



Eaton 5P Tower Gen2 Single Phase UPS

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| Representative product | Eaton 5P 1550i Tower 1U G2 (5P1550IG2) Product Category: Uninterruptible Power Supply (UPS) with energy storage system | | | | |
| Description of the product | Eaton 5P tower Gen2 UPS is a compact footprint for users who needs continuous power supply like in clinics, hospitals, financial institutions, businesses or IT installations. Eaton 5P tower Gen2 is available in different power ratings : 1550VA, 1150VA, 850VA and 650VA with input voltage from 200V to 240V and inbuilt lead acid battery. | | | | |
| Product specifications | Power VA & W: 1550VA (1350W) UPS Configuration: Single phase, operating in normal mode. UPS performance classification: UPS - VI (Line Interactive) Technology of the energy storage system: Valve regulated lead acid batteries (VRLA) Product dimensions (H X W X D): 233 x 150 x 445 mm Mass of the equipment : 15.1 kg Power factor: 0.871 Reference service life (Years): 8 | | | | |
| Homogeneous Environmental Families Covered | The PEP concerns product offerings from Eaton 5P Tower G2 series as mentioned below: | | | | |
| | Product family | Model | Description | UPS Rating (W) | Backup time at full load (mins) |
| | Eaton 5P G2 tower 1 phase UPS | 5P1550IG2 (Reference) | Eaton 5P 1550i G2 | 1350 | 2 |
| | | 5P650IG2 | Eaton 5P 650i G2 | 520 | 1.1 |
| | | 5P850IG2 | Eaton 5P 850i G2 | 680 | 3.9 |
| 5P1150IG2 | | Eaton 5P 1150i G2 | 920 | 3.1 | |
| 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 | | | | |

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| Declared unit | To ensure the supply of power without interruption to equipment with load of 1350 watts for a RSL of 8 years, including a backup time capacity of 2 minutes (at full load condition) during power shortages |
| Company information | Eaton Industries France SAS; Email: productstewardship-es@eaton.com |

| Constituent Materials of | | | |
|--------------------------|------------------------------|-----------------|----------------|
| Reference Product: | 1.81E+01 kg (with packaging) | | |
| Materials | Category PEP Material | Mass (kg) | Percentage (%) |
| Others | Lead acid battery | 7.50E+00 | 41.5% |
| Others | Electronics | 4.56E+00 | 25.2% |
| Plastics | ABS | 1.84E+00 | 10.2% |
| Others | Wood | 1.50E+00 | 8.3% |
| Others | Cardboard | 1.15E+00 | 6.4% |
| Others | Cable | 6.81E-01 | 3.8% |
| Others | Printed wire board | 1.97E-01 | 1.1% |
| Metals | Steel | 1.66E-01 | 0.9% |
| Plastics | PELD Film | 1.52E-01 | 0.8% |
| Others | Polyurethane | 6.65E-02 | 0.4% |
| Plastics | Polyvinyl Chloride | 6.00E-02 | 0.3% |
| Others | Paper | 5.83E-02 | 0.3% |
| Plastics | Polybutylene terephthalate | 4.55E-02 | 0.3% |
| Plastics | Polypropylene | 4.37E-02 | 0.2% |
| Plastics | Polyamide | 2.45E-02 | 0.1% |
| Others | Miscellaneous | 2.47E-02 | 0.1% |
| Total | | 1.81E+01 | 100.0% |

| Substance Assessment | |
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| 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, which is 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 | The recyclability rate of the overall product is 51.3% if properly dismantled prior to further processing at a recycling facility. The rate is calculated 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 | | | | | | | | | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-----|-----------------|-----|-----|-----|------|-----------------------------|------|------|------|------|
| 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 v6.1.3 with database version CODDE-2023-02. Indicators Set used: PEF EF 3.0 (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. Energy model used: China & Europe | | | | | | | | | | | | | |
| Distribution Phase | | Customer location is assumed to be Europe. Intracontinental transport of 775 km by lorry is considered as transport scenario from Eaton location to end user for this study based on actual data. | | | | | | | | | | | | | |
| 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: 8 years Energy model used: Europe. Usage profile: It has an average energy efficiency of 98.01 %. 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>0.00</td><td>0.30</td><td>0.40</td><td>0.30</td></tr></table> | | | | Operating loads | 25% | 50% | 75% | 100% | Proportion of Time spent at | 0.00 | 0.30 | 0.40 | 0.30 |
| | | Operating loads | 25% | 50% | 75% | 100% | | | | | | | | | |
| Proportion of Time spent at | 0.00 | 0.30 | 0.40 | 0.30 | | | | | | | | | | | |
| Total energy losses are calculated to be equal to 1.37 MWh over the 8 years. Product requires one 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:

$$\frac{\text{Declared Unit Power (1350 W)} * \text{Declared Unit Lifetime (8 year)}}{100 \text{ W} * 1 \text{ year}} = 108$$

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

$$\frac{\text{Declared Unit Power (1350 W)} * \text{Declared Unit Lifetime (8 year)} * \text{Declared Unit Backuptime (2 min)}}{100 \text{ W} * 1 \text{ year} * 5 \text{ min}} = 43.2$$

Environmental Impact for Functional Unit

Environmental Impact Indicators: Mandatory

| Mandatory environmental impact indicators | Units | Sum | Manufacturing (A1-A3) | Distribution (A4) | Installation (A5) | Use (B1-B6)* | End of Life (C1-C4) | Maintenance (B2) | Energy use (B6) | Module D |
|----------------------------------------------|------------------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------|-----------|
| Resource use, minerals and metals | kg SB eq. | 1.84E-03 | 1.08E-03 | 1.56E-09 | -4.14E-10 | 7.64E-04 | 7.55E-07 | 7.64E-04 | 3.77E-07 | -1.32E-03 |
| Resource use, fossils | MJ | 2.13E+02 | 5.17E+01 | 5.52E-01 | 3.44E-01 | 1.54E+02 | 6.17E+00 | 2.18E+01 | 1.33E+02 | -2.01E+01 |
| Acidification | mole of H+ eq. | 7.13E-02 | 2.84E-02 | 2.51E-04 | 1.17E-04 | 4.04E-02 | 2.18E-03 | 1.07E-02 | 2.97E-02 | -9.26E-03 |
| Eutrophication, freshwater | kg P eq. | 6.62E-05 | 7.03E-06 | 1.48E-08 | 4.34E-07 | 3.29E-05 | 2.59E-05 | 1.86E-05 | 1.42E-05 | -5.43E-06 |
| Eutrophication marine | kg N eq. | 9.78E-03 | 3.64E-03 | 1.18E-04 | 4.94E-05 | 5.53E-03 | 4.49E-04 | 2.16E-03 | 3.37E-03 | -1.22E-03 |
| Eutrophication, terrestrial | mol N eq. | 1.20E-01 | 3.94E-02 | 1.29E-03 | 4.14E-04 | 7.52E-02 | 3.20E-03 | 2.45E-02 | 5.07E-02 | -1.30E-02 |
| Climate change | kg CO ₂ eq. | 9.97E+00 | 2.88E+00 | 3.96E-02 | 7.64E-02 | 6.66E+00 | 3.17E-01 | 1.46E+00 | 5.20E+00 | -9.48E-01 |
| Climate change-Biogenic | kg CO ₂ eq. | 5.66E-02 | 8.49E-03 | 0.00E+00 | 3.90E-02 | 6.89E-03 | 2.22E-03 | -5.17E-05 | 6.94E-03 | -6.34E-03 |
| Climate change-Fossil | kg CO ₂ eq. | 9.91E+00 | 2.87E+00 | 3.96E-02 | 3.74E-02 | 6.65E+00 | 3.14E-01 | 1.46E+00 | 5.20E+00 | -9.41E-01 |
| Climate change-Land use and land use change | kg CO ₂ eq. | 4.81E-08 | 3.25E-08 | 0.00E+00 | -1.60E-10 | 0.00E+00 | 1.57E-08 | 0.00E+00 | 0.00E+00 | -2.35E-08 |
| Ozone depletion | kg CFC-11 eq. | 1.27E-06 | 4.96E-07 | 6.07E-11 | 4.92E-10 | 7.13E-07 | 5.57E-08 | 6.91E-07 | 2.22E-08 | -2.60E-07 |
| Photochemical ozone formation - human health | kg NMVOC eq. | 3.41E-02 | 1.30E-02 | 3.25E-04 | 9.58E-05 | 1.96E-02 | 1.12E-03 | 8.77E-03 | 1.08E-02 | -4.26E-03 |
| Water use | m ³ eq. | 4.26E+00 | 9.09E-01 | 1.50E-04 | 1.04E-02 | 4.43E-01 | 2.90E+00 | 2.59E-01 | 1.84E-01 | -4.39E-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

| Mandatory inventory flow indicators | Units | Sum | Manufacturing (A1-A3) | Distribution (A4) | Installation (A5) | Use (B1-B6)* | End of Life (C1-C4) | Maintenance (B2) | Energy use (B6) | Module D |
|-------------------------------------------------------------------------------------------------|----------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------|-----------|
| Use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 2.62E+01 | 4.39E-01 | 7.37E-04 | 2.00E-01 | 2.55E+01 | 8.44E-02 | 2.41E-02 | 2.55E+01 | 1.26E-01 |
| Use of renewable primary energy resources used as raw material | MJ | 1.20E+00 | 1.20E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -6.24E-01 |
| Total use of renewable primary energy resources | MJ | 2.74E+01 | 1.64E+00 | 7.37E-04 | 2.00E-01 | 2.55E+01 | 8.44E-02 | 2.41E-02 | 2.55E+01 | -4.98E-01 |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 2.09E+02 | 4.83E+01 | 5.52E-01 | 3.44E-01 | 1.54E+02 | 6.17E+00 | 2.15E+01 | 1.33E+02 | -1.78E+01 |
| Use of non renewable primary energy resources used as raw material | MJ | 3.63E+00 | 3.34E+00 | 0.00E+00 | 0.00E+00 | 2.95E-01 | 0.00E+00 | 2.95E-01 | 0.00E+00 | -2.22E+00 |
| Total use of non-renewable primary energy resources | MJ | 2.13E+02 | 5.17E+01 | 5.52E-01 | 3.44E-01 | 1.54E+02 | 6.17E+00 | 2.18E+01 | 1.33E+02 | -2.01E+01 |
| Use of secondary material | kg | 2.27E-06 | 2.27E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 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 freshwater | m ³ | 1.07E-01 | 2.12E-02 | 3.50E-06 | 2.42E-04 | 1.03E-02 | 7.58E-02 | 6.02E-03 | 4.29E-03 | -1.02E-02 |
| Components for reuse | 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 | 6.59E-02 | 1.34E-06 | 0.00E+00 | 1.27E-02 | 0.00E+00 | 5.31E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for energy recovery | kg | 1.35E-03 | 1.61E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.19E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Exported Energy | MJ | 8.02E-02 | 1.11E-04 | 0.00E+00 | 0.00E+00 | 7.04E-02 | 9.67E-03 | 7.04E-02 | 0.00E+00 | 0.00E+00 |

| Mandatory inventory flow indicators | Units | Sum | Manufacturing (A1-A3) | Distribution (A4) | Installation (A5) | Use (B1-B6)* | End of Life (C1-C4) | Maintenance (B2) | Energy use (B6) | Module D |
|-----------------------------------------------------|-------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------|-----------|
| Hazardous waste disposed | kg | 2.63E+00 | 1.37E+00 | 0.00E+00 | 7.02E-04 | 4.86E-01 | 7.78E-01 | 3.89E-01 | 9.72E-02 | -5.34E-01 |
| Non hazardous waste disposed | kg | 2.27E+00 | 1.09E+00 | 1.39E-03 | 3.99E-02 | 9.95E-01 | 1.45E-01 | 2.47E-01 | 7.49E-01 | -6.42E-01 |
| Radioactive waste disposed | kg | 6.25E-04 | 2.28E-04 | 9.90E-07 | 2.59E-06 | 3.11E-04 | 8.19E-05 | 1.54E-04 | 1.57E-04 | -8.25E-05 |
| Biogenic carbon content of the product | kg C | 5.10E-04 | 5.10E-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 associated packaging | kg C | 2.12E-02 | 2.12E-02 | 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 | Manufacturing (A1-A3) | Distribution (A4) | Installation (A5) | Use (B1-B6)* | End of Life (C1-C4) | Maintenance (B2) | Energy use (B6) | Module D |
|------------------------------------------|--------------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------|-----------|
| Ecotoxicity, freshwater | CTUe | 1.88E+02 | 8.02E+01 | 2.67E-02 | 3.78E-01 | 9.02E+01 | 1.68E+01 | 3.42E+01 | 5.60E+01 | -5.67E+01 |
| Human toxicity, cancer | CTUh-c | 3.59E-07 | 8.62E-08 | 6.96E-13 | 3.22E-09 | 1.37E-07 | 1.33E-07 | 1.36E-07 | 6.07E-10 | -8.88E-08 |
| Human toxicity, non-cancer | CTUh-nc | 1.80E-06 | 9.18E-07 | 7.53E-11 | 1.86E-10 | 8.71E-07 | 6.68E-09 | 8.47E-07 | 2.41E-08 | -1.42E-06 |
| Ionising radiation, human health | kBq U235 eq. | 8.91E+01 | 8.03E+01 | 9.64E-05 | 4.99E-03 | 7.81E+00 | 1.05E+00 | 7.43E-02 | 7.74E+00 | -1.07E+00 |
| Land use | -- | 2.38E-01 | 3.75E-03 | 0.00E+00 | 1.63E-02 | 1.04E-01 | 1.14E-01 | 0.00E+00 | 1.04E-01 | -4.06E-04 |
| EF-particulate Matter | Disease occurrence | 4.52E-07 | 1.54E-07 | 2.04E-09 | 7.85E-10 | 2.83E-07 | 1.22E-08 | 5.24E-08 | 2.30E-07 | -5.06E-08 |
| Total Primary Energy | MJ | 2.41E+02 | 5.33E+01 | 5.53E-01 | 5.44E-01 | 1.80E+02 | 6.25E+00 | 2.19E+01 | 1.58E+02 | -2.06E+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.

Environmental Impact considering for Declared Unit

Environmental Impact Indicators: Mandatory

| Mandatory environmental impact indicators | Units | Sum | Manufacturing (A1-A3) | Distribution (A4) | Installation (A5) | Use (B1-B6)* | End of Life (C1-C4) | Maintenance (B2) | Energy use (B6) | Module D |
|----------------------------------------------|------------------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------|-----------|
| Resource use, minerals and metals | kg SB eq. | 7.96E-02 | 4.65E-02 | 6.73E-08 | -1.79E-08 | 3.30E-02 | 3.26E-05 | 3.30E-02 | 4.07E-05 | -5.68E-02 |
| Resource use, fossils | MJ | 1.78E+04 | 2.23E+03 | 2.39E+01 | 1.49E+01 | 1.53E+04 | 2.66E+02 | 9.43E+02 | 1.43E+04 | -8.67E+02 |
| Acidification | mole of H+ eq. | 5.01E+00 | 1.23E+00 | 1.08E-02 | 5.06E-03 | 3.67E+00 | 9.44E-02 | 4.61E-01 | 3.21E+00 | -4.00E-01 |
| Eutrophication, freshwater | kg P eq. | 3.78E-03 | 3.04E-04 | 6.41E-07 | 1.87E-05 | 2.34E-03 | 1.12E-03 | 8.04E-04 | 1.54E-03 | -2.34E-04 |
| Eutrophication marine | kg N eq. | 6.41E-01 | 1.57E-01 | 5.08E-03 | 2.14E-03 | 4.58E-01 | 1.94E-02 | 9.33E-02 | 3.64E-01 | -5.25E-02 |
| Eutrophication, terrestrial | mol N eq. | 8.45E+00 | 1.70E+00 | 5.57E-02 | 1.79E-02 | 6.53E+00 | 1.38E-01 | 1.06E+00 | 5.47E+00 | -5.61E-01 |
| Climate change | kg CO ₂ eq. | 7.68E+02 | 1.24E+02 | 1.71E+00 | 3.30E+00 | 6.25E+02 | 1.37E+01 | 6.30E+01 | 5.62E+02 | -4.09E+01 |
| Climate change-Biogenic | kg CO ₂ eq. | 2.90E+00 | 3.67E-01 | 0.00E+00 | 1.69E+00 | 7.47E-01 | 9.58E-02 | -2.23E-03 | 7.50E-01 | -2.74E-01 |
| Climate change-Fossil | kg CO ₂ eq. | 7.65E+02 | 1.24E+02 | 1.71E+00 | 1.61E+00 | 6.24E+02 | 1.36E+01 | 6.30E+01 | 5.61E+02 | -4.07E+01 |
| Climate change-Land use and land use change | kg CO ₂ eq. | 2.08E-06 | 1.40E-06 | 0.00E+00 | -6.93E-09 | 0.00E+00 | 6.80E-07 | 0.00E+00 | 0.00E+00 | -1.02E-06 |
| Ozone depletion | kg CFC-11 eq. | 5.61E-05 | 2.14E-05 | 2.62E-09 | 2.13E-08 | 3.22E-05 | 2.41E-06 | 2.98E-05 | 2.40E-06 | -1.12E-05 |
| Photochemical ozone formation - human health | kg NMVOC eq. | 2.18E+00 | 5.62E-01 | 1.40E-02 | 4.14E-03 | 1.55E+00 | 4.84E-02 | 3.79E-01 | 1.17E+00 | -1.84E-01 |
| Water use | m ³ eq. | 1.96E+02 | 3.93E+01 | 6.49E-03 | 4.50E-01 | 3.11E+01 | 1.25E+02 | 1.12E+01 | 1.99E+01 | -1.90E+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

| Mandatory inventory flow indicators | Units | Sum | Manufacturing (A1-A3) | Distribution (A4) | Installation (A5) | Use (B1-B6)* | End of Life (C1-C4) | Maintenance (B2) | Energy use (B6) | Module D |
|-------------------------------------------------------------------------------------------------|----------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------|-----------|
| Use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 2.78E+03 | 1.90E+01 | 3.18E-02 | 8.64E+00 | 2.75E+03 | 3.65E+00 | 1.04E+00 | 2.75E+03 | 5.45E+00 |
| Use of renewable primary energy resources used as raw material | MJ | 5.19E+01 | 5.19E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -2.70E+01 |
| Total use of renewable primary energy resources | MJ | 2.83E+03 | 7.08E+01 | 3.18E-02 | 8.64E+00 | 2.75E+03 | 3.65E+00 | 1.04E+00 | 2.75E+03 | -2.15E+01 |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 1.76E+04 | 2.09E+03 | 2.39E+01 | 1.49E+01 | 1.52E+04 | 2.66E+02 | 9.31E+02 | 1.43E+04 | -7.71E+02 |
| Use of non renewable primary energy resources used as raw material | MJ | 1.57E+02 | 1.44E+02 | 0.00E+00 | 0.00E+00 | 1.28E+01 | 0.00E+00 | 1.28E+01 | 0.00E+00 | -9.59E+01 |
| Total use of non-renewable primary energy resources | MJ | 1.78E+04 | 2.23E+03 | 2.39E+01 | 1.49E+01 | 1.53E+04 | 2.66E+02 | 9.43E+02 | 1.43E+04 | -8.67E+02 |
| Use of secondary material | kg | 9.79E-05 | 9.79E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 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 freshwater | m ³ | 4.92E+00 | 9.14E-01 | 1.51E-04 | 1.05E-02 | 7.23E-01 | 3.27E+00 | 2.60E-01 | 4.63E-01 | -4.42E-01 |
| Components for reuse | 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 | 2.85E+00 | 5.81E-05 | 0.00E+00 | 5.50E-01 | 0.00E+00 | 2.30E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for energy recovery | kg | 5.83E-02 | 6.96E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.14E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Exported Energy | MJ | 3.46E+00 | 4.79E-03 | 0.00E+00 | 0.00E+00 | 3.04E+00 | 4.18E-01 | 3.04E+00 | 0.00E+00 | 0.00E+00 |

| | | | | | | | | | | |
|-----------------------------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Hazardous waste disposed | kg | 1.20E+02 | 5.90E+01 | 0.00E+00 | 3.03E-02 | 2.73E+01 | 3.36E+01 | 1.68E+01 | 1.05E+01 | -2.31E+01 |
| Non hazardous waste disposed | kg | 1.47E+02 | 4.71E+01 | 6.00E-02 | 1.72E+00 | 9.15E+01 | 6.28E+00 | 1.07E+01 | 8.08E+01 | -2.77E+01 |
| Radioactive waste disposed | kg | 3.71E-02 | 9.87E-03 | 4.28E-05 | 1.12E-04 | 2.36E-02 | 3.54E-03 | 6.65E-03 | 1.69E-02 | -3.56E-03 |
| Biogenic carbon content of the product | kg C | 2.20E-02 | 2.20E-02 | 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 C | 9.16E-01 | 9.16E-01 | 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 | Manufacturing (A1-A3) | Distribution (A4) | Installation (A5) | Use (B1-B6)* | End of Life (C1-C4) | Maintenance (B2) | Energy use (B6) | Module D |
|------------------------------------------|--------------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------|-----------|
| Ecotoxicity, freshwater | CTUe | 1.17E+04 | 3.47E+03 | 1.15E+00 | 1.63E+01 | 7.53E+03 | 7.25E+02 | 1.48E+03 | 6.05E+03 | -2.45E+03 |
| Human toxicity, cancer | CTUh-c | 1.55E-05 | 3.72E-06 | 3.01E-11 | 1.39E-07 | 5.94E-06 | 5.74E-06 | 5.88E-06 | 6.55E-08 | -3.84E-06 |
| Human toxicity, non-cancer | CTUh-nc | 7.91E-05 | 3.97E-05 | 3.25E-09 | 8.02E-09 | 3.92E-05 | 2.89E-07 | 3.66E-05 | 2.60E-06 | -6.12E-05 |
| Ionising radiation, human health | kBq U235 eq. | 4.35E+03 | 3.47E+03 | 4.17E-03 | 2.16E-01 | 8.39E+02 | 4.52E+01 | 3.21E+00 | 8.36E+02 | -4.64E+01 |
| Land use | -- | 1.70E+01 | 1.62E-01 | 0.00E+00 | 7.04E-01 | 1.12E+01 | 4.94E+00 | 0.00E+00 | 1.12E+01 | -1.75E-02 |
| EF-particulate Matter | Disease occurrence | 3.45E-05 | 6.67E-06 | 8.81E-08 | 3.39E-08 | 2.71E-05 | 5.27E-07 | 2.27E-06 | 2.49E-05 | -2.19E-06 |
| Total Primary Energy | MJ | 2.06E+04 | 2.30E+03 | 2.39E+01 | 2.35E+01 | 1.80E+04 | 2.70E+02 | 9.44E+02 | 1.71E+04 | -8.88E+02 |

***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 5P 1550i Rack 1U G2 and the relevant data are shown in the below table:

| Product family | Model | Description | UPS Rating (VA) | Power factor (pf) | UPS Rating (W) | Backup time at full load (mins) | UPS efficiency [%] | Use phase losses (kWh) | Product Net weight (Actual) kg | Packaging weight (Actual) kg |
|---------------------|-----------------------|-------------------|-----------------|-------------------|----------------|---------------------------------|--------------------|------------------------|--------------------------------|------------------------------|
| Eaton 5P Tower Gen2 | 5P1550IG2 (Reference) | Eaton 5P 1550i G2 | 1550 | 0.87 | 1350 | 2 | 98.01 | 1371 | 15.57 | 3.21 |
| | 5P650IG2 | Eaton 5P 650i G2 | 650 | 0.8 | 520 | 1.1 | 96.00 | 1039 | 8.37 | 2.81 |
| | 5P850IG2 | Eaton 5P 850i G2 | 850 | 0.8 | 680 | 3.9 | 97.42 | 874 | 10.67 | 3.11 |
| | 5P1150IG2 | Eaton 5P 1150i G2 | 1150 | 0.8 | 920 | 3.1 | 97.93 | 966 | 11.47 | 3.11 |

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:

| Product Number | Manufacturing | Distribution | Installation | Use B2 | Use B6 | End of Life |
|-------------------------------------|---------------|--------------|--------------|--------|--------|-------------|
| 5P1550IG2 (Reference-Declared Unit) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 5P650IG2 | 0.60 | 0.60 | 0.88 | 0.60 | 0.76 | 0.54 |
| 5P850IG2 | 0.73 | 0.73 | 0.97 | 0.73 | 0.64 | 0.69 |
| 5P1150IG2 | 0.78 | 0.78 | 0.97 | 0.78 | 0.70 | 0.74 |

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:


| Part No. | FU factor for Use B6 | FU factor for other phases (Excluding B6) |
|-----------|----------------------|----------------------------------------------|
| 5P15550G2 | 108 | 43.2 |
| 5P650IG2 | 41.6 | 9.152 |
| 5P850IG2 | 54.4 | 42.432 |
| 5P1150IG2 | 73.6 | 45.632 |

Note: Since the reference product operates at different load conditions, below table indicates the typical operating power and their respective back up time

| Product Catalog Number | Typical operating power (W) | Backup time at typical load (min) |
|------------------------|-----------------------------|-----------------------------------|
| 5P650IG2 | 400 | 3 |
| 5P850IG2 | 600 | 5 |
| 5P1150IG2 | 800 | 4 |
| 5P1550IG2 | 1000 | 5 |

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.

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|-----------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------|---------------------------------------------------------------------------------------|
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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 » | | | |