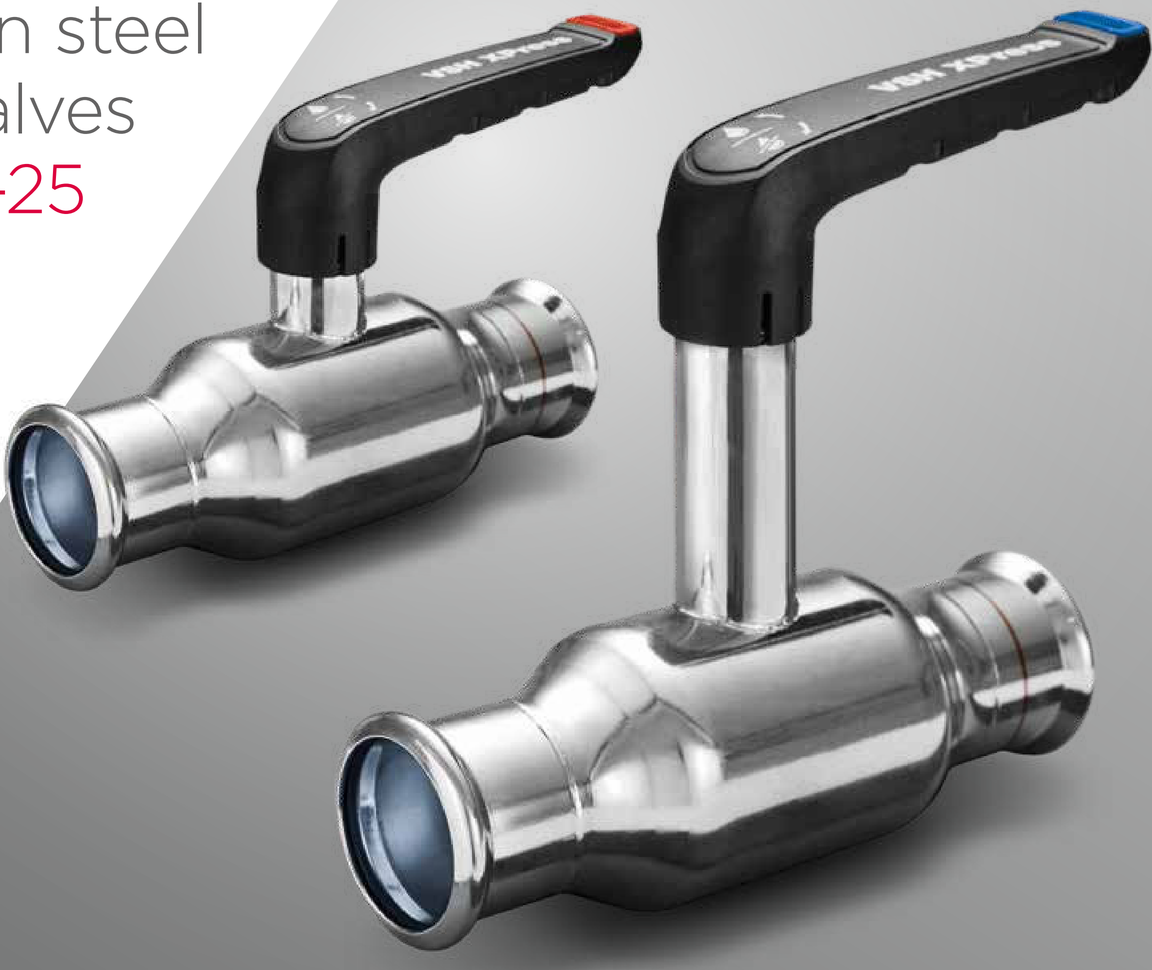
aalberts
integrated piping systems

VSH XPress FullFlow

carbon steel ball valves DN10-25



Environmental Product Declaration

in accordance with
EN 15804+A2:2019 & ISO 14025 / ISO 21930

EN

product and manufacturer

general information manufacturer

manufacturer	Broen A/S
address	Skovvej 30, DK-5610 Assens, Denmark
contact details	broen@broen.com
website	www.broen.com

EPD standards, scope and verification

program operator	EPD Hub, hub@epdhub.com
reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	manufactured product
EPD category	third party verified EPD
EPD scope	cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Broen A/S – Ibrahim Khaled Matar; Haider Saied
EPD verification	independent verification of this EPD and data, according to ISO 14025: ☐ internal certification ☑ external verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPD's 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	VSH XPress FullFlow Carbon ball valve
additional labels	this EPD covers all VSH XPress FullFlow Carbon ball valves in the DN10 - DN25 range (see complete range in Annex on page 8)
product reference	VSH XPress FullFlow Carbon ball valve 1020000101 with extended stem DN20 (press x press connection)
place of production	Skovvej 30, DK-5610 Assens, Denmark
period for data	november 2021 - november 2022
averaging in EPD	multiple products
variation in GWP-fossil for A1-A3	-25% + 7%

environmental data summary

declared unit	1020000101-1102 scaled to 1 kg.
declared unit mass	1 kg
GWP-fossil, A1-A3	9.76E+00 kgCO²e
GWP-total, A1-A3	9.56E+00 kgCO²e
secondary material, inputs	75%
secondary material, outputs	60%
total energy use, A1-A3	54.9 kWh
total water use, A1-A3	3.18E-01 m³e

about the manufacturer

Broen Valve Technologies is a leading international manufacturer of valve technology, and we operate on three continents across the world. Broen is headquartered in Assens, Denmark and together with **Aalberts integrated piping systems** (AIPS) part of Aalberts N.V. listed on the EuroNext Stock Exchange (NL). For more than 70 years Broen has been the global leader in the development and production of valve technology for the control of water, air and gas. Broen delivers complete solutions for HVAC building installations and is a leading supplier of district energy valves and valve technology for natural gas.

product description

This EPD covers all VSH XPress FullFlow Carbon ball valves in the DN10 to DN25 range of (see complete range in Appendix on page 8)

applications

Heating

VSH XPress FullFlow Carbon valves are the best solution for heating systems. Before leaving the factory, these compact fittings are subjected to stringent quality assurance and leakage testing throughout the entire production process. Together with laser welding technology, the energy-optimized flow design gives all fittings a very low internal flow resistance.

Cooling:

VSH XPress FullFlow Carbon valves are the valves of tomorrow for cooling installations, providing the same advantages as those for heating installations: It is the optimal energy-efficient solution with the lowest possible flow resistance. Furthermore, you can adapt the choice of material to the individual installation. VSH XPress FullFlow Carbon valves with extended stem also provides proper, diffusion-proof insulation for entire installations.

compressed air

VSH XPress FullFlow Carbon valves e can be used for compressed air installations. Depending on the water and oil content it can be used for various compressed air installations.

more information can be found at www.aalberts-ips.eu

product life-cycle

product raw material composition

category	Amount, mass	origin
metals	94%	Europe and Asia
minerals	0%	-
fossil materials	6%	Europe and Asia
bio-based materials	0%	-

biogenic carbon content

product's biogenic carbon content at the factory gate	
biogenic carbon content in product	0 kg C
biogenic carbon content in packaging	0.0781 kg C

functional unit and service life

declared unit	1020000101-0100 scaled to 1 kg
mass per declared unit	1 kg
functional unit	-
reference service life	-

substances, reach - very high concern

This product contains a ball made from brass, that contains around 1.5% lead . For the overall product the lead content is around 0.3% per 1 Kg.

system boundary

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

product stage			assembly stage		use stage						
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND
raw materials	transport	manufacturing	transport	assembly	use	maintenance	repair	replacement	refurbishment	operational energy use	operational water use

end of life stage				beyond system boundaries		
C1	C2	C3	C4	D		
x	x	x	x	x		
deconstr./dem ol.	transport	waste processing	disposal	reuse	recovery	recycling

Modules not declared = MND. 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.

The valve is made of carbon steel, brass, PTFE and composite. The carbon steel is received as tubes or bars in the factory and components are manufactured by processing the bars and tubes. The processes used to process the steel are milling, drilling, cutting and pressing. Scrap material derived from the production is sent to recycling, directly from the factory.

Composite and PTFE parts are sourced and are directly consumed in the assembly of the valve.

the valves consist of following components

- retaining ring
- stem
- stem guide
- lock ring for sealing box
- optional end connection combinations:
  - male or female threaded
  - swivel nuts
  - annealed carbon press ends
- support ring
- body carbon steel
- ball

In addition it is possible to choose between 3 different handle options:

- L handle
- T handle
- Gear handle

The handles are made from composite and carbon steel. The ball is made from brass. Other polymer parts include o-rings made from EPDM and seats made of PTFE. Additional processes used to manufacture the valves are welding, testing and packaging.

The transport assumptions are based on the actual distances between the supplier and Broen for each component. The production loss is metal scrap from the processing of metals. CO_2 emissions from the consumption of electricity is based on the actual emission provided by the supplier, where at least 50% comes from renewable sources. Created with One Click LCA 5.

For packaging a cardboard package is used, and no other material. The cardboards transportation distance is defined as the distance between the supplier and Broen, both located in Denmark. The ancillaries for the production is tap water, mineral oils for lubrication purposes and argon gas. The tap water waste is run to treatment facilities via pipes, the argon gas can not be collected and is simply diffused in air and the mineral oils are collected then send for waste treatment. The mineral oils transportation is defined as the distance between Broen and the treatment facility in Denmark. The obtained scrap from the metal processing is send to authorised recycling facilities, and the transportation is defined as the distance between Broen and the facilities.

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 is defined according to the PCR. Distance of transportation from production to building site, is estimated from the countries with the largest sales volume, The transportation method is a combination of lorry and containership, depending on the country. Vehicle capacity utilization volume factor is assumed to be 1 which means full loads, it may vary but as role of transportation emission in total results are small, the variety is assumed to be negligible. Empty returns are not taken into account as it is assumed that the return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as products are packaged properly. Also, volume capacity utilisation factor is assumed to be 1 for the nested packaged products.
The only waste in A5 for the product comes from the packaging. The transportation from building site to recycling station is assumed to be 100 km in all scenarios.

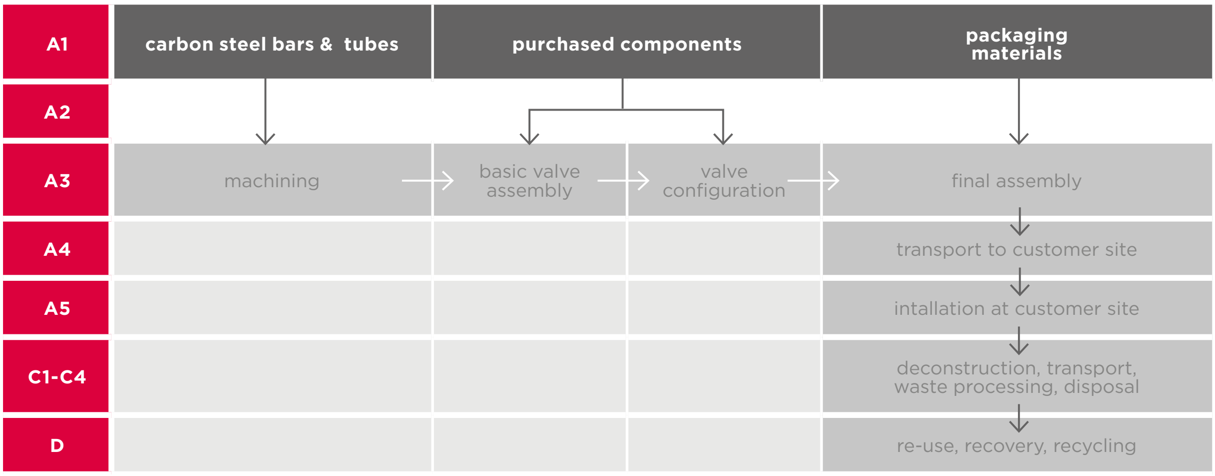
product use and maintenance (B1-B7)

A VSH XPress FullFlow ball valve needs no maintenance, repair or refurbishment and has no operational water or energy use during its lifetime. Air, soil, and water impacts during the use phase have not been studied.

product end of life (C1-C4, D)

the consumption of energy and natural resources for disassembling the end-of-life is assumed to be negligible, as the disassembly of the product is done by the buyer or the recycling facilities (C1). The end-of-life product is assumed to be sent to the closest facilities by lorry, which is dependent on the individual country (C2). 85% of the product is sent for recycling, and 85% of polymer parts are sent for incineration with energy recovery (C3). 15% of the end-of-life product is assumed to go to a landfill or be lost in the processing (C4). Due to the recycling and incineration potential of metals and plastics, the end-of-life is converted into recycled materials, while heat is produced from material incineration (D). The benefits and burdens of waste packaging in A5 are also considered in module D.

manufacturing process



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 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 is no materials used in the installation stage. The installation process uses hand tools or electrical hand tools. The amount of energy use to install 1 KG of valve is considered neglectable

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 done as per 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 materials	allocated by mass or volume
ancillary materials	allocated by mass or volume
manufacturing energy and waste	allocated by mass or volume

averages and variability

data type	allocation
type of average	multiple products
averaging method	representative product
variation in GWP-fossil for A1-A3	-25% + 7%

The VSH XPress Carbon FullFlow ball valve DN20 (2x press) (1020000101-1102) has been selected as the representative valve. It has two identical connections, and initial calculations revealed that it was closest to the general average of mass for a VSH XPress Carbon FullFlow ball valve.

LCA software and bibliography

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

environmental impact data

core environmental impact indicators – EN 15804+A2, PEF VP-029-C

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total1)	kg CO2e	8,30E+00	2,10E-01	1,04E+00	9,56E+00	6,34E-02	2,93E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,17E-01	1,71E-03	-4,42E-01
GWP – fossil	kg CO2e	8,29E+00	2,10E-01	1,26E+00	9,76E+00	6,33E-02	6,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,17E-01	1,71E-03	-4,42E-01
GWP – biogenic	kg CO2e	-1,70E-03	0,00E+00	-2,84E-01	-2,86E-01	0,00E+00	2,86E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO2e	1,39E-02	8,04E-05	6,61E-02	8,01E-02	2,98E-05	3,82E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,36E-05	8,08E-07	1,39E-04
Ozone depletion pot.	kg CFC-11e	4,56E-07	4,80E-08	8,45E-08	5,89E-07	1,40E-08	5,69E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,38E-09	3,29E-10	-1,26E-08
Acidification potential	mol H+e	3,28E-01	1,12E-03	6,93E-03	3,37E-01	7,70E-04	2,52E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,39E-04	7,82E-06	-2,41E-03
EP-freshwater2)	kg Pe	1,51E-03	1,68E-06	1,44E-04	1,66E-03	4,36E-07	1,60E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,55E-07	9,52E-09	-8,75E-06
EP-marine	kg Ne	1,99E-02	3,20E-04	1,33E-03	2,16E-02	1,99E-04	7,02E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,49E-05	3,70E-06	-4,13E-04
EP-terrestrial	mol Ne	2,61E-01	3,54E-03	1,08E-02	2,75E-01	2,21E-03	6,63E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,25E-04	2,97E-05	-4,99E-03
POCP ('smog')3)	kg NMVOCe	7,39E-02	1,09E-03	3,43E-03	7,84E-02	6,11E-04	2,03E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,73E-04	8,83E-06	-2,00E-03
ADP-minerals & metals4)	kg Sbe	7,71E-03	4,84E-07	8,78E-06	7,72E-03	1,31E-07	7,35E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,36E-06	2,05E-09	-6,72E-06
ADP-fossil resources	MJ	8,19E+01	3,13E+00	2,67E+01	1,12E+02	9,07E-01	6,06E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,55E-01	2,26E-02	-3,88E+00
Water use5)	m3e depr.	6,60E+00	1,39E-02	4,97E+00	1,16E+01	3,72E-03	1,18E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,34E-03	7,87E-05	3,00E-02

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, PEF

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	1,05E-06	2,35E-08	4,22E-08	1,11E-06	5,81E-09	4,60E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,19E-09	1,57E-10	-3,97E-08
Ionizing radiation6)	kBq U235e	8,10E-01	1,49E-02	6,87E-01	1,51E+00	4,28E-03	6,15E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,71E-03	1,03E-04	-2,54E-03
Ecotoxicity (freshwater)	CTUe	3,26E+03	2,79E+00	2,44E+01	3,28E+03	7,57E-01	2,00E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,16E+00	1,68E-02	1,12E+01
Human toxicity, cancer	CTUh	6,94E-08	7,19E-11	1,08E-09	7,05E-08	2,58E-11	1,08E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,46E-11	4,05E-13	2,45E-09
Human tox. non-cancer	CTUh	4,25E-06	2,74E-09	1,87E-08	4,28E-06	7,00E-10	1,35E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,64E-09	1,00E-11	1,32E-08
SQP7)	-	1,31E+02	3,50E+00	8,24E+00	1,43E+02	8,19E-01	5,49E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,94E-01	4,89E-02	-8,34E+00

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 energy8)	MJ	2,19E+01	3,48E-02	3,85E+01	6,04E+01	9,24E-03	4,51E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,24E-02	2,23E-04	-1,93E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,50E+00	2,50E+00	0,00E+00	-2,50E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,19E+01	3,48E-02	4,10E+01	6,29E+01	9,24E-03	-2,50E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,24E-02	2,23E-04	-1,93E+00
Non-re. PER as energy	MJ	1,08E+02	3,13E+00	2,56E+01	1,37E+02	9,07E-01	6,06E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,56E-01	2,26E-02	-3,86E+00
Non-re. PER as material	MJ	1,54E+00	0,00E+00	2,02E-02	1,56E+00	0,00E+00	-2,02E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,31E+00	-2,31E-01	0,00E+00
Total use of non-re. PER	MJ	1,10E+02	3,13E+00	2,56E+01	1,39E+02	9,07E-01	4,04E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,05E+00	-2,08E-01	-3,86E+00
Secondary materials	kg	1,10E+00	8,88E-04	2,03E-01	1,31E+00	2,92E-04	1,10E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,80E-04	5,07E-06	-2,86E-02
Renew. secondary fuels	MJ	3,81E-03	8,60E-06	1,39E-02	1,77E-02	2,19E-06	5,19E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,39E-05	1,42E-07	-1,40E-02
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	2,01E-01	3,99E-04	1,17E-01	3,18E-01	1,03E-04	3,19E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,62E-04	2,47E-05	-6,27E-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	1,56E+00	4,15E-03	1,17E-01	1,68E+00	1,21E-03	5,31E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,13E-03	0,00E+00	-1,52E-01
Non-hazardous waste	kg	9,23E+01	6,70E-02	6,06E+00	9,85E+01	1,74E-02	1,10E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,61E-02	1,50E-01	-6,55E-01
Radioactive waste	kg	3,50E-04	2,10E-05	1,98E-04	5,69E-04	6,16E-06	3,42E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,46E-06	0,00E+00	-2,36E-06

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	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	5,84E-05	0,00E+00	3,65E-01	3,65E-01	0,00E+00	1,96E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,50E-01	1,42E-01	0,00E+00
Materials for energy rec	kg	3,70E-13	0,00E+00	0,00E+00	3,70E-13	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,15E+00	0,00E+00	0,00E+00

environmental impacts – EN 15804+A1, CML / ISO 21930

impact category	unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	8,45E+00	2,08E-01	1,33E+00	9,99E+00	6,27E-02	8,47E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,16E-01	1,52E-03	-4,28E-01
Ozone depletion Pot.	kg CFC-11e	4,37E-07	3,80E-08	7,08E-08	5,46E-07	1,11E-08	4,63E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,93E-09	2,61E-10	-1,46E-08
Acidification	kg SO_2e	2,88E-01	8,80E-04	5,80E-03	2,95E-01	6,11E-04	1,98E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,92E-04	5,91E-06	-1,94E-03
Eutrophication	kg PO_4^{3}e	9,07E-02	1,75E-04	4,75E-03	9,57E-02	8,55E-05	2,26E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,68E-04	5,43E-05	-7,55E-04
POCP ("smog")	kg C_2H_4e	1,18E-02	3,15E-05	2,63E-04	1,21E-02	1,77E-05	2,11E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,85E-06	3,67E-07	-2,39E-04
ADP-elements	kg Sbe	7,71E-03	4,69E-07	8,51E-06	7,72E-03	1,28E-07	7,29E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,36E-06	2,01E-09	-6,53E-06
ADP-fossil	MJ	1,07E+02	3,13E+00	2,66E+01	1,36E+02	9,07E-01	6,06E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,55E-01	2,26E-02	-3,86E+00

appendix

Apollo XPress FullFlow carbon ball valve
(2 x press)

XPR10100 — **VSH XPress FullFlow Carbon ball valve with L-handle**

dimensions	article no.	total GWP (A1-A3)
15 (DN10)	1010000100	2.26
18 (DN15)	1015000100	1.93
22 (DN20)	1020000100	4.01
28 (DN25)	1025000100	5.33

XPR10101 — **VSH XPress FullFlow Carbon ball valve with L-handle, extended stem**

dimensions	article no.	total GWP (A1-A3)
15 (DN10)	1010000101	2.41
18 (DN15)	1015000101	2.21
22 (DN20)	1020000101	4.29
28 (DN25)	1025000101	5.83

XPR10100G — **Apollo XPress FullFlow Carbon ball valve with gear handle**

dimensions	article no.	total GWP (A1-A3)
15 (DN10)	123461219	2.37
18 (DN15)	123461220	2.04
22 (DN20)	123461221	4.12
28 (DN25)	123461222	5.64

XPR10101G — **Apollo XPress FullFlow Carbon ball valve with gear handle, extended stem**

dimensions	article no.	total GWP (A1-A3)
15 (DN10)	123461230	2.53
18 (DN15)	123461231	2.32
22 (DN20)	123461232	4.4
28 (DN25)	123461233	6.13

XPR10100T — **Apollo XPress FullFlow Carbon ball valve with T-handle**

dimensions	article no.	total GWP (A1-A3)
15 (DN10)	123461225	2.22
18 (DN15)	123461226	1.89
22 (DN20)	123461227	3.97
28 (DN25)	123461228	5.14

XPR10101T — **Apollo XPress FullFlow Carbon ball valve with T-handle, extended stem**

dimensions	article no.	total GWP (A1-A3)
15 (DN10)	123461237	2.38
18 (DN15)	123461238	2.17
22 (DN20)	123461239	4.25
28 (DN25)	123461240	5.64

Apollo XPress FullFlow carbon ball valve
(press x female thread)

XPR11000	VSH XPress FullFlow Carbon ball valve with **L-handle**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G½" (DN10)	1010001010	2.4
18 x G¾" (DN15)	1015001010	2.17
22 x G¾" (DN20)	1020001000	4.39
28 x G1" (DN25)	1025001000	5.72

XPR11001	VSH XPress FullFlow Carbon ball valve with **L-handle, extended stem**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G½" (DN10)	1010001011	2.56
18 x G¾" (DN15)	1015001011	2.45
22 x G¾" (DN20)	1020001001	4.67
28 x G1" (DN25)	1025001001	6.21

XPR11000G	Apollo XPress FullFlow Carbon ball valve with **gear handle**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G½" (DN10)	TBD	2.51
18 x G¾" (DN15)	TBD	2.28
22 x G¾" (DN20)	TBD	4.5
28 x G1" (DN25)	TBD	6.02

XPR11001G	Apollo XPress FullFlow Carbon ball valve with **gear handle, extended stem**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G½" (DN10)	TBD	2.67
18 x G¾" (DN15)	TBD	2.56
22 x G¾" (DN20)	TBD	4.78
28 x G1" (DN25)	TBD	6.52

XPR11000T	Apollo XPress FullFlow Carbon ball valve with **T-handle**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G½" (DN10)	TBD	2.36
18 x G¾" (DN15)	TBD	2.13
22 x G¾" (DN20)	TBD	4.35
28 x G1" (DN25)	TBD	5.53

XPR11001T	Apollo XPress FullFlow Carbon ball valve with **T-handle, extended stem**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G½" (DN10)	TBD	2.52
18 x G¾" (DN15)	TBD	2.41
22 x G¾" (DN20)	TBD	4.63
28 x G1" (DN25)	TBD	6.02

Apollo XPress FullFlow carbon ball valve **(press x union nut)**

XPR11400	VSH XPress FullFlow Carbon ball valve with **L-handle**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G¾" (DN10)	1010001410	2.26
18 x G¾" (DN15)	1015001400	1.92
22 x G¾" (DN20)	1020001410	4.08
28 x G1¼" (DN25)	1025001400	5.46

XPR11401	VSH XPress FullFlow Carbon ball valve with **L-handle, extended stem**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G¾" (DN10)	1010001411	2.42
18 x G¾" (DN15)	1015001401	2.2
22 x G¾" (DN20)	1020001411	4.36
28 x G1¼" (DN25)	1025001401	5.96

XPR11400G	Apollo XPress FullFlow Carbon ball valve with **gear handle**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G¾" (DN10)	TBD	2.37
18 x G¾" (DN15)	TBD	2.03
22 x G¾" (DN20)	TBD	4.19
28 x G1¼" (DN25)	TBD	5.77

XPR11401G	Apollo XPress FullFlow Carbon ball valve with **gear handle, extended stem**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G¾" (DN10)	TBD	2.53
18 x G¾" (DN15)	TBD	2.31
22 x G¾" (DN20)	TBD	4.47
28 x G1¼" (DN25)	TBD	6.27

XPR11400T	Apollo XPress FullFlow Carbon ball valve with **T-handle**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G¾" (DN10)	123461242	2.22
18 x G¾" (DN15)	123461243	1.88
22 x G¾" (DN20)	123461244	4.04
28 x G1¼" (DN25)	123461245	5.27

XPR11401T	Apollo XPress FullFlow Carbon ball valve with **T-handle, extended stem**	
dimensions	**article no.**	**total GWP (A1-A3)**
15 x G¾" (DN10)	TBD	2.38
18 x G¾" (DN15)	TBD	2.16
22 x G¾" (DN20)	TBD	4.32
28 x G1¼" (DN25)	TBD	5.77

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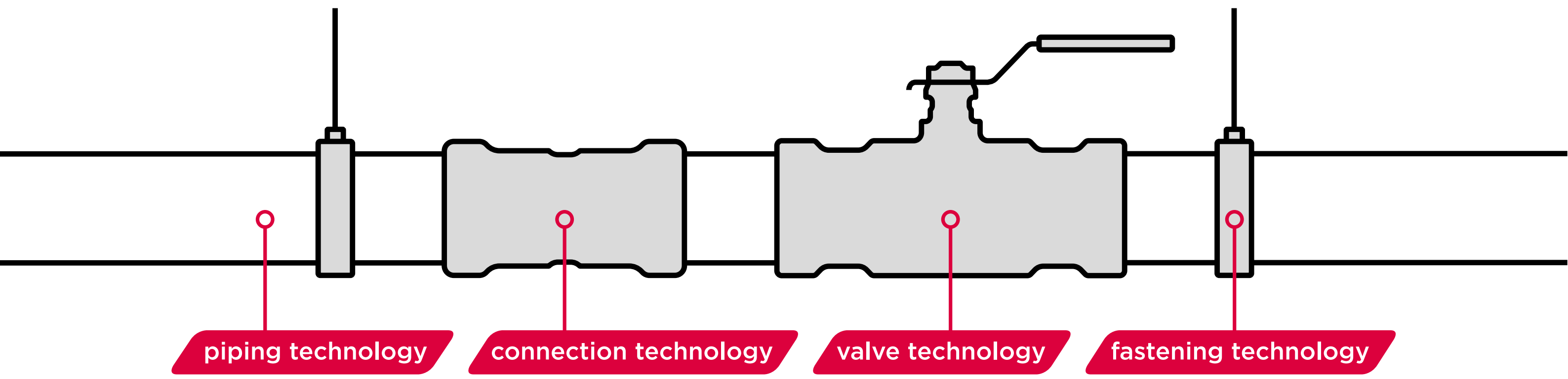

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