

Based on the design concept of full insulation and fully sealed, all primary parts within RVAC RMU are fully sealed inside the stainless-steel main enclosure, protect to against condensation and external contaminated environment; the protection degree of the main tank body is up to IP68, equipped with Cooper's water-proofing touchable cable bond, which can provide effective protection against accidental flood in rainy climate.

## Construction Feature

### Smart grid readiness

Designed to integrate solutions for sensing, monitoring and remote control for feeder automation and load management purposes.

### Personal safety

- Logical mechanical and electrical interlocks;
- Complete enclosure earthing, to ensure zero potential for interface;
- Compartments protected against penetration of objects;
- Capacitive voltage detection system for verification of safe isolation from supply;
- Feeder earthing by means of make-proof earthing switch.

### Environmental-friendly concept

- Low power loss, low maintenance spending, ensuring more reasonable cost investment;
- Only reusable and/or recyclable materials can be used to do the most compact design;
- In normal working conditions, gas leakage rate of lower than 1‰ ensures more than 30 years life-cycle;
- Without gas work on site through installation, operation, extension, and replacement of the product.

### User friendly

- Cable connection and user interfaces for operation on the same front side of the panel;
- Ergonomic cable connection height;
- A customized low voltage compartment is optional;

### Modular design and flexible configuration

- Both multi-functions in one tank solution and individual panel can be freely combined and extended, to satisfy demands of different customers;
- Non-extensible and both side extensible design suit for your requirements.
- Flexible extension of unit modules on site, easy to build medium voltage transformer substations according to different requirements;
- Two options are available for transformer and line protections: load break switch-fuse combination units and circuit breakers with relay protection.



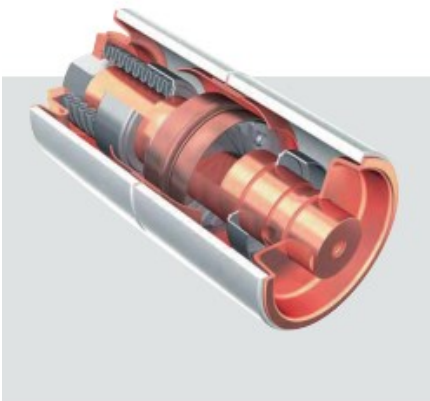
### All-weather and high adaptability to environment

- Passed underwater 24-hour power-up immersion test, with IP67 protection degree, thus ensuring reliable protection against summer floods;
- SF6 gas tank is made of stainless steel plates, with anti-rust painting treatment on the surface, to protect against salt spray, humidity, dirt and temperature, and to ensure durable nice appearance;
- EATON pre-fabricated shielding touchable cable terminal is supplied, which can be plugged when system in live, suitable for long-term operation underwater or in other severe conditions.

### Operation

- Complete design certified in accordance with GB / DL and IEC standards;
- Arc fault tested according GB3906 / IEC 62271-200;
- Quality assurance in accordance with ISO 9001;
- Touching safe and hermetically sealed primary enclosure;
- Gas tank's zero gauge voltage withstand (1min) can reach power frequency withstand voltage.

## Construction Feature



### Vacuum technology features

- Eaton has an unsurpassed leadership in vacuum technology supported by a strong heritage of innovation from companies such as Westinghouse and Holec
- Pioneers in vacuum technology for over 90 years. First vacuum interrupter supplied at 15kV-12kA in 1967
- Eaton was the first one to develop and patent copper-chromium alloy content for contacts and center shields
- Our vacuum interrupters for contactor applications can perform up to 2.5 million mechanical operations
- More than 5 million units delivered worldwide, operating safely and reliably in all types of networks, medium voltage applications and environments
- High end certified supplier to almost all major electrical manufacturers worldwide



### SF6 gas insulated system

- All primary high-voltage components are completely enclosed in SF6 gas tank, free from environment impact, thus ensuring fully insulation and maintenance-free;
- SF6 gas tank is made of high-quality stainless steel materials, free from influence of salt spray, humidity, dirt and temperature, ensuring a durable nice outlook;
- Passed underwater 24-hour power-up immersion test, with IP67 protection degree, can reliably prevent from flood immersion in summer;
- Advance gas shielded welding as well as a sealing pressure system of less than 1‰ leakage rate ensure a 30 year service cycle;
- Non-extensible is standard busbar extensible is optional.



### Load break switch

The load break switch is a 3-position switch, with Close, Open and earthing position. When in Open position, the moving blade has sufficient insulation distance. An operating handle can be used to make close-open operations on load break switch and earthing switch. There are mechanical interlocks between the load break switch and the earthing switch.

- The load break switch applies metal deionizing arc suppress technology, ensuring good interruption performance for the switch;
- The working speed of switch's moving contact depends on its operation mechanism; and the open-close speed of the switch will not be influenced by operators;
- When moving from closing to opening, the load break switch depends on moving contact speed and arc suppress devices simultaneously, to suppress arc and break current;
- The spring operation mechanism with an operating handle to complete closing and opening operations. Motorization module and opening coil can be added, to achieve remote control.

### Protection Relay

Protection relay can be provide as client request , as follows :



- EATON
- GE
- PNC
- LSIS
- Etc

## Features and benefits

### The benefit of a sealed for life tank

A “sealed for life” steel enclosure contains all primary parts and driving mechanisms

- Maintenance free
- Internal arc proof
- Protection degree up to IP68 for prevention of summer floods

### The benefit of a compact design

- Minimal floor space
- Low building costs
- Easy to install
- It can be extended on site without handling gases.

### Computer simulation design

3D simulation design analysis softwares are applied during R&D process to strengthen design capacity, thus improving product reliability greatly.

- Electric field analysis
- Magnetic field analysis
- Gas pressure and motion analysis
- Mechanical strength analysis
- Mechanical movement (speed and force)

### Smart grid readiness

#### Automation upgrading

- Remote close/open
- Auxiliary contacts for each position local or remote indications
- Measuring CT and current signal

#### Flexible solutions

- Reliable busbar extended design and interfaces reserved for future project expansion
- Complete types of functional units

