

Cubicle Type Gas Insulated Switchgear

MAX-12 Series N2 Cubicle
Type Gas Insulated Switchgear



Product

Overview

MAX-12 Series N2 Cubic type Gas Insulated Switchgear (N2 Cubicle Type CGIS) is a new generation of switch products with independent intellectual property rights. Independently developed by Nexgrid, it uses slightly positive pressure N2 gas as the insulating medium inside, with vacuum circuit breaker and three-position switch as the main primary components, which are sealed inside the inflatable compartment.

The gas chamber is welded and formed by 3mm thick high-quality stainless steel plate, which is not affected by the environment; it is environmentally friendly, reliable in operation, safe, and compact in structure design, small footprint, free maintenance, long service life, strong environmental adaptability, etc.

MAX series switchgear is a complete set of power distribution equipment for 12kV three-phase AC 50Hz single busbar and single-busbar section system. It is mainly used in power generation companies, small and medium-sized generators for power transmission, power distribution for industrial and mining enterprises, and power system substations for power receiving, power transmission, and starting of large high-voltage motors, etc., to implement control, protection and monitor.

Applicable Standards

IEC 62271-100:2012 High-voltage switchgear and controlgear-Part 100:

Alternating-current circuit-breakers

IEC 62271-105 High-voltage switchgear and controlgear-Part 105:

Alternating current switch-fuse combinations

IEC 62271-102 High-voltage switchgear and controlgear-Part 102:

Alternating current disconnectors and earthing switches

IEC 62271-103 High-voltage switchgear and controlgear-Part 103:

Switches for rated voltages above 1 kV and up to and including 52 kV

IEC 62271-200: 2011 High-voltage switchgear and controlgear-Part 200:

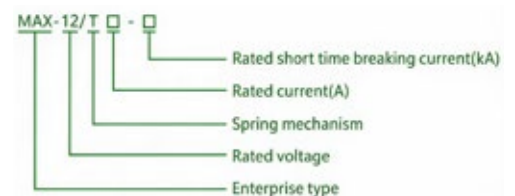
AC metal-enclosed switchgear and controlgear for rated voltage above 1 kV and up to and including 52 kV

IEC 62271-1 : 2007 High-voltage switchgear and controlgear-Part 1:

Common specifications



Model Description

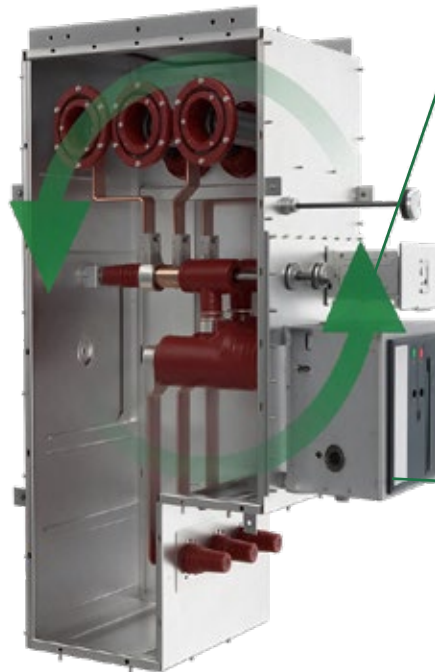


Structure of main components in the cabinet

- ① Main switch mechanism
- ② Isolator mechanism
- ③ Cable compartment
- ④ LV compartment
- ⑤ Buss connection bushing
- ⑥ Isolator
- ⑦ Arc device
- ⑧ Gas tank
- ⑨ Pressure relief device
- ⑩ Protection relay



Diagram of core components



SAX-12/T direct acting three-position switch component
Adopt direct-acting three-position switch, the electric field is evenly distributed, and the dynamic and thermal stability is high.

The three-position switch operating mechanism adopts double-hole operation, with reliable mechanical and electrical interlocking.

The use of modular integrated electric control equipment reduces secondary components and improves control reliability.



VAX-12/T circuit breaker switch assembly
Independent intellectual property rights.
Modular design concept.
Reliable interlock design.

The transmission structure is optimized to further improve the transmission efficiency and reliability.



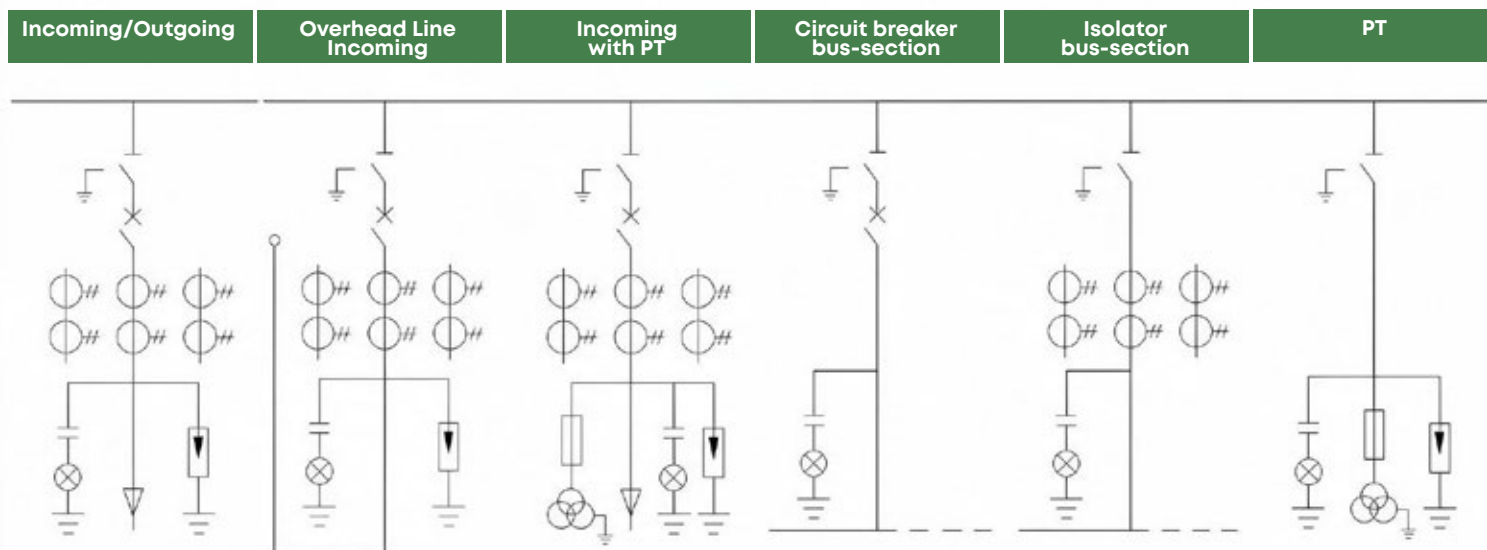
Technical Parameters

MAX-12 Series N2 Cubicle Type Gas Insulated Switchgear

Sr.No.	Description		Unit	Parameter
1	Rated voltage		kV	12
2	Rated frequency		Hz	60
3	Rated continuous current		A	1250/2500/3150
4	Rated insulation level	Power frequency withstand voltage (1min)	kV	42
		Between phase and phase to earth		48
		Across isolating distance		2
		Auxiliary and control circuit		75
		Lightning impulse withstand voltage (Up)		85
		Between phase and phase to earth		
		Across the isolating distance		
5	Rated short-time withstand current		kA/s	25, 31.5, 40/4
6	Rated peak withstand current		kA	63, 80, 100
7	Rated short-circuit breaking current		kA	25, 31.5, 40/4
8	Rated short-circuit making current		kA	63, 80, 100
9	Circuit breaker electrical endurance		Ops	30
10	Rated operating sequence		/	O-0.3s-CO-1.80s-CO
11	Mechanical endurance	Circuit breaker	Ops	20000
		Disconnectors/Earthing switch	Ops	5000
12	Resistance of the circuit	1250A	$\mu\Omega$	≤ 120
		2500A	$\mu\Omega$	≤ 80
		3150A	$\mu\Omega$	≤ 80
13	Rated gas filled pressure (at 20°C)		MPa	0.02
14	Annual leakage rate (relative pressure)		%	$\leq 0.01\%$
15	Insulating gas		/	N ₂
16	Degree of protection	Compartment (IP code)	/	IP2X
		Gas tank (IP code)	/	IP67
		Enclosure (IP code)	/	IP41
		Enclosure (IK code)	/	IK10
17	IAC classification		/	A FLR 31.5 kA/1s, 40 kA/0.5s

Basic Modular

Configuration



Dimension

Rated current (A)	1250	2500	3150
Width (mm)	600	800	1000

Technical requirements

L switchgear width (mm)	600	800	1000
L 1 anchor hole (mm)	430	630	830

1. The switchgear can be bolted or welded to the foundation channel.
2. Ensure That the laying of foundation channel steel is smooth, and he irregularity shall not be greater than 1 mm per meter.
3. The foundation shall be able to withstand the maximum static load of the switchgear of 2000kg and the maximum impact load of 3000kg.



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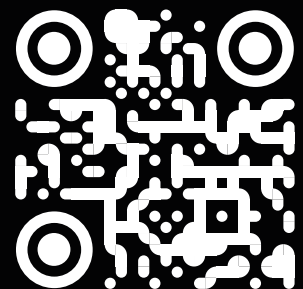
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