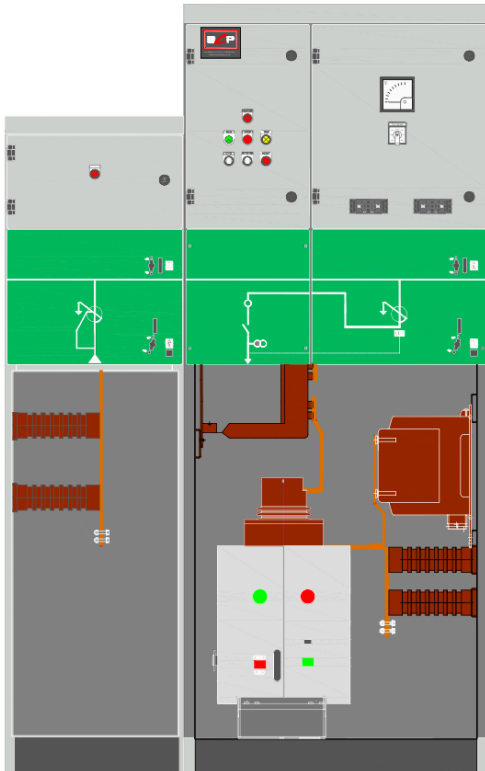
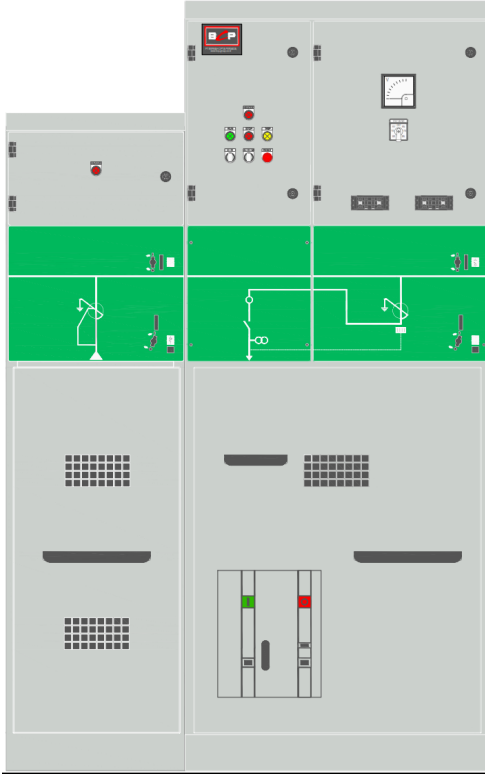




## Medium Voltage Distribution Switchgear With SF6 Load Break Switch Panel up to 3—24 kV



### General

CP-F2 series medium voltage fixed type metal—enclosed SF6 switchgear is designed for use in electrical distribution system from 3kV to 24 kV. CP-F2 units are made up of modular units to from the following main type of panels:

1. Load Break Switch unit complete with integral earthing switch.
2. Load Break Switch - Fuse combination unit complete with integral earthing switch.

The simple, robust modular construction of CP-F2 units provide maximum flexibility to meet a wide range of customer requirements. The CP-F2 units are widely used as ring main units for industrial and mining application, high rise commercial and residential buildings, and prefabricated substations.

### Normal Service Conditions:

- Ambient air temperature : maximum 40°C, minimum - 25°C
- Relative humidity : Up to 100%
- Altitude : None exceeding 1,000M
- Environment : Indoor , non - corrosive, non - explosive

### Standards:

CP-F2 units are in compliance with the following standard

### Specifications :

**IEC 60265-1** High voltage switches - part 1 : Switches for rated voltage above 1kV and less than 52kV.

**IEC 60298** A.C. metal - enclosed switchgear and controlgear for rated voltages above 1kV and up to and including 52kV.

**IEC 60694** switch common specifications for high - voltage switchgear and controlgear standards.

**IEC 62271-100** high voltage switchgear and controlgear part 100: high voltage alternating current circuit breakers.

**IEC 62271-102** high voltage alternating current disconnectors and earthing switches.

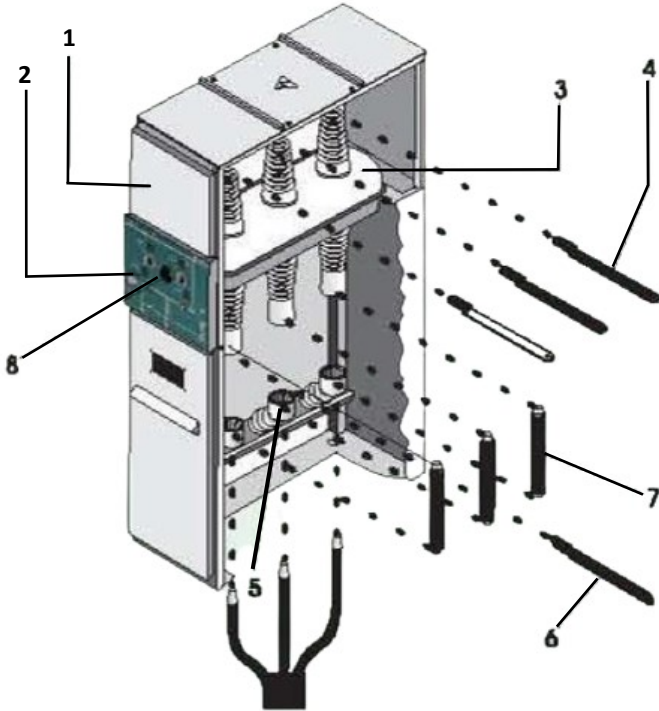
**IEC 62271-105** high voltage alternating current switch - fuse combination.

**IEC 62271-200** alternating current metal enclosed switchgear and controlgear for rated voltage above 1kV and up to and including 52 kV.

**IEC 517 - 1990** Gas-Insulated metal-enclosed switchgear for rated voltage of 72.5 KV and above.

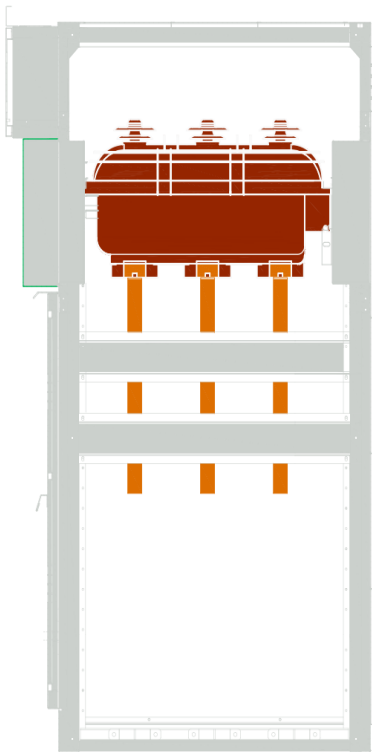


**Medium Voltage Distribution Switchgear  
With SF6 Load Break Switch Panel up to 3—24 kV**

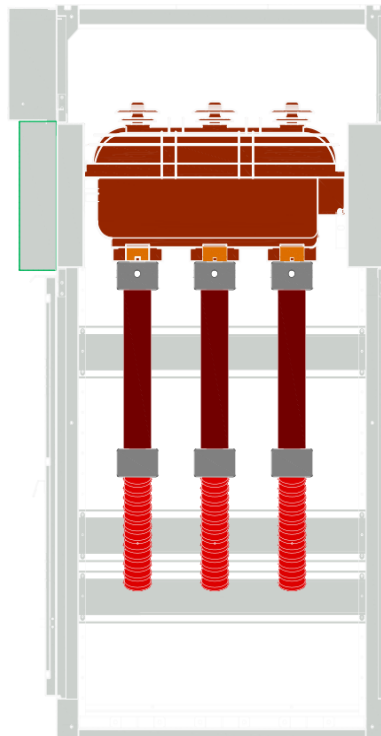


**Basic Structure**

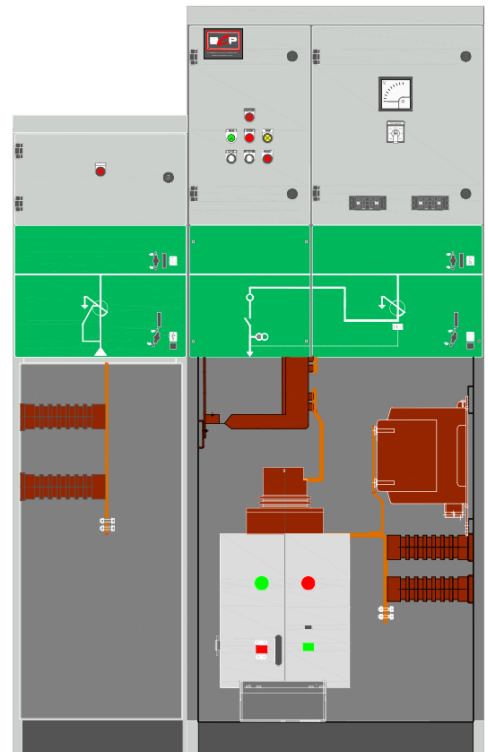
1. Control Compartment
2. Operating Mechanism
3. SF6 Insulated and sealed switch - disconnecter & earthing switch
4. Main Busbar
5. Cables Terminal accessible from front door
6. Earth busbar
7. HRC Fuse
8. Contact Viewing window



Internal View of Switch -  
Disconnector Unit



Internal View of Switch -  
Disconnector Fuse Combination  
Unit



An assembly with VCB Fixed or  
Drawout Type

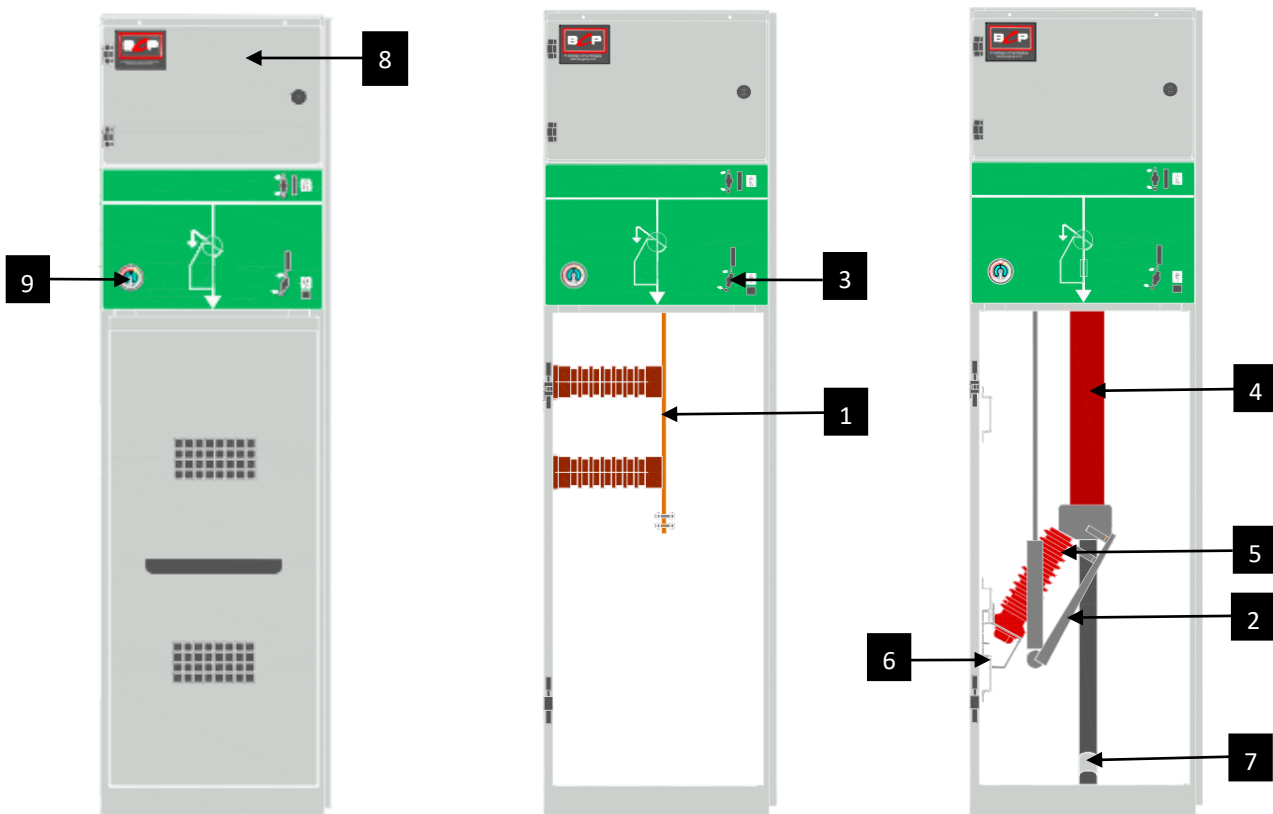


## Medium Voltage Distribution Switchgear With SF6 Load Break Switch Panel up to 3—24 kV

### Features

1. Compact design and light weight with various combinations of functional units to satisfy different power distribution requirements.
2. SF6 gas is used as insulation medium inside a stainless steel tank of the switch - disconnecter for high reliability.
3. The load break switch uses gas - compressed arc - extinguishing design to break the load current and transfer current on fault.
4. Reliable mechanical interlock is provide between the load break switch and integral earthing switch.
5. The CP-F2 units are equipment with phase voltage indicator, pressure gauge and over - pressure release to ensure the safety of operation.
6. The CP-F2 units can be easily extended by connecting rthe main busbars.
7. The state of the main contacts can be checked by viewing the glass window at the front of the panel.
8. The operating mechanism of the load bread switch can be motorized for remote or automatic operation.
9. A wide range of accessories can be provided, including shunt release, cable fault indicator, anti-condensation heater, key interlock for load break switch and earthing switch.

### Details of construction :



375/500/750 mm  
Depth = 900 mm

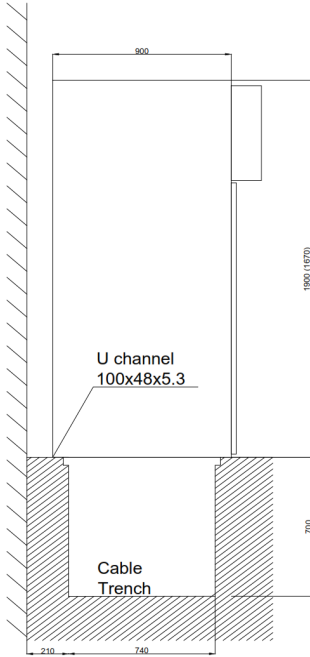
1. Busbar Compartment
2. Switch - disconnecter & earthing switch
3. Operating Mechanism
4. HRC Fuse
5. Insulator ( Voltage detection)

6. Auxiliary earthing switch
7. Cable clip
8. Control Compartment
9. Pressure gauge

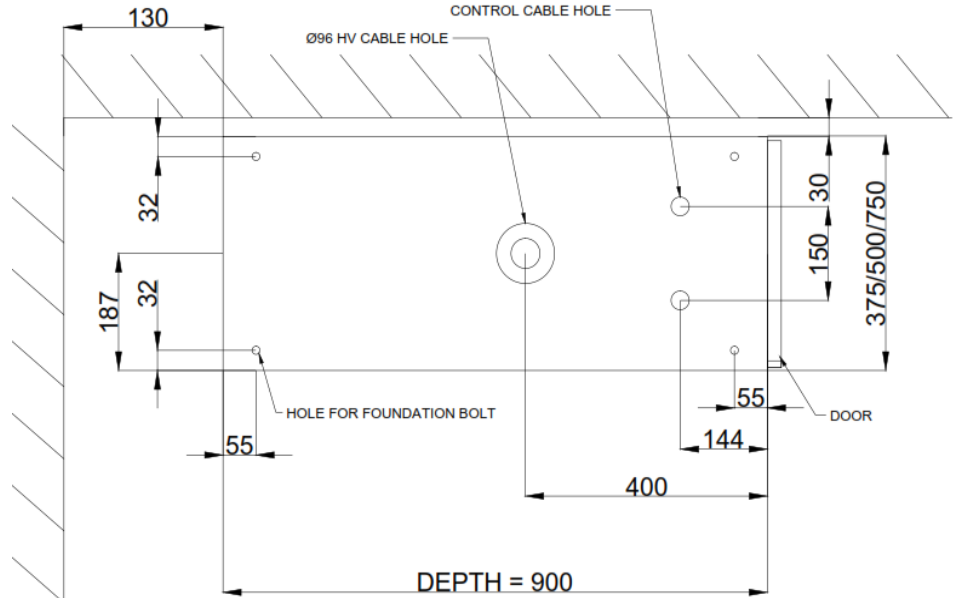


**Medium Voltage Distribution Switchgear  
With SF6 Load Break Switch Panel up to 3—24 kV**

**Typical installation details and dimensions :**



Installation Detail



Dimensions of typical layout plan

**Selection of HRC fuses for transformer protection :**

Rated Voltage KV	Transformer Capacity kVA													
	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000
	Ux=4%									Ux=5%			Ux=6%	
Rated Current of HRC fuse														
6/7.2	16	20	25	31.5	40	50	63	80	80	100	125	160	200	-
10/12	10	16	16	20	25	31.5	40	50	63	80	80	100	125	160
15/17.5	10	10	16	16	20	25	31.5	40	50	63	80	100	125	125
20/24	10	10	16	16	20	25	25	31.5	40	63	63	80	100	100



**Medium Voltage Distribution Switchgear  
With SF6 Load Break Switch Panel up to 3—24 kV**

**Typical schemes :**

Type	CPLS	CPLS-A	CPLS-R	CPLS-G
Single Line Diagram				
Dimensions WDXH (mm)	375/500X900X1900	500/750X900X1900	500/750X900X1900	375/500X900X1900
Application	Cable feeder	Metering	Bus-Section	Cable Feeder

Type	CPDSTA	CPDSA
Single Line Diagram		
Dimensions WDXH (mm)	750X900X1900	875X900X1900
Application	Incoming/Outgoing Connection	Incoming/Outgoing Connection

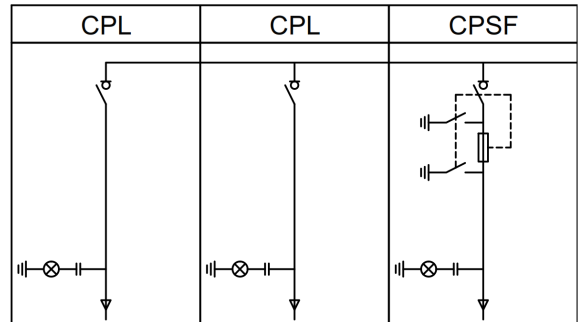
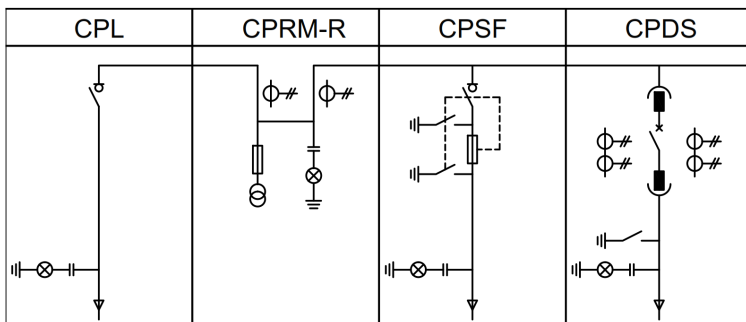
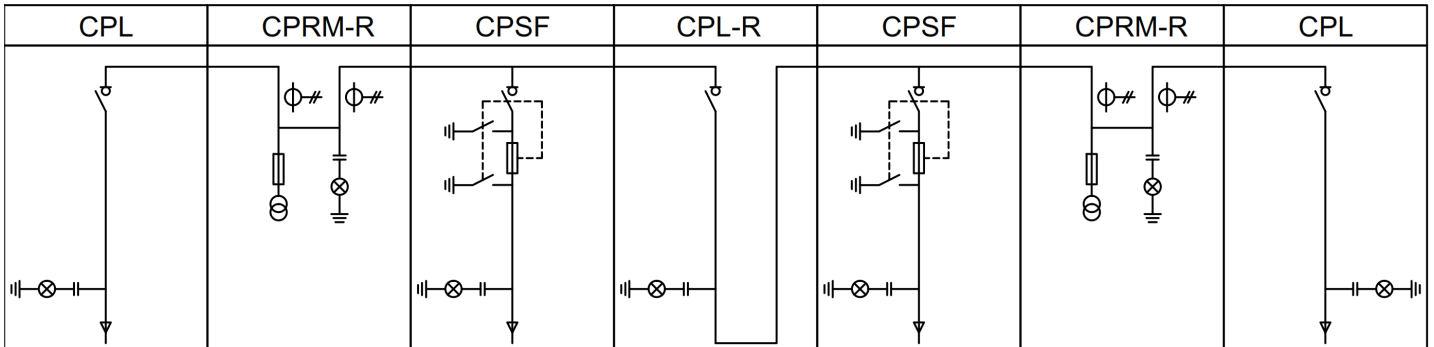
Type	CPFS	CPFS-R	CPR
Single Line Diagram			
Dimensions WDXH (mm)	375/500X900X1900	375/500X900X1900	375/500X900X1900
Application	Cable feeder	Feeder Connection	Incoming/Outgoing Connection



**Medium Voltage Distribution Switchgear  
With SF6 Load Break Switch Panel up to 3—24 kV**

**Typical schemes :**

Type	CPRM-SF	CPL	CPL-A	CPL-R
Single Line Diagram				
Dimensions WXD <sub>X</sub> H (mm)	500/750X900X1900	375/500X900X1900	500/750X900X1900	500/750X900X1900
Aplication	Metering	Cable feeder	Metering	Feeder





## Medium Voltage Distribution Switchgear With SF6 Load Break Switch Panel up to 3—24 kV

### Technical schedule for LBS 24 kV System

Table 1

Item	Parameter		Unit	load Break Switch CPF2-24F	Load Break Switch Fuse Combination Unit CPF2-24FR
1	Rated Voltage		kV	24	
2	Rated Frequency		Hz	50/60	
3	Rated Current		A	630	630,max, current fuse 125A
4	Rated Main Busbar Current		A	630	
5	Rated Short-time withstand current		kA	16....20/3s	
6	Rated peak withstand current			50	
7	Rated Short-time withstand current of ES			16....20/3s	
8	Rated peak withstand current of ES			50	
9	Rated switching current	load current	A	630	630,max, current fuse 125A
		Cable charging current		10	10
10	Rated making current		kA	50	50
11	Rated breaking current			-	31.05.00
12	Rated insulation level	Power frequency withstand voltage (1min)	kV	50/60	
		Lightning impluse withstand volatge (peak)		125/145	
13	Rated Transfer current		A	1300	
14	Rated mechanical endurance	LBS	Time s	2000	
		ES		2000	
15	Operation			S(manual), D(motor)	
16	IP of cubicle			IP4X	
17	SF6 gas pressure (Gauge, at 20C)		MPa	0.04	
18	Rated auxiliary voltage (motor operation)		V	AC220 DC24 DC110	
19	Rated voltage of shunt release		V	AC220 DC24 DC110	
20	Rated motor power		W	300 (short-time operation)	
21	Dimensions (WXDXH)		mm	500X900X1900	



## Medium Voltage Distribution Switchgear With SF6 Load Break Switch Panel up to 3—24 kV

### Technical schedule for LBS 24 kV System

Table 2

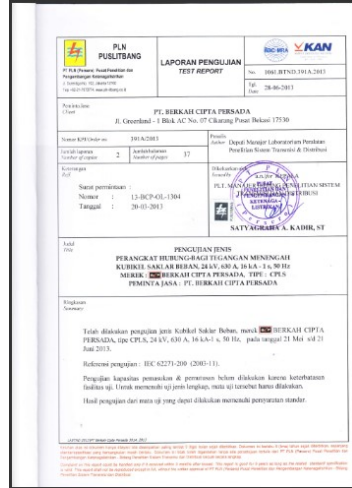
Item	Parameter		Unit	Vacum Circuit Breaker
1	Rated Voltage		kV	24
2	Rated Frequency		Hz	50/60
3	Rated Current		A	630/1250
4	Rated Main Busbar Current		A	630/1250
5	Rated Short-time withstand current		kA	31.5/4s
6	Rated peak withstand current			63
7	Rated Short-time withstand current of ES			63
8	Rated peak withstand current of ES			20..... 31.5
9	Rated switching current	load current	A	630/1250
		Cable charging current		20
10	Rated insulation level	Power frequency withstand voltage (1min)	kV	50
		Lightning impluse withstand volatge (peak)		125
11	Operation			S(manual), D(motor)
12	IP of cubicle			IP4X
13	Rated auxiliary voltage (motor operation)		V	AC220 DC24 DC110
14	Rated voltage of shunt release		V	AC220 DC24 DC110
15	Dimensions (WXDXH)		mm	10000





## Medium Voltage Distribution Switchgear With SF6 Load Break Switch Panel up to 3—24 kV

### Certificate



Type Test Certificate by LMK



Local Content Certificate  
By Ministry of Industry

### Success Story

NO	Project Name	Customer	Market Application
1	PT. Energi Subang Abadi	PT. Energi Subang Abadi	Oil & Gas
2	PLTD Manado	PT. Ladang Permata Mulia	Utility
3	PLTU 1X60MW, Merak Energy Indonesia	PT. POSCO ENGINEERING	Utility
4	PLTD Medan	Apac Energy Rental Pte Ltd	Utility
5	Krakatau Posco Project, Krakatau Steel Anyer	PT. POSCO ENGINEERING	Utility
6	Pemerintah Daerah Jakarta Barat	PT. Getra Abadi Mandiri	Hige Rise Building
7	Pembangunan Rumah Susun Rorotan	PT. Adhi Karya	Hige Rise Building
8	Mall Taman Anggrek	PT. Mulia Inti Pelangi	Hige Rise Building
9	PT. MACIKA MINERAL INDUSTRI	PT. MACIKA MINERAL INDUSTRI	Industrial

### Address :

Assembly Factory:  
Kawasan Industri Greenland I  
Jl. Greenland IV Blok AC No. 07 kota Deltamas  
Cikarang Pusat, Bekasi-Indonesia 17530

Sheet Metal Factory:  
Kawasan Delta Silicon 3  
Jl. Rotan I Blok F27 NO. 20D Lippo Cikarang  
Cikarang Pusat - Bekasi 17530

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Fax : +62-21 8997 6234  
Website : [www.bcp-group.co.id](http://www.bcp-group.co.id)  
Email : [marketing@bcp-group.co.id](mailto:marketing@bcp-group.co.id)