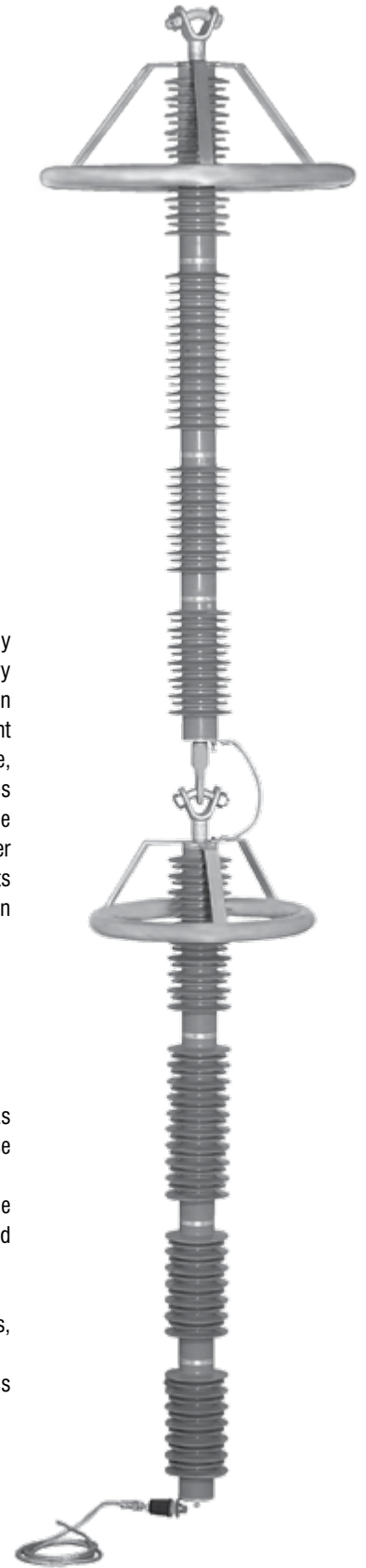


type **PBPE-LT**



The electric systems constant evolution demands from the utilities a more and more stable and reliable energy supply. Electric energy transmission lines are vital elements to assure this reliability, and are subject to temporary power blackouts, due to the atmospheric discharges, which cause insulator flashover and make the substation switchgear to turn the line off. Balestro's Transmission Line Arresters (TLA) have been designed to have an excellent performance regarding the protection against the transmission line overvoltages, to be directly suspended on the line, for the protection of the suspension and dead-end insulators against flashover caused by atmospheric discharges and reduce the overvoltages of line conductors, such as those ones which were caused by atmospheric discharge and those others which were caused by switching. The Transmission Line Arresters (TLA) PBPE-LT type offer optimized protection characteristics, great mechanical resistance and high resistance to weather ageing, due to its silicone rubber housing and the sealing system of the active part which prevents the humidity penetration, even in conditions of extreme pollution and bad weather.

Advantages

- Lower discharge voltage levels optimizing the insulation coordination;
- High energy absorption capability, adequate to critical applications;
- Electric characteristics stability even in severe duty conditions;
- High resistance to bad weather, pollution, sea fog, tides and winds, etc; the silicone rubber housing, which has already been well established in surge arrester application, has shown its excellent performance under these conditions, both in tests and field;
- As being a non-fragmentary project, the construction of the active part with no air gaps avoids the explosion of the housing in fault conditions, and the damages this condition might cause, particularly appropriate to the suspended installation required in transmission lines, not posing risks under the lines;
- High mechanical resistance;
- Low weight, due to the project with polymer housing, allows the installation directly in the already existing lines, without needs of modification in the line structures;
- Disconnecter device properly adjusted to the service duties imposed in the application in transmission lines (class 2), to take the arrester off of the system in case of its fault, assuring the line service's continuity;
- Transmission lines reliability increase by reducing the line outages and consequently with a life cycle increase in the substation switchgears, which will operate less often.

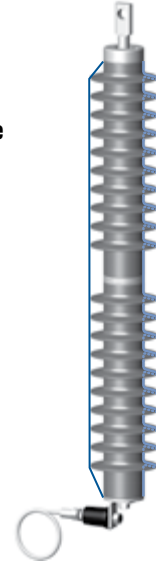
type PBPE-LT

Ordering Code for the Balestro Polymeric Transmission Line Arresters

Balestro Polymeric Transmission Line Arrester		Nominal Discharge Current	Housing Type
PBPE 36/10/2/H/P-LT		A - 350N.m e 20kA de ICC P - 1000N.m e 40kA de ICC	N - Until 20mm/kV M - 25mm/kV H - 31mm/kV
Rated Voltage	Transmission Line discharge class	Cantilever Resistance and ICC	Type of application

Dimensions

- Arc Distance
- Leakage Distance



Main Characteristics

Model	A	P
Rated Voltages U_r (kV)	Between 21 and 120	Between 21 and 192
Nominal Discharge Current (kA)	10	10
Transmission Line Discharge Current (IEC 60099-4)	2	2
Short Duration High Current Impulse Withstand 4/10 μ s (kA)	100	100
Long Duration Low Current Impulse Withstand 2000 μ s (A)	550	550
Energy absorption capability according to the operating duty cycle test (injected in two line discharges class 2) (kV de U_c)	5,5 kJ/kV of U_c	5,5 kJ/kV of U_c
Short Circuit Current Class (Fault Current) (kArms - s)	20 - 0,2	40 - 0,2
Resistance to Traction/ Compression (N)	1150	1500
Cantilever Resistance (N.m)	350	1000
Resistance to Torsion (N.m)	70	70
Temporary Over Voltages (TOV) with previous Energy Application (as per in the operation duty cycles test)	1,47 pu of U_c for 1s 1,37 pu of U_c for 10s 1,29 pu of U_c for 100s	1,47 pu of U_c for 1s 1,37 pu of U_c for 10s 1,29 pu of U_c for 100s

Electrical Characteristics

Model	Rated Voltage Ur (kV)	Continuous Operating Voltage Uc (kV)	Discharge Voltage for Nominal Discharge Current 8/20 μ s (kV)	Switching Residual Voltage at 500A (kV)	Steep front Residual Voltage, 10kA (kV)	Housing		Weight (kg)
						Arc Distance (mm)	Leakage Distance (mm)	
PBPE 21/10/2/N/X-LT	21	17,0	54,8	44,2	63,0	280	535	4,5
PBPE 21/10/2/H/X-LT	21	17,0	54,8	44,2	63,0	280	800	4,9
PBPE 36/10/2/N/X-LT	36	29,0	94,0	75,9	108,1	380	750	5,0
PBPE 36/10/2/H/X-LT	36	29,0	94,0	75,9	108,1	380	1.140	5,7
PBPE 60/10/2/N/X-LT	60	48,0	156,6	126,4	180,1	660	1.295	9,5
PBPE 60/10/2/M/A-LT	60	48,0	156,6	126,4	180,1	660	1.940	10,5
PBPE 60/10/2/H/X-LT	60	48,0	156,6	126,4	180,1	750	2.280	11,3
PBPE 72/10/2/N/X-LT	72	58,0	187,9	151,7	216,1	750	1.480	10,0
PBPE 72/10/2/H/X-LT	72	58,0	187,9	151,7	216,1	750	2.280	11,5
PBPE 120/10/2/N/X-LT	120	98,0	320,0	258,2	368,0	1.120	2.595	18,0
PBPE 120/10/2/M/X-LT	120	98,0	320,0	258,2	368,0	1.120	3.880	20,5
PBPE 120/10/2/H/X-LT	120	98,0	320,0	258,2	368,0	1.330	4.450	24,0
PBPE 192/10/2/M/P-LT	192	154,0	520,0	427,0	598,0	1.827	6.585	55,0

Due to constant development, this information may be changed without notice. Other models on request.

Accessories

Suspension Clamps

This part is made of aluminum alloy, appropriate for use with aluminum cables (ASC or ACSR). Peça manufaturada em aleação de alumínio, apropriada para uso com os condutores de alumínio ou do aço/alumínio (CA ou CAA).



NOTE: In case you need the suspension clamps (sold on demand), please specify the ref. number according to the conductor diameter on the line.

Ref.	Clamping Range (mm)	Ultimate Strength (kgf)
1	5-11	3,000
2	8-19	6,500
3	17-29	6,000
4	28-38	6,500
5	35-45	7,500

Protection ring

Only used in surge arresters which start from 120kV.



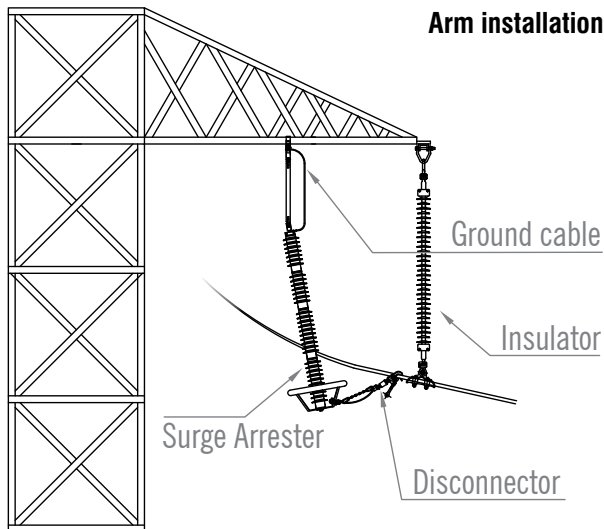
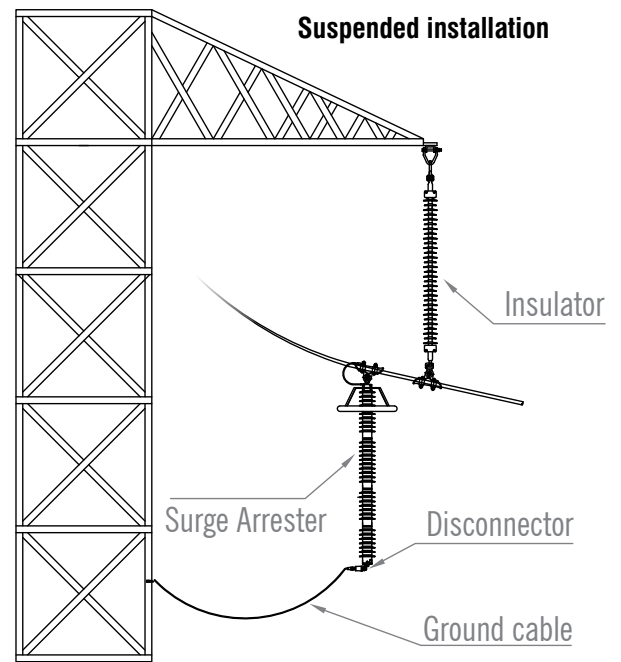
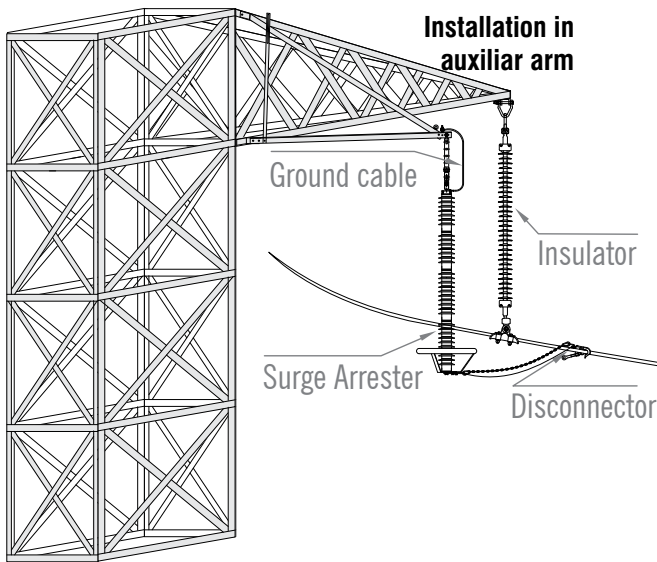


Line Arrester

Polymeric Transmission (TLA)

type **PBPE-LT**

Install Modes



For each type of installation the surge arrester configuration will be different.
 Acessories can be supplied with the surge arrester please contact us for more information.

04/2015



Desde 1997



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Tel: +55 19 3814 9000
balestroventas@balestro.com.br
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