	0*
Contribution to eutrophication, freshwater	kg (PO4) <sup>3-</sup> eq	2.47E-01	0*	0*	0*	0*	0*	2.47E-01	0*
Contribution to eutrophication marine	kg N eq	1.53E+02	0*	0*	0*	0*	0*	1.53E+02	0*
Contribution to eutrophication, terrestrial	mol N eq	2.14E+03	0*	0*	0*	0*	0*	2.14E+03	0*
Contribution to photochemical ozone formation - human health	kg NMVOC eq	4.96E+02	0*	0*	0*	0*	0*	4.96E+02	0*
Contribution to resource use, minerals and metals	kg Sb eq	6.40E-02	0*	0*	0*	0*	0*	6.40E-02	0*
Contribution to resource use, fossils	MJ	5.36E+06	0*	0*	0*	0*	0*	5.36E+06	0*
Contribution to water use	m3 eq	1.62E+04	0*	0*	0*	0*	0*	1.62E+04	0*

Inventory flows Indicators		Altivar Process ATV6100, 6.6 kV, 1490 kVA - ATV6100C149A6666NA							
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	1.08E+06	0*	0*	0*	0*	0*	1.08E+06	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	1.08E+06	0*	0*	0*	0*	0*	1.08E+06	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	5.36E+06	0*	0*	0*	0*	0*	5.36E+06	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	5.36E+06	0*	0*	0*	0*	0*	5.36E+06	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	3.78E+02	0*	0*	0*	0*	0*	3.78E+02	0*
Contribution to hazardous waste disposed	kg	4.82E+03	0*	0*	0*	0*	0*	4.82E+03	0*
Contribution to non hazardous waste disposed	kg	4.43E+04	0*	0*	0*	0*	0*	4.43E+04	0*
Contribution to radioactive waste disposed	kg	1.19E+01	0*	0*	0*	0*	0*	1.19E+01	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 v6.2.2, 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 :	ENVPEP2501014_V1	Drafting rules	PCR-4-ed4-EN-2021 09 06
Date of issue	2025-09	Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
		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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