Powering Business Worldwide	**Product Environmental Profile**	PEP ecopassport®

Eaton 9PX 1-3kVA UPS

Representative product	Eaton 9PX 3000i RT3U (9PX3000IRT3U) Product Category: Uninterruptible Power Systems (UPS) with energy storage system
Description of the product	Eaton 9PX 1-3kVA tower/Rack is a compact footprint for users who needs continuous power supply like in clinics, hospitals, financial institutions, businesses or IT installations. Eaton 9PX 1-3kVA is available in different power ratings: 1000VA, 1500VA, 2200VA and 3000VA with input voltage of 230V and inbuilt lead acid battery. These 9PX UPS's have Power Factor of 1 and comes with rotatable Graphical LCA Display
Product specifications	Power VA & W: 3000VA (3000W) UPS Configuration: Single phase, operating in normal mode/ High Efficiency Mode. UPS performance classification: UPS - VFI ≤ 10kW (Online double conversion) Technology of the energy storage system: Valve regulated lead acid batteries (VRLA) Product dimensions (W X H X D): 440 x 130 X 485 mm Mass of the equipment: 28 kg Power factor: 1 Reference service life (Years): 8
Homogeneous Environmental Families Covered	The PEP concerns product offerings from Eaton 9PX 1-3kVA UPS series as mentioned below:

Product family	Model	Description	UPS Rating (W)	Backup time at full load (mins)
Eaton 9PX 1-3kVA UPS	9PX3000IRT3U (Reference)	Eaton 9PX 3000i RT3U	3000	3
	9PX1000IRT2U	Eaton 9PX 1000i RT2U	1000	6
	9PX1500IRT2U	Eaton 9PX 1500i RT2U	1500	5
	9PX2200IRT2U	Eaton 9PX 2200i RT2U	2200	3
	9PX2200IRT3U	Eaton 9PX 2200i RT3U	2200	3
	9PX3000IRT2U	Eaton 9PX 3000i RT2U	3000	3
	9PX1500IRTM	Eaton 9PX 1500i RT2U Marine	1500	5
	9PX3000IRTM	Eaton 9PX 3000i RT3U Marine	3000	3
	9PX1000IRTN	Eaton 9PX 1000i RT2U Netpack	1000	6
	9PX1500IRTN	Eaton 9PX 1500i RT2U Netpack	1500	5

	9PX2200IRTN	Eaton 9PX 2200i RT2U Netpack	2200	3
	9PX3000IRTN	Eaton 9PX 3000i RT2U Netpack	3000	3
	9PX1000IRT2U + 9PXEBM48RT2U	Eaton 9PX 1000i RT2U + Eaton 9PX EBM 48V RT2U	1000	36
	9PX1500IRT2U + 9PXEBM48RT2U	Eaton 9PX 1500i RT2U + Eaton 9PX EBM 48V RT2U	1500	25
	9PX2200IRT2U + 9PXEBM72RT2U	Eaton 9PX 2200i RT2U + Eaton 9PX EBM 72V RT2U	2200	23
	9PX2200IRT3U + 9PXEBM72RT3U	Eaton 9PX 2200i RT3U + Eaton 9PX EBM 72V RT3U	2200	23
	9PX3000IRT2U + 9PXEBM72RT2U	Eaton 9PX 3000i RT2U + Eaton 9PX EBM 72V RT2U	3000	18
	9PX3000IRT3U + 9PXEBM72RT3U	Eaton 9PX 3000i RT3U + Eaton 9PX EBM 72V RT3U	3000	18
	9PX1500IRTM + 9PXEBM48RT2U	Eaton 9PX 1500i RT2U Marine + Eaton 9PX EBM 72V RT2U	1500	25
	9PX3000IRTM + 9PXEBM72RT3U	Eaton 9PX 3000i RT3U Marine + Eaton 9PX EBM 72V RT3U	3000	18
	9PX1000IRT2U + 4*9PXEBM48RT2U	Eaton 9PX 1000i RT2U + 4 * Eaton 9PX EBM 48V RT2U	1000	146
	9PX1500IRT2U + 4*9PXEBM48RT2U	Eaton 9PX 1500i RT2U + 4 * Eaton 9PX EBM 48V RT2U	1500	93
	9PX2200IRT2U + 4*9PXEBM72RT2U	Eaton 9PX 2200i RT2U + 4 * Eaton 9PX EBM 72V RT2U	2200	93
	9PX2200IRT3U + 4*9PXEBM72RT3U	Eaton 9PX 2200i RT3U + 4 * Eaton 9PX EBM 72V RT3U	2200	93
	9PX3000IRT2U + 4*9PXEBM72RT2U	Eaton 9PX 3000i RT2U + 4 * Eaton 9PX EBM 72V RT2U	3000	66
	9PX3000IRT3U + 4*9PXEBM72RT3U	Eaton 9PX 3000i RT3U + 4 * Eaton 9PX EBM 72V RT3U	3000	66
	9PX1500IRTM + 4*9PXEBM48RT2U	Eaton 9PX 1500i RT2U Marine + 4 * Eaton 9PX EBM 72V RT2U	1500	93
	9PX3000IRTM + 4*9PXEBM72RT3U	Eaton 9PX 3000i RT3U Marine + 4 * Eaton 9PX EBM 72V RT3U	3000	66

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 3000 watts for a RSL of 8 years, including a backup time capacity of 3 minutes (at full load condition) during power shortages."
Company information	Eaton Industries France SAS Email: productstewardship-es@eaton.com

Constituent Materials of			
Reference Product:	3.35E+01 kg (with packaging)		
Materials	**Category PEP Material**	**Mass (kg)**	**Percentage (%)**
Other	Lead acid battery	1.50E+01	44.8%
Metals	Steel	8.44E+00	25.2%
Other	Electronics	3.82E+00	11.4%
Other	Cardboard	2.62E+00	7.8%
Other	Cable	5.23E-01	1.6%
Other	Printed wire board	4.60E-01	1.4%
Other	Kraft liner	4.45E-01	1.3%

Plastics	Acrylonitrile butadiene styrene	4.37E-01	1.3%
Metals	Copper	2.62E-01	0.8%
Plastics	Polyvinyl chloride	2.58E-01	0.8%
Plastics	Polyethylene low density film	2.30E-01	0.7%
Plastics	High impact polystyrene	1.93E-01	0.6%
Plastics	Polybutylene Terephthalate	1.69E-01	0.5%
Metals	Stainless steel	1.16E-01	0.3%
Plastics	Polyamide	8.76E-02	0.3%
Other	Miscellaneous	4.60E-01	1.4%
Total		**3.35E+01**	**100.0%**

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) in batteries, copper alloy and electronics, tetrabromobisphenol-A, 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 plant (LianZheng Electronic (ShenZhen) Co., Ltd.) 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 8 years (as per actual designed life). During the reference service life of product, product doesn't require any maintenance except single replacement of the battery.
End of life	Recyclability of product is equal to 68.45% 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 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 (Lianzheng Electronic (Shenzhen) Co., Ltd.) Upstream transportation of the product from manufacturing plant location to the Eaton warehouse location in Rheinbach is considered in the manufacturing stage.

<table>
<tr><td></td><td>Energy model used: China & Europe</td></tr>
<tr><td>Distribution Phase</td><td>Customer location is assumed to be Europe. Intracontinental transport of 3500 km by lorry is considered as transport scenario from Eaton location to end user for this study is based on the PCR-4-ed4-EN-2021 09 06.</td></tr>
<tr><td>Installation Phase</td><td>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</td></tr>
<tr><td>Use Phase</td><td>Reference lifetime: 8 years
Energy model used: Europe.
Usage profile: It has an average energy efficiency of 98.129% in High Efficiency Mode and 94.18% in Normal mode. The methodology for the calculation of the electricity consumption is based on Uninterruptible Power Supplies (UPS) PSR.
<table>
<tr><td>Operating loads</td><td>25%</td><td>50%</td><td>75%</td><td>100%</td></tr>
<tr><td>Proportion of Time spent at</td><td>0</td><td>0.3</td><td>0.4</td><td>0.3</td></tr>
</table>
Total energy losses are calculated to be equal to 9149 kWh over the 8 years for Normal Mode.
Product requires one battery replacement during its use life.</td></tr>
<tr><td>End of life Phase</td><td>Product disposed according to European WEEE guidelines.
Energy model used: Europe</td></tr>
<tr><td>Module-D</td><td>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.</td></tr>
</table>

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:

$$\frac{Declared\ Unit\ Power\ (3000\ W) * Declared\ Unit\ Lifetime\ (8\ year)}{100\ W * 1\ year} = \mathbf{240}$$

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

$$\frac{Declared\ Unit\ Power\ (3000\ W) * Declared\ Unit\ Lifetime\ (8\ year) * Declared\ Unit\ Backuptime\ (3\ min)}{100\ W * 1\ year * 5\ min} = \mathbf{144}$$

Environmental Impact 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.	1.59E+01	1.57E+00	5.24E-02	5.95E-02	1.40E+01	2.07E-01	5.45E-01	1.34E+01	-3.83E-01
Climate change - fossil fuels	kg CO2 eq.	1.58E+01	1.58E+00	5.24E-02	2.53E-02	1.40E+01	2.02E-01	5.44E-01	1.34E+01	-4.06E-01
Climate change - biogenics	kg CO2 eq.	4.88E-02	-1.52E-02	2.14E-07	3.43E-02	2.53E-02	4.44E-03	5.46E-04	2.47E-02	2.28E-02
Climate change - land use and land use transformation	kg CO2 eq.	8.05E-07	2.17E-07	7.92E-08	9.04E-10	4.96E-07	1.23E-08	4.96E-07	0.00E+00	0.00E+00
Ozone depletion	kg eq. CFC-11	4.49E-07	2.29E-07	6.35E-10	4.13E-10	1.90E-07	2.88E-08	1.25E-07	6.51E-08	-8.07E-08
Acidification (AP)	mole of H+ eq.	9.04E-02	1.42E-02	8.27E-05	8.41E-05	7.42E-02	1.91E-03	5.34E-03	6.88E-02	-4.40E-03
Freshwater eutrophication	kg P eq.	4.43E-05	3.78E-06	1.96E-07	3.25E-07	3.75E-05	2.50E-06	2.09E-06	3.54E-05	-1.47E-04
Marine aquatic eutrophication	kg of N eq.	1.19E-02	1.82E-03	1.50E-05	3.27E-05	9.26E-03	7.67E-04	8.78E-04	8.39E-03	-5.19E-04
Terrestrial eutrophication	mole of N eq.	1.65E-01	1.97E-02	1.65E-04	2.53E-04	1.43E-01	1.53E-03	8.53E-03	1.35E-01	-5.74E-03
Photochemical ozone formation	kg of NMVOC eq.	3.62E-02	6.34E-03	5.32E-05	5.70E-05	2.91E-02	5.85E-04	2.72E-03	2.64E-02	-2.00E-03
Depletion of abiotic resources - elements	kg eq. Sb	1.15E-03	6.87E-04	1.87E-08	1.66E-09	4.66E-04	2.01E-07	4.61E-04	4.75E-06	-3.98E-04
Depletion of abiotic resources - fossil fuels	MJ	3.82E+02	2.66E+01	9.30E-01	2.76E-01	3.51E+02	3.60E+00	1.16E+01	3.39E+02	-6.83E+00
Water scarcity	m3 of eq.. deprivation worldwide	3.26E+01	5.53E-01	1.88E-03	2.21E-03	3.07E+00	2.90E+01	2.04E+00	1.03E+00	-5.84E+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	9.06E+01	5.90E-01	2.93E-03	3.77E-02	8.98E+01	1.30E-01	4.61E-02	8.98E+01	-2.70E-01
Use of renewable primary energy resources used as raw materials	MJ	3.88E-01	3.88E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.18E-01
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	9.10E+01	9.78E-01	2.93E-03	3.77E-02	8.98E+01	1.30E-01	4.61E-02	8.98E+01	-5.88E-01
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	3.81E+02	2.57E+01	9.30E-01	2.76E-01	3.51E+02	3.60E+00	1.14E+01	3.39E+02	-6.65E+00
Use of non-renewable primary energy resources used as raw materials	MJ	1.09E+00	8.53E-01	0.00E+00	0.00E+00	2.35E-01	0.00E+00	2.35E-01	0.00E+00	-1.85E-01
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	3.82E+02	2.66E+01	9.30E-01	2.76E-01	3.51E+02	3.60E+00	1.16E+01	3.39E+02	-6.83E+00
Use of secondary materials	kg	6.59E-07	6.53E-07	0.00E+00	0.00E+00	5.72E-09	0.00E+00	5.72E-09	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	8.88E-01	1.29E-02	4.39E-05	1.62E-04	7.74E-02	7.97E-01	5.32E-02	2.42E-02	-1.48E+00
Hazardous waste disposed of	kg	2.72E+00	1.62E+00	2.19E-04	2.72E-03	8.41E-01	2.57E-01	2.53E-01	5.89E-01	-7.23E-03
Non-hazardous waste disposed of	kg	3.26E+00	9.01E-01	4.86E-03	7.13E-03	2.33E+00	1.87E-02	5.98E-02	2.27E+00	-1.98E-02
Radioactive waste disposed of	kg	7.41E-04	1.54E-04	3.85E-06	1.70E-06	5.68E-04	1.41E-05	4.72E-05	5.21E-04	-1.22E-05

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
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	1.84E-02	1.89E-07	0.00E+00	1.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	7.28E-10	7.28E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	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 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.	9.24E-03	9.24E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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	6.74E-07	8.18E-08	7.10E-10	5.05E-10	5.83E-07	8.34E-09	2.84E-08	5.54E-07	-2.70E-08
Ionizing radiation, human health	kBq of U235 eq.	7.32E+01	4.64E+01	1.85E-03	7.23E-02	2.67E+01	4.32E-02	7.37E+00	1.93E+01	-7.00E-02
Ecotoxicity, fresh water	CTUe	6.35E+01	2.02E+01	1.53E+00	3.79E-01	3.85E+01	2.93E+00	1.31E+01	2.54E+01	-2.90E+00
Human toxicity, cancer effects	CTUh	1.91E-07	2.70E-08	1.03E-11	2.58E-09	8.05E-08	8.08E-08	7.88E-08	1.69E-09	-6.17E-09
Human toxicity, non-cancer effects	CTUh	1.05E-06	5.25E-07	1.96E-10	8.38E-11	5.18E-07	9.73E-09	4.78E-07	4.04E-08	-4.23E-07
Impacts related to land use/soil quality	-	6.32E-01	5.25E-03	2.24E-04	9.78E-05	3.94E-01	2.33E-01	2.17E-02	3.72E-01	-5.08E-01
Total use of primary energy during the life cycle	MJ	4.73E+02	2.76E+01	9.33E-01	3.14E-01	4.41E+02	3.73E+00	1.17E+01	4.29E+02	-7.42E+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 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.	3.57E+03	2.26E+02	7.54E+00	8.57E+00	3.30E+03	2.97E+01	7.84E+01	3.22E+03	-5.52E+01
Climate change - fossil fuels	kg CO2 eq.	3.57E+03	2.28E+02	7.54E+00	3.64E+00	3.30E+03	2.91E+01	7.84E+01	3.22E+03	-5.84E+01
Climate change - biogenics	kg CO2 eq.	9.40E+00	-2.19E+00	3.09E-05	4.94E+00	6.01E+00	6.40E-01	7.86E-02	5.93E+00	3.28E+00
Climate change - land use and land use transformation	kg CO2 eq.	1.16E-04	3.12E-05	1.14E-05	1.30E-07	7.14E-05	1.77E-06	7.14E-05	0.00E+00	0.00E+00
Ozone depletion	kg eq. CFC-11	7.09E-05	3.30E-05	9.14E-08	5.95E-08	3.37E-05	4.15E-06	1.80E-05	1.56E-05	-1.16E-05
Acidification (AP)	mole of H+ eq.	1.96E+01	2.04E+00	1.19E-02	1.21E-02	1.73E+01	2.76E-01	7.69E-01	1.65E+01	-6.33E-01
Freshwater eutrophication	kg P eq.	9.77E-03	5.44E-04	2.82E-05	4.67E-05	8.79E-03	3.60E-04	3.00E-04	8.49E-03	-2.12E-02
Marine aquatic eutrophication	kg of N eq.	2.52E+00	2.62E-01	2.16E-03	4.70E-03	2.14E+00	1.10E-01	1.26E-01	2.01E+00	-7.47E-02
Terrestrial eutrophication	mole of N eq.	3.67E+01	2.84E+00	2.37E-02	3.65E-02	3.36E+01	2.20E-01	1.23E+00	3.23E+01	-8.27E-01
Photochemical ozone formation	kg of NMVOC eq.	7.74E+00	9.14E-01	7.66E-03	8.21E-03	6.73E+00	8.42E-02	3.92E-01	6.33E+00	-2.88E-01
Depletion of abiotic resources - elements	kg eq. Sb	1.67E-01	9.89E-02	2.69E-06	2.39E-07	6.76E-02	2.89E-05	6.64E-02	1.14E-03	-5.73E-02
Depletion of abiotic resources - fossil fuels	MJ	8.76E+04	3.83E+03	1.34E+02	3.98E+01	8.31E+04	5.18E+02	1.68E+03	8.14E+04	-9.84E+02
Water scarcity	m3 of eq.. deprivation worldwide	4.80E+03	7.96E+01	2.71E-01	3.18E-01	5.41E+02	4.17E+03	2.94E+02	2.47E+02	-8.41E+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.

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	2.17E+04	8.50E+01	4.22E-01	5.43E+00	2.15E+04	1.87E+01	6.64E+00	2.15E+04	-3.89E+01
Use of renewable primary energy resources used as raw materials	MJ	5.59E+01	5.59E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.58E+01
Total use of renewable primary energy resources (primary energy and primary energy resources	MJ	2.17E+04	1.41E+02	4.22E-01	5.43E+00	2.15E+04	1.87E+01	6.64E+00	2.15E+04	-8.46E+01

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
used as raw materials)										
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	8.74E+04	3.71E+03	1.34E+02	3.98E+01	8.30E+04	5.18E+02	1.64E+03	8.14E+04	-9.58E+02
Use of non-renewable primary energy resources used as raw materials	MJ	1.57E+02	1.23E+02	0.00E+00	0.00E+00	3.39E+01	0.00E+00	3.39E+01	0.00E+00	-2.66E+01
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	8.76E+04	3.83E+03	1.34E+02	3.98E+01	8.31E+04	5.18E+02	1.68E+03	8.14E+04	-9.84E+02
Use of secondary materials	kg	9.48E-05	9.40E-05	0.00E+00	0.00E+00	8.24E-07	0.00E+00	8.24E-07	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	1.30E+02	1.85E+00	6.32E-03	2.33E-02	1.35E+01	1.15E+02	7.66E+00	5.81E+00	-2.13E+02
Hazardous waste disposed of	kg	4.48E+02	2.33E+02	3.15E-02	3.92E-01	1.78E+02	3.71E+01	3.64E+01	1.41E+02	-1.04E+00
Non-hazardous waste disposed of	kg	6.87E+02	1.30E+02	7.00E-01	1.03E+00	5.53E+02	2.69E+00	8.62E+00	5.44E+02	-2.85E+00
Radioactive waste disposed of	kg	1.57E-01	2.22E-02	5.54E-04	2.44E-04	1.32E-01	2.02E-03	6.79E-03	1.25E-01	-1.75E-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	2.65E+00	2.72E-05	0.00E+00	2.65E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	1.05E-07	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	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 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.	1.33E+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

***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	1.50E-04	1.18E-05	1.02E-07	7.27E-08	1.37E-04	1.20E-06	4.09E-06	1.33E-04	-3.89E-06
Ionizing radiation, human health	kBq of U235 eq.	1.24E+04	6.68E+03	2.67E-01	1.04E+01	5.70E+03	6.23E+00	1.06E+03	4.64E+03	-1.01E+01
Ecotoxicity, fresh water	CTUe	1.16E+04	2.90E+03	2.20E+02	5.45E+01	7.98E+03	4.22E+02	1.89E+03	6.09E+03	-4.18E+02
Human toxicity, cancer effects	CTUh	2.77E-05	3.89E-06	1.48E-09	3.71E-07	1.18E-05	1.16E-05	1.14E-05	4.05E-07	-8.88E-07
Human toxicity, non-cancer effects	CTUh	1.56E-04	7.56E-05	2.82E-08	1.21E-08	7.85E-05	1.40E-06	6.88E-05	9.69E-06	-6.10E-05
Impacts related to land use/soil quality	-	1.27E+02	7.56E-01	3.23E-02	1.41E-02	9.24E+01	3.36E+01	3.12E+00	8.92E+01	-7.31E+01
Total use of primary energy during the life cycle	MJ	1.09E+05	3.97E+03	1.34E+02	4.52E+01	1.05E+05	5.37E+02	1.68E+03	1.03E+05	-1.07E+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 9PX 3000i RT3U and the relevant data are shown in the below table:

Product family	Model	Description	UPS Rating (VA)	Power factor (Pf)	UPS Rating (W)	RSL	Backup time at full load (mins)	UPS efficiency (Normal Mode) [%]	Use phase losses (Normal Mode) (kWh)	UPS Efficiency (HE Mode)	Use phase losses (HE Mode) (kWh)	Product Net weight (Actual) kg	Packaging weight (Actual) kg
Eaton 9PX 1-3kVA UPS	9PX3000IRT3U	Eaton 9PX 3000i RT3U	3000	1	3000	8	3	94.180	9149	98.129	2904	28	6.7
	9PX1000IRT2U	Eaton 9PX 1000i RT2U	1000	1	1000	8	6	91.022	4600	96.937	1524	19.5	3.9
	9PX1500IRT2U	Eaton 9PX 1500i RT2U	1500	1	1500	8	5	92.039	6105	97.44	1935	19.5	5.3
	9PX2200IRT2U	Eaton 9PX 2200i RT2U	2200	1	2200	8	3	93.447	7502	97.869	2377	28	3.49
	9PX2200IRT3U	Eaton 9PX 2200i RT3U	2200	1	2200	8	3	93.447	7502	97.869	2377	28	3.53
	9PX3000IRT2U	Eaton 9PX 3000i RT2U	3000	1	3000	8	3	94.180	9149	98.129	2904	28	7.05
	9PX1500IRTM	Eaton 9PX 1500i RT2U Marine	1500	1	1500	8	5	92.039	6105	97.44	1935	18.9	5.9
	9PX3000IRTM	Eaton 9PX 3000i RT3U Marine	3000	1	3000	8	3	94.180	9149	98.129	2904	27.4	7.3
	9PX1000IRTN	Eaton 9PX 1000i RT2U Netpack	1000	1	1000	8	6	91.022	4600	96.937	1524	19.6	4.07
	9PX1500IRTN	Eaton 9PX 1500i RT2U Netpack	1500	1	1500	8	5	92.039	6105	97.44	1935	19.6	5.47
	9PX2200IRTN	Eaton 9PX 2200i RT2U Netpack	2200	1	2200	8	3	93.447	7502	97.869	2377	28.1	3.657

Product family	Model	Description	UPS Rating (VA)	Power factor (Pf)	UPS Rating (W)	RSL	Backup time at full load (mins)	UPS efficiency (Normal Mode) [%]	Use phase losses (Normal Mode) (kWh)	UPS Efficiency (HE Mode)	Use phase losses (HE Mode) (kWh)	Product Net weight (Actual) kg	Packaging weight (Actual) kg
	9PX3000IRTN	Eaton 9PX 3000i RT2U Netpack	3000	1	3000	8	3	94.180	9149	98.129	2904	28.1	7.217
	9PX1000IRT2U + 9PXEBM48RT2U	Eaton 9PX 1000i RT2U + Eaton 9PX EBM 48V RT2U	1000	1	1000	8	36	91.022	4600	96.937	1524	49.3	6.6
	9PX1500IRT2U + 9PXEBM48RT2U	Eaton 9PX 1500i RT2U + Eaton 9PX EBM 48V RT2U	1500	1	1500	8	25	92.039	6105	97.44	1935	49.3	8
	9PX2200IRT2U + 9PXEBM72RT2U	Eaton 9PX 2200i RT2U + Eaton 9PX EBM 72V RT2U	2200	1	2200	8	23	93.447	7502	97.869	2377	67.2	9.81
	9PX2200IRT3U + 9PXEBM72RT3U	Eaton 9PX 2200i RT3U + Eaton 9PX EBM 72V RT3U	2200	1	2200	8	23	93.447	7502	97.869	2377	66.18	9.66
	9PX3000IRT2U + 9PXEBM72RT2U	Eaton 9PX 3000i RT2U + Eaton 9PX EBM 72V RT2U	3000	1	3000	8	18	94.180	9149	98.129	2904	67.2	13.37
	9PX3000IRT3U + 9PXEBM72RT3U	Eaton 9PX 3000i RT3U + Eaton 9PX EBM 72V RT3U	3000	1	3000	8	18	94.180	9149	98.129	2904	66.18	12.83
	9PX1500IRTM + 9PXEBM48RT2U	Eaton 9PX 1500i RT2U Marine + Eaton 9PX EBM 72V RT2U	1500	1	1500	8	25	92.039	6105	97.44	1935	58.1	12.22
	9PX3000IRTM + 9PXEBM72RT3U	Eaton 9PX 3000i RT3U Marine + Eaton 9PX EBM 72V RT3U	3000	1	3000	8	18	94.180	9149	98.129	2904	65.58	13.43
	9PX1000IRT2U + 4*9PXEBM48RT2U	Eaton 9PX 1000i RT2U + 4 * Eaton 9PX EBM 48V RT2U	1000	1	1000	8	146	91.022	4600	96.937	1524	138.7	14.7
	9PX1500IRT2U + 4*9PXEBM48RT2U	Eaton 9PX 1500i RT2U + 4 * Eaton 9PX	1500	1	1500	8	93	92.039	6105	97.44	1935	138.7	16.1

Product family	Model	Description	UPS Rating (VA)	Power factor (Pf)	UPS Rating (W)	RSL	Backup time at full load (mins)	UPS efficiency (Normal Mode) [%]	Use phase losses (Normal Mode) (kWh)	UPS Efficiency (HE Mode)	Use phase losses (HE Mode) (kWh)	Product Net weight (Actual) kg	Packaging weight (Actual) kg
		EBM 48V RT2U											
	9PX2200IRT2U + 4*9PXEBM72RT2U	Eaton 9PX 2200i RT2U + 4 * Eaton 9PX EBM 72V RT2U	2200	1	2200	8	93	93.447	7502	97.869	2377	184.8	28.77
	9PX2200IRT3U + 4*9PXEBM72RT3U	Eaton 9PX 2200i RT3U + 4 * Eaton 9PX EBM 72V RT3U	2200	1	2200	8	93	93.447	7502	97.869	2377	180.72	28.05
	9PX3000IRT2U + 4*9PXEBM72RT2U	Eaton 9PX 3000i RT2U + 4 * Eaton 9PX EBM 72V RT2U	3000	1	3000	8	66	94.180	9149	98.129	2904	184.8	32.33
	9PX3000IRT3U + 4*9PXEBM72RT3U	Eaton 9PX 3000i RT3U + 4 * Eaton 9PX EBM 72V RT3U	3000	1	3000	8	66	94.180	9149	98.129	2904	180.72	31.22
	9PX1500IRTM + 4*9PXEBM48RT2U	Eaton 9PX 1500i RT2U Marine + 4 * Eaton 9PX EBM 72V RT2U	1500	1	1500	8	93	92.039	6105	97.44	1935	175.7	31.18
	9PX3000IRTM + 4*9PXEBM72RT3U	Eaton 9PX 3000i RT3U Marine + 4 * Eaton 9PX EBM 72V RT3U	3000	1	3000	8	66	94.180	9149	98.129	2904	180.12	31.82

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 (Normal Mode)	B6 Use Phase (High Efficiency)	C1-C4 End-of Life	D - Module
9PX3000IRT3U (Reference Declared Unit)- Normal Mode only	1.00	1.00	1.00	1.00	1.00	-	1.00	1.00

Model	A1-A3 Manufacturing	A4 Distribution	A5 Installation	B2 Use Phase	B6 Use Phase (Normal Mode)	B6 Use Phase (High Efficiency)	C1-C4 End-of Life	D - Module
9PX3000IRT3U - HE Mode	1.00	1.00	1.00	1.00	-	0.32	1.00	1.00
9PX1000IRT2U	0.67	0.67	0.58	0.67	0.50	0.17	0.70	0.67
9PX1500IRT2U	0.71	0.71	0.79	0.71	0.67	0.21	0.70	0.71
9PX2200IRT2U	0.91	0.91	0.52	0.91	0.82	0.26	1.00	0.91
9PX2200IRT3U	0.91	0.91	0.53	0.91	0.82	0.26	1.00	0.91
9PX3000IRT2U	1.01	1.01	1.05	1.01	1.00	0.32	1.00	1.01
9PX1500IRTM	0.71	0.71	0.88	0.71	0.67	0.21	0.68	0.71
9PX3000IRTM	1.00	1.00	1.09	1.00	1.00	0.32	0.98	1.00
9PX1000IRTN	0.68	0.68	0.61	0.68	0.50	0.17	0.70	0.68
9PX1500IRTN	0.72	0.72	0.82	0.72	0.67	0.21	0.70	0.72
9PX2200IRTN	0.92	0.92	0.55	0.92	0.82	0.26	1.00	0.92
9PX3000IRTN	1.02	1.02	1.08	1.02	1.00	0.32	1.00	1.02
9PX1000IRT2U + 9PXEBM48RT2U	1.61	1.61	0.99	1.61	0.50	0.17	1.76	1.61
9PX1500IRT2U + 9PXEBM48RT2U	1.65	1.65	1.19	1.65	0.67	0.21	1.76	1.65
9PX2200IRT2U + 9PXEBM72RT2U	2.22	2.22	1.46	2.22	0.82	0.26	2.40	2.22
9PX2200IRT3U + 9PXEBM72RT3U	2.19	2.19	1.44	2.19	0.82	0.26	2.36	2.19
9PX3000IRT2U + 9PXEBM72RT2U	2.32	2.32	2.00	2.32	1.00	0.32	2.40	2.32
9PX3000IRT3U + 9PXEBM72RT3U	2.28	2.28	1.91	2.28	1.00	0.32	2.36	2.28
9PX1500IRTM + 9PXEBM48RT2U	2.03	2.03	1.82	2.03	0.67	0.21	2.08	2.03
9PX3000IRTM + 9PXEBM72RT3U	2.28	2.28	2.00	2.28	1.00	0.32	2.34	2.28
9PX1000IRT2U + 4*9PXEBM48RT2U	4.42	4.42	2.19	4.42	0.50	0.17	4.95	4.42
9PX1500IRT2U + 4*9PXEBM48RT2U	4.46	4.46	2.40	4.46	0.67	0.21	4.95	4.46
9PX2200IRT2U + 4*9PXEBM72RT2U	6.15	6.15	4.29	6.15	0.82	0.26	6.60	6.15
9PX2200IRT3U + 4*9PXEBM72RT3U	6.02	6.02	4.19	6.02	0.82	0.26	6.45	6.02
9PX3000IRT2U + 4*9PXEBM72RT2U	6.26	6.26	4.83	6.26	1.00	0.32	6.60	6.26
9PX3000IRT3U + 4*9PXEBM72RT3U	6.11	6.11	4.66	6.11	1.00	0.32	6.45	6.11
9PX1500IRTM + 4*9PXEBM48RT2U	5.96	5.96	4.65	5.96	0.67	0.21	6.28	5.96

Model	A1-A3 Manufacturing	A4 Distribution	A5 Installation	B2 Use Phase	B6 Use Phase (Normal Mode)	B6 Use Phase (High Efficiency)	C1-C4 End-of Life	D - Module
9PX3000IRTM + 4*9PXEBM72RT3U	6.11	6.11	4.75	6.11	1.00	0.32	6.43	6.11

Note: The normal mode of the representative product is considered as 1.00 for calculating extrapolation factor High efficiency mode and Normal mode of homogeneous product.

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	Factor for B6 Phase	Factor for other phases Except B6
9PX3000IRT3U	240	144
9PX1000IRT2U	80	96
9PX1500IRT2U	120	120
9PX2200IRT2U	176	105.6
9PX2200IRT3U	176	105.6
9PX3000IRT2U	240	144
9PX1500IRTM	120	120
9PX3000IRTM	240	144
9PX1000IRTN	80	96
9PX1500IRTN	120	120
9PX2200IRTN	176	105.6
9PX3000IRTN	240	144
9PX1000IRT2U + 9PXEBM48RT2U	80	576
9PX1500IRT2U + 9PXEBM48RT2U	120	600
9PX2200IRT2U + 9PXEBM72RT2U	176	809.6
9PX2200IRT3U + 9PXEBM72RT3U	176	809.6
9PX3000IRT2U + 9PXEBM72RT2U	240	864
9PX3000IRT3U + 9PXEBM72RT3U	240	864
9PX1500IRTM + 9PXEBM48RT2U	120	600
9PX3000IRTM + 9PXEBM72RT3U	240	864
9PX1000IRT2U + 4*9PXEBM48RT2U	80	2336
9PX1500IRT2U + 4*9PXEBM48RT2U	120	2232
9PX2200IRT2U + 4*9PXEBM72RT2U	176	3273.6
9PX2200IRT3U + 4*9PXEBM72RT3U	176	3273.6
9PX3000IRT2U + 4*9PXEBM72RT2U	240	3168
9PX3000IRT3U + 4*9PXEBM72RT3U	240	3168
9PX1500IRTM + 4*9PXEBM48RT2U	120	2232
9PX3000IRTM + 4*9PXEBM72RT3U	240	3168

Disclaimer

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		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 »			