ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

FläktGroup Valves, FläktGroup AB

EPD of multiple products, based on the result of a representative product.
Included products: KSO size Ø100-200, KK Ø80-200, GPDF/B Ø100-200, KGEB Ø100-160, NK Ø80-200, GPDT Ø100-160, KE Ø80-200, KTS Ø100-160, NE Ø80-200, RKT Ø63-315

EPD HUB, HUB-4657
Published on 12.12.2025, last updated on 12.12.2025, valid until 11.12.2030
Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	FläktGroup AB
Address	Hämeentie 23, 37800 AKAA, FINLAND
Contact details	info.fi@flaktgroup.com
Website	https://www.flaktgroup.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4 and D
EPD author	Heini Sjoholm FläktGroup AB
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Yazan Badour, as authorized verifier acting for EPD HUB Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	FläktGroup Valves
Additional labels	KSO, KK, NK, KGEB, GPDB, GPDF, GPDT, KE, KTS, NE, RKT
Product reference	-
Place(s) of raw material origin	Europa, Asia, Australia and South America
Place of production	Finland, Akaa
Place(s) of installation and use	-
Period for data	Calendar year 2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	61,3

ENVIRONMENTAL DATA SUMMARY

Declared unit	One kilogram of Valve
Declared unit mass	1 kg
Mass of packaging	kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3,73
GWP-total, A1-A3 ($kgCO_2e$)	3,62
Secondary material, inputs (%)	11,3
Secondary material, outputs (%)	82,2
Total energy use, A1-A3 (kWh)	12,8
Net freshwater use, A1-A3 (m^3)	0,05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

ABOUT FLÄKTGROUP

FläktGroup is a leader in air technology, delivering best in class, innovative and energy-efficient solutions to ensure comfort, safety, and performance, whilst reducing customer's carbon footprint. FläktGroup's premier brands, have been setting technological standards for more than 100 years and can fulfil the most demanding customer requirements.

Headquartered in Germany, FläktGroup operates all over the world with production sites across Europe, Asia, and the USA.

FOR WELLBEING, SAFETY, AND ENVIRONMENT

Today we spend more than 90% of our time indoors and the air we breathe has a big impact on our performance, wellbeing, and comfort. Our buildings need mechanical ventilation and air treatment to deliver safe and comfortable building spaces.

At the same time buildings account for up to 40% energy consumption where ventilation systems play a big part. The challenge is to lower the energy consumption and here FläktGroup is one of the key drivers providing superior quality products whilst protecting the environment.

OUR PURPOSE

Our purpose is simple: we care for your air whilst protecting the environment.

BEING AN EMPLOYER OF CHOICE

As we aim to be an employer of choice, this comes with a responsibility. We need to act and care as responsible Corporate Citizen for our people, our community, and our shared environment. We also must deliver sustainable solutions to help our customers to fulfil or exceed environmental demands and legislation.

FläktGroup is committed to deliver smart energy efficient ventilation solutions that make buildings sustainable, comfortable, healthy, and safe. FläktGroup delivers on this commitment while creating an environment of equality, respect, and fairness and by adhering to the highest level of ethical and compliance standards. FläktGroup's roadmap is aligned with the UN sustainability goals and the European Green Deal objectives and is translated into annual investments that support our objectives.

PRODUCT DESCRIPTION

FläktGroup valves are suitable for houses, offices etc. They are made of sheet steel and powder coated in white (RAL 9003) and CleanVent coating as standard. The body is equipped with cellular plastic gasket to form an airtight seal. Adjustment of the air flow is simple, the inner cone being rotated to the required setting and locked in the position with a single nut. The valve is installed by fitting it into the mounting ring so that both ends of the truss support the tracks of the ring firmly. For complete design, instructions for installation, adjustment and maintenance details are available at www.flaktgroup.com.

Further information can be found at:
https://www.flaktgroup.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	96,27	Europa, Asia, Australia and South America
Minerals	-	-
Fossil materials	3,73	Europa
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,000224
Biogenic carbon content in packaging, kg C	0,033

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	One kilogram of Valve
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory.
Metal coils are purchased and received from the steel manufacturer via truck. Next, they are lubricated and cut, deep drawn, and the shaft is welded. Once this is completed, the parts that need to be painted go through a paint machine and in some cases a coating machine. The treated parts are then transferred to the assembly station, where all components are put together. Finally, the finished product is packed in a plastic bag and placed into a cardboard box.
The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The transportation covers the delivery for the final product to the construction site and spills of packaging material. As the product is distributed across Finland, the average transport distance has been determined as the distance from Toijala plant to Central Finland. Transportation covers the Material loss of the valves during the installation phase and it´s estimated to be zero. The recycling percentages come from different sources where 83% of paper packaging is 83% recycled, 8% is incinerated and 9% goes to landfill. The source used for this is https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_8519259/default/table?lang=en. Plastic packaging is 40% recycled, 37% is incinerated and 23% goes to landfill. The source used for this is https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_8519242/default/table?lang=en.

PRODUCT USE AND MAINTENANCE (B1-B7)

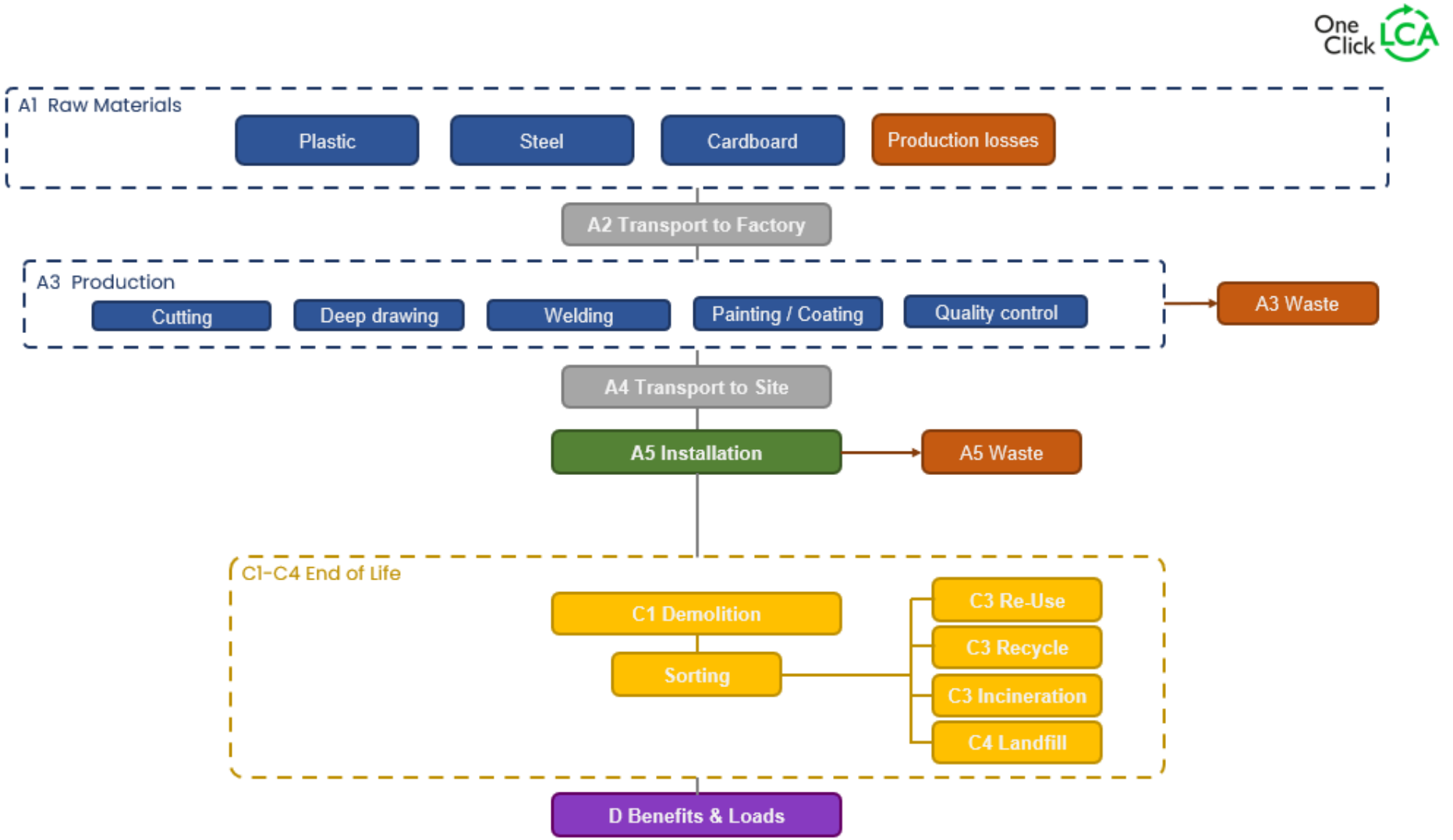
This EPD excludes the products use phase. The impacts during this phase vary depending on usage patterns and should be addressed separately within a comprehensive evaluation of specific construction projects.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The valves are assumed to be dismantled using hand tools (C1) and these are then transported 50km to the local recycling site by truck (C2). 50km is used because the real-life scenario is unknown and very dependent on which city that the unit is placed in. At the recycling site the product is dismantled into different categories where each raw material is divided into each category such as different kinds of metals and plastics, depending on material the average recovery of material differs. (C3). The remaining that is not recycled is then taken to landfill for disposal (C4).

The recycling percentages come from different sources where for steel 85% goes to recycling and 15% goes to landfill. The source used for this is https://worldsteel.org/wp-content/uploads/Life-cycle-inventory-LCI-study-2020-data-release.pdf. For the paint and coating used in the product, 0% goes to recycling, 99% goes to incineration and 1% goes to landfills. For plastic for instance HDPE 24% goes to recycling, 49% incineration and 27% goes to landfill. The recycled materials are then credited in module D. This is the most likely scenario for the handling of the product at its end of life.

SYSTEM DIAGRAM



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process that is more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are made according to the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

This is an EPD of multiple Circular Air Valves, based on the results of a representative product, with the KSO -valve being the declared unit. All the products are made in the same manufacturing site in Akaa, Finland. The calculated GWP values for all included sizes are shown for modules A1-A3 in Annex 1.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	3,48E+00	6,48E-02	7,63E-02	3,62E+00	1,17E-01	1,57E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,20E-02	3,09E-02	1,35E-01	-1,76E+00
GWP – fossil	kg CO_2e	3,48E+00	6,48E-02	1,90E-01	3,73E+00	1,17E-01	3,64E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,20E-02	3,09E-02	1,35E-01	-1,65E+00
GWP – biogenic	kg CO_2e	8,22E-04	1,33E-05	-1,20E-01	-1,19E-01	2,32E-05	1,20E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,34E-06	-3,96E-05	-5,95E-06	-1,10E-01
GWP – LULUC	kg CO_2e	2,36E-03	2,53E-05	6,35E-03	8,74E-03	4,13E-05	2,82E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,04E-06	2,31E-05	6,45E-06	3,03E-04
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	1,30E-07	1,17E-09	5,36E-09	1,37E-07	2,33E-09	4,54E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,41E-10	2,52E-10	7,10E-10	-6,34E-09
Acidification potential	mol H^+e	3,70E-02	1,87E-04	8,24E-04	3,80E-02	3,65E-04	1,98E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,36E-05	2,23E-04	1,05E-04	-6,57E-03
EP-freshwater[2)]	kg Pe	7,70E-05	4,56E-06	7,51E-05	1,57E-04	7,75E-06	8,99E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,85E-07	1,20E-05	1,46E-06	-7,55E-04
EP-marine	kg Ne	3,35E-03	5,21E-05	3,26E-04	3,73E-03	1,23E-04	2,45E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,56E-06	4,99E-05	1,95E-05	-1,50E-03
EP-terrestrial	mol Ne	1,39E-01	5,66E-04	2,24E-03	1,42E-01	1,34E-03	7,12E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,01E-05	5,61E-04	2,10E-04	-1,64E-02
POCP ("smog")[3)]	kg NMVOCe	9,75E-03	2,75E-04	9,30E-04	1,10E-02	5,73E-04	2,40E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,99E-05	1,66E-04	1,19E-04	-5,63E-03
ADP-minerals & metals[4)]	kg Sbe	3,96E-03	2,02E-07	1,52E-06	3,96E-03	3,82E-07	2,72E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,95E-08	1,32E-06	5,16E-08	-1,58E-05
ADP-fossil resources	MJ	4,05E+01	9,19E-01	3,82E+00	4,53E+01	1,64E+00	4,02E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-01	2,51E-01	6,27E-01	-1,55E+01
Water use[5)]	m^3e depr.	3,33E+00	4,54E-03	5,51E-01	3,89E+00	8,06E-03	1,72E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,18E-04	4,79E-03	2,35E-03	-2,24E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. 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 experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,78E-07	5,32E-09	8,33E-09	2,92E-07	9,19E-09	2,53E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,47E-10	3,01E-09	1,24E-09	-1,09E-07
Ionizing radiation[6)]	kBq U235e	3,11E+01	1,04E-03	1,84E-02	3,11E+01	2,09E-03	2,32E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,57E-04	2,12E-03	2,49E-04	6,75E-02
Ecotoxicity (freshwater)	CTUe	5,80E+01	1,24E-01	1,53E+00	5,96E+01	2,16E-01	1,09E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,41E-02	1,48E-01	1,72E-01	-4,09E+00
Human toxicity, cancer	CTUh	7,28E-09	1,08E-11	5,30E-11	7,34E-09	1,99E-11	3,93E-12	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,87E-12	1,70E-11	2,54E-10	-2,60E-10
Human tox. non-cancer	CTUh	1,03E-07	5,82E-10	1,80E-09	1,06E-07	1,03E-09	1,79E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,83E-11	1,14E-09	4,13E-10	-1,27E-08
SQP[7)]	-	4,48E+00	6,80E-01	3,75E+00	8,91E+00	9,77E-01	3,66E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,67E-02	4,86E-01	8,78E-02	-1,31E+01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	2,71E+00	1,48E-02	-2,62E-01	2,47E+00	2,84E-02	-1,16E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,29E-03	4,65E-02	4,04E-03	-2,51E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,03E+00	1,03E+00	0,00E+00	-1,03E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,12E-01
Total use of renew. PER	MJ	2,71E+00	1,48E-02	7,66E-01	3,50E+00	2,84E-02	-2,19E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,29E-03	4,65E-02	4,04E-03	-1,60E+00
Non-re. PER as energy	MJ	4,03E+01	9,19E-01	2,53E+00	4,38E+01	1,64E+00	-1,05E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-01	1,72E-02	-1,92E-01	-1,55E+01
Non-re. PER as material	MJ	3,68E-01	0,00E+00	1,14E+00	1,51E+00	0,00E+00	-1,14E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,69E-01	-9,94E-02	5,53E-01
Total use of non-re. PER	MJ	4,07E+01	9,19E-01	3,67E+00	4,53E+01	1,64E+00	-2,19E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-01	-2,51E-01	-2,91E-01	-1,49E+01
Secondary materials	kg	1,13E-01	4,14E-04	7,99E-02	1,93E-01	7,52E-04	8,73E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,37E-05	3,12E-04	2,46E-04	9,56E-01
Renew. secondary fuels	MJ	1,56E-03	5,20E-06	8,43E-03	1,00E-02	9,49E-06	5,97E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,49E-07	1,42E-05	4,75E-07	-1,35E-04
Non-ren. secondary fuels	MJ	1,45E-03	0,00E+00	3,20E-06	1,46E-03	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	5,17E-02	1,28E-04	2,54E-03	5,44E-02	2,21E-04	-2,73E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,30E-05	1,35E-04	7,73E-05	-2,44E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,83E-01	1,41E-03	1,10E-02	2,95E-01	2,35E-03	8,22E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,19E-04	1,74E-03	1,57E-03	-5,35E-01
Non-hazardous waste	kg	4,27E+00	2,83E-02	7,44E-01	5,04E+00	4,97E-02	9,50E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,15E-03	6,35E-02	2,12E-02	-4,46E+00
Radioactive waste	kg	4,29E-04	2,58E-07	4,65E-06	4,33E-04	5,20E-07	5,90E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,42E-08	5,43E-07	6,09E-08	1,75E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	3,75E-04	0,00E+00	3,10E-01	3,11E-01	0,00E+00	7,80E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,22E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	8,65E-05	0,00E+00	0,00E+00	8,65E-05	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	2,04E-03	0,00E+00	0,00E+00	2,04E-03	0,00E+00	1,93E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,40E-02	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,10E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,70E-02	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,12E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,70E-02	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	3,48E+00	6,48E-02	1,97E-01	3,74E+00	1,17E-01	3,64E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,20E-02	3,10E-02	1,35E-01	-1,65E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity, Finland, residual mix, direct GWP only, 2023 (Association of Issuing Bodies)
Electricity kg CO2e / kWh	0.66
District heating data source and quality	Heat production, natural gas, at industrial furnace >100kW (Reference product: heat, district or industrial, natural gas)
District heating kg CO2e / kWh	0,0773

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	Diesel powered truck
Average transport distance, km	546
Capacity utilization (including empty return) %	50
Bulk density of transported products	-
Volume capacity utilization factor	1

Installation scenario documentation A5

Scenario information	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	-
Water use / m^3	-
Other resource use / kg	-
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	-
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	0,1069 Kg
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	Recycling 0,077246 Kg Landfilled 0,013359 Kg Incinerated 0,016295
Direct emissions to ambient air, soil and water / kg	-

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	-
Collection process – kg collected with mixed construction waste	-
Recovery process – kg for re-use	-
Recovery process – kg for recycling	0,82052 Kg
Recovery process – kg for energy recovery	0,04055 Kg
Disposal (total) – kg for final deposition	0,14703 Kg
Scenario assumptions e.g. transportation	Transported 50 km by truck to local recycling station

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance is filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub cannot identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Yazan Badour, as authorized verifier acting for EPD HUB Limited

12.12.2025

ANNEX 1.

This is an EPD of multiple Circular Air Valves, based on the results of a representative product, with the KSO-100 being the declared unit. The following table shows the calculated GWP-GHG results of the climate impact in modules A1-A3 (Cradle-to-gate) for all included products and sizes. The scaling was modelled in OneClick software for each size and product.

				A1-A3				Scaling coefficient A1-A3 GWP-total (Kg CO2e)
Product Name	Size	Code	Mass (Kg)	EN 15804+A1	EN 15804+A2			
				GWP (kg CO2e)	GWP total (Kg Co2e)	GWP fossil (Kg CO2e)	GWP biogenic (Kg Co2e)	
KSO Extract Air Valve (Size 100 Reference Product)	100	KSO-100-C	0,26	3,19	3,39	3,49	0,11	1,00
	125	KSO-125-C	0,36	4,42	4,69	4,83	0,15	1,38
	150	KSO-150-C	0,47	5,77	6,13	6,31	0,20	1,81
	160	KSO-160-C	0,47	5,77	6,13	6,31	0,20	1,81
	200	KSO-200-C	0,72	8,83	9,39	9,66	0,30	2,77

Product Name	Size	Code	Mass (Kg)	A1-A3				Scaling coefficient A1-A3 GWP-total (Kg CO2e)
				EN 15804+A1	EN 15804+A2			
				GWP (kg CO2e)	GWP total (Kg Co2e)	GWP fossil (Kg CO2e)	GWP biogenic (Kg Co2e)	
KK Extract Air Valve	80	KK-80-C	0,15	1,84	1,96	2,01	0,06	0,58
	100	KK-100-C	0,16	1,96	2,09	2,15	0,07	0,62
	125	KK-125-C	0,23	2,82	3,00	3,09	0,10	0,88
	150	KK-150-C	0,34	4,17	4,43	4,56	0,14	1,31
	160	KK-160-C	0,34	4,17	4,43	4,56	0,14	1,31
	200	KK-200-C	0,51	6,26	6,65	6,85	0,22	1,96
GPDF/B Extract Air Valve	100	GPDF-100-C	0,17	2,09	2,22	2,28	0,07	0,65
	125	GPDF-125-C	0,25	3,07	3,26	3,36	0,11	0,96
	160	GPDF-160-C	0,35	4,29	4,56	4,70	0,15	1,35
	200	GPDF-200-C	0,5	6,13	6,52	6,71	0,21	1,92
KGEB Extract Air Valve	100	KGEB-100-C	0,3	3,68	3,91	4,03	0,13	1,15
	125	KGEB-125-C	0,4	4,91	5,22	5,37	0,17	1,54
	160	KGEB-160-C	0,6	7,36	7,82	8,05	0,25	2,31
NK Extract Air Valve	80	NK-80-C	0,12	1,47	1,56	1,61	0,05	0,46
	100	NK-100-C	0,16	1,96	2,09	2,15	0,07	0,62
	125	NK-125-C	0,23	2,82	3,00	3,09	0,10	0,88
	150	NK-150-C	0,34	4,17	4,43	4,56	0,14	1,31
	160	NK-160-C	0,34	4,17	4,43	4,56	0,14	1,31
	200	NK-2000-C	0,51	6,26	6,65	6,85	0,22	1,96

Product Name	Size	Code	Mass (Kg)	A1-A3				Scaling coefficient A1-A3 GWP-total (Kg CO2e)
				EN 15804+A1	EN 15804+A2			
				GWP (kg CO2e)	GWP total (Kg Co2e)	GWP fossil (Kg CO2e)	GWP biogenic (Kg Co2e)	
GPDT Supply Air Valve	100	GPDT-100-C	0,19	2,33	2,48	2,55	0,08	0,73
	125	GPDT-125-C	0,27	3,31	3,52	3,62	0,11	1,04
	160	GPDT-160-C	0,37	4,54	4,82	4,97	0,16	1,42
KE Supply Air Valve	80	KE-80-C	0,15	1,84	1,96	2,01	0,06	0,58
	100	KE-100-C	0,17	2,09	2,22	2,28	0,07	0,65
	125	KE-125-C	0,23	2,82	3,00	3,09	0,10	0,88
	150	KE-150-C	0,34	4,17	4,43	4,56	0,14	1,31
	160	KE-160-C	0,34	4,17	4,43	4,56	0,14	1,31
	200	KE-200-C	0,55	6,75	7,17	7,38	0,23	2,12
KTS Supply Air Valve	100	KTS-100-C	0,27	3,31	3,52	3,62	0,11	1,04
	125	KTS-125-C	0,43	5,28	5,61	5,77	0,18	1,65
	160	KTS-160-C	0,58	7,12	7,56	7,79	0,25	2,23
NE Supply Air Valve	80	NE-80-C	0,14	1,72	1,83	1,88	0,06	0,54
	100	NE-100-C	0,19	2,33	2,48	2,55	0,08	0,73
	125	NE-125-C	0,26	3,19	3,39	3,49	0,11	1,00
	150	NE-150-C	0,37	4,54	4,82	4,97	0,16	1,42
	160	NE-160-C	0,37	4,54	4,82	4,97	0,16	1,42
	200	NE-200-C	0,55	6,75	7,17	7,38	0,23	2,12
RKT Natural Ventilation Air Valve	63	RKT-63-IP	0,12	1,47	1,56	1,61	0,05	0,46
	80	RKT-80-IP	0,16	1,96	2,09	2,15	0,07	0,62
	100	RKT-100-IP	0,19	2,33	2,48	2,55	0,08	0,73
	125	RKT-125-IP	0,26	3,19	3,39	3,49	0,11	1,00
	160	RKT-160-IP	0,37	4,54	4,82	4,97	0,16	1,42
	200	RKT-200-IP	0,5	6,13	6,52	6,71	0,21	1,92
	250	RKT-250-IP	1,05	12,88	13,69	14,09	0,44	4,04
	315	RKT-315-IP	1,53	18,77	19,95	20,54	0,65	5,88