Product Environmental Profile

APM LH/Regen Power Module 200kW - 500…690V

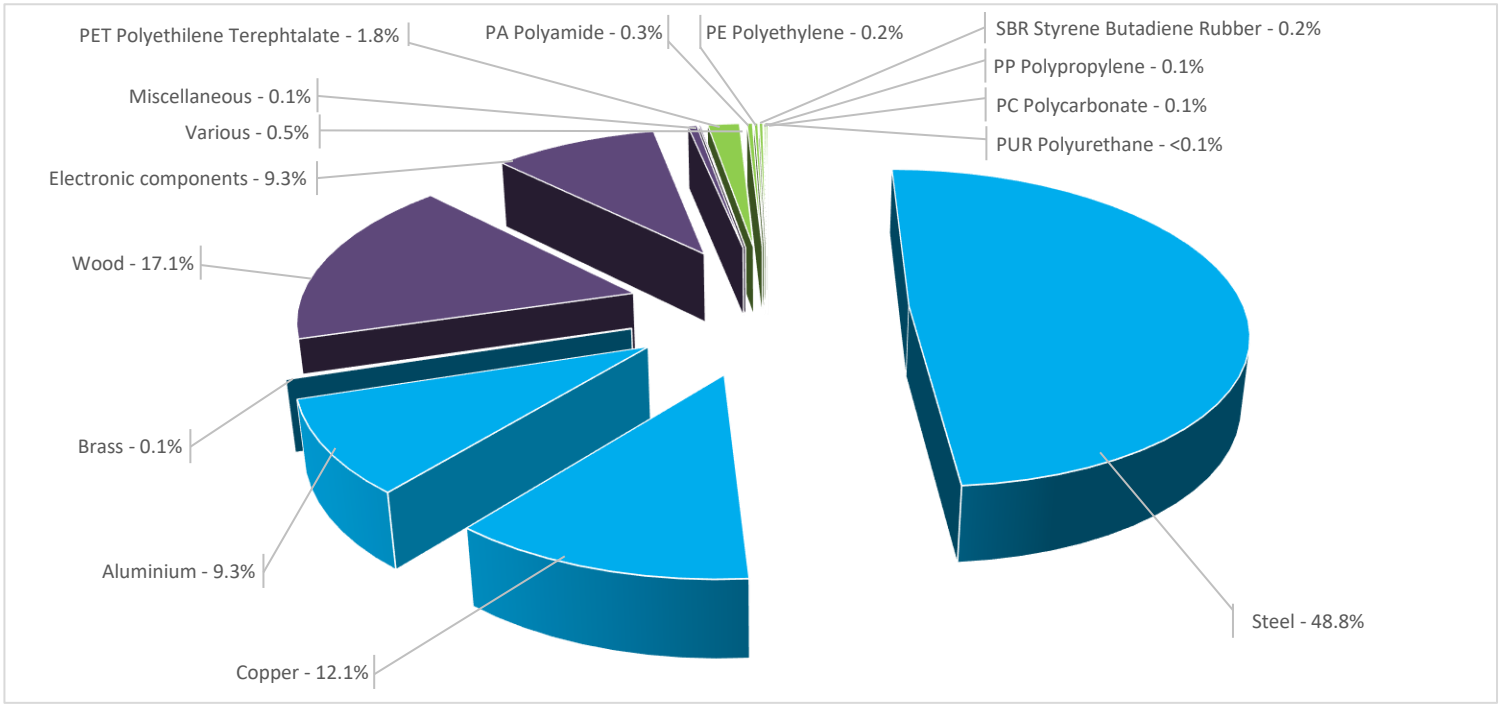
ATV600/900 Altivar Process Modular LH/Regen 110kW...1200kW (125HP...1200HP), 380V...690V

General information

Representative product	APM LH/Regen Power Module 200kW - 500…690V - APM1B0C20Y6
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. The APM Regen is a Drive Module to be integrated into a Drive System by a Certified Partner.
Description of the range	ATV600/900 Altivar Process Modular LH/Regen 110kW...1200kW (125HP...1200HP), 380V...690V 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 adapt the speed and torque of synchronous, asynchronous or reluctance motor to the machine's operating point. Calculation of the enviromental impacts is based on 10 years of product service lifetime. The usage profile taken into acccount is 73% uptime in use phase at 80% loading rate and 27% uptime in stand by phase.

Constituent materials

Reference product mass	356000 g including the product, its packaging and additional elements and accessories



	Plastics	2.7%
	Metals	70.4%
	Others	27.0%

Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) 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) as mentioned in the Directive

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this 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

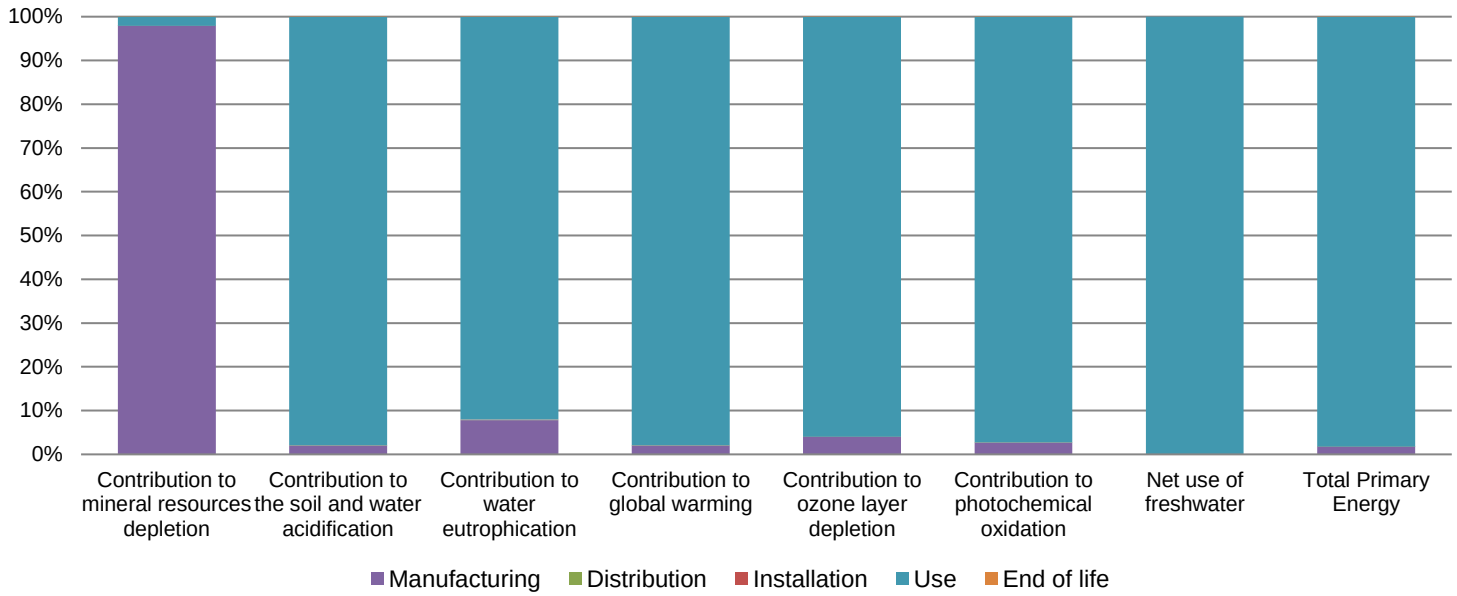
Additional environmental information

The APM LH/Regen Power Module 200kW - 500…690V presents the following relevent environmental aspects	
Design	The variable speed drive can achieve up to 50% energy saving by optimising the operating cycles of the machines used for fluid applications with Altivar Process. Optimized installation of the Module into a Cabinet by a Certified Partner, Standardized Kits for Accessories and Options.
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 65515.8 g, consisting of Wood (94.6%), Steel (2.0%), Silica (2.0%), PE film (1.3%), Cardboard (0.1%) Product distribution optimised by setting up local distribution centres
Installation	The product does not require any installation operation.
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 Electrolyte Capacitor (7864g), electronic card (4328g), cables (6190g) that should be separated from the stream of waste so as to optimize end-of-life treatment. 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 http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page Recyclability potential: **80%** 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			
Product category	Other equipments - Active product			
Installation elements	No special components needed			
Use scenario	The product is in active phase 73% of the time at 80% loading rate with a power use of 6048W and in stand-by phase 27% of the time with a power use of 23W, 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. The APM Regen is a Drive Module to be integrated into a Drive System by a Certified Partner.			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: China (SSD)	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		APM LH/Regen Power Module 200kW - 500…690V - APM1B0C20Y6					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	8.00E-01	7.84E-01	0*	0*	1.65E-02	0*
Contribution to the soil and water acidification	kg SO_2 eq	8.08E+02	1.62E+01	2.10E-01	0*	7.92E+02	9.25E-02
Contribution to water eutrophication	kg PO_4^{3-} eq	5.19E+01	4.07E+00	4.83E-02	1.74E-02	4.78E+01	2.39E-02
Contribution to global warming	kg CO_2 eq	1.94E+05	3.79E+03	4.59E+01	6.61E+01	1.90E+05	4.14E+01
Contribution to ozone layer depletion	kg CFC11 eq	1.29E-02	5.20E-04	0*	0*	1.24E-02	2.61E-06
Contribution to photochemical oxidation	kg C_2H_4 eq	4.47E+01	1.16E+00	1.50E-02	1.52E-02	4.35E+01	9.80E-03
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	6.88E+05	0*	0*	0*	6.88E+05	0*
Total Primary Energy	MJ	3.86E+06	6.81E+04	6.49E+02	0*	3.79E+06	4.72E+02



Optional indicators		APM LH/Regen Power Module 200kW - 500…690V - APM1B0C20Y6					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	2.19E+06	3.60E+04	6.45E+02	0*	2.15E+06	3.73E+02
Contribution to air pollution	m³	8.64E+06	4.64E+05	1.95E+03	1.57E+03	8.17E+06	3.27E+03
Contribution to water pollution	m³	8.13E+06	2.78E+05	7.55E+03	0*	7.83E+06	1.03E+04
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1.14E+02	1.14E+02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	4.85E+05	2.61E+03	0*	0*	4.82E+05	0*
Total use of non-renewable primary energy resources	MJ	3.37E+06	6.55E+04	6.49E+02	0*	3.31E+06	4.72E+02
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4.83E+05	1.31E+03	0*	0*	4.82E+05	0*
Use of renewable primary energy resources used as raw material	MJ	1.30E+03	1.30E+03	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3.37E+06	6.48E+04	6.49E+02	0*	3.31E+06	4.72E+02
Use of non renewable primary energy resources used as raw material	MJ	7.09E+02	7.09E+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	5.09E+03	4.61E+03	0*	0*	9.89E+01	3.75E+02
Non hazardous waste disposed	kg	7.09E+05	1.22E+03	0*	0*	7.07E+05	0*
Radioactive waste disposed	kg	4.73E+02	7.53E-01	0*	0*	4.73E+02	0*

Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	2.84E+02	2.76E+01	0*	1.95E+01	0*	2.37E+02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2.29E+00	0*	0*	0*	0*	2.29E+00
Exported Energy	MJ	4.25E+01	4.00E+00	0*	3.85E+01	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.8.0, 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 RMD) of other products in this family may be proportional extrapolated by energy consumption values. For RMD, 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	ENVPEP1810008_V1	*Drafting rules*	PCR-ed3-EN-2015 04 02
Date of issue	12/2018		
Validity period	5 years	*Information and reference documents*	www.pep-ecopassport.org

Independent verification of the declaration and data

Internal X External

The elements of the present PEP cannot be compared with elements from another program.

Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »

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