

### Major Ratings of Zinc Oxide (ZnO) Blocks (1/3)

#### ZnO blocks for Distribution class surge arresters

Model	Rated voltage (kV)	Arrester classification	Dimensions		Range of critical operating voltage [ V1mAdc ] (kVdc)	Max.residual voltage ratio at 8/20 $\mu$ s [ VxkA/V1mAdc ]					Current withstand capability		
			Diameter ( mm )	Height ( mm )		2.5kA ( p.u )	5kA ( p.u )	10kA ( p.u )	20kA ( p.u )	40kA ( p.u )	4/10 $\mu$ s ( kA )	2ms ( A )	Qrs ( C )
ZE32GE20A	3.0	DM	31.5 $\pm$ 1.0	19.5 $\pm$ 1.0	4.55~5.40	1.65	1.78	1.96	2.19	-	65	100	0.2
ZE32GE30A	4.5			29.5 $\pm$ 1.0	6.80~8.10								
ZE32GE40A	6.0			39.5 $\pm$ 1.0	9.10~10.80								
ZE36GE20B	3.0	DH	36.0 $\pm$ 1.0	19.5 $\pm$ 1.0	3.82~4.43	1.60	1.72	1.89	2.12	-	100	250	0.4
ZE36GE27B	4.5			26.5 $\pm$ 1.0	5.74~6.63								
ZE36GE36B	6.0			35.5 $\pm$ 1.0	7.65~8.83								

#### ZnO blocks for Station class surge arresters

Model	Rated voltage (kV)	Arrester classification	Dimensions		Range of critical operating voltage [ V1mAdc ] (kVdc)	Max.residual voltage ratio at 8/20 $\mu$ s [ VxkA/V1mAdc ]					Current withstand capability		
			Diameter ( mm )	Height ( mm )		2.5kA ( p.u )	5kA ( p.u )	10kA ( p.u )	20kA ( p.u )	40kA ( p.u )	4/10 $\mu$ s ( kA )	2ms ( A )	Qrs ( C )
ZE42GE20B	3.0	SL	42.0 $\pm$ 1.0	19.5 $\pm$ 1.0	4.10~4.70	1.54	1.64	1.78	1.97	2.22	100	500	1.2
ZE42GE27B	4.5			26.5 $\pm$ 1.0	6.15~7.07								
ZE42GE36B	6.0			35.5 $\pm$ 1.0	8.20~9.40								

### Major Ratings of Zinc Oxide (ZnO) Blocks (2/3)

#### ZnO blocks for Station class surge arresters

Model	Rated voltage	Arrester classification	Dimensions		Range of critical operating voltage [ V1mAdc ] (kVdc)	Max.residual voltage ratio at 8/20 $\mu$ s [V <sub>xkA</sub> /V1mAdc]					Current withstand capability		
	(kV)		Diameter (mm)	Height (mm)		2.5kA (p.u)	5kA (p.u)	10kA (p.u)	20kA (p.u)	40kA (p.u)	4/10 $\mu$ s (kA)	2ms (A)	Qrs ( C )
MZE48A22	3.0	SL	48.5 $\pm$ 1.0	22.0 $\pm$ 1.0	4.18~4.82	1.56	1.66	1.79	1.97	2.19	100	500	1.2
MZE48A44	6.0			44.0 $\pm$ 1.0	8.42~9.58								
MZE48B23	3.0	SM	48.5 $\pm$ 1.0	22.5 $\pm$ 1.0	4.18~4.82	1.54	1.62	1.74	1.89	2.08	100	800	1.6
MZE48B45	6.0			44.5 $\pm$ 1.0	8.42~9.58								
MZE57B23	3.2	SM	57.0 $\pm$ 1.0	22.5 $\pm$ 1.0	4.75~5.41	1.51	1.59	1.69	1.83	2.00	100	800	1.6
MZE64A23	3.0	SM	64.5 $\pm$ 1.0	22.5 $\pm$ 1.0	4.18~4.82	1.51	1.59	1.69	1.83	2.00	100	1000	2.0
MZE64A45	6.0			44.5 $\pm$ 1.0	8.42~9.58								
MZE74A23	3.0	SH	74.0 $\pm$ 1.0	22.5 $\pm$ 1.0	4.18~4.82	1.50	1.57	1.66	1.78	1.94	100	1300	2.6
MZE100A23	3.0	SH	100.0 $\pm$ 2.0	22.5 $\pm$ 1.0	4.18~4.82	1.48	1.54	1.62	1.72	1.86	100	2000	4.0
MZE100B23	3.0	SH	100.0 $\pm$ 2.0	22.5 $\pm$ 1.0	4.18~4.82	1.43	1.49	1.57	1.68	1.81	100	2600	4.4

#### ZnO blocks for DC surge arresters

Model	Rated voltage	Arrester classification	Dimensions		Range of critical operating voltage [ V1mAdc ] (kVdc)	Max.residual voltage ratio at 8/20 $\mu$ s [V <sub>xkA</sub> /V1mAdc]					Current withstand capability		
	(kV)		Diameter (mm)	Height (mm)		2.5kA (p.u)	5kA (p.u)	10kA (p.u)	20kA (p.u)	40kA (p.u)	4/10 $\mu$ s (kA)	2ms (A)	Qrs ( C )
MZE74A7D	1.0	-	74.5 $\pm$ 1.0	7.0 $\pm$ 1.0	1.35~1.50	1.50	1.57	1.66	1.78	1.94	100	1300	2.6
MZE74A11D	1.5			11.5 $\pm$ 1.0	2.15~2.45								
MZE74A15D	2.0			14.5 $\pm$ 1.0	2.65~2.98								
MZE74A23D	3.0			22.5 $\pm$ 1.0	4.28~4.72								
MZE100A23D	3.0	-	100.0 $\pm$ 2.0	22.5 $\pm$ 1.0	4.28~4.72	1.48	1.54	1.62	1.72	1.86	100	2000	4.0

### Major Ratings of Zinc Oxide (ZnO) Blocks (3/3)

#### ZnO blocks for GIS type surge arresters

Model	Rated voltage (kV)	Arrester classification	Dimensions		Range of critical operating voltage [ V1mAdc ] (kVdc)	Max.residual voltage ratio at 8/20 $\mu$ s [ VxkA/V1mAdc ]					Current withstand capability		
			Diameter (mm)	Height (mm)		2.5kA (p.u)	5kA (p.u)	10kA (p.u)	20kA (p.u)	40kA (p.u)	4/10 $\mu$ s (kA)	2ms (A)	Qrs ( C )
MZE64AF23	5.6	SM	64.5 $\pm$ 1.0	22.5 $\pm$ 1.0	8.10~8.90	1.51	1.59	1.69	1.83	2.00	100	800	1.6
MZE74AF23	5.6	SM	74.0 $\pm$ 1.0	22.5 $\pm$ 1.0	8.10~8.90	1.50	1.57	1.66	1.78	1.94	100	1000	2.0
MZE100AF23	5.6	SH	100.0 $\pm$ 2.0	22.5 $\pm$ 1.0	7.60~8.40	1.48	1.54	1.62	1.73	1.87	100	1400	2.8

#### Oil-immersed type ZnO blocks (to be used in Transformer insulation oil)

Model	Rated voltage (kV)	Arrester classification	Dimensions		Range of critical operating voltage [ V1mAdc ] (kVdc)	Max.residual voltage ratio at 8/20 $\mu$ s [ VxkA/V1mAdc ]					Current withstand capability		
			Diameter (mm)	Height (mm)		2.5kA (p.u)	5kA (p.u)	10kA (p.u)	20kA (p.u)	40kA (p.u)	4/10 $\mu$ s (kA)	2ms (A)	Qrs ( C )
ZE32G30	3.9	DM	31.5 $\pm$ 1.0	29.0 $\pm$ 1.0	5.60~6.60	1.65	1.78	1.96	2.19	-	50	150	0.3
ZE32GB33	5.6	DM	32.0 $\pm$ 1.0	32.7 $\pm$ 0.7	8.02~9.18	1.63	1.76	1.94	2.19	-	65	100	0.2
ZE64G23	3.0	SM	64.5 $\pm$ 1.0	22.5 $\pm$ 1.0	4.28~4.42	1.51	1.59	1.69	1.83	2.00	100	1000	2.0