

Disconnecter

For Medium Voltage



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NIKUM offers complete range of Disconnectors or popularly known as Air Break Switch or Isolator or GO switch with manual and motorised application. With time, our product has proven to be one of the most reliable and trusted by distribution utilities.

These devices have been identified as one of the most critical in terms on maintenance and safety. We take pride to announce that our product confirms to latest IEC and IS standards with all necessary safety interlocks.

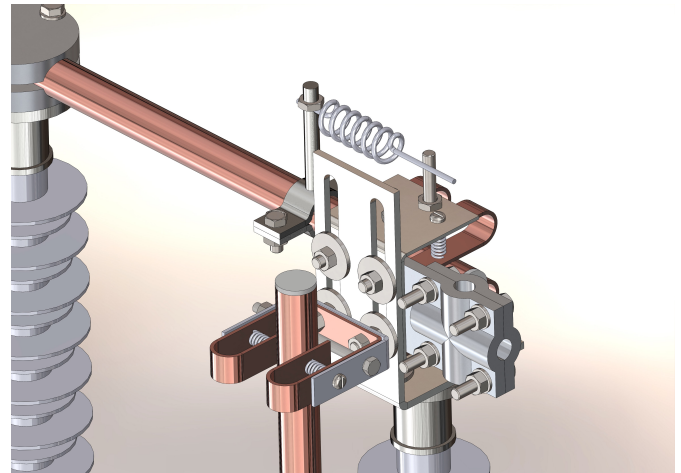
Made for perfection

Disconnectors demand high mechanical precision due to their direct exposure to environmental conditions. As a manufacturer NIKUM is committed to follow strict manufacturing guidelines always taking care to minimise tolerances on ever piece.

We are ISO 9001:2015 compliant. Every single product that goes out from factory has to pass stringent routine tests. This product is also extensively type tested in independent NABL laboratories.

Smart Grid ready

We understand that need to the hour is not only limited to successful device operation but also device visibility in grid. Our disconnectors have well adapted to changing trends in data driven technology. These disconnectors host a motorised mechanism with a smart controller compliant to latest IEC standards.



Short circuit performance

Disconnect switches are most prone to failure due to heavy short circuit currents flowing during fault conditions.

To keep optimum contact pressure the female contact fingers are spring loaded. Our disconnectors have proprietary design which takes care of the current flow direction and forces the contacts to exert additional pressure due to magnetic forces produced due to high current during any short circuit conditions.



Design and technology

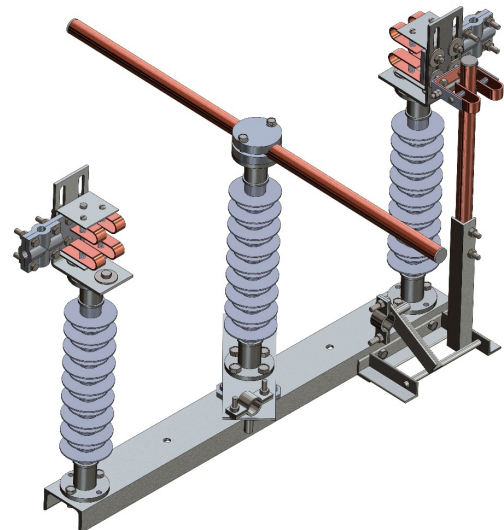
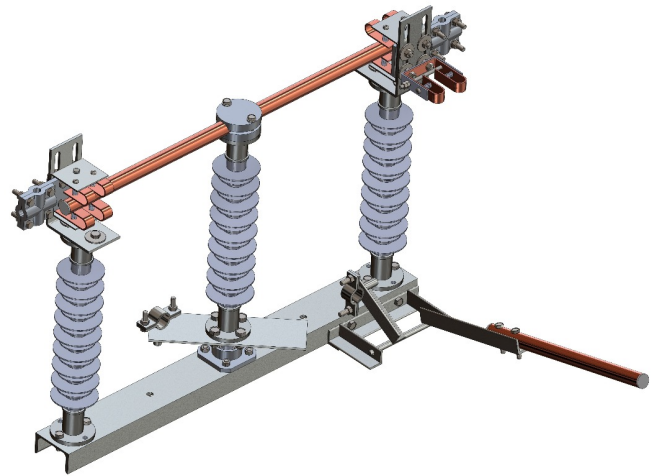
Main blade of disconnector comes in two configurations - With Earth Switch and Without Earth switch. In substation application, Earth Switch are deployed on disconnectors on Incoming/Outgoing lines.

In normal position, the main blade is closed and earth switch is disengaged as shown in top right picture. During maintenance operations, the main is opened and earth switch is engaged to avoid any back feeding or grounding of stray charges from the line.

Though disconnectors come in variety of configurations, the most common of them is 3 Pole per blade configuration where centre pole is rotation type. This arrangement is also termed as horizontal double break. The male contact consists of a electrolytic grade plated copper pipe which gets fixed into the female fingers made of same material. The fingers are spring loaded to provide adequate pressure on main contact. The alignment of male-female contact can be straight or turn-twist depending on requirement.

As no arc quenching technique is provided in isolator it must be operated when there is no chance current flowing through the circuit. No live circuit should be closed or open by isolator operation.

A complete live closed circuit must not be opened by isolator operation and also a live circuit must not be closed and completed by isolator operation to avoid huge arcing in between isolator contacts. That is why isolators must be open after circuit breaker is open and these must be closed before circuit breaker is closed. Isolator can be operated by hand locally as well as by motorised mechanism from remote position. Motorised operation arrangement costs more compared to hand operation; hence decision must be taken before choosing an isolator for system whether hand operated or motor operated economically optimum for the system.





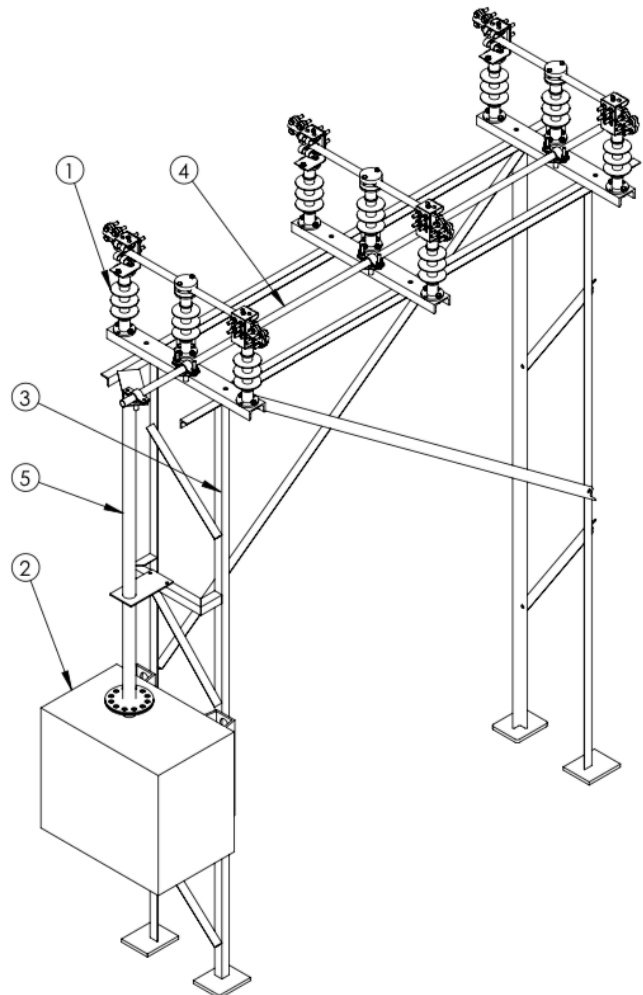
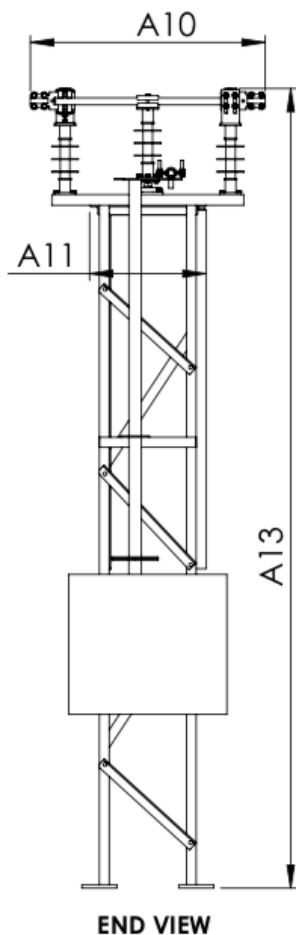
Technical Specification

Parameter	12KV Disconnecter	36KV Disconnecter
Rated voltage	11KV	33KV
Maximum Operating voltage	12KV	36KV
Power frequency withstand for 60s (Dry)	32 KV rms	85 KV rms
Power frequency withstand for 60s (Wet)	32 KV rms	85 KV rms
Lightning Impulse withstand voltage	85KVp	185KVp
Rated current	400A, 630A, 800A	630A, 800A, 1250A
Short circuit withstand (1 second)	Up to 21kA	Up to 26kA
Short circuit withstand (3 second)	Up to 12.5kA	Up to 16kA
Peak Withstand current	Up to 52.5kA	Up to 65.0kA
Rated frequency	50/60 Hz	50/60 Hz
Operating temperature range (degree centigrade)	-10 to 55	-10 to 55
Humidity	Up to 100%	Up to 100%
Minimum creep age distance (mm)	320	900
Number of breaks per pole	2	
Switch Class	M2/E2	
Insulator type	Polymer / Porcelain	
Weight	As per design	
Operating mechanism	Manual or Motorised	
Rated auxiliary/control supply	110V AC, 230V AC, 24V DC, 110V DC, 220V DC	
Rated power supply (For motor operation)	230V AC Single Phase 415V AC Three Phase 24V DC	
Design standard	IS 9921, IEC 60265	
Communication Interface (Only SCADA compatible models)	RS232, RS485, RJ45/Ethernet	
Communication protocol (Only SCADA compatible models)	MODBUS RTU, MODBUS TCP, IEC 104, IEC 61850	



Ordering information & Installation layout

Letter	Parameter	Information
1	Model	P : Manual Operated N : Motorised Type
2	Rated voltage	1 : 11KV 3 : 33KV
3	Rated Current	A : 400A B : 630A C : 800A D : 1250A
4		-
5	Earth Switch	U : Without Earth Switch X : With Earth Switch



ITEM NO.	DESCRIPTION	QTY.
1	Isolator 11KV without Earth Switch	3
2	Control Panel for 11KV Isolator	1
3	Structural foundation for mounting purpose	-
4	Phase Coupling pipe Assy. (OD-0.75in.) (G.I. pipe)	1
5	Operating pipe Assy. for Isolator (OD-1.25in.) (G.I. pipe)	1

NOTE: ALL M.S. STRUCTURE COMPONENTS ARE HOT DIP GALVANIZED

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