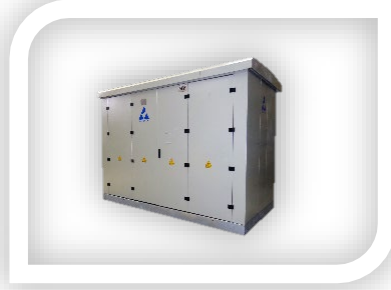


# RASAN General Product Catalogue

## ❖ Medium Voltage Product



Load Break Switch



Pre-Fabricated Compact Substation



Compact Metal Enclosed Switchgear



RMU



Fixed Metal Enclosed Switchgear



Withdrawable MV Switchgear



Vacuum Circuit breaker



SF6 Circuit breaker

## About us:

▶ Resanesh Energy Noivn (RASAN) was established in 2001 based on the experiences of this managing and engineering team in the Iranian electricity distribution sector and also the skills of its technicians. RASAN started its activities by manufacturing switchgear panels and electricity distribution equipment such as low and medium voltage switchgear panels to serve the ever-growing electricity distribution network of Iran.

▶ In an over a decade, RASAN has received an excellent and unique track record in the design and execution of several projects in the power distribution of several small- and large-scale industrial units as well as in the oil and gas industries.

▶ Since the start of the company, RASAN has grown to a factory area of over 5000 square meters that holds the main production lines such as metalworking, painting, mechanical and electrical montage as well as different laves such as low voltage, medium voltage and painting labs.

▶ The head office accommodates the design and engineering, sales, finance and foreign commerce units and it is placed in a conveniently accessible area in Tehran.

▶ The main activities, among all the activities in the area of producing and manufacturing power distribution panels and equipment, can be listed as:

▶ 1) Medium voltage switchgear panels up to 33 KV, of different types such as:

Fixed, Compact and Withdrawable.

▶ 2) Low voltage switchgear panels up to 6 KA, for indoor and outdoor installations.

▶ 3) Power corrections boards, fixed and modular.

▶ 4) Low voltage and medium voltage changeovers.

▶ 5) MCC and PLC boards.

▶ 6) prefabricated compact substation(metallic-Pad mounted-mobile)

▶ RASAN is also active in the area of providing the following equipment :

▶ 1) Oil and dry transformers

▶ 2) Vacuum and SF6 circuit breakers

▶ 3) SF6 load break switches

▶ 4) Earth fault display equipment with SMS (optional)

▶ 5) EPC projects

## ❖ Low Voltage Product



Main Distribution Panel (MDP)



Capacitor Bank Panel



ATS Panel



Motor Control Center (MCC)



Outdoor Main Distribution Panel



Withdrawable Panel



Control and Protection Panel

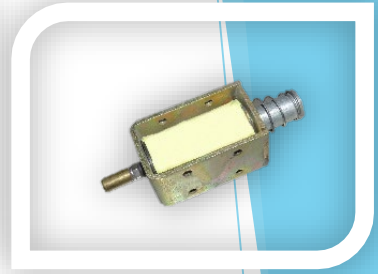
# ❖ Accessories



DC Motor (For LBS)



Gas Sf6 Pressure Measurement



Electromagnetic Coil



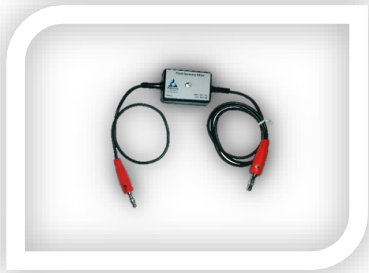
Short Circuit and Earth Fault Indicator



Voltage Indicator



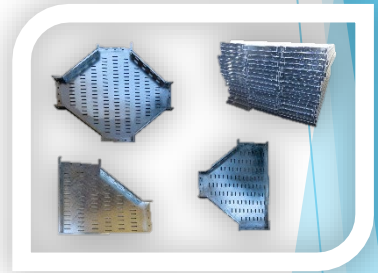
Voltage Indicator With Relay



Phase Sequence Meter



Capacitor Insulator



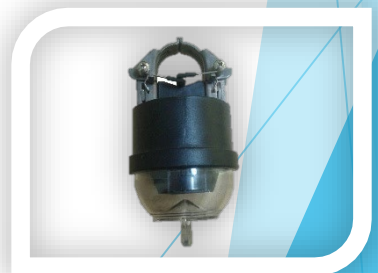
Cable tray and ladder



Aluminum and copper Contact



Data logger



Air fault indicator

# ❖ Medium Voltage

## Load Break Switch



RLBS6



RLBS6 & RLBSM6

<b>GENERAL</b>	<b>24KV</b>
Rated Voltage	24KV
Rated withstand voltage 50-60Hz. 1 min	50KV
Rated withstand voltage across isolating distance 50-60Hz. 1 min	60KV
Rated impulse withstand voltage 1,2/50 $\mu$ s	125KV
Rated impulse withstand voltage across isolating distance 1,2/50 $\mu$ s	145KV
Rated current of transformer feeder	400/600A
Atmosphere conditions	-5 to +40 °C
Standard	IEC62271-103
<b>Load Break Switch</b>	<b>24KV</b>
Rated mainly active load breaking current	400/630A
Rated closed-loop breaking current	400/630A
Rated cable-charging breaking current	25A
Rated no-load transformer breaking current	10A
Rated short-circuit making current (peak)	40/50/63KV
Rated short-time current. 4 s (rms)	20KA
Rated relative filled pressure for SF6 load break switch at 20°C	0.5 Bar

## ❖ Load Break Switch With FUSE



RLBSF6



RLBSF6

<b>GENERAL</b>	<b>24KV</b>
Rated Voltage	24KV
Rated withstand voltage 50-60Hz. 1 min	50KV
Rated withstand voltage across isolating distance 50-60Hz. 1 min	60KV
Rated impulse withstand voltage 1,2/50 $\mu$ s	125KV
Rated impulse withstand voltage across isolating distance 1,2/50 $\mu$ s	145KV
Rated current of transformer feeder	400/600A
Atmosphere conditions	-5 to +40 °C
Standard	IEC62271-103
<b>Load Break Switch</b>	<b>24KV</b>
Rated mainly active load breaking current	400/630A
Rated closed-loop breaking current	400/630A
Rated cable-charging breaking current	25A
Rated no-load transformer breaking current	10A
Rated short-circuit making current (peak)	40/50/63KV
Rated short-time current. 4 s (rms)	20KA
Rated relative filled pressure for SF6 load break switch at 20°C	0.5 Bar
<b>Fuses (Stiker fuse units according IEC 60282)</b>	<b>24KV</b>
Dimensions (Medium Type)	442 mm
Maximum power dissipate value	75 W

## ❖ Earthing Switch



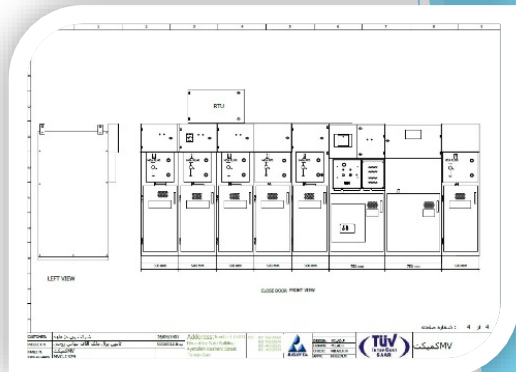
Earthing Switch



Earthing Switch

<b>GENERAL</b>	<b>24KV</b>
Earthing Switch 2 KA for DIN Fuses	2KA>Ur<KV
Standard	IEC62271-102
<b>Earthing Switch</b>	<b>24KV</b>
Rated short-time current. 1 s (rms)	2 KA
Wide (mm) Rated short-circuit making current (peak)	40/50/63KV

## ❖ Compact MV Metal Enclosed Switchgears With RTU



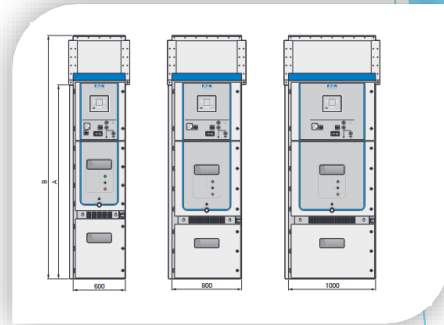
GENERAL	24KV
Rated Voltage	24KV
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200

GENERAL RTU	
Power Supply	48VDC
Digital input (DI)	32
Digital output (DO)	7
Analog input current	3

Main Dimesions	24KV
Height (mm)	1800
Wide (mm)	750/500/375
Depth (mm)	920

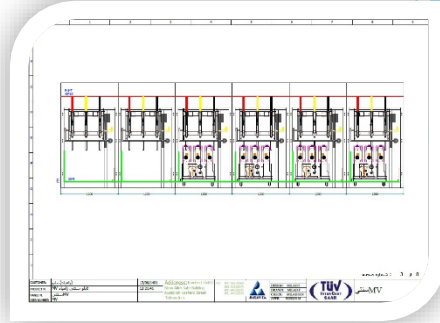


## ❖ Withdrawable MV Switchgear



GENERAL	24KV
Rated Voltage	12-17.5-24 KV
Lightning impulse withstand voltage	75-95-125 KV
Power frequency withstand voltage	28-38-50 KV
Rated Current	630-4000A
Frequency	50-60 Hz
Auxiliary voltage	110/120/127 Vac 50/60Hz, 208/220/240 Vac 50/60Hz, 24/48/60 Vdc, 110/125 Vdc, 220/250 Vdc
Temperature classification	-5 to +40 °C
Relative humidity (max)	95%
External degree of protection	IP4X (IP41 as an option)
Standard	IEC62271- 200,60298

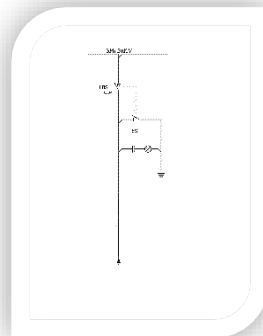
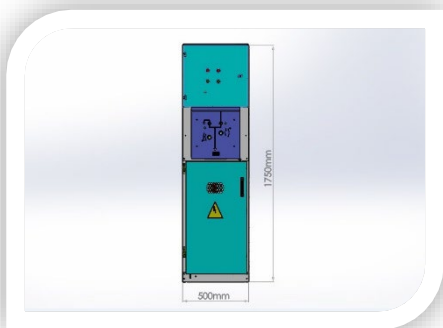
## ❖ Fixed MV Panel



GENERAL	24KV
Rated Voltage	24KV
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200

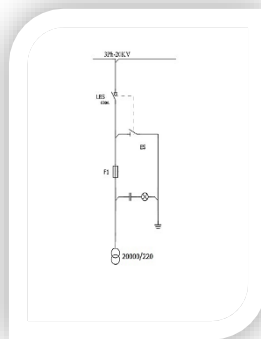
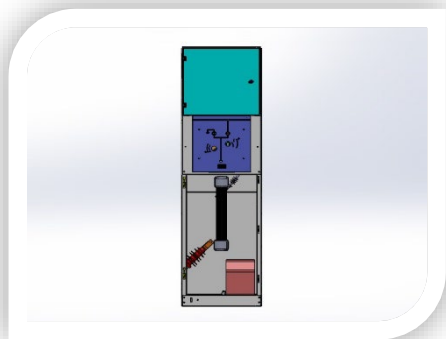
Main Dimesions	24KV
Height (mm)	2200
Wide (mm)	1200
Depth (mm)	1300

## ❖ RLBS/RLBSM



GENERAL	24KV
Rated Voltage	24KV
Motor Voltage	48VDC
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200

Main Dimesions	24KV
Height (mm)	1750
Wide (mm)	500/375
Depth (mm)	92



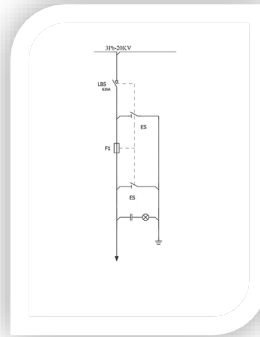
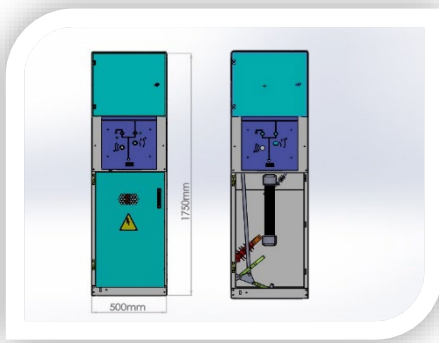
## Load break switch with fuse and pt

GENERAL	24KV
Rated Voltage	24KV
Coil Voltage	220VAC/110-48VDC
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200
PT 1000VA for Power Supply (Option)	20000/220

Main Dimesions	24KV
Height (mm)	1750
Wide (mm)	500
Depth (mm)	92

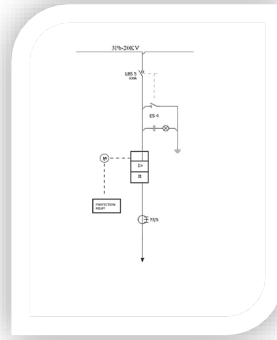
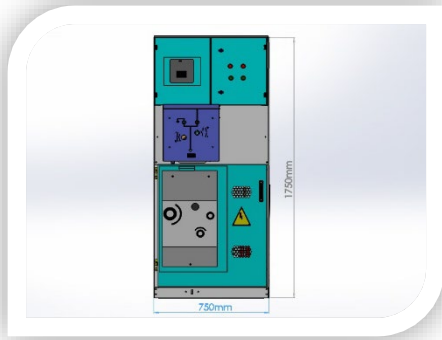
Fuses (Stiker fuse units according IEC 60282)	24KV
Dimensions (Medium Type)	442 mm
Maximum power dissipate value	75 W

Earthing Switch	24KV
Rated short-time current. 1 s (rms)	2 KA
Wide (mm) Rated short-circuit making current (peak)	40/50/63KV



## Load break switch with fuse

<b>GENERAL</b>	<b>24KV</b>
Rated Voltage	24KV
Coil Voltage	220VAC/110-48VDC
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200
PT 1000VA for Power Supply (Option)	20000/220
<b>Main Dimesions</b>	<b>24KV</b>
Height (mm)	1750
Wide (mm)	500
Depth (mm)	92
<b>Fuses (Stiker fuse units according IEC 60282)</b>	<b>24KV</b>
Dimensions (Medium Type)	442 mm
Maximum power dissipate value	75 W
<b>Earthing Switch</b>	<b>24KV</b>
Rated short-time current. 1 s (rms)	2 KA
Wide (mm) Rated short-circuit making current (peak)	40/50/63KV



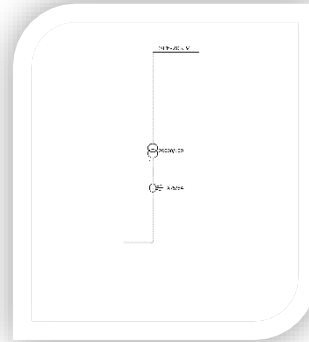
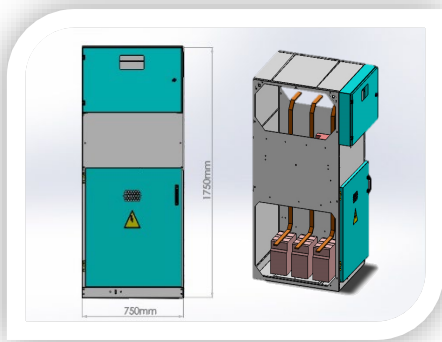
## Circuit Breaker

GENERAL	24KV
Rated Voltage	24KV
Coil Voltage	220VAC / 110-48VDC
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200
CT 24KV (Option)	X/5 - X/1
Motor Voltage (Option)	220VAC - 110/48VDC
Overcurrent & Earth Fault Protection Relay (Option)	X
Power Supply or UPS for Protection Relay (Option)	110/48VDC

Main Dimesions	24KV
Height (mm)	1750
Wide (mm)	750
Depth (mm)	92

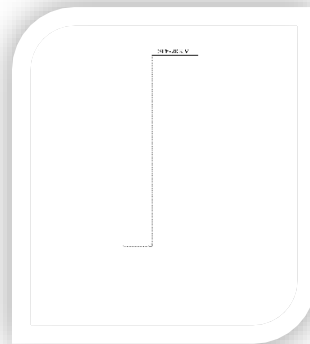
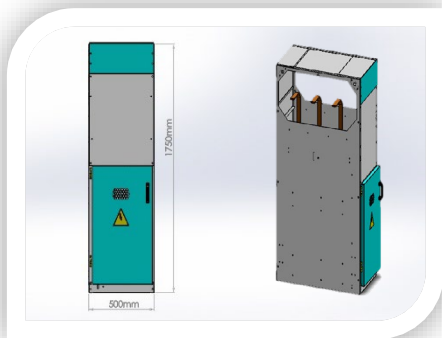
Earthing Switch (Option)	24KV
Rated short-time current. 1 s (rms)	16 KA
Wide (mm) Rated short-circuit making current (peak)	40/50/63KV

## ❖ R coupling with Current and voltage Transformer



GENERAL	24KV
Rated Voltage	24KV
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200
CT 24KV	X/5/5
PT	20000/100

Main Dimesions	24KV
Height (mm)	1750
Wide (mm)	750
Depth (mm)	92

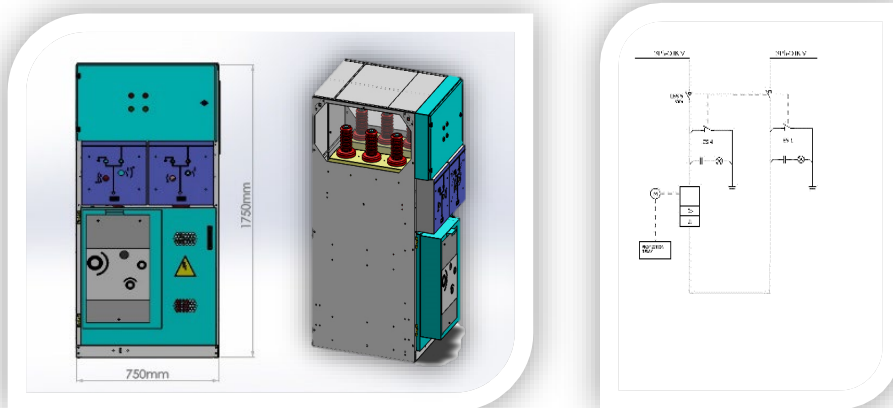


GENERAL	24KV
Rated Voltage	24KV
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200

Main Dimesions	24KV
Height (mm)	1750
Wide (mm)	750/50
Depth (mm)	92



## ❖ R coupling with Circuit Breaker

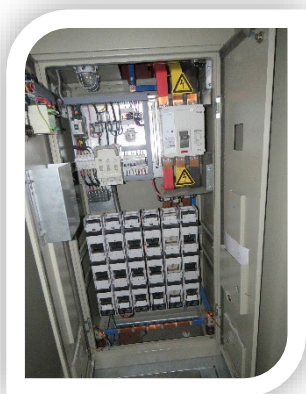


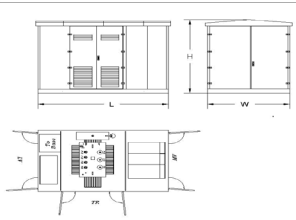
GENERAL	24KV
Rated Voltage	24KV
Coil Voltage	220VAC/110-48VDC
Rated Current	630A
Frequency	50-60 Hz
IP	42
Standard	IEC62271-200
Motor Voltage (Option)	220VAC - 110/48VDC

Main Dimesions	24KV
Height (mm)	1750
Wide (mm)	750
Depth (mm)	92

## ❖ Per-fabricated Compact Post

### ❖ Type A&B



			L (mm)	W (mm)	H (mm)	Type A&B
			3150	1580	2250	200 kva
			3150	1580	2250	250 kva
			3280	1800	2250	315 kva
			3280	1980	2450	400 kva
			3280	1980	2570	500 kva
			3280	1980	2570	630 kva
			3480	2200	2630	800 kva

GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

## ❖ Type F



L (mm)	W (mm)	H (mm)	Type
			F
3880	1300	2250	200 kva
4180	1300	2250	250 kva
4580	1350	2250	315 kva
4700	1450	2450	400 kva
4750	1450	2570	500 kva
4750	1450	2570	630 kva
5150	1550	2630	800 kva

GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

## ❖ Type G

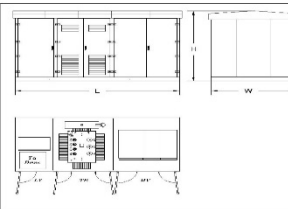


		L (mm)	W (mm)	H (mm)	Type G
		3280	2160	2250	200 kva
		3280	2150	2250	250 kva
		3480	2180	2250	315 kva
		3480	2180	2450	400 kva
		3480	2180	2570	500 kva
		3580	2280	2570	630 kva
		3680	2480	2630	800 kva

GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

## ❖ Type H

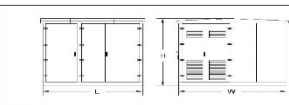


	L (mm)	W (mm)	H (mm)	Type H
		3650	1430	2250
	3650	1580	2250	250 kva
	3780	1800	2250	315 kva
	3880	1980	2450	400 kva
	3880	1980	2570	500 kva
	3880	1980	2570	630 kva
	4130	2200	2630	800 kva

GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

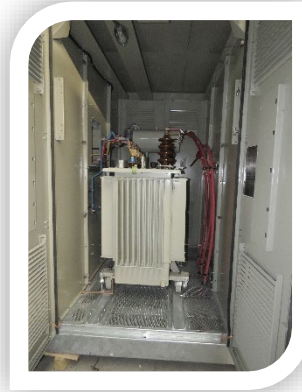
## ❖ Type I&E&C



	L (mm)	W (mm)	H (mm)	Type
				I&E&C
	2380	2380	2250	200 kva
	2380	2380	2250	250 kva
	2380	2530	2250	315 kva
	2380	2530	2450	400 kva
	2480	2680	2570	500 kva
	2480	2680	2570	630 kva
	2730	2800	2630	800 kva

<b>GENERAL</b>	<b>24KV</b>
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

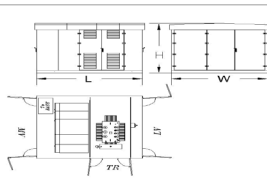
## ❖ Type J



		L (mm)	W (mm)	H (mm)	Type J
		2800	1950	2250	200 kva
		2800	1950	2250	250 kva
		2950	1950	2250	315 kva
		2950	1980	2450	400 kva
		3080	1980	2570	500 kva
		3080	1980	2570	630 kva
		3280	2200	2630	800 kva

GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

## ❖ Type A&B exclusive

	L (mm)	W (mm)	H (mm)	Type A&B
F	3380	3080	2570	315 kva
B	3480	3380		
F	3380	3080	2570	400 kva
B	3480	3380		
F	3480	3080	2570	500 kva
B	3480	3380		
	3480	3380	2570	630 kva
	3680	3380	2630	800 kva
	4050	3380	2800	1000 kva
	4200	3380	2950	1250 kva

GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202



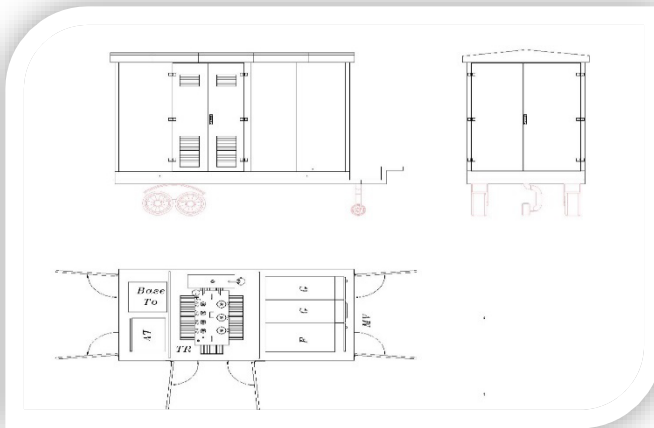
## ❖ Type J exclusive



	L (mm)	W (mm)	H (mm)	Type	J
F	4480	1980	2570		315 kva
B	4820	2100			
F	4480	1980	2570		400 kva
B	4880	2100			
F	4580	1980	2570		500 kva
B	4980	2100			
	4980	2100	2570		630 kva
	5180	2200	2630		800 kva
	5180	2200	2800		1000 kva
	5280	2400	2950		1250 kva

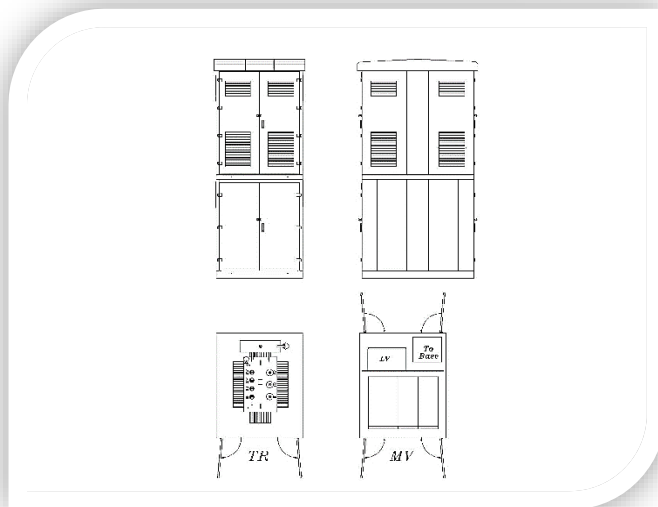
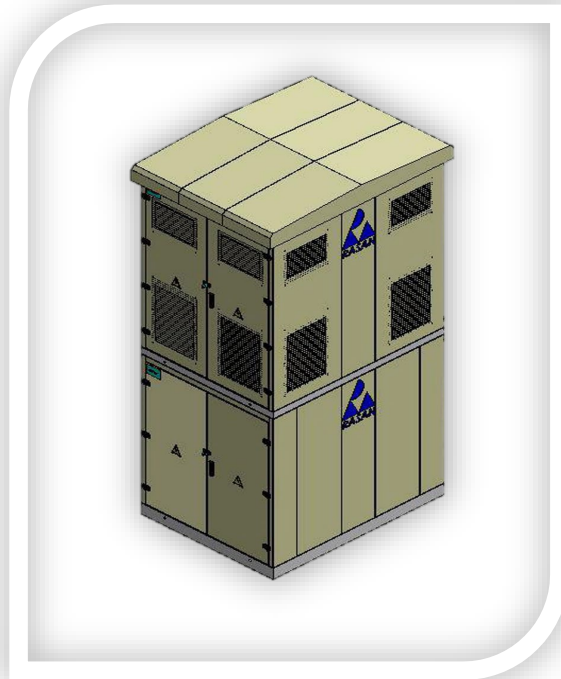
GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

## ❖ Mobile Per-fabricated Compact Post



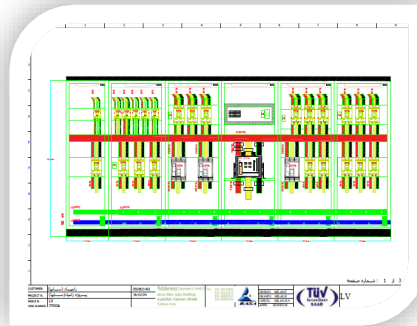
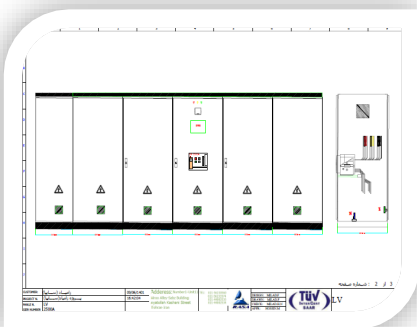
GENERAL	24KV
Rated Voltage	24KV
Power	200-2500 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

## ❖ Per-fabricated two-Story Compact Post



GENERAL	24KV
Rated Voltage	24KV
Power	200-1600 KVA
Frequency	50-60 Hz
IP	43
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC62271-202

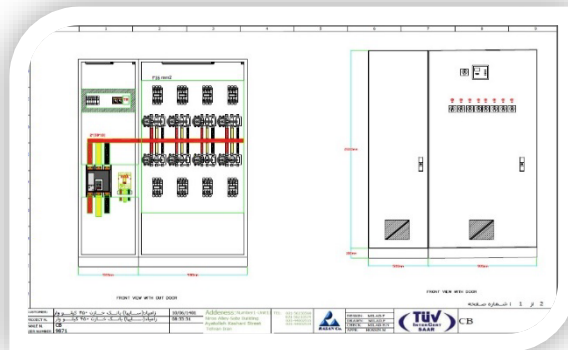
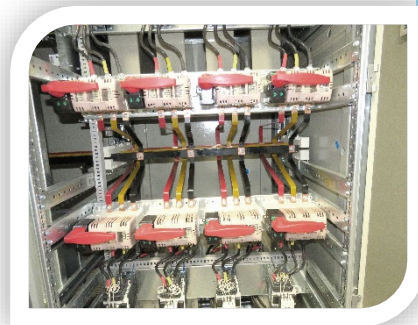
## ❖ Low Voltage Panel



## ❖ Main Distribution Panel (MDP)

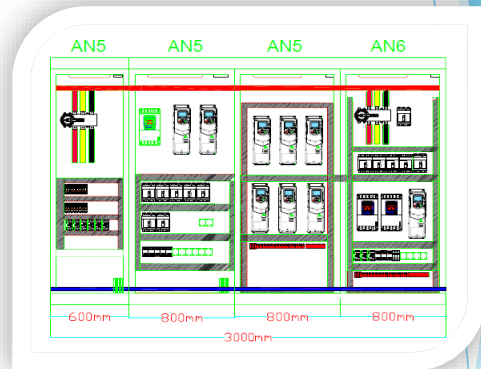
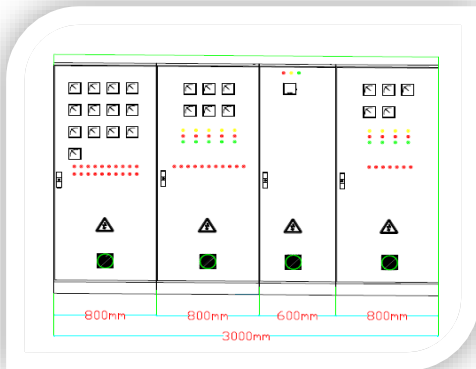
GENERAL	24KV
Rated Voltage	400V
Rated Circuit	100-4000A
Frequency	50-60 Hz
IP	42-65
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC 61439

## ❖ Capacitor Panel



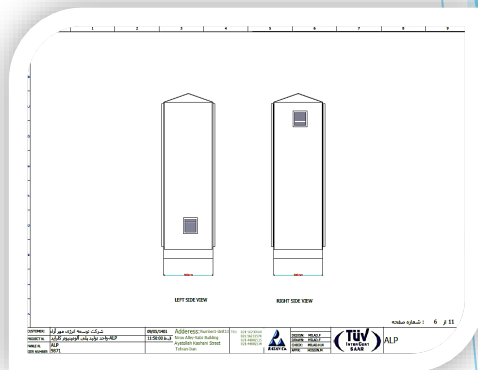
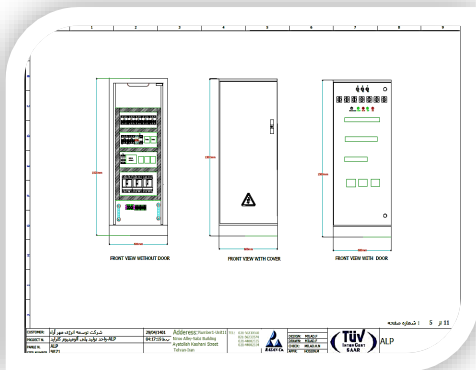
<b>GENERAL</b>	<b>24KV</b>
Rated Voltage	400V
Rated Circuit	100-4000A
Frequency	50-60 Hz
IP	42-65
Regulator	4,6,8,12
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC 61439-1

# ❖ Motor Control Center (MCC)



GENERAL	24KV
Rated Voltage	400V
Rated Circuit	100-4000A
Frequency	50-60 Hz
IP	42-65
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC 61439 IEC 60947 IEC 61869 IEC 60529

# ❖ Electrical Distribution Panel (out door)



GENERAL	24KV
Rated Voltage	400V
Rated Circuit	100-4000A
Frequency	50-60 Hz
IP	42-65
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC 61439 IEC 60947 IEC 61869 IEC 60529

## ❖ Withdrawable MCC Panel



GENERAL	24KV
Rated Voltage	400V
Rated Circuit	100-4000A
Frequency	50-60 Hz
IP	42-65
Color	RAL 7032-7035
Temperatures	-5 to +40 °C
Standard	IEC 61439



# ❖ Accessories

## Voltage Indicator

Power supply : 2 to 12 VDC
Consumption : < 50 mA
Input impedance: > 10 MΩ
Frequency : 50 Hz
Operating temperature: -5 to +40 °C
Display : 3 Phase Led
Test Points : 3 Phase + Ground
Dimensions h-w-d (mm) : 70x35x30



## Voltage Indicator With Relay

Power supply : 12 to 60 VDC
Consumption : < 50 mA
Input impedance: > 10 MΩ
Frequency : 50 Hz
Operating temperature: -5 to +40 °C
Display : 3 Phase Led + LCD



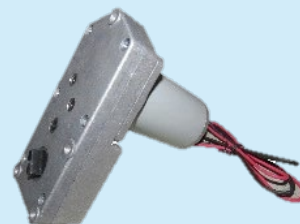
## Phase Sequence Meter

Power supply : 0 to 12 VDC
Frequency : 50 Hz
Operating temperature: -5 to +40 °C



## Motor

Power supply : 48 VDC
Consumption : < 50 mA
Frequency : 50 Hz
Operating temperature: -5 to +40 °C
Display : 1 Phase Led



## Pressure of Gauge

indicating the pressure of sf6 gas

pressure range : 0-10 bar



## Electromagnetic Coil

Power supply : 220V AC /48-110V DC

Consumption : < 1000 mA

Input impedance: 3.2Ω

Frequency : 50 Hz



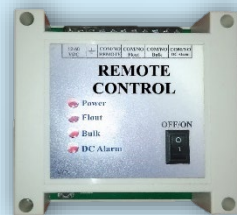
## Remote Control

Power supply : 12 to 60 VDC

Consumption : < 1000 mA

Operating temperature: -5 to +40 °C

Dimensions h-w-d (mm) : 115\*90\*40



## Capacitor Insulator

Rated Voltage : 24KV

Material : Resin

Frequency : 50-60Hz

Standard : IEC 60660 - IEC 60273



## Operating Handle

Operating Handle

Material: Iron with cold plating



## Short circuit and Earth Fault Indicator (EF-37-LF)

Power supply : 48-260V AC/DC

Phase max current:1200A

Earth max current: 300A

Voltage indicator from insulator

LCD display

Digital input

2 programmable relay

External LED drive

Modbus



## Short circuit Fault Indicator

Line Voltage: Up to 46kV

Temperature Range: -40°C to 85°C

Accuracy:  $\pm 10\%$  at 20°C

Minimum Reset Current: 3A

Minimum Load Current: 3A

Tripping Factor More than: 120A

Indication: LED

Total Indicating Time:  $\geq 400$  hours

Maximum Operation Voltage: 46kV, 50/60 Hz

Withstand Current and Duration: 25kA/200ms

Reset Manner: Time/manual/current

Reset Time: 4hrs/6hrs/8hrs/12hrs/24hrs

Casing Material: UV stable polycarbonate

Clamp Material: Stainless steel



## Data Logger

Power supply : 48-260V AC/DC

Power : 5w

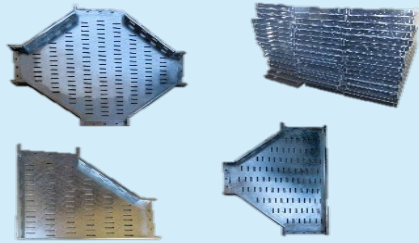
Operating temperature: -25 to +65 °C

LCD display



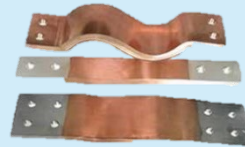
## Cable Tray and Ladder

Cable tray and ladder



## Flexible Copper

Flexible copper



## Copper and Aluminum Electrical Contacts

Copper Electrical Contacts



❖ **Engineering/ Procurement/ Construction**  
**Power supply projects**



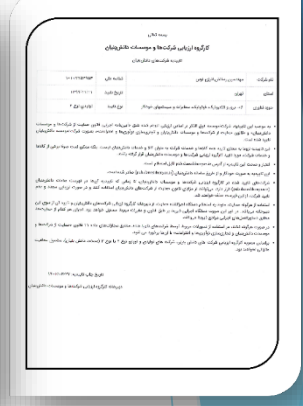
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