

Features

- Zforce™ mold-on polymer housing for the ultimate seal against moisture ingress
- High strength fiberglass wrap for high fault-withstand design
- Integrated Ground Lead Disconnect for fast, reliable operation. Operates in less than 2 seconds at 1 amp and less than 2 cycles at 1,000 amps

Zforce™ ZNP (5kA Normal Duty Polymer)

Zforce™ ZHP (10kA Heavy Duty Polymer)

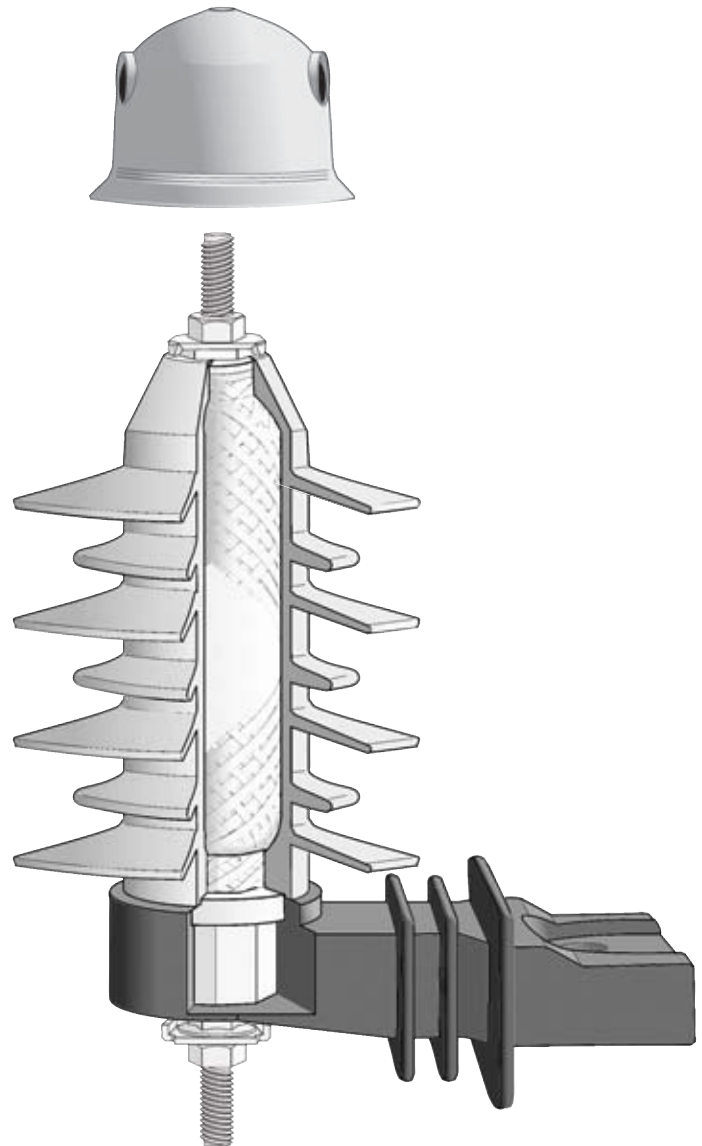
Zforce™ ZRP (10kA Riser Pole Polymer)

Durability

Heavy Duty and Riser Pole Distribution Class arresters have been called upon to serve in the most demanding of applications. Typically unshielded, overhead lines can produce some of the most severe lightning surges on the power system. MPS distribution arresters are designed to meet the demands of protecting underground and overhead equipment, respectively. Tested in accordance with the latest industry standard, ANSI/IEEE C62.11-2005 for metal oxide arresters, Zforce™ distribution arresters withstand the following minimum design tests:

Zforce Design Performance:

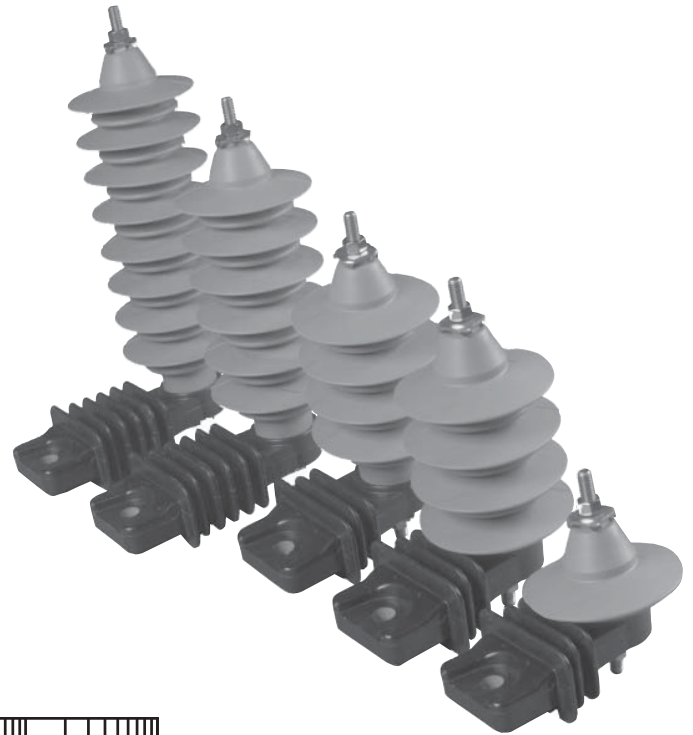
- High Current Short Duration
 - ZNP - 65kA
 - ZHP & ZRP - 100kA
- Low Current Long Duration
 - ZNP - 150A
 - ZHP & ZRP - 250A
- Duty Cycle per ANSI
 - ZNP - 5kA
 - ZHP & ZRP - 10kA
- Nominal Discharge Class per IEC:
 - ZNP - 5kA
 - ZHP & ZRP - 10kA, Class 1
- Minimum Switching Energy Capability (2 Surges)
 - ZNP - 2.2kJ/kV MCOV
 - ZHP - 2.7kJ/kV MCOV
 - ZRP - 2.2kJ/kV MCOV
- Lightning Energy Capability (1 Surge)
 - ZNP - 2.3kJ/kV MCOV
 - ZHP - 3.4kJ/kV MCOV
 - ZRP - 2.7kJ/kV MCOV
- Fault Withstand Capability
 - ZNP - 10kA
 - ZHP & ZRP - 20kA
- RUS Listed





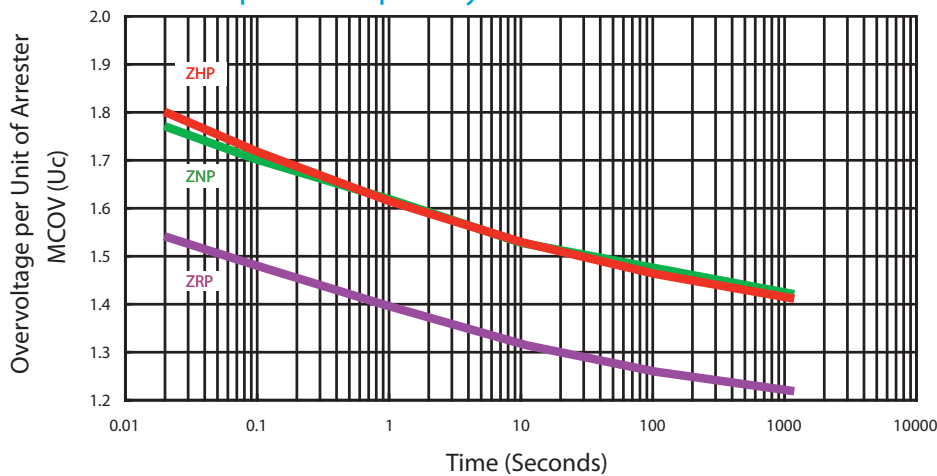
Terminal Connection

Distribution arrester line terminals utilize a stainless steel four corner “Star Clamp” for maximum conductor range and speed of installation. The ground terminals utilize a stainless steel “U clamp”. Both connectors securely clamp aluminum or copper conductors from No. 10 solid through 2/0 stranded. MPS specifies that no more than 20 ft/lbs of torque be applied to the line and ground terminals.



Duration (sec)	Voltage P.U. of MCOV (Uc)		
	ZNP	ZHP	ZRP
0.02	1.77	1.80	1.54
0.10	1.70	1.73	1.48
1.00	1.61	1.63	1.40
10	1.52	1.54	1.31
100	1.47	1.47	1.26
1000	1.42	1.43	1.22

TOV Graph and Capability 3kV to 36kV



Zforce ZNP™ (5kA Normal Duty Polymer)

Physical Characteristics														
kV	Creepage ¹		Strike		A		B		C		D		Weight ²	
	In	Mm	In	Mm	In	Mm	In	Mm	In	Mm	In	Mm	Lb	Kg
9	15.04	382	7.69	195	8.83	224	4.00	102	7.71	195	3.93	100	2.90	1.32
10	17.41	442	8.00	203	9.14	232			8.02	204			3.00	1.36
18	26.59	675	11.23	285	12.23	311			11.16	283			5.43	138

Electrical Characteristics										
Voltage Rating (Ur) (kV-rms)	MCOV (Uc) ³ (kV-rms)	Max Equiv FOW ⁴ (kV-Crest)	Max Switch Surge ⁶ (kV-Crest)	Maximum Discharge Voltage (kV-Crest) Using an 8/20 μs Current Impulse						
				1.5 kA	2.5 kA	3.0 kA	5.0 kA	10 kA	20 kA	
9	7.65	29.9	23.7	25.4	26.2	26.6	28.2	30.5	33.8	
10	8.4	32.9	26.3	28.1	29.2	29.6	31.3	33.9	37.4	
18	15.3	59.7	47.4	50.7	52.3	53.1	56.4	61.0	67.5	