

Limitor®- P Back-up Fuses

without Controlled Power Dissipation

DIN HV Back-up Fuses for Transformers

Mersen HV fuse-links have been used for reliable protection in high-voltage switchgear and controlgear and high-voltage systems for decades.

Limitor®-P HV fuses are back-up fuses as defined in the standard: IEC 60282-1 and VDE 0670 T4 and dedicated to protect transformers against the thermal and dynamic effects of short-circuit currents.

For low power losses fuses, fuses compliant with the VDE 0670 T402 and other ratings, thanks to consult Limitor®-PD HV fuses range

To guarantee high quality, Mersen uses the best materials: fuse-elements are in pure silver, caps are in copper coated with silver and bodies are in ceramic.

Features Benefits

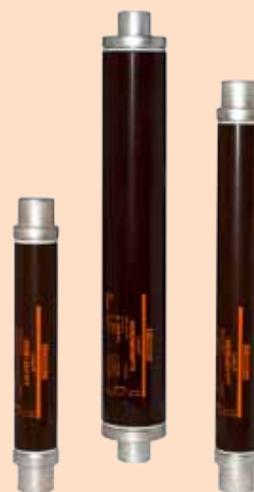
- High breaking capacity
- High current limitation
- Low switching voltage
- Quick breaking
- Medium striker 80N/30mm
- Indoor and outdoor applications
- Non-ageing
- Energy efficiency
- New cap design for a better compatibility with all types of clips and easier assembly
- Coordination with IEC 60787, IEC 62271-105, IEC/TR 62655 and VDE 0670 T303

Applications

- HV Transformer protection

Technical Data

	P 3/7,2kV	P 6/12kV	P 10/17,5kV	P 10/24kV
Rated current	2 ... 200 A	1 ... 250 A	6.3 ... 125 A	1 ... 200 A
Rated voltage range U _n	3/7.2 kV	6/12kV	10/17,5 kV	10/24 kV
Nominal voltage of transformer	6 kV	10 kV	15 kV	20 kV
Package	1	1	1	1



Standards

IEC 60282-1
VDE 0670 part 4
DIN 43625



Limiter®- P Back-up Fuses

without Controlled Power Dissipation

Product range



Limiter- P, Rated voltage 3 / 7,2 kV

Catalog number	Reference number	Size	Rated current I_n	Pre-arcing I^2t	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_{b\min}$	Cold resistance	Power dissipation at I_n	Weight
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Ø56mm, length 192mm

45DB72V2P	N1000098A	192	2 A	-	600 A²s	63 kA	15 A	256 mΩ	1.8 W	1.1 kg
45DB72V4P	P1000099A	192	4 A	-	800 A²s	63 kA	20 A	256 mΩ	5 W	1.1 kg
45DB72V6,3PD	S209293	192	6.3 A	-	800 A²s	63 kA	20 A	256 mΩ	11 W	1.1 kg
45DB72V10PD	T209294	192	10 A	-	3000 A²s	63 kA	35 A	144 mΩ	19 W	1.1 kg
45DB72V16PD	V209295	192	16 A	-	2340 A²s	63 kA	64 A	41 mΩ	13 W	1.1 kg
45DB72V20PD	W209296	192	20 A	-	3900 A²s	63 kA	80 A	32 mΩ	14.5 W	1.1 kg
45DB72V25PD	X209297	192	25 A	-	4900 A²s	63 kA	95 A	25 mΩ	20 W	1.1 kg
45DB72V32PD	Y209298	192	31.5 A	-	7000 A²s	63 kA	110 A	19 mΩ	23 W	1.1 kg
45DB72V40PD	Z209299	192	40 A	-	14000 A²s	63 kA	134 A	12.5 mΩ	30 W	1.1 kg
45DB72V50PD	A209300	192	50 A	-	25300 A²s	63 kA	190 A	9.2 mΩ	35 W	1.1 kg

Ø65mm, length 192mm

45DB72V63P	B209301A	192	63 A	-	41.2 kA²s	63 kA	220 A	8.75 mΩ	60 W	1.4 kg
45DB72V80P	C209302A	192	80 A	-	84 kA²s	63 kA	300 A	6.25 mΩ	85 W	1.4 kg
45DB72V100P	D209303A	192	100 A	-	93.6 kA²s	63 kA	350 A	5 mΩ	85 W	1.4 kg

Ø88mm, length 192mm

45DB72V160P	R1000101A	192	160 A	-	500 kA²s	63 kA	435 A	3 mΩ	75 W	2.4 kg
45DB72V200P	S1000102A	192	200 A	-	654 kA²s	63 kA	610 A	2.5 mΩ	200 W	2.4 kg

Ø63mm, length 292mm

45DB72V6,3P-2	Q1005689	292	6.3 A	60 A²s	1000 A²s	63 kA	28 A	147 mΩ	6 W	1.9 kg
45DB72V10P-2	M1005686	292	10 A	100 A²s	1500 A²s	63 kA	45 A	80.3 mΩ	9 W	1.9 kg
45DB72V16P-2	N1005273	292	16 A	600 A²s	3400 A²s	63 kA	64 A	44.3 mΩ	12.8 W	1.9 kg
45DB72V25P-2	A1005882	292	25 A	1000 A²s	5500 A²s	63 kA	100 A	27.5 mΩ	21 W	1.9 kg
45DB72V32P-2	N1005687	292	31.5 A	1200 A²s	10000 A²s	63 kA	126 A	20.6 mΩ	25 W	1.9 kg
45DB72V40P-2	B1005699	292	40 A	2000 A²s	12000 A²s	63 kA	160 A	16.2 mΩ	33 W	1.9 kg
45DB72V50P-2	P1005688	292	50 A	4000 A²s	22000 A²s	63 kA	200 A	11.3 mΩ	37 W	1.9 kg
45DB72V63P-2	R1005690	292	63 A	8000 A²s	42000 A²s	63 kA	252 A	8.5 mΩ	46 W	1.9 kg
45DB72V80P-2	S1005691	292	80 A	12000 A²s	120000 A²s	63 kA	320 A	6.8 mΩ	63 W	1.9 kg
45DB72V100P-2	B1005883	292	100 A	15000 A²s	220000 A²s	63 kA	400 A	4.7 mΩ	70 W	1.9 kg

Ø63mm, length 442mm

45DB72V6,3P-3	N1005664A	192	6.3 A	60 A²s	1000 A²s	63 kA	28 A	166.6 mΩ	7 W	2.9 kg
45DB72V10P-3	F1005657A	442	10 A	100 A²s	1500 A²s	63 kA	45 A	90.87 mΩ	10 W	2.9 kg
45DB72V16P-3	H1005659A	442	16 A	600 A²s	3400 A²s	63 kA	64 A	46.79 mΩ	14 W	2.9 kg
45DB72V25P-3	J1005660A	442	25 A	1000 A²s	5500 A²s	63 kA	100 A	31.19 mΩ	23 W	2.9 kg
45DB72V32P-3	C1005884A	442	31.5 A	1200 A²s	10000 A²s	63 kA	126 A	23.4 mΩ	29 W	2.9 kg
45DB72V40P-3	K1005661A	442	40 A	2000 A²s	12000 A²s	63 kA	160 A	18.37 mΩ	38 W	2.9 kg
45DB72V50P-3	L1005662A	442	50 A	4000 A²s	22000 A²s	63 kA	200 A	12.86 mΩ	41 W	2.9 kg
45DB72V63P-3	M1005663A	442	63 A	8000 A²s	42000 A²s	63 kA	252 A	9.64 mΩ	50 W	2.9 kg
45DB72V80P-3	P1005665A	442	80 A	12000 A²s	120000 A²s	63 kA	320 A	7.72 mΩ	69 W	2.9 kg
45DB72V100P-3	E1005656A	442	100 A	15000 A²s	220000 A²s	63 kA	400 A	5.37 mΩ	76 W	2.9 kg

Ø88mm, length 442mm

45DB72V125P-3	E1005886A	442	125 A	22000 A²s	450000 A²s	63 kA	500 A	4.62 mΩ	107 W	5.2 kg
45DB72V160P-3	Q1005275A	442	160 A	35000 A²s	530000 A²s	40 kA	640 A	3.6 mΩ	146 W	5.2 kg

Product range

Limiter- P, Rated voltage 6 /12 kV

Catalog number	Reference number	Size	Rated current I_n	Pre-arcing I^2t	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
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Ø56mm, length 292mm

45DB120V1P	T1000103	292	1 A	-	200 A²s	63 kA	14 A	1400 mΩ	1.6 W	1.7 kg
45DB120V2P	V1000104	292	2 A	-	400 A²s	63 kA	16 A	500 mΩ	2.2 W	1.7 kg
45DB120V4P	W1000105	292	4 A	-	700 A²s	63 kA	22 A	340 mΩ	6 W	1.7 kg
45DB120V6,3P	F209305	292	6.3 A	-	1000 A²s	63 kA	30 A	185 mΩ	9 W	1.7 kg
45DB120V10P	G209306	292	10 A	-	1500 A²s	63 kA	42 A	138 mΩ	17 W	1.7 kg
45DB120V16P	H209307	292	16 A	-	2000 A²s	63 kA	54 A	107 mΩ	38 W	1.7 kg
45DB120V20P	J209308	292	20 A	-	4000 A²s	63 kA	73 A	71 mΩ	38 W	1.7 kg
45DB120V25P	K209309	292	25 A	-	6000 A²s	63 kA	93 A	52 mΩ	46 W	1.7 kg
45DB120V32P	L209310	292	31.5 A	-	10000 A²s	63 kA	105 A	42 mΩ	65 W	1.7 kg
45DB120V40P	M209311	292	40 A	-	30000 A²s	63 kA	125 A	22.5 mΩ	54 W	1.7 kg
45DB120V50P	N209312	292	50 A	-	50000 A²s	63 kA	160 A	18 mΩ	70 W	1.7 kg
45DB120V63P	P209313	292	63 A	-	100000 A²s	63 kA	230 A	12.8 mΩ	85 W	1.7 kg

Ø65mm, length 292mm

45DB120V80P	Q209314	292	80 A	-	150000 A²s	63 kA	350 A	10.6 mΩ	115 W	2.1 kg
45DB120V100P	R209315	292	100 A	-	200000 A²s	63 kA	500 A	8.5 mΩ	156 W	2.1 kg

Ø88mm, length 292mm

45DB120V125P	X1000106	292	125 A	-	440000 A²s	63 kA	480 A	4.75 mΩ	117 W	3.7 kg
45DB120V160P	Y1000107	292	160 A	-	500000 A²s	63 kA	560 A	4.25 mΩ	217 W	3.7 kg
45DB120V200P	Z1000108	292	200 A	-	654000 A²s	63 kA	610 A	3.75 mΩ	333 W	3.7 kg
45DB120V250P	Y1014919	292	250 A	-	-	63 kA	740 A	3.7 mΩ	335 W	3.7 kg

Ø63mm, length 442mm

45DB120V6,3P-3	F1006094	442	6.3 A	60 A²s	1000 A²s	31.5 kA	31.5 A	244.9 mΩ	11 W	2.9 kg
45DB120V10P-3	G1006095	442	10 A	100 A²s	1500 A²s	31.5 kA	45 A	133.6 mΩ	15 W	2.9 kg
45DB120V16P-3	H1006096	442	16 A	600 A²s	3400 A²s	31.5 kA	64 A	73.9 mΩ	21.8 W	2.9 kg
45DB120V25P-3	J1006097	442	25 A	1000 A²s	5500 A²s	31.5 kA	100 A	45.9 mΩ	35 W	2.9 kg
45DB120V32P-3	K1006098	442	31.5 A	1200 A²s	10000 A²s	31.5 kA	126 A	34.4 mΩ	43 W	2.9 kg
45DB120V40P-3	L1006099	442	40 A	2000 A²s	12000 A²s	31.5 kA	160 A	27 mΩ	57 W	2.9 kg
45DB120V50P-3	M1006100	442	50 A	4000 A²s	22000 A²s	31.5 kA	200 A	18.9 mΩ	63 W	2.9 kg
45DB120V63P-3	N1006101	442	63 A	8000 A²s	42000 A²s	31.5 kA	252 A	14.2 mΩ	78 W	2.9 kg

Ø88mm, length 442mm

45DB120V80P-3	P1006102	442	80 A	12000 A²s	120000 A²s	31.5 kA	320 A	9.4 mΩ	83 W	5.2 kg
45DB120V100P-3	Q1006103	442	100 A	15000 A²s	220000 A²s	31.5 kA	400 A	6.55 mΩ	91 W	5.2 kg
45DB120V125P-3	R1006104	442	125 A	22000 A²s	450000 A²s	31.5 kA	500 A	5.46 mΩ	130 W	5.2 kg
45DB120V160P-3	S1006105	442	160 A	35000 A²s	530000 A²s	31.5 kA	640 A	4.07 mΩ	170 W	5.2 kg

Limiter®- P Back-up Fuses

without Controlled Power Dissipation

Product range



45DB175V6,3P

Limiter- P, Rated voltage 10 / 17,5

Catalog number	Reference number	Size	Rated current I_n	Pre-arcing I^2t	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
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Ø63mm, length 292mm

45DB175V6,3P-2	A1005698	292	6.3 A	60 A²s	1000 A²s	25 kA	32 A	331 mΩ	15.1 W	1.9 kg
45DB175V10P-2	T1005692	292	10 A	100 A²s	1500 A²s	25 kA	45 A	181 mΩ	22 W	1.9 kg
45DB175V16P-2	X1005695	292	16 A	600 A²s	3400 A²s	25 kA	64 A	99.6 mΩ	32 W	1.9 kg
45DB175V25P-2	S1005277	292	25 A	1000 A²s	5500 A²s	25 kA	100 A	62.1 mΩ	54 W	1.9 kg
45DB175V32P-2	Y1005696	292	31.5 A	1200 A²s	10000 A²s	25 kA	126 A	46.5 mΩ	69 W	1.9 kg
45DB175V40P-2	Z1005697	292	40 A	1800 A²s	12000 A²s	25 kA	160 A	36.5 mΩ	94.3 W	1.9 kg

Ø88mm, length 292mm

45DB175V50P-2	L1005685	292	50 A	2200 A²s	23000 A²s	25 kA	200 A	21.4 mΩ	77 W	3 kg
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Ø56mm, length 367mm

45DB175V6,3P	V1000564	367	6.3 A	-	1000 A²s	63 kA	30 A	245 mΩ	11 W	2.1 kg
45DB175V10P	W1000565	367	10 A	-	1500 A²s	63 kA	43 A	180 mΩ	22 W	2.1 kg
45DB175V16P	X1000566	367	16 A	-	2000 A²s	63 kA	54 A	150 mΩ	53 W	2.1 kg
45DB175V20P	Y1000567	367	20 A	-	4000 A²s	63 kA	73 A	102 mΩ	56 W	2.1 kg
45DB175V25P	Z1000568	367	25 A	-	6000 A²s	63 kA	93 A	78 mΩ	73 W	2.1 kg
45DB175V32P	A1000569	367	31.5 A	-	10000 A²s	63 kA	105 A	59 mΩ	95 W	2.1 kg
45DB175V40P	B1000570	367	40 A	-	30000 A²s	63 kA	125 A	33.8 mΩ	79 W	2.1 kg
45DB175V50P	C1000571	367	50 A	-	50000 A²s	63 kA	205 A	26 mΩ	106 W	2.1 kg
45DB175V63P	D1000572	367	63 A	-	100000 A²s	63 kA	280 A	18.4 mΩ	130 W	2.1 kg

Ø65mm, length 367mm

45DB175V80P	E1000573	367	80 A	-	150000 A²s	63 kA	350 A	15 mΩ	180 W	2.6 kg
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Ø88mm, length 367mm

45DB175V100P	F1000574	367	100 A	-	200000 A²s	63 kA	500 A	13 mΩ	280 W	3.5 kg
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Ø63mm, length 442mm

45DB175V50P-3	D1005655	442	50 A	4000 A²s	22000 A²s	31.5 kA	200 A	23.2 mΩ	83 W	2.9 kg
45DB175V63P-3	F1005887	442	63 A	8000 A²s	42000 A²s	31.5 kA	252 A	17.4 mΩ	104 W	2.9 kg

Ø88mm, length 442mm

45DB175V80P-3	J1005637	442	80 A	12000 A²s	120000 A²s	31.5 kA	320 A	13.7 mΩ	135 W	5.2 kg
45DB175V100P-3	Y1005282	442	100 A	15000 A²s	220000 A²s	31.5 kA	400 A	9.6 mΩ	151 W	5.2 kg
45DB175V125P-3	C1005677	442	125 A	22000 A²s	300000 A²s	31.5 kA	500 A	8 mΩ	217 W	5.2 kg

Ø88mm, length 537mm

45DB175V100P-4	H1005636	537	100 A	15000 A²s	220000 A²s	31.5 kA	400 A	9.6 mΩ	151 W	6 kg
45DB175V125P-4	A1005284	537	125 A	22000 A²s	300000 A²s	31.5 kA	500 A	8 mΩ	217 W	6 kg

Limitor®- P Back-up Fuses

without Controlled Power Dissipation

Product range

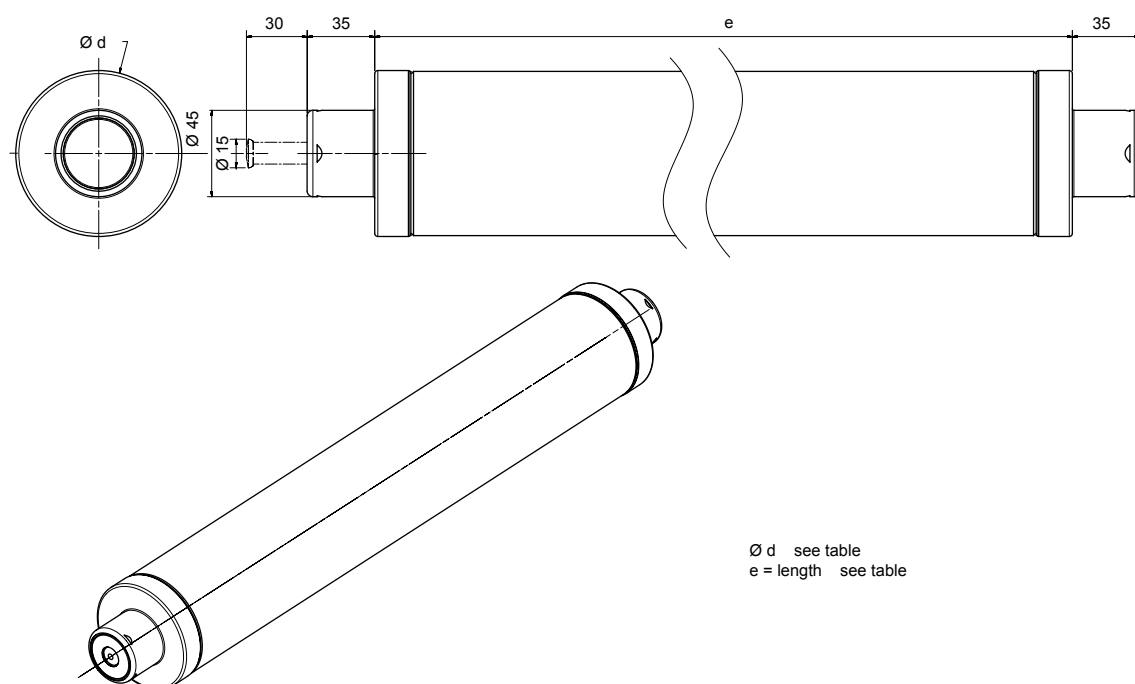
Limitor- P, Rated voltage 10 / 24 kV

Catalog number	Reference number	Size	Rated current I_n	Pre-arcing I^2t	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
ø56mm, length 442mm										
45DB240V1P	A1000109	442	1 A	-	200 A²s	63 kA	14 A	2170 mΩ	2.2 W	2.5 kg
45DB240V2P	B1000110	442	2 A	-	400 A²s	63 kA	16 A	800 mΩ	3.4 W	2.5 kg
45DB240V4P	C1000111	442	4 A	-	700 A²s	63 kA	23 A	545 mΩ	10 W	2.5 kg
45DB240V6,3P	S209339	442	6.3 A	-	1000 A²s	63 kA	30 A	297 mΩ	13 W	2.5 kg
45DB240V10P	T209340	442	10 A	-	1500 A²s	63 kA	43 A	220 mΩ	26 W	2.5 kg
45DB240V16P	V209341	442	16 A	-	2000 A²s	63 kA	54 A	197 mΩ	73 W	2.5 kg
45DB240V20P	W209342	442	20 A	-	4000 A²s	63 kA	73 A	132 mΩ	76 W	2.5 kg
45DB240V25P	X209343	442	25 A	-	6000 A²s	63 kA	93 A	96 mΩ	89 W	2.5 kg
45DB240V32P	Y209344	442	31.5 A	-	10000 A²s	63 kA	105 A	78 mΩ	127 W	2.5 kg
45DB240V40P	Z209345	442	40 A	-	30000 A²s	63 kA	125 A	45 mΩ	114 W	2.5 kg
45DB240V50P	A209346	442	50 A	-	50000 A²s	63 kA	205 A	35 mΩ	147 W	2.5 kg
45DB240V63P	B209347	442	63 A	-	100000 A²s	63 kA	280 A	24 mΩ	170 W	2.5 kg
ø65mm, length 442mm										
45DB240V80P	C209348	442	80 A	-	150000 A²s	63 kA	310 A	20 mΩ	233 W	3.1 kg
ø78mm, length 442mm										
45DB240V100P	D209349	442	100 A	-	200000 A²s	63 kA	430 A	18 mΩ	400 W	4.2 kg
ø88mm, length 442mm										
45DB240V125P	D1000112	442	125 A	-	350000 A²s	40 kA	760 A	11.7 mΩ	340 W	5.9 kg
45DB240V160P	E1000113	442	160 A	-	500000 A²s	31.5 kA	900 A	9.45 mΩ	515 W	5.9 kg
45DB240V200P	F1000114	442	200 A	-	730000 A²s	31.5 kA	1050 A	7 mΩ	740 W	5.9 kg
Ø88mm, length 537mm										
45DB240V80P-4	B1008551	537	80 A	12000 A²s	120000 A²s	25 kA	360 A	17.5 mΩ	185 W	6 kg
45DB240V100P-4	C1008552	537	100 A	15000 A²s	220000 A²s	25 kA	450 A	13.1 mΩ	234 W	6 kg

Limiter®- P Back-up Fuses

without Controlled Power Dissipation

Dimensions



Dimensions in mm

Selection table

Rated voltage range of fuse-link [kV]		3/7.2		6/12		10/24		20/36	
Service voltage of transformer [kV]		6		10		20		30	
Relative short-circuit voltage	Transformer output [kVA]	Transformer rated current [A]	Rated current of fuse-link [A]	Transformer rated current [A]	Rated current of fuse-link [A]	Transformer rated current [A]	Rated current of fuse-link [A]	Transformer rated current [A]	Rated current of fuse-link [A]
U _k = 4%	50	4.8	16-20	2.9	10	1.5	4	0.96	2-6.3
	100	9.6	20-31.5	5.8	16-20	2.9	10	1.9	6.3-10
	125	12	25-40	7.2	20-25	3.6	10-16	2.4	10
	160	15.4	31.5-50	9.2	20-31.5	4.6	16-20	3.1	10
	200	19.2	40-63	11.5	25-40	5.8	16-20	3.8	10-16
	250	24.1	40-80	14.4	31.5-50	7.2	20-25	4.8	16-20
	315	30.3	50-100	18.2	40-63	9.1	20-31.5	6.1	16-25
	400	38.5	63-125	23.1	40-80	11.5	25-40	7.7	20-25
	500	48.1	80-160	28.9	50-100	14.4	31.5-50	9.6	20-31.5
	630	60.6	100-200	36.4	63-100	18.2	40-63	12.1	25-40
U _k = 5%	800	77.1	125-200	46.2	80-125	23.1	40-63	15.4	31.5-40
	1000	96.3	125-160	57.7	100-160	28.9	50-80	19.2	40-50
U _k = 6%	1250	120.3	160-200	72.2	125-200	36.1	63-100	24.1	40-50
	1600	154	200	92.4	125-200	46.2	80-100	30.8	50-63