

Transformer and Medium Voltage Equipment Applications
Indoor and Outdoor Use

P+ TYPE



Jun/2023

Heavy Duty Arresters

Heavy Duty Arresters to Distribution IEEE ANSI C62.11, IEC 60099-4 and ABNT-NBR 16050.

Electrical	ANSI	IEC	NBR
Nominal discharge current	10kA	10kA	10kA
Designation	Heavy Duty	Distribution High	Class 1
Short-circuit current	20 kA	20 kA	20 kA
Frequency	48 to 62 Hz	48 to 62 Hz	48 to 62 Hz
High current impulse	100 kA	-	100 kA
Long-duration current	250 A / 2000 μ s	-	250 A / 2000 μ s
Repetitive charge transfer rating (Qrs)	-	$\geq 0,4$ C	-
Thermal charge transferrating (Qth)	-	$\geq 1,1$ C	-

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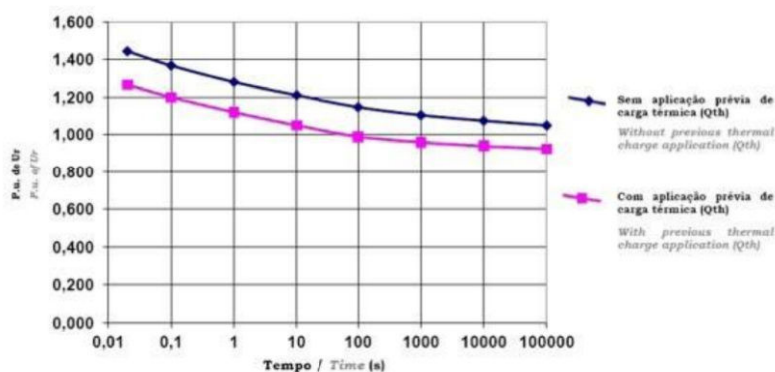
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Heavy Duty Arresters Characteristics

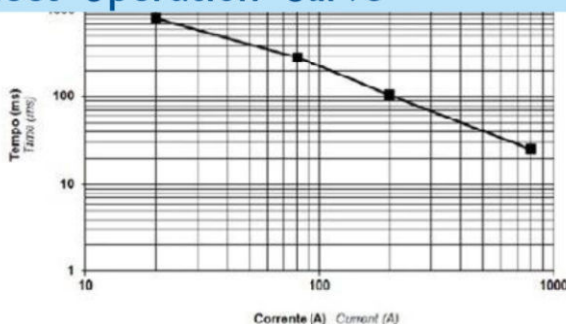
Duty cycle [kVrms]	Maximum Continuous Operating Voltage (MCOV/Uc) [kVrms]	Maximum Residual Voltage [kVpk]						
		8/20 μ s					1 μ s	30/60 μ s
		1.5 kA	3 kA	5 kA	10 kA	20 kA	10 kA	500 A
3	2,55	7,3	7,8	8,2	9,4	10,0	10,4	7,6
6	5,1	14,6	15,5	16,4	18,8	20,1	20,7	15,2
9	7,65	21,9	23,3	24,6	28,1	30,2	31,2	22,7
10	8,4	24,3	25,9	27,4	31,3	33,5	34,7	25,6
12	10,2	29,2	31,1	32,9	37,5	40,2	41,6	30,3
15	12,7	36,5	38,8	41,1	46,9	50,3	52,0	37,9
18	15,3	43,8	46,6	49,2	56,3	60,3	62,4	45,5
21	17	51,0	54,4	57,5	65,6	70,5	72,7	53,0
24	19,5	58,3	62,1	65,7	75,0	80,5	83,1	60,6
27	22	65,6	69,9	74,0	84,4	90,5	93,6	68,2
30	24,4	72,9	77,7	82,1	93,8	100,6	104,2	75,8
33	28	80,2	85,4	90,3	103,1	110,7	114,6	83,3
36	30,6	87,5	93,2	98,6	112,5	120,7	125,0	90,9
42	34	102,1	108,7	115,0	131,3	140,8	145,5	106,1

For other configurations, please consult with our representative

TOV Curve



Ground Lead Disconnect Operation Curve



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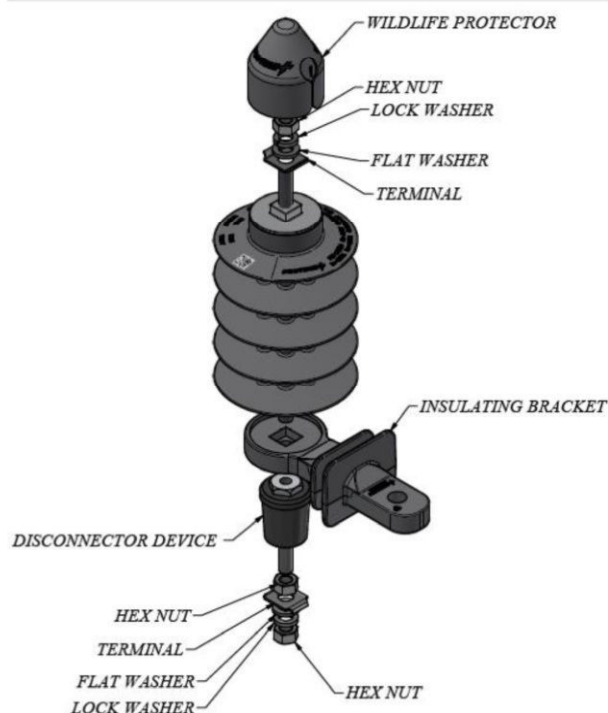
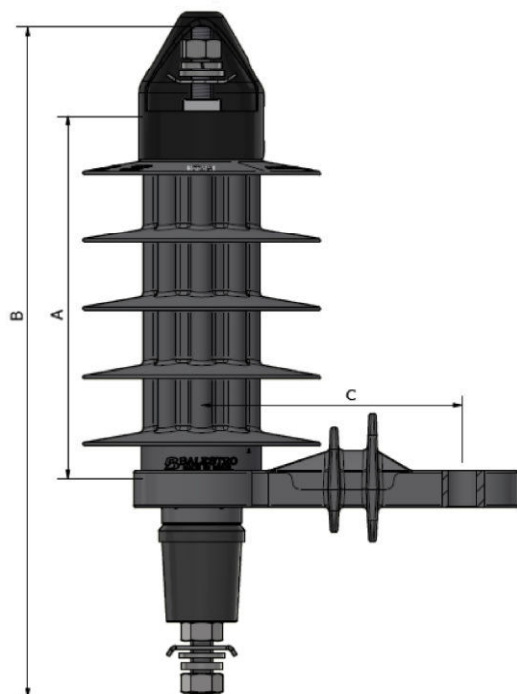
Dimensional Characteristics

			Creepage		Dimensions (mm) / (Inches)				
		A			A	B	B	C	
Balestro Name	Voltage Rated - Ur (kV)	Housing	[mm]	[Inches]	[mm]	[Inches]	[mm]	[Inches]	
P+ 03/10	3	04	403	15.87	130	5.12	268	10.55	115 [mm] 4.52 [Inches]
P+ 06/10	6	04	403	15.87	133	5.24	268	10.55	
P+ 09/10	9	04	403	15.87	132	5.20	268	10.55	
P+ 10/10	10	04	403	15.87	132	5.20	264	10.39	
P+ 12/10	12	04	403	15.87	130	5.12	266	10.47	
P+ 15/10	15	05	483	19.02	160	6.30	296	11.65	160 [mm] 6.3 [Inches]
P+ 18/10	18	05	505	19.88	167	6.57	303	11.93	
P+ 21/10	21	06	577	22.72	191	7.52	327	12.87	
P+ 24/10	24	07	636	25.04	219	8.62	354	13.94	
P+ 27/10	27	07	643	25.31	227	8.94	364	14.33	
P+ 30/10	30	08	716	28.19	250	9.84	387	15.24	
P+ 33/10	33	08	730	28.74	265	10.43	401	15.79	
P+ 36/10	36	09	797	31.38	283	11.14	419	16.50	
P+ 39/10	39	10	875	34.45	312	12.28	448	17.64	
P+ 42/10	42	10	889	35.00	325	12.80	461	18.15	

For other configurations, please consult with our representative

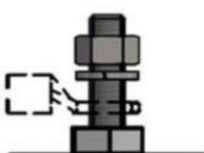
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ACCESSORIES

TL - Line Lead

				
01	02	03	04	05
Cables up to 35 mm ²	Cables up to 70mm ²	Cables up to 64 mm ²	Without Accessories	Eye compression terminal

TT - Ground Lead

			
01	02	03	04
Cables up to 35mm ²	Cables up to 70mm ²	Cables up to 64 mm ²	Eye compression terminal

For other configurations, please consult the representative

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PBP TYPE

S - Insulating Brackets

S1 - Insulating Brackets for duty cycle from 3 kV to 15 kV

S2 - Insulating Brackets for duty cycle from 18 kV to 42 kV



C - Wildlife Protector

Included for all surge arresters.



F - Hardware

Used for Mounting Surge Arresters on Crossarm or Transformer

F0 = Without Hardware



F1

Nema Crossarm



F2

For Transformers 03 to 24kV



F3

For Transformers 27 to 42kV

Configuration Options

P+	<u>Ur</u>	<u>In</u>	<u>TL</u>	<u>TT</u>	<u>S</u>	<u>C</u>	<u>F</u>
	Rated Voltage	Nominal Discharge Current	Line Lead	Ground Lead	Insulating Bracket	Wildlife Cap	Hardware

Example

P+ 12/10/01/01/S1/C1/F1

Ur 12 kV = Rated Voltage

In 10 kA = Nominal Discharge Current

I 04 = Number of sheds depending on creepage

TL 01 = Line Lead for cables up to 35 mm²

TT 01 = Ground Lead for cables up to 35 mm²

S S1 = Insulating Bracket

C C1 = With Wildlife Cap

F F1 = With Nema Crossarm Hardware

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