



**OBOUR Manufacturing  
Company**





**OBOUR** Manufacturing Company was established in 2004 in El-Obour City. The main target is to produce all types of Electrical Low Voltage Panels and all metal & sheet metal based products.



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# Introduction

## Production line includes

- \* Designs are managed by our design office.
- \* Advanced state-of-the-art computerized numeric control (CNC) sheet metal machinery:
  - AMADA Punch CNC machine model ARIES-255.
  - AMADA bending machine model HFT 130-3.



AMADA Bending Machine  
Model HFT 130-3



AMADA CNC Punch Machine  
Model ARIES-255



Half Milling Machine



Spot Welding



CO2 Welding



## ***Quality Issue!!***

### **Why are we different ?! Accuracy!**

- CNC sheet metal fabrication facilities.... minimal errors.
- In-process & final quality control.... Quality assured.
- Continuous R & D (Research & Development).
- Monitoring market feedback for future improvements.
- After sales support....Customer care.

### ***L.V General Features:***

- \* Production of special dimensions and specifications according to client's requirements.
- \* Cable entry from top or bottom using removable plates.
- \* Front access (and rear on request).
- \* Standard modules for switchboard formation.
- \* Safety for operators by using inner doors.

### ***Electrical Panel Activity:-***

- 1- Boxes.
- 2- Control Desks.
- 3- Data network racks & accessories.
- 4- Control Panels (Marshalling panels, PLC systems...etc.).
- 5- Low Voltage Panels:-
  - 5.1- Distribution and Protection.
  - 5.2- Motor Control Center (MCC Fixed type)
  - 5.3- Power Factor Correction.
- 6- Kiosk.

# 1- Boxes

## \* Types:-

- Wall or flush mount enclosures.
- Indoor or outdoor.

Electrical Boxes are installed to protect the enclosed electrical and control components from dust, dirt and water splashing

## \*\* Specifications:-

### - Body and Door:-

- \* Made from high quality **1.5 mm** carbon steel.
- \* Inner plates are **2 mm** thick and galvanized.
- \* Electrostatic painted with powder-coated epoxy polyester **RAL No. 7032**.

- Incoming and outgoing cables from top or base.

### - Protection specification:-

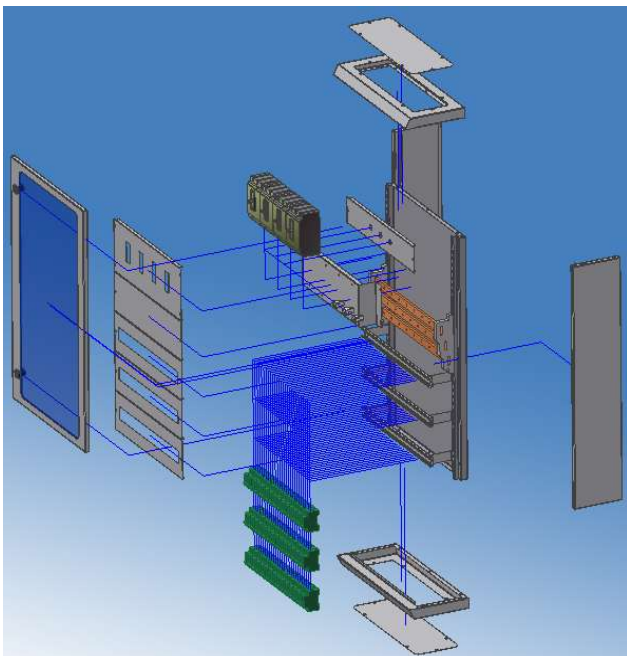
From **IP40** up to **IP54**

### - Dimensions:-

(H\*W\*D) mm:- from **300\*300\*200** up to **1200\*1000\*300**

## \*\*\* Application:-

- Distribution lighting boxes.
- Junction boxes.
- Terminal boxes.
- Electrical enclosures.



Distribution lighting box



Electrical devices box

## 2- Control Desks

### \* Types: -

- Floor standing enclosures.
- Indoor use.

### \*\* Specifications:-

#### - Body and Door:-

- \* Made from high quality **1.5 mm** carbon steel.
- \* Inner plates are **2 mm** thick and galvanized.
- \* Electrostatic painted with powder-coated epoxy polyester **RAL No. 7032**.

- Incoming and outgoing cables from base.

#### - Protection specification:-

**IP42** or according to client's requirement.

#### - Dimensions:-

(H\*W\*D) mm: -

**Type A:-** From **950\*600\*400** up to **950\*1200\*500**

**Type B:-** From **1100\*600\*400** up to **1600\*1200\*500**

Special dimensions are according to client's requirement.

### \*\*\* Application:-

- Control Board for power station and water plant.
- Operation control.





## 3- Data Network Racks & Accessories

### \* Type: -

- Floor standing or wall-mount racks.
- Indoor or outdoor.

### \*\* Specifications:-

#### - Body and Door:-

- \* Made from high quality **2 mm** carbon steel.
- \* Cladding from **1 mm** thick, carbon steel.
- \* Electrostatic painted with epoxy polyester powder **RAL No. 7335 & 7316**.
- \* Incoming and outgoing from top and base.
- \* Safety glass **6 mm** on front door.
- \* Accessible from front, rear and both sides.

#### - Protection specification:-

**IP40** or according to client's requirement.

#### - Dimensions:-

(H\*W\*D) mm:- from **9 unit\*600\*600** up to **44 unit\*800\*1000**

### \*\*\* Application:-

- IT Racks.
- Communications networks.
- Observation/security consoles.



## 4- Control Panels

### \* Type:-

- Floor standing.
- Indoor or outdoor.

### \*\* Specifications:-

#### - Body and Door:-

- \* Made from high quality **2 mm** carbon steel.
- \* Inner plates are **1.5 mm** thick and galvanized.
- \* Electrostatic painted with powder-coated epoxy polyester **RAL No. 7032**.

#### - Protection specification:-

From **IP42** up to **IP54**

#### - Dimensions:-

(H\*W\*D) mm:- from **1800\*600\*500** up to **2200\*800\*800**

### \*\*\* Application:-

- Control, marshalling and protection panels for HV distribution.
- PLC and SCADA systems.
- Control, monitor and supervise the operation processes from anywhere.



Marshalling Panel

## 5- Low Voltage Switchboard

### \* Types: -

- Wall mount or floor standing.
- Indoor or outdoor.

### \*\* Common Specifications:-

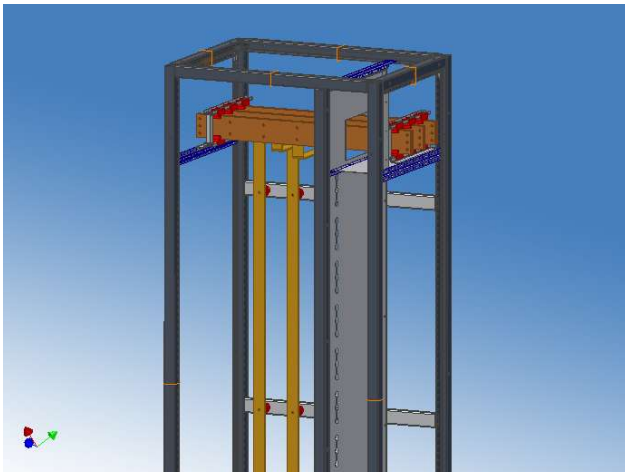
#### - Body and Door:-

- \* Made from high quality **2 mm** carbon steel.
- \* Inner plates are **1.5 mm** thick and galvanized.
- \* Electrostatic painted with powder-coated epoxy polyester **RAL No. 7032**.
- \* Short time assembly.
- \* Flexibility in design: Kit system leads to easy panel assembly and interchangeability.
- \* Compact space.

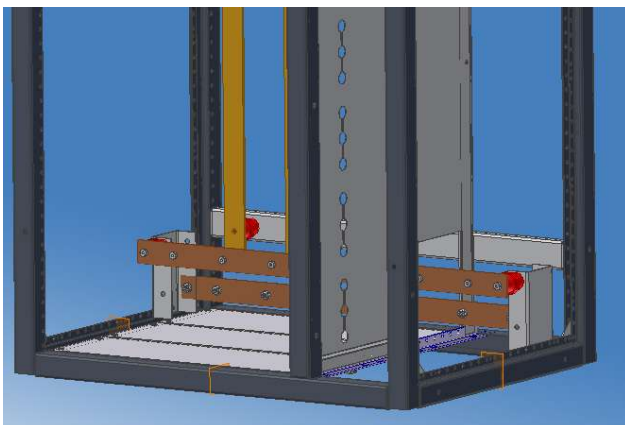
#### - Protection specification:-

From **IP42** up to **IP54**

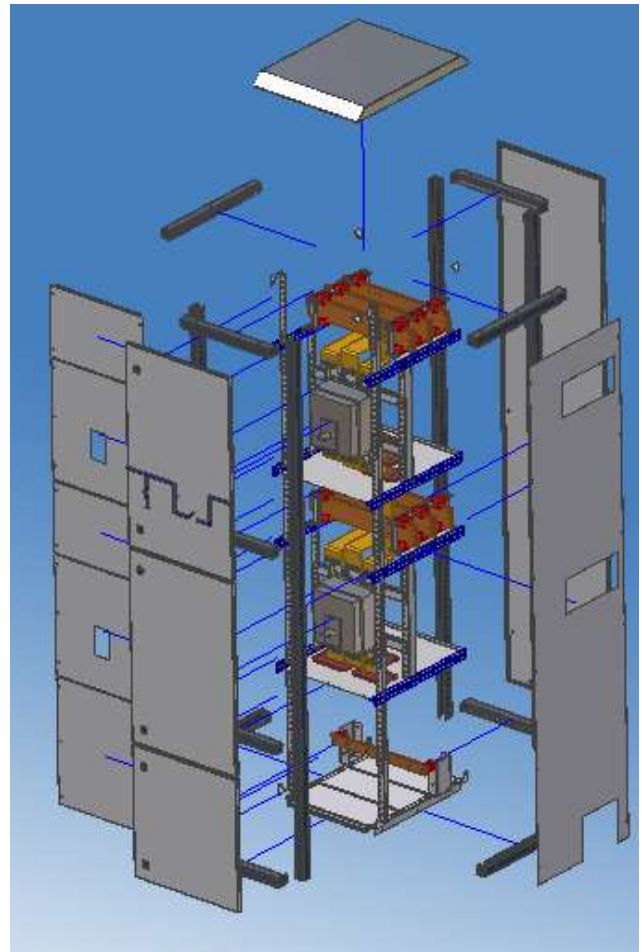
Switchboard may consist of one or multiple panels to obtain a certain operational function with safety operation and to protect the users from electrical hazards



Main Bus bar



N+PE Bus bar



Inner & outer cladding panel



## 5.1- Distribution and Protection Panels

### Series of Distribution and Protection Panels

#### I) S 250 A

##### \* Type:-

- Wall mount
- Indoor or outdoor

##### \*\* Components:-

- **Incoming Feeder:-** Circuit breaker (MCCB) up to 250A.
- **Outgoing Feeder:-** Circuit breaker (MCB) 100A.
- **Bus Bar:-** 25\*10 mm + PE + N

##### \*\*\* Dimensions:-

(H\*W\*D) mm:- Up to 1000\*600\*250 or according to client's requirement.

##### \*\*\*\* Application:-

- Distribution Panel for buildings with smart view.

#### II) S 630 A

##### \* Type:-

- Floor standing.
- Indoor or outdoor.

##### \*\* Components:-

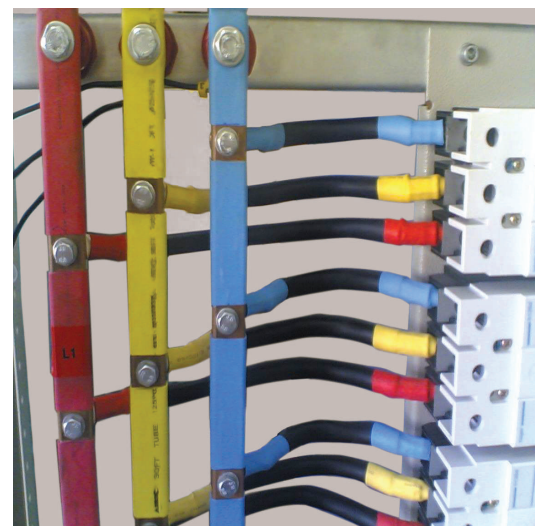
- **Incoming Feeder:-** Circuit breaker from MCCB 250A up to 630A.
- **Outgoing Feeder:-** Circuit breaker MCB or MCCB up to 250A.
- **Bus Bar:-** Up to 40\*10 mm +PE + N

##### \*\*\* Dimensions:-

(H\*W\*D) mm:- Up to 1800\*600\*300 or width up to 900 mm or according to client's requirement.

##### \*\*\*\* Application:-

- Power distribution system where the space is limited.



S 630 A  
Floor standing type

### III) Switchboard Cabinet

#### \* Type:-

- Floor standing.
- Indoor or outdoor.
- Fixed or withdrawable.

#### \*\* Components:-

- **Incoming Feeder:-**
  - \* Circuit Breaker **MCCB** up to **4000A**.
- **Outgoing Feeder:-**
  - \* Circuit Breaker **MCCB** up to **2500A**.
- **Bus bar:-**
  - \* Up to **4\*(1000\*10) mm + PE + N**
  - \* All measurement and protection devices.
  - \* Indication lamps and terminal blocks.

#### \*\*\* Dimensions:-

Switchboard consists of multiple separate panels.

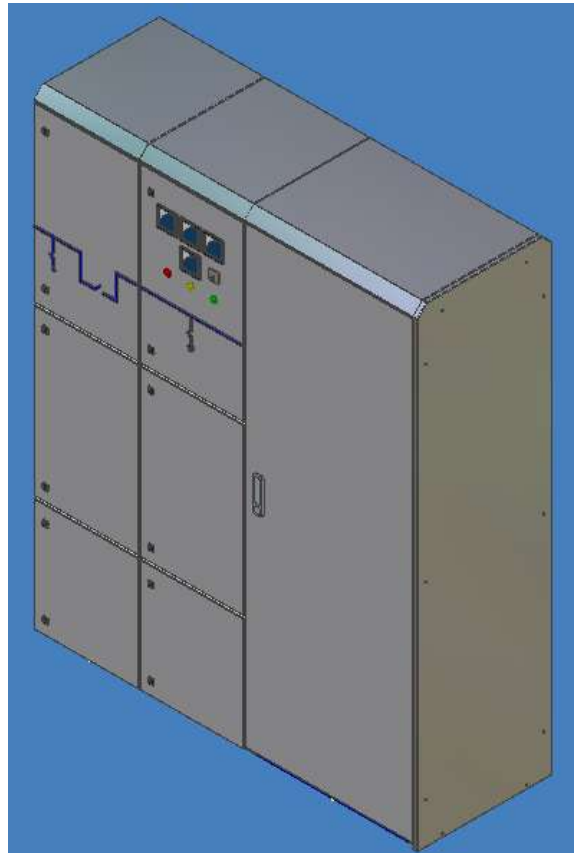
Unit Dimension:-

(H\*W\*D) mm: - from **1800\*600\*400** up to **2200\*1200\*800**

#### \*\*\*\* Application:-

Heavy duty applications, for example:-

- Low voltage distribution substation.
- Power generation substation.
- Automatic transfer system (ATS).
- Main board in a big water substation, etc....

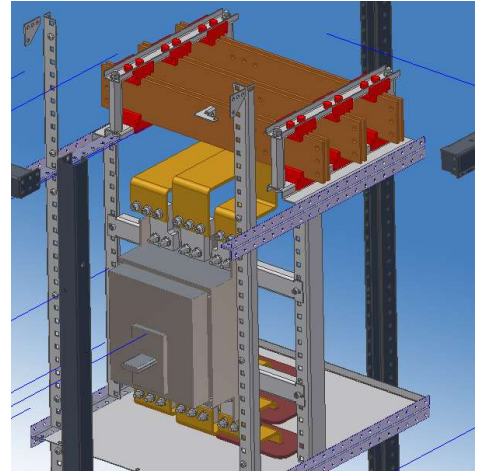


| Technical Data                  |  |
|---------------------------------|--|
| <b>Rated Voltage</b>            | 600 VAC – 3 Phase                        |
| <b>Rated Frequency</b>          | 50-60 Hz                                 |
| <b>Rated Current</b>            | Up to 4000 A                             |
| <b>Dimensions:<br/>H*W*D mm</b> | From 1800*600*400<br>up to 2200*1200*800 |

# General Data

## Low Voltage assembled with switchboards

- 1- Short assembly time, boards come ready for cable connection.
- 2- Flexibility in design and planning due to standard type list switchboard component.
- 3- Compact space-saving design.
- 4- Standard panel sections to permit switchboard extension at any time.
- 5- High protection specification permits installation in all workshops.



### 5.2- Motor Control Center (fixed type).

#### \* Type:-

- Floor standing.
- Indoor or outdoor.
- Fixed.

#### \*\* Components:-

- Fixed circuit breaker **MCCB** up to **800A**.
- Contactors and overload for motor starter.
- Soft Starters.
- Main B.B's:- Up to **2\*(100\*10) mm**
- Sub main B.B's: - Up to **2\*(40\*10) mm**

#### \*\*\* Dimensions:-

(H\*W\*D) mm: - from **1800\*600\*600** up to **2200\*800\*600**

#### \*\*\*\* Application:-

- Motor Starter and Power Distribution in minimal space.

| Technical Data                                    |                            |
|---|----------------------------|
| Rated Voltage                                     | 600 VAC – 3 Phase          |
| Rated Frequency                                   | 50-60 Hz                   |
| Rated Current<br>main Bus bar<br>Sub main Bus bar | Up to 3000 A<br>Up to 800A |
| Dimensions:<br>H*W*D mm                           | According to<br>project    |

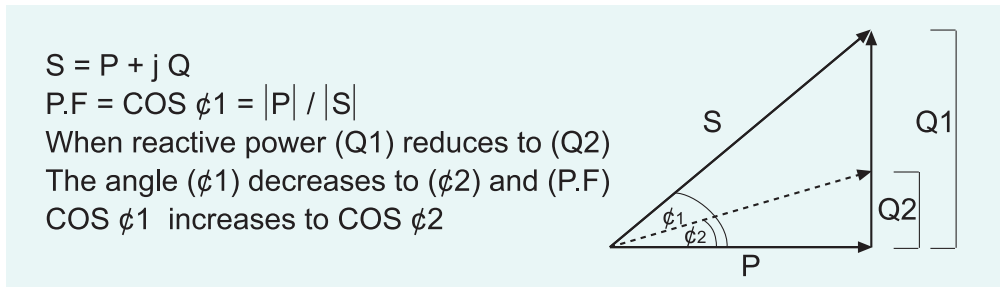


## 5.3- Power Factor Correction panels.

### Why should you install a power factor correction system?

All electrical systems contain active power (used power) and reactive power (unused power). Such power losses must be improved in the network by reducing the reactive power (Q).

**Power Factor (P.F):** is the ratio between active power (P) and apparent power (S)  
(S = Sum of vectors of active and reactive power)

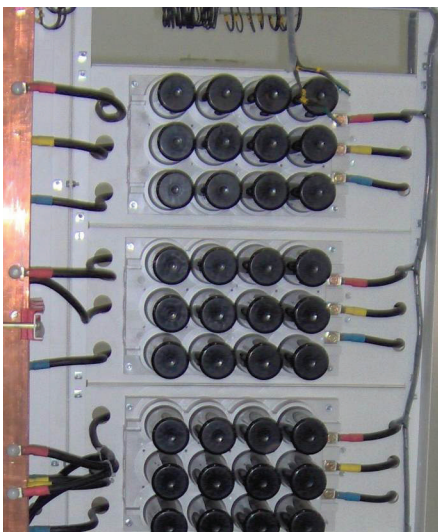


Electrical system is improved by raising the average operating power factor of the network from **0.7** to **0.9**. This means:-

- 1- Cutting costs due to reduced power losses in the network by **40%**.
- 2- Possibility of increasing the production and power distribution of the plant by **30%**.

### Specifications:-

- \* Capacitor bank must be included in the load of the electrical system network.
- \* Capacitor panels are made from high quality **2 mm** carbon steel.
- \* Electrostatic painted with powder-coated epoxy polyester **RAL 7032**.
- \* Protection specification up to **IP 54**.



Capacitor Bank



P.F Controller



Contactors and HRC Fuses

Power Factor Correction Panel

- Low voltage capacitor bank is of a high quality type (VARPLUS from Schneider Electric or German type)
- Low voltage power factor controller is (VAR logic from Schneider Electric or German type)
- Contactors are Telemecanique.

| Technical Data  |                   |
|-----------------|-------------------|
| Rated Voltage   | 400 VAC – 3 Phase |
| Control voltage | 220 VAC           |
| Rated Frequency | 50-60 Hz          |
| No. of Steps    | 4 – 12            |

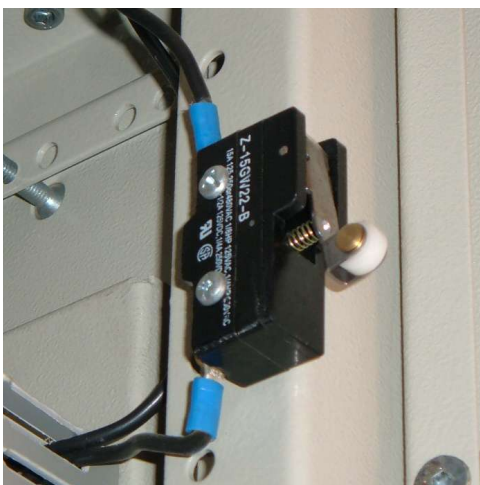
## Electrical Accessories

\* High quality accessories are used such as:-

- Advanced electrical measurement, digital or analog (ammeter - voltmeter - voltmeter selector switches - current transformers - terminal blocks - lamps and push buttons - fuses - ducts - din rail ...etc.)



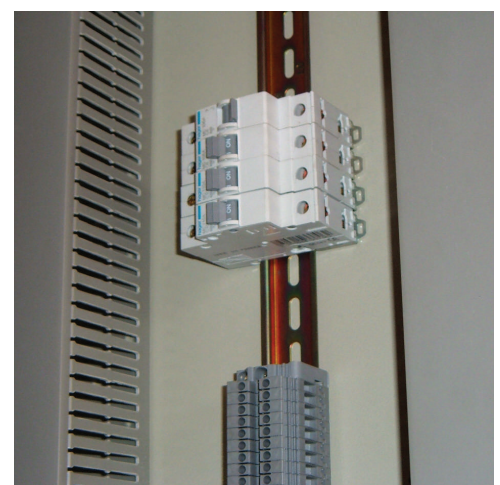
Duct & Power Socket



Limit switch



Measurement devices



Terminal blocks, din rail & MCB

## Mechanical Accessories

\* Locks and all other mechanical and electrical accessories are from 1<sup>st</sup> class suppliers.



Metallic Lock



Metallic Black Lock



Hinge



Drawing Pocket



## 6- Kiosk



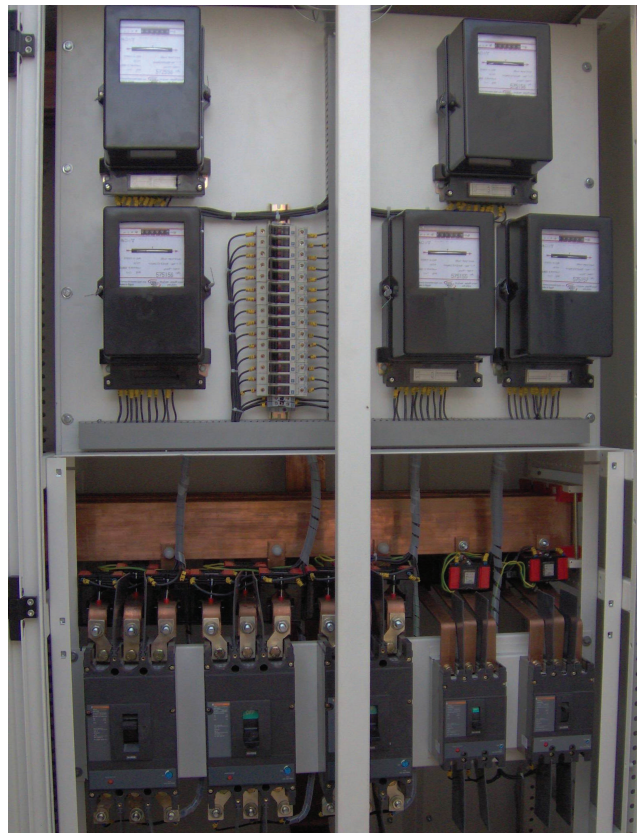
Ring unit inside the Kiosk



Kiosk



Transformer inside the Kiosk



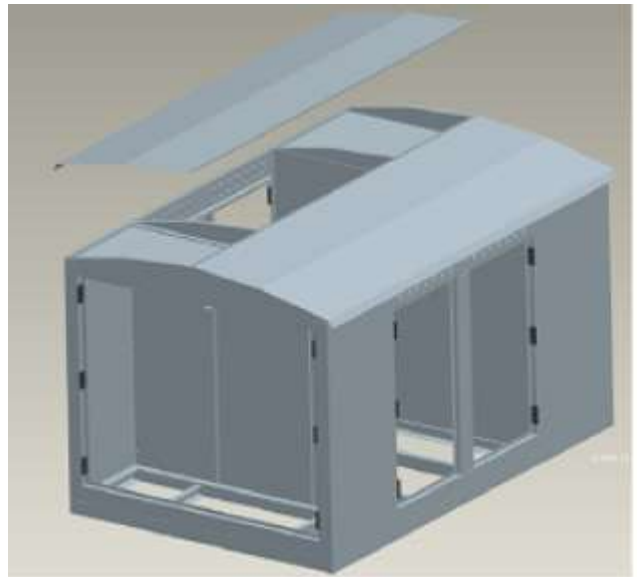
L.V Panel & metering devices inside the Kiosk



## Description:-

### Design Input:

- 1- **MV RMU** 3 or 4 function **SF6 Cells IP 54**
- 2- L.V distribution and capacitor panel.
3. Transformer **IP43**, up to **1500 KVA**  
Dim. up to **L1800xW1300xH1750**



## Specifications & Technical Data:-

### Material:-

**Hot dip galvanized Z 275**, 19 micron coat thickness. **2 mm** material. Whole surface treatment.

**Skid coating:** Marine primer

Marine liquid spray coat

**Skid profile:** U shape **120x55** hot rolled

**Body:** Electrostatic polyester **RAL 7035** texture semi-gloss.

### Fasteners:

**Outdoor:** Stainless steel rivets, screws, washers & nuts.

**Indoors:** Fasteners are 8.8 steel grade with white zinc electroplated protection.

### Hinges & locks:

Heavy duty steel hinges with electrostatic painted.

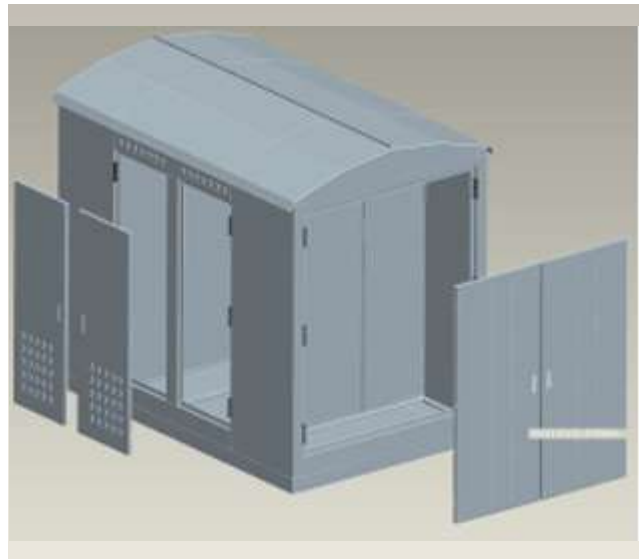
Hinge axis: steel with zinc electroplating.

Hinge could be all S/S with axis (optional)



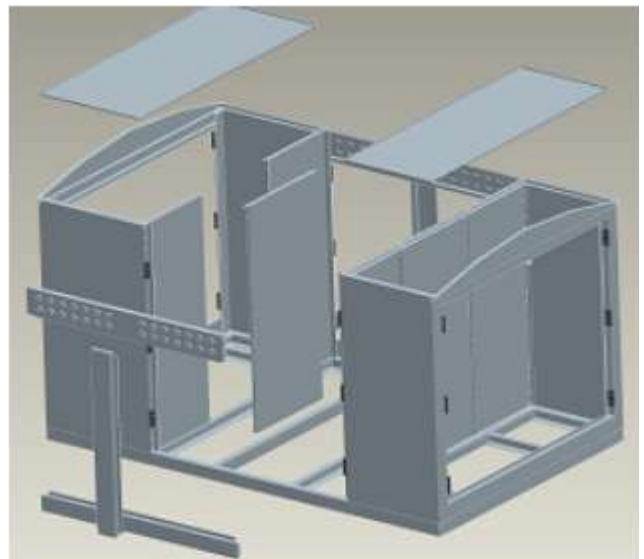
## Gaskets:

- \* All doors lined with rubber gaskets with steel reinforcement used in automotive industry.
- \* Openings for cable in/out are metallic and rubber glands (Could be replaced with aluminum sheets for electrical purposes)



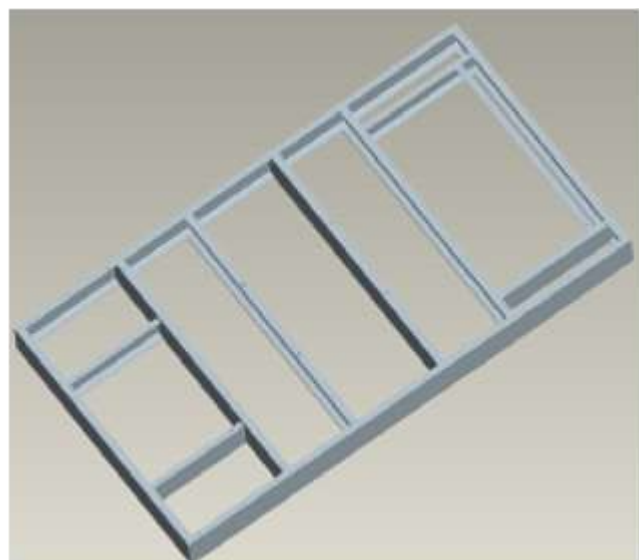
## Roof:

- Minimum number of parts to prevent leakage.
- Joints assembled (not welded) using Polyurethane filler. S/S rivets & covering of joint with S/S U-shaped strip.
- Double roof for MV & LV compartments.



## General:

- All parts receive surface treatment separately.
- All parts are assembled (not-welded) except for door inner reinforcement.
- Spot welding of doors: Sanding before welding.
- Oil drainage:
  - A. Tank in civil.
  - B. Side pipe for drainage.





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