ENGINEERING TOMORROW

Environmental **Product Declaration**

Danfoss JIP® Ball Valve
Hot tap and branching valves

EPD issued	2025-01-17
EPD expires	2030-01-17
EPD author	Danfoss Climate Solution A/S
EPD type	Cradle-to-gate with options
Declared unit	One product over its Reference Service Life
Products included	Representative product: Danfoss JIP® ball valve (065N2158)
Manufacturing Location	Tianjin, China
Use Location	EU
Application	HVAC systems
Mass	42,3 kg without packaging 54,1 kg with packaging
Dimensions (H×W×D)	390 x 306,5 x 273 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, EN 15804+A2:2019 and EN 50598-3:2015.

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**

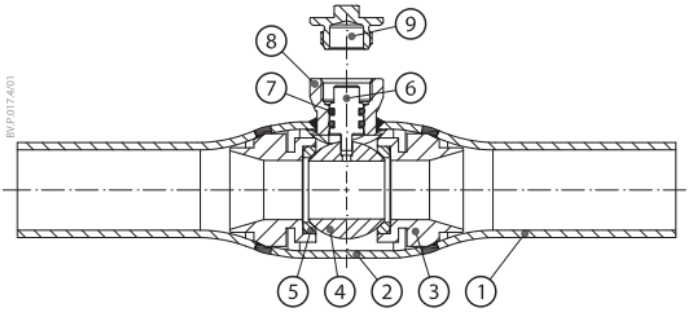
(X = declared module; MNR = module not relevant)

Product Description

The product covered by this EPD is representative of Danfoss JIP® ball valve. The production location is the Danfoss plant in Tianjin, China. See more information on Danfoss Product Store.

The Danfoss JIP® ball valves are a range of shut off valves developed for District Heating and District Cooling networks, with circulating medium (DH treated water). With on/off regulation (opening and closing) shut-off valves create sectioning of the system that enables service, maintenance, and repairs to be carried out in sections, without shutting down and emptying the whole system.

DN 15 – 100



DN 125 – 200

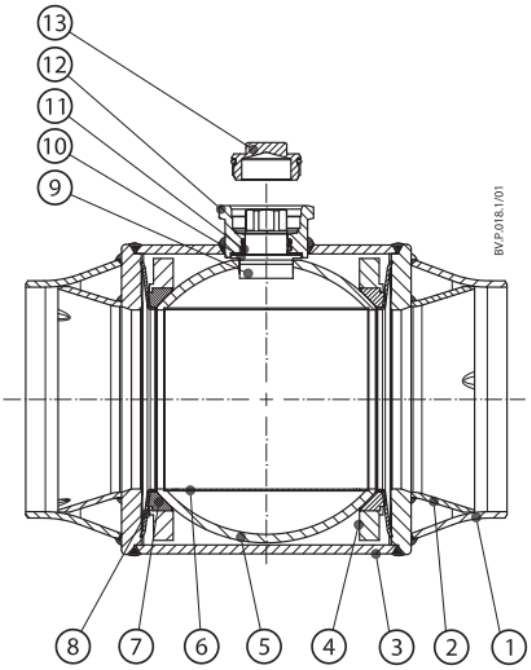


Figure 1: The drawings of the Danfoss JIP® ball valves

The EPD document presents the Danfoss JIP® ball valves product family, which are divided into four main groups with the following features shown in Table 2:

Product Description

Table 2: Mechanical properties of the product family

TYPE	Branching reduce bore (WW)		Branching full bore (WW)		Branching reduce bore (CC)		Branching welding/ press-fit (WP)
	1		2		3		4
DN	15-50	65-200	20-50	65-100	15-40	50-80	20-25
PN	40	25	40	25	16	10	40
Pipe material	Welded Steel		Welded Steel		Copper		AluPEX 25 ISOPLUS

Figure 2: Danfoss JIP® ball valves included in the EPD document

The principle of operating for all product listed in the document is the same. They differ in size, weight and material. The EPD calculation was performed for two products: the product with the largest total mass (product code 065N2158) and the control product, which has smaller dimensions and lower mass (product code 065N0001).
When calculating the environmental impact of all products listed in the EPD document, a scalar factor is determined for each product based on its mass. The scalar factor represents the ration between the largest mass of a representative product in the product group and the mass of the specific product for which the scalar factor is calculated. The scalar factors for each specific product are presented in Table 2. By evaluating this approach for a small product, it was found that using certain scalar factors provides a conversative method for calculating the environmental parameters of the entire product family.

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 EU and the baseline scenario involves the distribution, installation, and end-of-life in EU. With regards to the use stage and the end-of-life stage, this EPD is not representative of regions other than EU.

Product Description

Table 3: Product composition

Material	Mass (kg)	%
Metals	**40,025**	**96,4%**
Steel (excl, stainless steel)	31,365	75,6%
Stainless steel	8,660	20,9%
Plastics & Rubbers	**0,520**	**1,3%**
Plastic with no GF	0,514	1,2%
Rubbers	0,006	0,01%
Natural materials	**0,968**	**2,3%**
Paper and cardboard	0,968	2,3%
Product Total	**41,513**	**100,0%**
Packaging Total	**10,787**	**100,0%**
Paper and cardboard	3,400	31,5%
Wood	7,380	68,4%
Polyethylene	0,007	0,1%
Total (Product + Packaging)	**52,300**	

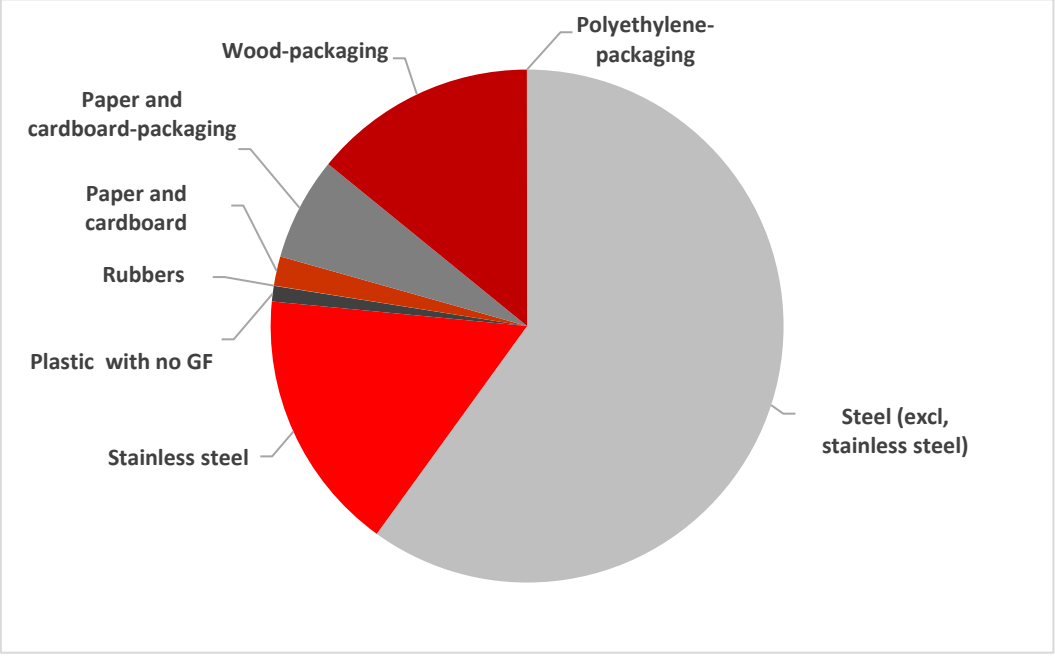


Figure 3: Material Composition Overview

Overview of LCA study

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 final assembly of the products is in Danfoss plant in Tianjin, China. In the EPD calculation, the emission factor of the electricity produced by photovoltaic is considered. The data of energy consumption for the final assembly of the product was provided by the manufacturer and it is calculated based on a mass allocation.

The total energy consumption for the product of the Danfoss JIP® ball valves product group in 2023 was estimated at 104681 kWh, and water consumption at 12677 kg. Using data on annual energy and water consumption, the number of products produced, and their weights, the energy and water consumption to produce the representative Danfoss JIP® ball valves (product code 065N2158) was calculated using the mass allocation method. The energy consumption per product is 117,2 kWh and water consumption per product is 42,3 kg. This assumption is representing a conservative approach.

Due to the unavailability of data sets for the paint, with a total weight of 0,1 kg, the paint is not included in the calculation. Due to the unavailability of data sets for PTFE material for two dealing parts, which have a total weight of 0,2 kg, it is assumed that the parts will be produced from a POM material.

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), use (B6) 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).

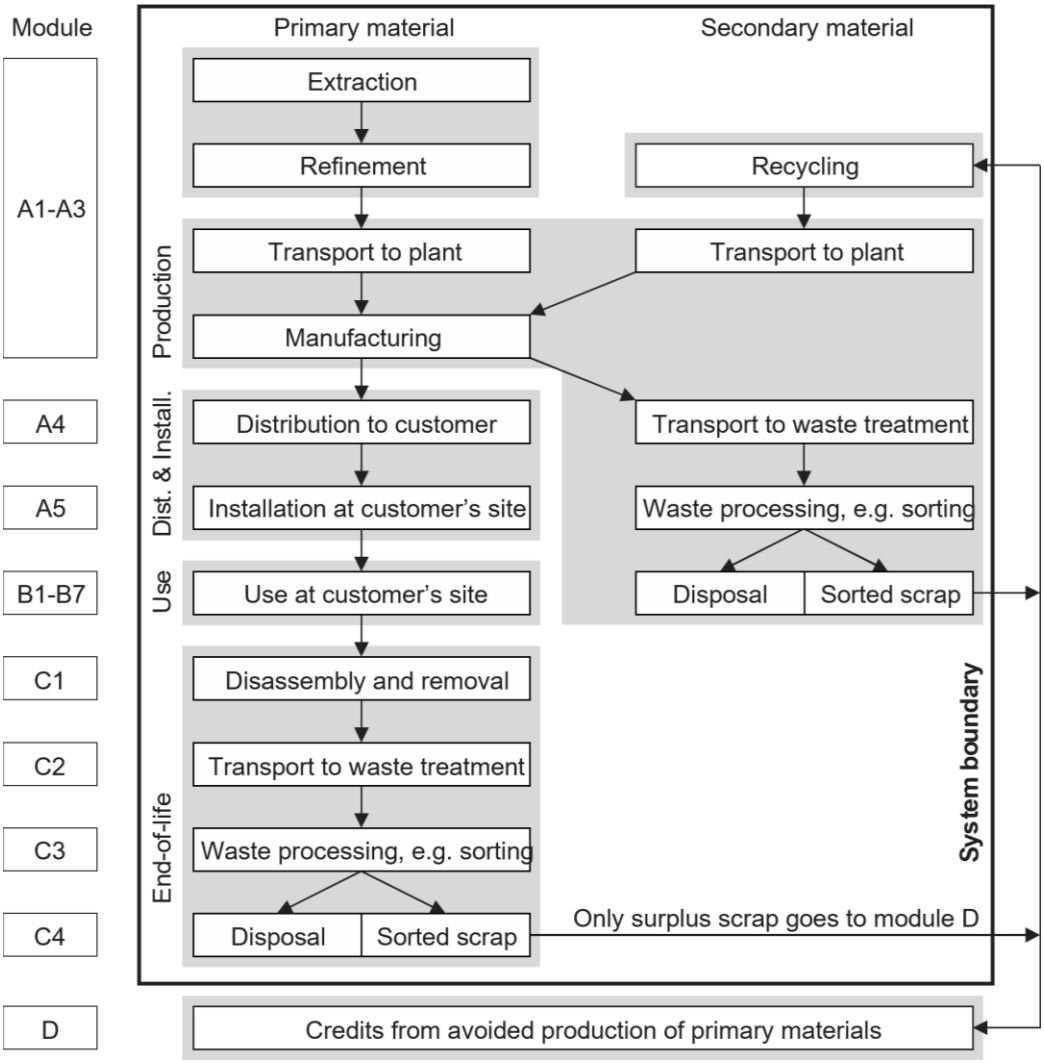


Figure 4: Modular structure used in this EPD (following EN 15804+A2)

Overview of LCA study

Product and packaging manufacture (A1-A3)

Final manufacturing occurs in the Tianjin plant, China. 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.

Table 4: Biogenic carbon content in product and packaging

	Total (excluding recycling)
Biogenic carbon content in product [kg]	4,16E-01
Biogenic carbon content in accompanying packaging [kg]	4,64E+00

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 EU. The product is delivered from the final Danfoss production location in Tianjin, China, to the central warehouse of finished products (CDC) in Rodekro, Denmark, 6104 km by sea and 319 km by truck. From the CDC location the product is delivered to the EU Market. For the estimated transport distance of transport from the CDC to the EU market, 2000 km by truck is considered.

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-B7)

The Danfoss JIP® ball valves 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.

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 Danfoss JIP® ball valve. Figure 5 presents the environmental impact of the Danfoss JIP® ball valves 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.

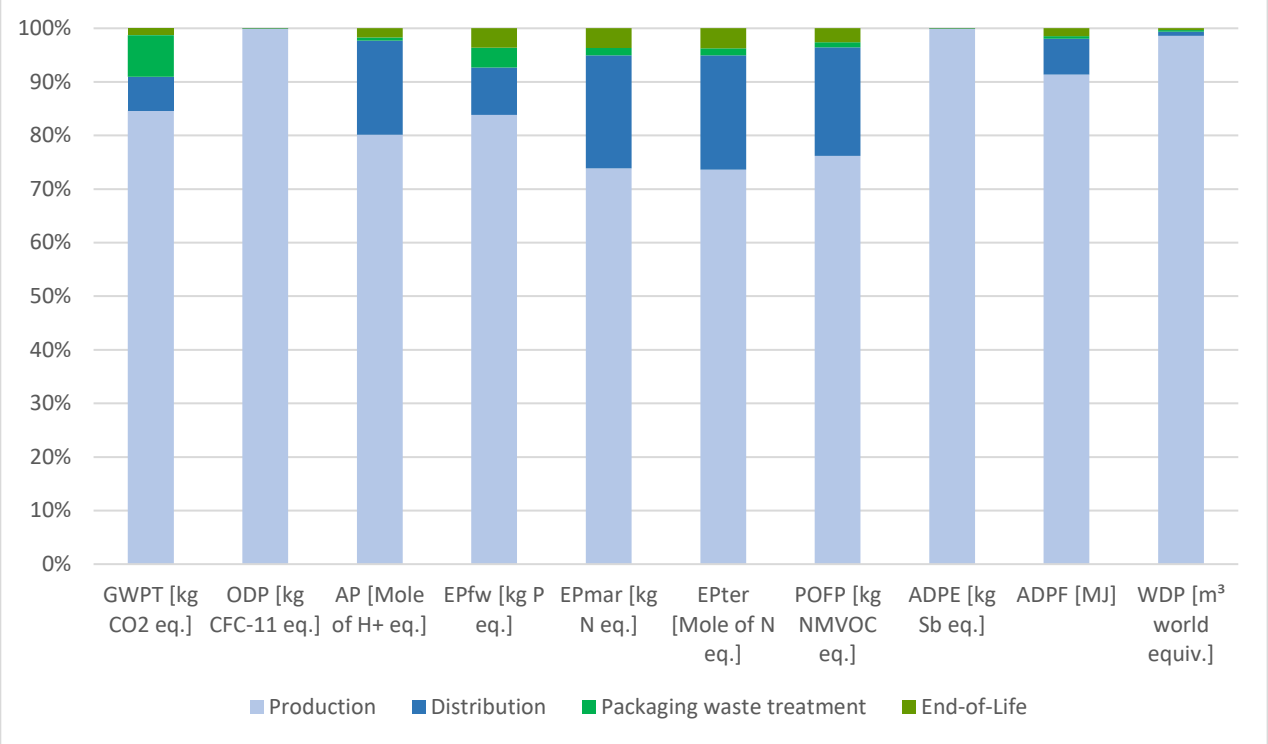


Figure 5: Breakdown of environmental impacts by life cycle stages (Average of Landfill and Recycling End-of-Life scenario/only Landfill scenario) See Table 5 and 6 for descriptions of environmental impact indicators).

Environmental performance

Table 5: 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.]	2,14E+02	1,58E+01	1,96E+01	0,00E+00	4,18E-01	2,29E+00	5,70E-01	-1,44E+02
GWPF [kg CO2 eq.]	2,32E+02	1,56E+01	1,07E+00	0,00E+00	4,18E-01	2,25E+00	5,68E-01	-1,44E+02
GWPB [kg CO2 eq.]	-1,85E+01	0,00E+00	1,85E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWPLULUC [kg CO2 eq.]	2,30E-01	1,71E-01	7,38E-04	0,00E+00	1,02E-05	3,70E-02	1,84E-03	-2,50E-01
ODP [kg CFC-11 eq.]	1,51E-08	1,90E-12	3,53E-13	0,00E+00	4,94E-17	3,25E-13	8,77E-13	1,85E-10
AP [Mole of H+ eq.]	8,55E-01	1,87E-01	6,24E-03	0,00E+00	5,91E-04	1,41E-02	3,77E-03	-6,46E-01
EPfw [kg P eq.]	4,24E-04	4,49E-05	1,86E-05	0,00E+00	9,16E-08	9,41E-06	8,77E-06	-1,22E-04
EPmar [kg N eq.]	1,71E-01	4,87E-02	3,21E-03	0,00E+00	2,30E-04	6,92E-03	1,38E-03	-1,07E-01
EPter [Mole of N eq.]	1,86E+00	5,38E-01	3,35E-02	0,00E+00	2,59E-03	7,67E-02	1,47E-02	-1,16E+00
POFP [kg NMVOC eq.]	5,12E-01	1,36E-01	6,60E-03	0,00E+00	5,47E-04	1,34E-02	3,42E-03	-3,38E-01
ADPE [kg Sb eq.]	2,82E-03	1,00E-06	1,36E-07	0,00E+00	1,51E-08	1,92E-07	2,93E-08	-2,39E-03
ADPF [MJ]	2,69E+03	1,96E+02	1,47E+01	0,00E+00	6,11E+00	2,90E+01	7,91E+00	-1,61E+03
WDP [m^3 world equiv.]	2,14E+01	1,67E-01	6,69E-02	0,00E+00	7,14E-04	3,41E-02	3,73E-02	-3,44E+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 6: 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 **2,52E+02 kg CO2-eq** (A1-C4), based on the baseline use phase scenario. The carbon footprint of production of this product, cradle-to-gate, is **2,14E+02 kg CO2-eq** (A1-A3).

Environmental performance

Table 7: Resource use

	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE [MJ]	3,17E+03	1,19E+01	7,39E-01	0,00E+00	0,00E+00	2,01E-02	2,50E+00	7,53E-01	-1,10E+02
PERM [MJ]	1,45E+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
PERT [MJ]	3,19E+03	1,19E+01	7,39E-01	0,00E+00	0,00E+00	2,01E-02	2,50E+00	7,53E-01	-1,10E+02
PENRE [MJ]	2,68E+03	1,96E+02	1,47E+01	0,00E+00	0,00E+00	6,11E+00	2,90E+01	7,91E+00	-1,61E+03
PENRM [MJ]	1,10E+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
PENRT [MJ]	2,69E+03	1,96E+02	1,47E+01	0,00E+00	0,00E+00	6,11E+00	2,90E+01	7,91E+00	-1,61E+03
SM [kg]	4,18E+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
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]	7,68E-01	1,33E-02	2,15E-03	0,00E+00	0,00E+00	3,23E-05	2,79E-03	1,14E-03	-1,43E+00

Table 8: 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 9: Waste categories and output flows

	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD [kg]	1,18E-05	7,06E-09	2,06E-09	0,00E+00	0,00E+00	4,20E-11	1,11E-09	1,10E-09	-9,25E-03
NHWD [kg]	1,13E+01	2,78E-02	1,26E000	0,00E+00	0,00E+00	6,11E-04	4,74E-03	2,02E+01	3,41E-01
RWD [kg]	5,14E-02	3,15E-04	5,49E-05	0,00E+00	0,00E+00	6,54E-06	5,29E-05	5,18E-05	1,18E-03
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	1,98E+01	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]	3,92E-04	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 10: 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 11: Additional indicators*

	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM [Disease incidences]	1,38E-05	3,18E-06	4,02E-08	0,00E+00	0,00E+00	3,51E-09	9,37E-08	3,68E-08	-1,30E-05
IRP [kBq U235 eq.]	7,05E+00	4,52E-02	6,03E-03	0,00E+00	0,00E+00	9,26E-04	7,67E-03	6,33E-03	2,02E-01
ETPfw [CTUe]	8,63E+02	1,44E+02	1,16E+01	0,00E+00	0,00E+00	4,42E+00	2,13E+01	5,51E+00	-7,65E+02
HTPc [CTUh]	2,86E-05	2,84E-09	2,02E-10	0,00E+00	0,00E+00	8,23E-11	4,36E-10	1,11E-10	-1,33E-06
HTPnc [CTUh]	2,64E-06	1,50E-07	1,12E-08	0,00E+00	0,00E+00	3,59E-09	2,74E-08	7,06E-09	-1,05E-06
SQP [Pt]	3,22E+03	6,62E+01	2,69E+00	0,00E+00	0,00E+00	1,56E-02	1,43E+01	1,14E+00	-9,75E+01

Table 12: 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 sales codes of all products covered in this EPD

The EPD results are presented for the product code 065N2158.

To calculate the actual GWPT of purchased product, just multiply the GWPT from this EPD by the factor associated with the purchased product's code. You can also use this factor to calculate other indicators.

Example:

Sales code: 065N0001
Factor: 0,02
GWPT (065N2158): 2,52E+02 kg CO2-eq (A1-C4)
GWPT (065N0001): 0,02 x 2,52E+02 kgCO2eq = 5,04E+00 kgCO2eq

Table 13: Danfoss JIP® ball valve covered by this EPD

Sales code	Product description	Net weight (kg)	Scale factor
065N2158	JIP-WW DN200 BR PN25 L390	40,5	1,00
065N2153	JIP-WW DN150 BR PN25 L340	24,9	0,61
065N2148	JIP-WW DN125 BR PN25 L315	17,0	0,42
065N1143	JIP-WW DN100 BR FB PN25	15,0	0,37
065N0057	JIP-WW HT DN100 PN25 HS79MM	9,5	0,23
065N0026	JIP-WW DN 80 BR FB PN25	9,0	0,22
065N0009	JIP-WW BR DN100 PN25	8,7	0,21
065N0037	JIP-CC BR DN80 PN10	5,9	0,15
065N0056	JIP-WW HT DN80 PN25 HS65MM	5,7	0,14
065N0007	JIP-WW, BR, PN 25, DN 80	4,7	0,12
065N0025	JIP-WW BR FB DN65 PN25	4,3	0,11
065N0024	JIP-WW BR FB DN50 PN40	4,1	0,10
065N0055	JIP-WW HT DN65 PN25 HS48MM	4,0	0,10
065N0053	JIP-WW DN 40 HT PN40	3,8	0,09
065N0054	JIP-WW HT DN50 PN40 HS40MM	3,7	0,09
065N0036	JIP-CC BR DN65 PN10	3,4	0,08
065N0035	JIP-CC BR DN50 PN10	3,3	0,08
065N0006	JIP-WW BR DN65 PN25	3,2	0,08
065N0023	JIP-WW BR FB DN40 PN40	2,9	0,07
065N0005	JIP-WW BR DN50 PN40	2,4	0,06
065N0072	JIP-WW DN 40 HT PN40 HS32MM	2,4	0,06
065N0034	JIP-CC BR DN40 PN16	2,1	0,05
065N0004	JIP-WW BR DN40 PN40	2,0	0,05
065N0022	JIP-WW BR FB DN32 PN40	2,0	0,05
065N0051	JIP-WW HT DN25 PN40 HS24MM	1,4	0,03

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065N0003	JIP-WW BR DN32 PN40	1,4	0,03
065N0052	JIP-WW HT DN32 PN40 HS24MM	1,3	0,03
065N0021	JIP-WW BR FB DN25 PN40	1,2	0,03
065N0099	JIP-WP BR DN25 PN40 PEX 26 LOG	1,1	0,03
065N0032	JIP-CC BR DN32 PN16	1,0	0,03
065N0002	JIP-WW BR DN25 PN40	0,9	0,02
065N0076	JIP-WP BR DN20 PN40 PEX25 ISO	0,9	0,02
065N0097	JIP-WP BR DN20 PN40 PEX26 LOG	0,9	0,02
065N0070	JIP-WW HT DN20 PN40 HS19MM	0,8	0,02
065N0020	JIP-WW BR FB DN20 PN40	0,8	0,02
065N0033	JIP-CC BR DN25 PN16	0,8	0,02
065N0001	JIP-WW BR DN20 PN40	0,8	0,02
065N0066	JIP-WP BR DN20 PN40 P PEX20 ISO	0,8	0,02
065N0096	JIP-WP BR DN20 PN40 PEX20 LOG	0,8	0,02
065N0000	JIP-WW DN 15 BR PN40	0,8	0,02
065N0071	JIP-WW DN25 HT PN40 HS19MM	0,8	0,02
065N0043	JIP-WC DN 20 BR PN16 Fi22	0,7	0,02
065N0030	JIP-CC BR DN15 PN16	0,7	0,02
065N0050	JIP-WW HT DN15/20 PN40 HS15MM	0,7	0,02
065N0031	JIP-CC BR DN20 PN16	0,7	0,02

Additional environmental information

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