



ORMAZABAL

Focus on Medium Voltage



**MV Switchgear
Primary Distribution**



CPG.1 Single and double busbar gas-insulated cubicles
Up to 36 kV
CPG System

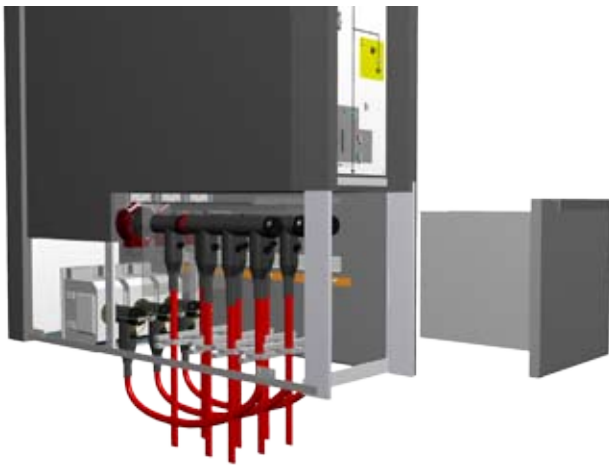


DESCRIPTION

Ormazabal's CPG System includes the **CPG.1** range of GIS Primary Distribution modular cubicles, with Single and Double Busbar, and SF₆ insulated.

Designed mainly to ensure people's safety and reliability of service, the **CPG.1** range contributes to improving electrical distribution in Medium Voltage networks up to 36 kV.

Highly automated manufactured processes, the performance of routine tests across the various phases of the assembly procedure and the use of the most innovative manufacturing techniques assure the highest level of quality in **Ormazabal's** products.



STANDARDS

IEC 62271-001

Common specifications for high-voltage switchgear and controlgear standards.

IEC 62271-200

Alternating current metal-enclosed switchgear and controlgear for rated-voltages above 1 kV and up to and including 52 kV.

IEC 62271-100

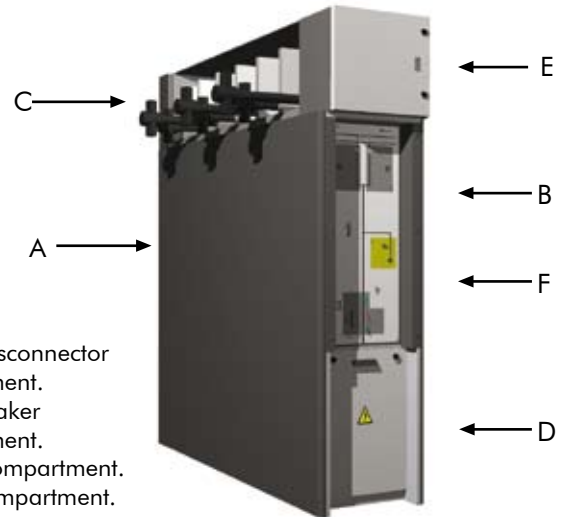
High-voltage alternating current circuit-breakers.

IEC 62271-102

Alternating current disconnectors and earthing switches.

IEC 62271-105

High-voltage alternating current switch-fuse combinations.



- A** Feeder disconnector compartment.
- B** Circuit-breaker compartment.
- C** Busbar compartment.
- D** Cable compartment.
- E** Control compartment.
- F** Operator interface.



FEATURES

- Certification of internal **arc withstand** (up to 31,5 KA / 1s) **Class IAC AFL** in accordance with ICE 62271-200.
- Sealed SF₆-insulated assembly: **Installation**, assembly on site, **extension and replacement without gas handling**.
- **Cable bushings** up to **2000 A** for elbow connectors.
- Complete single and double busbar range up to 36 kV.
- Independent compartmented metal structure with separate switchgear compartments.
- Pressure gauges in each of the switchgear compartments.
- Accessible from the front.
- Driving mechanism areas (automated and manual).
- Modularity and future extensibility.



APPLICATIONS

Designed for use in a wide range of installations, both public and private, its main applications include the following:

- Utilities
 - Primary distribution substations.
 - Switching substations.
 - Mobile substations.
- Industrial sector
 - Cement industry.
 - Chemical and petrochemical industry.
 - Mining industry.
 - Iron and steel industry.
 - Automobile industry.
 - Textile industry.
 - Food industry.
- Large infrastructures
 - Wind farms.
 - Airports and Railways.
- Power stations
 - Substation.

TYPES OF CUBICLES

SINGLE BUSBAR

➤ **CPG.1- V1** (Circuit-breaker Cubicle)



➤ **CPG.1- S1** (Disconnecter Cubicle)



➤ **CPG.1- F1** (Fused Protection Cubicle)



➤ **CPG.1- C** (Longitudinal Busbar Coupling Cubicle)



DOUBLE BUSBAR

➤ **CPG.1- V2** (Circuit-breaker Cubicle)



➤ **CPG.1- S2** (Disconnecter Cubicle)



➤ **CPG.1- F2** (Fused Protection Cubicle)



➤ **CPG.1- CL** (Longitudinal Busbar Coupling Cubicle)



➤ **CPG.1- CT** (Transversal Busbar Coupling Cubicle)



TECHNICAL CHARACTERISTICS

	24 kV	36 kV
Rated current [A]		
General Busbar	Up to 2000	Up to 2000
Outgoing lines	630 / 1250 / 1600 / 2000*	630 / 1250 / 1600 / 2000*
Lightning impulse [kV]		
Between phases and phase-to-earth	125	170
Isolating distance	145	195
Power frequency 1 min [kV]		
Between phases and phase-to-earth	50	70
Isolating distances	60	80
Rated short-circuit breaking current [kV]	25 / 31,5	25 / 31,5
Short-circuit making capacity (peak) [kV]	63 / 80	63 / 80
Rated short-time current [kA – 1/3 s]	25 / 31,5	25 / 31,5
Internal arc withstand [kA – 1 s]	25 / 31,5	25 / 31,5
Combined switch-fuse breaking capacity [kA]	25 / 31,5	25 / 31,5
Frequency [Hz]	50 / 60	50 / 60
IP rating	IP3X	IP3X

(*) For fused protection cubicle = 200 A



PHYSICAL CHARACTERISTICS (Single busbar)

	CPG.1-V1	CPG.1-S1	CPG.1-F1	CPG.1-C
Dimensions [mm]				
Height	2500	2500	2500	2500
Width	600	600	600	600
Depth	2004	2004	2004	2004
Weight [kg]	1100	1000	1000	1400

PHYSICAL CHARACTERISTICS (Double busbar)

	CPG.1-V2	CPG.1-S2	CPG.1-F2	CPG.1-CL	CPG.1-CT
Dimensions [mm]					
Height	2500	2500	2500	2500	2500
Width	600	600	600	1200	600
Depth	2004	2004	2004	2004	2004
Weight [kg]	1400	1300	1300	2800	2200



INTERNAL ARC

Both as a whole and in their various MV compartments, CPG.1 cubicles are designed to withstand an internal arc of 31,5 kA / 1s, in line with the 5 criteria of Appendix A of standard IEC 62271-200 (class IAC-AFL).



SAFETY

- **Protected** against harsh environmental conditions (dust, pollution, humidity, salinity, etc.), **protected** against indirect contacts and long service life provided by its gas insulation, with its **gas insulation**, with the breaking and connection components housed in separated stainless steel switchgear compartments, totally sealed for life.
- **Internal arc withstand**, accredited by means of tests conducted in accordance with the criteria of standard IEC 62271-200.
- **IP rating**: IP65 for the tank, and IP3X for the cubicle assembly.
- **Temperature-compensated monitoring** of the **gas pressure inside each** of the **cubicle** switchgear compartments.
- **Continuous presence / absence of voltage indicator**, with optional contacts for remote display and / or creating electromagnetic interlocks.
- **Whole power circuit fully insulated**, including the cable terminals, and entirely screened, earthed and installed inside a metal enclosure.
- **Ergonomic design, secure access** to the control and signalling areas, located outside the switchgear compartment.
- **Safe, simple** operation.
- **Interlocks** between the switching and breaking components in accordance with the criteria of standard IEC 62271-200.



RELIABILITY

- **Testing, including routine tests** of all equipment in the factory.
- Sealed assembly: **Installation** and **assembly** on site, without gas handling.
- **Circuit-breaker** with **vacuum breaking** technology, compact and with excellent reliability, certified in accordance with standard IEC 62271-100, including extended electrical endurance (class E2) with rapid reclosing cycle, and hence **maintenance-free** during its whole service life.
- **Visual indication** of the switchgear status in the mimic diagrams.
- **No maintenance** on the live parts of the cubicles, which ensures greater continuity of service.
- **Ease and reliability of connecting** the control and signalling circuits via connectors.
- Ormazabal's **protection, metering** and **control** units: ekorRPS-TCP.



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- Transformer Substations up to 36 kV
- Medium Voltage Applications for Renewable Energy
- Medium Voltage Secondary Distribution Switchgear
 - CGMCOSMOS System
 - CGM.3 System
- Medium Voltage Primary Distribution Switchgear
 - CPG System
 - CPA-AMC System
- Protection, Control, Automation and Remote Control
- Distribution Transformers
- Low Voltage Switchgear