ENGINEERING TOMORROW

Danfoss

Environmental **Product Declaration**

AB-QM 4.0 DN15-DN20-DN25-DN32

EPD issued	2025-02-03
EPD expires	2030-02-03
EPD author	Danfoss Climate Solutions A/S
EPD type	Cradle-to-gate with options
Declared unit	One product over its Reference Service Life
Products included	AB-QM 4.0 DN32 (003Z8207)
Product covered by EPD	See Annex 1
Manufacturing Location	Ljubljana, Slovenia
Use Location	European Union
Application	HVAC systems
Mass	1,76 kg without packaging 1,82 kg with packaging
Dimensions (H×W×D)	130 x 79,4 x 138,3 mm without packaging
Verification	[ ] External [X] Internal [ ] None
Produced to	Danfoss Product Category Rules (2022-09)
Internal independent verifier	Danfoss Power Electronics & Drives A/S

DISCLAIMER
This EPD was prepared to the best of knowledge of Danfoss A/S. The life cycle assessment calculations were performed in accordance with ISO 14040 & 14044 and EN15804+A2.
All results were internally reviewed by independent experts. While this declaration has followed the guidance of ISO 14025, it has not been externally verified or registered by an EPD programme and therefore does not fully comply with the ISO 14025 standard.
This EPD has been published by Danfoss A/S on Danfoss Product Store and Danfoss Website. For questions, feedback or requests please contact your Danfoss sales representative.

Product Description

This Environmental Product Declaration (EPD) follows the Danfoss Product Category Rules (PCR) (2022-09-20). These rules provide a consistent framework for calculating and reporting the environmental performance of Danfoss' products and is aligned with relevant international standards, particularly ISO 14025:2006 and EN 15804+A2:2019.

This document has been produced by Danfoss A/S following an internal verification process, but it is not a third-party verified document.

What is an EPD?

An EPD is a document used to communicate transparently, the quantified environmental impacts of a product over its lifecycle stages. This quantification is done by performing a Life Cycle Assessment (LCA) in line with a consistent set of rules known as a PCR (Product Category Rules).

An EPD provides:

- A product's carbon footprint together with other relevant environmental indicators, including air pollution, water use, energy consumption and waste, over its own life cycle (Modules A-C), as well as the expected benefits of reuse and recycling in reducing the impact of future products (Module D). See Table 1 for module descriptions.
- Environmental data allowing customers to calculate LCAs and produce EPDs for their own products.

Type of EPD

This EPD is of the type 'cradle-to-gate with options' and includes all relevant modules: production (A1-A3), shipping (A4) and installation (A5); deconstruction (C1), waste collection and transport (C2), treatment (C3) and disposal (C4). It also includes potential net benefits to future products from recycling or reusing post-consumer waste (D). The codes in brackets are the module labels from EN 15804+A2. Modules concerning use, maintenance, repair, replacement, refurbishment (B1-B5) and operational water use (B7) are excluded, following the cut-off rules from EN 15804.

Table 1: Modules of the product's life cycle included in the EPD

Product stage			Installation		Use stage							End-of-life stage				Benefits
Raw materials	Transport	Manufacture	Transport	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-install.	Transport	Waste processing	Disposal	Benefits and loads outside system boundaries
A1	**A2**	**A3**	**A4**	**A5**	B1	B2	B3	B4	B5	B6	B7	**C1**	**C2**	**C3**	**C4**	**D**
X	X	X	X	X	MNR	MNR	MNR	MNR	MNR	MNR	MNR	X	X	X	X	X

(X = declared module; MNR = module not relevant)

Product Description

The product covered by this EPD is representative of AB-QM 4.0 DN15-DN20-DN25-DN32. The production location is the Danfoss plant in Ljubljana, Slovenia. See more information on Danfoss Product Store.

AB-QM 4.0 DN15-DN20-DN25-DN32 valve:
The Danfoss AB-QM is a Pressure Independent Control Valve (PICV) that combines high accuracy and durability with market leading user-friendliness. Pressure independent valves are control valves with an automatic balancing function. An in-built pressure controller keeps a constant differential pressure over the control valve, ensuring full authority and automatic flow limitation. By combining two functions in one, control and automatic hydronic balance, Danfoss AB-QM 4.0 provide a cost-efficient solution for the challenges faced by forward-looking designers of HVAC system.

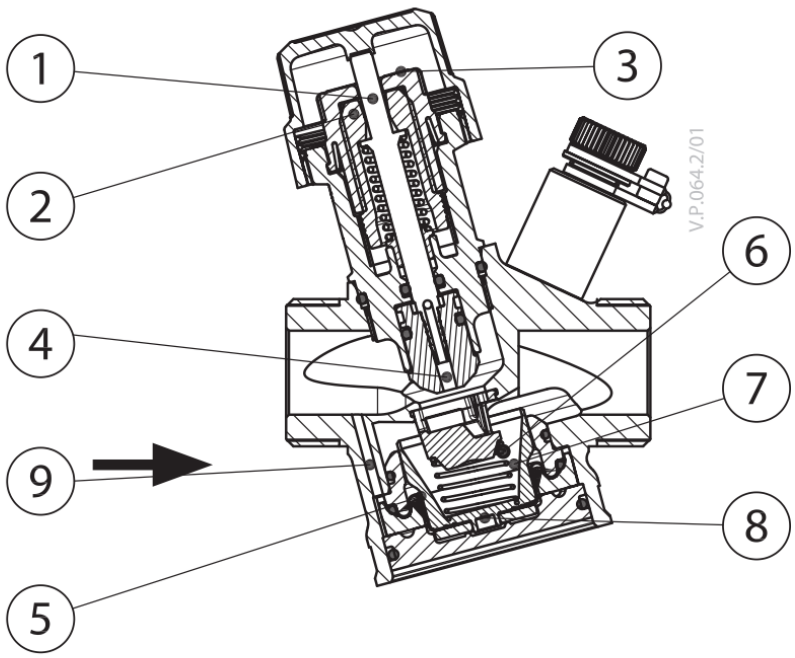

Figure 1: The drawing of the AB-QM 4.0 DN15-DN20-DN25-DN32 with its main components

The EPD covers several products AB-QM 4.0 listed in Table 13. The products differ in size and weight of the components. The EPD is prepared for the AB-QM 4.0 DN32 valve (003Z8207). Since the reference product AB-QM 4.0 DN32 is the largest in this product portfolio, therefore representing a conservative scenario. For all other version of the AB-QM 4.0 valve the scale factor shown in Annex 1, Table 13 should be used when interpreting the results.

For each AB-QM 4.0 valve size i.e. DN15, DN20, DN25 and DN32 a representative product code was selected (see Annex 1, Table 12). Products within each representative product code differ in the form of some component parts; the materials from which the components are made are either the same or of the same type, and the difference in their mass does not exceed 5% of the mass difference of the components of the representative product. However, the differences between products within each group (DN15, DN20, DN 25 & DN32) are minor and are considered to be negligible, meaning the same scalar factor can be used when determining the environmental parameters. The factors for each representative group of

Product Description

product codes are presented in Table 13 of Annex 1.

For each representative product code (DN15, DN20, DN25 & DN32), an LCA (Life Cycle Assessments) has been conducted to assess the environmental impact. The scalar factor is calculated as the ration of two GWPT values (A1-C4), based on the LCA calculation for each of the four representative product codes.

Reference Service Life

For the purpose of this EPD the reference service life (RSL) of the product is considered to be 10 years.

Intended market

The intended market of this study is European Union, and the baseline scenario involves the distribution, installation, and end-of-life in European Union. With regards to the use stage and the end-of-life stage, this EPD is not representative of regions other than European Union.

Product Description

Table 2: Product composition

Material	Mass (kg)	%
Metals	**1,6125**	**91,5%**
Stainless steel	0,1110	6,3%
Brass	1,5015	85,2%
Plastics & Rubbers	**0,1439**	**8,2%**
Plastic with no GF	0,1234	7,0%
Plastic with GF	0,0058	0,3%
EPDM	0,0058	0,3%
Other	0,0090	0,5%
Natural materials	**0,0058**	**0,3%**
Paper and cardboard	0,0058	0,3%
Product Total	**1,7622**	**100,0%**
Paper and cardboard - packaging	0,0560	93,3%
PE film	0,0040	6,7%
Packaging Total	**0,0600**	**100,0%**
Total (Product + Packaging)	**1,8222**	

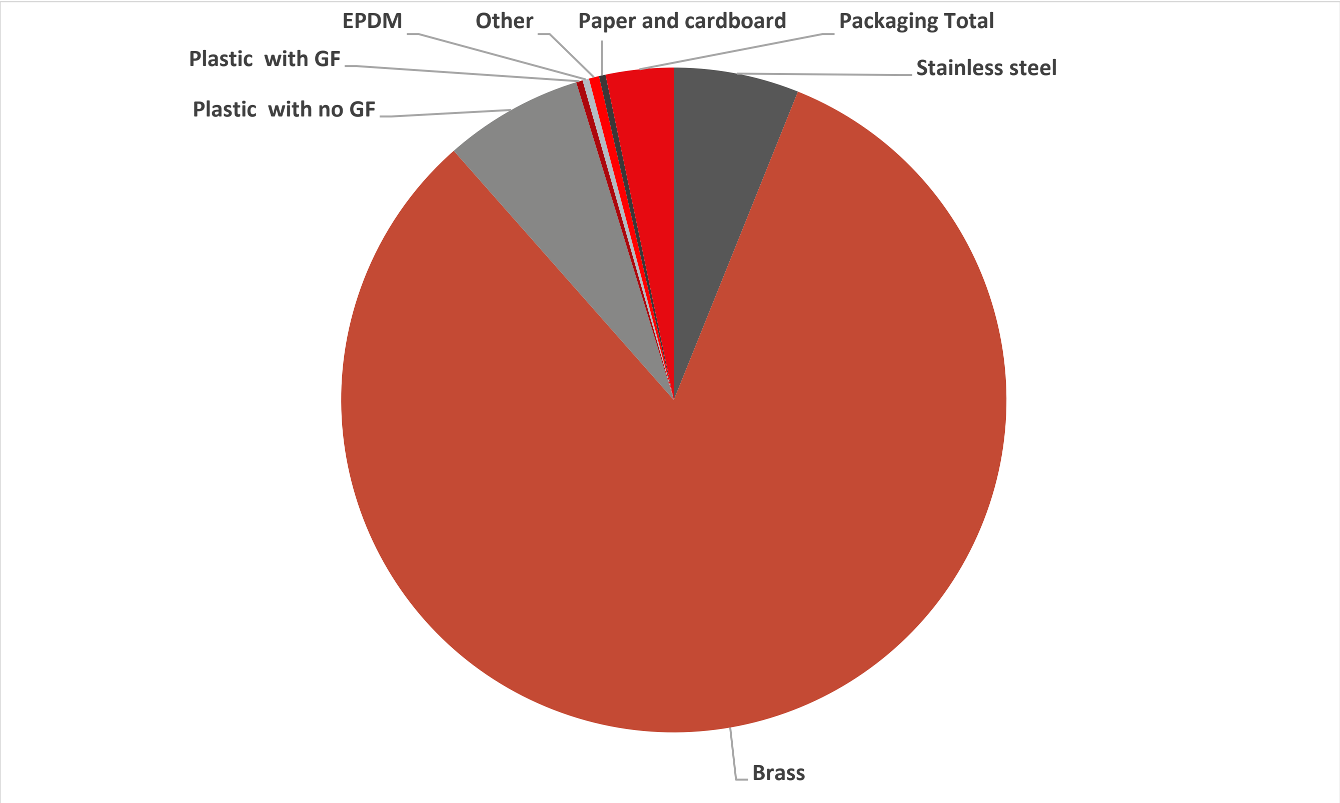

Figure 2: Material Composition Overview

Data quality

Data quality of the selected datasets is generally assessed as good and very good in terms of geographical, time and technology representativeness and applicability. Background data is from *LCA for Experts©* database *version 2024.1*.

Allocation and cut-off criteria

The allocation is made in accordance with the provisions of EN 15804+A2. All major raw materials and all the essential energy are included. All hazardous materials and substances are considered in the inventory. Data sets within the system boundary are complete and fulfil the criteria for the exclusion of inputs and output criteria.

- The components made from the PPSU material have been substituted with the PPS_GF material without the proportion of glass fibers in the calculation due to limitations with the Sphera database.
- The silicon oil, the grease and the glue have been substituted with the oil due to limitation with the Sphera database.
- The components made of the EPDM material with teh aramid fibres have been substituted with the EPDM material due to limitation with the Sphera database.
- The iglidur materials consist of three components: the base polymers, the fibres and the fillers, and the solid lubricants. The components made of the iglidur material have been substituted with the PA66 material due to limitation with the Sphera database.

Overview of LCA study

System boundaries

The results in this EPD are split into life cycle modules following EN 15804 (Figure 1): production (A1-A3), distribution (A4) installation (A5) and the end of the product's life (C1-C4). Module D represents environmental benefits and loads that occur beyond the system boundary (i.e., in future products).

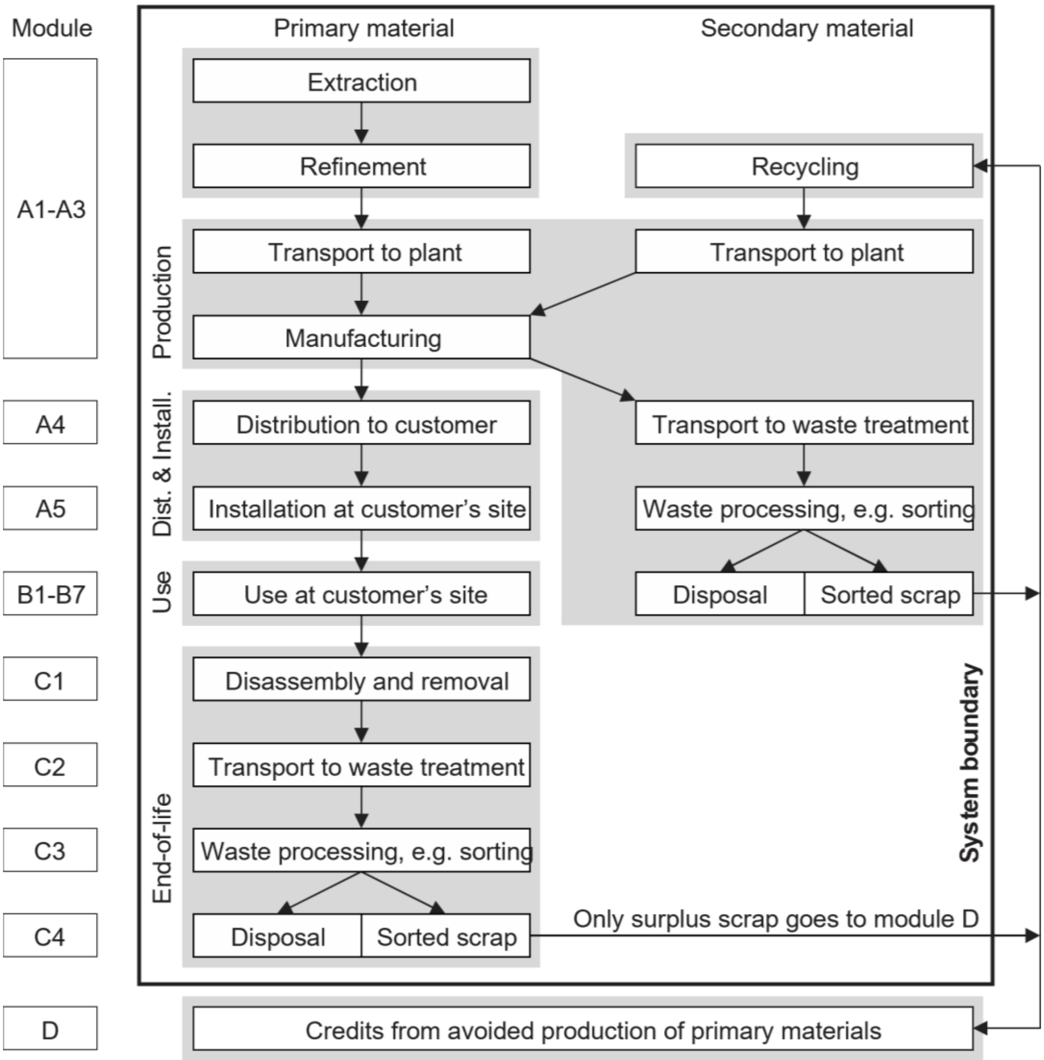

Figure 3: Modular structure used in this EPD (following EN 15804+A2)

Product and packaging manufacture (A1-A3)

Final manufacturing occurs in the Ljubljana plant, Slovenia, Europe. Data was collected for 2024 year. The facility is certified according to [IATF 16949, ISO 14001, ISO 45001, and ISO 9001]. Where waste generated on-site is recyclable, it is separated and recycled. For further information, see here. The product is shipped in the packaging as described in Table 1. All packaging materials can be safely recycled or incinerated if appropriate local facilities are available.

The component suppliers' production locations are divided based on the type of product into suppliers of mechanical parts, documentation and packaging. The calculation takes into account that, based on the total weight of the components, the majority of the mechanical components are manufactured in the European Union. The transport of the mechanical components includes both, maritime transport and truck transport. The production of the product documentation is in Denmark, while the production of packaging is in Slovenia. For both types of the products, road transport by truck is considered in the EPD calculation.

A mass allocation method was used to estimate the electrical and thermal energy used to produce one unit of the AB-QM 4.0 DN15-DN20-DN25-DN32. Data on energy consumption in the production of finished products are for the year 2024. Products in sizes DN15 and DN20 are manufactured on an automated assembly line. Products in sizes DN25 and DN32 are manufactured on a manual assembly line. In the LCA calculation for the energy consumed in the product's final production, the value for the carbon footprint of the produces electricity in Slovenia is taken into account.

Table 3: Biogenic carbon content in product and packaging

	Total (excluding recycling)
Biogenic carbon content in product [kg]	2,49E-03
Biogenic carbon content in accompanying packaging [kg]	2,41E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2.

Shipping and installation (A4-A5)

Distribution is assumed to occur to customers within European Union. Transportation at 1151,3 km distance by truck is assumed between the factory and the final customer. (According to sales for the similar products in year 2023)

Module A5 includes disposal of packaging materials only, the benefits from e.g., energy recovered after plastic incineration are allocated to module D. The product is assumed to be installed by hand. Energy use in handheld tools during installation is not included as it falls under the cut-off criteria.

Use phase (B1-B6)

The AB-QM 4.0 DN15-DN20-DN25-DN32 products are the mechanical products and do not require additional power supply to operate. There is no effect on the carbon footprint due to operation.

End-of-life (C1-C4)

The following end-of-life procedure has been applied:

- Manual dismantling is used to separate recyclable bulk materials, e.g. bulk metals and plastics.
- Shredding is used for the remaining parts, such as printed circuit board assemblies.
- Ferrous metals, non-ferrous metals and bulk plastics are recovered through recycling.
- The remaining materials go to either energy recovery or landfill.

In line with EN 15804+A2, only the 'net scrap' (i.e., the leftover recyclable materials remaining after inputs of recycled content required in the manufacturing phase are first satisfied) is used to calculate the benefits and loads beyond the system boundary (Module D).

For this EPD an average scenario with 50% of the product sent to recycling & 50% of the product sent to landfill (C3, C4, D) was used. This scenario is designed to represent an average end-of-life scenario.

Overview of LCA study

For the EPD this average scenario was chosen as it is assumed that it represents the majority of cases on average.

1. Recycling scenario with 100% of the product sent to recycling at the end-of-life, excluding fractions that cannot be recycled or incinerated (e.g., glass reinforcing in glass-filled plastics) and are sent to landfill.

This scenario illustrates best case performance. It assumes a 100% collection rate and best available recycling technologies. Under this scenario electrical cables, and all metals, flat glass and unreinforced plastics found within the body and chassis of the product are recycled. Printed circuit board assemblies are incinerated, and the copper and precious metals (gold, silver, palladium, and platinum) are recycled.

2. Landfill scenario with 100% of the product sent to landfill.

This scenario assumes that the whole product, including its packaging, is landfilled. It is designed to represent a poor end of-life-route where valuable resources are lost.

Benefits and loads beyond the system boundary (D)

Module D considers the net benefit of recycling (including energy recovery) of materials in the product and packaging, taking account of losses in the recycling process and the recycled material used in the production of the product. Module D covers the two end-of-life scenarios, as described above. It does not cover energy recovery from incineration since the process used in LCA for Experts has an efficiency below 60%. Therefore, the impacts of this process are reported in module C4 and no benefits are claimed in module D.

Environmental performance

This section presents the environmental performance of one AB-QM 4.0 DN15-DN20-DN25-DN32. Figure 4 presents the environmental impact of the AB-QM 4.0 DN15-DN20-DN25-DN32 across a number of environmental impact categories (following EN 15804+A2:2019) per life cycle stage, over its full 10-year life cycle, including Global Warming Potential.

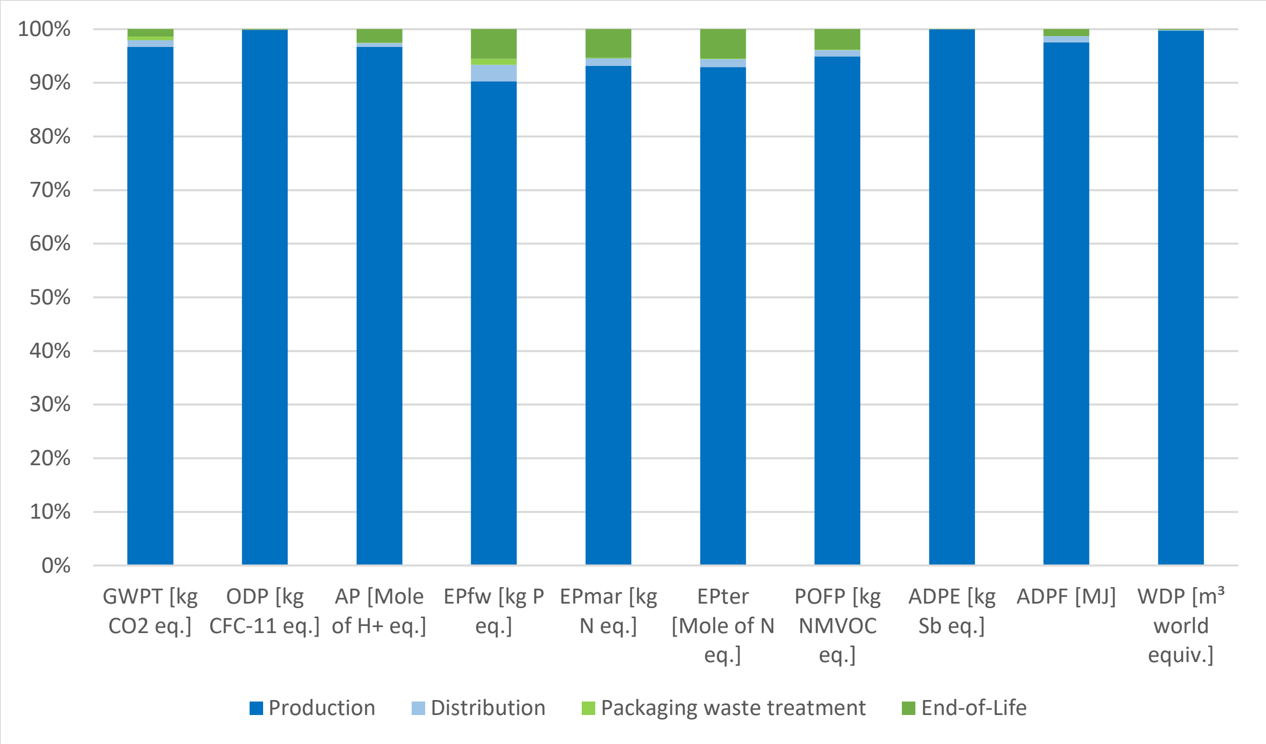

Figure 4: Breakdown of environmental impacts by life cycle stages (Average of Landfill and Recycling End-of-Life scenario/only Landfill scenario) See Table 4 and Table 5 for descriptions of environmental impact indicators).

Environmental performance

Table 4: Environmental impact indicators

	Production	Distribution	Packaging waste treatment	End-of-Life				(not included in Figure 4)
Life cycle stages based on EN 15804+A2	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Description / **Environmental Impact Indicators**	Manufacture of the product from 'cradle-to-gate'	Transport of the product to the customer	Installation of the product and disposal of used packaging	Deinstallation of the product from the site	Transport of the product to waste treatment	Processing waste for recycling	Disposal of waste that cannot be recycled (through landfill and incineration)	Potential benefits and loads beyond the system boundary due to reuse, recycling, and energy recovery
GWPT [kg CO2 eq.]	1,37E+01	1,82E-01	1,03E-01	0,00E+00	1,77E-02	1,38E-01	3,15E-02	-1,86E+00
GWPF [kg CO2 eq.]	1,38E+01	1,79E-01	5,43E-03	0,00E+00	1,77E-02	1,36E-01	3,14E-02	-1,86E+00
GWPB [kg CO2 eq.]	-9,75E-02	0,00E+00	9,75E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWPLULUC [kg CO2 eq.]	1,07E-02	2,96E-03	5,26E-06	0,00E+00	4,34E-07	2,24E-03	1,09E-04	-2,42E-03
ODP [kg CFC-11 eq.]	8,30E-11	2,60E-14	4,41E-15	0,00E+00	2,10E-18	1,96E-14	5,10E-14	-4,53E-12
AP [Mole of H+ eq.]	4,17E-02	3,21E-04	3,04E-05	0,00E+00	2,51E-05	8,51E-04	2,11E-04	-7,26E-03
EPfw [kg P eq.]	2,20E-05	7,52E-07	2,75E-07	0,00E+00	3,89E-09	5,69E-07	7,73E-07	-1,38E-06
EPmar [kg N eq.]	8,79E-03	1,30E-04	1,62E-05	0,00E+00	9,76E-06	4,18E-04	7,33E-05	-1,34E-03
EPter [Mole of N eq.]	9,50E-02	1,50E-03	1,48E-04	0,00E+00	1,10E-04	4,64E-03	8,05E-04	-1,45E-02
POFP [kg NMVOC eq.]	2,54E-02	3,15E-04	4,04E-05	0,00E+00	2,32E-05	8,10E-04	1,78E-04	-4,13E-03
ADPE [kg Sb eq.]	6,29E-04	1,53E-08	5,53E-10	0,00E+00	6,39E-10	1,16E-08	1,67E-09	-1,02E-04
ADPF [MJ]	1,89E+02	2,32E+00	7,59E-02	0,00E+00	2,59E-01	1,75E+00	4,37E-01	-2,48E+01
WDP [m^3 world equiv.]	2,85E+00	2,73E-03	3,61E-04	0,00E+00	3,03E-05	2,06E-03	2,17E-03	-5,13E-01

How to read scientific numbers:

e.g. 2,05E02 = 2,05 x 10^2 = 205

2,04E-01 = 2,04 x 10^{-1} = 0,204

Environmental performance

Table 5: Environmental impact indicator descriptions

Acronym	Unit	Indicator
GWPT	kg CO_2 eq.	Carbon footprint (Global Warming Potential) – total
GWPF	kg CO_2 eq.	Carbon footprint (Global Warming Potential) – fossil
GWPB	kg CO_2 eq.	Carbon footprint (Global Warming Potential) – biogenic
GWPLULUC	kg CO_2 eq.	Carbon footprint (Global Warming Potential) – land use and land use change
ODP	kg CFC-11 eq.	Depletion potential of the stratospheric ozone layer
AP	Mole H+ eq.	Acidification potential
EPfw	kg P eq.	Eutrophication potential – aquatic freshwater
EPmar	kg N eq.	Eutrophication potential – aquatic marine
EPter	Mole of N eq.	Eutrophication potential – terrestrial
POFP	kg NMVOC eq.	Summer smog (photochemical ozone formation potential)
ADPE*	kg Sb eq.	Depletion of abiotic resources – minerals and metals
ADPF*	MJ	Depletion of abiotic resources – fossil fuels
WDP*	m^3 world eq.	Water deprivation potential (deprivation-weighted water consumption)

Results for module A1-A3 are specific to the product. All results from module A4 onwards should be considered as scenarios that represent one possible outcome. The true environmental performance of the product will depend on actual use.

The results in this section are relative expressions only and do not predict actual impacts, the exceeding of thresholds, safety margins, or risks. EPDs from others may not be comparable.

Carbon footprint

The total carbon footprint, cradle-to-grave, of the product is **1,42E+01 kg CO2-eq** (A1-C4), based on the baseline use phase scenario. The carbon footprint of production of this product, cradle-to-gate, is **1,37E+01 kg CO2-eq** (A1-A3).

Environmental performance

Table 6: Resource use

	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE [MJ]	6,16E+01	2,00E-01	5,09E-03	0,00E+00	0,00E+00	8,54E-04	1,51E-01	4,38E-02	-4,05E+00
PERM [MJ]	8,69E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT [MJ]	6,17E+01	2,00E-01	5,09E-03	0,00E+00	0,00E+00	8,54E-04	1,51E-01	4,38E-02	-4,05E+00
PENRE [MJ]	1,84E+02	2,32E+00	7,59E-02	0,00E+00	0,00E+00	2,59E-01	1,75E+00	4,37E-01	-2,48E+01
PENRM [MJ]	5,41E+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
PENRT [MJ]	1,89E+02	2,32E+00	7,59E-02	0,00E+00	0,00E+00	2,59E-01	1,75E+00	4,37E-01	-2,48E+01
SM [kg]	5,43E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF [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
NRSF [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
FW [m3]	8,46E-02	2,23E-04	1,13E-05	0,00E+00	0,00E+00	1,37E-06	1,68E-04	6,66E-05	-1,62E-02

Table 7: Resource use indicator descriptions

Acronym	Unit	Indicator
PERE	MJ	Use of renewable primary energy excluding renewable primary energy resources used as raw materials
PERM	MJ	Use of renewable primary energy resources used as raw materials
PERT	MJ	Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)
PENRE	MJ	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
PENRM	MJ	Use of non-renewable primary energy resources used as raw materials
PENRT	MJ	Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)
SM	kg	Use of secondary material
RSF	MJ	Use of renewable secondary fuels
NRSF	MJ	Use of non-renewable secondary fuels
FW	m^3	Net use of fresh water

Environmental performance

Table 8: Waste categories and output flows

	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD [kg]	2,06E-07	8,89E-11	1,15E-11	0,00E+00	0,00E+00	1,78E-12	6,72E-11	6,37E-11	-6,43E-05
NHWD [kg]	2,39E-01	3,79E-04	2,27E-02	0,00E+00	0,00E+00	2,59E-05	2,86E-04	1,20E+00	3,08E-02
RWD [kg]	1,02E-02	4,23E-06	4,86E-07	0,00E+00	0,00E+00	2,77E-07	3,20E-06	2,92E-06	-2,58E-04
CRU [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
MFR [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,20E+00	0,00E+00
MER [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
EEE [MJ]	2,51E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET [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

Table 9: Waste category and output flow descriptions

Acronym	Unit	Indicator
HWD	kg	Hazardous waste disposed
NHWD	kg	Non-hazardous waste disposed
RWD	kg	Radioactive waste disposed
CRU	kg	Components for reuse
MFR	kg	Materials for recycling
MER	kg	Materials for energy recovery
EEE	kg	Exported energy (electrical)
EET	kg	Exported energy (thermal)

Environmental performance

Table 10: Additional indicators*

	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM [Disease incidences]	5,29E-07	2,88E-09	2,22E-10	0,00E+00	0,00E+00	1,49E-10	5,66E-09	2,09E-09	-1,24E-07
IRP [kBq U235 eq.]	1,26E+00	6,13E-04	6,46E-05	0,00E+00	0,00E+00	3,93E-05	4,64E-04	3,50E-04	-1,10E-02
ETPfw [CTUe]	1,25E+02	1,72E+00	5,91E-02	0,00E+00	0,00E+00	1,90E-01	1,30E+00	3,33E-01	-9,07E+00
HTPc [CTUh]	2,67E-07	3,48E-11	1,13E-12	0,00E+00	0,00E+00	3,49E-12	2,64E-11	6,33E-12	-8,83E-09
HTPnc [CTUh]	6,98E-08	1,56E-09	7,00E-11	0,00E+00	0,00E+00	1,14E-10	1,18E-09	2,20E-10	-9,46E-09
SQP [Pt]	4,47E+01	1,14E+00	1,20E-02	0,00E+00	0,00E+00	6,63E-04	8,63E-01	6,71E-02	-2,45E+00

Table 11: Optional indicator descriptions

Acronym	Unit	Indicator
PM	Disease incidence	Potential incidence of disease due to particulate matter emissions
IRP**	kBq U235 eq.	Potential human exposure efficiency relative to U235
ETPfw*	CTUe	Potential Comparative Toxic Unit for ecosystems (fresh water)
HTPc*	CTUh	Potential Comparative Toxic Unit for humans (cancer)
HTPnc*	CTUh	Potential Comparative Toxic Unit for humans (non-cancer)
SQP*	Dimensionless	Potential soil quality index

**Disclaimer for ADPE, ADPF, WDP, ETPfw, HTPc, HTPnc, SQP:* The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

***Disclaimer for ionizing radiation:* This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Annex

Annex 1: The product codes of all products covered in this EPD

The EPD results are presented for the product code AB-QM 4.0 DN32 (003Z8207).

For each valve size (DN15, DN20, DN25 and DN32) representative product sales codes have been selected and are listed in Table 12. An LCA calculation has been prepared for each representative product code.

Table 12: AB-QM 4.0 representative product codes

Product code	Product description
003Z8201	AB-QM 4.0 DN15, With test plugs, External Thread
003Z8203	AB-QM 4.0 DN20, With test plugs, External Thread
003Z8205	AB-QM 4.0 DN25, With test plugs, External Thread
003Z8207	AB-QM 4.0 DN32, With test plugs, External Thread

To calculate the actual GWPT of purchased product covered by this EPD, multiply the GWPT from this EPD by the factor (see

Annex

Table **13**) corresponding to the purchased product's sales code. You can use this factor to calculate other indicators as well.

For other product code covered by this EPD document (see

Annex

Table **13**), a scale factor is used. The factor is calculated as the ratio between the two GWPT (A1-C4) values according to the LCA calculation. For each product code from the

Annex

Table **13**, an LCA calculation was made with a calculated GWPT value.

Example:
Product code: 003Z8203

Factor: 0,424

GWPT (003Z8207): 1,42E+01 kgCO2eq/Kg (A1-C4)

GWPT (003Z8203): 0,424 x 1,42E+01 kgCO2eq/Kg = 6,02E+00 kgCO2eq/Kg

Annex

Table 13: AB-QM 4.0 DN15-DN20 NF-HF product codes, covered by this EPD

Product code	Description	Factor
DN15		
003Z8200	AB-QM 4.0 DN15 LF	0,332
003Z8201	AB-QM 4.0 DN15	0,332
003Z8202	AB-QM 4.0 DN15 HF	0,332
003Z8220	AB-QM 4.0 DN15 LF	0,332
003Z8221	AB-QM 4.0 DN15	0,332
003Z8222	AB-QM 4.0 DN15 HF	0,332
DN20		
003Z8203	AB-QM 4.0 DN20	0,424
003Z8204	AB-QM 4.0 DN20 HF	0,424
003Z8223	AB-QM 4.0 DN20	0,424
003Z8224	AB-QM 4.0 DN20 HF	0,424
DN25		
003Z8205	AB-QM 4.0 DN25	0,711
003Z8206	AB-QM 4.0 DN25 HF	0,711
DN32		
003Z8207	AB-QM 4.0 DN32	1,000
003Z8208	AB-QM 4.0 DN32 HF	1,000

References

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