

Capacitor & Filter Banks



LV & HV Solutions

BC | SM | OBC series

LV Harmonic Filtered Compensation Systems

BC Series

BC Series Compensation Systems are harmonic filtered compensation systems used for Power Factor Correction. BCF Series compensation systems consist of C7 series Electromechanically switched harmonic filtered compensation cassettes, BCT Series compensation systems consist of C7s series statically switched harmonic filtered compensation cassettes.

Application Areas

Low Voltage Reactive Power Compensation and Harmonic Filtration at

- Power distribution
- Industrial plants
- BCT Series for fast changing loads like Electrical Cranes, Spot / Seam Welding Machines, Harbours, etc...

Advantages

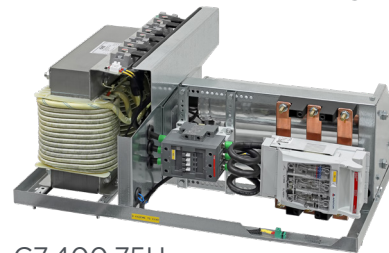
- Modular rack structure which allows simple design and easy installation according to the desire power
- Long-lasting and safe use thanks to the perfect matching of all equipment and high quality
- Safety design against touch and electric shock
- Installation up to 5 modular racks in a single panel
- Less than 20 ms fast response time for BCT series

Technical Specifications

- Rated Voltage : 220 ... 720 Vac
- Rated Frequency : 50 / 60 Hz
- Tuning Frequency : 134 ... 225 Hz (at 50 Hz Network)
- Standart Steps : 6.25 ... 75 kVAr, 400 V, 50 Hz
- Switching Element: Contactor / Thyristor
- Standards : EN 61439-1/2, EN 60831-1/2
EN 60076-6, EN 60529
EN 60255-1, EN 60947-4-1
- System Strength : Standart Type, Duty Type, Heavy Duty Type



BCT.300.400.5S



C7.400.75H



C7s.400.75H

BCF series Switching with Electromechanical Contactor	BCT series Fast type - with Static Contactor (Thyristor switch)	Net Power (at 400 V, 50 Hz)	Steps (400V, 50 Hz)	Dimensions
BCF.100.400.4S	BCT.100.400.4S	100 kVAr	2 x 12,5 + 1 x 25 + 1 x 50 kVAr	800 x 600 x 2100 mm
BCF.150.400.5S	BCT.150.400.5S	150 kVAr	2 x 12,5 + 1 x 25 + 2 x 50 kVAr	800 x 600 x 2100 mm
BCF.200.400.6S	BCT.200.400.6S	200 kVAr	2 x 12,5 + 1 x 25 + 3 x 50 kVAr	800 x 600 x 2100 mm
BCF.250.400.5S	BCT.250.400.5S	250 kVAr	2 x 25 + 1 x 50 + 2 x 75 kVAr	800 x 600 x 2100 mm
BCF.300.400.5S	BCT.300.400.5S	300 kVAr	1 x 25 + 1 x 50 + 3 x 75 kVAr	800 x 600 x 2100 mm
BCF.400.400.7S	BCT.400.400.7S	400 kVAr	1 x 25 + 3 x 50 + 3 x 75 kVAr	1600 x 600 x 2100 mm
BCF.500.400.8S	BCT.500.400.8S	500 kVAr	1 x 25 + 2 x 50 + 5 x 75 kVAr	1600 x 600 x 2100 mm
BCF.750.400.10S	BCT.750.400.10S	750 kVAr	10 x 75 kVAr	1600 x 600 x 2100 mm
BCF.1050.400.15S	BCT.1050.400.15S	1050 kVAr	1 x 25 + 1 x 50 + 13 x 75 kVAr	2400 x 600 x 2100 mm
BCF.1250.400.18S	BCT.1250.400.18S	1250 kVAr	1 x 25 + 2 x 50 + 15 x 75 kVAr	3200 x 600 x 2100 mm
BCF.1500.400.20S	BCT.1500.400.20S	1500 kVAr	20 x 75 kVAr	3200 x 600 x 2100 mm

Please contact us for different range of power and voltage levels.

HV Capacitor & Filter Banks

SME CC Series

SME CC series Metal Enclosed Capacitor & Filter Banks are manufactured based on SME series type tested Metal Enclosed Cabinet, designed for indoor use, tested according to IEC 62271-200 standard.

SME CC Capacitor Banks consist of capacitors, current-limiting reactors (or harmonic filter reactors), protection, control and switching elements used in the switchgear. The design incorporates natural convection or forced draft cooling according to the application with anti-condensation heaters to assist in controlling the effects of fluctuating ambient temperatures and humidity.

SME CC Capacitors Banks, have an electrical and mechanical interlocking safety systems. These systems eliminate the possibility of a technician accessing live equipment under the high voltage level.

The enclosure incorporates fork and crane lifting facilities. This assists with trouble-free handling and assembly of modules on site.

Advantages

- Type tested Enclosure
- Modular, compact, and robust design optimized for possible future expansion, easy transport, storage, and installation
- Ensures high reliability and low maintenance costs with simplified design and proven components usage
- Fully assembled units, factory tested and ready for connection

Application Areas

High Voltage Reactive Power Compensation and Harmonic Filtration at;

- Power Generation
- Power T&D
- Industrial plants

Standards

- IEC 60871-1
- IEC 60076-6
- IEC 62271-200



Technical Specifications

- Rated Voltage : 3 - 46 kVac
- Rated Frequency : 50 / 60 Hz
- Rated Power : on demand
- Steps Power : on demand
- Switching element: Vacuum Contactors, Circuit Breaker, Disconnectors
- Dimensions : Varies with power and voltage

HV Capacitor & Filter Banks

SMB CC Series



SMB CC series Kiosk type Capacitor & Filter Banks consist of metal or concrete kiosks, designed for all weather conditions and harsh environmental factors as according to IEC 62271-202 standard.

SMB CC consist of HV Capacitors, Harmonic filter/current-limiting reactors, Switching, Protection and Control equipment. The design incorporates natural or forced cooling according to the application with smart anti-condensation relay and heaters to assist in controlling the effects of fluctuating ambient temperatures and humidity.

SMB CC Capacitors Banks, have electrical and mechanical interlock to eliminate the risk of technician accessing live equipment under the voltage.

The enclosure base frame incorporates fork and crane lifting facilities. This assists with trouble-free handling and assembly of modules on site.

Advantages

- Compact, and robust design, easy transport, storage, and installation
- Ensures high reliability and low maintenance costs with simplified design and proven components usage
- Fully assembled units, factory tested and ready for connection
- High resistance to environmental factors

Application Areas

High Voltage Reactive Power Compensation and Harmonic Filtration at

- Power generation
- Power T&D
- Industrial plants

Technical Specifications

- Voltage : 3 - 46 kVac
- Frequency : 50 / 60 Hz
- Steps & Power : Depends on request
- Dimensions : Varies with power and voltage



Standards

- IEC 62271-202
- IEC 60871-1
- IEC 60076-6

HV Capacitor & Filter Banks

OBC Series

OBC Series Capacitor Banks are manufactured to be used at indoor and outdoor PFC (Power Factor Correction) applications over 1 kV with high quality power capacitors and filter or damping reactors on aluminium or galvanized steel construction.

Our construction design combines easy and fast assembly. The systems are shipped in wooden cases as modular parts for the fastest and easiest assembly, taking into account the ease of transportation, storage and assembly.

OBC Series Capacitor Banks are used for tuned or detuned harmonic filter bank applications, SVC systems and classical power factor correction systems.

OBC Series Capacitor Banks are suitable for applications of transformer fixed bank or motor fixed bank or multistep central automatic capacitor bank system at different voltage and frequency.

OBC Series Capacitor Banks can be designed to be used indoors or outdoors in a suitable outdoor area such as steel kiosks or concrete kiosks, depending on demand and requirements.

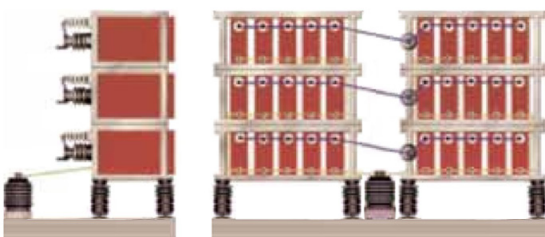
Advantages

High Voltage Reactive Power Compensation, Harmonic Filtration, Voltage regulation and other PFC application at;

- Power Generation
- Power T&D
- Renewable Power Plants
- Industrial plants

Advantages

- Nominal Voltage : from 3 kV to 170 kV
- Nominal Frequency : 50 Hz or 60 Hz
- Nominal Power : from 250 kVAR to ... MVAR
- Standards : IEC 60871-1



Advantages

The modular, compact, and robust design is optimized for easy future expansion of the system, simplifying transportation, storage, and installation.

Proven equipment uses with documents and references from internationally accredited laboratories.

- High quality and low maintenance design with simplified and high quality product.
- Simplified modular structure offering easy installation, maintenance and easy and fast replacement of parts when needed.
- Design suitable for external or internal, galvanized steel or aluminum construction with high resistance to rust and corrosion.
- Design and factory tests that meet the requirements of the latest version of the relevant standards and the special requirements set by the customers.
- Tailor made design and application for each one plant.
- Licensed and safe packaging that facilitates long-term storage, international transportation and stacking.
- Factory test reports, transport, storage, installation, commissioning, maintenance, and operating instructions delivered electronically and in hard copy.

Standards

- IEC 60143-1
- IEC 60871-1

PFC System

Shunt Reactor Banks



BSC series shunt reactor banks are designed by using ALS series shunt reactors and high technology digital reactive power control relays, protection and control equipment. Application areas are mostly subways, light rail systems and industrial zones having long transmission/distribution line cables.

Reactive power factor correction systems can be applied either with electronic switching or conventional electromechanical switching. BSC series shunt reactor banks are designed suitable to remote control, and management from the existing scada infrastructure, in addition to automatic or manual operation.

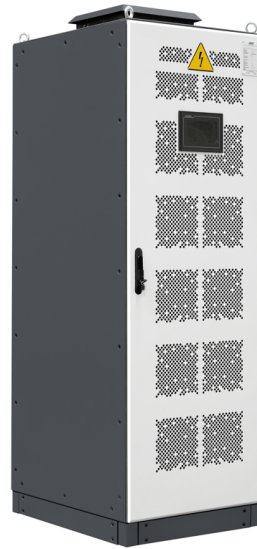
Main Features

- Different voltage levels and power values option
- Easy installation
- Integration option with Scada systems and remote control
- Easy power increase thanks to the modular structure
- Possibility and capability of backup, equipment exchange, and sharing within the system
- Maximum efficiency with low power losses and minimized energy consumptions

Technical Specifications	
Voltage	up to 1500 Vac
Frequency	50 / 60 Hz
Max. power in 1 panel	200 kVAr
Switching	Thyristor / Contactor
Short circuit resistance	up to 65 kA
Installation	Indoor/Outdoor
Ventilation	Fan or climate
Standards	EN 61439-1/2, EN 60076-6, EN 60529, EN 60255-1, EN 60947-4-1
Dimensions (D x W x H)	800 x 800 x 2100 mm

PFC System

Static VAR Generator



SVG series IGBT switching compensation systems consist of high technology IGBT drivers and modules. It can perform both inductive reactive and capacitive reactive compensation in both directions.

Main Features

- Immediate response to rapid and sudden load changes
- Easy installation, operation and easy power increase
- Thanks to its modular structure, easy material and equipment change, it allows backup
- Switching and compensation without causing transients and harmonics
- One-to-one independent intervention to the balanced or unbalanced for 3 phases, 3 phase load balancing

Technical Specifications	
Wiring	3P3W, 3P4W
Reactive power rating	up to 600 kVAr
Voltage	3P3W: 200V - 480V (±%10) 3P4W: 200V - 415V (±%10)
Topology	Tri-Level IGBT based NPC
Frequency	50/60 Hz ± 3 Hz
Switching frequency	20 kHz
Reaction time	25 µs
Harmonic filtering	Up to the 13th, each one individually selectable
Power factor correction	0 - 100% inductive and capacitive
Mechanical dimensions (D x W x H)	600 x 800 x 2150 mm
Ambient temperature	-10 - +45 °C
IP class	IP20
Standards	EN 50178, EN 55011, EN 61000-6-2, EN 61000-6-4, EN 61000-3-2, EN 61000-3-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11
Certification	CE



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