Product Environmental Profile

Erie AH 24 VAC 2-Position Spring Return Electric Actuator

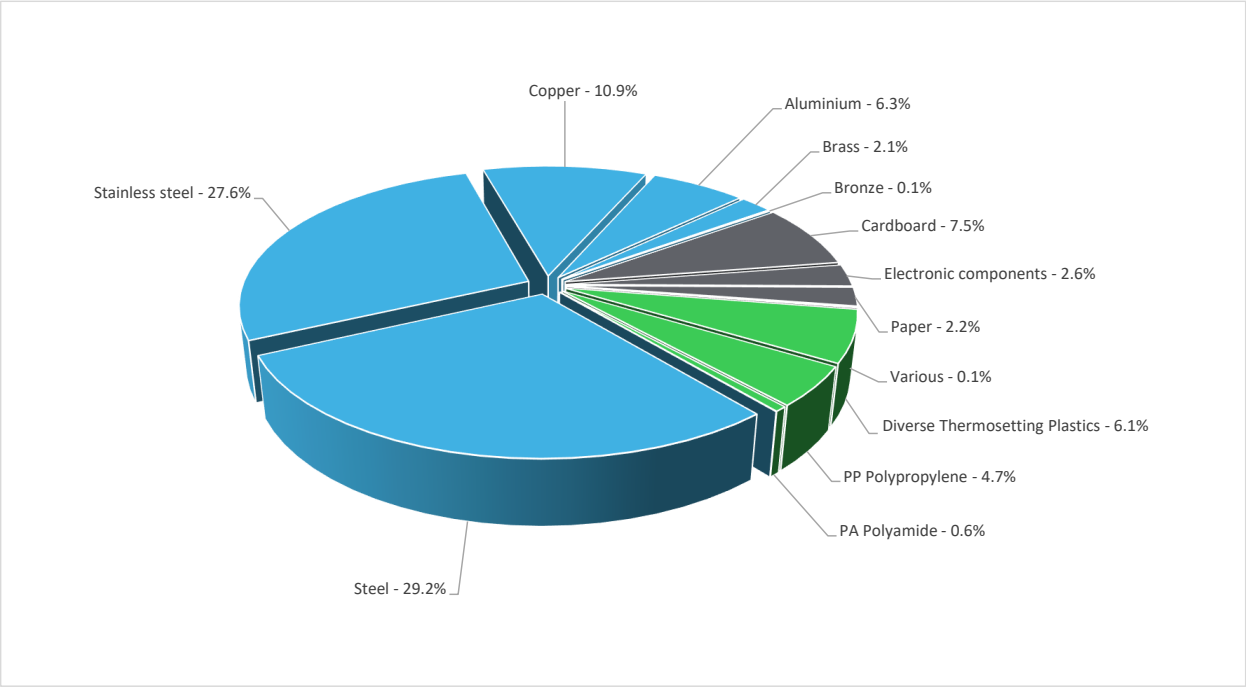
Erie Zone Valve Actuator

General information

Reference product	Erie AH 24 VAC 2-Position Spring Return Electric Actuator - AH23A01A
Description of the product	The Schneider Electric AH Zone Actuator is a versatile electric actuator designed for HVAC systems, featuring a high close off, 2-position control signal, 24 VAC power input, spring return mechanism, terminal block connections, rotary movement, and a single SPDT auxiliary switch, suitable for indoor use with allowing for quick and simple assemble.
Description of the range	The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology.
Related Proucts in the range	AH13A000 AH13A020 AH13A02A AH13B020 AH13B02A AH13T000 AH13T020 AH13U000 AH13U020 AH13U230 AH13U23A AH13UH00 AH14A020 AH14B020 AH14T020 AH23A000 AH23A020 AH23A02A AH23B020 AH24A020 AH24A02A AH24B020 AH13A000J1 AH13A020J AH13A060Q1 AH13B020J AH14A060E1 AH14B060E1 AH23A020J All Erie Zone Valve Sctuator Assembly products are also covered.
Functional unit	Other switchgear and controlgear solutions mentioned in the scope (e.g. fuses TC32, all-or-nothing relays TC94, Measuring relays and protection equipment TC95), apply the general rules of PCR and mention in the accompanying report the functional unit, the reference product characteristics, the reference lifetime and the use scenario which are applied consistently with the relevant IEC technical standards.
Specifications are:	For Erie Modulating AH Series valve actuator, to providing precise modulation of fluid flow in closed hydronic heating and cooling systems by applying two modes on openning or closing the zone valves, for 10 years. - Humidity: 5…95 % non-condensing - Temperature Ambient Operating Range: 40 °C - Temperature Shipping and Storage Range: -40…71 °C - IP Protection Rating: IP10 - Control Signal: On/Off, 2 position, spring return

Constituent materials

Reference product mass	512.559 g	including the product, its packaging, additional elements and accessories



	Plastics	11.4%
	Metals	76.2%
	Others	12.4%

Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric website
https://www.se.com

Additional environmental information

End Of Life	Recyclability potential:	**83%**	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time	10 years
Product category	Other equipments - Active product
Life cycle of the product	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study
Electricity consumtion	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligable consumption
Installation elements	The product does not require any installation operations
Use scenario	The product is in active mode 25% of the time with a power use of 6.5W and in off mode 75% of the time with a power use of 0W, for 10 years.
Time representativeness	The collected data are representative of the year 2025
Technological representativeness	The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and représentaive of the actual type of technologies used to make the product.

Geographical representativeness	**Final assembly site**	**Use phase**		**End-of-life**
	Monterrey, Mexico	North America		North America
Energy model used	**[A1 - A3]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Low voltage; 2020; Mexico, MX	No energy used	Electricity Mix; Low voltage; 2020; United States, US	Global, European and French datasets are used.

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.se.com/contact

Mandatory Indicators		**Erie AH 24 VAC 2-Position Spring Return Electric Actuator - AH23A01A**						
Impact indicators	**Unit**	**Total (without Module D)**	**[A1 - A3] - Manufacturing**	**[A4] - Distribution**	**[A5] - Installation**	**[B1 - B7] - Use**	**[C1 - C4] - End of life**	**[D] - Benefits and loads**
Contribution to climate change	kg CO2 eq	8.25E+01	3.35E+00	9.69E-02	0*	7.78E+01	1.25E+00	-1.92E+00
Contribution to climate change-fossil	kg CO2 eq	8.24E+01	3.30E+00	9.69E-02	0*	7.77E+01	1.24E+00	-1.89E+00
Contribution to climate change-biogenic	kg CO2 eq	1.43E-01	4.93E-02	0*	0*	8.22E-02	1.18E-02	-2.75E-02
Contribution to climate change-land use and land use change	kg CO2 eq	2.38E-07	3.83E-08	0*	0*	0*	2.00E-07	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	9.02E-07	5.64E-07	1.48E-10	0*	3.31E-07	7.63E-09	-4.14E-07
Contribution to acidification	mol H+ eq	4.50E-01	3.24E-02	6.13E-04	0*	4.12E-01	4.87E-03	-1.99E-02
Contribution to eutrophication, freshwater	kg P eq	5.72E-04	7.55E-05	0*	0*	1.20E-04	3.77E-04	-5.07E-06
Contribution to eutrophication, marine	kg N eq	5.31E-02	2.94E-03	2.87E-04	0*	4.90E-02	9.21E-04	-1.13E-03
Contribution to eutrophication, terrestrial	mol N eq	6.21E-01	3.20E-02	3.15E-03	0*	5.75E-01	1.05E-02	-1.29E-02
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.78E-01	1.12E-02	7.95E-04	0*	1.62E-01	3.26E-03	-5.09E-03
Contribution to resource use, minerals and metals	kg Sb eq	5.18E-04	5.02E-04	0*	0*	3.14E-06	1.20E-05	-3.65E-04
Contribution to resource use, fossils	MJ	1.78E+03	6.56E+01	1.35E+00	0*	1.65E+03	6.64E+01	-3.17E+01
Contribution to water use	m3 eq	5.27E+00	1.82E+00	0*	0*	2.79E+00	6.58E-01	-1.10E+00

Inventory flows Indicators		Erie AH 24 VAC 2-Position Spring Return Electric Actuator - AH23A01A						
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to renewable primary energy used as energy	MJ	2.08E+02	1.10E+00	0*	0*	2.07E+02	2.88E-01	-7.00E-01
Contribution to renewable primary energy used as raw material	MJ	9.68E-01	9.68E-01	0*	0*	0*	0*	0.00E+00
Contribution to total renewable primary energy	MJ	2.09E+02	2.07E+00	0*	0*	2.07E+02	2.88E-01	-7.00E-01
Contribution to non renewable primary energy used as energy	MJ	1.78E+03	6.33E+01	1.35E+00	0*	1.65E+03	6.64E+01	-3.17E+01
Contribution to non renewable primary energy used as raw material	MJ	2.36E+00	2.36E+00	0*	0*	0*	0*	0.00E+00
Contribution to total non renewable primary energy	MJ	1.78E+03	6.56E+01	1.35E+00	0*	1.65E+03	6.64E+01	-3.17E+01
Contribution to use of secondary material	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to net use of fresh water	m^3	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to hazardous waste disposed	kg	3.60E+01	3.45E+01	0*	0*	1.52E+00	1.19E-02	-2.91E+01
Contribution to non hazardous waste disposed	kg	1.47E+01	3.08E+00	3.40E-03	0*	1.15E+01	8.11E-02	-1.51E+00
Contribution to radioactive waste disposed	kg	3.43E-03	1.25E-03	2.42E-06	0*	2.17E-03	5.38E-06	-9.57E-04
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	4.51E-01	5.73E-02	0*	0*	0*	3.94E-01	0.00E+00
Contribution to materials for energy recovery	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	4.45E-03	5.76E-04	0*	0*	0*	3.87E-03	0.00E+00

* represents less than 0.01% of the total life cycle of the reference flow

Contribution to biogenic carbon content of the product	kg of C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg of C	1.54E-02

** The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)*

Mandatory Indicators		Erie AH 24 VAC 2-Position Spring Return Electric Actuator - AH23A01A							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	7.78E+01	0*	0*	0*	0*	0*	7.78E+01	0*
Contribution to climate change-fossil	kg CO2 eq	7.77E+01	0*	0*	0*	0*	0*	7.77E+01	0*
Contribution to climate change-biogenic	kg CO2 eq	8.22E-02	0*	0*	0*	0*	0*	8.22E-02	0*
Contribution to climate change-land use and land use change	kg CO2 eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to ozone depletion	kg CFC-11 eq	3.31E-07	0*	0*	0*	0*	0*	3.31E-07	0*
Contribution to acidification	mol H+ eq	4.12E-01	0*	0*	0*	0*	0*	4.12E-01	0*
Contribution to eutrophication, freshwater	kg P eq	1.20E-04	0*	0*	0*	0*	0*	1.20E-04	0*
Contribution to eutrophication marine	kg N eq	4.90E-02	0*	0*	0*	0*	0*	4.90E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	5.75E-01	0*	0*	0*	0*	0*	5.75E-01	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.62E-01	0*	0*	0*	0*	0*	1.62E-01	0*
Contribution to resource use, minerals and metals	kg Sb eq	3.14E-06	0*	0*	0*	0*	0*	3.14E-06	0*
Contribution to resource use, fossils	MJ	1.65E+03	0*	0*	0*	0*	0*	1.65E+03	0*
Contribution to water use	m3 eq	2.79E+00	0*	0*	0*	0*	0*	2.79E+00	0*

Inventory flows Indicators		Erie AH 24 VAC 2-Position Spring Return Electric Actuator - AH23A01A							
Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2.07E+02	0*	0*	0*	0*	0*	2.07E+02	0*
Contribution to use of renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to total use of renewable primary energy resources	MJ	2.07E+02	0*	0*	0*	0*	0*	2.07E+02	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.65E+03	0*	0*	0*	0*	0*	1.65E+03	0*
Contribution to use of non renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to total use of non-renewable primary energy resources	MJ	1.65E+03	0*	0*	0*	0*	0*	1.65E+03	0*
Contribution to use of secondary material	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of non renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to net use of freshwater	m^3	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to hazardous waste disposed	kg	1.52E+00	0*	0*	0*	0*	0*	1.52E+00	0*
Contribution to non hazardous waste disposed	kg	1.15E+01	0*	0*	0*	0*	0*	1.15E+01	0*
Contribution to radioactive waste disposed	kg	2.17E-03	0*	0*	0*	0*	0*	2.17E-03	0*
Contribution to components for reuse	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for recycling	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for energy recovery	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to exported energy	MJ	0*	0*	0*	0*	0*	0*	0*	0*

** represents less than 0.01% of the total life cycle of the reference flow*

Life cycle assessment performed with EIME version v6.2.4, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 is used

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

Registration number :	ENVPEP2503043 V1	*Drafting rules*	PEP-PCR-ed4-2021 09 06
		Supplemented by	PSR-0005-ed3-2023 06 06
Date of issue	18/03/2025	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14021 : 2016

Internal X External

The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)

PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022

The components of the present PEP may not be compared with components from any other program.

Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"

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