



MV/LV Transformer Substations for  
Distribution Network Solutions

**mb**

Compact equipment assembly  
for transformer substations

Up to 36 kV, 630 kVA

EN 50532 standard

Reliable innovation. Personal solutions.

## Preface

In 1998 **Ormazabal** introduced its range of compact prefabricated transformer substations, to be installed at ground level **miniblok** or underground **minisub**, both consisted of **mb** electrical compact equipment assembly.

Since then the compact prefabricated transformer substations have continuously evolved with enhanced performances, being adapted to the needs of the MV distribution network.

**Ormazabal's mb** is an associated type (A) compact equipment assembly, designed to be installed both in Prefabricated Transformer Substations and in buildings made for Transformer Substations, in public or private distribution networks up to 36 kV.

Thanks to its manufacture, assembly, equipment and testing done entirely at the factory, **mb** offers uniform quality and significant reduction of costs and installation time, making it possible to have an operational Transformer Substation available in a short time.

**mb** compact equipment assemblies are used into several Distribution Network Solutions (DNS) for utilities (public distribution, smart grids...), end users (infrastructures, industry, tertiary) and renewable energies.

The main advantage of these assemblies is their high safety and protection for both persons and property against internal faults, their **IAC classification**, as well as their robustness and reliability.

Currently over 8,500 **mb** have been installed worldwide.

## General

### Compact Equipment Assembly Type A (Associated) according to standard EN 50532:

Assembly whose functional units, located contiguously, are **modified** to obtain non-conventional direct interconnections between them, or to reduce the size of the assembly. Its units can be independent or share part of the enclosure or frame.

The deviations from the standard design maintain its safety, functional and operational characteristics unaltered.

This catalogue shows the type A (associated) **mb** due to the fact that, while maintaining its functional properties, it represents the evolution of the type G (grouped) **mb**, as it has direct connections that offer a higher reliability than the conventional ones in the grouped one.

### Safety

- » High personnel safety against internal arcs, accidental direct contact, touch and step voltage
- » Minimum quantity of dielectric liquid in the transformers: low thermal load

### Reliability

- » Fully factory-assembled
- » Product tested as a unit
- » It can be integrated in **Ormazabal's** compact transformer substations: **miniblok** and **minisub**

### Efficiency

- » Easy to transport due to its reduced dimensions and weight
- » Fast replacement of the electrical equipment in transformer substation

### Sustainability

- » Minimum visual, environmental and acoustic impact
- » Reduced size and versatility
- » Low risk of insulator spillage on the public roads, with no harm to the environment

### Continuous innovation

- » Auxiliary Low Voltage feeder inlet
- » Ideal for use in public distribution networks up to 36 kV
- » Smart-Grids ready equipment

## Standards

### IEC 50532

Compact Equipment Assembly (CEADS)

### IEC / UNE-EN 62271-1

Common specifications for high voltages switchgear and control gear standards.

### On request:

Specific regulations of the Utility

## Technical data

### mb


- » Fully gas insulated Medium Voltage Switchgear: **cgmcosmos**-2lp upto 24 kV or **cgm**.3-2lp up to 36 kV. Electrical diagram (RMU) with 2 feeder functional units, input and output, and a protection functional unit with switch-fuse combination.
- » **Ormazabal** protection, control and metering units (remote control, telemetering, integrated control, telemanagement, etc.).
- » Medium Voltage Distribution Transformer, 250, 400 or 630 kVA.
- » LV Switchgear: Low Voltage Board with 4 outputs, with control and protection unit, as well as an auxiliary safety supply.
- » Direct MV and LV interconnections.
- » Self-supporting frame with lifting device and possibility of installing castor wheels.
- » Earthing circuit connection.
- » Lighting and auxiliary services.

### Technical characteristics

		mb.24	mb.36
Rated voltage	[kV]	24	36
Frequency	[Hz]	50	
Internal Arc	(IAC class)*	16 kA / 0,5 s	
Transformer			
Power	[kVA]	250/400/630	
MV Switchgear			
Rated current	[A]	400/630	
In Busbars		400/630	
Outgoing Line		400/630 (L) 200 (P)	
Short-time current	[kA]	16 / 20	
Insulation level			
Industrial Frequency	[kV]	50 / 60	70 / 80
Lightning impulse	[kV] <sub>peak</sub>	125 / 145	170 / 195


### Low Voltage Board

Rated voltage	[V]	440
Rated current	[A]	1000
Rated current	[A]	400
No. outputs		4

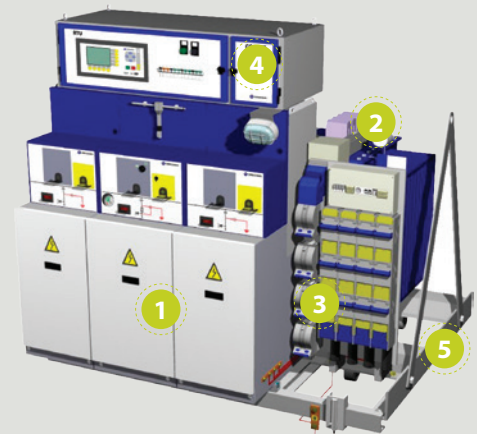
- »  Optionally: Anti-vibration devices and insulating platform.
- (\*) Please consult for the different configurations according to standard project.

### External dimensions and weights

		mb.24		
Power	[kVA]	250	400	630
Width	[mm]	1890	1890	1890
Depth	[mm]	1673	1673	1673
Height*	[mm]	1532	1532	1532
Weight	[kg]	1600	1950	2400
		mb.36		
Power	[kVA]	250	400	630
Width	[mm]	1890	1890	1890
Depth	[mm]	1824	1824	1824
Height*	[mm]	1529	1529	1529
Weight	[kg]	1800	2100	2550

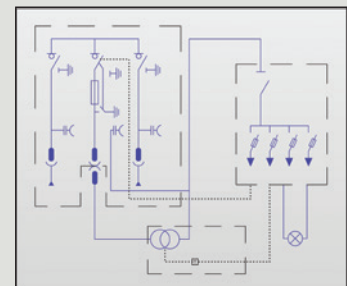
- »  (\*) With castor wheels
- For other configurations, please consult **Ormazabal**

## Design



### mb Associated compact equipment assembly

- 1 MV switchgear up to 36 kV
- 2 Transformer up to 630 kVA
- 3 LV board
- 4 Protection, control and metering units
- 5 Self-supporting frame



## Family

### mb.24



### mb.36

