Product Environmental Profile

Eaton 93PS (15-20) KW UPS with internal battery

Representative product	Eaton BA02A6306A01000000 Product Category: Uninterruptible Power Supply (UPS) with energy storage system
Description of the product	Eaton 93PS Three Phase Uninterruptible Power Supply (UPS) is a high-performance, three-phase uninterruptible power supply engineered to deliver maximum efficiency, reliability, and flexibility for small to medium-sized critical applications. Designed with cutting-edge technology, it ensures continuous power protection for IT infrastructure, healthcare systems, and industrial operations. Eaton 93PS UPS is available in different power ratings: 20000VA,15000VA,10000VA and 8000VA with an input voltage of 380/400/415V. The models included in this PEP are available with a power rating of 15 and 20 kVA
Product specifications	Power VA & W: 20000VA (20000W) UPS Configuration: Three phase, operating in Double conversion mode/ Energy Saver System mode. UPS performance classification: UPS - VFI ≤ 20kW (Online double conversion) Technology of the energy storage system: Valve regulated lead acid batteries (VRLA) Product dimensions (D X W X H): 335 x 750 x 1300 mm Mass of equipment: 290 kg Power factor: 1 Reference service life (Years): 15
Homogeneous Environmental Families Covered	The PEP concerns product offerings from Eaton BA02A6306A01000000 series as mentioned below:

Model	Description
BA02A6306A01000000	93PS-20(20)-20-2x9Ah-LL-MBS-6 (reference)
BA02A6206A01000000	93PS-20(20)-20-2x9Ah-LL-6
BA02AB206A01000000	93PS-20(20)-20-2x9Ah-6
BA02AB306A01000000	93PS-20(20)-20-2x9Ah-MBS-6
BA51A5206A01000000	93PS-15(20)-20-1x9Ah-LL-6
BA51A5206A01100000	93PS-15(20)-15-1x9Ah-LL-6

	BA51A5306A01000000 — 93PS-15(20)-20-1x9Ah-LL-MBS-6 BA51A5306A01100000 — 93PS-15(20)-15-1x9Ah-LL-MBS-6 BA51A6206A01000000 — 93PS-15(20)-20-2x9Ah-LL-6 BA51A6206A01100000 — 93PS-15(20)-15-2x9Ah-LL-6 BA51A6306A01000000 — 93PS-15(20)-20-2x9Ah-LL-MBS-6 BA51A6306A01100000 — 93PS-15(20)-15-2x9Ah-LL-MBS-6 BA51AA206A01000000 — 93PS-15(20)-20-1x9Ah-6 BA51AA206A01100000 — 93PS-15(20)-15-1x9Ah-6 BA51AA306A01000000 — 93PS-15(20)-20-1x9Ah-MBS-6 BA51AA306A01100000 — 93PS-15(20)-15-1x9Ah-MBS-6 BA51AB206A01000000 — 93PS-15(20)-20-2x9Ah-6 BA51AB206A01100000 — 93PS-15(20)-15-2x9Ah-6 BA51AB306A01000000 — 93PS-15(20)-20-2x9Ah-MBS-6 BA51AB306A01100000 — 93PS-15(20)-15-2x9Ah-MBS-6
Functional unit	"To ensure the supply of power without interruption to equipment with load of 100 watts for a RSL of 1 years, including a backup time capacity of 5 minutes during power shortages."
Declared unit	"To ensure the supply of power without interruption to equipment with load of 20000 watts for a RSL of 15 years, including a backup time capacity of 8 minutes during power shortages."
Company information	Eaton Electric Oy Riistakuja 1, 01740 Vantaa, Finland; Email: productstewardship-es@eaton.com

Constituent Materials of			
Reference Product:	3.17E+02kg (with packaging)		
Materials	**Category PEP Material**	**Mass (kg)**	**Percentage (%)**
Others	Lead acid Battery	1.73E+02	54.6%
Metals	Steel	8.70E+01	27.5%
Others	Electronics	1.91E+01	6.0%
Others	Wood	1.42E+01	4.5%
Plastics	Acrylonitrile butadiene styrene	6.16E+00	1.9%
Others	Cable	4.49E+00	1.4%
Metals	Aluminum	2.92E+00	0.9%
Metals	Stainless Steel	1.72E+00	0.5%
Plastics	Polybutylene terephthalate	1.46E+00	0.5%
Plastics	Polyamide 66	1.17E+00	0.4%
Plastics	Polycarbonate	1.05E+00	0.3%
Others	Carton	1.04E+00	0.3%
Metals	Copper	4.99E-01	0.2%
Others	Glass Fiber	4.74E-01	0.1%
Plastics	Polyoxymethylene	4.15E-01	0.1%
Others	miscellaneous	2.30E+00	0.7%
Total		**3.17E+02**	100.00%

Substance Assessment
The representative product is compliant with the EU-RoHS Directive (2011/65/EU) by application of exemptions and the product contains lead (Pb), 1,2-dimethoxyethane, which are listed as Substance-of-Very-High-Concern (SVHC) on the Candidate List of the EU-REACH Regulation (1907/2006/EC).

Additional Environmental Information	
Manufacturing	The reference product is assembled at an Eaton Electric Oy, Riistakuja 1, 01740 Vantaa, Finland holding management system certifications according to ISO 14001 standards.
Distribution	Eaton is committed to minimizing weight and volume of product and its associated packaging material with focus to optimize transport efficiency.
Installation	During installation of the product only standard tools are needed, which do not require any additional energy source and no waste other than the obsolete product packaging is generated during this step.
Use	Product consumes energy during useful life which is considered to be 15 years (as per actual designed life). During the reference service life of product, the product requires the maintenance of Two DC filtering capacitors, Two AC filtering capacitors, Three Fans, Two Power supply PCB and Two Batteries.
End of life	Recyclability of overall product is equal to 72.4% based on the method described in IEC/TR 62635, Edition 1.0/2012-10 "Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment".

Environmental Impacts	
The calculation of the environmental impacts is the result of the Product's Life Cycle Analysis in accordance with ISO 14040/44, covering the entire lifecycle, i.e., "Cradle-to-Grave" including the following life cycle phases: production, distribution, installation, use and end of life. System modelling was carried out using the commercial LCA software EIME v6.3.0.1-20 with database version CODDE-2024-04 - updated on 2024-06-04. Indicators Set used: PEF EF 3.1 (Compliance: PEP ed.4, EN15804+A2) v2.0	
Manufacturing Phase	Product is assembled and prepared for shipment at the Eaton facility (Electric Oy, Riistakuja 1, 01740 Vantaa, Finland). Energy model used: Finland
Distribution Phase	Customer location is assumed to be Europe. Intracontinental transport of 3500 km by lorry is considered as transport scenario from Vantaa, Finland to end user for this study based on PCR–ed4-EN-2021 09 06.
Installation Phase	Product is installed in any European country. Hence, packaging waste treatment is considered in this phase considering country specific statistics as per PSR. Energy model used: Europe
Use Phase	Reference lifetime: 15 years Energy model used: Europe. Usage profile: It has an average energy efficiency of 98.200% in Energy Saver System mode and 95.88% in Double conversion mode. The methodology for the calculation of electricity consumption is based on Uninterruptible Power Supplies (UPS) PSR.

Operating loads	25%	50%	75%	100%
Proportion of Time spent at	0.25	0.5	0.25	0.00

	Total energy losses are calculated to be equal to 52724 kWh over the 15 years for Double conversion Mode. Product requires Two DC filtering capacitor, Two AC filtering capacitor, Three Fans, Two Power supply PCB and Two Battery replacement during its use life.
End of life Phase	Product disposed according to European WEEE guidelines. Energy model used: Europe
Module-D	Module D is calculated according to PCR-ed4-EN-2021 09 06 based on the materials recycled and the modelled end-of-life scenario. It expresses the net benefits and loads beyond the boundaries of the system and are not to be included in the life cycle totals.

All environmental impacts are calculated for the declared unit, then data should be divided by the Factor calculated with below formulas to get functional unit result.

Factor for use stage energy consumption B6:

$$\frac{Declared\ Unit\ Power\ (20000\ W) * Declared\ Unit\ Lifetime\ (15\ year)}{100\ W * 1\ year} = \mathbf{3000}$$

Factor for all other stages (excepted B6 of use stage):

$$\frac{Declared\ Unit\ Power\ (20000\ W) * Declared\ Unit\ Lifetime\ (15\ year) * Declared\ Unit\ Backuptime\ (8\ min)}{100\ W * 1\ year * 5\ min} = \mathbf{4800}$$

Environmental Impact considering for Functional Unit

Environmental Impact Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 – Use*	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use		D - Benefits and loads beyond the system boundaries
Climate change - total	kg CO2 eq.	7.07E+00	3.86E-01	1.48E-02	1.85E-02	6.57E+00	7.56E-02	3.77E-01	6.19E+00		-3.84E-02
Climate change - fossil fuels	kg CO2 eq.	7.05E+00	3.89E-01	1.48E-02	1.41E-02	6.56E+00	7.47E-02	3.77E-01	6.18E+00		-3.96E-02
Climate change - biogenics	kg CO2 eq.	1.33E-02	-3.67E-03	6.07E-08	4.39E-03	1.17E-02	9.11E-04	2.82E-04	1.14E-02		1.19E-03
Climate change - land use and land use transformation	kg CO2 eq.	7.58E-07	4.87E-07	2.24E-08	1.23E-10	2.43E-07	5.12E-09	2.43E-07	0.00E+00		0.00E+00
Ozone depletion	kg eq. CFC-11	1.93E-07	5.73E-08	1.80E-10	4.15E-11	1.26E-07	9.28E-09	9.59E-08	3.00E-08		-1.74E-09
Acidification (AP)	mole of H+ eq.	3.84E-02	2.84E-03	2.34E-05	8.61E-06	3.51E-02	5.05E-04	3.33E-03	3.17E-02		-2.78E-04
Freshwater eutrophication	kg P eq.	2.00E-05	1.45E-06	5.54E-08	1.05E-07	1.76E-05	8.00E-07	1.33E-06	1.63E-05		-1.97E-05
Marine aquatic eutrophication	kg of N eq.	4.81E-03	3.28E-04	4.25E-06	3.43E-06	4.32E-03	1.60E-04	4.54E-04	3.87E-03		-3.78E-05
Terrestrial eutrophication	mole of N eq.	7.09E-02	4.07E-03	4.66E-05	3.27E-05	6.63E-02	4.64E-04	4.15E-03	6.21E-02		-4.53E-04
Photochemical ozone formation	kg of NMVOC eq.	1.50E-02	1.22E-03	1.51E-05	7.27E-06	1.36E-02	1.78E-04	1.46E-03	1.22E-02		-1.96E-04
Depletion of abiotic resources - elements	kg eq. Sb	5.22E-04	1.92E-04	5.29E-09	1.26E-10	3.30E-04	6.48E-08	3.28E-04	2.19E-06		-1.49E-06

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 – Use*	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use		D - Benefits and loads beyond the system boundaries
Depletion of abiotic resources - fossil fuels	MJ	1.76E+02	1.03E+01	2.63E-01	2.11E-02	1.64E+02	1.15E+00	7.62E+00	1.56E+02		-4.06E-01
Water scarcity	m3 of eq.. deprivation worldwide	9.65E+00	1.42E-01	5.34E-04	2.67E-04	2.00E+00	7.51E+00	1.52E+00	4.75E-01		-1.01E+01

***Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 – Use*	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	4.20E+01	5.43E-01	8.30E-04	1.56E-02	4.14E+01	3.33E-02	5.16E-02	4.14E+01	-3.98E-02
Use of renewable primary energy resources used as raw materials	MJ	6.11E-02	6.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.15E-02
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	4.21E+01	6.05E-01	8.30E-04	1.56E-02	4.14E+01	3.33E-02	5.16E-02	4.14E+01	-6.13E-02
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	1.75E+02	1.01E+01	2.63E-01	2.11E-02	1.64E+02	1.15E+00	7.47E+00	1.56E+02	-4.06E-01
Use of non-renewable primary energy resources used as raw materials	MJ	3.53E-01	2.04E-01	0.00E+00	0.00E+00	1.49E-01	0.00E+00	1.49E-01	0.00E+00	-3.75E-04
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.76E+02	1.03E+01	2.63E-01	2.11E-02	1.64E+02	1.15E+00	7.62E+00	1.56E+02	-4.06E-01
Use of secondary materials	kg	4.47E-05	8.65E-08	0.00E+00	0.00E+00	4.46E-05	0.00E+00	4.46E-05	0.00E+00	0.00E+00

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 – Use*	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m3	2.62E-01	3.33E-03	1.24E-05	6.71E-06	5.09E-02	2.08E-01	3.97E-02	1.12E-02	-2.43E-01
Hazardous waste disposed of	kg	8.76E-01	2.34E-01	6.20E-05	5.24E-03	5.51E-01	8.63E-02	2.79E-01	2.72E-01	-1.46E-05
Non-hazardous waste disposed of	kg	1.19E+00	1.02E-01	1.38E-03	2.06E-04	1.08E+00	6.46E-03	3.75E-02	1.05E+00	-5.42E-04
Radioactive waste disposed of	kg	3.04E-04	3.38E-05	1.09E-06	7.19E-08	2.64E-04	4.87E-06	2.41E-05	2.40E-04	-3.35E-07
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	7.02E-03	6.05E-03	0.00E+00	9.71E-04	1.89E-10	0.00E+00	1.89E-10	0.00E+00	0.00E+00
Materials for energy recovery	kg	1.79E-10	1.60E-10	0.00E+00	0.00E+00	1.92E-11	0.00E+00	1.92E-11	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	2.77E-04	2.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the product	kg of C.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg of C.	1.30E-03	1.30E-03	0.00E+00	0.00E+00	2.55E-07	0.00E+00	2.55E-07	0.00E+00	0.00E+00

***Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

Environmental Impact Indicators: Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
Emission of fine particles	incidence of diseases	2.94E-07	1.81E-08	2.01E-10	4.70E-11	2.73E-07	2.47E-09	1.77E-08	2.55E-07	-3.20E-09
Ionizing radiation, human health	kBq of U235 eq.	2.47E+01	7.09E+00	5.25E-04	8.27E-03	1.76E+01	1.41E-02	8.70E+00	8.90E+00	-1.11E-03
Ecotoxicity, fresh water	CTUe	2.38E+01	6.21E+00	4.33E-01	3.90E-01	1.55E+01	1.29E+00	3.81E+00	1.17E+01	-2.15E-01
Human toxicity, cancer effects	CTUh	2.40E-06	2.31E-06	2.91E-12	3.54E-09	5.59E-08	3.13E-08	5.51E-08	7.79E-10	-3.66E-10
Human toxicity, non-cancer effects	CTUh	5.29E-07	1.74E-07	5.54E-11	4.46E-10	3.52E-07	2.61E-09	3.33E-07	1.86E-08	-2.03E-09
Impacts related to land use/soil quality	-	2.38E-01	2.88E-03	6.34E-05	1.73E-05	1.87E-01	4.84E-02	1.57E-02	1.71E-01	-1.52E-01

Total use of primary energy during the life cycle	MJ	2.18E+02	1.09E+01	2.64E-01	3.67E-02	2.05E+02	1.18E+00	7.67E+00	1.98E+02		-4.68E-01

Environmental Impact considering for Declared Unit

Environmental Impact Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 – Use*	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
Climate change - total	kg CO2 eq.	2.28E+04	1.85E+03	7.12E+01	8.90E+01	2.04E+04	3.63E+02	1.81E+03	1.86E+04	-1.84E+02
Climate change - fossil fuels	kg CO2 eq.	2.27E+04	1.87E+03	7.12E+01	6.79E+01	2.04E+04	3.59E+02	1.81E+03	1.86E+04	-1.90E+02
Climate change - biogenics	kg CO2 eq.	4.34E+01	-1.76E+01	2.91E-04	2.11E+01	3.56E+01	4.37E+00	1.35E+00	3.42E+01	5.72E+00
Climate change - land use and land use transformation	kg CO2 eq.	3.64E-03	2.34E-03	1.08E-04	5.91E-07	1.17E-03	2.46E-05	1.17E-03	0.00E+00	0.00E+00
Ozone depletion	kg eq. CFC-11	8.71E-04	2.75E-04	8.63E-07	1.99E-07	5.50E-04	4.45E-05	4.60E-04	9.01E-05	-8.34E-06
Acidification (AP)	mole of H+ eq.	1.27E+02	1.36E+01	1.12E-01	4.13E-02	1.11E+02	2.42E+00	1.60E+01	9.52E+01	-1.34E+00
Freshwater eutrophication	kg P eq.	6.69E-02	6.97E-03	2.66E-04	5.05E-04	5.53E-02	3.84E-03	6.36E-03	4.89E-02	-9.45E-02
Marine aquatic eutrophication	kg of N eq.	1.62E+01	1.57E+00	2.04E-02	1.65E-02	1.38E+01	7.66E-01	2.18E+00	1.16E+01	-1.82E-01
Terrestrial eutrophication	mole of N eq.	2.28E+02	1.95E+01	2.24E-01	1.57E-01	2.06E+02	2.23E+00	1.99E+01	1.86E+02	-2.17E+00
Photochemical ozone formation	kg of NMVOC eq.	5.03E+01	5.85E+00	7.23E-02	3.49E-02	4.35E+01	8.54E-01	7.01E+00	3.65E+01	-9.43E-01
Depletion of abiotic resources - elements	kg eq. Sb	2.50E+00	9.21E-01	2.54E-05	6.04E-07	1.58E+00	3.11E-04	1.57E+00	6.57E-03	-7.17E-03
Depletion of abiotic resources - fossil fuels	MJ	5.62E+05	4.94E+04	1.26E+03	1.01E+02	5.06E+05	5.50E+03	3.66E+04	4.69E+05	-1.95E+03
Water scarcity	m3 of eq.. deprivation worldwide	4.55E+04	6.84E+02	2.56E+00	1.28E+00	8.73E+03	3.61E+04	7.31E+03	1.42E+03	-4.87E+04

***Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	1.27E+05	2.61E+03	3.98E+00	7.47E+01	1.24E+05	1.60E+02	2.48E+02	1.24E+05	-1.91E+02
Use of renewable primary energy resources used as raw materials	MJ	2.93E+02	2.93E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.03E+02
Total use of renewable	MJ	1.28E+05	2.90E+03	3.98E+00	7.47E+01	1.24E+05	1.60E+02	2.48E+02	1.24E+05	-2.94E+02

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
primary energy resources (primary energy and primary energy resources used as raw materials)										
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	5.60E+05	4.84E+04	1.26E+03	1.01E+02	5.05E+05	5.50E+03	3.59E+04	4.69E+05	-1.95E+03
Use of non-renewable primary energy resources used as raw materials	MJ	1.70E+03	9.81E+02	0.00E+00	0.00E+00	7.15E+02	0.00E+00	7.15E+02	0.00E+00	-1.80E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	5.62E+05	4.94E+04	1.26E+03	1.01E+02	5.06E+05	5.50E+03	3.66E+04	4.69E+05	-1.95E+03
Use of secondary materials	kg	2.15E-01	4.15E-04	0.00E+00	0.00E+00	2.14E-01	0.00E+00	2.14E-01	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m3	1.24E+03	1.60E+01	5.97E-02	3.22E-02	2.24E+02	9.97E+02	1.91E+02	3.35E+01	-1.17E+03
Hazardous waste disposed of	kg	3.72E+03	1.12E+03	2.98E-01	2.52E+01	2.16E+03	4.14E+02	1.34E+03	8.15E+02	-7.03E-02
Non-hazardous waste disposed of	kg	3.85E+03	4.90E+02	6.61E+00	9.87E-01	3.32E+03	3.10E+01	1.80E+02	3.14E+03	-2.60E+00
Radioactive waste disposed of	kg	1.03E+00	1.62E-01	5.23E-03	3.45E-04	8.36E-01	2.34E-02	1.16E-01	7.20E-01	-1.61E-03
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	3.37E+01	2.90E+01	0.00E+00	4.66E+00	9.09E-07	0.00E+00	9.09E-07	0.00E+00	0.00E+00
Materials for energy recovery	kg	8.60E-07	7.68E-07	0.00E+00	0.00E+00	9.24E-08	0.00E+00	9.24E-08	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	1.33E+00	1.33E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the product	kg of C.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg of C.	6.23E+00	6.22E+00	0.00E+00	0.00E+00	1.22E-03	0.00E+00	1.22E-03	0.00E+00	-2.20E+00

***Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

Environmental Impact Indicators: Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B2 - Maintenance	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
Emission of fine particles	incidence of diseases	9.51E-04	8.67E-05	9.65E-07	2.26E-07	8.51E-04	1.19E-05	8.48E-05	7.66E-04	-1.53E-05
Ionizing radiation, human health	kBq of U235 eq.	1.03E+05	3.40E+04	2.52E+00	3.97E+01	6.85E+04	6.75E+01	4.18E+04	2.67E+04	-5.35E+00
Ecotoxicity, fresh water	CTUe	9.34E+04	2.98E+04	2.08E+03	1.87E+03	5.34E+04	6.21E+03	1.83E+04	3.51E+04	-1.03E+03
Human toxicity, cancer effects	CTUh	1.15E-02	1.11E-02	1.39E-08	1.70E-05	2.67E-04	1.50E-04	2.65E-04	2.34E-06	-1.76E-06
Human toxicity, non-cancer effects	CTUh	2.50E-03	8.36E-04	2.66E-07	2.14E-06	1.65E-03	1.25E-05	1.60E-03	5.58E-05	-9.73E-06
Impacts related to land use/soil quality	-	8.36E+02	1.38E+01	3.05E-01	8.31E-02	5.90E+02	2.32E+02	7.52E+01	5.14E+02	-7.30E+02
Total use of primary energy during the life cycle	MJ	6.90E+05	5.23E+04	1.27E+03	1.76E+02	6.30E+05	5.66E+03	3.68E+04	5.93E+05	-2.25E+03

***Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

Other Products covered in homogeneous family of Eaton BA02A6306A01000000, and the relevant data are shown in the below table:

Product family	Model	Description	UPS Rating (KVA)	Power factor (pf)	UPS Rating (KW)	UPS efficiency (Double conversion Mode) [%]	Use phase losses (Double conversion Mode) (kWh)	Product Net weight (Actual) kg	Packaging weight (Actual) kg
Eaton 93 PS Three Phase UPS	BA02A6306A01000000	93PS-20(20)-20-2x9Ah-LL-MBS-6 (reference)	20	1	20	95.88	52724	290	20
Eaton 93 PS Three Phase UPS	BA02A6206A01000000	93PS-20(20)-20-2x9Ah-LL-6	20	1	20	95.88	52724	276	22
Eaton 93 PS Three Phase UPS	BA02AB206A01000000	93PS-20(20)-20-2x9Ah-6	20	1	20	95.88	52724	276	22
Eaton 93 PS Three Phase UPS	BA02AB306A01000000	93PS-20(20)-20-2x9Ah-MBS-6	20	1	20	95.88	52724	278	22
Eaton 93 PS Three Phase UPS	BA51A5206A01000000	93PS-15(20)-20-1x9Ah-LL-6	15	1	15	95.55	42130	188	23
Eaton 93 PS Three Phase UPS	BA51A5206A01100000	93PS-15(20)-15-1x9Ah-LL-6	15	1	15	95.55	42130	188	23

Product family	Model	Description	UPS Rating (KVA)	Power factor (pf)	UPS Rating (KW)	UPS efficiency (Double conversion Mode) [%]	Use phase losses (Double conversion Mode) (kWh)	Product Net weight (Actual) kg	Packaging weight (Actual) kg
Eaton 93 PS Three Phase UPS	BA51A5306A01000000	93PS-15(20)-20-1x9Ah-LL-MBS-6	15	1	15	95.55	42130	190	23
Eaton 93 PS Three Phase UPS	BA51A5306A01100000	93PS-15(20)-15-1x9Ah-LL-MBS-6	15	1	15	95.55	42130	190	23
Eaton 93 PS Three Phase UPS	BA51A6206A01000000	93PS-15(20)-20-2x9Ah-LL-6	15	1	15	95.55	42130	276	22
Eaton 93 PS Three Phase UPS	BA51A6206A01100000	93PS-15(20)-15-2x9Ah-LL-6	15	1	15	95.55	42130	276	22
Eaton 93 PS Three Phase UPS	BA51A6306A01000000	93PS-15(20)-20-2x9Ah-LL-MBS-6	15	1	15	95.55	42130	278	22
Eaton 93 PS Three Phase UPS	BA51A6306A01100000	93PS-15(20)-15-2x9Ah-LL-MBS-6	15	1	15	95.55	42130	278	22
Eaton 93 PS Three Phase UPS	BA51AA206A01000000	93PS-15(20)-20-1x9Ah-6	15	1	15	95.55	42130	188	24
Eaton 93 PS Three Phase UPS	BA51AA206A01100000	93PS-15(20)-15-1x9Ah-6	15	1	15	95.55	42130	188	22
Eaton 93 PS Three Phase UPS	BA51AA306A01000000	93PS-15(20)-20-1x9Ah-MBS-6	15	1	15	95.55	42130	190	23
Eaton 93 PS Three Phase UPS	BA51AA306A01100000	93PS-15(20)-15-1x9Ah-MBS-6	15	1	15	95.55	42130	190	23
Eaton 93 PS Three Phase UPS	BA51AB206A01000000	93PS-15(20)-20-2x9Ah-6	15	1	15	95.55	42130	276	22
Eaton 93 PS Three Phase UPS	BA51AB206A01100000	93PS-15(20)-15-2x9Ah-6	15	1	15	95.55	42130	276	22
Eaton 93 PS Three Phase UPS	BA51AB306A01000000	93PS-15(20)-20-2x9Ah-MBS-6	15	1	15	95.55	42130	278	22

Product family	Model	Description	UPS Rating (KVA)	Power factor (pf)	UPS Rating (KW)	UPS efficiency (Double conversion Mode) [%]	Use phase losses (Double conversion Mode) (kWh)	Product Net weight (Actual) kg	Packaging weight (Actual) kg
Eaton 93 PS Three Phase UPS	BA51AB306A01100000	93PS-15(20)-15-2x9Ah-MBS-6	15	1	15	95.55	42130	278	22

To evaluate the environmental impact of other product covered by this PEP, apply the following conversion factors to the Environmental Impact shown above. The extrapolation factors are calculated based on the PSR 10 section 3.6:

Conversion Factors for Manufacturing, Distribution, Installation, Use and End-of-Life Phase for all environmental impacts for declared unit impacts:

Model	A1-A3 Manufacturing	A4 Distribution	A5 Installation	B2 Use Phase	B6 Use Phase (Double conversion Mode)	B6 Use Phase (Energy Saver System Mode)	C1-C4 End-of Life	D - Benefits and loads beyond the system boundaries
BA02A6306A01000000	1.00	1.00	1.00	1.00	1.00	0.41	1.00	1.00
BA02A6206A01000000	0.95	0.95	1.10	0.95	1.00	0.41	0.95	0.96
BA02AB206A01000000	0.95	0.95	1.10	0.95	1.00	0.41	0.95	0.96
BA02AB306A01000000	0.96	0.96	1.10	0.96	1.00	0.41	0.96	0.97
BA51A5206A01000000	0.65	0.65	1.15	0.65	0.80	0.35	0.65	0.68
BA51A5206A01100000	0.65	0.65	1.15	0.65	0.80	0.35	0.65	0.68
BA51A5306A01000000	0.66	0.66	1.15	0.66	0.80	0.35	0.66	0.69
BA51A5306A01100000	0.66	0.66	1.15	0.66	0.80	0.35	0.66	0.69
BA51A6206A01000000	0.95	0.95	1.10	0.95	0.80	0.35	0.95	0.96
BA51A6206A01100000	0.95	0.95	1.10	0.95	0.80	0.35	0.95	0.96
BA51A6306A01000000	0.96	0.96	1.10	0.96	0.80	0.35	0.96	0.97
BA51A6306A01100000	0.96	0.96	1.10	0.96	0.80	0.35	0.96	0.97
BA51AA206A01000000	0.65	0.65	1.20	0.65	0.80	0.35	0.65	0.68
BA51AA206A01100000	0.65	0.65	1.10	0.65	0.80	0.35	0.65	0.68
BA51AA306A01000000	0.66	0.66	1.15	0.66	0.80	0.35	0.66	0.69
BA51AA306A01100000	0.66	0.66	1.15	0.66	0.80	0.35	0.66	0.69
BA51AB206A01000000	0.95	0.95	1.10	0.95	0.80	0.35	0.95	0.96
BA51AB206A01100000	0.95	0.95	1.10	0.95	0.80	0.35	0.95	0.96

Model	A1-A3 Manufacturing	A4 Distribution	A5 Installation	B2 Use Phase	B6 Use Phase (Double conversion Mode)	B6 Use Phase (Energy Saver System Mode)	C1-C4 End-of Life	D - Benefits and loads beyond the system boundaries
BA51AB306A01000000	0.96	0.96	1.10	0.96	0.80	0.35	0.96	0.97
BA51AB306A01100000	0.96	0.96	1.10	0.96	0.80	0.35	0.96	0.97

To get functional unit impacts, the declared unit results of specific part numbers need to be divided by below factors calculated as per PSR10 section 3.1.3:

Model	FU factor for All phases	Factor for all other stages (excepted B6 of use stage)
BA02A6306A01000000	3000	4800
BA02A6206A01000000	3000	4800
BA02AB206A01000000	3000	4800
BA02AB306A01000000	3000	4800
BA51A5206A01000000	2250	3600
BA51A5206A01100000	2250	3600
BA51A5306A01000000	2250	3600
BA51A5306A01100000	2250	3600
BA51A6206A01000000	2250	3600
BA51A6206A01100000	2250	3600
BA51A6306A01000000	2250	3600
BA51A6306A01100000	2250	3600
BA51AA206A01000000	2250	3600
BA51AA206A01100000	2250	3600
BA51AA306A01000000	2250	3600
BA51AA306A01100000	2250	3600
BA51AB206A01000000	2250	3600
BA51AB206A01100000	2250	3600

Model	FU factor for All phases	Factor for all other stages (excepted B6 of use stage)
BA51AB306A01000000	2250	3600
BA51AB306A01100000	2250	3600

Disclaimer

This Product Environmental Profile and its content is based on information available to us. It refers to the product at the date of issue. We make no express or implied representations or warranties with respect to the information contained herein.

Registration Number	EATO-00445-V01.01-EN	*Drafting rules*	PCR-ed4-EN-2021 09 06
Verifier accreditation Number	VH53	Supplemented by	PSR-0010-ed2-EN-2023 12 08
Date of issue	09-2025	*Information and reference documents*	www.pep-ecopassport.org
		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 *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 »			