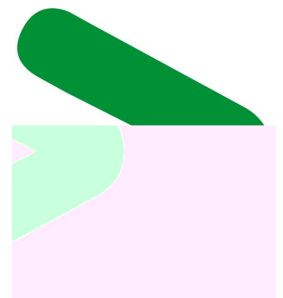
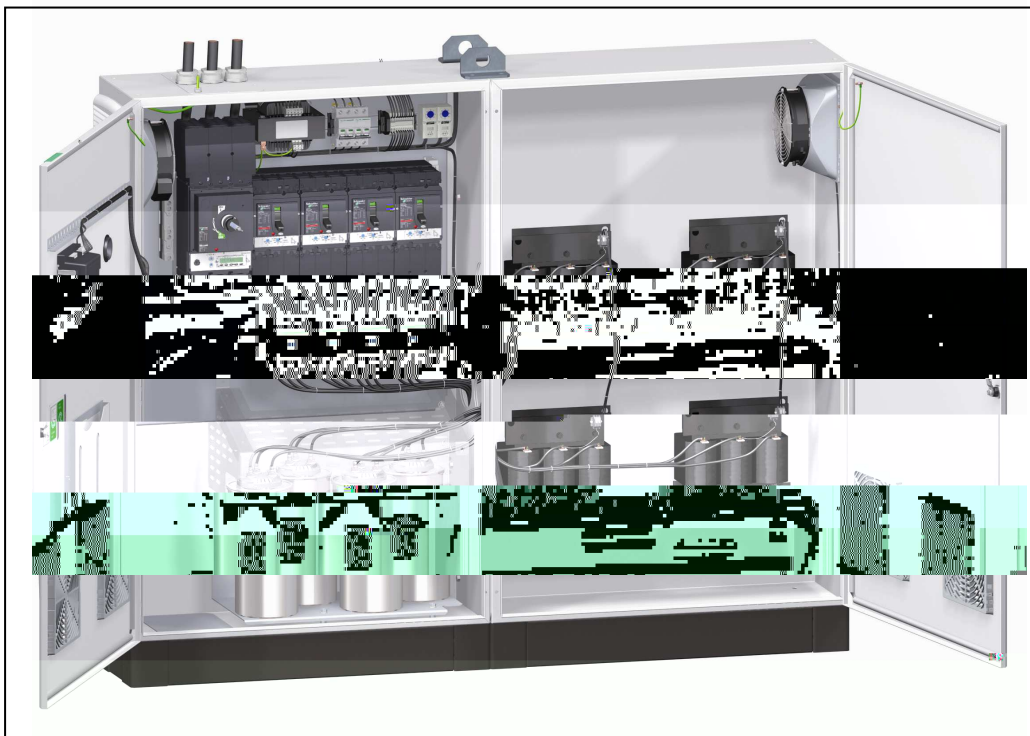


Product Environmental Profile

For the VLVAF4P03512AB
VarSet Low voltage capacitor banks



Product overview

The main purpose of the VarSet - Low voltage capacitor banks is to correct Power Factor in Low Voltage electrical Network

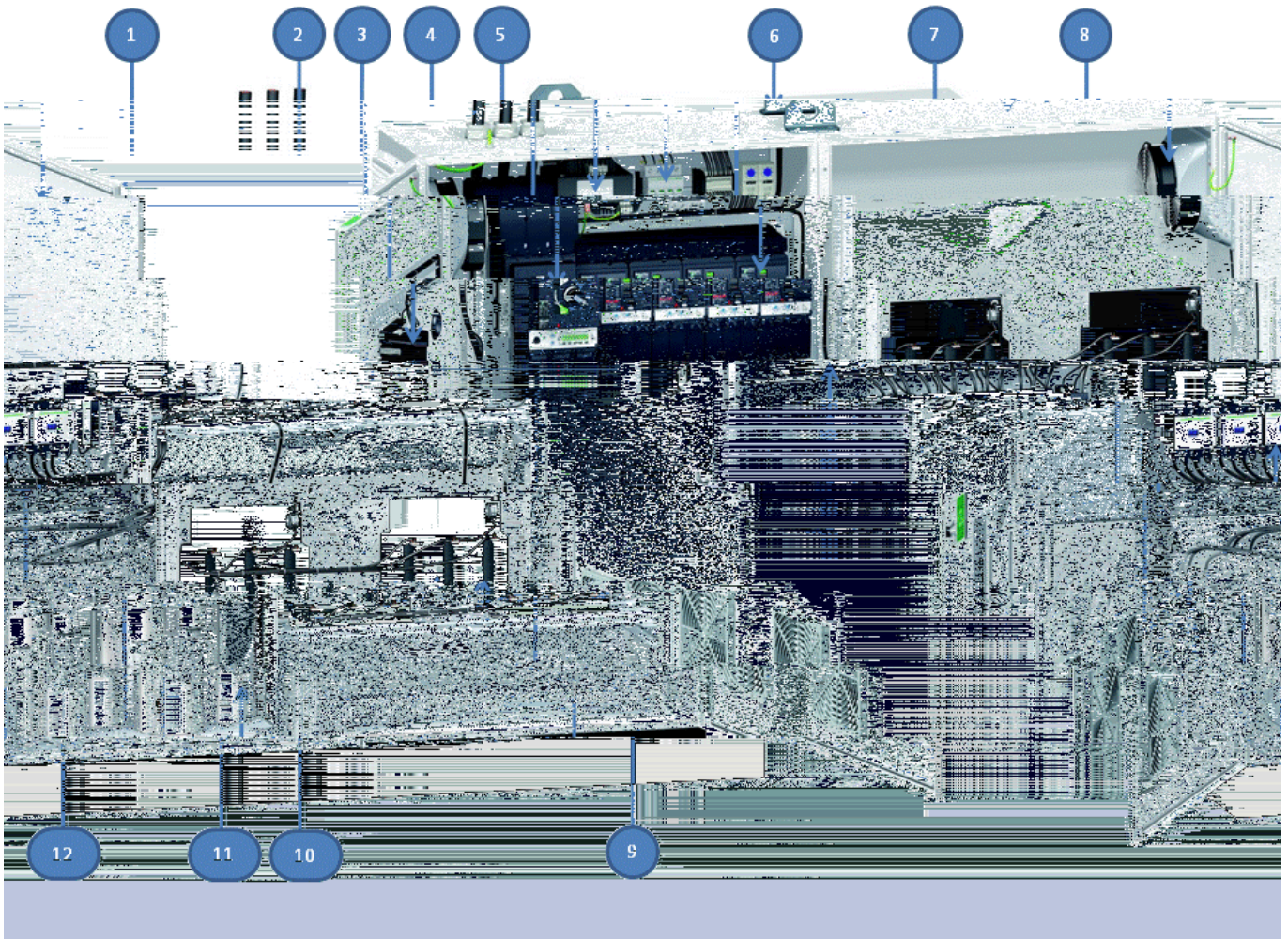
This range consists of 134 products from 6 Kvar to 1200 Kvar, Voltage 400-415V and Frequency 50/60Hz

The representative product used for the analysis is VLVAF4P03512AB VarSet capacitor bank equivalent to 200 Kvar.

The referenced equipment is composed of different products presented hereunder and of specific components of the family range Varset Low voltage capacitor bank.

List of specific components: capacitors supports, detuned reactors supports, cable management rail, power cables, auxiliary cables, screws, nuts, washers, ...

The environmental analysis was performed in conformity with ISO 14040.

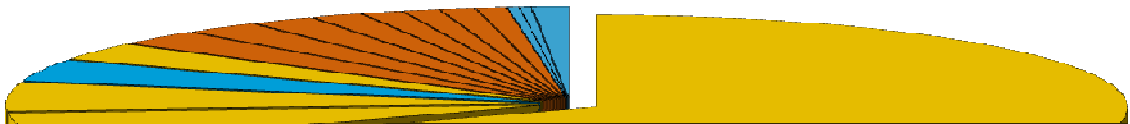


Rep	Designation	Family	Reference	Qty	PEP number
1	Regulator NR6	Varlogic	52448	1	-
2	Rotary handle	Compact NSX	LV432598	1	ENVPEP110804EN
3	Auxiliary Transformer	Phaseo	ABL6TS40U	1	ENVPEP121202EN

4a	Auxiliary protection	A9 IC60 N	A9F75202	1	ENVPEP091002EN
4b	Auxiliary protection	A9 IC60 N	A9F74602	1	ENVPEP091002EN
5	Step circuit breaker	Compact NSX	LV430631	4	ENVPEP120606EN
6	Enclosure 200x800x300	Spacial S3D	NSYS3D128030	2	ENVPEP100104EN
7	Filterfan	ClimaSys CV	NSYCVF300M230PF	2	ENVPEP110717EN
8	Door 1200x800x20	Spacial S3D	NSYS3D12830	2	ENVPEP100104EN
9	Detuned reactor	Detuned reactor	LVR05500A40T	4	ENVPEP121215EN
10	Capacitor can	Varpluscan	BLRCH680A000B48	4	ENVPEP121218EN
11	Contactora	Tesys D	LC1D95P7	4	ENVPEP111274EN
12	Main circuit breaker NSX 400	Compact NSX	LV432676	1	ENVPEP070806EN

Constituent materials

The mass of the product range is from 25 kg and 1904 kg including packaging. It is 300.6kg for the VLVAF4P03512AB VarSet Low voltage capacitor bank. The constituent materials are distributed as follows:



Distribution

The weight and volume of the packaging have been optimized, based on the European Union's packaging directive.

The VLVAF4P03512AB VarSet Low voltage capacitor banks packaging weight is 15,3 kg. It consists of wood 14,15 kg, Polyethylene 0.63 kg, Cardboard 0,25 kg, paper 0,14 kg, Polypropylene 0.12kg, Polystyrene 0.015 kg,

Use

The products of the VarSet Low voltage capacitor banks range do not generate environmental pollution (noise, emissions) requiring special precautionary measures in standard use.

The dissipated power depends on the conditions under which the product is implemented and used. It is 3035 W in nominal rating for the referenced VLVAF4P03512AB VarSet Low voltage capacitor bank . This thermal dissipation represents 1.51% of the power which passes through the product.

For maintenance Utilities have to be replaced :

4 capacitors+4 contactors are changed every 7 years at 35°C

4 filters are changed every 2 years

End of life

At end of life, the products in the VarSet Low voltage capacitor banks have been optimized to decrease the amount of waste and allow recovery of the product components and materials.

This product range contains electronic boards in regulator (rep1) and in circuit-breakers (rep 5 and 12) that should be separated from the stream of waste so as to optimize end-of-life treatment by special treatments. The location of these components and other recommendations are given in the End of Life Instruction document which is available for this product range on the Schneider-Electric Green Premium website

[Green Premium website](#)

(<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>).

The recyclability potential is 67%.

Presentation of the product environmental impacts

Environmental indicators	Unit	For give the name and commercial reference or description of the representative product					
		S = M + D + I + U + E	M	D	I	U	E
Raw Material Depletion	Y-1	2.25E-11	1.47E-11	4.10E-16	0.00E+00	7.81E-12	6.61E-16
Energy Depletion	MJ	2.31E+06	2.04E+04	3.01E+02	0.00E+00	2.29E+06	4.84E+02
Water depletion	dm ³	3.39E+05	7.57E+03	2.85E+01	0.00E+00	3.31E+05	4.60E+01
Global Warming	g≈CO ₂	1.17E+08	1.24E+06	2.38E+04	0.00E+00	1.15E+08	3.84E+04
Ozone Depletion	g≈CFC-11	6.54E+00	2.20E-01	1.68E-02	0.00E+00	6.28E+00	2.71E-02
Air Toxicity	m ³	1.95E+10	3.44E+08	4.49E+06	0.00E+00	1.92E+10	7.23E+06
Photochemical Ozone Creation	g≈C ₂ H ₄	3.96E+04	5.28E+02	2.03E+01	0.00E+00	3.91E+04	3.28E+01
Air acidification	g≈H ⁺	1.58E+04	2.27E+02	3.03E+00	0.00E+00	1.56E+04	4.89E+00
Water Toxicity	dm ³	3.33E+07	3.01E+05	2.98E+03	0.00E+00	3.30E+07	4.80E+03
Water Eutrophication	g≈PO ₄	3.62E+02	6.58E+01	3.96E-01	0.00E+00	2.95E+02	6.38E-01
Hazardous waste production	kg	1.97E+03	5.15E+01	8.85E-03	0.00E+00	1.92E+03	1.43E-02

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version V4.0, and with its database version 11.

The Using phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

System approach

Optimize energy consumption, increase power availability, insure efficiency and productivity

High quality power – higher productivity

Up to **30%**

Optimise electrical system capacity, avoid oversizing and limit redundant capacity.

Power factor correction helps lower operating and capital costs and can provide a very quick return on investment:

Optimise power consumption, reduce total process energy consumption and reduce CO₂ emissions.

Optimise electrical system capacity, avoid oversizing and limit redundant capacity.

Optimise power consumption, reduce total process energy consumption and reduce CO₂ emissions.

Reduce reactive energy billing penalties and lower operating expenses up to 10%.

Improve power system and equipment reliability up to 18%.

Boost power factor to lower utility bills

Increase power quality to improve business performance and reduce unplanned outages, as well as enhance the reliability and service life of electrical devices, while reducing harmonics stress and potential damage to your electrical network.

Lower electricity cost on your first with varset and reduce losses in transformers and conductors.

better energy efficiency and

If the EHF is RoHS compliant:

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this Directive.

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.

If you have a main circuit breaker NS 630-1600A See PEP n°ENVPEP130103EN

Glossary

Raw Material Depletion (RMD)	This indicator quantifies the consumption of raw materials during the life cycle of the product. It is expressed as the fraction of natural resources that disappear each year, with respect to all the annual reserves of the material.
Energy Depletion (ED)	This indicator gives the quantity of energy consumed, whether it be from fossil, hydroelectric, nuclear or other sources. This indicator takes into account the energy from the material produced during combustion. It is expressed in MJ.
Water Depletion (WD)	This indicator calculates the volume of water consumed, including drinking water and water from industrial sources. It is expressed in dm ³ .
Global Warming (GW)	The global warming of the planet is the result of the increase in the greenhouse effect due to the sunlight reflected by the earth's surface being absorbed by certain gases known as "greenhouse-effect" gases. The effect is quantified in gram equivalent of CO ₂ .
Ozone Depletion (OD)	This indicator defines the contribution to the phenomenon of the disappearance of the stratospheric ozone layer due to the emission of certain specific gases. The effect is expressed in gram equivalent of CFC-11.
Air Toxicity (AT)	This indicator represents the air toxicity in a human environment. It takes into account the usually accepted concentrations for several gases in the air and the quantity of gas released over the life cycle. The indication given corresponds to the air volume needed to dilute these gases down to acceptable concentrations.
Photochemical Ozone Creation (POC)	This indicator quantifies the contribution to the "smog" phenomenon (the photochemical oxidation of certain gases which generates ozone) and is expressed in gram equivalent of ethylene (C ₂ H ₄).
Air Acidification (AA)	The acid substances present in the atmosphere are carried by rain. A high level of acidity in the rain can cause damage to forests. The contribution of acidification is calculated using the acidification potentials of the substances concerned and is expressed in mole equivalent of H ⁺ .
Water Toxicity (WT)	This indicator represents the water toxicity. It takes into account the usually accepted concentrations for several substances in water and the quantity of substances released over the life cycle. The indication given corresponds to the water volume needed to dilute these substances down to acceptable concentrations.
Hazardous Waste Production (HWP)	This indicator calculates the quantity of specially treated waste created during all the life cycle phases (manufacturing, distribution and utilization). For example, special industrial waste in the manufacturing phase, waste associated with the production of electrical power, etc. It is expressed in kg.

PEP achieved with Schneider-Electric TT01 V5 and TT02 V15 procedures in compliance with ISO14040 series standards

PEP established according to PEPecopassport PCR : PEP- PCR-ed 2-EN-2011 12 09 rules

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