aalberts hydronic flow control

Environmental Product Declaration

XStream Vent

Air Separators

in accordance with ISO 14044,
ISO 14040 and EN 15804+A2

flamco comap

1. general information

1.1 declaration holder

Aalberts hydronic flow control B.V.
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Aalberts hydronic flow control has been designing, producing, and supplying high-quality components for HVAC systems since 1956. It is part of the stocklisted Aalberts NV, instituted in 1975. Along with Simplex, which helps manage water and energy through its thermal and sanitary products that increase comfort in buildings, the Aalberts hydronic flow control business unit was constituted. Stronger together, Flamco and Simplex will continue to build mission critical technologies to manage heating and cooling humanly with better financial and environmental efficiency. From source to emitter we partner with our customers to engineer seamless energy efficient hydronic systems for their building requirements.

The Aalberts hydronic flow production locations mentioned in this document, Almere and Swallungen, are certified acc. ISO 9001, ISO 14001 and ISO 45001.

1.2 declared product

This document applies to the XStream air separators listed in the appendix -chapter 5- of this document. A XStream Vent 1", article number: 11002, has been used as a reference article.

1.3 verification

The European standard EN15804: 2012 + A2:2019 has been used as the core PCR. Environmental product declarations for construction products may not be comparable if they do not comply with the EN15804+A2. It is only possible to make a limited comparison between life cycle assessment results when different background databases are used and/or different assumptions as described in chapter 3.3. This is a Self-Declared Environmental Product Declaration acc. NEN-EN-ISO 14025.

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Production data: 2025
Almere, November 2025
Aalberts hydronic flow control B.V.

Henk Robers
COO
XStream air separators (22mm – 2")
Environmental Product Declaration

2. product

2.1 description and application purpose
XStream separators ensure lower energy consumption, less wear and tear, fewer breakdowns, a longer lifespan and thus a higher efficiency of heating and cooling installations.

• With a unique ECO/MAX-mode. In the ECO mode a part of the system water (partical flow) is led through the XStream. In the MAX mode all the system water is led through the XStream.

2.2 XStream separators
All XStreams air separators (22mm – 2") are produced in our factory in Swallungen (Germany).

2.3 range and conversion factors
The reference product for this declaration is the XStream Vent 1" air separator. This article was chosen as a reference because it is the most common product in the XStream air vent article range. The life cycle assessment results in chapter 4 can be converted to other articles listed in the appendix of this document. This can be done by multiplying the results with the conversion factor for a specific product. For products and their corresponding conversion factors, see the appendix -chapter 5-.

3. Life cycle assessment scope

3.1 system boundaries

- This EPD includes the following phases:
- Product stage (A1–A3)
- Construction process stage (A4)
- End-of-life (C2-C4 and D)
- A5, B1-B7 and C1 are considered irrrelevant for this product range.

3.2 declared unit composition

The reference article, XStream Vent 1", consist of the following raw materials:

Brass:	812 gram
EPP:	130 gram
Plastic GF:	415 gram
Plastic without GF:	46 gram
Steel:	2 gram
Rubber:	8 gram
Paper/cardboard:	170 gram
Total:	1583 gram

3.3 assumptions and background information

A1: For the raw material supply 100% of the materials on the bill of materials were modelled using data from the Ecoinvent database.

A2: For transport of materials to Aalberts hfc in Swallungen specific transport distances from materials suppliers were used. Class Euro5 trucks are used as the main means of transport and were used for calculation. For transport from China, the boat is used as the main means of transport.

A3: XStream products are manufactured in the factory of Aalberts hfc in Swallungen, Germany. This factory makes use of standard electricity-Germany from the database of Ecoinvent for manufacturing the XStream products. Standard electricity is also used in the warehouse, the electricity consumption hereby is negligible. Water and auxillary materials were considered negligible.

A4: Transport from the factory in Swallungen to production partners and the warehouse is done by Aalberts hydronic flow control and logistical partners. The main means of transport is by Class Euro5 trucks. The transportation distance is calculated at 359km. Transportation to customers within Europe is done by logistical partners. The main means of transport in Europe is by Class Euro5 trucks. The average transportation distance is calculated at 359 km.

A5: The installation is done by use of a hand tool which uses a considered negligible amount of energy.

B1-B7: A XStream is designed for a lifetime of 10+ years of service. Needs no maintenance, repair, replacement or refurbishment and has no operational water or energy use during its lifetime.

C1: It is assumed that disassembly is done using a hand tool which uses a considered negligible amount of energy.

C2-C4: Many of the materials used can be recycled. Transport to a waste processing site is assumed to be 30 km and modeled using class Euro5 trucks. It is assumed that processing takes place at material level rather than at component level. Therefore, the energy consumption for component disposal is considered negligible. Partial disposal take place at a recycler rather than at a waste processor and is therefore calculated in phase D.

D: Average recycling rates for building materials in Europe were used to calculate the amount of material that went to recycling, incineration and landfill. Plastic with glass filler, insulation and O-rings were incinerated and the rest of the product was calculated to go to landfill.

3.4 quality of life cycle assessment, data and reporting

This Environmental Product Declaration is based on a life cycle assessment conducted according to the ISO 14040 and ISO 14044 and meets further equirements from the EN 15804:2012 + A2:2019. The modelling and calculation was done in the Ecochain software tool “Mobius”, which uses the Ecoinvent database. Inventory data was mainly provided by Aalberts hydronic flow control B.V. and was peer reviewed by several internal partners. The Environmental Product Declaration report is automatically generated to prevent human errors and ensure its quality. Improved quality of the life cycle assessment will be achieved when it would get externally verified according to ISO 14025. Because of the nature of a life cycle assessment and accompanying assumptions, the environmental impact of a product will remain an underestimate. Care must be taken when comparing EPDs from different sources. Aalberts hydronic flow control B.V. is committed to providing the most accurate environmental impact possible to its customers and will continue to improve the quality of the data, model and results.

4. life cycle assessment results

The following environmental profile shows the results of the life cycle assessment of a single unit of the declared product.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Aalberts hydronic flow control (2025). ✓ = module declared. MND = module not declared

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
✓	✓	✓	✓	MND	MND	MND	MND	MND	MND	MND	MND	MND	✓	✓	✓	✓

Product stage
A1 Raw material supply **A2** Transport **A3** Manufacturing
Construction process stage
A4 Transport gate to site
A5 Assembly / Concstruction installation process

Use stage
B1 Use **B2** Maintenance **B3** Repair **B4** Replacement **B5** Refurbishment
B6 Operational energy use **B7** Operational water use

End- of- Life stage
C1 De- construction demolition **C2** Transport
C3 Waste processing **C4** Disposal
Benefits and loads beyone the system boundaries
D Reuse, Recovery, Recycling- potential

environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; GWP-f = EF Climate change - Fossil [kg CO2 eq]; GWP-b = EF Climate Change - Biogenic [kg CO2 eq]; GWP-luluc = EF Climate Change - Land use and LU change [kg CO2 eq]; ODP = EF Ozone depletion [kg CFC11 eq]; AP = EF Acidification [mol H+ eq]; EP-fw = EF Eutrophication, freshwater [kg P eq]; EP-m = EF Eutrophication, marine [kg N eq]; EP-T = EF Eutrophication, terrestrial [mol N eq]; POCP= EF Photochemical ozone formation [kg NMVOC eq]; ADP-mm = EF Resource use, minerals and metals [kg Sb eq]; ADP-f = EF Resource use, fossils [MJ]; WDP = EF Water use [m3 depriv.]; PM = EF Particulate matter [disease inc.]; IR = EF Ionising radiation [kBq U-235 eq]; ETP-fw = EF Ecotoxicity, freshwater [CTUe]; HTP-c = EF Human toxicity, cancer [CTUh]; HTP-nc = EF Human toxicity, non-cancer [CTUh]; SQP = EF Land use [Pt]; PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; PERM = Use of renewable primary energy resources used as raw materials [MJ]; PERT = Total use of renewable primary energy resources [MJ]; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; PENRM = Use of nonrenewable primary energy resources used as raw materials [MJ]; PENRT = Total use of non-renewable primary energy resources [MJ]; PET = Total energy [MJ]; SM = Use of secondary material [kg]; RSF = Use of renewable secondary fuels [MJ]; NRSF = Use of non-renewable secondary fuels [MJ];FW = Use of net fresh water [m3]; HWD = Hazardous waste disposed [kg]; NHWD = Non-hazardous waste disposed [kg]; RWD = Radioactive waste disposed [kg]; CRU = Components for re-use [kg]; MFR = Materials for recycling [kg]; MER = Materials for energy recovery [kg]; EE = Exported energy [MJ]; EET = Exported energy thermic [MJ]; EEE = Exported energy electric [MJ]

statement of confidentiality

results

Environmental impact	Abb.	Unit	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
Acidification	AP	mol H+ eq	4,30E-01	6,66E-03	6,35E-05	2,56E-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	0,00E+00	0,00E+00	5,23E-07	6,25E-04	-5,66E-02	**3,81E-01**
Climate change - biogenic	GWP-b	kg CO2 eq	2,59E-01	5,10E-04	2,44E-03	8,57E-05	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	0,00E+00	-7,55E-07	2,90E-04	-8,06E-03	**2,54E-01**
Climate change - fossil	GWP-f	kg CO2 eq	1,18E+01	6,89E-01	2,81E-02	8,58E-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	0,00E+00	0,00E+00	4,40E-05	1,47E+00	-1,29E+00	**1,28E+01**
Climate change - land use and LU change	GWP-luluc	kg CO2 eq	2,09E-02	3,38E-04	3,77E-05	3,61E-05	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	0,00E+00	8,38E-08	1,11E-04	-1,26E-03	**2,02E-02**
Climate change - total	GWP-t	kg CO2 eq	1,29E+01	6,90E-01	3,05E-02	8,59E-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	0,00E+00	0,00E+00	4,33E-05	1,47E+00	-1,30E+00	**1,39E+01**
Ecotoxicity, freshwater	ETF	CTUe	3,52E+03	7,87E+00	2,29E-01	1,06E+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	0,00E+00	0,00E+00	2,23E-03	1,83E+01	-1,01E+03	**2,54E+03**
Ecotoxicity, freshwater	ETF-i	CTUe	2,60E+02	2,10E+00	1,36E-02	2,83E-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	0,00E+00	0,00E+00	1,81E-04	1,65E+01	-5,08E+01	**2,28E+02**
Ecotoxicity, freshwater	ETF-m	CTUe	3,26E+03	5,15E+00	2,15E-01	7,01E-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	0,00E+00	0,00E+00	2,02E-03	1,75E+00	-9,58E+02	**2,31E+03**
Ecotoxicity, freshwater	ETF-o	CTUe	2,05E+00	6,19E-01	7,79E-04	7,98E-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	0,00E+00	0,00E+00	2,34E-05	1,33E-02	-3,08E-01	**2,46E+00**
Eutrophication, freshwater	EP-fw	kg P eq	1,96E-03	4,65E-06	4,46E-06	6,50E-07	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	0,00E+00	2,14E-09	4,18E-06	-4,51E-04	**1,52E-03**
Eutrophication, marine	EP-m	kg N eq	2,68E-02	1,59E-03	1,15E-05	5,24E-05	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	0,00E+00	1,15E-07	1,71E-04	-5,26E-03	**2,34E-02**
Eutrophication, terrestrial	EP-t	mol N eq	3,37E-01	1,77E-02	1,43E-04	5,84E-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	0,00E+00	0,00E+00	1,33E-06	1,91E-03	-8,12E-02	**2,76E-01**
Human toxicity, cancer	HTC	CTUh	7,94E-08	3,06E-10	5,56E-12	3,37E-11	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	0,00E+00	7,51E-14	2,65E-10	-2,21E-08	**5,79E-08**
Human toxicity, cancer	HTC-i	CTUh	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	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**
Human toxicity, cancer	HTC-m	CTUh	7,64E-08	1,82E-10	4,10E-12	1,81E-11	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	0,00E+00	5,56E-14	1,02E-10	-2,16E-08	**5,51E-08**
Human toxicity, cancer	HTC-o	CTUh	2,93E-09	1,24E-10	1,46E-12	1,57E-11	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	0,00E+00	1,95E-14	1,64E-10	-4,17E-10	**2,82E-09**
Human toxicity, non-cancer	HTNC	CTUh	5,44E-06	7,57E-09	2,09E-10	1,08E-09	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	0,00E+00	3,29E-12	5,65E-09	-1,60E-06	**3,85E-06**
Human toxicity, non-cancer	HTNC-i	CTUh	3,73E-08	1,53E-09	3,33E-11	1,99E-10	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	0,00E+00	1,78E-13	2,94E-09	-5,63E-09	**3,64E-08**
Human toxicity, non-cancer	HTNC-m	CTUh	5,14E-06	5,77E-09	1,74E-10	8,47E-10	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	0,00E+00	2,97E-12	2,68E-09	-1,48E-06	**3,68E-06**
Human toxicity, non-cancer	HTNC-o	CTUh	2,54E-07	2,88E-10	3,72E-12	3,78E-11	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	0,00E+00	1,50E-13	4,32E-11	-1,20E-07	**1,34E-07**
Ionising radiation	IR	kBq U-235 eq	5,87E-01	4,44E-02	1,28E-03	5,80E-03	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	0,00E+00	3,03E-06	4,30E-03	-7,96E-02	**5,64E-01**
Land use	SQP	Pt	1,59E+02	7,35E+00	5,35E-02	1,14E+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	0,00E+00	0,00E+00	1,12E-03	3,14E-01	-1,10E+01	**1,57E+02**
Ozone depletion	ODP	kg CFC11 eq	5,64E-07	1,57E-07	7,31E-10	2,03E-08	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	0,00E+00	5,84E-12	4,38E-08	-1,02E-07	**6,84E-07**
Particulate matter	PM	disease inc.	1,24E-06	5,39E-08	2,13E-10	7,79E-09	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	0,00E+00	6,97E-12	4,95E-09	-2,11E-07	**1,10E-06**
Photochemical ozone formation	POCP	kg NMVOC eq	9,42E-02	5,06E-03	3,55E-05	2,27E-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	0,00E+00	0,00E+00	3,67E-07	5,06E-04	-1,79E-02	**8,21E-02**
Water use	WDP	m3 depriv.	1,06E+01	3,13E-02	1,25E-03	4,45E-03	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	0,00E+00	8,01E-06	7,22E-02	-1,13E+00	**9,60E+00**
Resource use	**Abb.**	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**	**Total**
Energy, primary total	PET	MJ	1,81E+02	1,11E+01	4,80E-01	1,44E+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	0,00E+00	0,00E+00	7,38E-04	1,18E+00	-2,29E+01	**1,72E+02**
Energy, primary, non-renewable	PENRT	MJ	1,56E+02	1,09E+01	4,18E-01	1,42E+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	0,00E+00	0,00E+00	6,44E-04	1,07E+00	-1,75E+01	**1,52E+02**
Energy, primary, non-renewable, excluding materials	PENRE	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	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**
Energy, primary, non-renewable, materials	PENRM	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	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**
Energy, primary, renewable	PERT	MJ	2,46E+01	1,34E-01	6,14E-02	1,96E-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	0,00E+00	0,00E+00	9,44E-05	1,09E-01	-5,40E+00	**1,95E+01**
Energy, primary, renewable, excluding materials	PERE	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	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**
Energy, primary, renewable, materials	PERM	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	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**
Resource use, fossils	ADP-f	MJ	1,44E+02	1,03E+01	3,89E-01	1,34E+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	0,00E+00	0,00E+00	6,07E-04	1,01E+00	-1,65E+01	**1,40E+02**
Resource use, minerals and metals	ADP-mm	kg Sb eq	9,99E-03	2,08E-06	5,73E-08	3,00E-07	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	0,00E+00	5,21E-09	1,70E-06	-9,42E-04	**9,05E-03**
Secondary fuel, non-renewable	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	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**
Secondary fuel, renewable	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	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**
Secondary material	SM	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	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**
Water, fresh water use	FW	m3	2,68E-01	1,12E-03	1,73E-04	1,62E-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	0,00E+00	0,00E+00	3,24E-07	2,16E-03	-2,84E-02	**2,43E-01**
Output flows and waste categories	**Abb.**	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**	**Total**
Components for re-use	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	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**
Exported energy, electric	EEE	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	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**
Exported energy, thermal	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	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**
Materials for energy recovery	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	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**
Materials for recycling	MFR	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	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**
Waste, hazardous	HWD	kg	2,89E-03	2,31E-05	1,33E-07	3,41E-06	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	0,00E+00	1,75E-09	1,98E-06	-2,06E-05	**2,90E-03**
Waste, non hazardous	NHWD	kg	2,69E+00	5,59E-01	1,70E-03	8,89E-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	0,00E+00	0,00E+00	1,85E-05	-1,96E-02	-1,00E+00	**2,32E+00**
Waste, radioactive	RWD	kg	4,04E-04	6,96E-05	1,63E-06	9,00E-06	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	0,00E+00	3,58E-09	3,63E-06	-7,32E-05	**4,15E-04**

5. appendix

The life cycle assessment results listed in chapter 4 can be converted to the other sales articles listed using the conversion factor in accordance with the following tables.

Product	Article	Size	Conversion factor
XStream Vent	11011	22mm	0,69
XStream Vent	11001	¾"F	0,68
XStream Vent	11002	1"F	1
XStream Vent	11021	1"M	0,65
XStream Vent	11003	1¼"F	1,13
XStream Vent	11022	1¼"M	0,99
XStream Vent	11004	1½"F	1,54
XStream Vent	11005	2"F	1,81

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