Technical Details :

Description	Unit	Rating	Rating
Circuit Breaker Type	—	SHROD 12	SHROD 36
Rated Voltage	kV	12	36
Power frequency withstand voltage	kVrms	28/38	70
Impulse withstand voltage	kVpeak	75/95	170
Rated frequency	Hz	50	50
Creepage distance to earth	mm	500	900
Rated normal current	A	400/630/800/1250/1600	630/800/1250/1600/2000
Rated breaking current	kA	20/26.3	26.3
Rated short time withstand current	kA for 3 sec	20	26.3
Rated making current	kApeak	50/66	66
Duty cycle	—	0-0.3 sec CO-3 min-CO	0-03 SEC CO-3 min-CO
Opening time	ms	40±10	60±10
Total break time	ms	55±10	75±10
Closing time	ms	60±15	80±15
Reclosing time	ms	300	300
Contact stroke	mm	8	22
No. of pole	nos	3	3
Weight (approx.)	kg	450	700

Outdoor Porcelain Clad Vacuum Circuit Breaker

Model SHROD for 12 kV / 36 kV applications

Shreem Electric Ltd.

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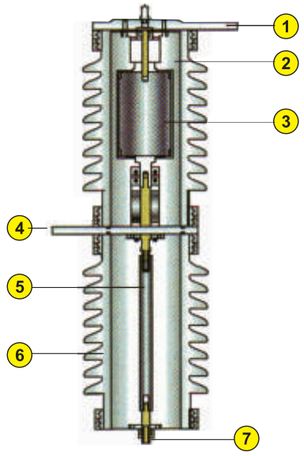
Shreem Electric Ltd.

Outdoor Porcelain Clad Vacuum Circuit Breaker

Shreem



1. Top Terminal
2. Arc Chamber Insulator
3. Vacuum interrupter
4. Bottom Terminal
5. Insulating Rod
6. Support Insulator
7. Drive rod extension

Salient Features :

- Designed and type tested as per IEC-62271-100/IS-13118
- Vacuum interruption
- Porcelain clad construction suitable for outdoor substation ensures protection from fire and hazardous conditions.
- Long electrical life with proven vacuum interrupters that utilize the excellent arc quenching and insulating properties of vacuum technology.
- Suitable for auto re-closure duty.
- Simple and reliable spring mechanism minimizes operating energy and ensures longer mechanical life.
- Simple installation structure mounted with option of extension.
- The complete breaker can be shipped as one unit with minimum adjustments to be made at site.

Construction :

- Pole assembly consists of three poles and a common drive chamber.
- Each Pole compromises a vacuum bottle, current transfer contacts and an insulating pull rod placed in the porcelain housing.
- Robust housing for protection against fire and hazardous conditions.
- All three poles are mounted on a common drive chamber.
- Poles are interconnected with each other as well as to the operating mechanism with a drive shaft.
- Simple design which minimizes spare parts.

Application :

- Distribution networks
- Capacitor switching
- Frequent switching duties
- Arc Furnace duty
- Rapid-Auto reclosing
- Switching unloaded transformers and reactors

A. Mechanism Mounting Housing :

It is made of powder coated mild steel. Spring operated mechanism mounted in the housing which is mechanically linked to all three poles through drive shaft. The housing also includes the following.

- Anti-condensation heater
- Mechanical operation counter
- Breaker control switches
- Anti-Pumping relay
- AC/DC fuses
- Auxilary wiring
- Terminal blocks
- Status indicator

Operating Mechanism :

For high operational reliability and minimal maintenance, a simple and robust spring - operated mechanism is used.

Features of operating mechanism :

- O-C-O operation without recharging
- Closing spring charged by motor in less than 15 seconds.
- Electrical Anti-pumping
- Provision for manual charging
- Suitable for high speed auto re-closure duty
- Manual closing and tripping arrangement
- Mechanical ON-OFF and SPRING CHARGE-FREE INDICATION
- Auxiliary switch 8 NO + 8 NC
- Additional tripping solenoid (Optional)

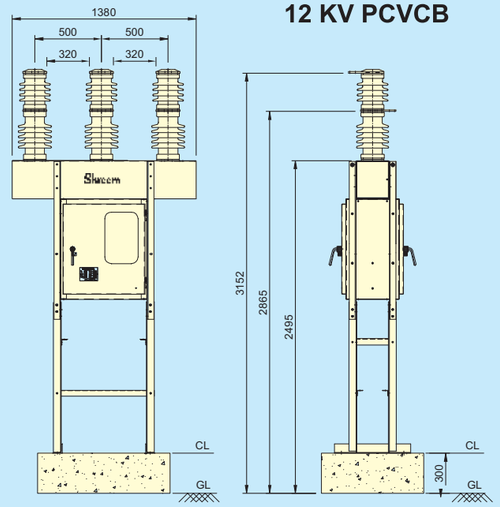
Shreem

Routine Tests :

Each breaker undergoes following routine tests in the factory as per IEC 62271-100/IS13118

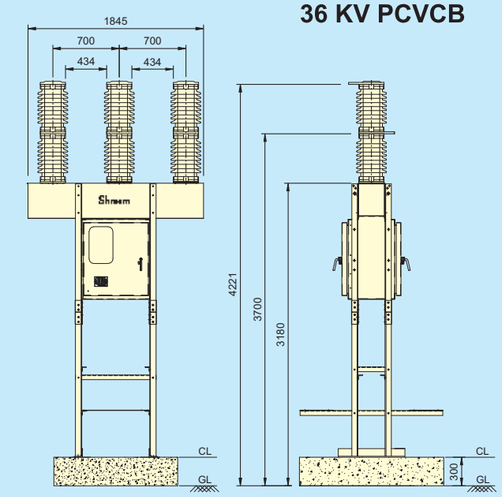
- Verification of components
- Low/high/nominal closing coil voltage. i.e. at 85%, 110%, 100% of nominal voltage.
- Low/high/nominal closing coil voltage. i.e. at 70%, 110%, 100% of nominal voltage.
- Low/high/nominal closing coil voltage. i.e. at 85%, 110%, 100% of nominal voltage.
- Trip free operation
- Control-wiring : 2000 V to ground for 1 minute.
- Test for withstanding power frequency voltage
- Opening and closing speed measurements
- Contact resistance measurements
- Electrical Anti-pumping test

12 KV PCVCB



FRONT VIEW SIDE VIEW

36 KV PCVCB



FRONT VIEW SIDE VIEW

Mounting Structure :

A robust extruded steel angle structure is used for mounting the breaker which can be extended for mounting of current transformers as per customer requirements.

Transportation, erection, commissioning and maintenance :

To minimise erection time, the breaker is transported as an assembled unit mounted on a support assembly, which needs to be replaced by the standard mounting structure supplied along with the breaker at site.

The advanced circuit breaker design minimises maintenance.

C M Y K