

# Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

## ***Electronic water metering devices***

**Representative product: HYDROCAL- M4**

**Included products:** HYDROCAL-M4, HYDROSONIC, HYDRODIGIT-S1, HYDRODIGIT-M1, HYDROSPLIT-M3.

from

**B Meters S.r.l.**



|                          |  |
|--------------------------|--|
| Programme:               | The International EPD System, <a href="http://www.environdec.com">www.environdec.com</a> |
| Programme operator:      | EPD International AB   |
| Type of EPD:             | EPD of multiple products based on a representative product                               |
| EPD registration number: | EPD-IES-0027519:001  |
| Version date:            | 2025-12-12   |
| Validity date:           | 2030-12-11   |

*An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see [www.environdec.com](http://www.environdec.com)*



## GENERAL INFORMATION

| Programme Information |   |
|-----------------------|---|
| <b>Programme:</b>     | The International EPD® System                                       |
| <b>Address:</b>       | EPD International AB<br>Box 210 60<br>SE-100 31 Stockholm<br>Sweden |
| <b>Website:</b>       | <a href="http://www.environdec.com">www.environdec.com</a>          |
| <b>E-mail:</b>        | <a href="mailto:support@environdec.com">support@environdec.com</a>  |

| Product Category Rules (PCR)  |
|---|
| <b>CEN standard EN 15804 serves as the Core Product Category Rules (PCR)</b>  |
| <b>Product Category Rules (PCR): <i>Construction Products, 2019:14, version 2.0.1</i></b>   |
| <b>The PCR review was conducted by: Technical Committee of the International EPD® System.<br/>The review committee can be contacted via <a href="mailto:support@environdec.com">support@environdec.com</a><br/>The c-PCR review was conducted by: Gorka Benito Alonso</b> |

| Third-party Verification  |
|---|
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:   |
| <input checked="" type="checkbox"/> <b>Individual EPD verification without a pre-verified LCA/EPD tool</b><br>Third-party verifier: <i>Guido Croce</i><br>Approved by: International EPD System |
| Procedure for follow-up of data during EPD validity involves third party verifier:  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   |

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## INFORMATION ABOUT EPD OWNER

Owner of the EPD: B Meters S.r.l.

Address: Via Friuli, 3 Gonars 33050 (UD) ITALY

Contact: Andrea Orso, e-mail: andrea.orso@bmeters.com

Address and contact information of the LCA practitioner commissioned by the EPD owner, if applicable:

Prof. Dott. Michela Gallo, e-mail: gallo@tetisinstitute.it

Ing. Flavia Francese, e-mail: francese@tetisinstitute.it

Description of the organisation: B METERS is an Italian company specialized in the design, production and distribution of instruments for measuring the consumption of water and thermal energy, founded in 1991 by the Budai family. With over thirty years of experience in the metering sector, the company has consolidated its presence on both the national and international markets. The organization of B METERS is based on the Gonars plant (province of Udine, Friuli-Venezia Giulia) spread over a total area of about 12,000 m<sup>2</sup>. Today B METERS produces over 2.2 million meters every year, a volume that testifies to its relevance in the European metering landscape. Its sales network reaches more than 90 countries, a sign of a strong global vocation that supports its activities on the domestic market. This market breadth translates into operations on a national and international scale, with customers ranging from water utilities to industries and private users.

The historical headquarters and production lines are concentrated in Gonars (UD). B METERS has invested heavily in automation, with fully automated assembly lines and state-of-the-art electronic test benches. On an environmental level, the company has installed a photovoltaic system to power the production of its meters, the system covers an area of over 400 m<sup>2</sup>, and generates about 200 MWh per year, helping to reduce the company's energy impact.

Product-related or management system-related certifications: The B METERS product line is very articulated and designed to meet different needs. It offers mechanical "residential" water meters (turbine, single jet or multi jet) versions with magnetic transmission, Woltmann for large flows, meters for irrigation and electronic flow meters. On the heating and cooling front, the company manufactures mechanical as well as heat allocators / thermal sensors. In addition, B METERS integrates communication modules into its remote reading tools, and operates a cloud platform that collects consumption data for analysis and monitoring.

B METERS operates according to high standards in terms of metrological quality and accuracy: all its meters comply with module D of Directive 2014/32/EU (MID). On an organizational level, the company is certified with ISO 9001:2015 for quality and ISO 14001:2015 for environmental management. Depending on the target market, many products are recognized and approved in accordance with the legislation of the country of sale as suitable for contact with drinking water. The main certifications include the Italian DM 174 approval, the French, English, Swedish and Polish approvals, the Australian Approval Mark, as well as the approvals for Bosnia, Serbia and Ukraine. In addition, B METERS carries

out calibration and metrological tests according to the UNI EN 17025 standard, thanks to accredited internal laboratories.

## PRODUCT INFORMATION

Product name: Electronic water meter (Representative product: HYDROCAL- M4)

Product identification: HYDROCAL- M4

Visual representation (e.g., an image) of the product:



UN CPC code: 48252 - Instruments and apparatus for measuring or checking the flow, level, pressure or other variables of liquids or gases, except navigational, hydrological or meteorological instruments and appliances, gas or liquid supply meters and automatic regulating or controlling instruments and apparatus.

Product description: The B Meters electronic and smart meter range (e.g. HYDROCAL-M4) is designed to meet the needs of modern water and energy metering in residential, multi-unit and light commercial buildings. The meters are available in nominal diameters DN15 (3/4") and DN20 (1") and are engineered for compatibility with both hot and cold water networks, as thermal/energy meters with centralised heating/cooling systems. All models feature digital measurement sensors and direct reading via an 8-digit LCD display with icons, and the calculation unit can be rotated 360° to facilitate reading regardless of installation orientation. All models include integrated wireless data communication (Wireless M-BUS or LoRa), and can be retrofitted or equipped with wired communication modules (e.g. M-BUS with pulse inputs), enabling remote reading and integration into automated meter reading (AMR) or smart-metering systems. The nominal flow and performance parameters vary with model, but the design ensures reliable measurement accuracy (MID / EN standard compliance), ease of installation, and long-term robustness.

Name and location of production site(s): B Meters S.r.l. - Via Friuli, 3/4/5 Gonars 33050 (UD) ITALY

List of products included in this EPD: HYDROCAL-M4, HYDROSONIC, HYDRODIGIT-S1, HYDRODIGIT-M1, HYDROSPLIT-M3.

## CONTENT DECLARATION

- The mass (weight) of one unit of a product, as purchased or per declared unit: 0,70 kg (0,84 kg including packaging)
- Content of the product in the form of a list of materials and substances, and their mass:

| MATERIAL                  | TOTAL WEIGHT [kg] | WEIGHT OF RECYCLED MATERIAL [kg] |
|---------------------------|-------------------|----------------------------------|
| Brass                     | 0,3467            | 0                                |
| AISI 304 L                | 0,0496            | 0,0008                           |
| POM Hostaform             | 0,0040            | 0                                |
| EPDM                      | 0,0011            | 0                                |
| FORTRON 9141L4            | 0,0189            | 0                                |
| ABS                       | 0,0297            | 0                                |
| NBR                       | 0,0005            | 0                                |
| PPE                       | 0,0005            | 0                                |
| ABS + RUBBER              | 0,0341            | 0                                |
| Bioadesive                | 0,0003            | 0                                |
| Electronic board          | 0,1149            | 0                                |
| Lithium Manganese Battery | 0,0827            | 0                                |
| PVC                       | 0,0045            | 0                                |
| PMMA                      | 0,0076            | 0                                |
| Silicon                   | 0,0014            | 0                                |
| Titanium                  | 0,0002            | 0                                |
| Aluminosilicate           | 0,0001            | 0                                |
| PA66                      | 0,0002            | 0                                |
| <b>TOTAL</b>              | <b>0,70</b>       |                                  |

- The mass and the content of distribution and/or consumer packaging:

| Typology  | Material  | Weight [kg/pc] | From recycling |
|-----------|-----------|----------------|----------------|
| PRIMARY   | cardboard | 0,125          | No             |
| SECONDARY | plastic   | 0,002          | No             |
| TERTIARY  | wood      | 0,018          | No             |

- Information on the environmental and hazardous/toxic properties of a substances contained in the product: The products contain a brass alloy CuZn40Pb2 – BRASS CW 617, which contains a small percentage of lead, included in the Candidate List of Substances of Very High Concern (SVHC) under REACH. The amount of this substance represents less than 1% of the total weight of the meter and is therefore considered a *cut-off* according to the applicable modelling rules. In the LCA modelling performed in SimaPro, replacing the equivalent percentage of

copper with the same mass of lead shows that the environmental impacts actually decrease, since copper contributes more significantly across all impact categories required by the EPD and the relevant PCR. Therefore, it is conservative and methodologically sound for this study not to explicitly include the lead percentage contained within the brass alloy. No other hazardous or toxic substances are intentionally added or present above the relevant threshold limits in the formulation of the products.

| Hazardous substances from the candidate list of SVHC | EC No.    | CAS No.   | Mass-% per product or declared unit |
|--|-----------|-----------|-------------------------------------|
| CuZn40Pb2 – BRASS CW 617                             | 231-100-4 | 7439-92-1 | 0,908%                              |

- Other information on substances with hazardous and toxic properties: The declared biogenic carbon content is conservatively set to zero, as no biogenic materials are present in the composition of the electronic water meter. Likewise, no recycled materials are currently used in the formulation of the products or the packaging. The packaging accounts for less than 18% of the total product weight.
- The declared share of biogenic/recycled materials: Less than 1% of materials in the composition of the meter are from recycled materials. The quantity of biogenic C content in the packaging is 0,087 kg C per product, equivalent to almost 10% of the total product weight. 1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO<sub>2</sub>.

## LCA INFORMATION

Declared unit: 1 unit of water meter, with or without communication module.

Conversion factor to mass if mass is not used as functional/declared unit: 0,84 kg (packaging included)

Reference service life: 13 years

Time representativeness: Primary data was collected internally. The production data refers to the average of the year 2024 (January 2024 – December 2024).

Geographical scope: A1- A3, A4 Global; A5 EU 27, B2, B6 Global; C1-C3 EU 27; D EU 27.

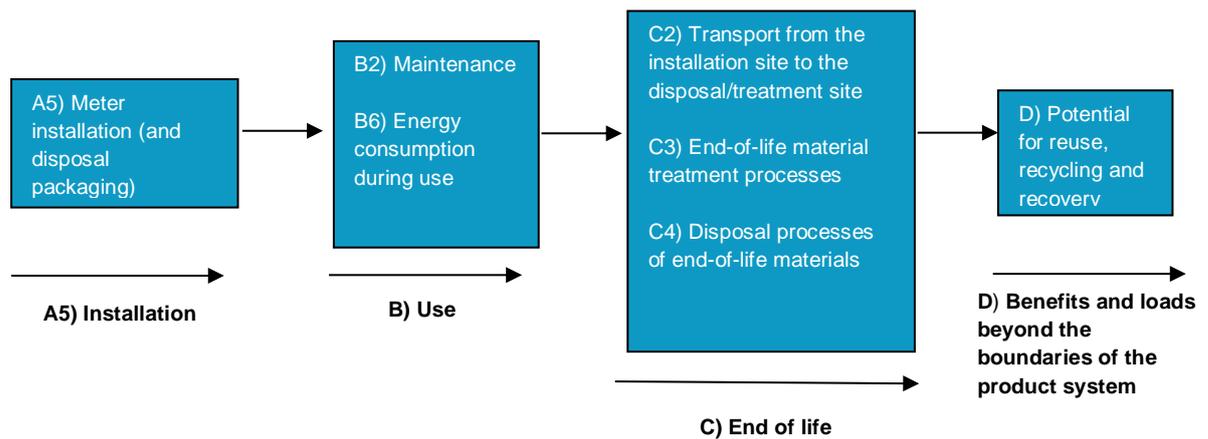
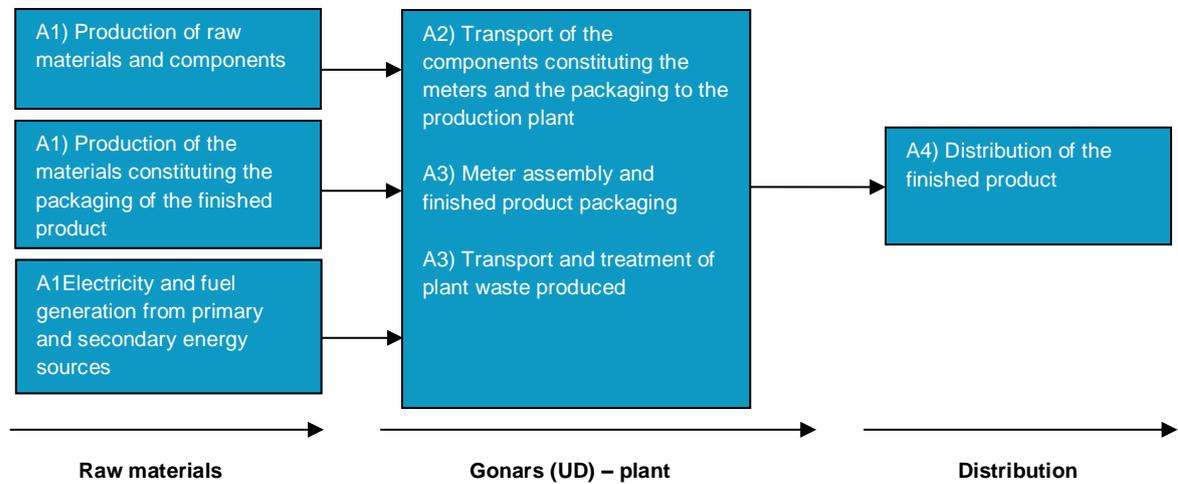
Database and LCA software used: The calculation model used is Sima Pro vers.10.2 and the database used is Ecoinvent 3.11.

Description of system boundaries:

The study conducted is of the type: **“cradle-to-grave” (and module D) EPD (declared unit)**. Modules B1, B3, B4, B5 and B7 have been excluded from the boundaries of the system as they are not applicable for the type of product under study

Process flow diagram:

Process flow diagram of the product system are showed in the following scheme:



More information:

The electricity used in the production process (module A3) is supplied by the national grid and partially sourced from the self-consumption of the photovoltaic system installed on the roof of the Gonars facility. For the reporting year 2024, the electricity supply was modelled using the Italian residual mix, with a corresponding climate impact of **0.676 kg CO<sub>2</sub> eq per kWh** according to the GWP-GHG indicator.

A data quality assessment was conducted in accordance with the requirements of GPI5 and the PCR 2019:03, covering at least 80% of the contributions to the environmental impact indicators. Primary data were collected from B Meters S.r.l. production site for the reference year 2024. Secondary data were sourced mainly from the Ecoinvent v3.11 database. Since the main raw materials are modelled through generic datasets rather than product-specific EPDs, the overall share of primary data contributing to the GWP-GHG results for modules A1–A3 is below 90%, amounting to **1,12%**.

| Process                                     | Source Type    | Source / Version | Reference year | Data category  | Primary Data Share |
|---|----------------|------------------|----------------|----------------|--------------------|
| <b>Electricity consumption</b>              | Database       | B Meters S.r.l.  | 2024           | Primary data   | 0,89%              |
| <b>Water consumption</b>                    | Data collected | B Meters S.r.l.  | 2024           | Primary data   | 0%                 |
| <b>Transport of incoming components</b>     | Database       | Ecoinvent v3.11  | 2024           | Primary data   | 0,23%              |
| <b>Brass production</b>                     | Database       | Ecoinvent v3.11  | 2024           | Secondary data | 0%                 |
| <b>Electronic board production</b>          | Database       | Ecoinvent v3.11  | 2024           | Secondary data | 0%                 |
| <b>Lithium manganese battery production</b> | Database       | Ecoinvent v3.11  | 2024           | Secondary data | 0%                 |
| <b>Production of other components</b>       | Data collected | Ecoinvent v3.11  | 2024           | Secondary data | 0%                 |
|   |                |                  |                | <b>TOTAL</b>   | <b>1,12%</b>       |

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

| Module                | Product stage       |           |               | Distribution/ installation stage |                           | Use stage |             |        |             |               |                        |                       | End-of-life stage          |           |                  |          | Beyond product life cycle          |  |
|-----------------------|---------------------|-----------|---------------|----------------------------------|---------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|--|
|                       | Raw material supply | Transport | Manufacturing | Transport                        | Construction installation | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |  |
| Module                | A1                  | A2        | A3            | A4                               | A5                        | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D                                  |  |
| Modules declared      | x                   | x         | x             | x                                | x                         | ND        | x           | ND     | ND          | ND            | x                      | ND                    | x                          | x         | x                | x        | x                                  |  |
| Geography             | Global              | Global    | Global        | Global                           | EU 27                     |           | Global      |        |             |               | Global                 |                       | EU 27                      | EU 27     | EU 27            | EU 27    | EU 27                              |  |
| Share of primary data | 1,12%               |           |               |                                  |                           |           |             |        |             |               |                        |                       |                            |           |                  |          |                                    |  |
| Variation – products  | 90%-142%            |           |               |                                  |                           |           |             |        |             |               |                        |                       |                            |           |                  |          |                                    |  |
| Variation – sites     | 0%                  |           |               |                                  |                           |           |             |        |             |               |                        |                       |                            |           |                  |          |                                    |  |

Modules/processes/life-cycle stages declared shall be noted with “X”.

Modules/processes/life-cycle stages not declared shall be marked as “ND”.

Geographical scope shall be reported by the country code(s) (e.g., UK, FR, DE) and/or name of the region(s) (e.g., EU 27, Global).

A variation of 0% shall be reported in EPDs of one product or site.

For the use stage, the following modules are Not Declared (N.D.) as they are not relevant for the product types assessed in this LCA study: B1, B3, B4, B5, B7.

Module B2 (Maintenance) is included but results in zero impact. All B Meters products analysed have a 10-year warranty, ensuring that no maintenance is required during their entire service life. At the end of life, the meter is simply replaced with a new unit.

Module B6 (Operational energy use) is included but also results in zero impact. Electronic meters include a lithium–manganese battery whose lifetime matches the service life of the device; thus, no external electricity is consumed. The embedded energy and impacts of the battery have already been accounted for in Module A1.

## ENVIRONMENTAL PERFORMANCE

### LCA results of the product(s) - main environmental performance results

#### Mandatory impact category indicators according to EN 15804

| PARAMETER  | UNIT                  | A1-A3                       | A4             | A5            | B2            | B6       | C1       | C2       | C3            | C4            | D             |          |                |
|--|-----------------------|-----------------------------|----------------|---------------|---------------|----------|----------|----------|---------------|---------------|---------------|----------|----------------|
| Global warming potential (GWP)                   | Fossil                | kg CO <sub>2</sub> eq       | 13,4846        | 0,1731        | 0,0044        | 0        | 0        | 0        | 0,0106        | 0,1712        | 0,0535        | -        | 10,6417        |
|  | Biogenic              | kg CO <sub>2</sub> eq       | 0,5769         | 0,0012        | 0,1194        | 0        | 0        | 0        | 0,0001        | 0,0002        | 0,0022        | -        | 0,4146         |
|  | Land use              | kg CO <sub>2</sub> eq       | 0,0272         | 0,0001        | <0,0001       | 0        | 0        | 0        | <0,0001       | <0,0001       | <0,0001       | -        | 0,0219         |
|  | <b>TOTAL</b>          | <b>kg CO<sub>2</sub> eq</b> | <b>14,0887</b> | <b>0,1744</b> | <b>0,1238</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0,0107</b> | <b>0,1714</b> | <b>0,0557</b> | <b>-</b> | <b>11,0782</b> |
| Acidification potential (AP)                     | mol H <sup>+</sup> eq | 0,2458                      | 0,0006         | <0,0001       | 0             | 0        | 0        | <0,0001  | 0,0001        | 0,0001        | -             | 0,2220   |                |
| Eutrophication potential, marine                 | kg N eq               | 0,0228                      | 0,0002         | 0,0001        | 0             | 0        | 0        | <0,0001  | <0,0001       | 0,0001        | -             | 0,0192   |                |
| Eutrophication potential, freshwater             | kg P eq               | 0,0234                      | <0,0001        | <0,0001       | 0             | 0        | 0        | <0,0001  | <0,0001       | <0,0001       | -             | 0,0208   |                |
| Eutrophication potential, terrestrial            | mol N eq              | 0,2661                      | 0,0020         | 0,0001        | 0             | 0        | 0        | 0,0001   | 0,0003        | 0,0002        | -             | 0,2291   |                |
| Photochemical oxidant formation potential (POFP) | kg NMVOC eq           | 0,0893                      | 0,0008         | <0,0001       | 0             | 0        | 0        | 0,0001   | 0,0001        | <0,0001       | -             | 0,0757   |                |
| Abiotic depletion potential - Elements           | kg Sb eq              | 0,0043                      | <0,0001        | 0             | 0             | 0        | 0        | 0        | 0             | 0             | -             | 0,0039   |                |

|  |   |          |        |        |   |   |   |        |        |        |   |          |
|--|---|----------|--------|--------|---|---|---|--------|--------|--------|---|----------|
| Abiotic depletion potential - Fossil fuels | MJ, net calorific value   | 184,1185 | 2,4550 | 0,0526 | 0 | 0 | 0 | 0,1505 | 0,0821 | 0,1160 | - | 143,0890 |
| Water scarcity potential                   | m <sup>3</sup> eq   | 5,9033   | 0,0095 | 0,0020 | 0 | 0 | 0 | 0,0006 | 0,0058 | 0,0029 | - | 4,9860   |
| Acronyms                                   | GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption |          |        |        |   |   |   |        |        |        |   |          |

\* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

The EPD shall include a statement, in connection to the results of the impact indicators: "The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks."

The following statement, if the EPD covers the end-of-life stage: "The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3)." For services, "A1-A3" shall be replaced by "A1-A5".

If results based on an old EF version is used to develop an EPD, the EPD shall include a statement that clarifies that an EPD based on an old EF version has been used as a data source, and that this was assessed to yield identical or conservative results compared to fully using the current EF version.

If biogenic carbon leaving the product system in module A5 (see Annex 2 of PCR) or recovered energy leaving the product system in modules A5 or C (see Annex 3 of PCR) have been balanced out already in modules A1-A3, a statement in this regard shall be included.

### Additional mandatory and voluntary impact category indicators

| PARAMETER | UNIT                  | A1 -A3  | A4     | A5     | B2 | B6 | C1 | C2     | C3     | C4     | D        |
|-----------|-----------------------|---------|--------|--------|----|----|----|--------|--------|--------|----------|
| GWP-GHG** | kg CO <sub>2</sub> eq | 13,5564 | 0,1732 | 0,0610 | 0  | 0  | 0  | 0,0106 | 0,1712 | 0,0541 | -10,6888 |

\*\*This indicator takes into account all greenhouse gases, with the exception of the uptake and emissions of biogenic carbon dioxide and biogenic carbon stored in the product. Therefore, the indicator is identical to the GWP-total, except that the CF for biogenic CO<sub>2</sub> is set to zero.

## Resource use indicators

| PARAMETER                                   |   | UNIT                           | A1-A3           | A4            | A5            | B2       | B6       | C1       | C2            | C3            | C4            | D                |
|---|---|--------------------------------|-----------------|---------------|---------------|----------|----------|----------|---------------|---------------|---------------|------------------|
| Primary energy resources<br>- Renewable     | Use as energy carrier   | MJ, net calorific value        | 23,8156         | 0,0387        | 0,0019        | 0        | 0        | 0        | 0,0024        | 0,0059        | 0,0240        | -20,4895         |
|   | Used as raw materials   | MJ, net calorific value        | 2,2725          | 0             | 0             | 0        | 0        | 0        | 0             | 0             | 0             | 0                |
|   | <b>TOTAL</b>  | <b>MJ, net calorific value</b> | <b>26,0881</b>  | <b>0,0387</b> | <b>0,0019</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0,0024</b> | <b>0,0059</b> | <b>0,0240</b> | <b>-20,4895</b>  |
| Primary energy resources<br>- Non-renewable | Use as energy carrier   | MJ, net calorific value        | 108,8598        | 2,4551        | 0,0526        | 0        | 0        | 0        | 0,1505        | 0,0821        | 0,1160        | -143,0980        |
|   | Used as raw materials   | MJ, net calorific value        | 75,2705         | 0             | 0             | 0        | 0        | 0        | 0             | 0             | 0             | 0                |
|   | <b>TOTAL</b>  | <b>MJ, net calorific value</b> | <b>184,1304</b> | <b>2,4551</b> | <b>0,0526</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0,1505</b> | <b>0,0821</b> | <b>0,1160</b> | <b>-143,0980</b> |
| Secondary material                          | kg  | 0,8360                         | 0               | 0             | 0             | 0        | 0        | 0        | 0             | 0             | 0             | 0                |
| Renewable secondary fuels                   | MJ  | 0                              | 0               | 0             | 0             | 0        | 0        | 0        | 0             | 0             | 0             | 0                |
| Non-renewable secondary fuels               | MJ  | 0                              | 0               | 0             | 0             | 0        | 0        | 0        | 0             | 0             | 0             | 0                |
| Net use of fresh water                      | m <sup>3</sup>  | 0,1731                         | 0,0003          | 0             | 0             | 0        | 0        | 0        | 0             | 0,0003        | 0             | -0,1439          |
| Acronyms                                    | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re- |                                |                 |               |               |          |          |          |               |               |               |                  |

|  |   |
|--|---|
|  | sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water |
|--|---|

### Waste indicators

| PARAMETER                    | UNIT | A1-A3  | A4     | A5     | B2 | B6 | C1 | C2     | C3     | C4     | D       |
|------------------------------|------|--------|--------|--------|----|----|----|--------|--------|--------|---------|
| Hazardous waste disposed     | kg   | 0,0310 | 0,0001 | 0,0003 | 0  | 0  | 0  | 0,0000 | 0,0031 | 0,0011 | -0,0171 |
| Non-hazardous waste disposed | kg   | 1,1473 | 0,1177 | 0,0411 | 0  | 0  | 0  | 0,0072 | 0,0021 | 0,0385 | -0,9101 |
| Radioactive waste disposed   | kg   | 0,0004 | 0      | 0      | 0  | 0  | 0  | 0      | 0      | 0      | -0,0003 |

### Different scenarios for module C1-C4 and D

The following tables show the impacts associated with different waste management scenarios: 100% landfilling, 100% recycling, and 100% incineration, in compliance with the PCR.

| SCENARIO                       |              |                             | 100% RECYCLE |        |        |    |   | 100% LANDFILL |        |    |        |   | 100% INCINERATION |        |    |        |   |
|--------------------------------|--------------|-----------------------------|--------------|--------|--------|----|---|---------------|--------|----|--------|---|-------------------|--------|----|--------|---|
| PARAMETER                      |              | UNIT                        | C1           | C2     | C3     | C4 | D | C1            | C2     | C3 | C4     | D | C1                | C2     | C3 | C4     | D |
| Global warming potential (GWP) | Fossil       | kg CO <sub>2</sub> eq       | 0            | 0,0106 | 0,1713 | 0  | - | 0             | 0,0106 | 0  | 0,2153 | 0 | 0                 | 0,0106 | 0  | 0,3496 | 0 |
|                                | Biogenic     | kg CO <sub>2</sub> eq       | 0            | 0,0001 | 0,0002 | 0  | - | 0             | 0,0001 | 0  | 0,0123 | 0 | 0                 | 0,0001 | 0  | 0,1354 | 0 |
|                                | Land use     | kg CO <sub>2</sub> eq       | 0            | 0,0000 | 0,0000 | 0  | - | 0             | 0,0000 | 0  | 0,0001 | 0 | 0                 | 0,0000 | 0  | 0,0000 | 0 |
|                                | <b>TOTAL</b> | <b>kg CO<sub>2</sub> eq</b> | 0            | 0,0107 | 0,1714 | 0  | - | 0             | 0,0107 | 0  | 0,2277 | 0 | 0                 | 0,0107 | 0  | 0,4850 | 0 |
| Acidification potential (AP)   |              | mol H+ eq                   | 0            | 0,0000 | 0,0001 | 0  | - | 0             | 0,0000 | 0  | 0,0007 | 0 | 0                 | 0,0000 | 0  | 0,0002 | 0 |

|  |  |   |        |        |   |   |          |   |        |   |        |   |   |        |   |        |   |
|--|--|---|--------|--------|---|---|----------|---|--------|---|--------|---|---|--------|---|--------|---|
| Eutrophication potential, marine                 | kg N eq  | 0 | 0,0000 | 0,0000 | 0 | - | 0,0216   | 0 | 0,0000 | 0 | 0,0003 | 0 | 0 | 0,0000 | 0 | 0,0002 | 0 |
| Eutrophication potential, freshwater             | kg P eq  | 0 | 0,0000 | 0,0000 | 0 | - | 0,0225   | 0 | 0,0000 | 0 | 0,0000 | 0 | 0 | 0,0000 | 0 | 0,0000 | 0 |
| Eutrophication potential, terrestrial            | mol N eq   | 0 | 0,0001 | 0,0003 | 0 | - | 0,2537   | 0 | 0,0001 | 0 | 0,0012 | 0 | 0 | 0,0001 | 0 | 0,0008 | 0 |
| Photochemical oxidant formation potential (POFP) | kg NMVOC eq  | 0 | 0,0001 | 0,0001 | 0 | - | 0,0852   | 0 | 0,0001 | 0 | 0,0004 | 0 | 0 | 0,0001 | 0 | 0,0002 | 0 |
| Abiotic depletion potential - Elements           | kg Sb eq   | 0 | 0,0000 | 0,0000 | 0 | - | 0,0043   | 0 | 0,0000 | 0 | 0,0000 | 0 | 0 | 0,0000 | 0 | 0,0000 | 0 |
| Abiotic depletion potential - Fossil fuels       | MJ, net calorific value  | 0 | 0,1505 | 0,0830 | 0 | - | 168,6197 | 0 | 0,1505 | 0 | 1,1046 | 0 | 0 | 0,1505 | 0 | 0,2545 | 0 |
| Water scarcity potential                         | m <sup>3</sup> eq  | 0 | 0,0006 | 0,0058 | 0 | - | 5,5832   | 0 | 0,0006 | 0 | 0,0307 | 0 | 0 | 0,0006 | 0 | 0,0230 | 0 |
| Acronyms   | <p>GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&amp;metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption</p> |   |        |        |   |   |          |   |        |   |        |   |   |        |   |        |   |

## Additional LCA results (other environmental performance results) of the product(s)

| PARAMETER  |          | UNIT                    | A1 - A3    |
|--|----------|-------------------------|------------|
| Global warming potential (GWP)                   | Fossil   | kg CO <sub>2</sub> eq   | 90% - 141% |
|  | Biogenic | kg CO <sub>2</sub> eq   | 87% - 162% |
|  | Land use | kg CO <sub>2</sub> eq   | 87% - 133% |
| Acidification potential (AP)                     |          | mol H <sup>+</sup> eq   | 86% - 217% |
| Eutrophication potential, marine                 |          | kg N eq                 | 89% - 171% |
| Eutrophication potential, freshwater             |          | kg P eq                 | 86% - 199% |
| Eutrophication potential, terrestrial            |          | mol N eq                | 88% - 180% |
| Photochemical oxidant formation potential (POFP) |          | kg NMVOC eq             | 88% - 168% |
| Abiotic depletion potential - Elements           |          | kg Sb eq                | 85% - 188% |
| Abiotic depletion potential - Fossil fuels       |          | MJ, net calorific value | 90% - 143% |
| Water scarcity potential                         |          | m <sup>3</sup> eq       | 87% - 187% |

The observed variation across the additional environmental impact indicators (ranging from approximately 90% to 142% on the GWP-GHG indicator) exceeds 10%. Nevertheless, this broader range is technically justified by the broad diversity of electronic water meters included in the declaration. The product portfolio spans multiple meter sizes and configurations, with total meter weights reaching well above 1 kg in the upper range. This results in substantial differences in the overall material intensity of the meters, which in turn drives the observed variability in environmental impacts. The variation therefore reflects the intrinsic heterogeneity of the product family.

## ADDITIONAL INFORMATION

EPDs within the same product category, but from different programs may not be comparable.

The final results refer to the declared unit and do not take into account the life time of the product.

The final results for products with different life spans cannot be compared.

The owner of this EPD has sole ownership, responsibility and responsibility for it.

This Environmental Product Declaration and further information about it are available on the website of "The International EPD System": [www.environdec.com](http://www.environdec.com). Programme Operator Address: EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: [support@environdec.com](mailto:support@environdec.com).

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## ABBREVIATIONS

| Abbreviation                 | Definition  |
|------------------------------|---|
| <b>General Abbreviations</b> |   |
| EN                           | European Norm (Standard)  |
| EF                           | Environmental Footprint   |
| GPI                          | General Programme Instructions  |
| ISO                          | International Organization for Standardization                          |
| CEN                          | European Committee for Standardization                                  |
| CLC                          | Co-location centre  |
| CPC                          | Central product classification  |
| GHS                          | Globally harmonized system of classification and labelling of chemicals |
| GRI                          | Global Reporting Initiative   |
| SVHC                         | Substances of Very High Concern   |
| ND                           | Not Declared  |

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## VERSION HISTORY

**Original Version of the EPD, 2025-12-12**

