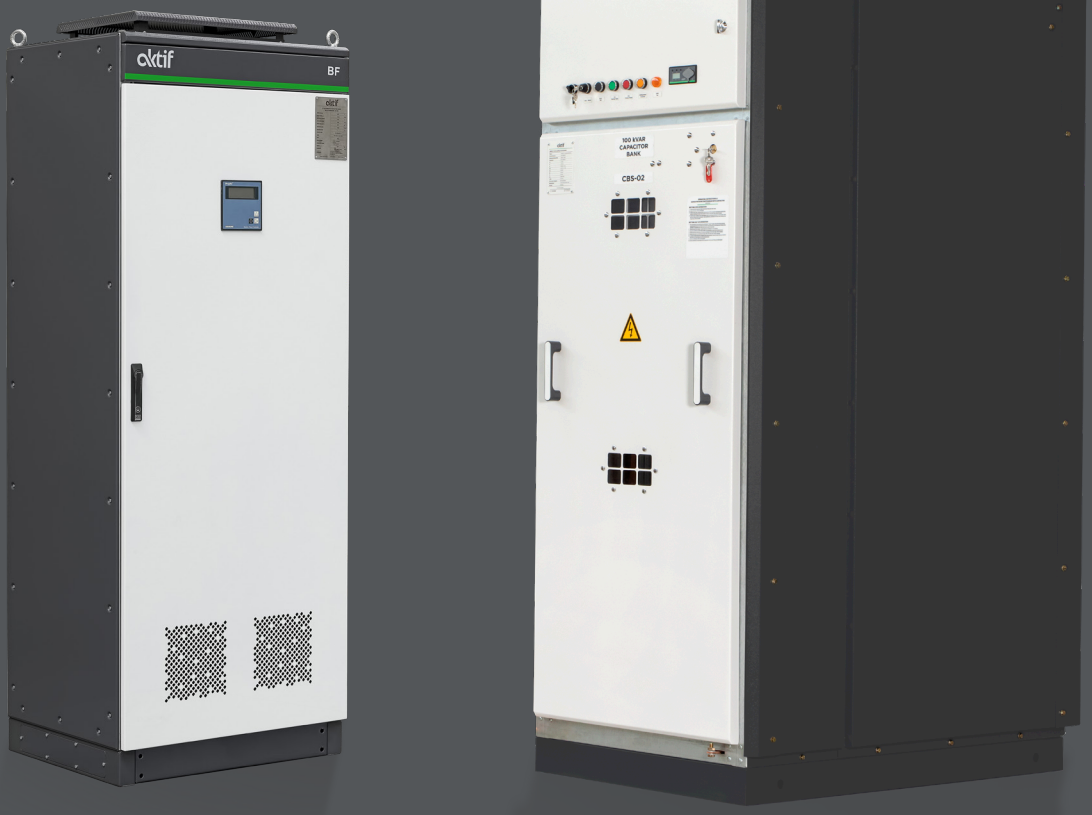
Power Quality System Solutions



LV & HV Solutions

BC | SM | OBC series

Switching Life to Infinity

aktif ELEKTROTEKNİK

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.

BCT

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 : Duty Type, Heavy Duty Type

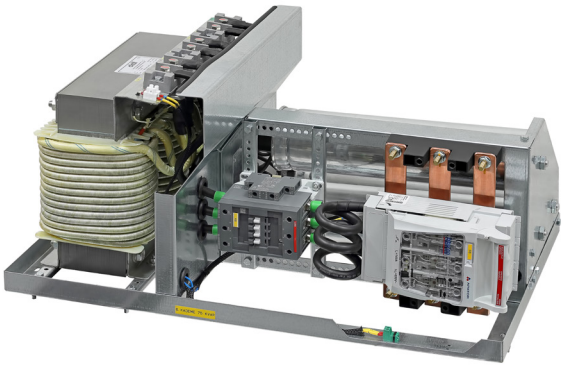
BCF series Switching with Electromechanical Contactor	BCT series Fast type - with Static Contactor (Thyristor switch)	Net Power (at 400 V, 50 Hz)	Steps (400V, 50 Hz)	Dimensions
BCF.100.400.4H	BCT.100.400.4H	100 kVAr	2 x 12,5 + 1 x 25 + 1 x 50 kVAr	800 x 600 x 2100 mm
BCF.150.400.5H	BCT.150.400.5H	150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

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

C5 Series Compensation Cassettes

Technical Specifications

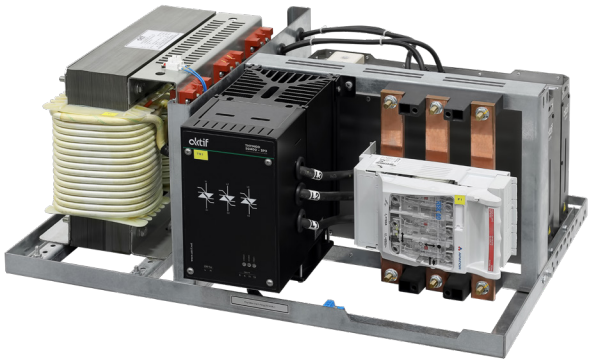
- Rated Voltage : 220 - 720 V
- Nominal Frequency : 50 / 60 Hz
- Tuning Frequency : 134 - 225 Hz (50 Hz Network)
- Standard Steps : 12.5 / 25 / 50 / 75 kVAr
- Switching Equipment : Electromechanical Contactor
- Cooling : 1000 m3/h and above Cooling Fan
- Design suitable for 800x600mm panel



C7 Series Compensation Cassettes

Technical Specifications

- Rated Voltage : 220 - 720 V
- Nominal Frequency : 50 / 60 Hz
- Tuning Frequency : 134 - 225 Hz (50 Hz Network)
- Standard Steps : 12.5 / 25 / 50 / 75 kVAr
- Switching Equipment: Electromechanical Contactor
- Cooling : 1000 m3/h and above Cooling Fan
- Design suitable for 800x600mm panel



C7s Kompanzasyon Kaseti – Statik Kontaktörlü

Technical Specifications

- Rated Voltage : 220 - 720 V
- Nominal Frekans : 50 / 60 Hz
- Tuning Frequency : 134 - 225 Hz (50 Hz Network)
- Standard Steps : 12.5 / 25 / 50 / 75 kVAr
- Switching Equipment : Static Contactor
- Cooling : 1000 m3/h and above Cooling Fan
- Response time less than 20 ms
- Zero-crossing switching technique
- Design suitable for 800x600mm panel
- Advantages of Switching with Static Contactor ;
- Prevention of sudden current and voltage pulses
- High reliability and durability
- Noise and EMG reduction

Application Areas

- Compensation panels as per need
- Main distribution panels
- Existing compensation system revisions

Advantages

- Compatibility with modular system structure
- Easy and quick installation
- Ease of service and maintenance
- Ease of MDP design thanks to modular design
- Maximum power in minimum floor space
- Possibility to use 5 modular cassettes on a single panel
- Safe design against touch and electric shock
- Use of high quality equipment
- Proven design developed since 2002

PFC System
Shunt Reactor Banks

BS 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

Application Areas

- Light Rail Systems
- Renewable Energy Facilities
- Ports
- Hospitals
- Highway and Tunnel Projects
- All Facilities with Consumption Far from Distribution Points

Advantages

- BS Series Shunt Reactor Banks
- BS series shunt reactor banks systems are compensation systems used for power factor correction designed with ALS series shunt reactors.
- Modular Panel Structure: Type-tested SLV series, suitable for expansion and power increase.
- Stage Structure: Automatic / Manual / Scada / Fixed
- Switching: BS series shunt reactor banks are designed with electromechanical and static contactor switching.

ALS Series Shunt Reactor

Technical Specifications	
Rated Voltage	220 ... 1000 Vac
Frequency	50 / 60 Hz
Max power in 1 panel	200 kVAr
Switching	Thyristor / Contactor
Installation	Indoor / Outdoor
Ventilation	Fan or climate
Standarts	EN 61439-1/2, EN 60076-6, EN 60529, EN 60255-1, EN 60947-4-1
Dimensions	800 x00 x 2100 mm

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, Disconnector
- 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.

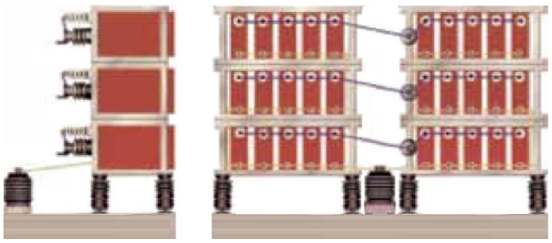
Advantages

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

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

Technical Specifications

- 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 quirements 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

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