

Energy Division

## Raychem MV Surge Arresters SPA for Indoor Applications



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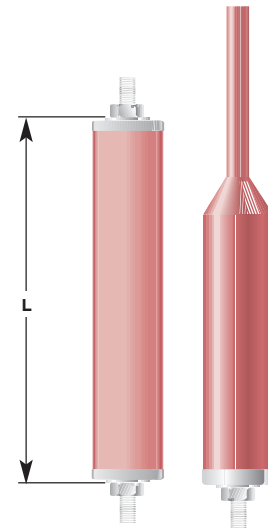
# Raychem MV Surge Arresters SPA for Indoor Applications

## In air-spaced insulated switchgear systems

### SPA type

A compact arrester with high mechanical strength. Even there are no sheds the housing material is fully track resistant and able to provide flashover resistance in damp indoor conditions.

The SPA type arrester is also available with a thick-wall insulated integrated line lead, which allows to considerably reduce the clearances between the arresters and to the earth. This line lead is available in lengths of 250mm, 500mm and 750mm. This SPA-I type arrester is the ideal solution when retrofitting compact switchgears with arresters.



SPA / SPA-I	Height L (mm)
SPA-06	138
SPA-09	168
SPA-10	177
SPA-12	200
SPA-15	299
SPA-18	329
SPA-21	361
SPA-24	393
SPA-27	491
SPA-30	522
SPA-33	554
SPA-36	586

### Generic technical data:

SPA-xx series	6-36 kV U <sub>c</sub>
Rated discharge current (8/20μs):	10 kA
Line discharge class according to IEC 60099-4	Class 1
Operating duty impulse withstand current (4/10μs):	100 kA
Long duration current impulse (2000μs):	400 A
10 second temporary overvoltage (U <sub>TOV</sub> /U <sub>C</sub> )	1.25
High current short circuit: (pre-failing method) (Safe non-shattering failure mode)	16 kA
Energy	line discharge impulse high current impulse
	2.6 kJ/kV U <sub>c</sub> 5.3 kJ/kV U <sub>c</sub>

### Mechanical strength data

Cantilever	200 Nm
Tensile	1000 N
Torque	58 Nm

### Protective Characteristics

SPA / SPA-I	U <sub>c</sub> kV	U <sub>r</sub> kV	U <sub>res</sub> in kV when tested to impulse waveforms						Switching	
			Lightning (8/20μs)				Steep lightning (1/20μs)	Switching (30/60μs)		
			5kA	10kA	20kA	40kA		10kA	125A	500A
SPA-06	6	7.5	18.6	20.0	22.4	26.2	21.8	13.8	14.8	
SPA-09	9	11.0	27.9	30.0	33.6	39.3	32.7	20.6	22.2	
SPA-10	10	12.5	31.0	33.3	37.4	43.7	36.3	22.9	24.7	
SPA-12	12	15.0	37.2	40.0	44.9	52.4	43.6	27.5	29.6	
SPA-15	15	18.0	46.5	50.0	56.1	65.5	54.5	34.4	37.0	
SPA-18	18	22.0	55.8	60.0	67.3	78.6	65.4	41.3	44.4	
SPA-21	21	26.0	65.1	70.0	78.5	91.7	76.3	48.1	51.8	
SPA-24	24	30.0	74.4	80.0	89.7	105.0	87.2	55.0	59.2	
SPA-27	27	33.0	83.7	90.0	101.0	118.0	98.1	61.9	66.6	
SPA-30	30	37.0	93.0	100.0	112.0	131.0	109.0	68.8	74.0	
SPA-33	33	41.0	102.0	110.0	123.0	144.0	120.0	75.6	81.4	
SPA-36	36	45.0	112.0	120.0	135.0	157.0	131.0	82.5	88.8	

U<sub>c</sub>: Continuous Voltage; U<sub>r</sub>: Rated Voltage; U<sub>res</sub>: Residual Voltage

Arresters for other voltages are available on request.

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