



## ENVIRONMENTAL PRODUCT DECLARATION

# SITRANS FM520

## Index

Type II according to ISO 14021 including life cycle impact assessment (LCIA)

The Environmental Product Declaration set for SITRANS FM520 consists of 4 declarations, which are bundled together in this file

Please refer to this index for using the correct EPD

| Siemens MLFB roots          | Applicable EPD (page reference inside this PDF) |
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| 7ME6532-aa***-****          |                                                 |
| aa = 2Y (DN50)              | <a href="#">EPD30034.01</a><br>(pages 2ff.)     |
| aa = 3F .. 5B (DN65-300)    | <a href="#">EPD30003.01</a><br>(pages 8ff.)     |
| aa = 5D .. 6K (DN350-900)   | <a href="#">EPD30004.01</a><br>(pages 14ff.)    |
| aa = 6Y .. 8D (DN1000-2200) | <a href="#">EPD30036.01</a><br>(pages 20ff.)    |





ENVIRONMENTAL PRODUCT DECLARATION

**SITRANS FM520 DN50**

**7ME6532-2YC12-1GA3-Z A00**

Type II according to ISO 14021 including life cycle impact assessment (LCIA)



**SIEMENS**

# General information

This environmental product declaration (EPD) is based on the international standard ISO 14021 ("Environmental labels and declarations – Self declared environmental claims – Type II environmental labelling"). The data in this EPD has been evaluated on a full-scale life cycle assessment (LCA) study according to ISO 14040/44, taking into account the product category rules (PCR) for electronic and electrotechnical products and systems defined in EN 50693.

Siemens is dedicated to an environmentally conscious design of its products in line with IEC 62430 and has implemented an integrated management system according to ISO 9001, ISO 14001 and ISO 45001.

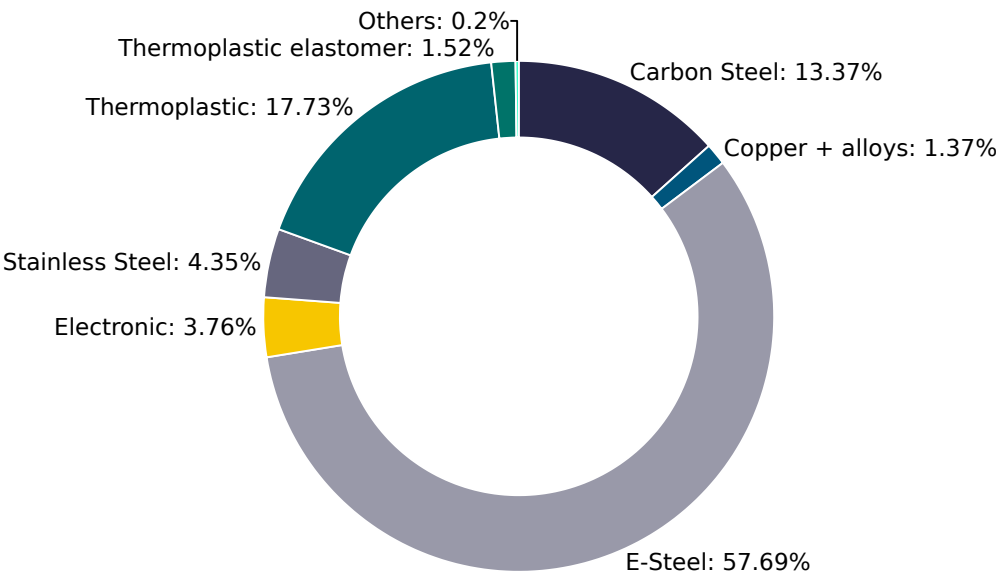
|                                      |                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Products                             | 7ME6532-2YC12-1GA3-Z A00                                                                                                                                                                                                                                                                                                                               |
| Represented by the reference product | 7ME6532-2YC12-1GA3-Z A00                                                                                                                                                                                                                                                                                                                               |
| Product Description                  | Electromagnetic flow meter, flanged, diameter DN 15 to to DN 1200 (1/2" to 48") for measuring the volume flowrate of liquids which have an electrical conductivity greater than 5 µS/cm. Suitable for applications in the areas of water extraction, water and water and wastewater treatment, water distribution networks, custody transfer metering. |
| Functional Unit                      | Production of 1 SITRANS FM520 DN50 and use over the reference service lifetime of 10 years. <sup>1</sup>                                                                                                                                                                                                                                               |

<sup>1</sup> The lifetime value used for calculation is a reference value and does not equate with the minimum, average or real life time.

# Material composition

The following chart outlines the overall material composition of the calculated reference product without packaging. Product weight of 9.01 kg adds up with packaging weight of 3.31 kg to a total weight of 12.32 kg. Packaging consists of: Screws (galvanized), Corrugated box (average composition), Graphic paper, PE film.

Product Weight 9.01 kg



# Substance assessment

At Siemens, we are committed to the development and production of environmentally sound and sustainably produced equipment. This includes avoiding hazardous substances in our products without compromising their benefits for our customers. Please visit the following website to learn more about how we comply with product-related environmental regulations like RoHS, REACH, WEEE and others: [Product Related Environmental Protection](#)

## Life cycle stages and reference scenarios

|                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Manufacturing</b><br><br>This stage covers the extraction of natural resources, production of raw materials, manufacturing, packaging, and transportation.                                                                                                                               | <br><b>Distribution and Operation</b><br><br>This stage covers the product's distribution, installation, use, and maintenance. Different operating conditions can lead to deviations from the reference scenario. | <br><b>End-of-Life</b><br><br>This stage covers the disassembly or shredding and material recycling of all recyclable materials, as well as energy recovery, thermal treatment and the disposal of all other materials. |
| <b>Scenarios</b>                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |
| <b>Energy model used:</b><br>Romania (standard mix), Europe (District heating), France (Thermal energy from natural gas), China (standard mix), France (renewable mix), Europe (standard mix), Romania (Thermal energy from natural gas), United States (standard mix)<br><br><b>Transportation model:</b><br>Truck-trailer (GLO), 34-40t gross weight, 3500 km default distance | <b>Energy model used:</b><br>Europe (standard mix)<br><br><b>Distribution scenario:</b><br>Truck-trailer (34-40 t) 3500 km<br><br><b>Use Scenario:</b><br>6.3 W full load, 100% service uptime: reference lifetime 10 years                                                                        | <b>Energy model used:</b><br>EMEA<br><br><b>End-of-Life methodology:</b><br>Modeled according to Cut-off methodology.                                                                                                                                                                                      |

# Key environmental performance indicators

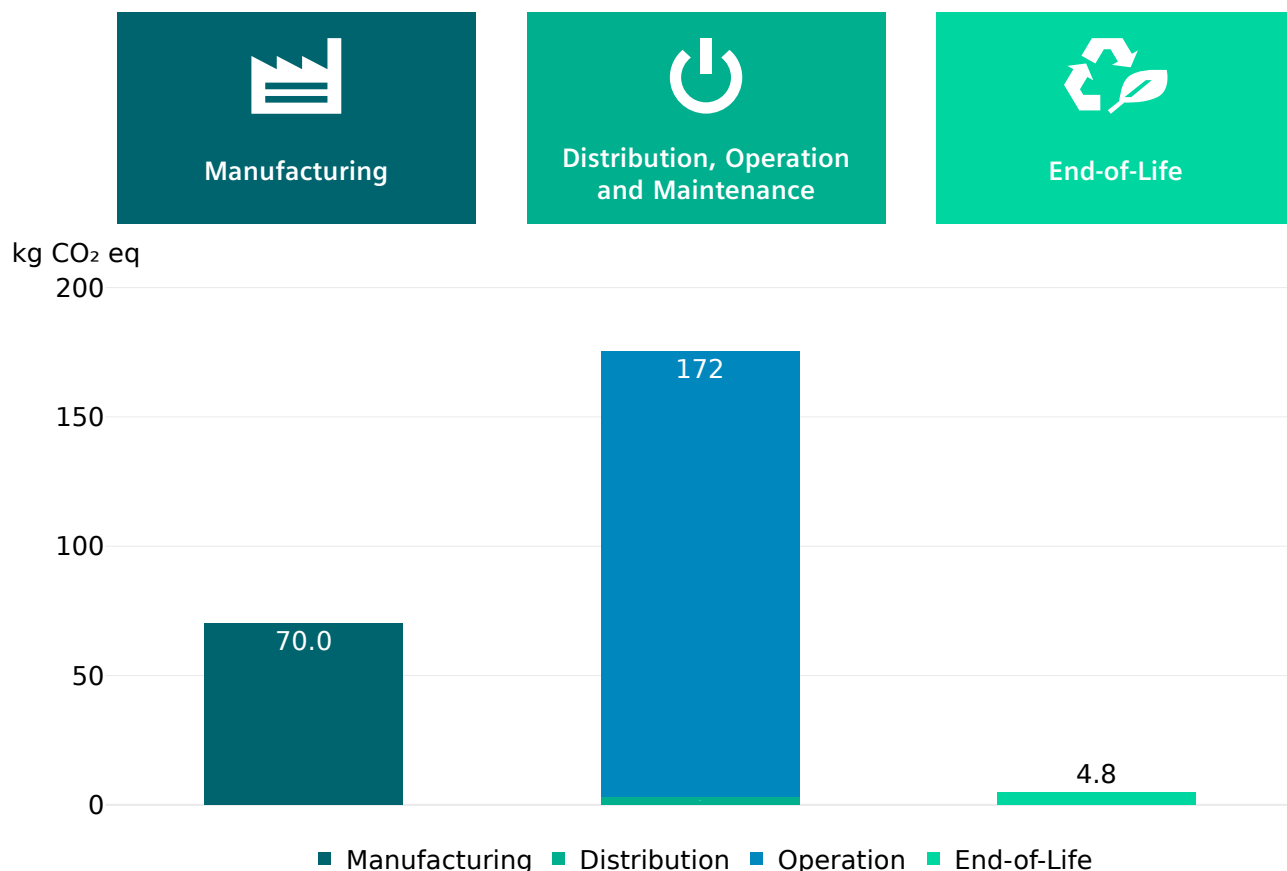
The following impact categories characterize the product's environmental footprint. They have been calculated with LCIA methodology EF3.1; LCA tool: Green Digital Twin (GDT), Database: One Siemens LCA Database (based on MLC CUP 2023.2, formerly GaBi).

To ensure the high quality and completeness of the LCA results, Primary Data have been used whenever possible. Datasets for resources, such as electrical energy or natural gas, are chosen from the region where the device is produced and assembled. If primary data are not available, datasets reflecting state-of-the-art manufacturing technology are considered.

| Impact Category                              | Unit                                   | Total   | Manufacturing | Distribution | Operation | End-of-life |
|----------------------------------------------|----------------------------------------|---------|---------------|--------------|-----------|-------------|
| Acidification                                | Mole of H+ eq                          | 1.04E+1 | 1.00E+1       | 3.97E-3      | 3.64E-1   | 8.83E-4     |
| Climate change – total                       | kg CO <sub>2</sub> eq                  | 2.50E+2 | 7.00E+1       | 3.10E+0      | 1.72E+2   | 4.80E+0     |
| Climate change – fossil                      | kg CO <sub>2</sub> eq                  | 2.48E+2 | 6.93E+1       | 3.06E+0      | 1.71E+2   | 4.80E+0     |
| Climate change – biogenic                    | kg CO <sub>2</sub> eq                  | 2.21E+0 | 6.88E-1       | 8.30E-3      | 1.51E+0   | 6.00E-4     |
| Climate Change, land use and land use change | kg CO <sub>2</sub> eq                  | 9.19E-2 | 7.32E-2       | 2.86E-2      | 1.86E-2   | 8.12E-5     |
| Ecotoxicity, freshwater – total              | CTUe                                   | 1.42E+3 | 3.91E+2       | 3.02E+1      | 9.98E+2   | 8.79E-1     |
| Eutrophication, freshwater                   | kg P eq                                | 9.49E-4 | 2.94E-4       | 1.13E-5      | 6.40E-4   | 2.82E-6     |
| Eutrophication, marine                       | kg N eq                                | 1.16E+0 | 1.07E+0       | 1.34E-3      | 8.72E-2   | 2.58E-4     |
| Eutrophication, terrestrial                  | Mole of N eq                           | 1.26E+1 | 1.17E+1       | 1.62E-2      | 9.11E-1   | 3.72E-3     |
| Human toxicity, cancer – total               | CTUh                                   | 3.83E-7 | 3.30E-7       | 6.12E-10     | 5.28E-8   | 7.85E-11    |
| Human toxicity, non-cancer – total           | CTUh                                   | 1.63E-6 | 7.59E-7       | 2.72E-8      | 8.41E-7   | 4.17E-9     |
| Ionising radiation, human health             | kBq U235 eq                            | 9.82E+1 | 3.57E+0       | 1.18E-2      | 9.46E+1   | 2.66E-2     |
| Land Use                                     | dimensionless (pt)                     | 1.77E+3 | 3.37E+2       | 1.76E+1      | 1.41E+3   | 5.84E-1     |
| Ozone depletion                              | kg CFC-11 eq                           | 6.04E-8 | 5.72E-8       | 4.02E-13     | 3.15E-9   | 1.01E-12    |
| Particulate matter                           | Disease incidences                     | 5.85E-5 | 5.54E-5       | 2.90E-8      | 3.06E-6   | 5.98E-9     |
| Photochemical ozone formation, human health  | kg NMVOC eq                            | 3.49E+0 | 3.25E+0       | 3.42E-3      | 2.33E-1   | 7.27E-4     |
| Resource use, fossils                        | MJ                                     | 4.58E+3 | 9.46E+2       | 4.21E+1      | 3.59E+3   | 2.42E+0     |
| Resource use, mineral and metals             | kg Sb eq                               | 7.37E-3 | 7.34E-3       | 2.05E-7      | 2.64E-5   | 9.53E-9     |
| Water use                                    | m <sup>3</sup> water eq deprived water | 5.07E+1 | 1.27E+1       | 3.74E-2      | 3.76E+1   | 4.19E-1     |

# Climate change

This chart shows the overall impact of the product on climate change – total. The operating phase is the lifecycle phase with the biggest overall impact. Different operating conditions can lead to deviations from the reference scenario.



## End-of-Life results

The end-of-life stage was modelled by shredding of the device, followed by sorting and material separation process.



It leads to:

- an overall **product recyclability of up to 73%** mainly due to metal content
- an **energy recoverability of up to 19%** from plastic materials
- a **minimum disposal rate of 8%**

The exact final values depend on the used recycling process and add up to 100%.

**Note:** The device should not be disposed of as unsorted municipal waste. Special treatment for specific components may be mandated by law or recommended for environmental reasons. Observe all local and applicable laws.

# Legal Disclaimer

This Environmental Product Declaration (EPD) is for information purposes only. It is based upon the standards mentioned above. This EPD does not warrant or guarantee the composition of a product or that the product will retain a particular composition for a particular period. Therefore, all warranties, representations, conditions, and all other terms of any kind whatsoever implied by statute or common law are – to the fullest extent permitted by applicable law – excluded.

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Please be aware that the data of this EPD cannot be compared with data calculated based upon product category rules (PCRs) other than the standards mentioned above. The values given are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

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## ENVIRONMENTAL PRODUCT DECLARATION

# **SITRANS FM520 DN100** **7ME6532-3TC12-1GA3-Z**

Type II according to ISO 14021 including life cycle impact assessment (LCIA)



# General information

This environmental product declaration (EPD) is based on the international standard ISO 14021 ("Environmental labels and declarations – Self declared environmental claims – Type II"). The data in this EPD has been evaluated on a full-scale life cycle assessment (LCA) study according to ISO 14040/44, taking into account the product category rules (PCR) for electronic and electrotechnical products and systems defined in EN 50693.

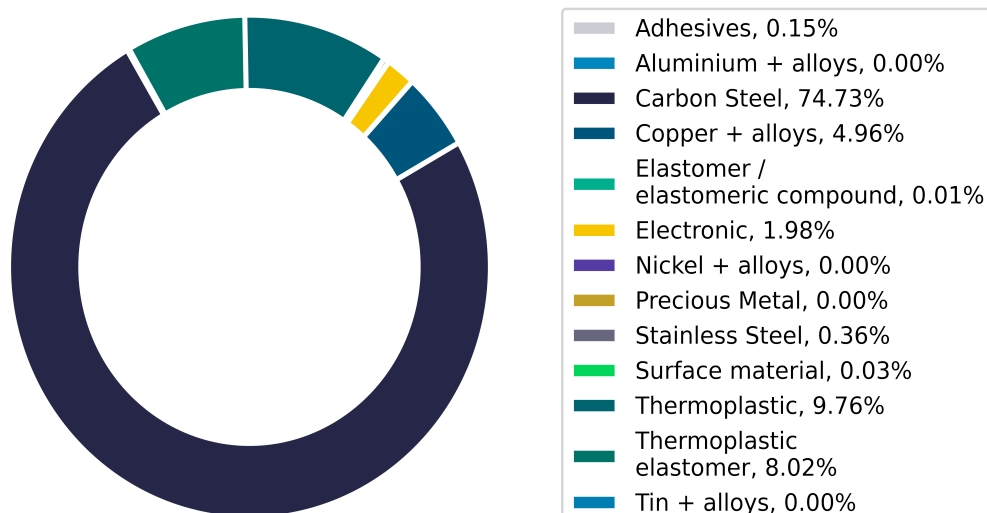
Siemens is dedicated to an environmentally conscious design of its products in line with IEC 62430 and has implemented an integrated management system according to ISO 9001, ISO 14001 and ISO 45001.

|                     |                                                                                                                                                                                                                                                                          |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Products            | <b>7ME653(A)-(BB)(C)(D)(E)-1(F)A(G)-Z</b><br><b>(A=0,2); (BB=3F,3M,4B,4H,4P,4V,5B); (C=A...W); (D=0,1);</b><br><b>(E=2,3); (F=A,G,J); (G=0,2,3)</b>                                                                                                                      |
| Represented by      | 7ME6532-3TC12-1GA3-Z A00                                                                                                                                                                                                                                                 |
| Product Description | Electromagnetic flow meter, flanged, diameter DN 15 to DN 1200 (1/2" to 48"). Suitable for volume flow measurement of liquids (conductive), for applications in water abstraction, water & wastewater treatment, water distribution networks, custody transfer metering. |
| Functional Unit     | Production of 1 SITRANS FM520 DN100 and use over the reference service lifetime of 10 years.                                                                                                                                                                             |

## Material composition

The following chart outlines the overall material composition of the calculated reference product. Product weight of 15.43 kg adds up with packaging weight of 3.03 kg to a total weight of 18.46 kg. Packaging consists of Box, Fixing material, Foil Film Wrap Bag Label, Paper.

### Product Weight 15.43 kg



# Substance assessment

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## Life cycle stages and reference scenarios



# Key environmental performance indicators

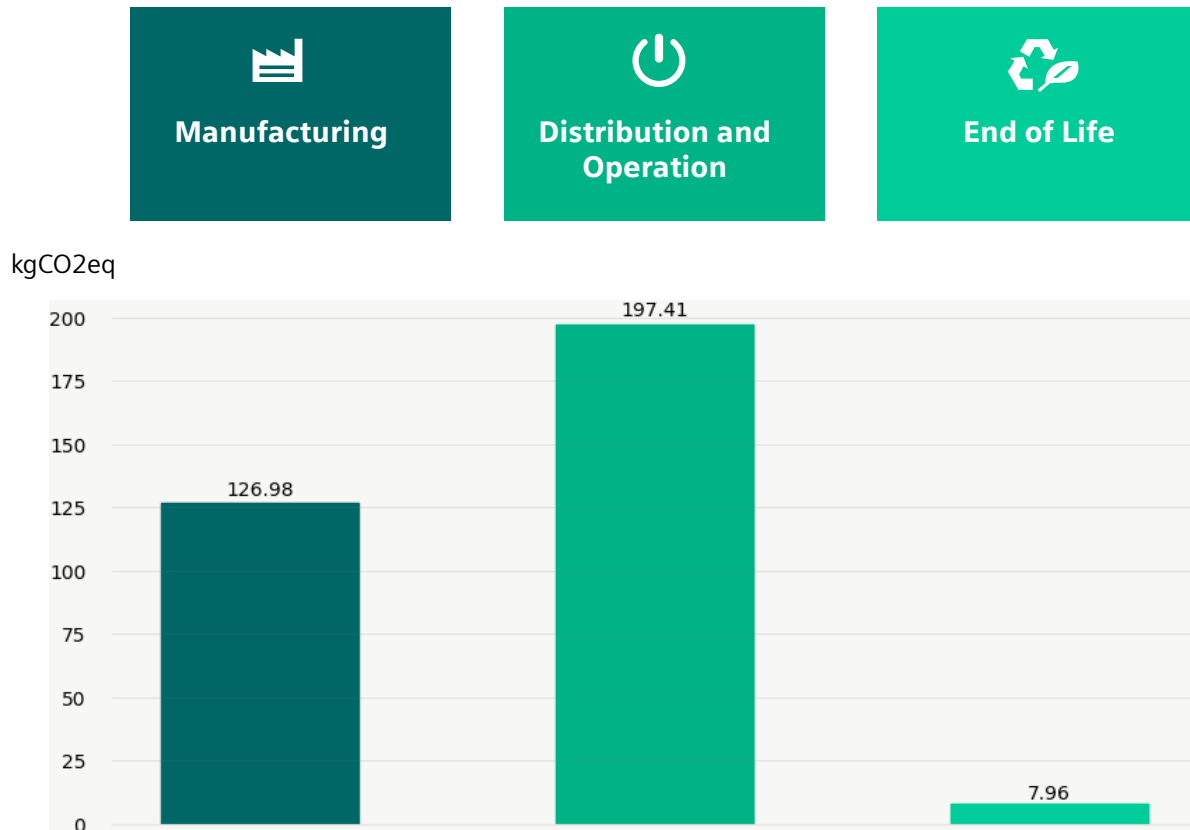
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To ensure the high quality and completeness of the LCA results, Primary Data have been used whenever possible. Datasets for resources, such as electrical energy or natural gas, are chosen from the region where the device is produced and assembled. If primary data are not available, datasets reflecting state-of-the-art manufacturing technology are considered.

| Impact Category                             | Unit                       | Total    | Manufacturing | Distribution | Operation | End of Life |
|---------------------------------------------|----------------------------|----------|---------------|--------------|-----------|-------------|
| Acidification                               | Mole of H+ eq              | 1.89E+01 | 1.85E+01      | 1.78E-04     | 4.28E-01  | 9.88E-04    |
| Climate change – total                      | kg CO2 eq                  | 3.32E+02 | 1.27E+02      | 1.61E-01     | 1.97E+02  | 7.96E+00    |
| Climate change – fossil                     | kg CO2 eq                  | 3.29E+02 | 1.26E+02      | 1.60E-01     | 1.95E+02  | 7.96E+00    |
| Climate change – biogenic                   | kg CO2 eq                  | 3.06E+00 | 1.29E+00      | 6.83E-04     | 1.76E+00  | -2.35E-04   |
| Ecotoxicity, freshwater – total             | CTUe                       | 2.25E+03 | 6.98E+02      | 1.51E+00     | 1.55E+03  | 9.23E-01    |
| Eutrophication, freshwater                  | kg P eq                    | 1.35E-03 | 7.75E-04      | 5.79E-07     | 5.73E-04  | 4.18E-06    |
| Eutrophication, marine                      | kg N eq                    | 2.07E+00 | 1.98E+00      | 5.64E-05     | 9.62E-02  | 2.49E-04    |
| Eutrophication, terrestrial                 | Mole of N eq               | 2.26E+01 | 2.16E+01      | 6.78E-04     | 1.01E+00  | 4.37E-03    |
| Human toxicity, cancer – total              | CTUh                       | 2.69E-07 | 2.24E-07      | 3.11E-11     | 4.45E-08  | 7.60E-11    |
| Human toxicity, non-cancer – total          | CTUh                       | 6.84E-06 | 5.20E-06      | 1.68E-09     | 1.63E-06  | 4.26E-09    |
| Ionising radiation, human health            | kBq U235 eq                | 9.92E+01 | 3.71E+00      | 5.99E-04     | 9.55E+01  | 1.30E-02    |
| Land Use                                    | dimensionless (pt)         | 3.10E+03 | 1.82E+03      | 9.01E-01     | 1.28E+03  | 3.75E-01    |
| Ozone depletion                             | kg CFC-11 eq               | 4.04E-08 | 3.75E-08      | 1.59E-14     | 2.87E-09  | 5.05E-13    |
| Particulate matter                          | Disease incidences         | 1.07E-04 | 1.03E-04      | 1.24E-09     | 3.55E-06  | 6.25E-09    |
| Photochemical ozone formation, human health | kg NMVOC eq                | 6.28E+00 | 6.01E+00      | 1.52E-04     | 2.60E-01  | 7.21E-04    |
| Resource use, fossils                       | MJ                         | 5.07E+03 | 1.53E+03      | 2.13E+00     | 3.54E+03  | 1.78E+00    |
| Resource use, mineral and metals            | kg Sb eq                   | 7.57E-03 | 7.51E-03      | 1.64E-08     | 5.35E-05  | 1.38E-08    |
| Water use                                   | m³ water eq deprived water | 8.33E+01 | 3.87E+01      | 1.81E-03     | 4.39E+01  | 6.75E-01    |

# Climate Change

This chart shows the overall impact of the product on climate change – total. The operations phase is the lifecycle phase with the biggest overall impact. Different operating conditions can lead to deviations from the reference scenario. The distribution stage of the reference product is not shown in the chart due to its relatively small contribution to climate change and its impact is included in the operation bar.



## End-of-Life results

The end-of-life stage was modelled by shredding of the device, followed by sorting and material separation process.

It leads to:

- **an overall product recyclability of up to 44%** mainly due to metal content
- **an energy recoverability of up to 16%** from plastic materials
- **a minimum disposal rate of 5%**

The exact final values depend on the used recycling process and add up to 100%.

**Note:** The device should not be disposed of as unsorted municipal waste. Special treatment for specific components may be mandated by law or recommended for environmental reasons. Observe all local and applicable laws.

# Legal Disclaimer

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Process Automation

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## ENVIRONMENTAL PRODUCT DECLARATION

# SITRANS FM520 DN500 7ME6532-5RB12-1GA3-Z

Type II according to ISO 14021 including life cycle impact assessment (LCIA)



# General information

This environmental product declaration (EPD) is based on the international standard ISO 14021 ("Environmental labels and declarations – Self declared environmental claims – Type II"). The data in this EPD has been evaluated on a full-scale life cycle assessment (LCA) study according to ISO 14040/44, taking into account the product category rules (PCR) for electronic and electrotechnical products and systems defined in EN 50693.

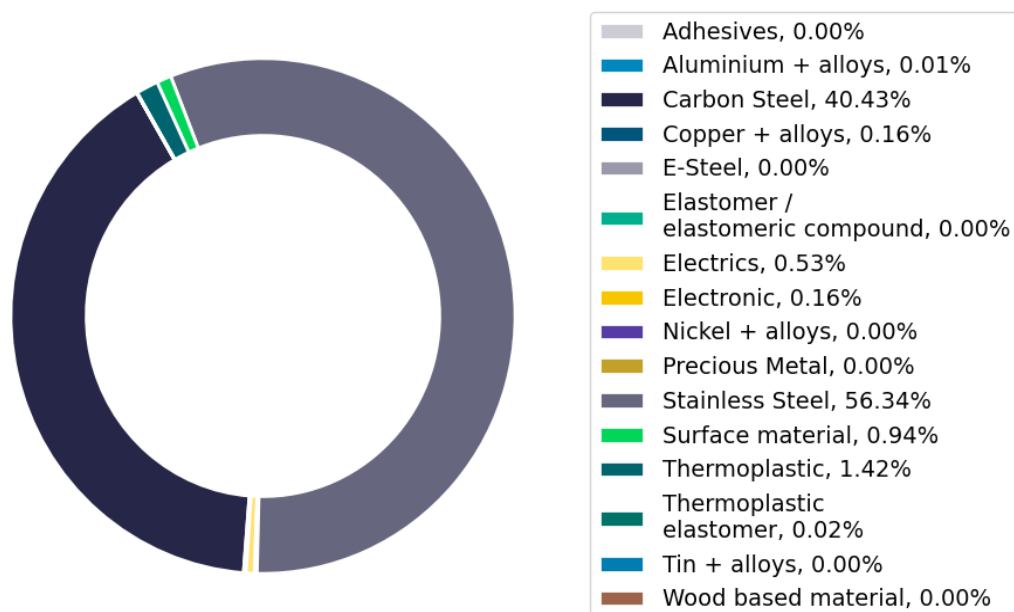
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|                     |                                                                                                                                                                                                                                                                          |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Products            | <b>7ME653(A)-(BB)(C)(D)(E)-1(F)A(G)-Z<br/>(A=0,2); (BB=5D,5H,5K,5Y,6B,6D,6H,6K); (C=A...W);<br/>(D=0,1); (E=2,3); (F=A,G,J); (G=0,2,3)</b>                                                                                                                               |
| Represented by      | 7ME6532-5RB12-1GA3-Z                                                                                                                                                                                                                                                     |
| Product Description | Electromagnetic flow meter, flanged, diameter DN 15 to DN 1200 (1/2" to 48"). Suitable for volume flow measurement of liquids (conductive), for applications in water abstraction, water & wastewater treatment, water distribution networks, custody transfer metering. |
| Functional Unit     | Production of 1 SITRANS FM520 DN500 and use over the reference service lifetime of 10 years.                                                                                                                                                                             |

## Material composition

The following chart outlines the overall material composition of the calculated reference product. Product weight of 188.48 kg adds up with packaging weight of 0.95 kg to a total weight of 189.43 kg. Packaging consists of Box, Fixing material, Foil Film Wrap Bag Label, Paper.

**Product Weight 188.48 kg**



# Substance assessment

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## Life cycle stages and reference scenarios



# Key environmental performance indicators

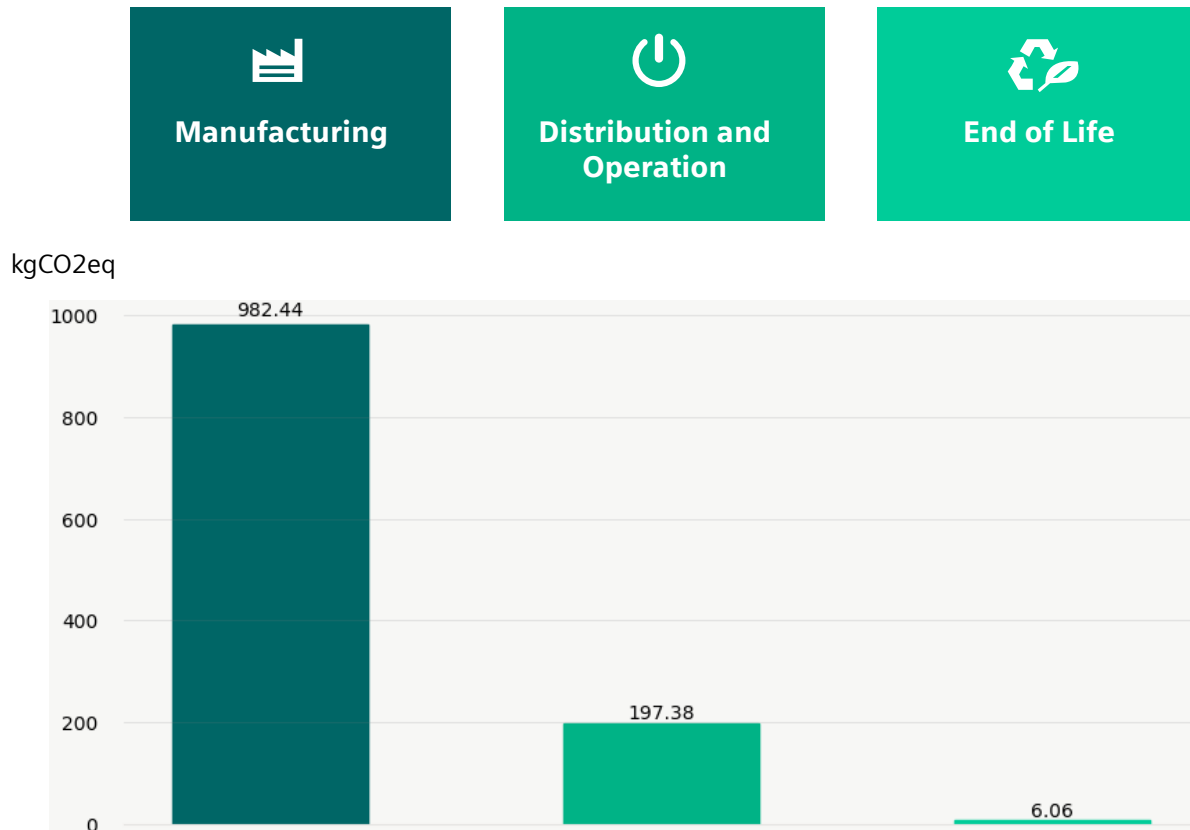
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To ensure the high quality and completeness of the LCA results, Primary Data have been used whenever possible. Datasets for resources, such as electrical energy or natural gas, are chosen from the region where the device is produced and assembled. If primary data are not available, datasets reflecting state-of-the-art manufacturing technology are considered.

| Impact Category                             | Unit                                   | Total     | Manufacturing | Distribution | Operation | End of Life |
|---------------------------------------------|----------------------------------------|-----------|---------------|--------------|-----------|-------------|
| Acidification                               | Mole of H+ eq                          | 5.77E+00  | 5.34E+00      | 2.95E-04     | 4.28E-01  | 2.85E-03    |
| Climate change – total                      | kg CO2 eq                              | 1.19E+03  | 9.82E+02      | 2.68E-01     | 1.97E+02  | 6.06E+00    |
| Climate change – fossil                     | kg CO2 eq                              | 1.18E+03  | 9.83E+02      | 2.65E-01     | 1.95E+02  | 6.06E+00    |
| Climate change – biogenic                   | kg CO2 eq                              | -6.77E-02 | -1.82E+00     | 1.13E-03     | 1.76E+00  | -6.39E-03   |
| Ecotoxicity, freshwater – total             | CTUe                                   | 7.09E+03  | 5.53E+03      | 2.51E+00     | 1.55E+03  | 3.68E+00    |
| Eutrophication, freshwater                  | kg P eq                                | 1.93E-03  | 1.36E-03      | 9.62E-07     | 5.73E-04  | 4.31E-06    |
| Eutrophication, marine                      | kg N eq                                | 9.91E-01  | 8.94E-01      | 9.37E-05     | 9.61E-02  | 7.31E-04    |
| Eutrophication, terrestrial                 | Mole of N eq                           | 1.07E+01  | 9.70E+00      | 1.13E-03     | 1.01E+00  | 9.00E-03    |
| Human toxicity, cancer – total              | CTUh                                   | 5.88E-05  | 5.88E-05      | 5.16E-11     | 4.45E-08  | 3.82E-10    |
| Human toxicity, non-cancer – total          | CTUh                                   | 1.55E-05  | 1.39E-05      | 2.80E-09     | 1.63E-06  | 3.57E-08    |
| Ionising radiation, human health            | kBq U235 eq                            | 1.71E+02  | 7.51E+01      | 9.95E-04     | 9.54E+01  | 4.25E-02    |
| Land Use                                    | dimensionless (pt)                     | 3.38E+03  | 2.09E+03      | 1.50E+00     | 1.28E+03  | 1.22E+00    |
| Ozone depletion                             | kg CFC-11 eq                           | 6.94E-07  | 6.91E-07      | 2.64E-14     | 2.86E-09  | 1.72E-12    |
| Particulate matter                          | Disease incidences                     | 8.87E-05  | 8.52E-05      | 2.06E-09     | 3.54E-06  | 2.69E-08    |
| Photochemical ozone formation, human health | kg NMVOC eq                            | 2.98E+00  | 2.72E+00      | 2.53E-04     | 2.60E-01  | 2.23E-03    |
| Resource use, fossils                       | MJ                                     | 1.56E+04  | 1.20E+04      | 3.54E+00     | 3.54E+03  | 1.10E+01    |
| Resource use, mineral and metals            | kg Sb eq                               | 2.07E-02  | 2.07E-02      | 2.73E-08     | 5.34E-05  | 6.44E-08    |
| Water use                                   | m <sup>3</sup> water eq deprived water | 4.19E+02  | 3.75E+02      | 3.01E-03     | 4.39E+01  | 4.64E-01    |

# Climate Change

This chart shows the overall impact of the product on climate change – total. The manufacturing phase is the lifecycle phase with the biggest overall impact. Different operating conditions can lead to deviations from the reference scenario. The distribution stage of the reference product is not shown in the chart due to its relatively small contribution to climate change and its impact is included in the operation bar.



## End-of-Life results

The end-of-life stage was modelled by shredding of the device, followed by sorting and material separation process.

It leads to:

- **an overall product recyclability of up to 49%** mainly due to metal content
- **an energy recoverability of up to 1%** from plastic materials
- **a minimum disposal rate of 4%**

The exact final values depend on the used recycling process and add up to 100%.

**Note:** The device should not be disposed of as unsorted municipal waste. Special treatment for specific components may be mandated by law or recommended for environmental reasons. Observe all local and applicable laws.

# Legal Disclaimer

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ENVIRONMENTAL PRODUCT DECLARATION

**SITRANS FM520 DN1000**

**7ME6532-6RB12-1GA3-Z A00**

Type II according to ISO 14021 including life cycle impact assessment (LCIA)



**SIEMENS**

# General information

This environmental product declaration (EPD) is based on the international standard ISO 14021 ("Environmental labels and declarations – Self declared environmental claims – Type II environmental labelling"). The data in this EPD has been evaluated on a full-scale life cycle assessment (LCA) study according to ISO 14040/44, taking into account the product category rules (PCR) for electronic and electrotechnical products and systems defined in EN 50693.

Siemens is dedicated to an environmentally conscious design of its products in line with IEC 62430 and has implemented an integrated management system according to ISO 9001, ISO 14001 and ISO 45001.

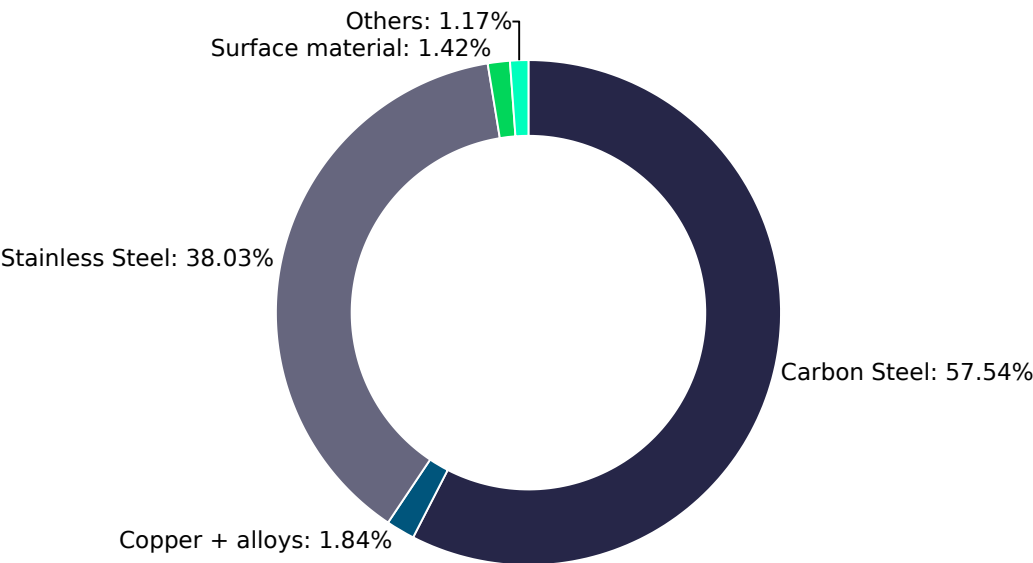
|                                      |                                                                                                                                                                                                                                                                          |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Products                             | 7ME653(A)-(BB)(C)(D)(E)-1(F)A(G)-Z<br>(A=0,2); (BB=6Y,7D,7H,7M,7R,7V,7Y,8D); (C=A...W); (D=0,1); (E=2,3);<br>(F=A,G,J); (G=0,2,3)                                                                                                                                        |
| Represented by the reference product | 7ME6532-6RB12-1GA3-Z A00                                                                                                                                                                                                                                                 |
| Product Description                  | Electromagnetic flow meter, flanged, diameter DN 15 to DN 1200 (1/2" to 48"). Suitable for volume flow measurement of liquids (conductive), for applications in water abstraction, water & wastewater treatment, water distribution networks, custody transfer metering. |
| Functional Unit                      | Production of 1 pc. SITRANS FM520 DN1000 and use over the reference service lifetime of 10 years. <sup>1</sup>                                                                                                                                                           |

<sup>1</sup> The lifetime value used for calculation is a reference value and does not equate with the minimum, average or real life time.

# Material composition

The following chart outlines the overall material composition of the calculated reference product without packaging. Product weight of 626.7 kg adds up with packaging weight of 76.92 kg to a total weight of 703.62 kg. Packaging consists of: Glued laminated timber, Corrugated box (average composition), Wooden pallet (single use), PE film, Screws (galvanized), Graphic paper.

Product Weight 626.7 kg



# Substance assessment

At Siemens, we are committed to the development and production of environmentally sound and sustainably produced equipment. This includes avoiding hazardous substances in our products without compromising their benefits for our customers. Please visit the following website to learn more about how we comply with product-related environmental regulations like RoHS, REACH, WEEE and others: [Product Related Environmental Protection](#)

## Life cycle stages and reference scenarios

|                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Manufacturing</b><br><br>This stage covers the extraction of natural resources, production of raw materials, manufacturing, packaging, and transportation.                                                                                                                               | <br><b>Distribution and Operation</b><br><br>This stage covers the product's distribution, installation, use, and maintenance. Different operating conditions can lead to deviations from the reference scenario. | <br><b>End-of-Life</b><br><br>This stage covers the disassembly or shredding and material recycling of all recyclable materials, as well as energy recovery, thermal treatment and the disposal of all other materials. |
| <b>Scenarios</b>                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |
| <b>Energy model used:</b><br>Romania (standard mix), Europe (District heating), France (Thermal energy from natural gas), China (standard mix), France (renewable mix), Europe (standard mix), Romania (Thermal energy from natural gas), United States (standard mix)<br><br><b>Transportation model:</b><br>Truck-trailer (GLO), 34-40t gross weight, 3500 km default distance | <b>Energy model used:</b><br>Europe (standard mix)<br><br><b>Distribution scenario:</b><br>Truck-trailer (34-40 t) 3500 km<br><br><b>Use Scenario:</b><br>6.3 W full load, 100% service uptime: reference lifetime 10 years                                                                        | <b>Energy model used:</b><br>EMEA<br><br><b>End-of-Life methodology:</b><br>Modeled according to Cut-off methodology.                                                                                                                                                                                      |

# Key environmental performance indicators

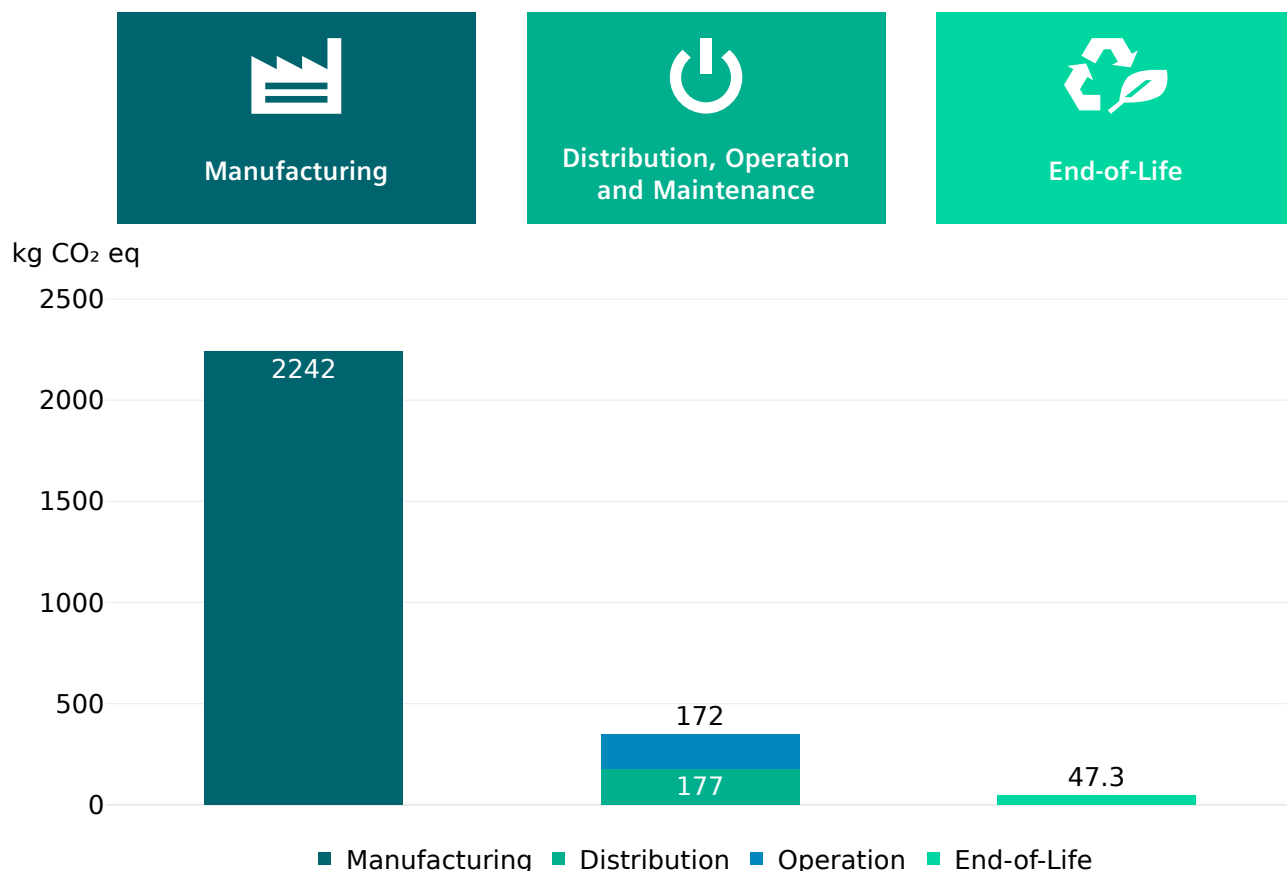
The following impact categories characterize the product's environmental footprint. They have been calculated with LCIA methodology EF3.1; LCA tool: Green Digital Twin (GDT), Database: One Siemens LCA Database (based on MLC CUP 2023.2, formerly GaBi).

To ensure the high quality and completeness of the LCA results, Primary Data have been used whenever possible. Datasets for resources, such as electrical energy or natural gas, are chosen from the region where the device is produced and assembled. If primary data are not available, datasets reflecting state-of-the-art manufacturing technology are considered.

| Impact Category                              | Unit                                   | Total   | Manufacturing | Distribution | Operation | End-of-life |
|----------------------------------------------|----------------------------------------|---------|---------------|--------------|-----------|-------------|
| Acidification                                | Mole of H+ eq                          | 1.40E+1 | 1.33E+1       | 2.26E-1      | 3.64E-1   | 1.80E-2     |
| Climate change – total                       | kg CO <sub>2</sub> eq                  | 2.64E+3 | 2.24E+3       | 1.77E+2      | 1.72E+2   | 4.73E+1     |
| Climate change – fossil                      | kg CO <sub>2</sub> eq                  | 2.61E+3 | 2.21E+3       | 1.75E+2      | 1.71E+2   | 4.73E+1     |
| Climate change – biogenic                    | kg CO <sub>2</sub> eq                  | 2.75E+1 | 2.55E+1       | 4.74E-1      | 1.51E+0   | 1.02E-2     |
| Climate Change, land use and land use change | kg CO <sub>2</sub> eq                  | 4.33E+0 | 4.30E+0       | 1.63E+0      | 1.86E-2   | 4.47E-3     |
| Ecotoxicity, freshwater – total              | CTUe                                   | 1.48E+4 | 1.21E+4       | 1.72E+3      | 9.98E+2   | 2.26E+1     |
| Eutrophication, freshwater                   | kg P eq                                | 6.51E-3 | 5.20E-3       | 6.45E-4      | 6.40E-4   | 2.56E-5     |
| Eutrophication, marine                       | kg N eq                                | 2.47E+0 | 2.30E+0       | 7.68E-2      | 8.72E-2   | 4.52E-3     |
| Eutrophication, terrestrial                  | Mole of N eq                           | 2.70E+1 | 2.51E+1       | 9.24E-1      | 9.11E-1   | 5.80E-2     |
| Human toxicity, cancer – total               | CTUh                                   | 1.59E-4 | 1.59E-4       | 3.49E-8      | 5.28E-8   | 2.55E-9     |
| Human toxicity, non-cancer – total           | CTUh                                   | 3.28E-5 | 3.01E-5       | 1.55E-6      | 8.41E-7   | 2.21E-7     |
| Ionising radiation, human health             | kBq U235 eq                            | 2.56E+2 | 1.61E+2       | 6.73E-1      | 9.46E+1   | 1.81E-1     |
| Land Use                                     | dimensionless (pt)                     | 3.54E+4 | 3.30E+4       | 1.00E+3      | 1.41E+3   | 8.02E+0     |
| Ozone depletion                              | kg CFC-11 eq                           | 7.25E-8 | 6.93E-8       | 2.30E-11     | 3.15E-9   | 9.94E-12    |
| Particulate matter                           | Disease incidences                     | 2.41E-4 | 2.36E-4       | 1.66E-6      | 3.06E-6   | 1.76E-7     |
| Photochemical ozone formation, human health  | kg NMVOC eq                            | 7.38E+0 | 6.94E+0       | 1.95E-1      | 2.33E-1   | 1.39E-2     |
| Resource use, fossils                        | MJ                                     | 3.58E+4 | 2.97E+4       | 2.40E+3      | 3.59E+3   | 7.08E+1     |
| Resource use, mineral and metals             | kg Sb eq                               | 6.33E-2 | 6.32E-2       | 1.17E-5      | 2.64E-5   | 1.44E-7     |
| Water use                                    | m <sup>3</sup> water eq deprived water | 7.72E+2 | 7.29E+2       | 2.13E+0      | 3.76E+1   | 3.53E+0     |

# Climate change

This chart shows the overall impact of the product on climate change – total. The manufacturing phase is the lifecycle phase with the biggest overall impact. Different operating conditions can lead to deviations from the reference scenario.



## End-of-Life results

The end-of-life stage was modelled by shredding of the device, followed by sorting and material separation process.



It leads to:

- an overall **product recyclability of up to 91%** mainly due to metal content
- an **energy recoverability of up to 2%** from plastic materials
- a **minimum disposal rate of 7%**

The exact final values depend on the used recycling process and add up to 100%.

**Note:** The device should not be disposed of as unsorted municipal waste. Special treatment for specific components may be mandated by law or recommended for environmental reasons. Observe all local and applicable laws.

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