Energypac®
Engineering

COMPREHENSIVE SOLUTIONS FROM DESIGN TO DELIVERY

MEDIUM VOLTAGE SWITCHGEAR

TECHNOLOGY PARTNERS

INDEX

COMPACT DESIGN FOR PERFECT SWITCHING EVERYWHERE

The worldwide demand for power continues to increase at a rapid rate. This is placing ever greater performance demands on utilities and industrial enterprises. Offering everything that is needed for a long service life and switching under short circuit conditions our EHHV-12, vacuum circuit breakers help you gain a competitive edge and adeptly achieve your switching tasks.

VACUUM-THE TECHNOLOGY OF CHOICE

One of the most effective ways of interrupting an arc circuit is to do so by means of contacts in vacuum (the vacuum interrupter). During breaking a. c. circuits, the metal vapors condense very rapidly as the current falls to zero, giving a very predictable performance and fast rise of dielectric strength between opening contacts. Several individual designs of vacuum interrupters have emerged having a logical basic concept i.e. a sealed cylindrical enclosure of insulation and metal containing contacts, shields and bellows. As no single metal has all characteristics required for contact material, mixtures have evolved ranging from alloys and bulk interspersions e.g. copper-bismuth, to a sintered matrix consisting of semi refractory porous base infiltrated with a softer material e.g. Chromium and Copper. Copper-chromium contacts have lower current chopping levels with better voltage withstand when compared to copper-bismuth contacts. Energypac predominantly, uses vacuum interrupters having Copper-chromium contacts.

Vacuum interrupters being a sealed-for life device with nil maintenance, great importance is laid on ensuring that the switchgear requires minimum maintenance. Because of the short stroke and inherent vacuum force characteristics of the vacuum interrupters, particular attention has been paid to obtain the optimum level of kinetic energy for achieving the right acceleration at contact separation and also to overcome the tendency for welding which may occur between the contact. When contacts are closed, there is a pronounced tendency to bounce with undesirable extension of pre-arcing and increased erosion. The mechanism and structure of EHHV-12 vacuum circuit breakers have been coordinated to eliminate bounce by rigidity of drive and flexibility of mounting.

ENERGYPAC remains the first and only company in Bangladesh to introduce horizontal isolated, horizontal draw out type vacuum circuit breaker. Motivation of the top management together with the innovative skills of its R&D team made this circuit breaker meet highly demanding needs for performance from all quarters including consultants, contractors, industries and utilities. Large numbers of this circuit breaker are in operation today in Bangladesh and other parts of the world. This 12 kV horizontal isolated, horizontal draw out vacuum circuit breaker type EHHV-12 is highly effective and easy to operate and maintain equipment for distribution at 12 W.

This specially designed equipment offers the following advantages:-

- ❑ Customer friendly
- ❑ High degree of safety
- ❑ High operational reliability
- ❑ Rugged design
- ❑ Simple in construction
- ❑ Modular and compact
- ❑ Easy maneuverability of truck
- ❑ Extensible with high degree of customization

Circuit breaker

The basic enclosure houses the circuit breaker compartment, bus bar chamber. cable chamber, current transformer] potential transformer chambers, relay and instrument panels and earthing facilities. The construction is of metal clad type and uses high grade CRCA steel of adequate thickness ensuring safety and security.

The circuit breaker trolley comprising of vacuum interrupter, mechanism, etc. engages to the enclosure facilitating horizontal isolation and horizontal draw out. The trolleys have distinct service positions, and test positions with latching and locking facility as needed. Interlocking facility is also available through limit switches.

Vacuum interrupters

EHHV 12 employs rated vacuum interrupters for are extinction. These interrupters are procured from the world renowned manufacturer, (eaton), USA or schneider EU. The interrupters are suitable for a large number of full short circuit operations and mechanical operations.

Our vacuum interrupters offer the following advantages:-

- Very low arcing time
- Quick recovery of dielectric strength
- Small contact gap
- Trouble free service
- Low energy mechanism

Cubicle

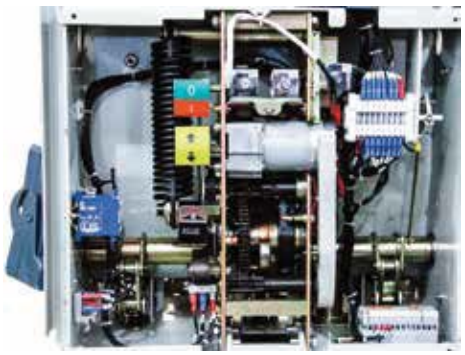
Cubicle is metal clad compartmentalized and designed in various segregations and bus bar are fully insulated for specified power frequency withstand voltage through use of shrinkable sleeves. Joints are fully encapsulated. Busbar support is rigid enough for all thermal and electro dynamics stresses arising out of 3 second short time current. Duplicate busbar arrangements are also available with tie breaker trolleys being racked into the upper or lower bus.

Operating mechanism

The mechanism is of conventional design and is very simple in operation and construction. The mechanism is designed for operation of very short strokes required in vacuum interrupters and is normally spring charged by motor. Standby manual charging facility is also
provided for the operation in case of necessity. Quick O-CO operation is possible.

When charged, the closing spring is held by a latch which can be released either by manual means or by a solenoid to close the circuit breaker. When motor charging is provided, the spring gets automatically recharged immediately after a closing operation. The mechanism is retained in the “ON" position (circuit breaker closed) by an over toggle linkage and trip solenoid to open circuit breaker. The energy required for opening is provided by the springs, incorporated in the drive assembly which are compressed during the closing stroke. Bolted door is provided for easy access to the above components. The closing mechanism includes the following indication:

- Breaker On / Off
- Springs charged or discharged.



The following features are also provided on the switchgear:-

- Operation counter
- Local On/Off switch
- Local/remote switch
- All necessary fuses and wiring

Cable chamber

Cable chamber is located at the rest of the panel and can accommodate 6nos.single core 1000 sq. mm cable or equivalent. This can be accessed through removable rear cover.

The cable box is designed for cable entry from top or bottom and sufficient head room is provided for cable termination. Multicourse cables are accommodated in separate compartment to the control/relay panels mounted at the grunt of the housing within metal earthed conduct. All glands and earthing facilities are provided to terminate the main and multi core cables and need to be specified by the customer.

CT/PT chambers

While the current transformers are housed in the chamber within the cubicle, the potential transformers (voltage transformers) are mounted either on top of the cubicle. Range of current transformers can be provided to meet individual customer requirements provision for feeder connection for 3 phase voltage transformers are provided by means of isolatable high voltage fuse Chamber mounted on top position on the circuit breaker metal clad housing.

Instrument chamber

Relays, indicating instruments and measuring instruments are mounted on a separate chamber. This is a LT chamber and is fully segregated from the other chambers. The relays and meters are mounted on a hinged door and are located at comfortable height for ease of viewing and maintenance. There is a provision to increase the height depending on the number of instruments/ relays to be fitted as needed by the customer.

Earth switch

Where required, earth switches can be provided as an integral part of the equipment. The earth switches are independent in operation to the main closing mechanism, and are interlocked to prevent use when the VCB is connected into its service position. This prevents the vacuum circuit breaker being faced in a circuit that has been earthed. Operator indicators are provided to warn if the earth switch is in the ON or OFF position, with the additional security that the design has been tested against a full fault make of 3 seconds. Busbar earthing trucks are provided when required.

Special application

In addition to regular distribution function EHHV—12 is ideally suitable for capacitor switching application and auto reclosing duty.

Assured quality and safety

EHHV-12 is systematically under technology standards set by the company with the components and subsystems selected through strict quality control procedures as per ISO 9001 certifications guidelines. Separate front door has been provided for circuit breaker to ensure double safety. EHHV-12 also successfully tested for internal arc for 31.5kA for 0.1 Sec.

Key Features

- Long maintenance free operation
- Fully metal clad design
- Horizontal isolation
- Bus bar system fully insulated
- Complete set of interlocks and padlocking facilities
- Isolatable voltage transformer
- Ample current transformer
- Extensive use in tropical environments
- Safety interlock
- Manually or motor charge spring operated
- Shunt release
- Earth switch

Applications	Circuit breaker is designed for
Power station Transformers Chemical Industry Steel Industry Automotive Industry Airport Power Supply Cold storage power supply Building power supply Garments industry	Short circuit current Cables overhead lines under load and No load conditions Ripple control system Capacitor banks Transformers and generators under load and No-load condition

EHHV-12 The proven solution In power distribution

With its systematically developed technology, the Vacuum Circuit-breaker of type EHHV-12 occupies a leading position in networks for electrical power distribution. The rated data are dimensioned to suit the user's require-ments. Designed for the operators, the EHHV-12 circuit breaker fulfills the high demands of users in all respects.

Energypac Engineering

EHHV-12 RANGE
VACUUM CIRCUIT BREAKER WITH GREEN BENEFITS

The EHHV-12 Range vacuum circuit-breaker is one of our most modern product, which is manufactured using state-of-the-art machines. For voltage levels of 12 kV to 36 kV we offer a wide range of pole-center distances and widths across flats as well as different accessory packages. Withdrawable modules, contact arms, contacts, and bushings permit simple integration in all common medium voltage switchgear. Whether you want to switch overhead lines, cables, transformers, capacitors, or motors, the EHHV-12 range is easy to integrate into your panels.

Compact design for a long service life

The more compact and lighter construction offers practical benefits for implementing a clear panel design. Moreover, the compact design combined with a long service life and freedom from maintenance of the circuit-breakers for 10,000 operating cycles is kind to the environment.

The compact and light EHHV-12 Range fits into all medium-voltage switchgear

Careful use of resources

Next to technical advances, we also address environmentally responsible use of resources in the development of our products. All processes are reviewed critically in respect of climate and environmental protection based on our comprehensive know-how and many years of experience. By including intelligent technology in the manufacturing processes of the EHHV-12 Range vacuum circuit-breaker means quality down to the very last detail.

Benefits at a glance

- Compact, smaller, and lighter design
- Durable materials
- Long maintenance-free periods
- Environmental recyclable packaging

When time is running short, the vacuum circuit-breaker can also be ordered for emergency express delivery

EHHV with vacuum circuit breaker (12kV & 36kV)

TYPE	Rated voltage U_r kv	Rated insulation level: Rated lightning impulse withstand voltage U_p kv	Rated insulation level: Rated power frequency withstand voltage U_d kv	Rated frequency f_r Hz	Rated (normal) current I_k Outgoing feeder A	Rated peak withstand current, equal to rated short circuit making current I_p (50/60 Hz) KA	Rated short-time current I_k tk = 3 s KA	Rated short-circuit breaking current I_{sc} KA	Percentage value of the DC component %	Rated breaking current under asynchronous conditions I_d KA	Number of operating cycles without overhaul: With rated (normal) current	Number of operating cycles without overhaul: With rated short circuit breaking current	Operating times with release: Opening time (man) ms	Operating times with release: Closing time (max.) ms	Arc duration (max.) ms	Charging time for circuit breaker s
EHHV-12	12kV	75	28	50	630A 1250A 1600A 2000A	62.5	25	25	33%	25 kA	≤10,000	≤100	<45	<55	15ms	<12
	12kV	75	28	50	630A 1250A 1600A 2000A 2500A 3150A	80	31.5	31.5	33%	31.5kA	≤10,000	≤100	<45	<55	15ms	<12
	12kV	75	28	50	630A 1250A 1600A 2000A 2500A 3150A	100	40	40	33%	40kA	≤10,000	≤100	<45	<55	15ms	<12
EHHV-36	36kv	170	70	50	1250A 2000A	80	31.5	31.5	33%	31.5 KA	≤10,000	≤100	<50	<80	15ms	<15

Fig.: Selection table of vacuum circuit breaker (12kV and 36kV)

Energypac Engineering

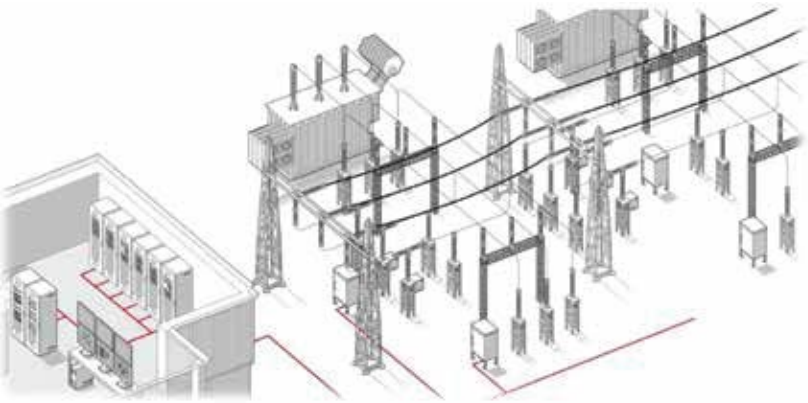
ERM - RING MAIN UNIT

› PROFESSIONAL SOLUTION › RELIABLE POWER

The development of current power system focuses on the usage of ecological resources. Low power loss, low maintenance spending, reliable performance, flexible configuration are required on the medium voltage switchgear. Due to its features such as long service life, compact size and recycling, Energypac ERM ring main units have proved successful in terms of economy and ecology. It appears more important for underground cabled power distribution network in improving its devices and other aspects, with rapid development of urbanization; ring main units (RMU), as the major device for protection and segment isolation to ground cabled distribution network, are widely used in urban power grids, due to its safe and reliable performance, compact and superior cost effectiveness. Energypac Engineering Ltd as the leader in the field of distribution switchgear has learned to design and manufacture high-quality power distribution switchgear since 1982, with countless switchgear operating reliably over the country till now.

Based on the design concept of full insulation and fully sealed, all primary parts within ERM RMU are fully sealed inside the stainless-steel main enclosure, protect too against condensation and external contaminated environment; the protection degree of the main tank body is up to IP67. Its individual modular unit, anticorrosion enclosure and perfect tightness make them suitable for applications in various places.

APPLICABLE FEATURES



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

Environment-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

Modular design and flexible configuration

- Individual panel can be freely combined and extended to satisfy demands of different customer requirements
- Flexible extension of unit modules on site, easy to build medium voltage transformer substations according to different requirements
- Three options are available for transformer and line protections: load break switch-fuse, load break switch-with out fuse combination units and circuit breakers with relay protection
- SF_6 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

TECHNICAL SPECIFICATIONS

Types:

Model	Description	Width
ERM-C	Load break switch module without fuse	325 mm
ERM-F	Load break switch module with fuse	325 mm
ERM-V	Vacuum circuit breaker	325 mm

Normal environmental condition:

- Environmental temperature : Highest temperature :+ 40°
  Highest temperature: +35° (24hours average value)
  Lowest temperature: -20°
- Humidity : Maximum average relative humidity
  Measured over 24 hours: ≤95%
  Measured over 1 month: ≤90%
- Altitude above sea level : ≤1500 meter
- SF_6 gas pressure under 20°C : 1.3bar (Absolute Pressure)
- Gas leakage rate : 1%
- Cable bushing standard : DIN47636T1 & T2/EDF HN 525-61
- Protection class : SF_6 Gas chamber - IP67
  Fuse tube- IP67
  Switchgear enclosure IP4X
- Gas chamber thickness : Stainless steel 3.0mm

Name		C unit	F unit	Circuit breaker V unit
Rated voltage	kV	12	12	12
Rated frequency	Hz	50	50	50
1 min power frequency withstand voltage (phase to phase ,phase to earth/ on isolating distance	kV	42/48	42/48	42/48
Lightning impulse withstand voltage	kV	75	75	75
Rated current	A	630	≤125 (fuse rating)	630
Rated active load breaking current	A	630		630
Rated closed-circuit breaking current	A	630		630
5% active load breaking current	A	31.5		31.5
Rated cable charging breaking current	A	10		50
Rated transfer breaking current	A		1750	
Rated short circuit breaking current	kA		(depending on fuse)	25
Rated short circuit making current	kA	50		50
Rated short time withstand current	kA		20 for 3 sec	
Rated peak withstand current	kA	50		63
Mechanical endurance	times	5000	5000	10000
Ambient temperature	℃	-20~+55℃		
SF_6 gas pressure	MPa	1.03		
Protection class		SF6 Gas tank = IP67, other =IP4X		
SF_6 tightness test (annual leakage rate)		≤0.1%		

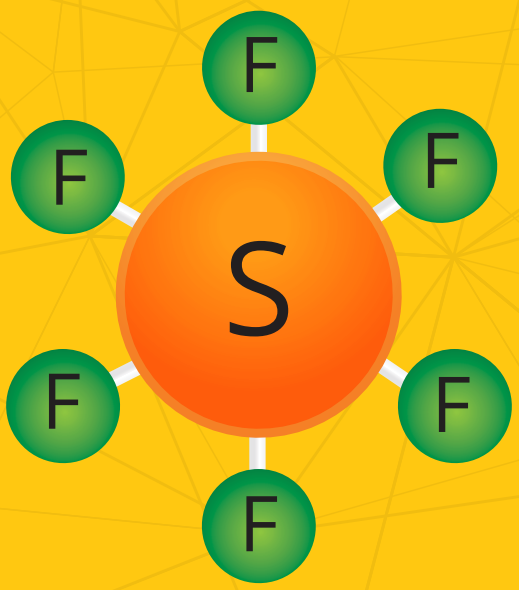
Energypac Engineering

SULFUR HEXAFLUORIDE (SF_6) GAS

SF_6 is used in the electrical industry as a gaseous dielectric medium for high-voltage circuit breakers, switchgear, and other electrical equipment, often replacing oil filled circuit breakers (OCBs) that can contain harmful PCBs. SF_6 gas under pressure is used as an insulator in gas insulated switchgear (GIS) because it has a much higher dielectric strength than air or dry nitrogen.

The high dielectric strength is a result of the gas's high electronegativity and density. This property makes it possible to significantly reduce the size of electrical gear. This makes GIS more suitable for certain purposes such as indoor placement, as opposed to airinsulated electrical gear, which takes up considerably more room. Gas-insulated electrical gear is also more resistant to the effects of pollution and climate as well as being more reliable in long term operation because of its controlled operating environment.

Exposure to an arc chemically breaks down SF_6 though most of the decomposition products tend to quickly re-form SF_6, a process termed "self-healing". Therefore, SF_6 gas which is used under sealing for a long time will not decrease or deteriorate, although under the effect of arc extinguishing several times. The amount of arc decomposition depends on water content contained in SF_6 gas. In this way, it is very critical to control water content below specified values. Adsorbing agents such as commonly used activated alumina or activated carbon and synthetic zeolite remove water and arcing products, which means the volume of the gas originally introduced keeps unchanged SF_6 gas has very high dielectric and can satisfy requirements for strength as an insulation working life or mechanism of medium, thus offering very the whole system.

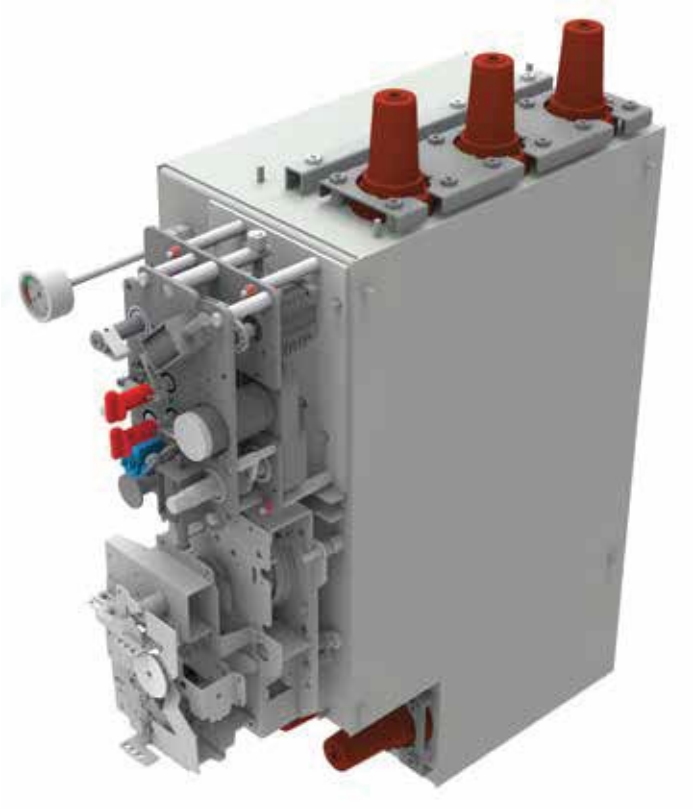


Therefore, SF6 gas which is used under sealing for a long time will not decrease or deteriorate, although under the effect of arc extinguishing several times. The amount of arc decomposition depends on water content contained in SF6 gas. In this way, it is very critical to control water content below specified values. Adsorbing agents such as commonly used activated alumina or activated carbon and synthetic zeolite remove water and arcing products, which means the volume of the gas originally introduced keeps unchanged SF6 gas has very high dielectric and can satisfy requirements for strength as an insulation working life or mechanism of medium, thus offering very the whole system.

SPECIAL BENEFITS

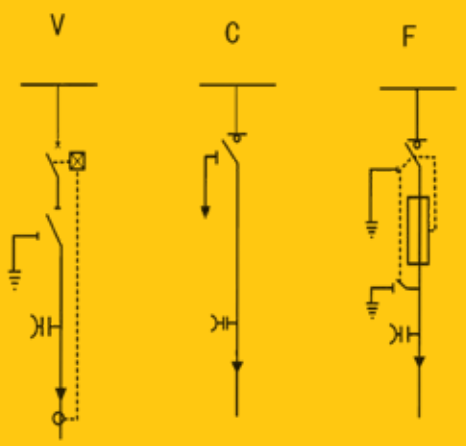
The benefit of a sealed for life tank

- Enclosure of gas tank containing all primary parts and mechanism is sealed for life maintenance free
- Internal arc proof
- Protection degree up to IP67



The benefit of a compact design

- Minimal floor space
- Low building costs
- Easy to install



Smart grid readiness

- Remote close/open
- Auxiliary contacts for each position local or remote indications
- Measuring CT and current signal
- Trip indicator with auxiliary contacts
- Fault indicator

Flexible solutions

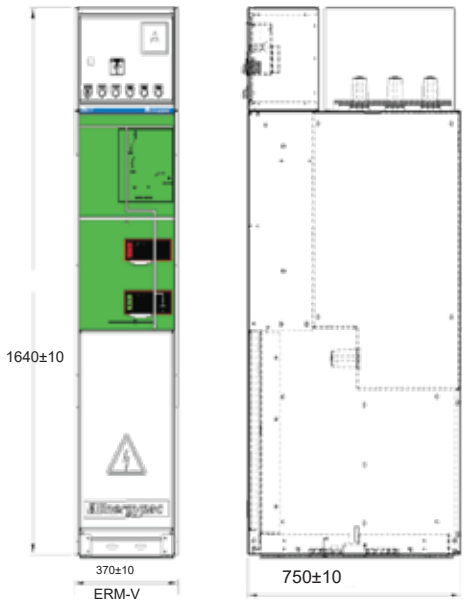
- Reliable busbar extended design and interfaces reservered for future project expansion
- Complete types of functional units

Energypac® Engineering

CONFIGURATION

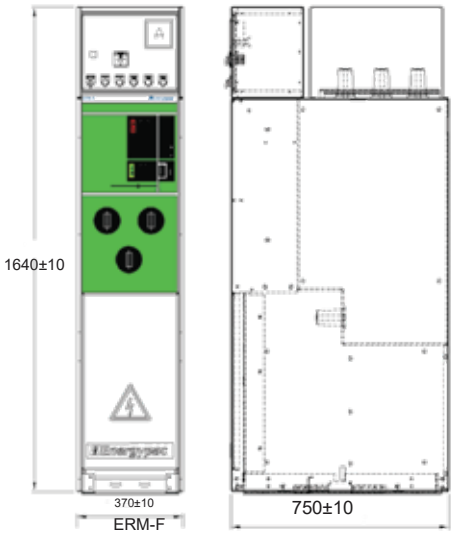
Features of vacuum circuit breaker panel: ERM-V

- Rated voltage- 12kV , 630A vacuum circuit-breaker
- Rated Short time withstand current 20 kA for 3 sec
- Two position double spring mechanism for vacuum circuit-breaker.
- Three position disconnector / earthing switch downstream vacuum circuit-breaker
- Interlocking between vacuum circuit-breaker and disconnector/ earthing switch
- Switch position indication for vacuum circuit-breaker and disconnector /earthing switch
- Protection relay with ring core CTs on cable bushings Cable bushings horizontally in front
- SF_6 pressure indicator
- Can be used as both incoming and outgoing



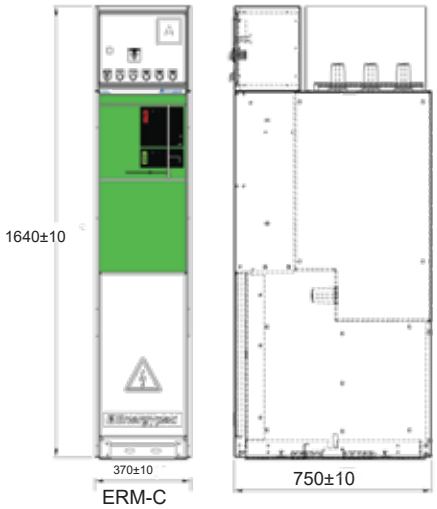
Features of load break switch (without fuse) panel: ERM-C

- Rated voltage- 12kV, rated current- 630A
- Rated Short time withstand current 20 kA for 3 sec
- Three position load break switch with disconnector and earthing switch
- Operating mechanism with two separate operating shafts for load break function and earthing function
- Switch position indication for load break switch and eathing switch
- SF_6 pressure indicator
- Motor operation for load break switch
- Capacitive voltage indication system
- Can be used as both incoming and outgoing



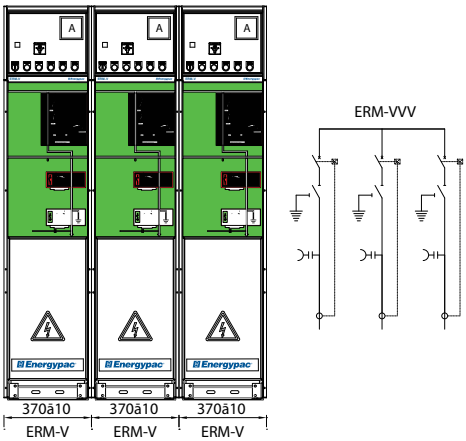
Features of load break switch (with fuse) panel: ERM-F

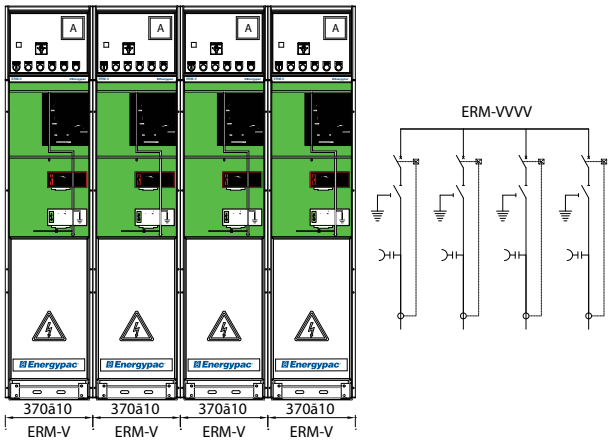
- Rated voltage- 12kV, rated current- 630A
- Rated Short time withstand current 20 kA for 3 sec
- Three position switch-fuse-disconnector with upstream earthing switch mechanically linked with downstream earthing switch
- Switch position indication for switch-fuse- disconnector and earthing switches
- Cable bushing horizontally in front with integrated capacitor for voltage indication.
- SF_6 pressure indicator
- Motor operation for load break switch
- Capacitive voltage indication system
- Can be used as outgoing

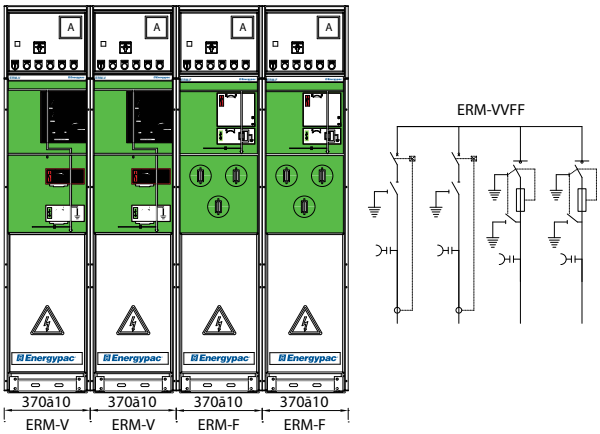


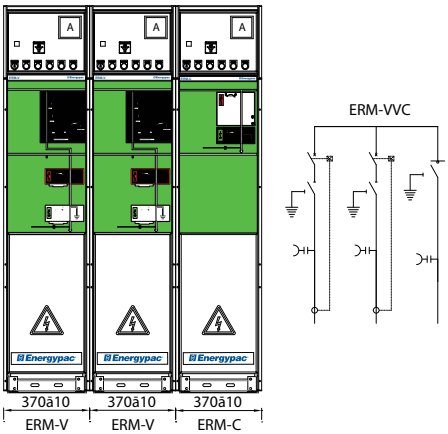
Energypac Engineering

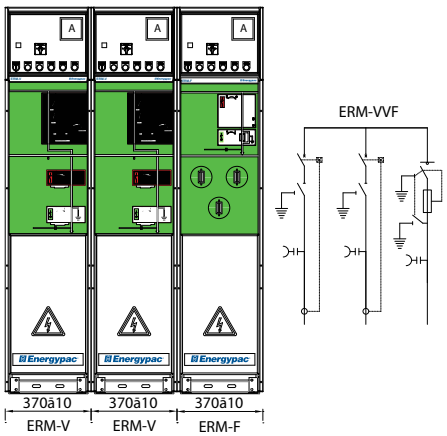
COMBINATIONS

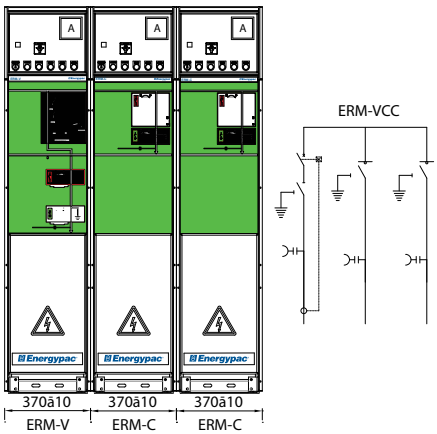






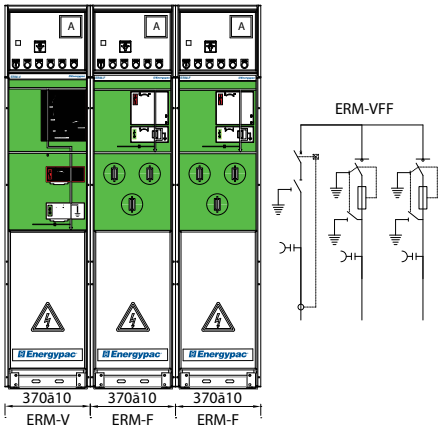


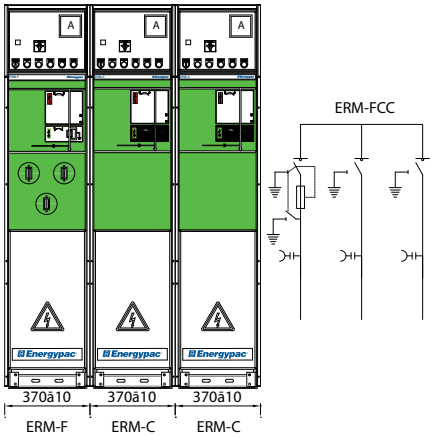


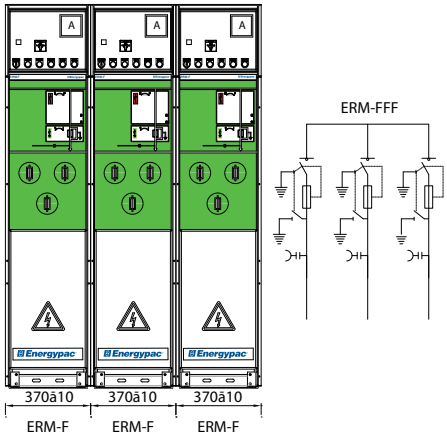


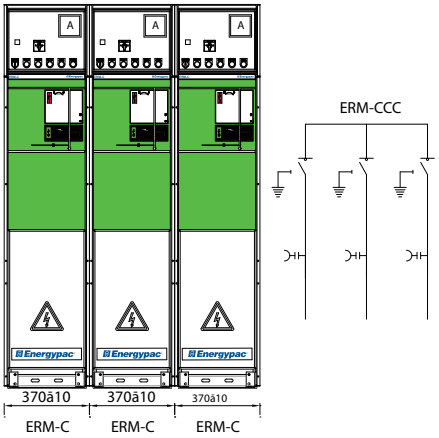
Energypac Engineering

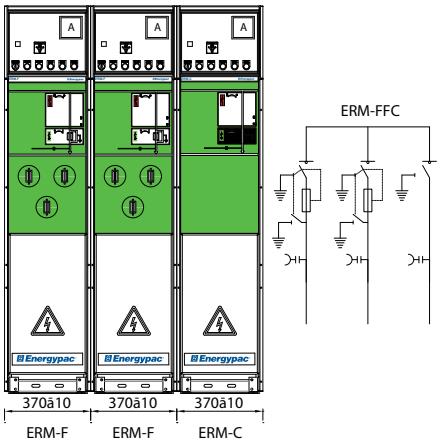
COMBINATIONS

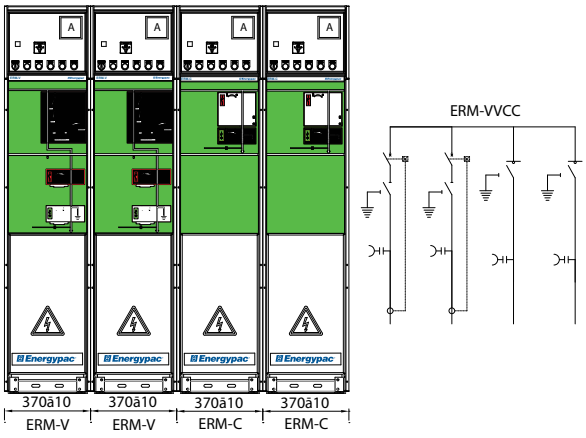












Energypac Engineering

LOAD BREAK SWITCH
UP TO 12kV

Upgradability

A comprehensive range

- A comprehensive offer covering your present and future requirements
- A design adapted to the extension of your installations
- A catalogue of functions for all your applications

Compactness

An optimized range

- Compact units, with reduced increment cubicles
- Rationalized space requirement for switchboard installation

Maintenance

A range with reduced maintenance

- The active parts (breaking and earthing) are integrated in an SF_6-filled , "sealed for life" unit
- The control mechanisms, are intended to function with reduced maintenance under normal operating conditions
- Enhanced electrical endurance when breaking

Ease of installation

A simple range to incorporate

- Reduced dimensions and weights
- Only one civil works layout
- A solution adapted to cable connection
- Simplified switchboard busbar design

Ease and safe to operate

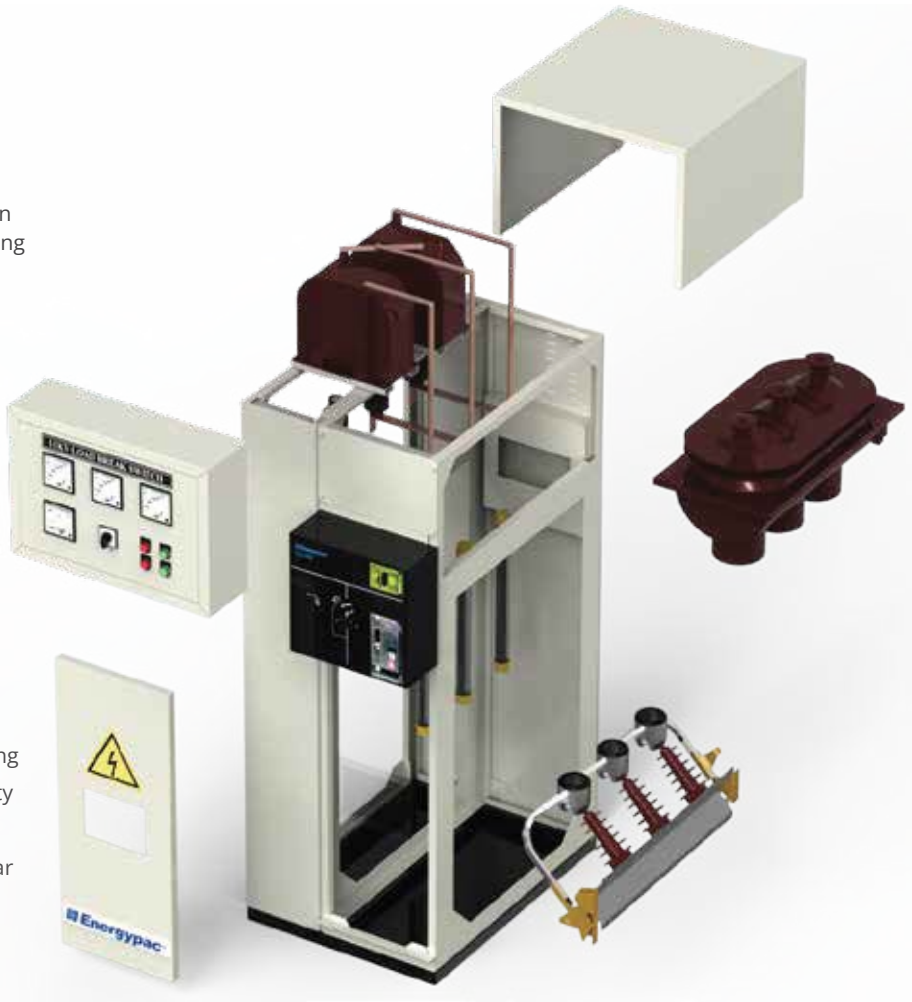
A proven range

- A three position switch to block incorrect switching
- The earthing disconnector has full closing capacity
- Positive breaking of position indicators
- Internal arc withstand in the cable and switchgear compartments
- Clear and animated display diagrams
- Switching lever with an "anti-reflex" function
- Compartmented cubicles

A range with adapted protection devices

With this switchgear Energypac proposes solution for network management.
Operation:

1. Manual (possible both electrically and mechanically)
2. Automatic (automatic operation can be provided through protection relay
3. SAS integration is also possible through remote command & necessary status can be obtained



Energypac Engineering

TECHNICAL CHARACTERISTICS

Switch or disconnector and earthing switch

Reliable operating mechanism

Switchgear status indicator:

- Fitted directly to the drive shaft, these give a definite indication of the contact's position

Operating lever:

- This is designed with an anti-refiex device that stops any attempt to re-open the device immediately after closing the switch or the earthing disconnector

Locking device:

Between one and three padlocks enable the following to be locked:

- Access to the switching shaft of the switch or the circuit breaker
- Access to the switching shaft of the earthing disconnector
- Operating of the opening release push-button

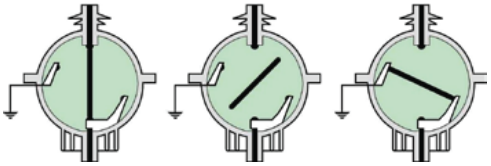
Simple and effortless switching

Mechanical and electrical controls are side by side on the front of the panel including the schematic diagram indicating the device's status (closed, open, earthed):

› **Closed**: the drive shaft is operated via a quick acting mechanism, independent of the operator. No energy is stored in the switch, apart from when switching operations are taking place. For combined switch fuses, he opening mechanism is armed at the same time as the contacts are closed.

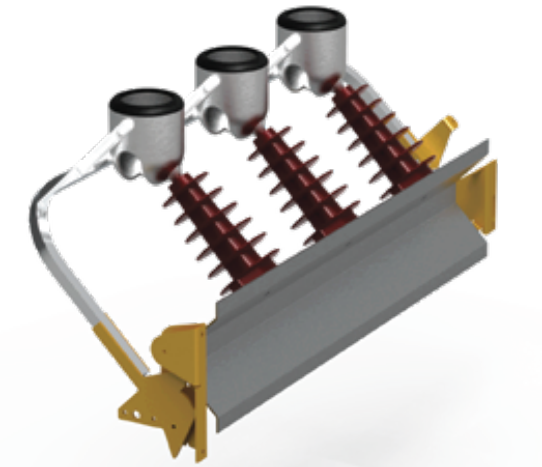
› **Opening:** the switch is opened using the same quick acting mechanism, operated in the opposite direction.

› **Earthing:** a specific control shaft enables the opening or closing of the earthing contacts. Access to this shaft is blocked by a cover that can be slid back if the switch is open but which remains locked in place if it is closed.



Gas tightness

The three rotating contacts are placed in an enclosure filled with gas to a relative pressure of 0.4 bar (400 hPa) for 12 kV. It satisfies "sealed pressure system" requirements and seal tightness is always factory checked.



Operating safety

- The switch may be in one of three positions: "closed", "open", or "earthed", representing a natural interlocking system that prevents incorrect operation. Moving-contact rotation is driven by a fast-acting mechanism that is independent of the action of the operator.
- The device combines the breaking and disconnection functions
- The earthing switch placed in the SF6 has a short-circuit making capacity, in compliance with standards
- Any accidental over-pressures are eliminated by the opening of the safety membrane, in which case the gas is directed toward the back of the unit, away from the operator

TECHNICAL CHARACTERISTICS

Visibility of main contacts:

The position of main contacts is clearly visible from the front of the cubicle through the window.

Gas pressure indicator:

Despite the switch is sealed pressure system and has open and close capacity on rated current at Obar relative pressure SF_6, to insure you about the internal pressure, we propose on request before sale or on site by after-sales either a pressure switch or an analog manometer on the switch. These devices are both fitted without any alteration on the switch, they are temperature compensated and compatible with visibility of main contacts if requested.

Voltage presence indicator:

This device has integrated VPIS (voltage presence indicating system) type lights, in conformity with IEC standard 61958, enabling the presence (or absence) of voltage to be checked on the cables.

Characteristics of the operating mechanisms

- The control devices required for the unit operating mechanisms are centralized on the front panel. The different types of operating mechanism are presented in the table below.
- Operating speeds do not depend on the operator, except for the CS

Operating mechanism type	CI1
Unit applications	Load-break switch Fuse Combination
Main circuit switch	Closing Opening
Manual operating mode	Hand lever Push button
Electrical operating mode (Option)	Motor Coil
Speed of operation	4 to 7s 35 ms
Network application	Remote control transformer protection
Manual operating mode	Hand lever

Double-function operating mechanism CI1

Switch function

- Independent-operation closing by lever or motor. operating energy is provided by a compressed spring which, when released, causes the contacts to open to close.
- Independent-operation opening by push-button (0) or trip units.

Earthing-switch function

Independent-operation closing and opening by lever. Operating energy is provided by a compressed spring which, when released, causes the contacts to open or close.

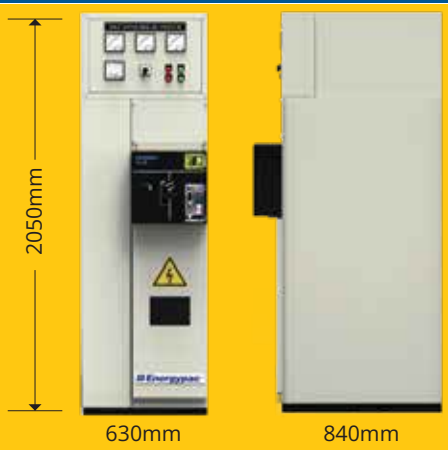
Mechanical indications

Fuses blown in units QM.

Opening releases

Shunt trip coil used for tripping the system via Relay

Dimensions for 12 kV LBS



Energypac Engineering

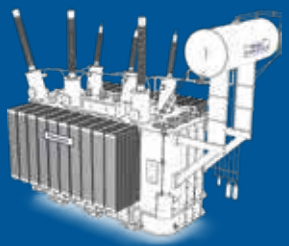
EXPLORE OUR PRODUCTS

1. Open your camera or QR code scanner. Point your device at the QR code

2. Wait for camera to recognize and scan QR code

3. Click proceed or view QR code details, when appears

4. Click the **link** or “visit url” or “go to website” to read the information



POWER TRANSFORMER

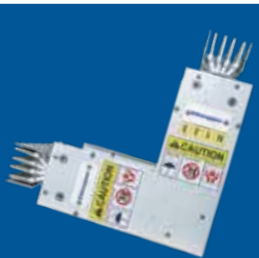
DISTRIBUTION TRANSFORMER
(OIL FILLED)

DISTRIBUTION TRANSFORMER
(DRY TYPE)

INSTRUMENT TRANSFORMER

VACUUM CIRCUIT BREAKER

SWITCHGEAR



BUSBAR TRUNKING SYSTEM

Hotline Number
01777 78 11 88

Energypac®
Engineering

Head Office
Energy Center, 25 Tejgaon I/A,
Dhaka-1208, Bangladesh
Phone: +880-2-8879395
Sales: +880 1777 781188
Email: marketing@energypac.com.bd
www.energypac.com.bd

Chittagong Office
House 2, Lane 5, Road 1, Block L,
Halishahar Housing Estate,
Chittagong-4216, Bangladesh
Phone: +880-3-1723807
Fax: +880-3-12514341, +880-3-1715473

Khulna Office
84, Khan Jahan Ali Road,
Khulna-9100, Bangladesh
Phone: +880 1777 781188

Rajshahi Office
35, Terokhadia, Cantonment Road,
Rajshahi Cantonment-6202, Bangladesh
Phone: +880 1713 147022

Bogura office
Shamsunnahar Plaza, College Road,
Kalitola, Bogura-5800
Phone: +880 1713 147041

India Office
KB-22, Bhakta Tower, 4th Floor, Sector 3,
Salt Lake, Kolkata-700098, India
Phone: +91 833 692 02 58
Email: marketing@energypacindia.in
sales@energypacindia.in

Nepal Office
Aayusha Colony, House 4, Kalanki 13,
Kathmandu, Nepal
Phone: +97 798 03 64 57 01
Email: export@energypac.com.bd

Italy Office
Via Dei Prati, 27-25073 Bovezzo (BS)
Phone: +39 030 205 91 49
Fax: +39 030 209 66 02
Email: alessandro.gallo@energypac-europe.com
export@energypac.com.bd

Works
Baroipara, Savar
Dhaka-1750, Bangladesh
Phone: +880 1713 285625

Dakshin Joypur Bill,
PO: Ananda Nagar,
Liluah, Howrah–711227
West Bengal, India
Phone: +91 833 690 69 34
+91 833 690 69 35

Via Conicchio, 49/A,
Brescia-25136, Italy
Phone: +39 030 205 91 49

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 & ISO/IEC 17025:2017

Made in Bangladesh crafted with pride