

Power Transmission and Distribution

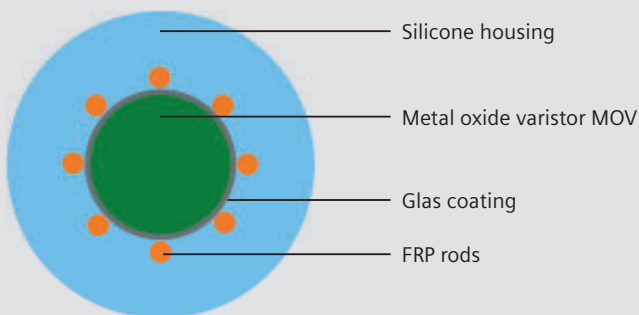
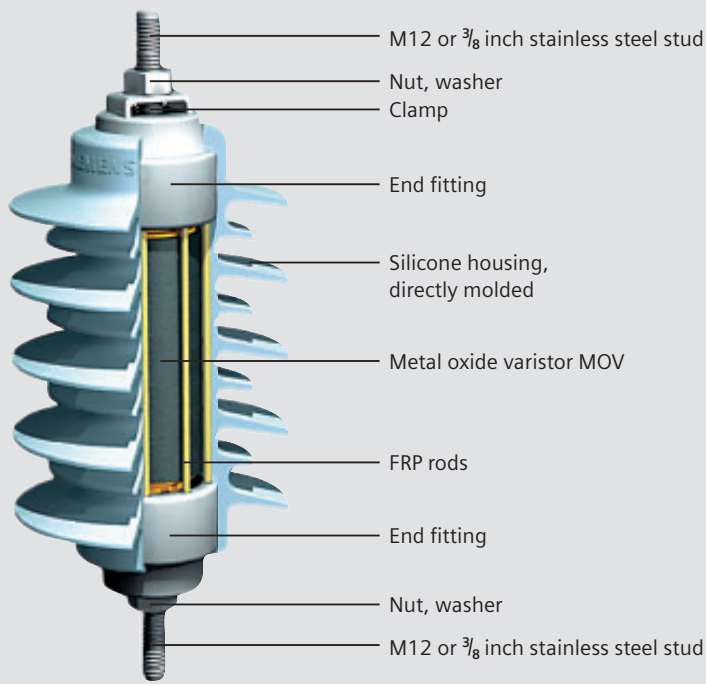
3EK7 Medium Voltage Silicone Insulated Surge Arresters



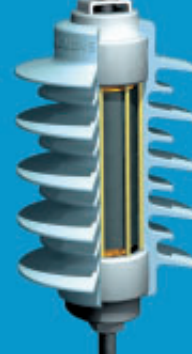
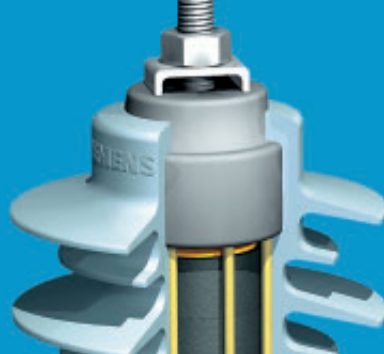
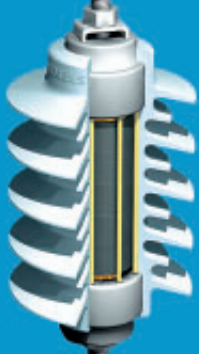
SIEMENS

Setting new Standards

The new 3EK7 surge arrester from Siemens offers superior protection against power surges for the equipment in electrical distribution systems with operating voltages of up to 72.5 kV. Besides being highly resistant to environmental pollution of all kinds, its performance in dealing with earth faults and its excellent short-circuit ratings are setting entirely new standards. The silicone on the new 3EK7 surge arrester refuses to allow any deposits of pollution or films of moisture to form on it. Thus, surface currents caused by pollution will virtually not occur. The 3EK7 arrester is also very lightweight, robust and durable, due to its special cage design.



Horizontal cross section view of surge arrester



3EK7 a top quality product

- The SR housing is molded directly onto the MOV blocks and the protection cage. It provides an excellent sealing system against moisture ingress and partial discharges. In addition, the MOV blocks are glass-collared to prevent aging.
- Highest quality materials. SR is highly hydrophobic and maintains this ability to repel water and any deposits of pollution throughout its entire service life. This results in high tracking and erosion resistance. Furthermore, the SR housing is self-extinguishing and flame-retardant. These advantages provide maintenance free and reliable service life for 3EK7 arresters.
- Manufacturing plants are certified under ISO 9001 and ISO 14001.
- 3EK7 arresters have been type tested by an independent test laboratory.

Secure and reliable design

- The 3EK7 series is based on a cage of pre-stressed fiber-reinforced plastic rods for high mechanical strength, reducing the risk of internal components being ejected. In the extremely rare event of the resistors being overloaded, arcing cannot result in a build-up of critical internal pressure, since the resistors are not enclosed in a sealed mechanical shell. Thus, the arc can escape through the silicone sheath, leaving the mechanical support structure of the enclosure unharmed.
- The cage is lightweight design and yet it offers excellent torsional, tensile and cantilever strength: Maximum working cantilever strength of 350 Nm.
- SR is resistant to UV and ozone exposure as well as to all common organic and non-organic solvents and cleaning agents. Therefore, the 3EK7 is suitable for any environmental conditions of industrial areas as well as in desert or coastal regions.
- 3EK7 arresters are suitable for a temperature range from -55°C to $+50^{\circ}\text{C}$.
- Application altitude up to 3600 m a.s.l.

Fast delivery

- Flexibility in production and our global network of service and sales facilities provide fast and prompt shipment, e. g. six days ex stocks for surge arresters marked with asterisk (*) after your order (Refer to table next page).

The 3EK7's mechanical features:

- Glass-collared MOV,
- Silicone rubber housing,
- FRP rods and
- Aluminium end fittings.

Three types of 3EK7 surge arresters are available:

3EK7...-C .. surge arresters according to IEC 60099-4 with metric thread,
3EK7...-A .. surge arresters according to IEEE Std C 62.22 with imperial thread,
For special applications:
3EK7...-B .. surge arresters according to IEEE Std C 62.22 with metric thread.



3EK7 Arresters According to IEC 60099-4 Selection and Main Data

Table 1: IEC power-frequency voltage versus time characteristic

Voltage per unit U_r

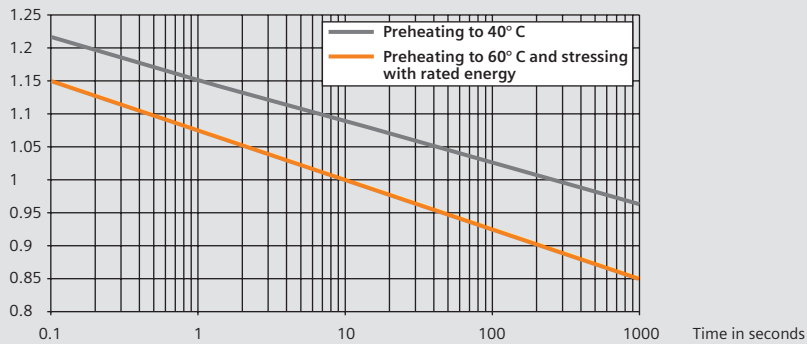


Table 2: 3EK7 arrester main data

Nominal discharge current I_n	5 kA	10 kA
Maximum continuous operating voltage U_c	48 kV	48 kV
Rated voltage U_r	60 kV	60 kV
Long duration current impulse	150 A	325 A
High current pressure relief	20 kA	20 kA
Low current pressure relief	600 A	600 A
High-current impulse	65 kA	100 kA
Maximum permissible static service load	280 Nm	350 Nm
Maximum permissible service load (MPSL)	400 Nm	500 Nm
Energy absorption capability	2.2 kJ/kV U_r	3.5 kJ/kV U_r

Table 3: Typical 3EK7 arresters for system voltages according to IEC 60099-4

Highest voltage for equipment U_m [kV]	Rated lightning impulse withstand voltage [kV]	Solidly earthed neutral system	Isolated neutral system	Impedance earthed neutral system	Resonant earthed neutral system
2.75	30; 45; 60	3EK7 030-C..	3EK7 050-C..	3EK7 030-C..	3EK7 050-C..
3.6	20; 40	3EK7 030-C..	3EK7 050-C..	3EK7 030-C..	3EK7 050-C..
5.5	45; 60; 75	3EK7 050-C..	3EK7 090-C..	3EK7 060-C..	3EK7 090-C..
7.2	40; 60	3EK7 060-C..	3EK7 090-C..	3EK7 090-C..	3EK7 090-C..
8.25	60; 75; 95	3EK7 090-C..	3EK7105-C..	3EK7 090-C..	3EK7105-C..
12	60; 75; 95	3EK7 090-C.. or 3EK7 105-C..	3EK7 150-C..	3EK7 120-C..	3EK7 150-C..
15.5	75	3EK7 120-C..	-	3EK7 150-C..	-
15.5	85; 110	3EK7 120-C..	3EK7 210-C..	3EK7 150-C..	3EK7 210-C..
17.5	75	3EK7 150-C..	-	3EK7 180-C..	-
17.5	95	3EK7 150-C..	3EK7 220-C..	3EK7 180-C..	3EK7 220-C..
24	95	3EK7 210-C..	-	3EK7 240-C..	-
24	125; 145	3EK7 210-C..	3EK7 300-C..	3EK7 240-C..	3EK7 300-C..
25	125; 145	3EK7 210-C..	3EK7 315-C..	3EK7 250-C..	3EK7315-C..
27	95	3EK7 210-C..	-	3EK7 270-C..	-
27	125	3EK7 210-C..	-	3EK7 270-C..	-
27	150	3EK7 210-C..	3EK7 360-C..	3EK7 270-C..	3EK7 360-C..
30	160	3EK7 240-C..	3EK7 390-C..	3EK7 300-C..	3EK7 390-C..
36	145	3EK7 300-C..	-	3EK7 360-C..	-
36	170	3EK7 300-C..	3EK7 450-C..	3EK7 360-C..	3EK7 450-C..
38	125	3EK7 300-C..	-	-	-
38	150	3EK7 300-C..	-	3EK7 390-C..	-
38	200	3EK7 300-C..	3EK7 480-C..	3EK7 390-C..	3EK7 480-C..
40.5	190	3EK7 315-C..	3EK7 510-C..	3EK7 420-C..	3EK7 510-C..
48.3	150	3EK7 390-C..	-	-	-
48.3	200	3EK7 390-C..	-	3EK7 480-C..	-
48.3	250	3EK7 390-C..	3EK7 600-C..	3EK7 480-C..	3EK7 600-C..
52	250	3EK7 420-C..	-	3EK7 540-C..	-
72.5	325	3EK7 570-C..	-	-	-

Table 4:

Rated voltage U_r [kV]	Continuous operating voltage U_c [kV]	Arrester part number
3	2.4	3EK7 030 -2CB4
6	4.8	3EK7 060 -2CB4
9*	7.2	3EK7 090 -2CB4
10.5*	8.4	3EK7 105 -2CB4
12*	9.6	3EK7 120 -2CC4
15*	12	3EK7 150 -2CC4
18	14.4	3EK7 180 -2CD4
21*	16.8	3EK7 210 -2CD4
24	19.2	3EK7 240 -2CE4
27	21.6	3EK7 270 -2CF4
30	24	3EK7 300 -2CF4
31.5	25.2	3EK7 315 -2CH4
33	26.4	3EK7 330 -2CH4
36	28.8	3EK7 360 -2CH4
39	31.2	3EK7 390 -2CH4
42	34	3EK7 420 -2CH4
45	36	3EK7 450 -2CH4
48	38.5	3EK7 480 -2CK4
51	41	3EK7 510 -2CK4
54	43.2	3EK7 540 -2CK4
57	45.6	3EK7 570 -2CK4
60	48	3EK7 600 -2CK4

Table 5:

Rated voltage U_r [kV]	Continuous operating voltage U_c [kV]	Arrester part number
3	2.4	3EK7 030 -4CB4
5	4	3EK7 050 -4CB4
6	4.8	3EK7 060 -4CB4
9*	7.2	3EK7 090 -4CB4
10.5*	8.4	3EK7 105 -4CB4
12*	9.6	3EK7 120 -4CC4
15*	12	3EK7 150 -4CC4
18*	14.4	3EK7 180 -4CD4
21*	16.8	3EK7 210 -4CD4
22*	17.6	3EK7 220 -4CE4
24*	19.2	3EK7 240 -4CE4
25	20	3EK7 250 -4CE4
27	21.6	3EK7 270 -4CF4
30*	24	3EK7 300 -4CF4
31.5	25.2	3EK7 315 -4CH4
33	26.4	3EK7 330 -4CH4
36*	28.8	3EK7 360 -4CH4
39	31.2	3EK7 390 -4CH4
42	34	3EK7 420 -4CH4
45	36	3EK7 450 -4CH4
48	38.5	3EK7 480 -4CK4
50.5*	40.5	3EK7 505 -4CK4
51	41	3EK7 510 -4CK4
54	43.2	3EK7 540 -4CK4
57	45.6	3EK7 570 -4CK4
60	48	3EK7 600 -4CK4

3EK7 nominal discharge current 5 kA

Maximum discharge voltage								Creepage distance	Flashover distance	BIL	Height "H" ¹⁾	Net weight	Packed weight	Pallet weight	Qty. per pallet
1 kA 8/20 μs [kV cr]	3 kA 8/20 μs [kV cr]	5 kA 8/20 μs [kV cr]	10 kA 8/20 μs [kV cr]	15 kA 8/20 μs [kV cr]	20 kA 8/20 μs [kV cr]	125 A 30/60 μs [kV cr]	500 A 30/60 μs [kV cr]								
7.0	7.7	8.1	8.8	9.6	10.4	6.2	6.6	372	180	104	170	1.5	2.0	494	240
14.0	15.3	16.1	17.5	19.0	20.6	12.2	13.2	372	180	104	170	1.5	2.1	508	240
20.9	22.8	24.0	26.2	28.3	30.7	18.2	19.7	372	180	104	170	1.6	2.1	520	240
24.4	26.7	28.1	30.6	33.2	36.0	21.4	23.0	372	180	104	170	1.6	2.1	527	240
27.8	30.4	32.0	34.9	37.8	41.0	24.3	26.2	485	210	122	200	1.8	2.4	586	240
34.7	37.9	39.9	43.5	47.1	51.1	30.3	32.7	485	210	122	200	1.9	2.4	599	240
41.7	45.5	47.9	52.2	56.5	61.3	36.4	39.3	605	248	144	240	2.2	2.8	678	240
48.6	53.1	55.9	60.9	66.0	71.6	42.5	45.8	605	248	144	240	2.3	2.8	691	240
55.5	60.6	63.8	69.5	75.3	81.7	48.5	52.3	785	286	166	270	2.6	3.3	613	180
62.6	68.3	71.9	78.4	84.8	92.0	54.6	59.0	900	318	184	300	2.9	3.6	449	120
69.3	75.7	79.7	86.9	94.0	102	60.6	65.4	900	318	184	300	2.9	3.7	456	120
72.9	79.6	83.8	91.3	98.9	107	63.7	68.7	1245	418	242	400	3.7	4.4	548	120
76.4	83.4	87.8	95.7	104	112	66.7	72.0	1245	418	242	400	3.7	4.5	551	120
83.3	91.0	95.8	104	113	123	72.8	78.6	1245	418	242	400	3.8	4.5	558	120
90.5	98.8	104	113	123	133	79.0	85.3	1245	418	242	400	3.8	4.6	565	120
97.4	106	112	122	132	143	85.1	91.8	1245	418	242	400	3.9	4.6	571	120
104	114	120	131	142	154	91.2	98.4	1245	418	242	400	3.9	4.7	578	120
111	122	128	140	151	164	97.3	105	1620	530	307	510	4.8	5.5	678	120
118	129	136	148	161	174	103	112	1620	530	307	510	4.8	5.6	685	120
125	137	144	157	170	184	109	118	1620	530	307	510	4.9	5.6	691	120
132	144	152	166	179	195	116	125	1620	530	307	510	4.9	5.7	697	120
139	152	160	174	189	205	122	131	1620	530	307	510	5.0	5.7	704	120

3EK7 nominal discharge current 10 kA

Maximum discharge voltage								Creepage distance	Flashover distance	BIL	Height "H" ¹⁾	Net weight	Packed weight	Pallet weight	Qty. per pallet
1 kA 8/20 μs [kV cr]	3 kA 8/20 μs [kV cr]	5 kA 8/20 μs [kV cr]	10 kA 8/20 μs [kV cr]	15 kA 8/20 μs [kV cr]	20 kA 8/20 μs [kV cr]	125 A 30/60 μs [kV cr]	500 A 30/60 μs [kV cr]								
6.6	7.1	7.5	8.1	8.7	9.3	5.8	6.2	372	180	104	170	1.5	2.0	505	240
10.8	11.7	12.4	13.3	14.4	15.3	9.4	10.1	372	180	104	170	1.6	2.1	529	240
13.0	14.2	15.0	16.1	17.4	18.5	11.4	12.2	372	180	104	170	1.6	2.1	529	240
19.4	21.1	22.3	24.0	25.9	27.6	17.0	18.2	372	180	104	170	1.7	2.2	553	240
23.8	25.9	27.3	29.4	31.8	33.8	20.9	22.3	372	180	104	170	1.7	2.2	553	240
25.9	28.2	29.8	32.0	34.6	36.8	22.7	24.3	485	210	122	200	2.0	2.5	625	240
32.3	35.1	37.1	39.9	43.1	45.9	28.3	30.3	485	210	122	200	2.1	2.6	649	240
38.8	42.2	44.5	47.9	51.7	55.1	34.0	36.4	605	248	144	240	2.4	2.9	721	240
45.3	49.2	52.0	55.9	60.4	64.3	39.7	42.5	605	248	144	240	2.5	3.0	745	240
47.5	51.6	54.5	58.6	63.3	67.4	41.6	44.5	785	286	166	270	2.8	3.5	651	180
51.7	56.1	59.3	63.8	68.9	73.4	45.3	48.5	785	286	166	270	2.8	3.5	651	180
53.9	58.5	61.8	66.5	71.8	76.5	47.2	50.5	785	286	166	270	2.9	3.6	669	180
58.2	63.3	66.9	71.9	77.7	82.7	51.0	54.6	900	318	184	300	3.2	3.9	487	120
64.6	70.1	74.1	79.7	86.1	91.7	56.6	60.6	900	318	184	300	3.2	3.9	487	120
67.9	73.7	77.9	83.8	90.5	96.4	59.5	63.7	1245	418	242	400	4.0	4.8	586	120
71.1	77.3	81.7	87.8	94.8	101	62.3	66.7	1245	418	242	400	4.1	4.9	598	120
77.6	84.3	89.1	95.8	104	110	68.0	72.8	1245	418	242	400	4.1	4.9	598	120
84.2	91.5	96.7	104	112	120	73.8	79.0	1245	418	242	400	4.2	5.0	610	120
90.7	98.6	104	112	121	129	79.5	85.1	1245	418	242	400	4.3	5.1	622	120
97.2	106	112	120	130	138	85.2	91.2	1245	418	242	400	4.4	5.2	634	120
104	113	119	128	138	147	90.9	97.3	1620	530	307	510	5.2	6.0	730	120
107	116	123	132	143	152	93.7	100	1620	530	307	510	5.3	6.1	742	120
110	120	127	136	147	156	96.6	103	1620	530	307	510	5.3	6.1	742	120
117	127	134	144	156	166	102	109	1620	530	307	510	5.4	6.2	754	120
123	134	141	152	164	175	108	116	1620	530	307	510	5.5	6.3	766	120
130	141	149	160	173	184	114	122	1620	530	307	510	5.6	6.4	778	120

1) Refer to figure 1 on page 8 (*) Available ex stock

3EK7 Arresters According to IEEE Std C 62.22 Selection and Main Data

Table 6: ANSI temporary overvoltage, preheating 60° C, no prior duty

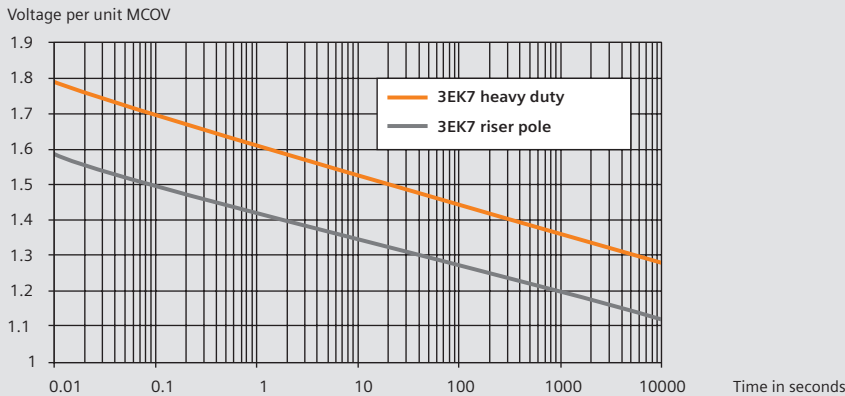


Table 7: 3EK7 distribution arrester main data

	Normal duty	Heavy duty	Riser pole
Maximum continuous operating voltage MCOV	29 kV	29 kV	29 kV
Duty cycle voltage	36 kV	36 kV	36 kV
Low-current, long-duration	75 A	250 A	250 A
High current pressure relief	20 kA	20 kA	20 kA
Low current pressure relief	600 A	600 A	600 A
High-current, short-duration	65 kA	100 kA	100 kA
Coordinating current	5 kA	10 kA	10 kA
Maximum design cantilever load-static (MDCL)	280 Nm	280 Nm	280 Nm
Energy absorption capability	2.7 kJ/kV MCOV	4.6 kJ/kV MCOV	4.6 kJ/kV MCOV

Table 8: Typical 3EK7 arresters for system voltages according to the latest IEEE Std C 62.22

System L-L Voltage [kV]	Four-wire multigrounded neutral wye	Three-wire low impedance grounded neutral circuit	Three-wire high impedance grounded neutral circuit
2.4			3EK7 030-A..
4.16	3EK7 030-A..	3EK7 060-A..	3EK7 060-A..
4.26			3EK7 060-A..
4.8			3EK7 060-A..
6.9			3EK7 090-A..
8.3	3EK7 060-A..	3EK7 090-A..	
12	3EK7 090-A..	3EK7 120-A..	
12.47	3EK7 090-A.. or 3EK7 1000-A..	3EK7 150-A..	
13.2	3EK7 100-A..	3EK7 150-A..	
13.8	3EK7 100-A.. or 3EK7 120-A..	3EK7 150-A..	3EK7 180-A..
20.78	3EK7 150-A..	3EK7 210-A..	
22.86	3EK7 150-A..	3EK7 210-A..	
23			3EK7 300-A..
24.94	3EK7 180-A..	3EK7 270-A..	
27.6	3EK7 210-A..	3EK7 300-A..	
34.5	3EK7 270-A..	3EK7360-A..	

Table 9:

Duty cycle	MCOV	Arrester part number	FOW
[kV]	[kV]		[kV cr]
3	2.55	3EK7 030 -2AB4	8.9
6	5.1	3EK7 060 -2AB4	17.7
9*	7.65	3EK7 090 -2AB4	26.4
10*	8.4	3EK7 100 -2AB4	30.9
12	10.2	3EK7 120 -2AC4	35.2
15	12.7	3EK7 150 -2AC4	43.9
18*	15.3	3EK7 180 -2AD4	52.7
21	17	3EK7 210 -2AD4	61.5
24	19.5	3EK7 240 -2AE4	70.2
27*	22	3EK7 270 -2AF4	79.1
30	24.4	3EK7 300 -2AF4	87.7
33	27.5	3EK7 330 -2AH4	96.6
36	29	3EK7 360 -2AH4	105.4

Table 10:

Duty cycle	MCOV	Arrester part number	FOW
[kV]	[kV]		[kV cr]
3*	2.55	3EK7 030 -3AB4	10.5
6*	5.1	3EK7 060 -3AB4	21.6
9*	7.65	3EK7 090 -3AB4	30.9
10*	8.4	3EK7100 -3AB4	32.3
12	10.2	3EK7120 -3AC4	41.0
15*	12.7	3EK7 150 -3AD4	51.3
18*	15.3	3EK7 180 -3AD4	61.5
21*	17	3EK7 210 -3AE4	67.3
24	19.5	3EK7 240 -3AF4	77.6
27*	22	3EK7 270 -3AF4	87.7
30*	24.4	3EK7 300 -3AH4	96.6
33	27.5	3EK7 330 -3AH4	108
36	29	3EK7 360 -3AH4	119

Table 11:

Duty cycle	MCOV	Arrester part number	FOW
[kV]	[kV]		[kV cr]
3	2.55	3EK7 030 -4AB4	8.9
6	5.1	3EK7 060 -4AB4	17.7
9*	7.65	3EK7 090 -4AB4	26.4
10*	8.4	3EK7 100 -4AC4	29.3
12	10.2	3EK7 120 -4AD4	35.2
15	12.7	3EK7 150 -4AD4	43.9
18*	15.3	3EK7 180 -4AE4	52.7
21	17	3EK7 210 -4AF4	61.5
24	19.5	3EK7 240 -4AH4	70.2
27*	22	3EK7 270 -4AH4	79.1
30	24.4	3EK7 300 -4AH4	87.7
33	27.5	3EK7 330 -4AK4	96.6
36	29	3EK7 360 -4AK4	105

3EK7 normal duty

Maximum discharge voltage								Creepage distance	Flashover distance	BIL	Height "H" ¹⁾	Net weight	Packed weight	Pallet weight	Qty. per pallet
1.5 kA 8/20 µs [kV cr]	3 kA 8/20 µs [kV cr]	5 kA 8/20 µs [kV cr]	10 kA 8/20 µs [kV cr]	20 kA 8/20 µs [kV cr]	40 kA 8/20 µs [kV cr]	125 A 30/60 µs [kV cr]	500 A 30/60 µs [kV cr]	[mm]	[mm]	[kV]	[mm]	[kg]	[kg]	[kg]	[pcs]
7.3	7.7	8.1	8.8	10.4	12.5	6.2	6.6	368	180	103	170	1.4	1.6	393	240
14.5	15.3	16.1	17.5	20.6	24.8	12.2	13.2	368	180	103	170	1.4	1.6	406	240
21.6	22.8	24.0	26.2	30.7	37.0	18.2	19.7	368	180	103	170	1.5	1.7	419	240
25.3	26.7	28.1	30.6	36.0	43.3	21.4	23.0	368	180	103	170	1.6	1.7	426	240
28.8	30.4	32.0	34.9	41.0	49.3	24.3	26.2	483	211	120	201	1.8	2.0	375	180
35.9	37.9	39.9	43.5	51.1	61.4	30.3	32.7	483	211	120	201	1.8	2.1	385	180
43.1	45.5	47.9	52.2	61.3	73.8	36.4	39.3	610	246	141	239	2.2	2.4	444	180
50.3	53.1	55.9	60.9	71.6	86.1	42.5	45.8	610	246	141	239	2.2	2.4	454	180
57.4	60.6	63.8	69.5	81.7	98.3	48.5	52.3	787	284	162	269	2.5	2.7	510	180
64.7	68.3	71.9	78.4	92.0	111	54.6	59.0	787	284	181	300	2.8	3.1	383	120
71.7	75.7	79.7	86.9	102	123	60.6	65.4	787	284	181	300	2.9	3.1	390	120
79.0	83.4	87.8	95.7	112	135	66.7	72.0	1245	419	238	399	3.7	3.9	483	120
86.2	91.0	95.8	104	123	148	72.8	78.6	1245	419	238	399	3.7	3.9	489	120

3EK7 heavy duty

Maximum discharge voltage								Creepage distance	Flashover distance	BIL	Height "H" ¹⁾	Net weight	Packed weight	Pallet weight	Qty. per pallet
1.5 kA 8/20 µs [kV cr]	3 kA 8/20 µs [kV cr]	5 kA 8/20 µs [kV cr]	10 kA 8/20 µs [kV cr]	20 kA 8/20 µs [kV cr]	40 kA 8/20 µs [kV cr]	125 A 30/60 µs [kV cr]	500 A 30/60 µs [kV cr]	[mm]	[mm]	[kV]	[mm]	[kg]	[kg]	[kg]	[pcs]
8.0	8.4	8.8	9.5	10.9	12.6	6.7	7.2	368	180	103	170	1.5	1.7	412	240
16.5	17.2	18.2	19.6	22.5	26.1	13.9	14.9	368	180	103	170	1.6	1.7	433	240
23.6	24.7	26.1	28.1	32.3	37.4	20.0	21.4	368	180	103	170	1.7	1.8	451	240
24.7	25.9	27.3	29.4	33.8	39.1	20.9	22.3	368	180	103	170	1.7	1.9	462	240
31.3	32.8	34.7	37.3	42.9	49.6	26.5	28.3	483	211	120	201	2.0	2.2	408	180
39.1	41.0	43.3	46.6	53.6	62.0	33.1	35.4	610	246	141	239	2.4	2.5	472	180
47.0	49.2	52.0	55.9	64.3	74.3	39.7	42.5	610	246	141	239	2.5	2.7	497	180
51.4	53.9	56.9	61.2	70.4	81.4	43.5	46.5	787	285	162	269	2.8	3.0	559	180
59.2	62.0	65.6	70.5	81.1	93.8	50.1	53.6	902	318	181	300	3.1	3.3	417	120
66.9	70.1	74.1	79.7	91.7	106	56.6	60.6	902	318	181	300	3.2	3.5	433	120
73.8	77.3	81.7	87.8	101	117	62.3	66.7	1245	419	236	399	4.0	4.2	523	120
82.7	86.6	91.5	98.4	113	131	69.9	74.8	1245	419	238	399	4.1	4.3	536	120
90.6	94.9	100	108	124	143	76.5	81.9	1245	419	238	399	4.2	4.5	556	120

3EK7 riser pole

Maximum discharge voltage								Creepage distance	Flashover distance	BIL	Height "H" ¹⁾	Net weight	Packed weight	Pallet weight	Qty. per pallet
1.5 kA 8/20 µs [kV cr]	3 kA 8/20 µs [kV cr]	5 kA 8/20 µs [kV cr]	10 kA 8/20 µs [kV cr]	20 kA 8/20 µs [kV cr]	40 kA 8/20 µs [kV cr]	125 A 30/60 µs [kV cr]	500 A 30/60 µs [kV cr]	[mm]	[mm]	[kV]	[mm]	[kg]	[kg]	[kg]	[pcs]
6.8	7.1	7.5	8.1	9.3	10.8	5.8	6.2	368	180	103	170	1.4	1.7	415	240
13.5	14.2	15.0	16.1	18.5	21.4	11.4	12.2	368	180	103	170	1.5	1.8	437	240
20.2	21.1	22.3	24.0	27.6	31.9	17.0	18.2	368	180	103	170	1.6	1.8	447	240
22.3	23.4	24.7	26.6	30.6	35.4	18.9	20.2	368	180	103	170	1.7	1.8	458	240
26.9	28.2	29.8	32.0	36.8	42.6	22.7	24.3	483	211	120	201	1.9	2.1	524	240
33.5	35.1	37.1	39.9	45.9	53.1	28.3	30.3	610	246	141	239	2.3	2.5	611	240
40.2	42.2	44.5	47.9	55.1	63.7	34.0	36.4	610	246	141	239	2.4	2.7	494	180
47.0	49.2	52.0	55.9	64.3	74.3	39.7	42.5	787	285	162	269	2.8	3.0	551	180
53.6	56.1	59.3	63.8	73.4	84.9	45.3	48.5	902	318	181	300	3.0	3.3	413	120
60.4	63.3	66.9	71.9	82.7	95.6	51.0	54.6	902	318	181	300	3.2	3.5	430	120
66.9	70.1	74.1	79.7	91.7	106	56.6	60.6	1245	419	238	399	4.0	4.2	522	120
73.8	77.3	81.7	87.8	101	117	62.3	66.7	1245	419	238	399	4.2	4.4	544	120
80.5	84.3	89.1	95.8	110	127	68.0	72.8	1245	419	238	399	4.3	4.5	555	120

1) Refer to figure 1 on page 8; (*) Available ex stock

Drawings and Accessories

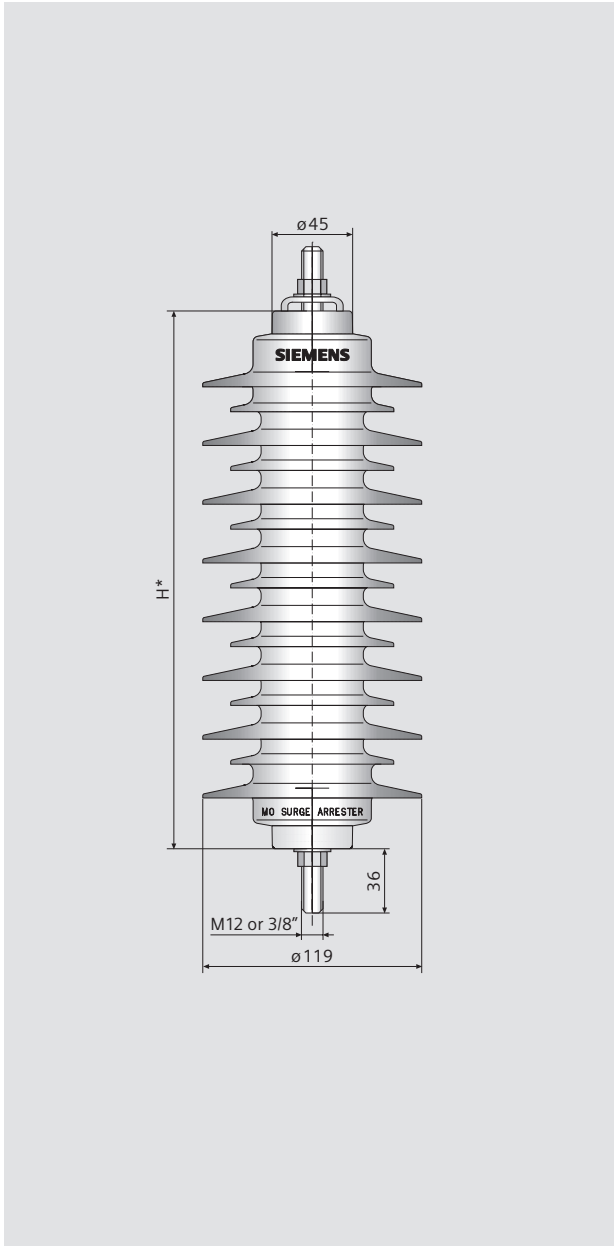


Figure 1: 3EK7 surge arrester main dimensions

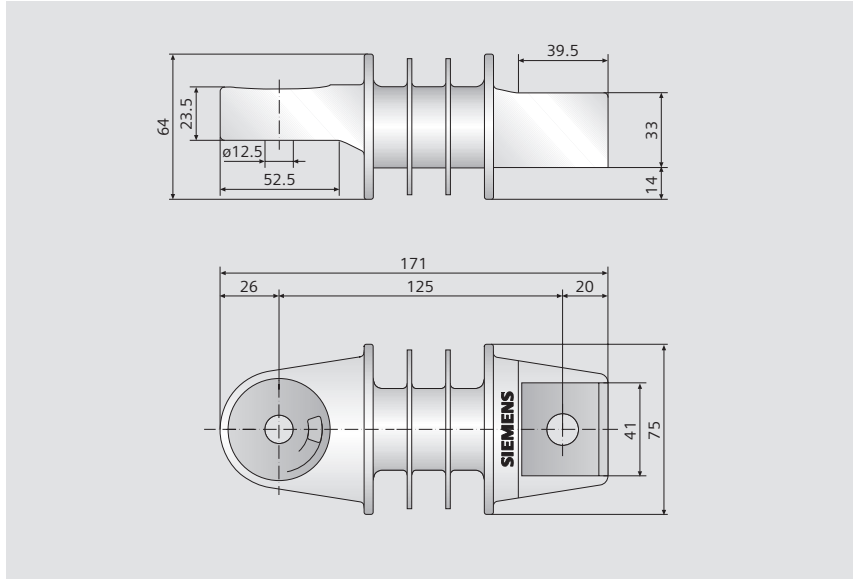


Figure 2: NEMA insulating bracket for $U_r \leq 21$ kV
Order code P12; 0.25 kg

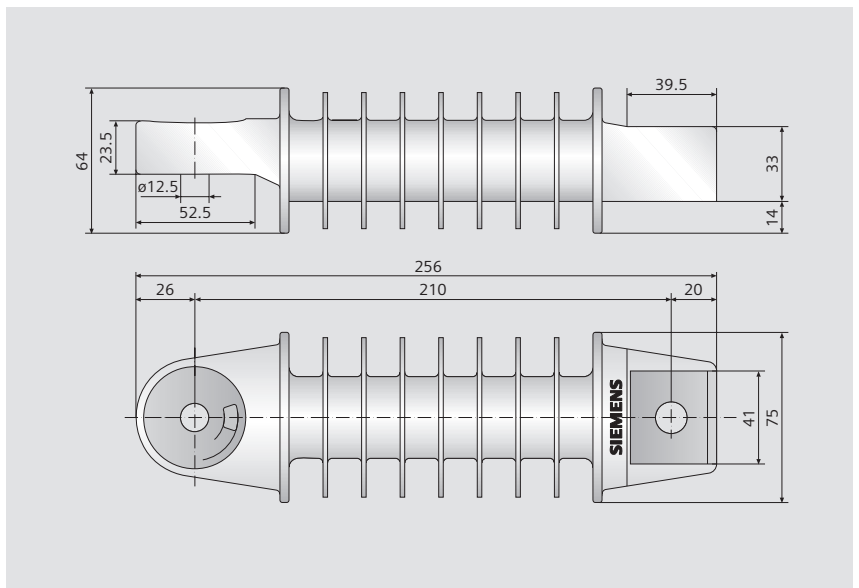


Figure 3: NEMA insulating bracket for $U_r = 24$ kV and above
Order code P12; 0.4 kg

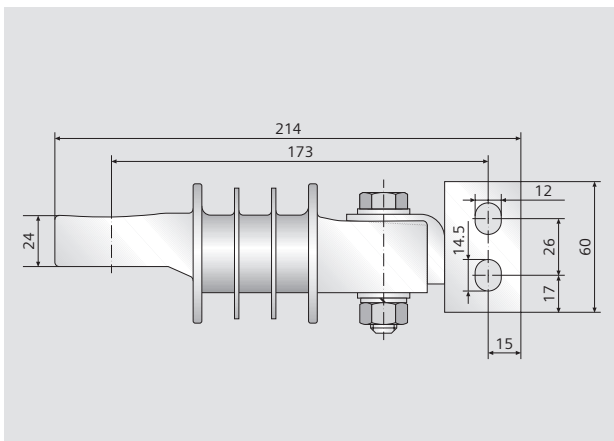


Figure 4: DIN insulating bracket for $U_r \leq 21$ kV
Order code P22; 0.85 kg

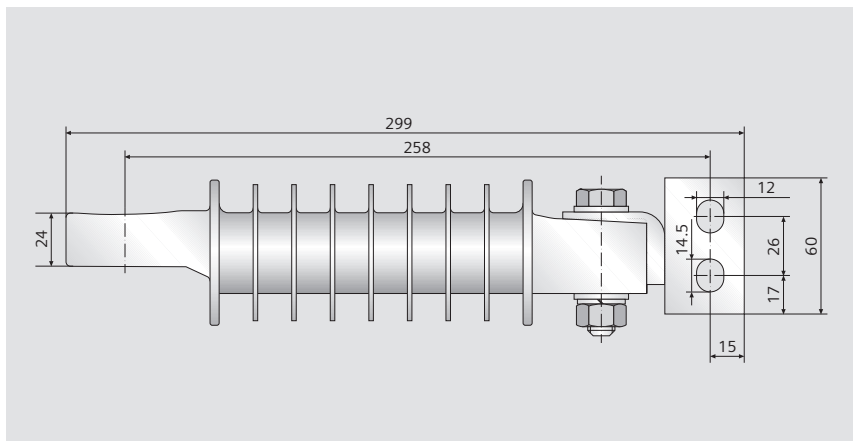


Figure 5: DIN insulating bracket for $U_r = 24$ kV and above
Order code P22; 1 kg

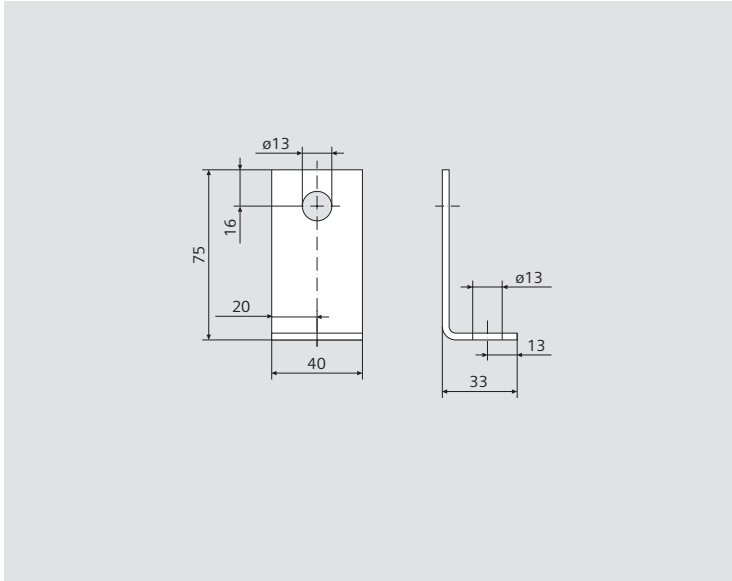


Figure 6: L-bracket
Order code M12; 0.1 kg

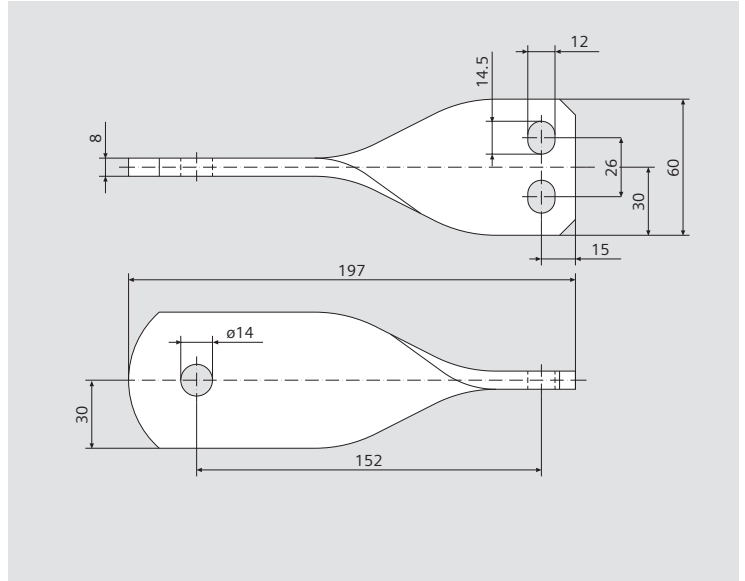


Figure 7: DIN metal bracket (hot dip galvanized)
Order code P21; 0.6 kg

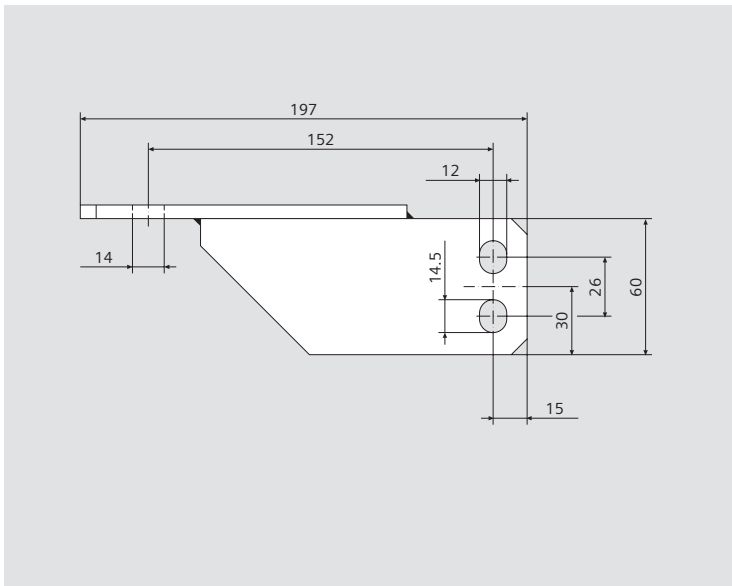


Figure 8: DIN metal bracket (stainless)
Order code P23; 0.8 kg

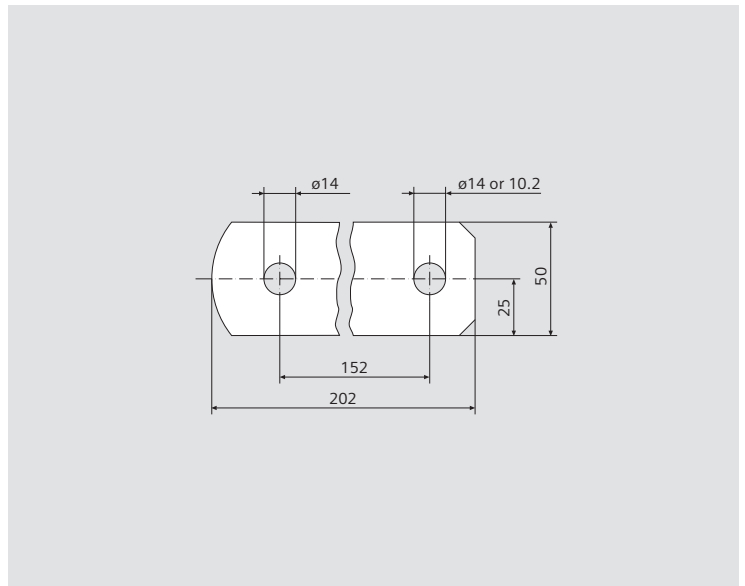


Figure 9: NEMA metal bracket (hot dip galvanized)
Order code P11; 0.6 kg

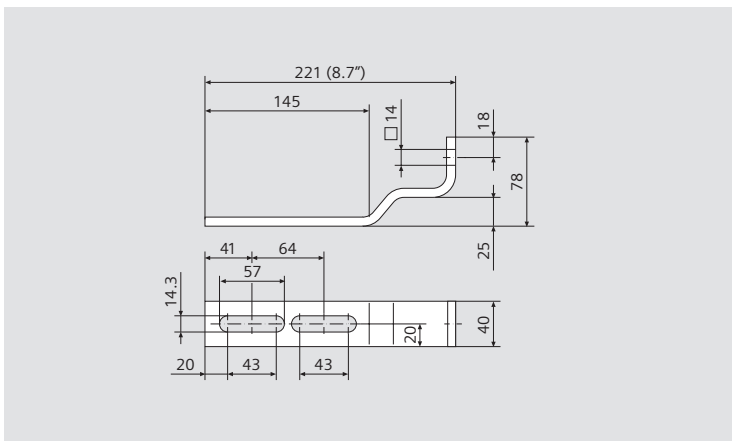


Figure 10: Transformer bracket 8.7"
Order code Q11; 0.6 kg

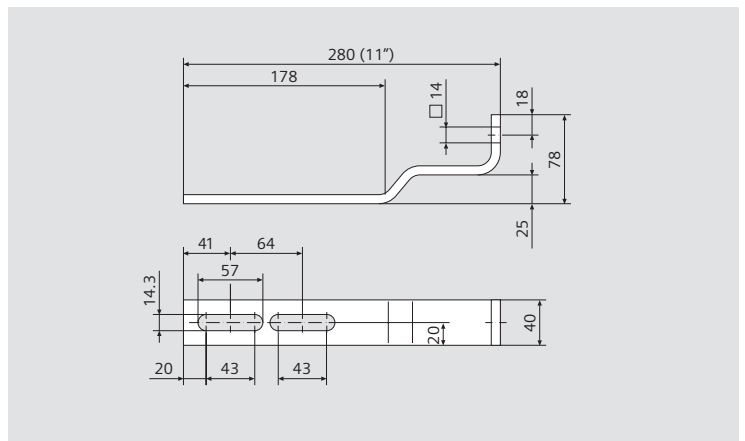


Figure 11: Transformer bracket 11"
Order code Q12; 0.7 kg

Drawings and Accessories

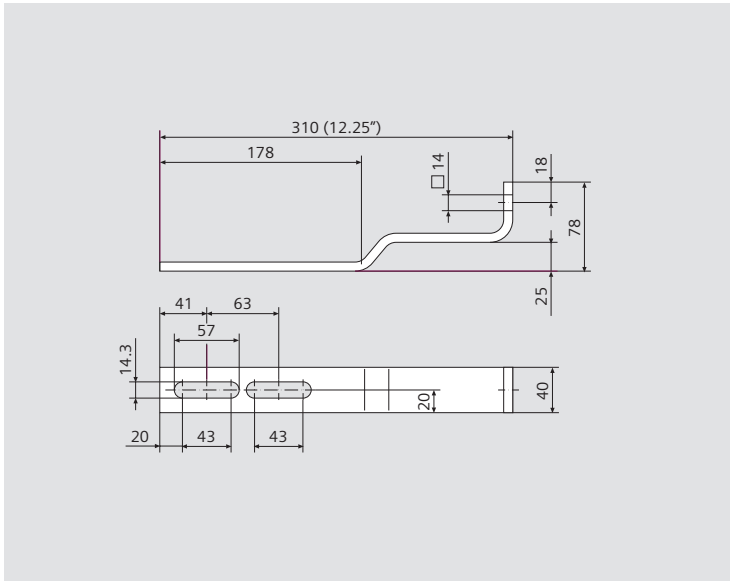


Figure 12: Transformer bracket 12.25"
Order code Q13; 0.8 kg

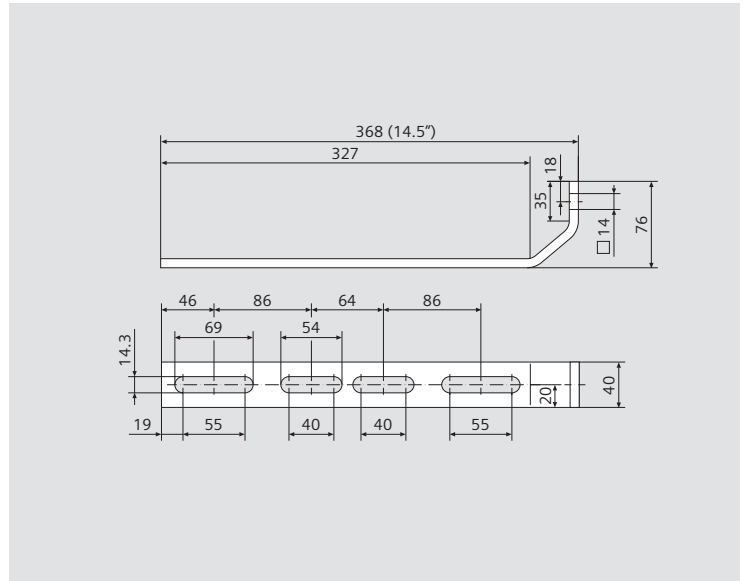


Figure 13: Transformer bracket 14.5"
Order code Q14; 0.8 kg

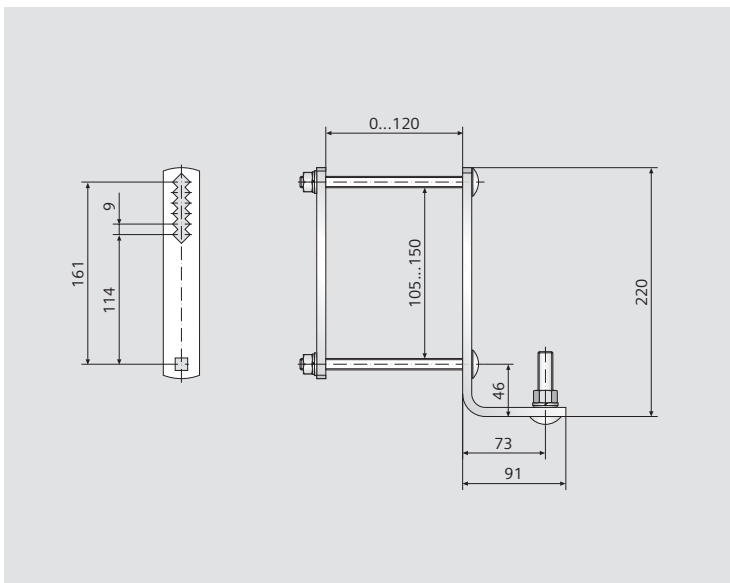


Figure 14: X-arm bracket
Order code Q51; 1.3 kg

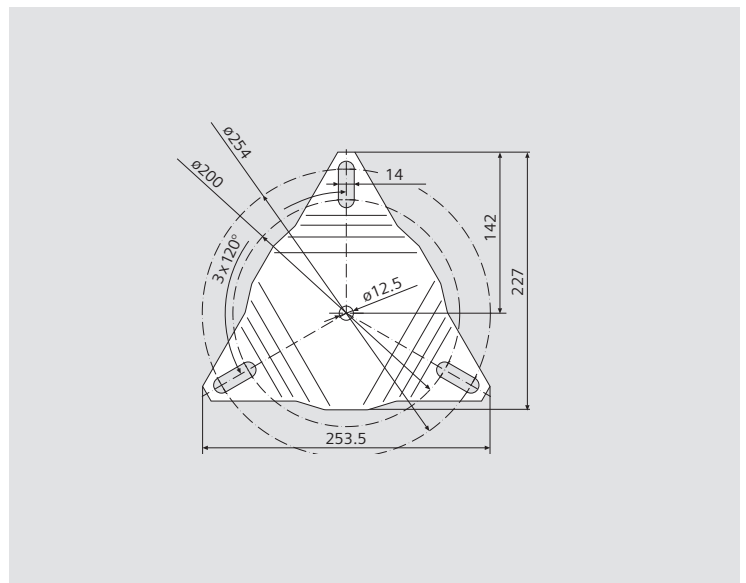


Figure 15: Mounting plate
Order code Q81; 1.6 kg

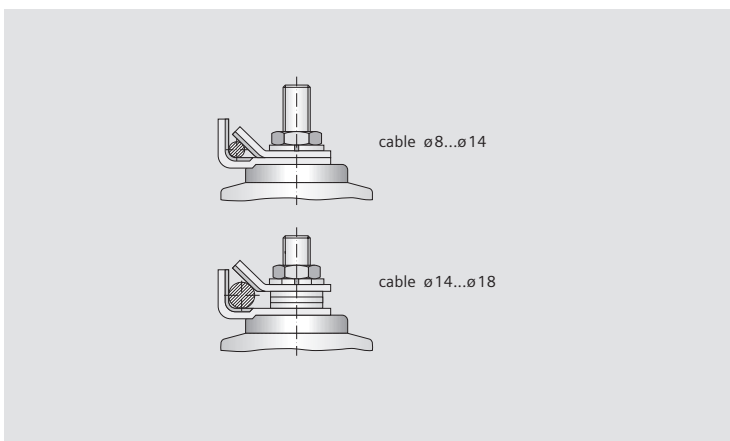


Figure 16: Line clamp
Order code M11; 0.1 kg

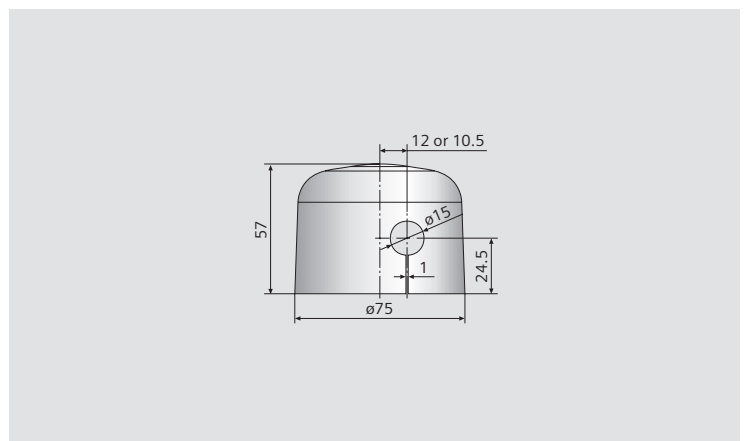


Figure 17: Bird protection cap
Order code M81; 50 g

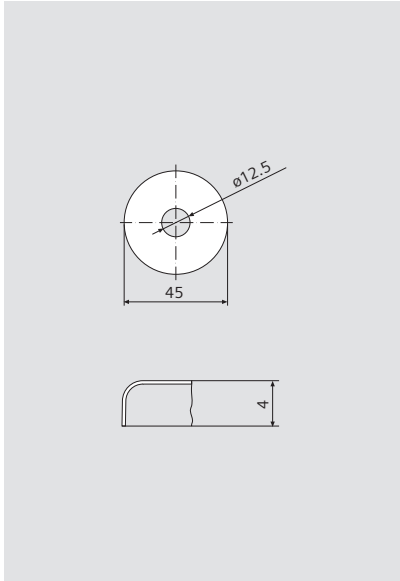


Figure 18: Stainless steel cap
Order code M71; 5 g

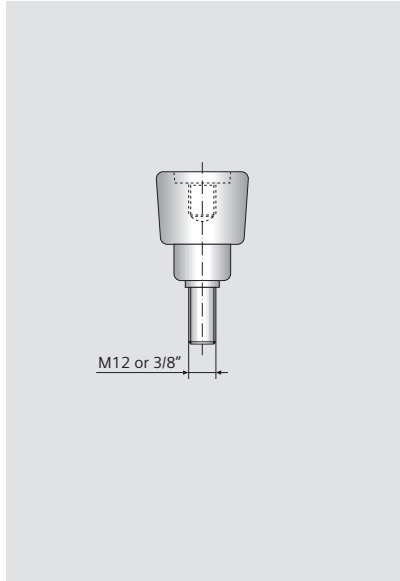


Figure 19: Disconnecter
Order code P31; 0.1 kg

Outline drawings for several common design options are shown in figure 20, 21 and 22

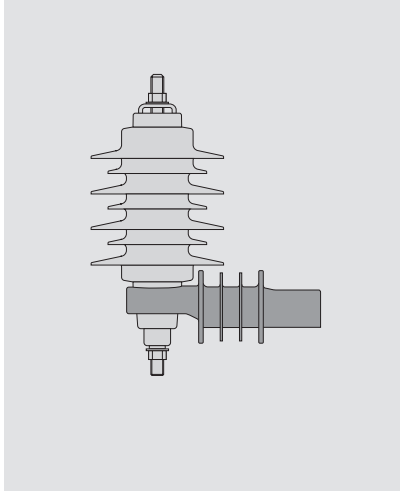


Figure 20: 3EK7 surge arrester
with accessories P12 and P31

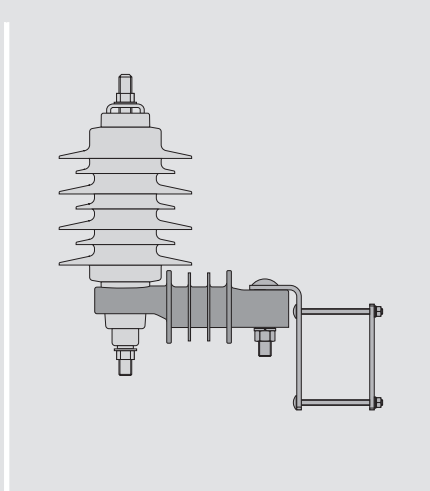


Figure 21: 3EK7 surge arrester
with accessories P12, P31 and Q51

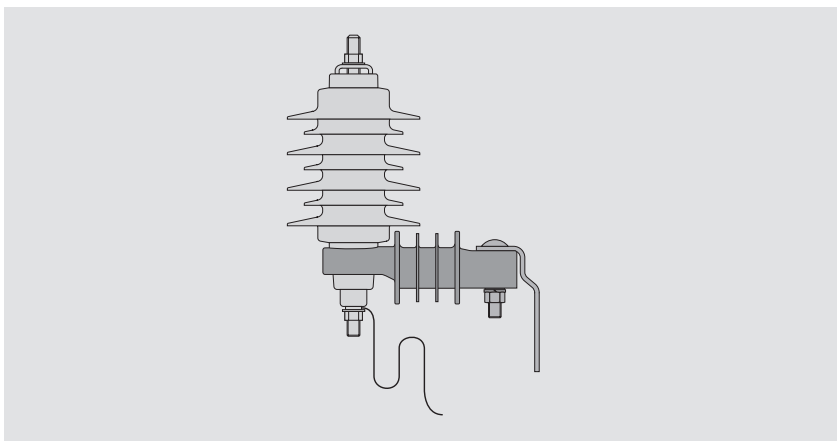
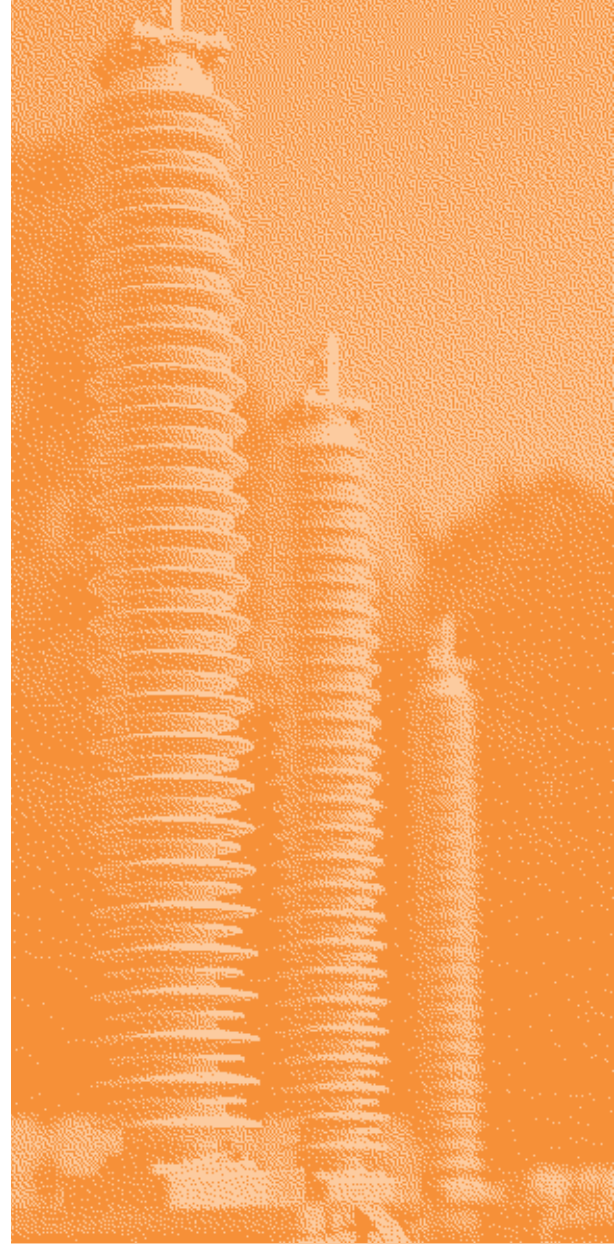


Figure 22: 3EK7 surge arrester
with accessories P12, P31, P51 and Q11



Example

Part number	3 E K 7 300 - 4 C F 4
Internal use	3 E K 7
Rated voltage in kV x 10	300
-	-
Classification	
Nominal discharge current I _n = 5 kA or distribution class, normal duty	2
Distribution class, heavy duty	3
Nominal discharge current I _n = 10 kA or riser pole	4
Standard	
IEEE Std C 62.22 with imperial-thread terminals	A
IEEE Std C 62.22 with metric-thread terminals	B
IEC - 60099-4 with metric-thread terminals	C
Housing size	
170 mm	B
200 mm	C
240 mm	D
270 mm	E
300 mm	F
400 mm	H
510 mm	K
Internal use	4

Standard equipped at

- high voltage terminal M12 or 3/8 inch stud with clamp washer nut
- earthing terminal M12 or 3/8 inch stud with washer nut

Example

Part number with mounting accessories	3 E K 7 300 - 4 C F 4 - Z M51 M81 P12 P31
For additional parts only*	Z
High-voltage terminal equipped with	
Line clamp, washer, nut	M11
L-bracket, washer, nut only for 3EK7...B or C	M12
Insulated lead, 450 mm/18 inch	M51
Stainless steel cap	M71
Bird-protection cap	M81
Overload indicator	N11
Earth terminal equipped with	
NEMA metal bracket (hot dip galvanized steel)	P11
NEMA insulating bracket	P12
DIN metal bracket (hot dip galvanized steel)	P21
DIN insulating bracket	P22
DIN metal bracket (stainless steel)	P23
Disconnecter	P31
Ground lead, insulated, 450 mm/18 inch	P51
Mounting auxiliaries	
Transformer bracket 8.7 inch	Q11
Transformer bracket 11 inch	Q12
Transformer bracket 12.25 inch	Q13
Transformer bracket 14.5 inch	Q14
X-arm bracket	Q51
Mounting plate for 200 mm and 10 inch bolt circle	Q81

*Other additional parts on request
Not all combinations are possible

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If you have any questions about Power Transmission and Distribution, our Customer Support Center is available around the clock.

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

Subject to change without prior notice

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