

QMT-P Protected Medium Voltage Switchgear

The QMT-P is a secondary power distribution Medium Voltage Switchgear, that is characterized by:

- Guarantee service continuity;
- Guarantee maximum safety;
- An easy inspection and maintenance;
- Minimum overall dimensions;
- Mechanical interlocks for safe procedures;
- Having a possible air or SF6 insulation;
- Modular standardized unit.

Standards and Certifications

International standard	IEC 62271-200, IEC 62271-1, IEC 60529
Italian Standard	CEI EN 62271-200 CEI EN 60529
Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company	CEI 0-16

Constructive Features

Grado di Protezione

External Protection degree	IP 30 (on request higher degree of protection)
Opened doors Protection degree	IP 20

Service and Environmental condition

Type of installation	Indoor
Maximum environmental temperature	+ 50° C
Minimum environmental temperature	- 5° C
Relative Humidity	≤ 90% C



Main Electrical Features

Rated voltage	kV	7,2	12	17,5	24	36
Power frequency withstand voltage (50-60 Hz 1 min.) towards the ground and between phases	kV	20	28	38	50	70
Rated lightning impulse withstand voltage towards the ground and between phases	kV	60	75	95	125	170
Rated current	A	400 ÷ 1250	400 ÷ 1250	400 ÷ 1250	400 ÷ 1250	400 ÷ 800
Short time withstand current 1 sec on main circuits and earth circuits	kA	12,5 ÷ 20	12,5 ÷ 20	12,5 ÷ 20	12,5 ÷ 20	16 ÷ 20
Internal arc withstand	kA	12,5 ÷ 16	12,5 ÷ 16	12,5 ÷ 16	12,5 ÷ 16	16
Classification related to personnel safety in case of internal arc		IAC AFL IAC AFLR				

Cear reserves the right to change technical specifications without notice.

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Switchgear composition

The switchgear is designed for Medium Voltage electrical distribution up to 36kV, for isolation, protection and measurement; on request it could be insulated on air, vacuum or on SF6, even with internal arc proof.

The switchgear is made of folded steel sheets and painted with epoxy powder after degreasing and phosphating treatment.

The M.V. switchgear has a structure composed by one or more compartments for specific functions, as determined by the needs and system configuration.

The protected M.V. switchgear in the standard version, just for electrical distribution, is composed by:

1 - Main busbar compartments:

It is usually put on the upper side of the unit and it is segregated by the other functional units and contains the copper bars that are arranged along the entire length of the framework.

2 - Disconnecter and circuit breaker compartment:

It contains the vacuum circuit breaker with air, vacuum or SF6 gas isolation; the contacts are accommodated in such a way as to be isolated and segregated metallicly to ensure also that the grounding between the cell of the main busbar and cable compartments. It may contain several types of equipment in relation to the functions required by the customer. In the front of the compartment are arranged controls the switch-disconnector, earthing disconnector, the mechanical interlocks, position indicators, and they can be housed auxiliary contacts, release coils and voltage indicators.

3 - Cable compartment:

It contains the terminals for power connection to switch-disconnector contacts in the below side of the equipment. This compartment is protected by a interlocked door, while the switchgear is on service.

4 - Auxiliary circuit compartment:

It is usually located above the switch-disconnector compartment and inside interior is placed across the low voltage equipment of normal use, including accessories and breaker auxiliary compartment such as measuring instruments, protection relay, devices command and signaling devices, fuses, low voltage switches.

Further configurations of the Medium Voltage cubicles may vary the dimensions and housing of the components inside the compartments.

Standard Dimension

The dimensions may vary in function of:

- Type of units that make up the switchgear;
- Internal arc proof version;
- Version with air or SF6 insulation.

