

Polymer Arresters

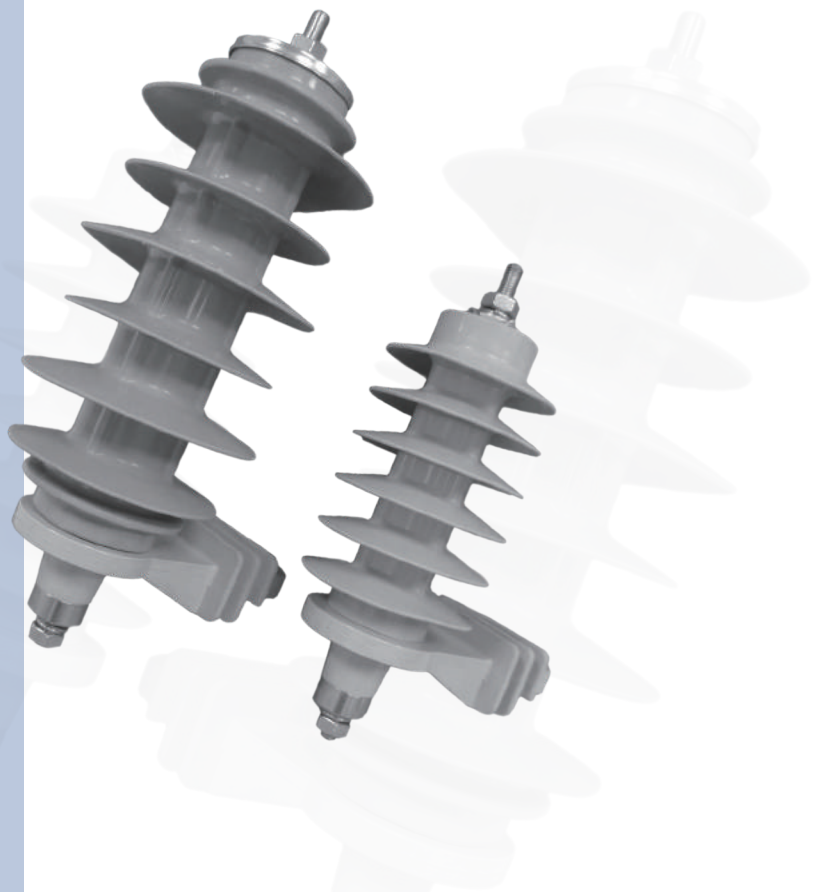
The JK-53 and JK-54 series arresters are composed of superior quality zinc oxide components and are applicable to overhead distribution lines with a nominal voltage of 11.4/22.8 kV, power distribution equipment such as transformers, cables, switchboards, and electrical equipment such as overvoltage protection devices.

The JK series is in the normal duty distribution class and offers significant improvements in protective characteristics and 60 Hz temporary overvoltage (TOV) capability for all common overhead and riser-pole applications in accordance with the IEC60099-4 and IEEE C62.11 standard.

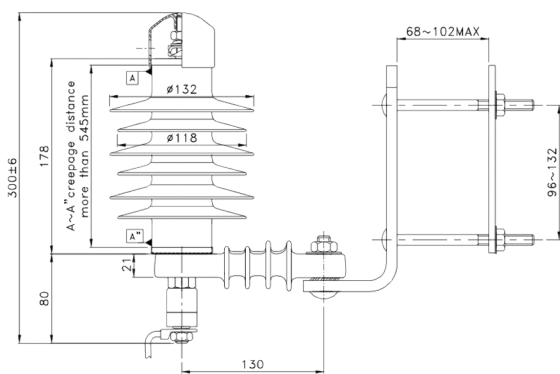
The arrester is covered with an RTV silicone rubber jacket and is injection molded and chemically bonded to the arrester's metal oxide component. It is hydrophobic and has salt-damage protection, dust-damage protection, and excellent ultraviolet sunlight resistance. The insulator creepage distance of 25 mm/kV is in accordance with the IEC 60815 standard for highly polluted areas (heavy class), and it is suitable for contaminated environments.

Construction

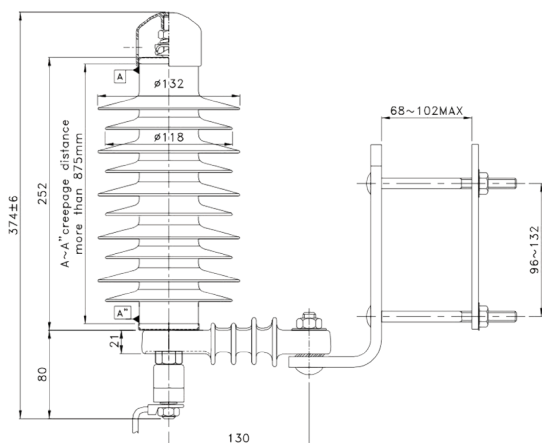
- The JK series is based on a cage of pre-stressed fiberglass rods for high mechanical strength. In the extremely rare event of the resistors being overloaded, arcing cannot result in the build-up of critical internal pressure because the resistors are not enclosed in a sealed mechanical shell. Thus, the arc can escape through the silicone sheath, leaving the mechanical support structure of the enclosure unharmed, thereby reducing the risk of internal components being ejected.
- The components of the arrester module assembly consist of metal oxide varistors (MOVs) that withstand the system voltage during steady-state conditions. The components are assembled with a strict quality control process.
- The combination of these technologies allows the surge arrester to be impervious to moisture and capable of withstanding extreme electrical, environmental, and cantilever load conditions.
- Following assembly, each arrester is subjected to a battery of electrical tests to ensure the highest quality and in-service field performance.



Dimensions



JK-53



JK-54

Specifications

Type		JK-53	JK-54
Duty- cycle voltage (kV)		9	18
MCOV RMS (kV)		7.65	15.3
Discharge voltage -current characteristic @ 8/20 μ s (kV)	5 kA	30	60
	10 kA	35	68
	20 kA	40	76
High-current short-duration withstand current @ 4/10 μ s (kA)		100	
Short circuit withstand current (kA)		20	
Impulse voltage 1.2/50 μ s (kV)		75	125
Power-frequency withstand voltage RMS (kV)	dry 1min	27	42
	wet 10s	24	36

Characteristics

- The arrester offers all the advantages of a metal oxide distribution arrester in a light-weight, low-profile polymeric housing designed for either indoor or outdoor overhead applications. The polymeric housing eliminates the problem of chipped or cracked porcelain that can occur with rough handling or shipping.
- Superior transient overvoltage (TOV) and excellent overvoltage surge protection characteristics.
- The failure mode of the arrester is less severe than that of porcelain housed units. During the violent failure mode of porcelain housed arresters, an internal arc from excessive fault current causes thermal fracture of the porcelain housing. The hot gases created by the arc explode, sending porcelain fragments in all directions. On the other hand, a polymer housing will split open during failure conditions to relieve the internal pressure. Safety (light weight for handling and installation)

- 1,000 h climatic aging test

The polymer housing of the arrester is required to pass 1,000 h of an accelerated aging test. The tests are conducted in accordance with the IEEE C62.11 standard.

- Ground lead disconnecter

The purpose of this component is to allow a failed (shorted) arrester to automatically disconnect from the line. It helps prevent line lockout by disconnecting a failed arrester from the system and serves as an indication device that shows that the failed arrester requires a replacement. The ground terminal clamp will accept the same cross-section as that of conductors on line terminals. A 22 mm² grounded lead composed of soft copper wire is recommended.