

RETROFITTING & UPGRADING TO VCB



CIRCUIT BREAKER WITH RETROFIT OFFERING

One Stop Switching Solutions

S&S Power Switchgear offers a full line of Indoor & Outdoor Circuit Breakers to help meet many of your application needs. With voltage range up to 36kV, current range up to 2000A and a large variety of functions, these components are used in multiple industries.

COMPANY HISTORY

S&S Power Switchgear Ltd (S&S) was established in 1975 in Technical collaboration with Brush Fusegear, UK for manufacture of Fuses. S&S introduced High Voltage Disconnecting Switches in 1978 collaborating with Southwales, UK. S&S indigenously developed Outdoor Porcelain Clad Vacuum Circuit Breaker and introduced for the first time in Indian market.

S&S became the industry leader in the country in sales and market shares in Medium Voltage and High Voltage Disconnecter Industry.

The factory has state-of-the-art manufacturing facilities to produce high quality equipment. A world class Factory in Puducherry houses all third generation equipment and provides low cost high quality manufacturing facility for Disconnectors.

The products of S&S have been tested in internationally renowned Laboratories- Kema Holland and CESI-Italy. The type test conducted include Ice Breaking test for High Altitude installation of these Disconnectors.

S&S continues its success march backed by a strong team of quality Engineers and a fully equipped

in house Research and Development.

S&S is the only company in India to have sold more than 18,000 nos of Circuit Breakers and more than 25,000 nos of Disconnectors to all major Utilities in India and Worldwide.

S&S continues its thrust and introduced wide range of products to meet the customer's changing needs which are their core strength in staying ahead successfully in the competitive market.

Careful selection of automatic and semi-automatic machines enables S&S to manufacture quality products to meet the stringent customer requirements.

THE COMPANY

S&S Power Switchgear Equipment Ltd has its Disconnector manufacturing unit at Puducherry in India. S&S Power Switchgear Ltd has its Circuit Breaker manufacturing unit at Maraimalai Nagar in Chennai, India. S&S also has a group company called Acrastyle Limited located in the United Kingdom who is the world leader in design and manufacture of Control and Protection for Power Generation, Transmission & Distribution Systems and Acrastyle Power (India) Ltd our Indian Engineering and CRP manufacturing setup located at Maraimainagar near Chennai.

WHY S&S?

- Quality products
- Detailed application study
- Dedicated team of engineering experts
- Timely execution of projects
- Complete after sales services
- Large Production Capacity
- Provide Customized Solutions
- Flexibility to adopt to Customer needs
- Long term experience in MV Switchgear

CORE VALUES

- Committed to achieve success focus on customer satisfaction
- Delivering value and profit
- Excellence in operations
- Provision of suitable platform for best electrical deals
- Quality Focused Team

RETROFITTING & UPGRADING SOLUTIONS

Giving a New Life to your Circuit Breakers

OFFERING :

- We offer to make your existing equipment product safe, efficient & Reliable with new technical features.
- We can refurbish, and help with reinstalling equipment to meet changing requirements or incorporate additional functions.

INTRODUCTION

Retrofit activities involve rehabilitation of aged breakers into modern units satisfying client's cubicle requirements through proper assembling & installing.

• All control logic pre-engineered and built at S&S Power Switchgear Limited

- Shipped to site ready to install

Upgrading existing, aged systems with the most modern components to optimize technical, reliability and profitability aspects of the system.

Switchgear - Retrofits include upgrading to a higher operating and interrupting rating, including bus upgrades. Retrofits offering where a new switchgear cell and circuit breaker is inserted into an existing switchgear cell.

The components are tested rigorously at the time of manufacture, and after the installation of the firmware at your plant, thus minimising the probability of failure and maximising equipment's reliability and life cycle.

BENEFITS

RETROFIT means implementation of modern components (primary switching devices and digital protection/control technology) in the existing MV installation with following benefits:

- Cheaper than a complete replacement
- Short implementation time for replacement
- Minimum shutdown of the switchboard
- Remaining service life extension
- Improved operator protection
- Minimisation of further maintenance costs
- Warranty on the conversion work
- Spare parts availability for long time
- Low investment costs compared to those required for the installation of a new switchgear

FEATURES

- The original circuit breaker and its truck are replaced
- The connection interfaces (power and low voltage) are adapted for use on the original cubicle
- The new circuit breaker is fitted with the new interfaces
- The solution is tested mechanically with the mounting jig

RETROFIT CB

Improved insulated frame

Superior anti-tracking characteristics & Mechanical Strength

Reduction in number of parts

50% of that of previous model

Increased life

High Mechanical & Electrical life compare with aged CB



S&S POWER SWITCHGEAR LIMITED

RETROFITTING OF MOCB TO VCB PROCESS

i) Design Area Focus

ii) Retrofitting process for Truck:

- Dismantled existing MOCB Carriage to Truck frame
- Fabrication work like cutting, welding and fixing of plate
- Painting work done after cleaning & removing spatters & burrs on the frame
- Mechanism assembly
- Truck wiring
- Finally VCB travel settings checked & ensured

BEFORE RETROFITTING...



NGEF - MOCB (GR MODEL)

AFTER RETROFITTING...



S&S - VCB (HHV12)

Retrofitting of MOCB to VCB 12kV, 630 A, 25kA / 3 Sec
Indoor Circuit Breaker for IGCAR - KALPAKKAM



iii) Retrofitting process for Panel:

- Rear door Electrical interlock
- Service / Test Electrical interlock
- Panel wiring for VCB
- Swing door arrangement

iv) Verification and Validation carried out as per IS/IEC-62270-100,62271-1

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One Stop Switching Solutions

Problem Caused by aging equipment

- Increase in the number of accident
- Increase in maintenance work
- Increase of damage due to power failure

Reason for Replacement

- Deterioration
- Increase in maintenance cost
- No spare parts are available
- Introduction of new information system

Effect of Upgrade / Retrofit

- Improvement in reliability of power supply
- Saving of running cost and maintenance work and duration
- Prevention of Power failure accidents by adopting a communication network
- Minimum or No down time

RETROFITTING DONE BY S&S...

We concentrate on retrofitting of existing S&S Make VCBs and supplying spares.
Few references as below:

- HPSEB- Repair/Overhauling & Service of 33kV VCB for existing S&S make VCBs
- IGCAR, Kalpakkam – Retrofitting of existing Indoor NGEF MOCB to New 12kV VCBs
- KSEB- Spares supplied to existing 11kV indoor VCB
- Nuclear Fuel Complex- Servicing of HT Gas Circuit Breaker
- ONGC, Ahmedabad- Retrofitting & Repair of 12kV VCB and supplied Spares to 12kV VCB
- ONGC, Assam – Retrofit, Spares and services for existing S&S Make VCBs

OUR ENGINEERING DESIGN SERVICES...

Our group company Acrastyle Power (India) Limited give us strong backup in Engineering Design Services. Acrastyle Power has a pool of qualified and experienced engineers, offers Application Engineering and circuit design, Single Line, Logic, interlocking diagrams preparation, General arrangement and equipment specification, wiring, terminal block layouts and cable wiring diagrams. We offer Retrofit Engineering Services Globally.

TYPICAL CLIENTS OFFERED WITH RETROFIT ENGINEERING SOLUTIONS:

- ABB-INDIA
- GE-SAUDI ARABIA
- SIEMENS-INDIA
- ABB-UK
- REYROLLE-UK
- SIEMENS-UK
- ALSTOM-DUBAI
- RFL-UK
- VaTECH-UK

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