# VarSet

Low Voltage Capacitor Banks





Do you need an easy solution to **immediately** boost your facility's **energy efficiency** and productivity?

Are products that blend superior quality, performance and flexibility with excellent value difficult to find?

Do you require the expertise, support and reach of a global leader with the responsiveness of a local supplier?



# Energy efficiency, as simple as VarSet



#### Engineered to meet your needs

Whether you run a single site operation, or a globe-spanning enterprise, a fast and easy way to enhance competitiveness is to ensure that your power factor is corrected and your electrical network delivering optimum power.

Choosing advanced VarSet low voltage (LV) capacitor banks is a simple and reliable way to do that. Count on VarSet equipments to bring true energy efficiency to your electrical infrastructure.

#### High quality power = higher productivity

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

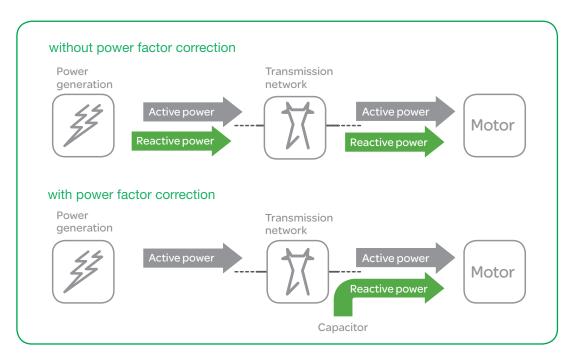
- > Reduce capital expenses up to 30%. Optimise electrical system capacity, avoid oversizing and limit redundant capacity.
- Reduce reactive energy billing penalties and lower operating expenses up to 10%.
  Boost power factor to lower utility is
  - Boost power factor to lower utility bills and reduce losses in transformers and conductors.
- > Reduce energy losses by up to 30%.

  Optimise power consumption, reduce total process energy consumption and reduce CO2 emissions.
- > Improve power system and equipment reliability up to 18%. 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.

30%

better energy efficiency and lower electricity cost on your first day with VarSet

# Maximizing energy efficiency just gets easier and more economical with VarSet



#### Give your power infrastructure a boost

Compensating for reactive power and harmonic distortion with VarSet capacitor banks is one of the easiest ways to quickly maintain your facility's power factor at an ideal level for maximum power system efficiency and cost reduction.

#### Superior design creates exceptional performance

Designed and manufactured by Schneider Electric, using advanced manufacturing methods and premium materials, VarSet capacitor banks are optimised to provide superior, end-to-end operation and value through every stage of its lifecycle.

#### Protection, durability and safety you can trust

With decades of power factor correction expertise behind it, VarSet is a complete range of high-quality, wall-mounted and floor-standing capacitor banks for fixed, automatic and dynamic compensation. Choose VarSet to make your business more profitable, your power infrastructure

more reliable and your electrical environment more safe, VarSet capacitor banks are suitable for new construction or retrofit applications in virtually any commercial, industrial and utility enterprise.

Up to 30% energy loss reduction





#### Comprehensive products for multiple applications

- Large choice of wall-mounted enclosures from 9 to 300 kvar and floor-standing units from 50 to 1150 kvar
- Automatic compensation for variable and unstable loads up to 1150 kvar
- Fixed compensation for stable loads up to 200 kvar
- Extensive range of electrical steps complement to match your loads and processes
- Suitable capacitors for any harmonic level and type of loads

#### Quality, reliability and safety

- Pre-engineered power factor correction solutions ensure your installation delivers more for less on time and on budget
- Designed for easy installation
- High quality of Schneider Electric components provide high performance and robustness
- Schneider Electric built-in components, such as Spacial enclosures range and innovative Linergy busbars range, contribute in performance and safety
- VarSet equipment are fully type tested
- Assembly plants are ISO 9001 certified

10%
lower operating expenses

# Engineered for outstanding performance and long-term value

The entire VarSet range offers a unique combination of abilities to give you more convenience, reliability and cost-effectiveness across a broad range of applications. Forward-thinking design and meticulous manufacturing quality means you can count on VarSet capacitor banks to deliver dependable, long-term service

#### Simplicity

- > Easy installation
  - compact enclosure up to 300 kvar
  - top or bottom cable connections
  - easily accessible gland plates for power cables
  - mounting brackets for easy wall mounting
- > Ease-of-use and maintenance
  - automatic programming and commissioning with Varlogic controller
  - simple replacement or retrofit of VarplusCan capacitors
- > Straightforward EMS integration
  - Modbus communication protocol (Varlogic NRC12 option) for integration with building management and energy monitoring systems

#### Reliability and durability

- > Long life performance
  - multi-capacitor architecture
  - step switching with special design contactors
  - over heating protection and alarm for detuned reactors
  - earthing studs welded to the frame and door



#### Safety

- > Protection
  - step protection with circuit breaker from 125 to 1150 kvar
  - thermal monitoring device
  - main incomer circuit breaker protection (optional)
  - direct and accidental contact protection
  - main switch rotary handle (optional)

- > Robust envelop
  - IP31 protection for indoor application
  - IP54 protection for dusty, industrial environments (optional)
  - IK10 protection against mechanical shocks
  - high quality welding and coating
- > Tested and certified
  - fully type tested according to IEC 61439-1 & 2, IEC 61921



14000

quality certified manufacturing

# Don't trade convenience for capability



VarSet capacitor banks are engineered to provide the features and capabilities you need. Choose from a full range of standard, pre-configured capacitor banks that combine high-performance with easy ordering and reliable delivery, or build a custom VarSet solution by mixing available options to fulfil your unique requirements.

#### Standard VarSet LV capacitor banks

For organizations that want to get up and running quickly, VarSet capacitor banks are available in a range of pre-configured apparatus you can plug right into your network to help improve the energy efficiency of your facility almost immediately. Incorporating features and capabilities that

are optimised for specific applications, standard units are available in both automatic and fixed compensation types for high or low harmonic environments. Choosing any standard VarSet capacitor bank facilitates easy ordering with short, reliable delivery times.

#### Custom VarSet LV capacitor banks

For larger sites, industrials and utilities with diverse power factor correction needs, VarSet equipment can be ordered with a wide range of optional capabilities and features tailored to your specific site requirements. Customizable VarSet capacitor banks are available in both automatic and fixed compensation types for high or low harmonic environments.

# For your future performance choose the leader





#### Quality, know-how and support you can count on

We supply quality products, integrated solutions and comprehensive services around the world. Our proven expertise, strong local presence and reputation for quality ensure all your projects produce exceptional value. From custom engineering, end-to-end support and value-added tools, we've got you covered.

#### New projects

 Engineered solution, location, design, compensation and filtering

#### **Existing installations**

- Harmonics diagnosis
- Power monitoring
- Revamping

# Decommissioning and recycling management

- Dismantling
- Recovery
- Recycling

# Maintenance and services contracts

- Specialists close to your business
- Preventive maintenance / turn key contracts

#### **Training**

- Preventive maintenance / operation

100% commitment to quality

# Easy selection tools matches VarSet capabilities to your application needs



# Discover how just a few short steps guide you to your ideal VarSet solution

Our Unique selection system is user-friendly software that quickly, easily and accurately helps you to select the VarSet capacitor bank configuration best able to solve your power quality challenges. In just few easy steps you can match available VarSet solutions to your installation's requirements, compare and fine

tune your choices, select the appropriate equipment and then acquire the technical data you need to facilitate installation and commissioning. Use this flexible, all-in-one tool to save time and effort so you can take advantage of VarSet's cost-saving abilities as soon as possible.



"We installed 70 capacitor banks with detuned reactors and reduced energy consumption by 10%, optimised our electricity bill by 18% and realized payback in just 1 year."

Madrid Barrajas airport, Spain

# Power conditioning solutions

We provide you with smart and cost-effective solutions to address power quality related issues

> VarSet LV capacitors banks



>Harmonic active filters, AccuSine SWP and AccuSine PCS



>Harmonic passive and hybrid filters

# Energy Efficiency



Immediate Saving

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# A wide range of global solutions From 230 V to 690 V, 50 and 60 Hz

Autom	natic c	ompen	sation									ompen		
VarSet LV type	Power (kvar)	VLVAWON	VLVAW1N	VLVAW2N	VLVAF4P	VLVAW3N	VLVAF5N	VLVAF6P	VLVAF7N	VLVAF8P	VLVFWON	VLVFW1N	VLVFW2N	VLVFF4P
Rated V	oltage	400 V/5	0 Hz - 41	5 V/50 Hz	z-480 V	/60 Hz								
Low	min	6	34	125		175	350		700		9	50	125	
polluted network	max	32	100	150		300	600		1150		32	100	200	
Polluted					50			225		700				50
network					200			600		1150				200
Rated V	oltage	400 V/6	0 Hz											
Low	min	9	34	125		225	350				9	50	125	
polluted network	max	32	100	200		300	600				32	100	200	
Polluted	min				100			300						
network	max				200			600						
Rated V	oltage	230 V/50	) Hz											
Low	min	9	34											
polluted network		32	100											
Rated V	oltage	240 V/60	0 Hz											
Low	min	9	34			125	175				16	50		
polluted network	max	32	100			150	200				32	100		
Polluted					50			125						
network	max				100			200						
Rated V	oltage	600 V/6	0 Hz											
Low	min			125		250	350						150	
polluted network	max			200		300	600						200	
Polluted					75			250						100
network	max				200			600						200
Rated V	oltage	690 V/50	0 Hz											
Low	min			125			350							
polluted network	max			200			600							
Polluted	min							250						
network	max							600						









VLVAW1N



VLVAWON

- > Consistent range of wall-mounted and floor-standing capacitor banks. > Large choice of electrical steps according to your loads and process.
- > Automatic or fixed compensation.
- > Adapted to networks with low to high harmonic distorsion.
- > One range for World-Wide needs: from 230 V to 690 V
  - 50 and 60 Hz.

VLVAW3N

# Typical solutions based on applications

#### Customer requirements

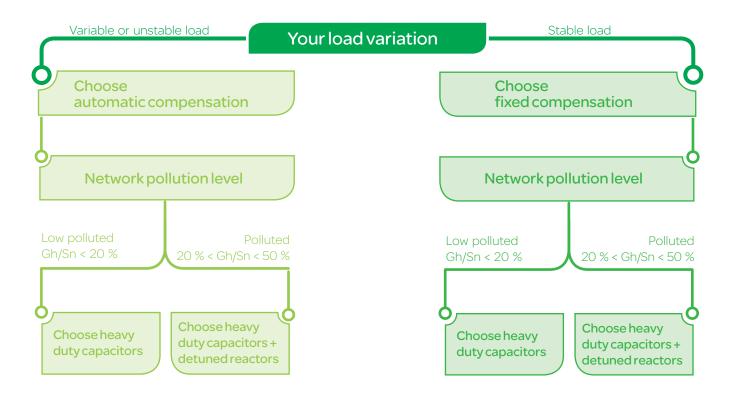
The table below shows the solutions most frequently used in different types of applications.

In all cases, it is strongly recommended that measurements be carried out on site in order to validate the solution.

Industry		
	Heavy Duty Capacitors	Heavy Duty Capacitors and Detuned Reactors
Food and beverage		
Textiles		
Wood		
Paper		
Printing		
Chemicals - pharmaceuticals		
Plastics		
Glass - ceramics		
Steel production		
Metallurgy		
Automotive		
Cement works		
Mining		
Refineries		
Microelectronics		
Tertiary		
Banks - insurances		
Supermarkets		
Hospitals		
Stadiums		
Amusement parks		
Hotels - offices		
<b>Energy and infrastructure</b>		
Substations		
Water distribution		
Internet		
Railway transport		
Airports		
Underground train systems		
Bridges		
Tunnels		
Wind turbines		
Very frequently		

## Types of compensation

The compensation needs of your installation vary depending on factors such as load variation, network pollution level and the characteristics of the installation. Find out the right level of compensation for your network with the help of the chart below.



#### Compensation type

Automatic compensation:

This compensation type is used for unstable loads. The VarSet LV equipment will automatically adjust the reactive power according to variations in load and/or power factor.

Schneider Electric recommends the use of automatic compensation when the capacitor bank's power is more than 15 % of the power of the transformer, in order to avoid overcompensation.

Fixed compensation:

This compensation type is used for stable loads, with synchronised voltage and current.

The equipment will supply a constant reactive

power irrespective of load variations.

#### Network pollution

Non-linear loads, such as devices using power electronics, generate harmonic pollution on the network.

The selection of the appropriate power factor correction solution has to be adapted depending on the level of network pollution.

The selection is based on the value of the Gh/Sn ratio, with: Gh = total power of the non-linear loads

Sn = rated power of the supply transformer

The selection can also be made according to the percentage of total harmonic current distorsion THDi or total harmonic voltage distorsion THDu measured.

> For rapidly fluctuating loads (dynamic compensation), please contact us.

#### VarSet offer

The new VarSet range of power factor correction equipments by Schneider Electric, offers the best-in-class performance with a range of features and options that satisfy the requirements of the most demanding customers.

Our solutions are truly unique in terms of robustness and the high quality of our equipments. Furthermore, the offer has been simplified to facilitate **easy ordering** and provide **short and reliable delivery times**.

#### **VarSet**

#### Small and medium buildings



#### Characteristics:

- < 10000 m<sup>2</sup>
- ≤1000 kVA

#### Key benefits of our offer:

- Quick return on investments
- Easy to select
- Short delivery times



#### Large sites



#### **Characteristics:**

- $> 10000 \text{ m}^2$
- > 1000 kVA

#### Key benefits of our offer:

- Easy to install and commission
- Easy to adapt
- Reliable delivery time

400 V/50 Hz

Automatic compensation Low polluted network



Our list of references for the small and medium buildings market are pre-defined solutions, incorporating the features that are best suited to the customer needs. These solutions are simple to select, optimally designed with a short delivery window, resulting in immediate energy savings.

Low	Reference number	Power	IP 31	IPxxB	15kA	35kA	Тор	Bottom	Rotary	Varlogic
polluted		(kvar)		(door	circuit	circuit	connection	connection	handle	NR6/12
Network				open)	breaker	breaker				
	Wall-mounted								1	
	VLVAWON03526AA	6				-	-		-	•
	VLVAWON03501AA	9				-	-		-	
	VLVAWON03527AA	12.5				-	-		-	
	VLVAWON03502AA	16				-	-		-	•
	VLVAWON03503AA	22	•			-	-		-	•
	VLVAWON03504AA	32				-	-		-	
	VLVAW1N03505AA	34			-		-		-	
	VLVAW1N03528AA	37.5			-	•	-		-	
	VLVAW1N03506AA	50			-		-		-	
	VLVAW1N03529AA	69			-		-		-	
	VLVAW1N03507AA	75			-		-		-	
	VLVAW1N03530AA	87.5			-		-		-	
	VLVAW1N03508AA	100			-		-		-	
	VLVAW2N03509AA	125			-		-	-		
	VLVAW2N03531AA	137.5			-		-	-		
With	VLVAW2N03510AA	150			-		-	-		
incomer	VLVAW3N03511AA	175			-		-	•		
protection circuit	VLVAW3N03512AA	200			-		-	-		
breaker	VLVAW3N03513AA	225			-		-	•		
Di Canoi	VLVAW3N03532AA	238			-		-			
	VLVAW3N03514AA	250			-		-			
	VLVAW3N03515AA	275			-		-	•		
	VLVAW3N03516AA	300			-		-			
	Floor-standing									
	VLVAF5N03517AA	350			-		-	-		
	VLVAF5N03518AA	400			-		-			
	VLVAF5N03533AA	425	-		-		-	•		
	VLVAF5N03519AA	450	-	-	-	-	-	•		
	VLVAF5N03520AA	500	-	-	-		-	•		
	VLVAF5N03521AA	550	-		-	-	-			
	VLVAF5N03522AA	600	-	-	-	-	-	•		
	VLVAF7N03534AA	700	-		-	-	-			
	VLVAF7N03536AA	900	-		-		-	•		
	VLVAF7N03537AA	1000			-	-	-	•		
	VLVAF7N03539AA	1150			-		-	•		

400 V/50 Hz

Automatic compensation Low polluted network



Our list of references for the small and medium buildings market are pre-defined solutions, incorporating the features that are best suited to the customer needs. These solutions are simple to select, optimally designed with a short delivery window, resulting in immediate energy savings.

Low polluted Network	Reference number	Power (kvar)	IP31	IPxxB (door open)	Short-time withstand current	Top connection	Bottom connection	Varlogic NR6/12
	Wall-mounted							
	VLVAW2N03509AB	125			30 kA, 1 s	-	-	-
	VLVAW2N03531AB	137.5			30 kA, 1 s	-		
	VLVAW2N03510AB	150			30 kA, 1 s	-		-
	VLVAW3N03511AB	175			30 kA, 1 s	-	-	-
	VLVAW3N03512AB	200			30 kA, 1 s	-	-	-
	VLVAW3N03513AB	225			30 kA, 1 s	-		-
	VLVAW3N03532AB	238		•	30 kA, 1 s	-	•	-
	VLVAW3N03514AB	250			30 kA, 1 s	-		-
Without	VLVAW3N03515AB	275			30 kA, 1 s	-		-
incomer	VLVAW3N03516AB	300			30 kA, 1 s	-		-
protection	Floor-standing							
circuit	VLVAF5N03517AB	350			35 kA, 1 s	-		-
breaker	VLVAF5N03518AB	400			35 kA, 1 s	-		-
	VLVAF5N03533AB	425			35 kA, 1 s	-	•	-
	VLVAF5N03519AB	450			35 kA, 1 s	-		•
	VLVAF5N03520AB	500		•	35 kA, 1 s	-	•	=
	VLVAF5N03521AB	550			35 kA, 1 s	-		•
	VLVAF5N03522AB	600	•	•	35 kA, 1 s	-	•	=
	VLVAF7N03534AB	700			35 kA, 1 s	-	•	=
	VLVAF7N03536AB	900			35 kA, 1 s	-	•	•
	VLVAF7N03537AB	1000			35 kA, 1 s	-		•
	VLVAF7N03539AB	1150			35 kA, 1 s	-	-	=

400 V/50 Hz

Automatic compensation Polluted network



Our list of references for the small and medium buildings market are pre-defined solutions, incorporating the features that are best suited to the customer needs. These solutions are simple to select, optimally designed with a short delivery window, resulting in immediate energy savings.

Polluted	Reference number	Power	Tuning	Tuning	IP31	IPxxB	35kA	Top	Bottom	Rotary	Varlogi
Network		(kvar)	factor 3.8	factor 4.2		(door open)	circuit breaker	connection	connection	handle	NR6/12
_	Floor-standing		3.0	7.2		Орепу	Dieakei				
	VLVAF4P03506AA	50		_				I -			
	VLVAF4P03507AA	75		_			-	_		_	_
	VLVAF4P03530AD	87.5	_					_			
	VLVAF4P03508AA	100		-				_		_	
	VLVAF4P03508AD	100	-				_	_			_
	VLVAF4P03509AA	125		-				-			
	VLVAF4P03509AD	125	-					-			
	VLVAF4P03531AA	137.5		-				-			
	VLVAF4P03510AA	150		-				-			
	VLVAF4P03510AD	150	-					-			
	VLVAF4P03511AA	175		-				-			-
	VLVAF4P03511AD	175	-					-			
	VLVAF4P03512AA	200		-			•	-			
	VLVAF4P03512AD	200	-				-	-			
	VLVAF6P03513AA	225		-			•	-			
	VLVAF6P03513AD	225	-				-	-			
	VLVAF6P03514AA	250		-				-		•	
With	VLVAF6P03514AD	250	-				-	-			
ncomer	VLVAF6P03515AA	275		-				-		•	-
orotection	VLVAF6P03515AD	275	-					-			
circuit oreaker	VLVAF6P03516AA	300		-				-			
JI CAKCI	VLVAF6P03516AD	300	-				-	-	-		
	VLVAF6P03517AA	350		-				-	-		-
	VLVAF6P03517AD	350	-					-	-		
	VLVAF6P03518AA	400		-				-	•		-
	VLVAF6P03518AD	400	-					-	-		-
	VLVAF6P03519AA	450	-	-		-		-		•	•
	VLVAF6P03519AD	450	-					-	-		
	VLVAF6P03520AA	500		-		-	•	-			-
	VLVAF6P03520AD	500	-	-			-	-		•	
	VLVAF6P03521AA	550		-				-	-		-
	VLVAF6P03522AA	600	-	-		-	-	-	-		-
	VLVAF6P03522AD	600	-			-		-	-		
	VLVAF8P03534AA	700		-			-	-			
	VLVAF8P03535AA	800		-				-			
	VLVAF8P03536AA	900		-				-			
	VLVAF8P03537AA	1000						-			
	VLVAF8P03538AA	1100		-				-	•		
	VLVAF8P03539AA	1150		-				-	•		

400 V/50 Hz

Automatic compensation Polluted network



Our list of references for the small and medium buildings market are pre-defined solutions, incorporating the features that are best suited to the customer needs. These solutions are simple to select, optimally designed with a short delivery window, resulting in immediate energy savings.

Polluted Network	Reference number	Power (kvar)	Tuning factor	Tuning factor	IP31	IPxxB (door	Short-time withstand	Top connection	Bottom connection	Varlogic NR6/12
Network		(Kvar)	3.8	4.2		open)	current	Connection	Connection	INKO/ IZ
_	Floor-standing		3.0	T.2		Горспу	Carrent			
	VLVAF4P03506AB	50		_			30 kA, 1 s	i _		
	VLVAF4P03507AB	75		_			30 kA, 1 s	_		
	VLVAF4P03530AE	87.5	-				30 kA, 1 s			
	VLVAF4P03508AB	100		-			30 kA, 1 s	-		
	VLVAF4P03508AC	100		-	•		30 kA, 1 s	-	-	•
	VLVAF4P03508AE	100	-				30 kA, 1 s		-	-
	VLVAF4P03509AB	125		-			30 kA, 1 s	-	-	•
	VLVAF4P03509AE	125	-		-		30 kA, 1 s		-	
	VLVAF4P03531AB	137.5		-			30 kA, 1 s	-	•	•
	VLVAF4P03510AB	150		-	-		30 kA, 1 s	-	-	
	VLVAF4P03510AE	150	-		-		30 kA, 1 s		-	-
	VLVAF4P03511AB	175		-			30 kA, 1 s	-		
	VLVAF4P03511AE	175	-				30 kA, 1 s		-	
	VLVAF4P03512AB	200		-			30 kA, 1 s	-	-	-
	VLVAF4P03512AC	200		-	•		30 kA, 1 s	-	-	•
	VLVAF4P03512AE	200	-				30 kA, 1 s		-	
	VLVAF6P03513AB	225		-			35 kA, 1 s	-	•	•
	VLVAF6P03513AE	225	-		-		35 kA, 1 s		-	
Without	VLVAF6P03514AB	250		-			35 kA, 1 s	-	•	
incomer	VLVAF6P03514AE	250	-				35 kA, 1 s		-	
protection	VLVAF6P03515AB	275		-			35 kA, 1 s	-	-	
circuit	VLVAF6P03515AE	275	-				35 kA, 1 s		-	
breaker	VLVAF6P03516AB	300		-	•	•	35 kA, 1 s	-	-	•
	VLVAF6P03516AC	300	-	-	-	-	35 kA, 1 s	-	-	
	VLVAF6P03516AE	300	-	•	-	-	35 kA, 1 s		-	
	VLVAF6P03517AB	350		-		-	35 kA, 1 s	-	•	
	VLVAF6P03517AE	350	-	-			35 kA, 1 s		•	-
	VLVAF6P03518AB	400	-	-	-	-	35 kA, 1 s	-	-	•
	VLVAF6P03518AE	400	-		•	•	35 kA, 1 s		-	•
	VLVAF6P03519AB	450	-	-	-	-	35 kA, 1 s	-	•	-
	VLVAF6P03519AE	450	-	-	-	-	35 kA, 1 s		-	_
	VLVAF6P03520AB	500	-	-	_	_	35 kA, 1 s	-	_	_
	VLVAF6P03520AE	500	_	-	-		35 kA, 1 s		-	_
	VLVAF6P03521AB VLVAF6P03522AB	550 600		-		-	35 kA, 1 s 35 kA, 1 s	-	-	_
	VLVAF6P03522AB VLVAF6P03522AE	600	_	-	-	-	-	-		
		700	_	-	-	-	35 kA, 1 s		-	
	VLVAF8P03534AB VLVAF8P03535AB	800	-	-	-		35 kA, 1 s 35 kA, 1 s	-	-	
	VLVAF8P03535AB VLVAF8P03536AB	900		-			35 kA, 1 s	_	-	
	VLVAF8P03537AB	1000		-			35 kA, 1 s	-	-	
	VLVAF8P03538AB	1100		-			35 kA, 1 s	_		
	VLVAF8P03539AB	1150		_			35 kA, 1 s	_		
	V EV/ (1 01 000000AD	1130					00 NA, 13		Schneider	

## **Large sites** 400 V/50 Hz

## Automatic compensation



For the large sites and large buildings, a wide range of available kvar with attractive options that can be chosen at the discretion of the customer. This is to facilitate adaptation to specific requirements.

Network pollution	VLVAW2N Wall-mounted	VLVAW3N or floor-standing
	Power (kvar)	
	125	175
	137.5	200
	150	225
Low polluted		238
		250
		275
		300

Network pollution	VLVAF4P Floor-standing	I =; =	la
	Tuning Factor 2.7	Tuning Factor 3.8	Tuning Factor 4.2
	Power (kvar)		
	50	50	50
	75	75	75
	87.5	87.5	87.5
	100	100	100
Polluted	125	125	125
	137.5	137.5	137.5
	150	150	150
	175	175	175
	200	200	200

#### Available options

- IP protection for the enclosure
  - □ IP31
  - □ IP54, harsh and dusty environments
- Protection against direct contact with door open
  - IPxxB protection
  - No IPxxB protection
- Incomer protection
  - □ 35 kA circuit breaker protection, with rotary handle
  - $\ \square$  35 kA circuit breaker protection, without rotary handle
  - $\hfill \Box$  65 kA circuit breaker protection, with rotary handle
  - □ 65 kA circuit breaker protection, without rotary handle
  - No incomer protection
- Cable connection
  - □ Top connection
  - $\hfill\square$  Bottom connection
- Auxiliary transformer
- Varlogic power factor controller
  - □ NR6/12 controllers
  - □ NRC12 controller with Modbus communication



Use our online configurator tool for easy selection and order processing. Log on your local Schneider Electric web site.

# **Large sites**400 V/50 Hz Automatic compensation



For the large sites and large buildings, a wide range of available kvar with attractive options that can be chosen at the discretion of the customer. This is to facilitate adaptation to specific requirements.

Network pollution	VLVAF5N Floor-standing
	Power (kvar)
	350
	400
	425
Low polluted	450
	500
	550
	600

Auxiliary transformer always integrated as a standard

Network pollution	VLVAF6P Floor-standing					
	Tuning Factor 2.7	Tuning Factor 3.8	Tuning Factor 4.2			
	Power (kvar)					
	225	225	225			
	250	250	250			
	275	275	275			
	300	300	300			
Polluted	350	350	350			
Polluted	400	400	400			
	450	450	450			
	500	500	500			
	550	550	550			
	600	600	600			

#### Available options

- IP protection for the enclosure
  - □ IP3′
  - □ IP54, harsh and dusty environments
- Protection against direct contact with door open
  - IPxxB protection
  - No IPxxB protection
- Incomer protection
  - □ 35 kA circuit breaker protection, with rotary handle
  - □ 35 kA circuit breaker protection, without rotary handle
  - □ 65 kA circuit breaker protection, with rotary handle
  - □ 65 kA circuit breaker protection, without rotary handle
  - No incomer protection
- Cable connection
  - Top connection
  - Bottom connection
- Varlogic power factor controller
  - □ NR6/12 controllers
  - $\hfill\square$  NRC12 controller with Modbus communication



Use our online configurator tool for easy selection and order processing. Log on your local Schneider Electric web site.

## Other voltages and frequencies

## 230 V/50 Hz- 690 V/50 Hz

#### Automatic or fixed compensation

A wide range of available kvar with attractive options can be chosen to meet your requirements.

Adapted to networks with low to high harmonic distorsion.

#### 230V/50Hz

	VLVAWON Wall-mounted	VLVAW1N
	Power (kvar)	
Min.	9	34
Мах.	32	100

#### 690V/50Hz

Low polluted		VLVAW5N Floor-standing			
	Power (kvar)				
Min.	125	350			
Max.	200	600			

Polluted	VLVAF6P Floor-standing			
	Power (kvar)			
Min.	250			
Max.	600			

#### Available options

- IP protection for the enclosure
  - □ IP31
  - □ IP54, harsh and dusty environments
- Protection against direct contact with door open
  - □ IPxxB protection
  - No IPxxB protection
- Incomer protection
  - □ 35 kA circuit breaker protection, with rotary handle
  - □ 35 kA circuit breaker protection, without rotary handle
  - □ 65 kA circuit breaker protection, with rotary handle
  - □ 65 kA circuit breaker protection, without rotary handle
  - No incomer protection
- Cable connection
  - □ Top connection
  - Bottom connection
- Auxiliary transformer
  - □ Included in VLVAF5N and VLVAF6P
- Varlogic power factor controller
  - □ NR6/12 controllers
  - □ NRC12 controller with Modbus communication



Use our online configurator tool for easy selection and order processing. Log on your local Schneider Electric web site.

> For the details of physical steps, please contact us.

# Other voltages and frequencies 240 V/60 Hz - 400 V/60 Hz - 600 V/60 Hz

#### Automatic or fixed compensation

A wide range of available kvar with attractive options can be chosen to meet your requirements.

Adapted to networks with low to high harmonic distorsion.

#### 240V/60Hz

Low polluted	VLVAWON Wall-mounted	VLVAW1N	VLVAW2N Wall-mounted or floor-standing		
	Power (kvar)				
Min.	9	34	150		
Max.	32	100	200		

Polluted	VLVAF4P Floor-standing
	Power (kvar)
Min.	50
Max.	200

#### 400V/60Hz

	VLVAWON Wall-mounted			VLVAW3N r floor-standing	VLVAF5N Floor-standing
	Power (kvar)				
Min.	9	34	125	225	350
Мах.	32	100	200	300	600

	VLVAF4P Floor-stand				
	Power (kvar	)			
Min.	100	300			
Max	200	600			

#### 600V/60Hz

Use our online configurator tool for

easy selection and

order processing. Log on your local

Schneider Electric

Low polluted	VLVAW2N Wall-mounted or floor-	VLVAW3N standing	VLVAF5N Floor-standing	
	Power (kvar)			
Min.	125	250	350	
Max.	200	250	600	

Polluted	VLVAF4P Floor-stand	
	Power (kvar	)
Min.	75	300
Max.	200	600

- IP protection for the enclosure
  - □ IP31
  - □ IP54, harsh and dusty environments
- Protection against direct contact with door open
  - IPxxB protection
  - No IPxxB protection
- Incomer protection
  - $\hfill \ensuremath{\square}$  35 kA circuit breaker protection, with rotary handle
  - □ 35 kA circuit breaker protection, without rotary handle
  - □ 65 kA circuit breaker protection, with rotary handle
  - □ 65 kA circuit breaker protection, without rotary handle
  - $\hfill\square$  No incomer protection



- Top connection
- □ Bottom connection
- Auxiliary transformer
  - □ Included in VLVAF5N and VLVAF6P
- Varlogic power factor controller
  - □ NR6/12 controllers
  - □ NRC12 controller with Modbus communication
- > For the details of physical steps, please contact us.

# **General Characteristics**

#### **Varset**

Environment	
Installation	Indoor
Ambient temperature	-5 °C to 40 °C
Average temperature	+35 °C
	+45 °C with derating
Humidity	up to 95 %
Maximum altitude	2000 m
Enclosure	
Degree of protection	IP31
	IP54 (option)
Colour	RAL 9003
Degree of mechanical resistance	IK10
Protection against direct contacts with door open	IPxxB (Option)
Steps	
Step protection	With circuit breaker from 125 kvar for low polluted network and from 50 kvar for polluted network
Electrical characteristic	cs
Connection type	Three-phase
Power losses	< 2.5 W/kvar without detuned reactors
	< 6 W/kvar with detuned reactors
Short-time withstand current	35 kA or 65 kA with circuit breaker 30 kA, 1 s or 35 kA, 1 s without circuit breaker
Maximum permissible	1.3 In without detuned reactor
over current (with thermal protection included)	1.31 In with 4.2 tuning factor
protection included)	1.19 In with 3.8 tuning factor
	1.12 In with 2.7 tuning factor
Maximum permissible over voltage	1.1 x Un, 8 h every 24 h
Standards	
	IEC 61921
	IEC 61439-1/2
Environment certificat	ions
	RoHS compliant, produced in 14001 certified plants,
	product environmental profile available

# Physical and electrical steps 400 V/50 Hz

Equipment	Min step	Power	Regulation	Number of	Number of	Sequence
type				physical steps	electrical steps	
Low polluted VLVAWON	7		2x3			1.1
VLVAWON	3	6		2	3	
	3	9 12.5	3 + 6.25 3 + 3 + 6.25	3	4	1.2
	3	16	3 + 2×6.25	3	5	1.2.2
	3	22	3 + 6.25 + 12.5	3	7	1.2.4
	6.25	32	6.25 + 2x12.5	3	5	1.2.4
/LVAW1N	3	34	3 + 6.25 + 2x12.5	4	11	1.2.4
LVAVVIIN	6.25	37.5	2x6.25 + 2x12.5	4	6	1.1.2
	6.25	50	6.25+6.25+12.5+25	4	8	1.1.2.4
	6.25	69	6.25+12.5+2x25	4		1.2.4
	25	75			11 3	
			3x25	3		1.1.1
	12.5	87.5	12.5+3x25	4	7	1.2.2
(1) (0) (0) (	25	100	4x25	4	4	1.1.1
/LVAW2N	25	125	25 + 2x50	3	5	1.2.2
	12.5	137.5	12.5+25+2x50	4	11	1.2.4
// / / / · · · · · · · · · · · · · · ·	50	150	3x50	3	3	1.1.1
/LVAW3N	12.5	175	2x12.5+2x25+2x50	6	14	1.1.2.2.4
	25	200	25+25+3x50	5	8	1.1.2
	25	225	25 + 4x50	5	9	1.2.2
	12.5	238	12.5+25+4x50	6	19	1.2.4
	25	250	2x25 + 4x50	6	10	1.1.2
	25	275	25 + 5x50	6	11	1.2.2
	50	300	6x50	6	6	1.1.1
'LVAF5N	50	350	50 + 3x100	4	7	1.2.2
	50	400	2x50 + 3x100	5	8	1.1.2
	25	425	25+2x50+3x100	6	17	1.2.2.4
	50	450	50 + 4x100	5	9	1.2.2
	50	500	2x50 + 4x100	6	10	1.1.2
	50	550	50 + 5x100	6	11	1.2.2
	50	600	2x50 + 5x100	7	12	1.1.2
olluted						
'LVAF4P	12.5	50	4x12.5	4	4	1.1.1
	12.5	75	2x12.5 + 2x25	4	6	1.1.2
	12.5	87.5	12.5 + 3x25	4	7	1.2.2
	12.5	100	2x12.5 + 25 + 50	4	8	1.1.2.4
	25	125	25 + 2x50	3	5	1.2.2
	12.5	137.5	12.5+25+2x50	4	11	1.2.4
	25	150	2x25 + 2x50	4	6	1.1.2
	25	175	25 + 3x50	4	7	1.2.2
	50	200	4x50	4	4	1.1.1
'LVAF6P	25	225	25+2x50+100	4	9	1.2.2.4
	50	250	50 + 2x100	3	5	1.2.2
	25	275	25+50+2x100	4	11	1.2.4
	50	300	2x50 + 2x100	4	6	1.1.2
	50	350	50 + 3x100	4	7	1.2.2
	50	400	2x50 + 3x100	5	8	1.1.2
	50	450	50 + 4x100	5	9	1.2.2
	50	500	2x50 + 4x100	6	10	1.1.2
	50	550	50+5x100	6	11	1.2.2
	100	600	6x100	6	6	1.1.1

#### **VarSet Components**

Our VarSet offer comes with the assurance that the components inside are manufactured by Schneider Electric, thus assuring high quality.

#### VarplusCan: Heavy duty capacitors

VarSet range of equipments are integrated with heavy duty aluminum can capacitors (Varplus Can) that are especially designed and engineered to deliver a long life expectancy with low losses.

#### Features:

- high life expectancy
- high overload capabilities with good thermal and mechanical properties
- self-healing with discharge resistors
- pressure-sensitive disconnector on all three phases
- special film resistivity and metallization profile for higher thermal efficiency and enhanced life expectancy.

#### LC1-D electromagnetic contactors

Capacitor control is accompanied by a transient state resulting from the capacitor load. This generates a very high overcurrent, equivalent to a short circuit of short duration.

#### Unique technology contactors

The contactors used in our devices are specifically designed for capacitor control. They are fitted with a contact block allowing the current to pass on closing and with damping resistors that limit the current on energisation.

#### Personal safety

The contactors cannot be operated manually. The contactors are fitted with covers to protect them from direct contact.

#### Safety of installations.

Damping resistors are used to reduce transient voltage surges.

#### Long service life

These contactors are a ready-to-use solution that avoids the installation of shock coils. Their service life is far longer than that of conventional solutions.

#### **Detuned reactors**

Detuned Reactors enable the protection of capacitors against harmonic pollution. They are recommended for usage in polluted networks, with choice of three tuning factors: 2.7, 3.8 and 4.2.

They are equipped with thermal protection device for step disconnection.

#### Spacial enclosures

- IP31: recommended for indoor usage. Protection against condensation as well as tools and wires (>2.5 mm).
- IP54: recommended for harsh and dusty environments (indoor usage). Protection against ingress of dust and condensation.
- IK10: maximum possible protection against mechanical shocks and can withstand energy of 20 joules.

These degrees of protection are defined by standards IEC 60529 (IP) and IEC 62262 (IK).



VarplusCan capacitors



TeSys LC1D range of contactors



Detuned reactors



Spacial enclosures

#### VarSet Components



PB:10406\_40 aps

Circuit breakers



Varlogic NR6



Varlogic NRC12

IP door open protects against direct physical contact with voltage for more safety of operating personnel.

IPxxB: ensures protection against live parts that retain voltage even when door is open (protection against access with finger).

#### Step circuit breaker

From 125 kvar for low polluted network and from 50 kvar for polluted network, each physical step is protected by a step circuit breaker that ensures that our equipments are highly fault-tolerant, ensuring continuity of service even when one or more capacitors are malfunctioning. The details of the steps are on page 15.

#### Incomer circuit breaker

Schneider Electric's range of circuit breakers is designed to ensure maximum continuity of service. Our VarSet range of products have the option of being protected with a main incomer circuit breaker; no spare fuses required and overload protection that cannot be achieved with HRC fuses. While the smaller power ranges (less than 100 kvar), are always protected with circuit breakers of up to 35 kA breaking capacity, our larger power ranges (over 100 kvar) come with an option to integrate circuit breakers of either 35 kA breaking capacity or 65 kA for industrial networks. Rotary handle is also provided as an option to facilitate the disconnection of circuit breakers, before opening the door. This is an additional protection mechanism to ensure the safety of personnel.

#### Varlogic N Power Factor Controller

Our range of Varlogic N series of Power Factor Controllers are simple to program, reliable and intelligent. Varlogic Controllers offer user friendly features such as a large backlit display, intuitive menus, ergonomic layout of buttons, direct display of main measurements and intelligent self set-up. The Varlogic N controllers constantly measure the reactive power of the installation and control the connection and disconnection of capacitor steps, to obtain the required power factor. The range is composed of:

- NR6: control up to 6 capacitor steps
- NR12: control up to 12 capacitor steps
- NRC12 with Modbus: control up to 12 capacitor steps, with advanced diagnostic functions and integrated **Modbus interface communication** module, which enables Varlogic functions to be connected to the energy management controller iRIO. This is the hub on the **On site Energy** Management Solution designed by Schneider Electric to ensure energy savings for a long time.

#### **Auxiliary Transformer**

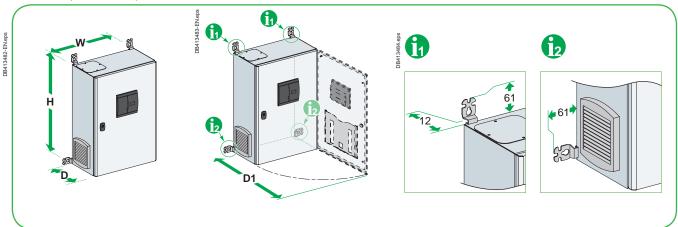
Auxiliary units such as contactors, controllers, and fans, operate only on 230 Volts. For installation other than 230 Volts, the voltage for the auxiliaries has to be converted by an auxiliary transformer. In order to simplify the installation process, VarSet equipments can be integrated with an auxiliary transformer (chosen as an option).

#### **Other Accessories**

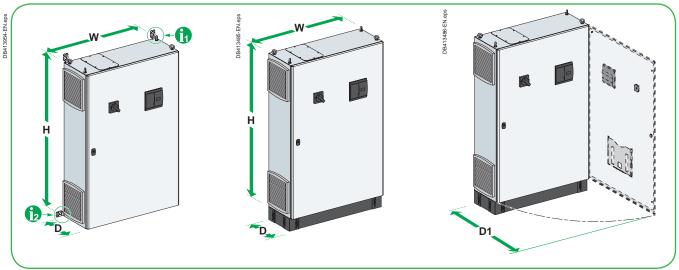
Accessories such as plinth (for easier installation on uneven surfaces) can be ordered as an option along with the VarSet equipments.

# **Dimensions and weights**

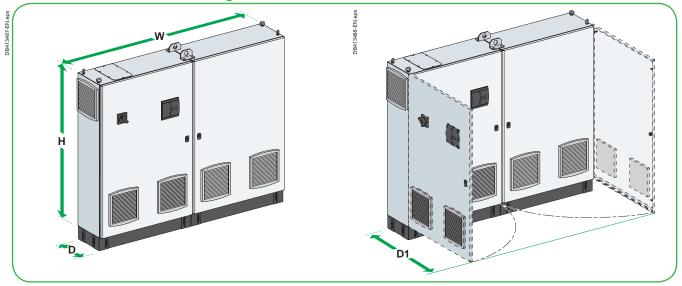
#### VLVAWON, VLVFWON, VLVAW1N and VLVFW1N wall-mounted



#### VLVAW2N, VLVFW2N and VLVAW3N



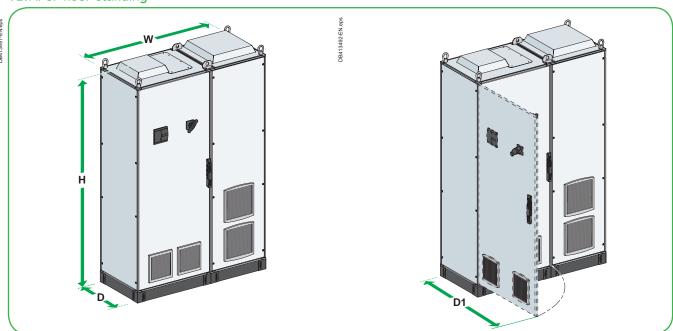
#### VLVAF4P and VLVFF4P floor-standing



# **Dimensions and weights**

# 

#### VLVAF6P floor-standing



Dimer	Dimensions (mm) and maximum weight (kg)										
	Wall-mounted							Floor-standing			
	VLVAWON	VLVFWON	VLVAW1N	VLVFW1N	VLVAW2N	VLVFW2N	VLVAW3N	VLVAF4P	VLVFF4P	VLVAF5N	VLVAF6P
Н	650	650	700	700	1200 <sup>(1)</sup>	1200 <sup>(1)</sup>	1200 <sup>(1)</sup>	1300	1300	2200	2200
W	450	450	600	600	800	800	1000	1600	1600	800	1400
D	250	250	300	300	300	300	300	300	300	600	600
D1	686	686	886	886	1086	1086	1286	1086	1086	1361	1361
Weight	57	48	73	64	131	117	175	334	319	434	952

<sup>(1)</sup> With plinth: +100 mm.

## Ordering form Small and medium buildings 400 V/50 Hz Automatic compensation Low polluted network

Customer name:
Delivery address:
Requested delivery date:
Customer order no.:

Low polluted Network	Reference number	Power (kvar)	IP 31	IPxxB (door open)	15kA circuit breaker	35kA circuit breaker	Top connection	Bottom connection	Rotary handle	Varlogic NR6/12
	Wall-mounted									
	□ VLVAWONO3526AA	6	-	-	-	-	-	•	-	
	□ VLVAWONO3501AA	9	-	•	-	-	-	•	-	
	□ VLVAWONO3527AA	12.5	-	-	-	-	-	•	-	
	□ VLVAWONO3502AA	16	-	-	-	-	-		-	
	□ VLVAWONO3503AA	22				-	-	•	-	•
	□ VLVAWONO3504AA	32	-			-	-	•	-	
	□ VLVAW1N03505AA	34			-		-	•	-	
	□ VLVAW1N03528AA	37.5	-		-	-	-		-	
	□ VLVAW1N03506AA	50	-		-	•	-	•	-	
	□ VLVAW1N03529AA	69	-	-	-	-	-	-	-	
	□ VLVAW1N03507AA	75	-	•	-		-	=	-	
	UVLVAW1N03530AA	87.5	-		-	-	-	-	-	
	UVLVAW1N03508AA	100			-		-	-	-	
	UVLVAW2N03509AA	125			-		-	-		
	UVLVAW2N03531AA	137.5			-		-	-		
With	□ VLVAW2N03510AA	150			-		-	-	-	
incomer	UVLVAW3N03511AA	175			-		-	•		
protection	UVLVAW3N03512AA	200	-		-	-	-	•	•	
circuit breaker	□ VLVAW3N03513AA	225	-		-	-	-			
Dicarci	□ VLVAW3N03532AA	238			-		-	-		
	UVLVAW3N03514AA	250			_		-	-	•	
	UVLVAW3N03515AA	275			-		-	-	•	
	UVLVAW3N03516AA	300			-		-			
	Floor-standing									
	UVLVAF5N03517AA	350			-		-	-		
	UVLVAF5N03518AA	400			-		-			
	UVLVAF5N03533AA	425			-		-			
	UVLVAF5N03519AA	450			_		_	-		
	□ VLVAF5N03520AA	500			-	_	-			
	UVLVAF5N03521AA	550	-		-		-			
	UVLVAF5N03522AA	600			_		-			
	□ VLVAF7N03534AA	700			_		_	_		
	□ VLVAF7N03536AA	900			_		_			
	UVLVAF7N03537AA	1000			_		_	_	_	
	□ VLVAF7N03539AA	1150			-		_			

# Ordering form Small and medium buildings 400 V/50 Hz Automatic compensation Low polluted network

Customer name:
Delivery address:
Requested delivery date:
Customer order no.:

Low polluted Network	Reference number	Power (kvar)	IP31	IPxxB (door open)	Short-time withstand current	Top connection	Bottom connection	Varlogic NR6/12
	Wall-mounted							
	□ VLVAW2N03509AB	125	•		30 kA, 1 s	-	=	-
	□ VLVAW2N03531AB	137.5		•	30 kA, 1 s	-	=	•
	□ VLVAW2N03510AB	150		•	30 kA, 1 s	-		
	□ VLVAW3N03511AB	175			30 kA, 1 s	-	-	
	□ VLVAW3N03512AB	200	•		30 kA, 1 s	-	=	=
	□ VLVAW3N03513AB	225	•	•	30 kA, 1 s	-	=	•
	□ VLVAW3N03532AB	238	•		30 kA, 1 s	-	=	
	□ VLVAW3N03514AB	250	•	•	30 kA, 1 s	-	=	
Without	□ VLVAW3N03515AB	275	•	•	30 kA, 1 s	-	=	
incomer	□ VLVAW3N03516AB	300			30 kA, 1 s	-	-	-
protection	Floor-standing							
circuit	□ VLVAF5N03517AB	350			35 kA, 1 s	-		
breaker	□ VLVAF5N03518AB	400		•	35 kA, 1 s	-		•
	□ VLVAF5N03533AB	425	•		35 kA, 1 s	-	=	
	□ VLVAF5N03519AB	450	•		35 kA, 1 s	-	=	•
	□ VLVAF5N03520AB	500			35 kA, 1 s	-		
	□ VLVAF5N03521AB	550	•		35 kA, 1 s	-	=	
	□ VLVAF5N03522AB	600	•	•	35 kA, 1 s	-	-	•
	□ VLVAF7N03534AB	700	•	•	35 kA, 1 s	-	-	=
	□ VLVAF7N03536AB	900			35 kA, 1 s	-	•	
	□ VLVAF7N03537AB	1000			35 kA, 1 s	-	•	
	□ VLVAF7N03539AB	1150	•	-	35 kA, 1 s	-		

**Ordering form**Small and medium buildings 400 V/50 Hz Automatic compensation Polluted network

Customer name:
Delivery address:
Requested delivery date:
Customer order no.:

Polluted Network	Reference number	Power (kvar)	Tuning factor 3.8	Tuning factor 4.2	IP31	IPxxB (door open)	35kA circuit breaker	Top connection	Bottom connection	Rotary handle	Varlogic NR6/12
	Floor-standing										
	□ VLVAF4P03506AA	50		-				-	-		
	□ VLVAF4P03507AA	75		-				-			
	□ VLVAF4P03530AD	87.5	-			-		-	-		
	□ VLVAF4P03508AA	100		-				-	-		
	□ VLVAF4P03508AD	100	-					-	-		
	□ VLVAF4P03509AA	125	-	-			-	-	-	-	•
	□ VLVAF4P03509AD	125	-					-	•		
	□ VLVAF4P03531AA	137.5		-				-	-		
	□ VLVAF4P03510AA	150		-				-			
	□ VLVAF4P03510AD	150	-					-	-		
	□ VLVAF4P03511AA	175		-				-	-		
	□ VLVAF4P03511AD	175	-					-			
	□ VLVAF4P03512AA	200		-				-	•		
	□ VLVAF4P03512AD	200	-					-	-		
	□ VLVAF6P03513AA	225	-	-				-	=	-	
	□ VLVAF6P03513AD	225	-					-			
	□ VLVAF6P03514AA	250	-	-				-	=	-	
With	□ VLVAF6P03514AD	250	-					-	-		
incomer	□ VLVAF6P03515AA	275		-				-	-		
protection circuit	□ VLVAF6P03515AD	275	-					-	-		
breaker	□ VLVAF6P03516AA	300		-				-	•		
Dicarci	□ VLVAF6P03516AD	300	-					-	-		
	□ VLVAF6P03517AA	350		-				-	•		
	□ VLVAF6P03517AD	350	-					-	-		
	□ VLVAF6P03518AA	400		-				-	•		
	□ VLVAF6P03518AD	400	-					-	-		
	□ VLVAF6P03519AA	450		-				-			
	□ VLVAF6P03519AD	450	-					-			
	□ VLVAF6P03520AA	500		-				-			•
	□ VLVAF6P03520AD	500	-					-	-		
	□ VLVAF6P03521AA	550	-	-	•	-		-	•		
	□ VLVAF6P03522AA	600		-				-	-		
	□ VLVAF6P03522AD	600	-			-	-	-	•	•	
	□ VLVAF8P03534AA	700		-				-		-	
	□ VLVAF8P03535AA	800	-	-		-	-	-	•	-	
	□ VLVAF8P03536AA	900		-				-			
	□ VLVAF8P03537AA	1000		-			-	-	•	•	•
	□ VLVAF8P03538AA	1100		-			-	-		-	•
	□ VLVAF8P03539AA	1150	-	-	•			-	•		

Ordering form Small and medium buildings 400 V/50 Hz Automatic compensation Polluted network

Customer name:
Delivery address:
Requested delivery date:
Customer order no.:

Polluted Network	Reference number	Power (kvar)	Tuning factor 3.8	Tuning factor 4.2	IP31	IPxxB (door open)	Short-time withstand current	Top connection	Bottom connection	Varlogic NR6/12
	Floor-standing									
	□ VLVAF4P03506AB	50	-	-			30 kA, 1 s	_	-	
	□ VLVAF4P03507AB	75		-	-		30 kA, 1 s	-	-	
	□ VLVAF4P03530AE	87.5	-				30 kA, 1 s		-	
	□ VLVAF4P03508AB	100	-	-	-		30 kA, 1 s	-	•	•
	□ VLVAF4P03508AC	100		-	•		30 kA, 1 s	-	-	
	□ VLVAF4P03508AE	100	-		-		30 kA, 1 s		-	
	□ VLVAF4P03509AB	125	•	-	•		30 kA, 1 s	-	•	
	□ VLVAF4P03509AE	125	-		-		30 kA, 1 s		-	
	□ VLVAF4P03531AB	137.5		-			30 kA, 1 s	-	•	
	□ VLVAF4P03510AB	150	•	-	-	•	30 kA, 1 s	-		
	□ VLVAF4P03510AE	150	-				30 kA, 1 s			
	□ VLVAF4P03511AB	175		-			30 kA, 1 s	-	-	
	□ VLVAF4P03511AE	175	-				30 kA, 1 s		-	
	□ VLVAF4P03512AB	200		-			30 kA, 1 s	-		
	□ VLVAF4P03512AC	200		-			30 kA, 1 s	-	-	
	□ VLVAF4P03512AE	200	-				30 kA, 1 s		-	
	□ VLVAF6P03513AB	225		-			35 kA, 1 s	-	•	
	□ VLVAF6P03513AE	225	-				35 kA, 1 s			
Without	□ VLVAF6P03514AB	250		-			35 kA, 1 s	-		
incomer	□ VLVAF6P03514AE	250	-				35 kA, 1 s			
protection	□ VLVAF6P03515AB	275	-	-	-		35 kA, 1 s	-		
circuit	□ VLVAF6P03515AE	275	-				35 kA, 1 s			
breaker	□ VLVAF6P03516AB	300		-			35 kA, 1 s	-	•	
	□ VLVAF6P03516AC	300		-			35 kA, 1 s	-	-	
	□ VLVAF6P03516AE	300	-	•	-		35 kA, 1 s		•	
	□ VLVAF6P03517AB	350		-			35 kA, 1 s	-	-	
	□ VLVAF6P03517AE	350	-				35 kA, 1 s			
	□ VLVAF6P03518AB	400		-	-		35 kA, 1 s	-	-	
	□ VLVAF6P03518AE	400	-				35 kA, 1 s		-	
	□ VLVAF6P03519AB	450		-			35 kA, 1 s	-	-	
	□ VLVAF6P03519AE	450	-				35 kA, 1 s		-	
	□ VLVAF6P03520AB	500		-			35 kA, 1 s	-	-	
	□ VLVAF6P03520AE	500	-		•		35 kA, 1 s		•	
	□ VLVAF6P03521AB	550		-			35 kA, 1 s	-		
	□ VLVAF6P03522AB	600		-			35 kA, 1 s	-	•	
	□ VLVAF6P03522AE	600	-				35 kA, 1 s			
	□ VLVAF8P03534AB	700		-			35 kA, 1 s	-		
	□ VLVAF8P03535AB	800		-			35 kA, 1 s	-		
	□ VLVAF8P03536AB	900		-	•		35 kA, 1 s	-		
	□ VLVAF8P03537AB	1000		-			35 kA, 1 s	-		
	□ VLVAF8P03538AB	1100		-	•		35 kA, 1 s	-		
	□ VLVAF8P03539AB	1150		-			35 kA, 1 s	-		

## **Ordering form**

### Large sites 400 V/50 Hz Automatic compensation

Customer name:	
Delivery address:	
Requested delivery date:	
Customer order no.:	

Network pollution	VLVAW2N Wall-mounted o	VLVAW3N or floor-standing		
	Power (kvar)			
	□ 125	<b>175</b>		
	□ 137.5	□ 200		
	□ 150	□ 225		
Low polluted		□ 238		
		□ 250		
		□ 275		
		□ 300		

Network pollution	VLVAF4P Floor-standing		
	Tuning Factor 2.7	Tuning Factor 3.8	Tuning Factor 4.2
	Power (kvar)		
	□ 50	□ 50	□ 50
	□ 75	□ 75	□ 75
	□ 87.5	□ 87.5	□ 87.5
	□ 100	□ 100	□ 100
Polluted	□ 125	□ 125	□ 125
	□ 137.5	□ 137.5	□ 137.5
	□ 150	□ 150	□ 150
	□ 175	□ 175	□ 175
	□ 200	□ 200	□ 200

- IP protection for the enclosure
  - □ IP31
  - □ IP54, harsh and dusty environments
- Protection against direct contact with door open
  - □ IPxxB protection
  - No IPxxB protection
- Incomer protection
  - □ 35 kA circuit breaker protection, with rotary handle
  - □ 35 kA circuit breaker protection, without rotary handle
  - □ 65 kA circuit breaker protection, with rotary handle
  - □ 65 kA circuit breaker protection, without rotary handle
  - No incomer protection
- Cable connection
  - Top connection
  - Bottom connection
- Auxiliary transformer
- Varlogic power factor controller
  - □ NR6/12 controllers
  - □ NRC12 controller with Modbus communication

## **Ordering form**

#### Large sites 400 V/50 Hz Automatic compensation

Customer name:
Delivery address:
Requested delivery date:
Customer order no.:

Auxiliary transformer always integrated as a standard

Network pollution	VLVAF5N Floor-standing
	Power (kvar)
	□ 350
	□ 400
	□ 425
Low polluted	□ 450
	□ 500
	□ 550
	□ 600

Network pollution	VLVAF6P Floor-standing				
	Tuning Factor 2.7	Tuning Factor 3.8	Tuning Factor 4.2		
	Power (kvar)				
Polluted	□ 225	□ 225	□ 225		
	□ 250	□ 250	□ 250		
	□ 275	□ 275	□ 275		
	□ 300	□ 300	□ 300		
	□ 350	□ 350	□ 350		
	□ 400	□ 400	□ 400		
	□ 450	□ 450	□ 450		
	□ 500	□ 500	□ 500		
	□ 550	□ 550	□ 550		
	□ 600	□ 600	□ 600		

- IP protection for the enclosure
  - □ IP31
  - □ IP54, harsh and dusty environments
- Protection against direct contact with door open
  - IPxxB protection
  - No IPxxB protection
- Incomer protection
  - $\hfill \square$  35 kA circuit breaker protection, with rotary handle
  - □ 35 kA circuit breaker protection, without rotary handle
  - □ 65 kA circuit breaker protection, with rotary handle
  - □ 65 kA circuit breaker protection, without rotary handle
  - No incomer protection
- Cable connection
  - □ Top connection
  - $\hfill\square$  Bottom connection
- Varlogic power factor controller
  - □ NR6/12 controllers
  - □ NRC12 controller with Modbus communication

## **Ordering form**

## Large sites 400 V/50 Hz Fixed compensation

Customer name:
Delivery address:
Requested delivery date:
Customer order no.:

	VLVFWON	VLVFW1N	VLVFW2N			
pollution	Wall-mounted or floor-standing					
	Power (kvar)					
Low polluted	□9	□ 50	□ 125			
	□ 16	□ 75	□ 150			
	□ 22	□ 100	□ 175			
	□ 32		□ 200			

Network pollution	VLVAF4P Floor-standing Tuning Factor 2.7	Tuning Factor 3.8	Tuning Factor 4.2	
	Power (kvar)			
Polluted	□ 50	□ 50	□ 50	
	□ 75	□ 75	<b>- 75</b>	
	□ 100	□ 100	□ 100	
	□ 15O	□ 150	□ 150	
	□ 200	□ 200	□ 200	

- IP protection for the enclosure
  - □ IP31
- Protection against direct contact with door open
  - $\ \square$  IPxxB protection
  - No IPxxB protection
- Incomer protection
  - □ 35 kA circuit breaker protection, with rotary handle
  - □ 35 kA circuit breaker protection, without rotary handle
  - □ 65 kA circuit breaker protection, with rotary handle
  - $\hfill \Box$  65 kA circuit breaker protection, without rotary handle
  - No incomer protection
- Cable connection
  - $\hfill\Box$  Top connection
  - Bottom connection
- Auxiliary transformer

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