



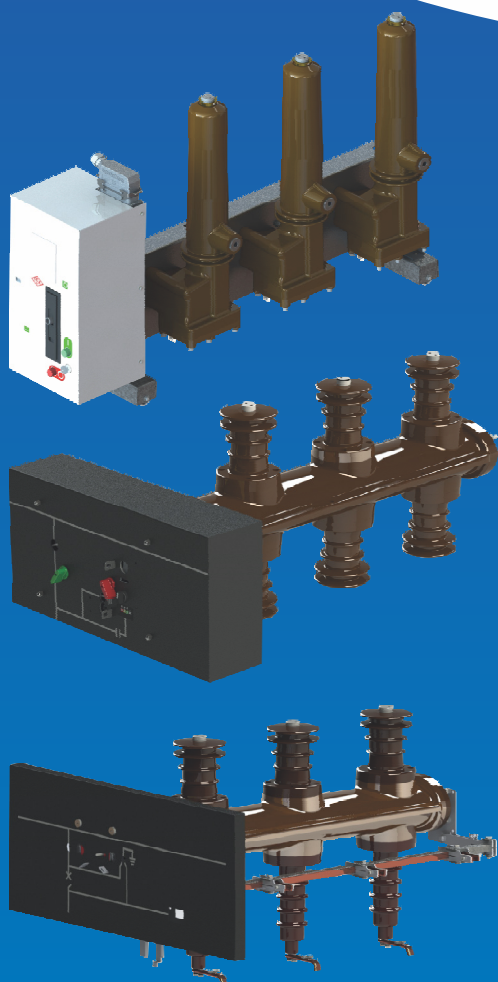
# BATEL

## ELEKTROMEKANİK

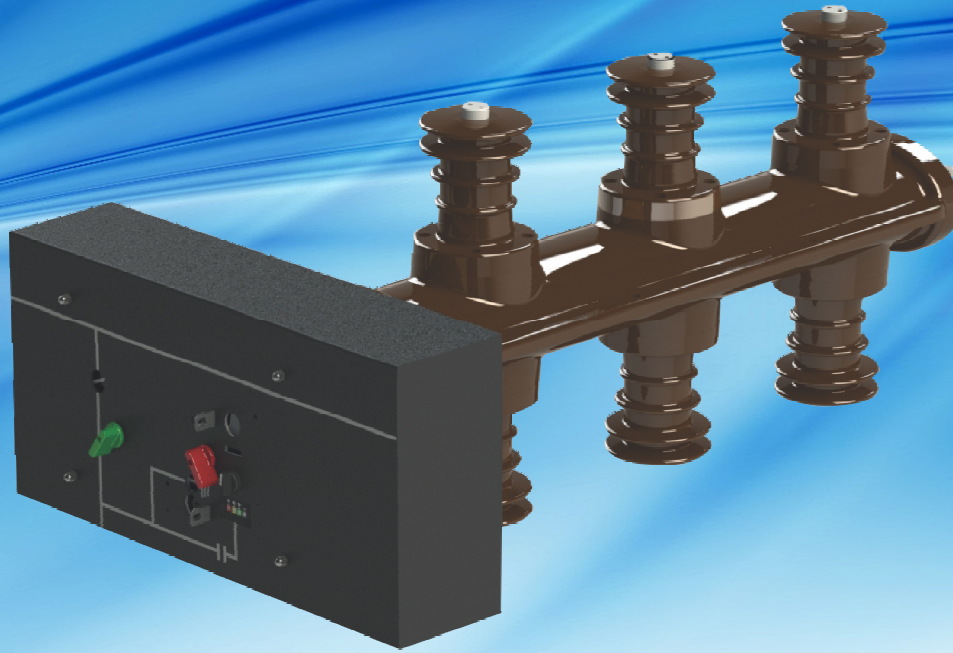
**BME**

### MEDIUM VOLTAGE MODULAR CUBICLES

UP TO 40.5 kV



# SF6 GAS INSULATED LOAD BREAK SWITCH



## General Specifications

BYA type load break switches assure "switch-disconnector" specifications.

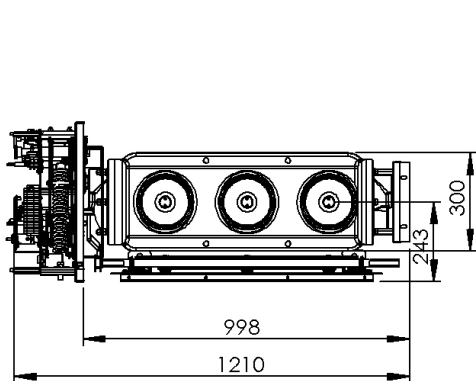
The main contacts of the switch in the epoxy resin enclosure which is filled with 1.5 bar SF6 gas and this sealed pressure system guaranteed for its life. **Sf6 Gas level could be indicated by a digital indicator.** A pair of NO/NC auxiliary contact has been equipped for alarm and tripping for LBS once gas level goes down inside the housing. The switch contacts can be in one of the two positions; closed / open. The earthing switch is outside of the enclosure, and its position clearly and safely can be observed directly. Its operation is interlocked with the mechanism of the main contacts. It has independent operation for closing and opening. The safety of the gas filled enclosure is secured by the membrane system positioned at back side. Auxiliary contacts indicating the position of the main contacts and for the earthing switch are present. Operating mechanism can be charged manually by lever or optionally by motor. Charged mechanism has stored energy for closing and opening. Closing and opening functions can be done by the push-buttons or by the release coils. Fuse-trip system optionally can be equipped. Key type interlocks are possible.

TECHNICAL SPECIFICATIONS		12 kV	24 kV	38/40.5 kV
Rated voltage, kV		12	24	38/40.5
Rated power-frequency withstand voltage 50Hz 1Min (kV r.m.s.)	To earth and between phases	28	50	95
	Across the isolating distance	32	60	105
Rated lightning impulse withstand voltage (peak value)	To earth and between phases	75	125	200
	Across the isolating distance	85	145	220
Rated current, A		630		
Short time withstand current, 1s, kA		16/20/25		
Short time withstand current, 1s, kA(Peak value)		40/50/62.5		
Breaking capacity	Mainly active load, A	630		
	Closed-loop circuits, A	630		
	Line-charging breaking current, A	10		
	Cables-charging breaking current, A	16		
	No load transformer, A	6,3		
Related Standard		IEC 62271-103, IEC 62271-105		
Electrical endurance class		E3 (100 breaks)		
Mechanical endurance class		M1 (1000 operations)		
Earthing switch class		E2 (5 making)		
Ambient temperature for working		- 5 / + 40		
Release coil and charging motor options : Power supply		24V/48V/110V/220V DC, 220V AC		

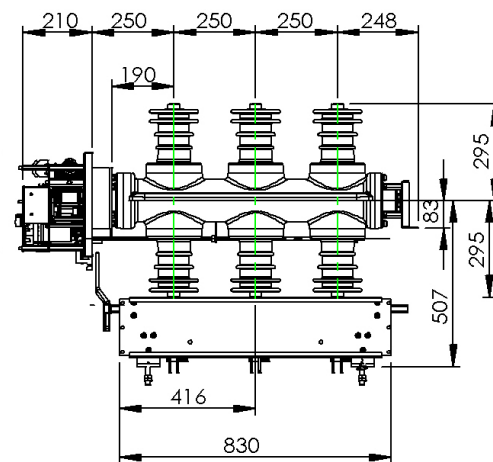
# SF6 GAS INSULATED LOAD BREAK SWITCH

12-24 kV  
630A LOAD BREAK SWITCH (width: 500mm)

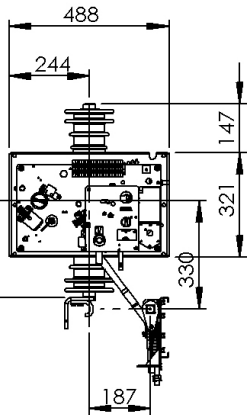
Top view



Side view

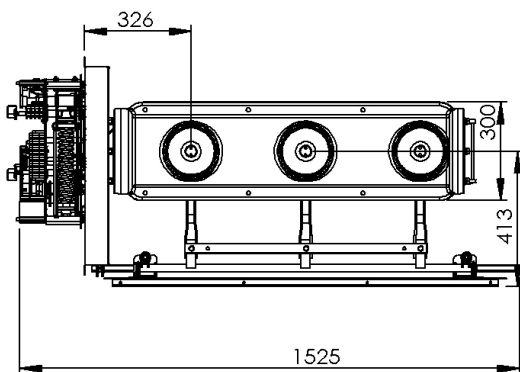


Front view

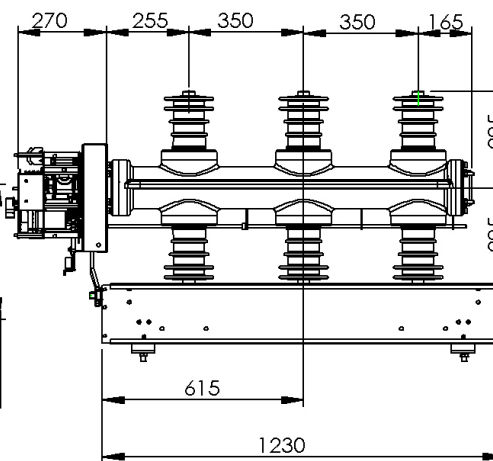


38/40.5 kV  
630A LOAD BREAK SWITCH (width: 750mm)

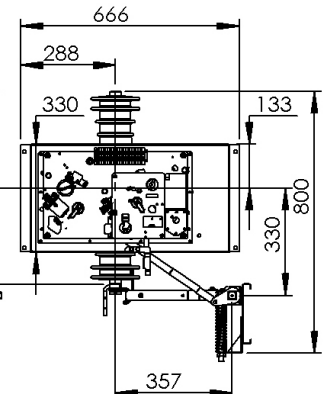
Top view



Side view

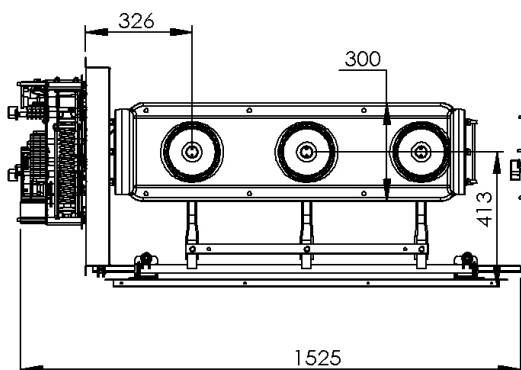


Front view

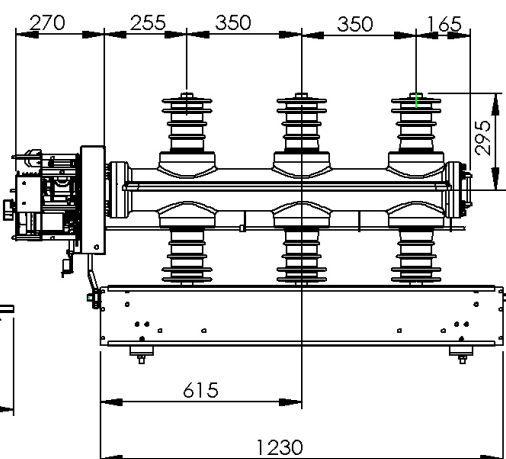


38/40.5 kV  
630A LOAD BREAK SWITCH (width: 1000mm)

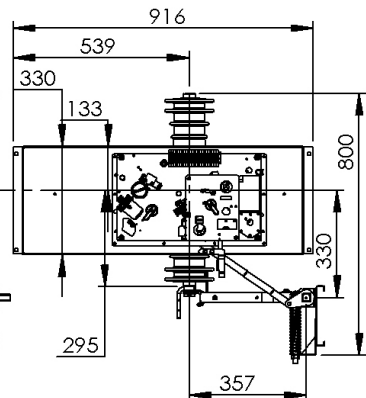
Top view



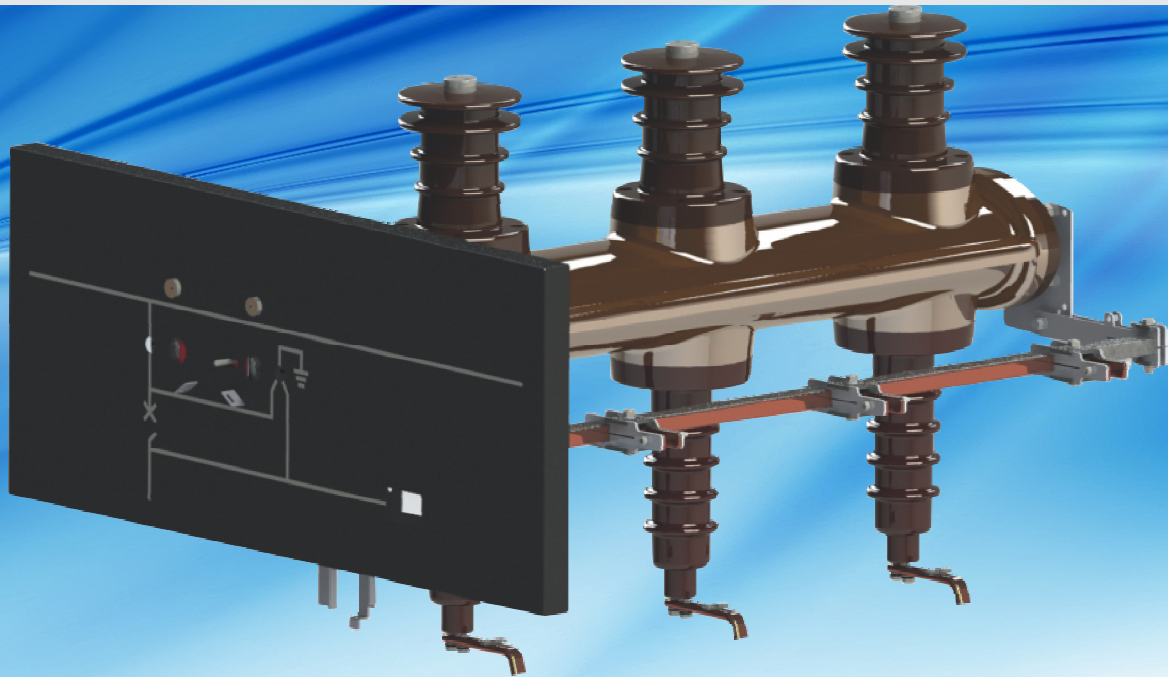
Side view



Front view



# SF6 GAS INSULATED DISCONNECTOR SWITCH



## General Specifications

The main contacts of the disconnecter are in the epoxy resin enclosure which is filled with 1.5 bar SF6 gas and this sealed pressure system guaranteed for its life.

Sf6 Gas level could be indicated by a digital indicator. A pair of NO/NC auxiliary contact has been equipped for alarm and tripping for DS once gas level goes down inside the housing.

The disconnecter contacts can be in one of the two positions; closed / open. The earthing switch is outside of the enclosure, and its position clearly and safely can be observed directly. Its operation is interlocked with the mechanism of the main contacts.

The safety of the gas filled enclosure is secured by the membrane system positioned at back side. Auxiliary contacts indicating the position of the main contacts and for the earthing switch are present. Key type interlocks are possible.

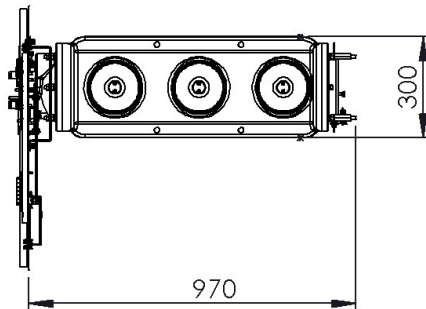
TECHNICAL SPECIFICATIONS		12 kV	24 kV	38/40.5 kV
Rated voltage, kV		12	24	38/40.5
Rated power-frequency withstand voltage 50Hz 1Min (kV r.m.s.)	To earth and between phases	28	50	95
	Across the isolating distance	32	60	105
Rated lightning impulse withstand voltage (peak value)	To earth and between phases	75	125	200
	Across the isolating distance	85	145	220
Rated current, A		630/1250		
Short time withstand current, 1s, kA		16/20/25		
Related Standard		IEC 62271-102		
Mechanical endurance class		M2 ( 2000 operations)		
Ambient temperature for working		- 5 / + 40		
Release coil and charging motor options : Power supply		24V/48V/110V/220V DC, 220V AC		



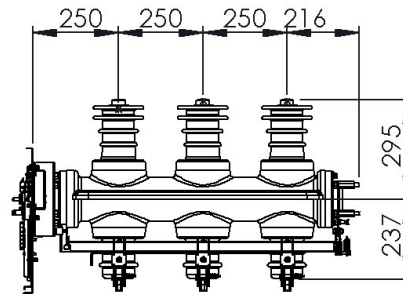
# SF6 GAS INSULATED DISCONNECTOR SWITCH

12-24 kV  
630A DISCONNECTOR SWITCH

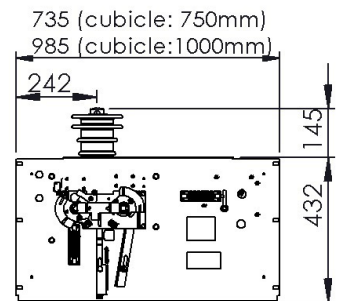
Top view



Side view

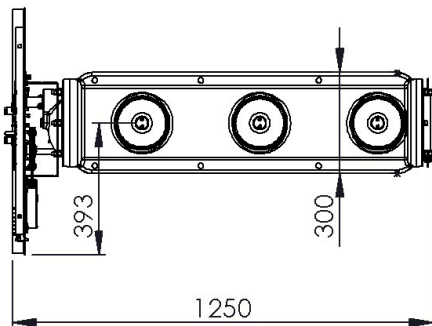


Front view

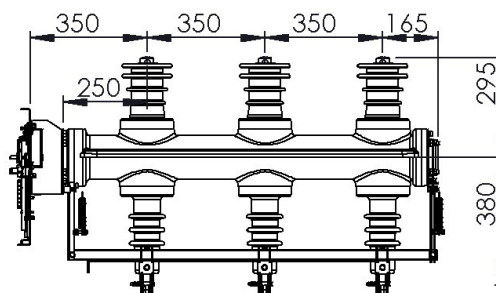


38/40.5 kV  
630A DISCONNECTOR SWITCH (width: 750mm)

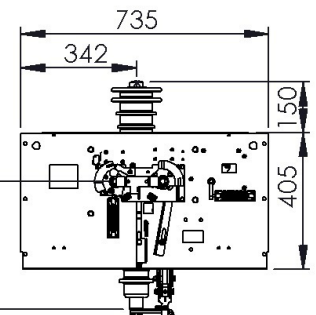
Top view



Side view

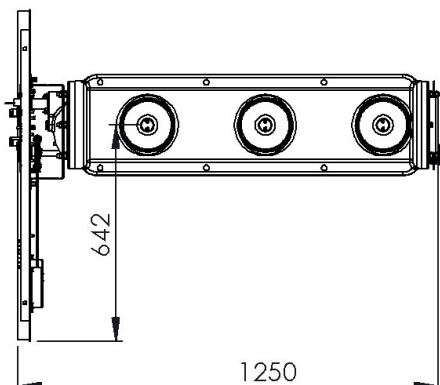


Front view

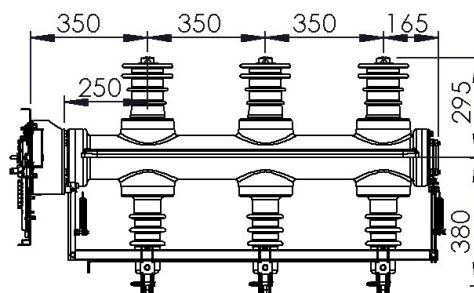


38/40.5 kV  
630A DISCONNECTOR SWITCH (width: 1000mm)

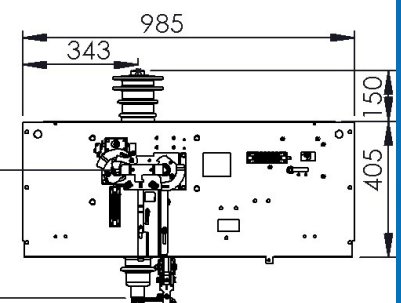
Top view



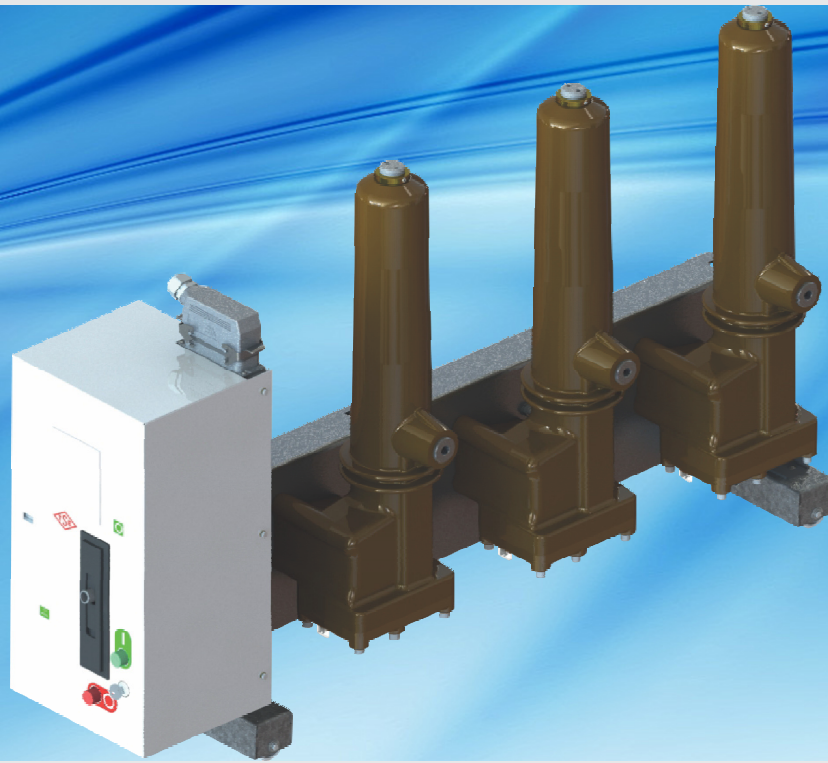
Side view



Front view



# SF6 GAS INSULATED CIRCUIT BREAKER



## General Specifications

BGK type SF6 circuit breakers guarantees high level of safety and reliability basicly due to applied SF6 arc quenching technic and BATEL's experience in medium and high voltage switchgear production more then 35 years.

By these means BGK circuit breakers provide high level continuity and availability for the electricity distribution systems.

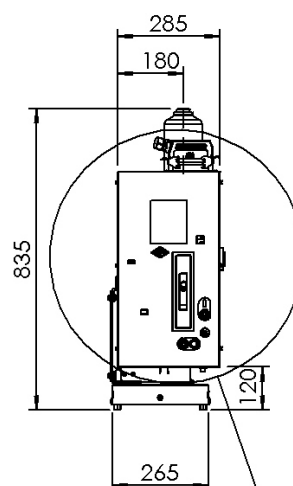
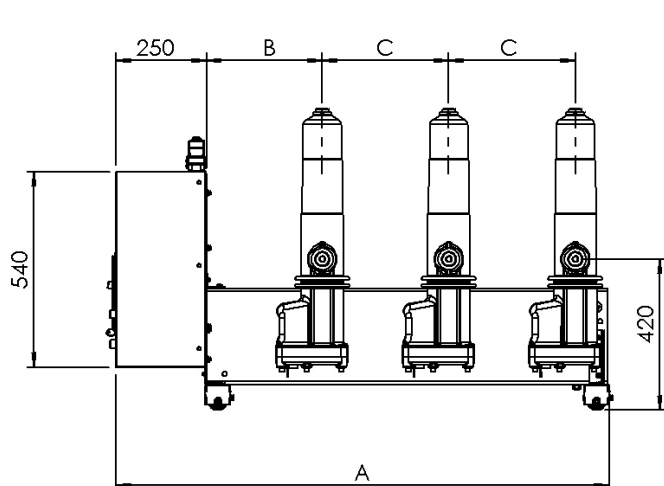
These specs also obtain longer operational endurance and less maintenance. 3 seperate poles have epoxy resin insulated enclosure which are filled with SF6 gas and this sealed pressure system guaranteed for its life.

The safety of the gas filled pole enclosure is secured by the memrane system on the bottom cap. Operating mechanism can be charged manually by lever or by motor. Charged mechanism has stored energy for closing and opening. Closing and opening functions can be done by the push-buttons or by the release coils.

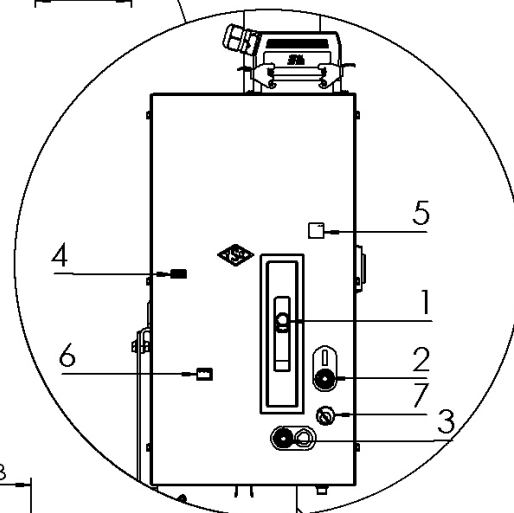
BGK circuit breakers have both frontal mechanism and lateral mechanism versions. 4NO + 4 NC or 6 NO + 6 NC OPEN / CLOSED position auxiliary contacts can be selected optionally.

TECHNICAL SPECIFICATIONS	12 kV	17,5 kV	24 kV	38/40.5 kV
Rated voltage, kV	12	17,5	24	38/40.5
Rated current, A	630/1250			
Rated power frequency test voltage, kV	28	38	50	95
Rated frequency, Hz	50			
Rated mpulse test voltage, kV peak	75	95	125	200
Rated short-c rcu t break ng current, kA	16/20/25			
Short t me w thstand current, 3s, (Ik)kA	16/20/25			
Rated short-c rcu t mak ng current, kA peak	40/50/62,5			
Operat ng sequence	O - 0.3 s - CO - 3 m n -CO			
Electr cal endurance class	E1 ( E2 for non-reclos ng )			
Mechan cal endurance class	M1 ( 2000 operat ons)			
Temperature range, °C	-5 /+40			
Capac t ve current sw tch ng class	C2			
Aux l ary power supply, V AC/DC	24V/48V/110V/220V DC, 220V AC			

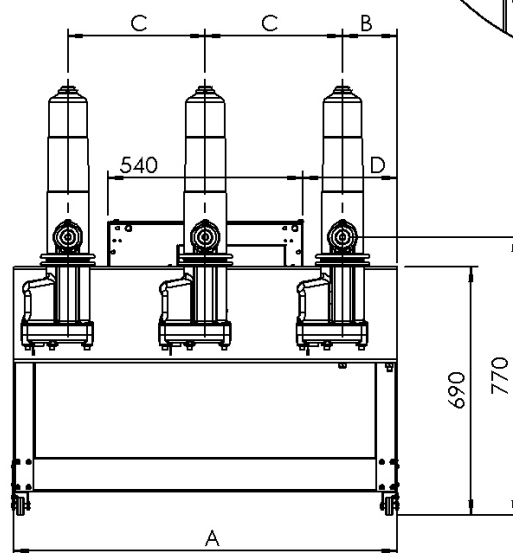
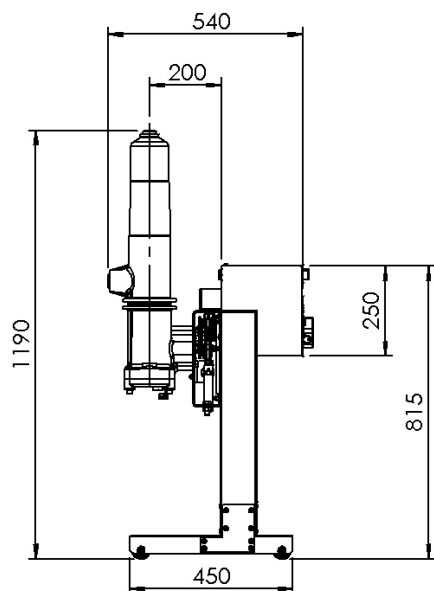
# SF6 GAS INSULATED CIRCUIT BREAKER



Lateral Type				
Rated Voltage (kV)	Dimensions (mm)			Weight (kg)
	A	B	C	
12-17,5	974	210	210	103
24	1094	250	250	104
38/40.5	1370	320	350	105



1. Charging arm
2. Closing button
3. Openin button
4. Counter
5. Position indicator
6. Spring indicator
7. Mechanical lock



Frontal Type					
Rated Voltage (kV)	Dimensions (mm)				Weight (kg)
	A	B	C	D	
12-17,5	750	125	220	125	103
24	860	150	280	160	104
38/40.5	1060	150	380	260	105

# VACUUM CIRCUIT BREAKER



## General Specifications

Vacuum Interruption technique with BATEL's inhouse make BVI type vacuum interrupters,

- Limited switching energy
- Lateral and frontal version
- Compact design
- Sealed for life vacuum interrupters
- 10.000 operations without maintenance
- High environmental compatibility

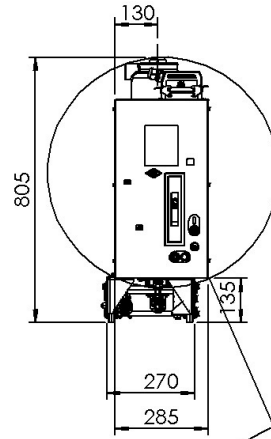
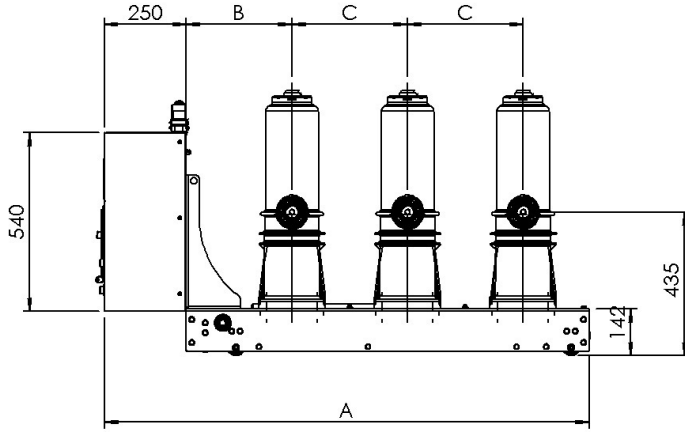
BVK type circuit breakers guarantee a high level of safety and reliability basically due to BATEL's experience in medium and high voltage switchgear production more than 35 years. By these means BVK circuit breakers provide a high level of continuity and availability for the electricity distribution systems.

These aspects also obtain longer operational endurance and less maintenance. 3 separate poles have epoxy resin insulated housing which contains the vacuum interrupter and terminals. Operating mechanism can be charged manually by lever or by motor. Charged mechanism has stored energy for closing and opening. Closing and opening functions can be done by the push-buttons or by the release coils. BVK circuit breakers have both frontal mechanism and lateral mechanism versions. 4NO + 4 NC or 6 NO + 6 NC OPEN / CLOSED position auxiliary contacts can be selected optionally.

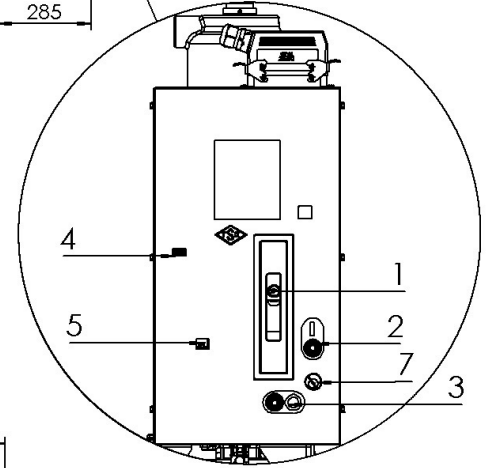
TECHNICAL SPECIFICATIONS	24 kV	38/40.5 kV
Rated voltage, kV	24	38/40.5
Rated current, A	630/1250	
Rated power frequency test voltage, kV	50	95
Rated frequency, Hz	50	
Rated impulse test voltage, kV peak	125	200
Rated short-circuit breaking current, kA	16/20/25	
Short time withstand current, 3s, (Ik)kA	16/20/25	
Rated short-circuit making current, kA peak	40/50/62,5	
Operating sequence	O - 0.3 s - CO - 3 min - CO	
Electrical endurance class	E1 ( E2 for non-reclosing )	
Mechanical endurance class	M1 ( 2000 operations )	
Temperature range, °C	-5 / +40	
Capacitive current switching class	C2	
Auxiliary power supply, V AC/DC	24V/48V/110V/220V DC, 220V AC	



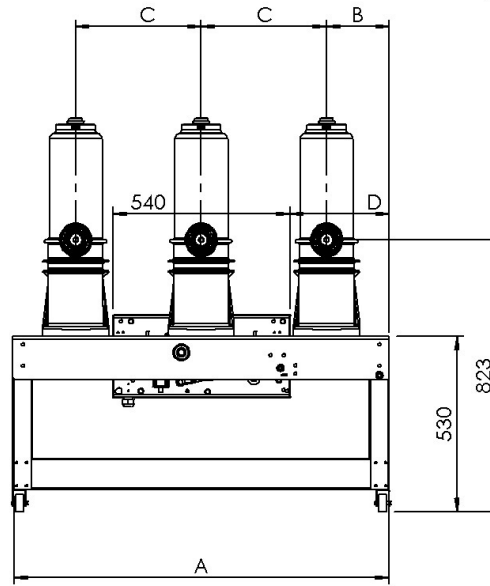
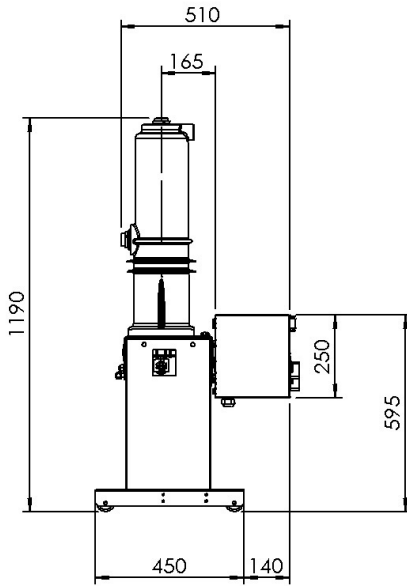
# VACUUM CIRCUIT BREAKER



Lateral Type	Dimensions (mm)			Weight (kg)
Rated Voltage (kV)	A	B	C	
12-17,5	1050	220	200	107
24	1180	250	250	109
38/40.5	1470	320	350	111



- 1.Charging arm
- 2.Closing button
- 3.Openin button
- 4.Counter
- 5.Position indicator
- 6.Spring indicator
- 7.Mechanical lock



Frontal Type	Dimensions (mm)				Weight (kg)
Rated Voltage (kV)	A	B	C	D	
12-17,5	840	190	250	170	114
24	940	190	280	200	116
38/40.5	1140	190	380	300	118

BVK-SF3-RESİM2  
BURAYA  
YAPIŞTIRILACAK

açıklamalar  
buraya  
yapıştırılacak

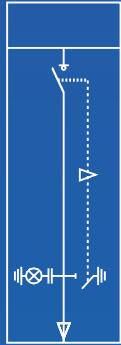
## CUBICLE DEFINE

BME Serial Cubicles with Metal Cover are air-insulated modular cells that can be used at mid-voltage distribution plants up to 40.5 kV. BME Serial Cubicle types, as per using characteristics, are as mentioned below.

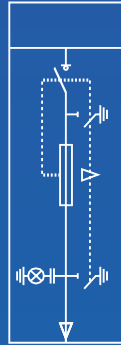
Cubicle Name	Cubicle Type	Outline Dimensions H * D * W (mm)	
		12/24 kV	38/40.5 kV
Inlet - Outlet Cubicle With Load Break Switch	BME - 01	1900*1000*500	2250*1000*750
Load Break Switch + Fuse Combined (Transformer Protection) Cubicle	BME - 02	1900*1000*500	2250*1000*750
Voltage Measurement Cubicle	BME - 03	1900*1000*500	2250*1000*750
Inlet - Outlet Cubicle With Circuit Breaker	BME - 04	1900*1000*750	2250*1000*1000
Bar Connecting (Busbar Coupling) Cubicle	BME - 05	1900*1000*1000	2250*1000*1500
Inlet - Outlet Cubicle With Disconnector Switch	BME - 06	1900*1000*500	2250*1000*750
Cable Connection Cubicle	BME - 07	1900*1000*500	2250*1000*750
Current - Voltage Measurement Cubicle With Load Break Switch	BME - 08	1900*1000*750	2250*1000*1000
Busbar Rising Cubicle	BME - 09	1900*1000*500	2250*1000*750
Current Measure Busbar Raising Cubicle	BME - 10	1900*1000*500	2250*1000*750
Current Measurement Cubicle	BME - 11	1900*1000*500	2250*1000*750
Busbar Separated Switchgear With Circuit Breaker (Side Exit)	BME - 12	1900*1000*750	2250*1000*1000
Busbar Separated Switchgear With Load Break Switch (Side Exit)	BME - 13	1900*1000*750	2250*1000*1000
Coupling With Load Break Switch	BME - 14	1900*1000*750	2250*1000*1000
Current - Voltage Measurement Cubicle With Disconnector Switch	BME - 15	1900*1000*750	2250*1000*1000
Parafudur Cubicle	BME - 16	1900*1000*500	2250*1000*750

# BME SERIES MODULER METAL ENCLOSED CUBICLES

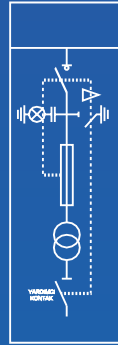
**BME-01**  
Inlet-Outlet Cubicle  
With Load Break Switch



**BME-02**  
LBS+Fuse Combination  
(Transformer Protection) Cubicle



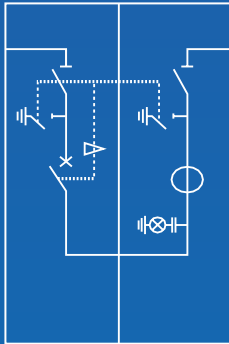
**BME-03**  
Voltage Measurement  
Cubicle



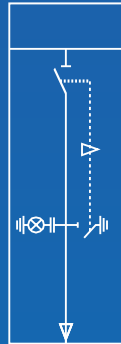
**BME-04**  
Inlet-Outlet Cubicle  
With Circuit Breaker



**BME-05**  
Bar Connection  
(Busbar Coupling) Cubicle



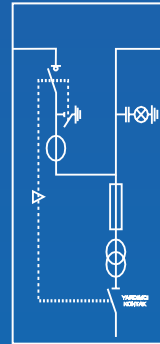
**BME-06**  
Inlet-Outlet Cubicle  
With Disconnector Switch



**BME-07**  
Cable Connection  
Cubicle



**BME-08**  
Current & Voltage Measurement  
Cubicle With LBS



**BME-09**  
Busbar Rising Cubicle



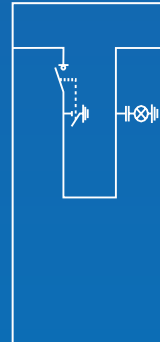
**BME-10**  
Current Measure  
Busbar Rising Cubicle



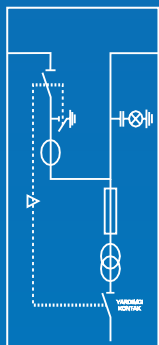
**BME-11**  
Current Measurement  
Cubicle



**BME-14**  
Coupling With  
Load Break Switch



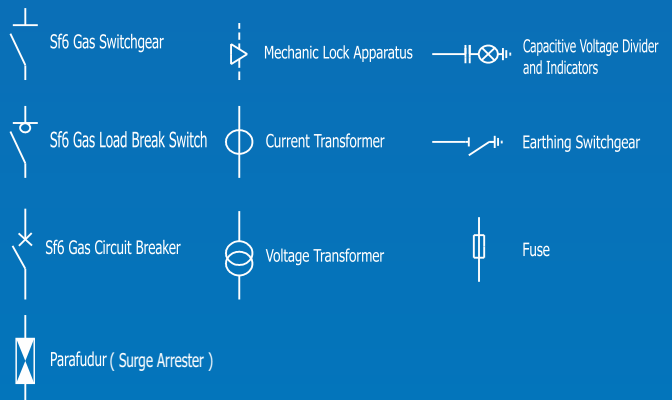
**BME-15**  
Current & Voltage Measurement  
Cubicle With DS



**BME-16**  
Parafudur Cubicle



## SYMBOLS

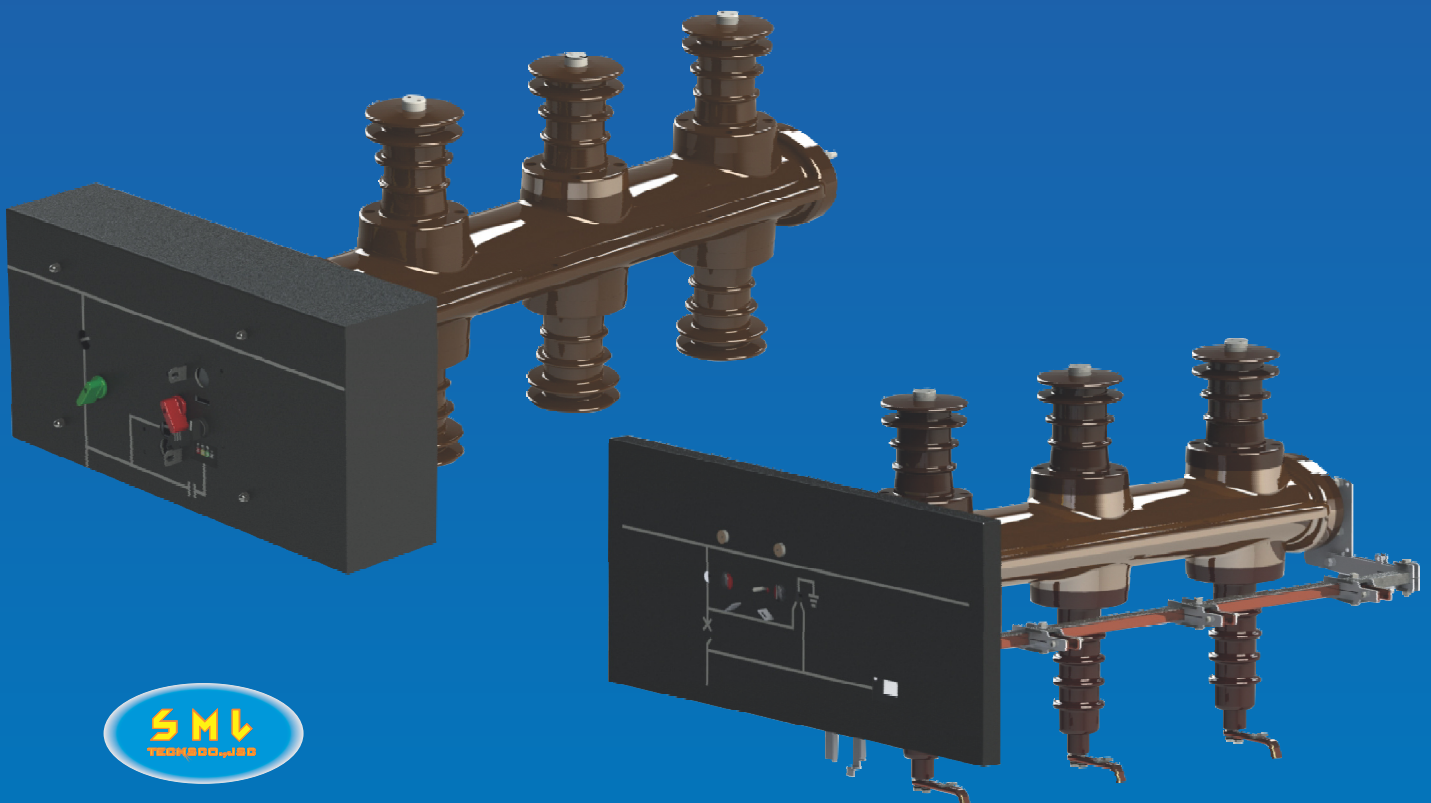




# QUALITY MANAGEMENT



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