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## SAUTER Declaration on materials and the environment

### Product

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Type	<b>ADM322F120, F122 ADM322HF120, HF122 ADM322PF120, PF122</b>
Designation	<b>Rotary actuator</b>
Product range	<b>Electric actuators</b>
Product group of eco-balance	<b>Actuators</b>

<b>Manufacturer</b>	Fr. Sauter AG Im Surinam 55, CH-4016 Basel	
<b>Product description</b>	CE conformity	
	Function, operation, maintenance, service	PDS 51.332
<b>Environmental risk</b>	Fire protection according to	EN 60695-2-11, EN 60695-10-2
	Fire load <sup>1</sup>	12.5...13.5 MJ
	Hazardous substances <sup>2</sup>	Conforming to RoHS 2011/65/EU
	Banned substances (see link below)	Conforming to REACH 1907/2006/EC
	Parts containing halogen (causing corrosive smoke)	Printed circuit board
	Liquids polluting the aquatic environment	Lubricant
	Explosive substances	None
<b>Packaging</b> <sup>3</sup>	Cardboard PAP 21	74 g
	Paper PAP22	42 g

<sup>1</sup> See **Remarks** on last page

<sup>2</sup> Only applies to electrical devices

<sup>3</sup> Directive 94/62/EC and follow-on document, ruling 97/129/EC

## Materials

	Total weight of product <sup>4</sup>	1112...1167 g	Material Safety Data Sheet (MSDS)	EU waste code <sup>5</sup>
<b>Plastic</b>				
PA6		3.2...7.7 g	Yes	20 01 39
PA66		4.0 g	Yes	20 01 39
PBT		26.4 g	Yes	20 01 39
PC		359.3...370.8 g	Yes	20 01 39
POM		10.8...19.0 g	Yes	20 01 39
PUR		3.6 g	Yes	20 01 39
FKM (O-Ringe)		0.7 g	Yes	20 01 39
<b>Metal</b>				
Steel of different alloys		267.4...269.6 g	Not required	20 01 40
Aluminium of all alloys		25.6 g	Not required	20 01 40
Sintered metal with Fe		215.6 g	Not required	20 01 40
Pressure-cast zinc		75.5 g	Not required	20 01 40
<b>Printed circuit board</b>				
PCB assembly, lead-free solder		27.0...55.2 g	Not required	20 01 36
<b>Various</b>				
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### Special components

Stepping motor	89.2 g	Not required	20 01 36
PU foam sealant (lower housing and connecting lid)	3.5 g	Yes	20 01 39
TPE / TC7MLZ joints (cable gland)	0.5 g	Yes	20 01 39
Lubricant Shm	3.5 g	Not required	20 01 26



#### Note

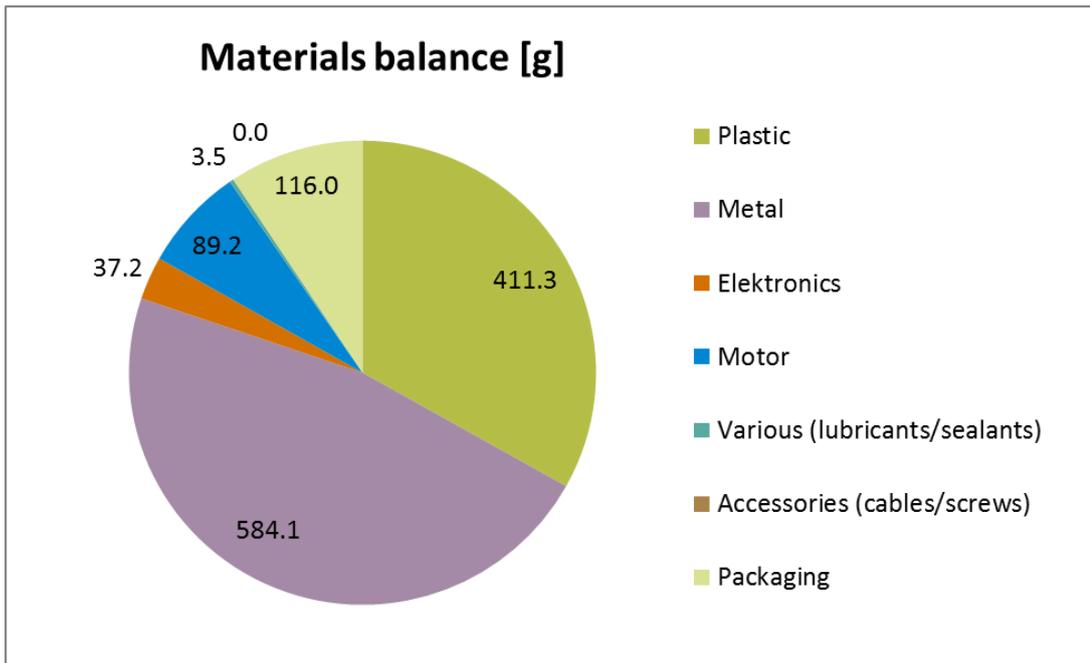
The following materials balance and the calculation of the environmental impact relate to type ADM322F120.

<sup>4</sup> See **Remarks** on last page

<sup>5</sup> Directive 75/442/EEC and follow-on document, ruling 2001/118/EC

## Materials balance

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## Energy requirement in the utilisation phase

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Power requirement for component

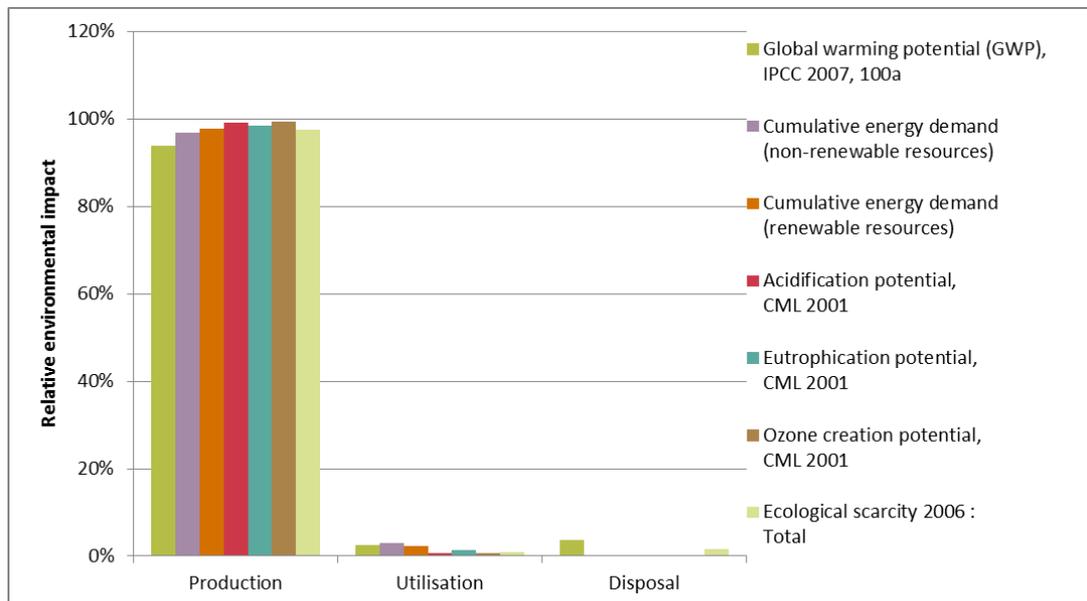
- Average power consumption 2,5 W
- Typical energy consumption per year 0,1 kWh/a

The energy requirement evaluation was performed for a typical utilisation scenario. The European electricity mix from ecoinvent 2.2 was used to evaluate the power consumption in the utilisation phase.

## Calculation of the environmental impact

Evaluation over the entire life stage of 8 years in a typical utilisation scenario. The results additionally shown are based on a method of ecological scarcity that combines various environmental effects into an “environmental impact points” key figure. The method is based on Switzerland’s environmental targets and evaluates the individual effects depending on the “Distance to Target”.

Indicator	Unit	Production	Utilisation	Disposal	Total
Global warming potential (GWP), IPCC 2007, 100a	kg CO2 eq.	12.3	0.3	0.5	13.1
Cumulative energy demand (non-renewable resources)	MJ eq.	227	7	0.6	235
Cumulative energy demand (renewable resources)	MJ eq.	22.1	0.5	0.01	22.7
Acidification potential, CML 2001	kg SO2 eq.	1.75E-01	1.39E-03	2.20E-04	1.77E-01
Eutrophication potential, CML 2001	kg PO4-- eq.	8.50E-02	1.11E-03	1.75E-04	8.63E-02
Ozone creation potential, CML 2001	kg C2H4 eq.	8.20E-03	5.60E-05	8.03E-06	8.26E-03
Ecological scarcity 2006 : Total	UBP	31'260	300	500	32'100



The relationship of the contributions made by the utilisation in comparison to those made by the production and disposal depends on the intensity of the utilisation (utilisation scenario).

**Product:**

The device must be disposed of as waste from electrical and electronic equipment (electrical/electronic scrap) and must not be disposed of as household waste. This applies in particular to the PCB assembly.

It is possible that special treatment for special components is compulsory by law or makes ecological sense.

**Packaging:**

Recyclable

The local and currently valid laws (WEEE2012/19/EU) must be observed.

**Special information:**

None

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**Remarks****<sup>(1)</sup> Depending on the fire load for the type:**

ADM322F120	12,8 MJ
ADM322F122	12,6 MJ
ADM322HF120	13,9 MJ
ADM322HF122	13,7 MJ
ADM322PF120	13,7 MJ
ADM322PF122	13,5 MJ

**<sup>(2)</sup> Depending on the weight of the type:**

ADM322F120	1122 g
ADM322F122	1112 g
ADM322HF120	1167 g
ADM322HF122	1157 g
ADM322PF120	1156 g
ADM322PF122	1146 g

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## How the environment benefits

With these products we make a significant contribution to energy savings in buildings and to reducing global warming.

In the Green Building area, our products ensure that customer requirements are fulfilled optimally and that there is cost efficiency over the entire building life-cycle.

- High performance in relation to size and weight
  - Stand-by function at stops minimises the consumption of energy
  - Reduction in the general energy loss due to very good regulation of the actuator
  - Easy to dismantle for specialist disposal

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## Extent of applicability

This declaration is an environmental declaration based on ISO 14025 and describes the environmental impact of the product over its entire life stage. The declaration is made in a compact form without an external check or registration.

The data gathered have been evaluated with existing data inventories for production processes from the ecoinvent 2.2 European database.

For the determination of the energy requirement during the utilisation phase of the product, standard HVAC applications and average climatic conditions in Switzerland were assumed, based on the ecological accounting for the corresponding product group.



### **Disclaimer: This declaration is only for information purposes.**

Deviations from the information it contains can occur without being reported. Fr. Sauter AG explicitly rules out any liability for any consequences that may result due to the above information.



Your local SAUTER representative will provide further information on environmental aspects, and specifically on disposal.

## References

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Ecoinvent 2010 ecoinvent data v2.2, Swiss Center for Life Cycle Inventories, Dübendorf

FOEN 2008 eco-balances: method of ecological scarcity – eco-factors 2006, FOEN