



MV/LV Transformer Substations for  
Distribution Network Solutions

**mb.m**

Outdoor compact prefabricated metal  
transformer substation

Up to 40.5 kV, 5000 kVA

IEC standards

Reliable innovation. Personal solutions.

## Preface

The **Ormazabal mb.m** is a prefabricated (IEC 62271-202), outdoor, compact, metal transformer substation that is a non-walk-in-type, frame-mounted, installed at ground level, small in size, standard-built, tested and supplied from the factory as a single unit.

It is characterised by the fact that it includes a compact, medium-voltage grouped equipment assembly for use in distribution networks up to 40.5 kV.

**mb.m** is used in various Distribution Network Solutions (DNS) including conventional transformer substations, temporary-use transformer substations, and for renewable energy uses, such as the **mb.m-pv** model intended for PV plants.

## Safety

- » High personnel safety:
  - » Optional: IAC Class-AB 20 kA 1; tested according to IEC 62271-202
- » IP34D: MV enclosure
- » IP1X: Transformer perimeter protection fence (optional).

## Reliability

- » Fully factory-assembled
- » Product tested as a unit
- » Corrosivity category C4 H (ISO 12944-1)
- » Ventilation grilles with dust-collection filter
- » Self-ventilating cover with insulation chamber

## Efficiency

- » On-site quick and simple replacement
- » Easy to transport and operate

## Sustainability

- » Reduced visual impact
- » Reduced dimensions and weight
- » Optional oil collection device

## Continuous innovation

- » Transportable in sea container HC 40'
- » Version for PV applications **mb.m-pv** model

## Standard

**mb.m** designed according to the IEC 62271-202 requirements

## Technical data

### mb.m

- » Outdoor, fully gas-insulated MV switchgear with an independent metal enclosure with front access:
  - » Up to 24 kV: **cgmcosmos** or **ga** systems
  - » Up to 40.5 kV: **cgm.3** system
- » MV/LV **transforma** distribution transformer, dielectric-liquid completely-filled type up to 5 MVA.
- » Medium-voltage interconnections
- » Earthing circuit connection
- » Self-supporting metal frame
- » Optional:
  - » IP1X perimeter protection fence for the transformer unit
  - » Oil collection tank with an incorporated filter
  - » Low-voltage cable support
  - » MV and/or LV terminal cover box on the transformer

### Technical specifications

Rated voltage	[kV]	24	36-40.5
Frequency	[Hz]	50	
Transformer Power	[kVA]	≤5000**	
MV Switchgear Rated current	[A]		
<b>cgmcosmos</b>		400/630	
<b>ga</b>		630	
<b>cgm.3</b>			400/630
Short-time current	[kA/1s]	16/20/25*	
Internal arc classification (optional)		IAC Class AB – 20 kA 1 s	

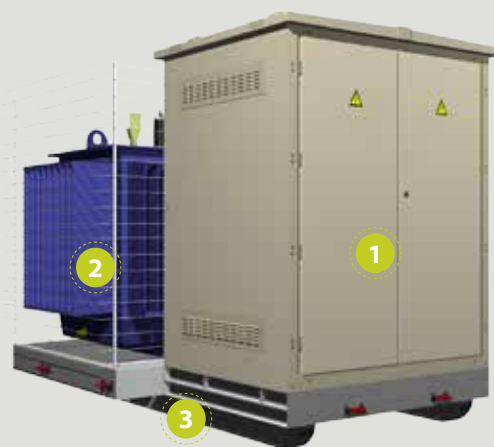
ⓘ (\*) in **cgmcosmos** and **cgm.3**  
(\*\*) depending on the transformer maximum dimensions

### External dimensions and weights (without transformer)

		≤2.5 MVA	>2.5 MVA
Length	[mm]	2997	4925
Width of frame	[mm]	2296	2296
Height	[mm]	2504	2504
Weight <sup>†</sup>	[kg]	1400-2100	2400-3100

ⓘ (†) Weight depending on MV diagram and without optional elements

## Design



- 1 Medium-voltage switchgear
- 2 Transformer unit
- 3 Metal frame assembly



## Configurations available in medium-voltage

**mb.m**: Three feeder functions or two feeder functions and a protection function (protected by fuses or circuit-breakers):

- » **cgmcosmos-3l**, **cgmcosmos-2lp**, **cgmcosmos-2lv**.
- » **cgm.3-3l**, **cgm.3-2lp**, **cgm.3-2lv**.
- » **ga-3k**, **ga-2k1ts**, **ga-2k1lsf** (1400 mm in height, versions 1 and 2).

Optional:

- » **cgmcosmos-2l2p**, **cgmcosmos-4l**, **cgmcosmos-2l2v**.
- » **cgm.3-2l2p**, **cgm.3-4l**, **cgm.3-2l2v**.
- » **ga-4k**, **ga-2k2ts**, **ga-2k2lsf** (1400 mm in height, versions 1 and 2).

Where:

- » l & k = Feeder function
- » p & ts = Fuse protection function
- » v & lsf = Circuit-breaker protection function

ⓘ Note: For other configurations / values contact **Ormazabal**