



## Energy Saving HRC Fuse-Links

Cylindrical, Bolted & Blade Type

## About us



Switchgear Factory, Navi Mumbai



Switchgear Factory, Ahmednagar



Switchgear Factory, Vadodara

L&T Electrical & Automation (E&A) is a market leader for electrical distribution, monitoring and control solutions in the low voltage category.

Popular among customers as L&T Switchgear, E&A offers a wide range of low and medium voltage switchgear, motor starters, electrical systems, industrial automation, building electrical solutions, energy management solutions, electrical modernization solutions and metering solutions. Its products and solutions cater to key sectors of economy like industries, utilities, infrastructure, building and agriculture.

E&A's manufacturing operations at Navi Mumbai, Ahmednagar, Vadodara, Coimbatore and Mysuru in India adhere to global practices of excellence and receive support from well-equipped in-house design and development centres as well as tooling facilities that contribute to precision in manufacturing.

# HRC Fuse-links Cylindrical & Blade Type

L&T Electrical & Automation, India's largest manufacturer of low tension switchgear, offers the new generation of low watt loss HRC fuse-links designed as per the new IS 13703 / IEC 60269 standards.

## Type HF & HN



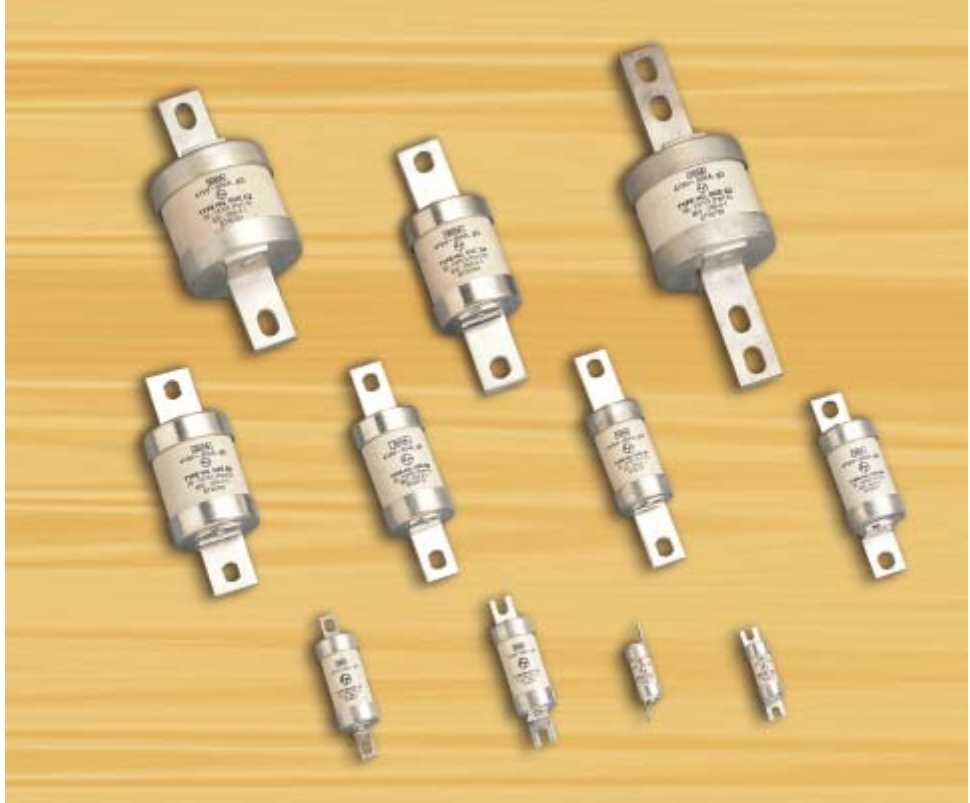
## Features & Benefits

- HF 2 - 63A & HN 63 - 800A
- High breaking capacity: 80kA for HF Type & 100kA for HN Type
- Utilization Category : gG
- Unique offerings: 63A Cylindrical Fuse  
125A in Size 000 DIN Type
- Fuse blown indication: Through a red pop-up indicator
- Low let through energy
- Low watt loss leading to power saving and cooler running of associated products like SDFs
- Conform to IS 13703 (Part 2) / IEC 60269-2
- Suitable fuse base & fuse pulling handle



# HRC Fuse-links Bolted Type

## Type HG & HQ



### Features & Benefits

- HG 2 - 32A & HQ 2 - 630A
- Breaking capacity: 80 kA at 415 V. for HG & HQ Fuses
- Utilization Category : gG
- Fuse Size: F1 / A1L - A4 / B1 - B4 / C2 - C3 Sizes - from 2 Amp. to 630 Amp.
- Low watt losses ensuring that associated equipment runs cooler
- Can be used with FN series SDF suitable for Bolted type fuses
- Suitable fuse base



# Technical Data

## Selection Chart for Cylindrical Type Fuse-Links - HF

- Rated Voltage : 415 V • Rated Breaking Capacity : 80 kA at 415 V

Size of the fuse link	Rating (A)	Description	Cat. Nos.	Rated watt loss (W)	Watt loss limits as per IS 13703 (W)	Suitable for S-D-F Units type FN / FNX or Equivalent
Size 14x51	2	Suitable for Type FN 32 / 63 / FNX 32/ 63 S-D-F. Also for HCO 32 Fuse base	SF90144	0.6	5	32, 63
	4		SF90145	0.6		32, 63
	6		SF90146	1.1		32, 63
	8		SF90147	1.2		32, 63
	10		SF90148	1.0		32, 63
	16		SF90150	2.4		32, 63
	20		SF90151	2.4		32, 63
	25		SF90152	3.2		32, 63
	32		SF90142	5.0		32, 63
	40	Suitable for Type FN 63/ FNX 63 S-D-F Also for HC 63 Fuse base	SF90143	5.0	7	63
	50		SF90158	5.0		63
	63		SF90159	7.4		63



HF 63A



HF 2A

## Selection Chart for Blade Type Fuse-Links - HN

- Rated Voltage : 415 V • Rated Breaking Capacity : 100 kA at 415 V

Size of the fuse link	Rating	Cat. Nos.	Rated watt loss (W)	Watt loss limits as per IS 13703	Suitable for S-D-F units type FN / FNX or Equivalent
Size 000	63 A	SF94940	5.3	100 Amp, Fuse-7.5 W	100, 125, 160
	80 A	SF94941	6.2		100, 125, 160
	100 A	SF94942	<b>7</b>		100, 125, 160
	125 A	SF94946	8.5		100, 125, 160
Size 00	63 A	SF94027	5.7	100 Amp, Fuse-7.5 W	100, 125, 160
	80 A	SF94028	6.9		100, 125, 160
	100 A	SF94029	<b>7.5</b>		100, 125, 160
	125 A	SF94030	9.8		125, 160
	160 A	SF94939	12		160
Size 0	80 A	SF94128	8.3	160 Amp, Fuse-16 W	200
	100 A	SF94129	9.1		200
	125 A	SF94130	11.3		200
	160 A	SF94131	<b>12.7</b>		200
	200 A	SF94132	14.5		200
Size 1	125 A	SF94230	10.3	250 Amp, Fuse-23 W	250, 315
	160 A	SF94231	12.3		250, 315
	200 A	SF94232	14.3		250, 315
	250 A	SF94233	<b>17.3</b>		250, 315
	315 A	SF94234	25.5		315
Size 2	200 A	SF94332	14.1	400 Amp, Fuse-34 W	400
	250 A	SF94333	16.9		400
	315 A	SF94334	20.2		400
	400 A	SF94335	<b>24.9</b>		400
Size 3	315 A	SF94434	20.5	630 Amp, Fuse-48 W	630, 800
	400 A	SF94435	26.7		630, 800
	500 A	SF94436	36.1		630, 800
	630 A	SF94437	<b>42.2</b>		630, 800
	800 A	SF94938	48		800



000



00



0



1



2



3

\*Suitable fuse base & fuse pulling handle are detailed in following pages

### Guidelines for selection

- While selecting fuse-links, the following points should be considered :
- Fuse-links type HF & HN are suitable for system voltage up to 415 V+
  - Select the suitable size and rating of fuse-link for switch-disconnector fuse unit as per the fuse selection chart
  - Ensure that the breaking capacity of the fuse link is higher than the prospective fault current
  - Fuses should be selected such that discrimination is achieved with other protective devices in the system

## Fuse holders , Fuse bases & Fuse pulling handle suitable for Cylindrical / DIN fuse-links

Rated Current (A)	Type	Description	Suitable fuse-link		Cat. No.
			Type	Range (A)	
32	HCO 32	Fuse holder	HF	2-32	SK91314
63	HC 63	Fuse holder	HF	2-63	SK91043
160	HB 160	Fuse base	HN-Size 000 & 00	63-160	SK90405
250	HB 250	Fuse base	HN-Size 0 & 1	80-250	SK90406
800	HB 800	Fuse base	HN-Size 2 & 3	200-800	SK91051
2-63	HF	Fuse pulling handle	HF	2-63	SK91185
63-800	HN	Fuse pulling handle	HN	63-800	SF90126



HB



HCO

## Selection Chart for Bolted type

• Rated Voltage : 415 V • Rated Breaking Capacity : 80 kA • Utilisation Category : gG

Fixing Method	Size	Rating (A)	Description	Cat. No.	Power loss (W)	Watt loss limits as per IS 13703
Offset, staggered	F1	2	Suitable for type HD 20H/20P/20B, HD 32H/32P/32B Fuse base	ST30725	0.3	32 A, Fuse - 3.2W
		4		ST30726	0.5	
		6		ST30727	1.2	
		10		ST30728	1.4	
		16		ST30729	1.8	
		20		ST30730	2.2	
		25		ST30731	2.9	
		32		ST30732	3.0	
Offset	A1	2	---	ST30736	0.3	20 A, Fuse - 2.7W
		4		ST30737	0.5	
		6		ST30738	1.2	
		10		ST30739	1.4	
		16		ST30740	1.8	
		20		ST30741	2.2	
		25		ST30742	2.9	
		32		ST30743	3.0	
	A1L	20	Suitable for type FN 32/63 Switch disconnecter Fuse unit	ST34527	2.4	20 A, Fuse - 3.2W
		25		ST34528	3.1	
		32		ST34529	3.4	
		50		ST35827	4.0	
		63		ST35828	4.7	
	A2	4	Suitable for type HK 32H/32B Fuse base	ST30747	0.8	32 A, Fuse - 4.4W
		6		ST30748	1.4	
		10		ST30749	1.5	
		16		ST30750	2.0	
		20		ST30751	2.8	
		25		ST30752	3.8	
		32		ST30753	4.4	
	A3	35	Suitable for type FN 100 Switch disconnecter Fuse unit, also for HK 63B/63H Fuse base	ST30759	4.5	63 A, Fuse - 6.9W
		50		ST30760	6.2	
		63		ST30761	6.8	
	A4	80	Suitable for type FN 100/125/160 Switch disconnecter Fuse unit, also for HK 125H/125B Fuse base	ST30767	9.1	100 A, Fuse - 9.1W
100		ST30768		9.5		
125		ST30769		14		
160		ST35829		-		



F1



A1



A1 L



A2



A3

## Selection Chart for Bolted type Fuse Links - HG & HQ

• Rated Voltage : 415 V • Rated Breaking Capacity : 80 kA • Utilisation Category : gG

Fixing Method	Size	Rating (A)	Description	Cat. No.	Power loss W	Watt loss limits as per IS 13703
Centre Tag, 2 holes	B1	80	Suitable for type FN 200 Switch disconnecter Fuse unit	ST30774	9.2	100 A, Fuse - 9.1W
		100		ST30775	10.5	
		125		ST30776	16.0	
	B2	125	Suitable for type FN 200/250 Switch disconnecter Fuse unit	ST30777	15.0	200 A, Fuse - 17W
		160		ST30778	19.5	
		200		ST30779	20.5	
	B3	250	Suitable for type FN 250/315 Switch disconnecter Fuse	ST30781	28	250 A, Fuse - 32W
		315		ST30782	32	
	B4	355	Suitable for type FN 400 Switch disconnecter Fuse unit	ST30783	34	400 A, Fuse - 40W
		400		ST30784	38	
Centre Tag, 4 holes	C2	400	Suitable for type FN 630 Switch disconnecter Fuse unit	ST30785	38	630 A, Fuse - 55W
		500		ST30786	50	
		630		ST30787	55	
	C3	630	-	ST30788	55	



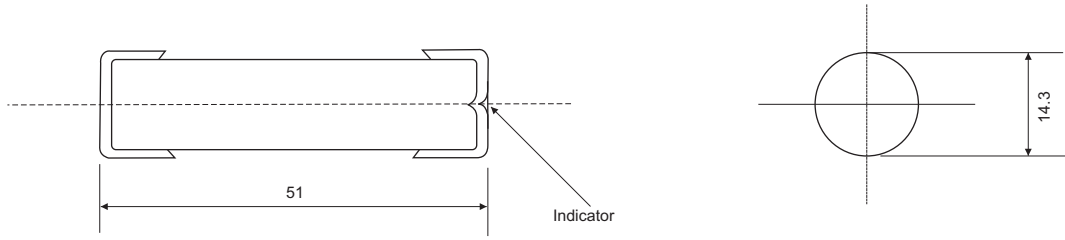
## Fuse holders suitable for bolted fuse-links

Rated Current	Type	Connection Method	Fuse Type	Suitable Fuse Range (A)	Cat. No.
20	HD 20H	Both side cable	F1	2-20	ST30772
	HD 20P	Both side busbar	F1	2-20	ST30773
	HD 20B	Top side busbar & bottom cable	F1	2-20	ST30766
32	HD 32H	Both side cable	F1	2-32	ST30733
	HD 32P	Both side busbar	F1	2-32	ST30734
	HD 32B	Top busbar & bottom cable	F1	2-32	ST30735
	HK 32H	Both side cable	A2	4-32	ST30754
	HK 32B	Top busbar & bottom cable	A2	4-32	ST30755
63	HK 63H	Both side cable	A3	35-63	ST30762
	HK 63B	Top busbar & bottom cable	A3	35-63	ST30763
125	HK 125H	Both side cable	A4	80-125	ST30770
	HK 125B	Top busbar & bottom cable	A4	80-125	ST30771



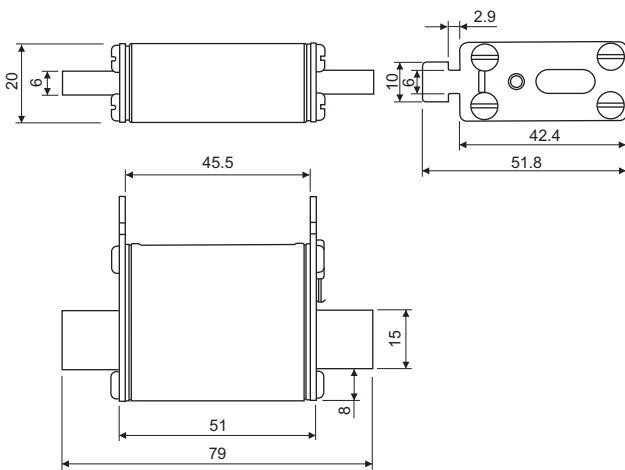
# Overall Dimensions

## HF Fuse-link

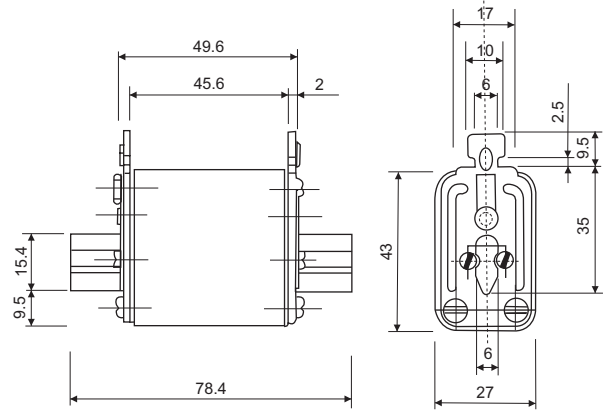


## HN Fuse-link

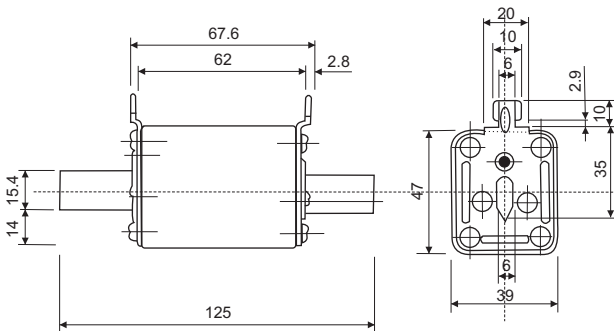
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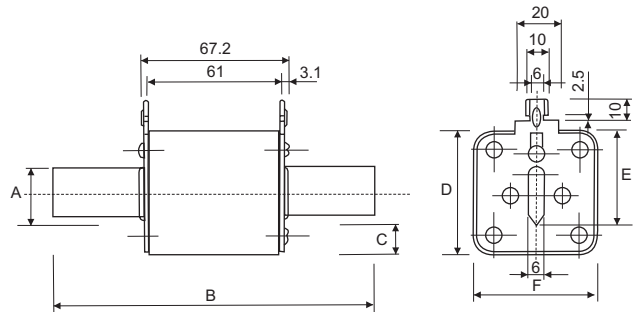
### Size 00



### Size 0



### Size 1 / 2 / 3

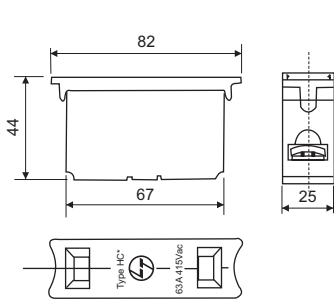


Type	A	B	C	D	E	F
Size 1	20.4	135	11.0	46	40	46
Size 2	25.4	150	14.0	59	48	59
Size 3	32.4	150	17.5	73	60	73

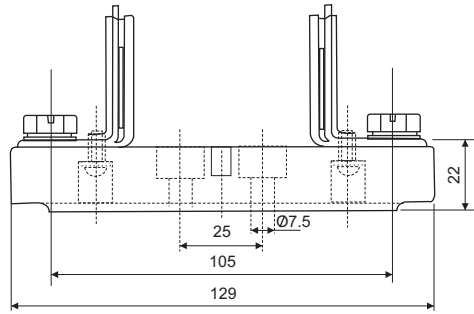
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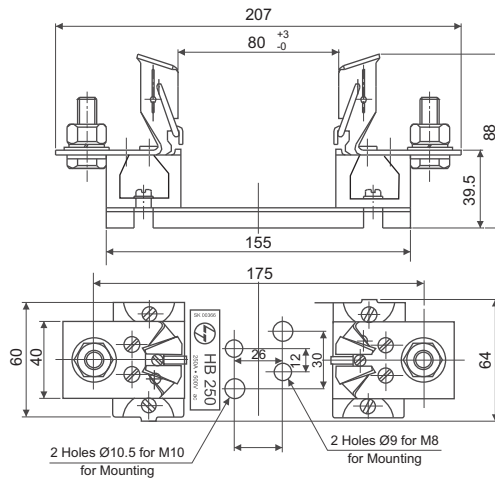
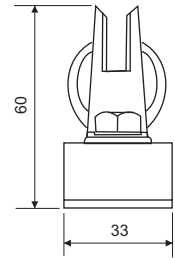
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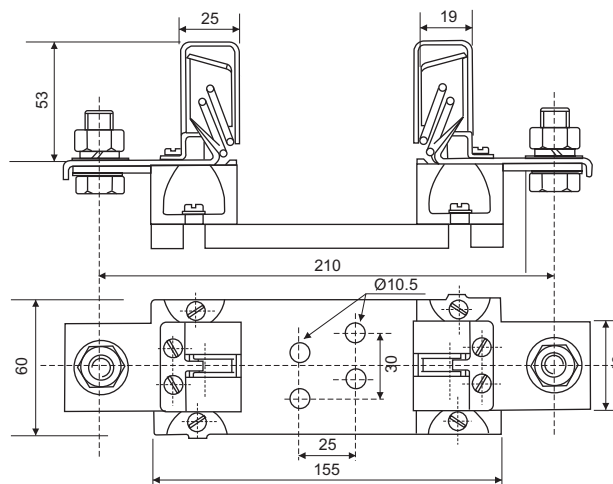
**HCO / HC**



**HB 160**



**HB 250**

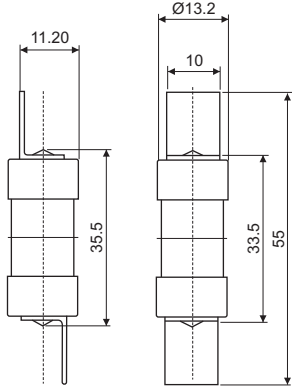


**HB 800**

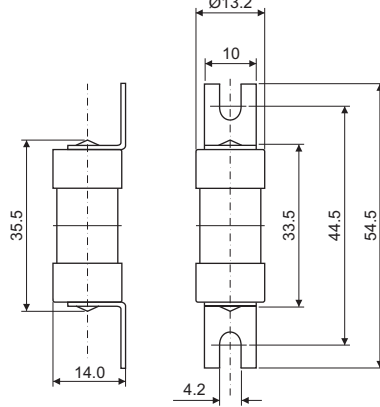
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# Overall Dimensions

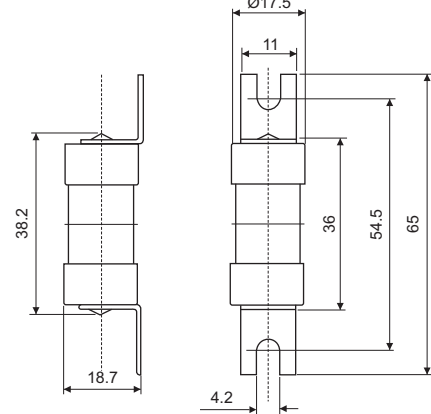
**HG, SIZE F1**



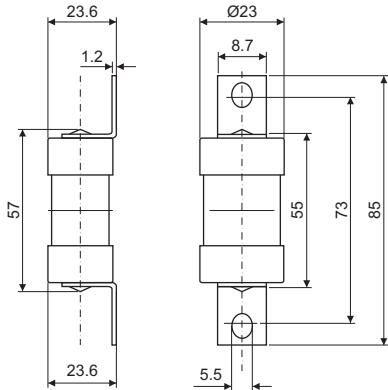
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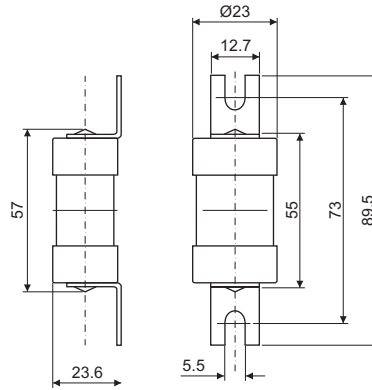
**HQ, SIZE A1L**



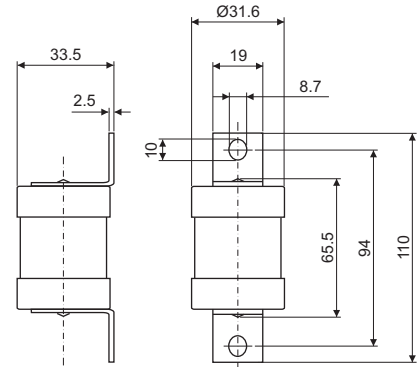
**HQ, SIZE A2**



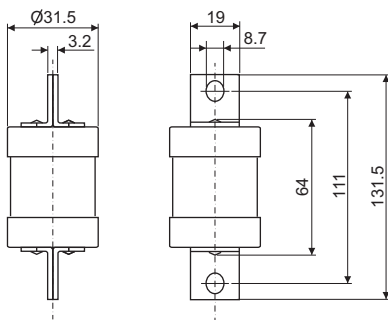
**HQ, SIZE A3**



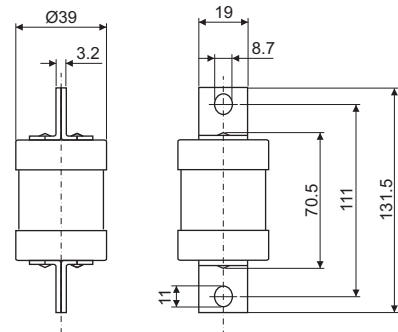
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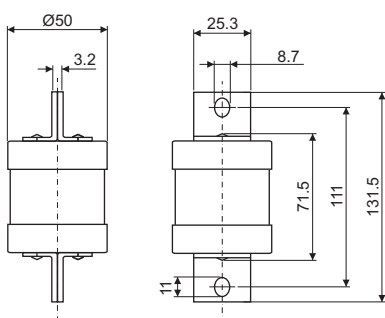
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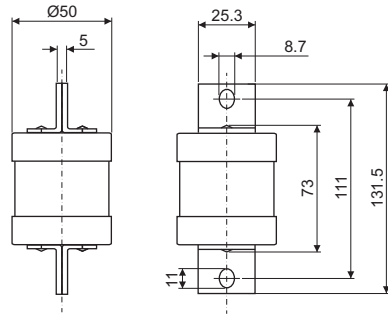
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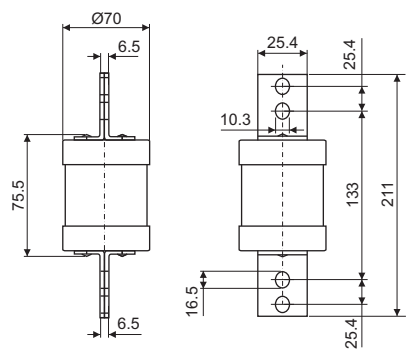
**HQ, SIZE B3**



**HQ, SIZE B4**



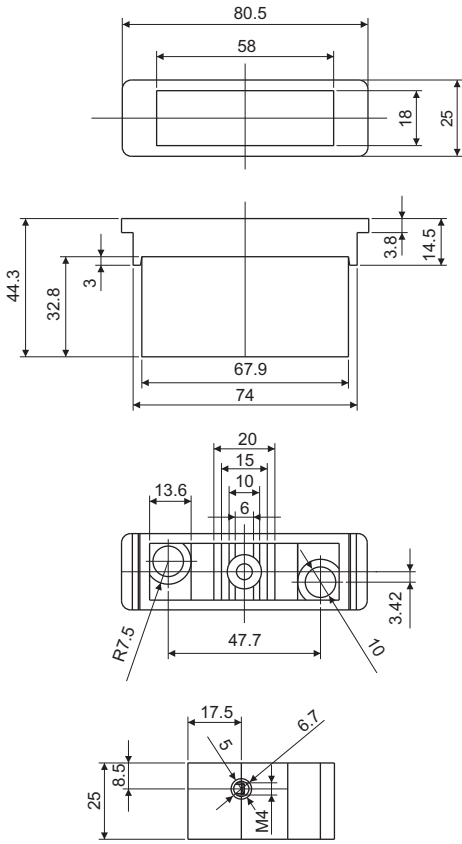
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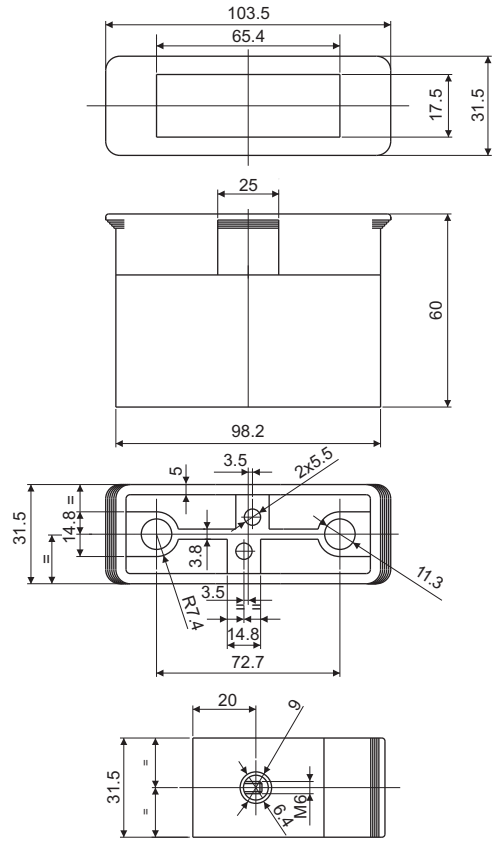
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# Overall Dimensions

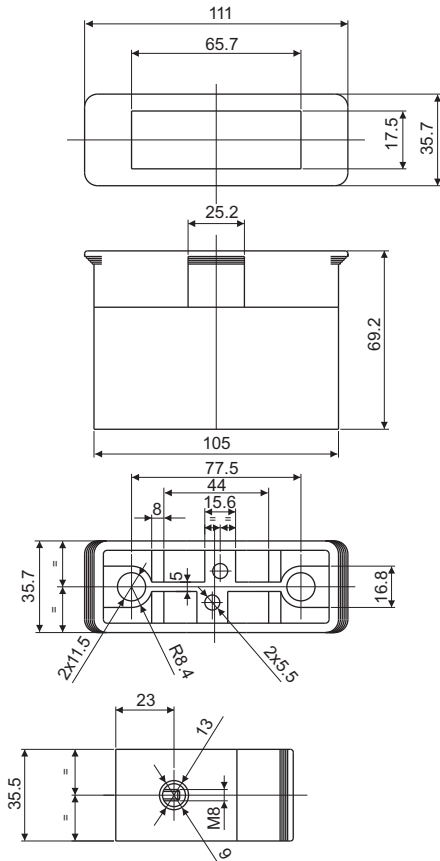
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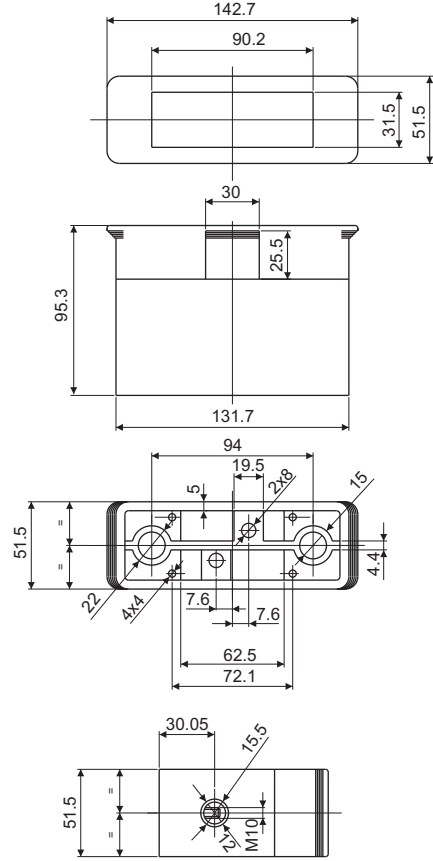
**HK 32**



**HK 63**



**HK 125**

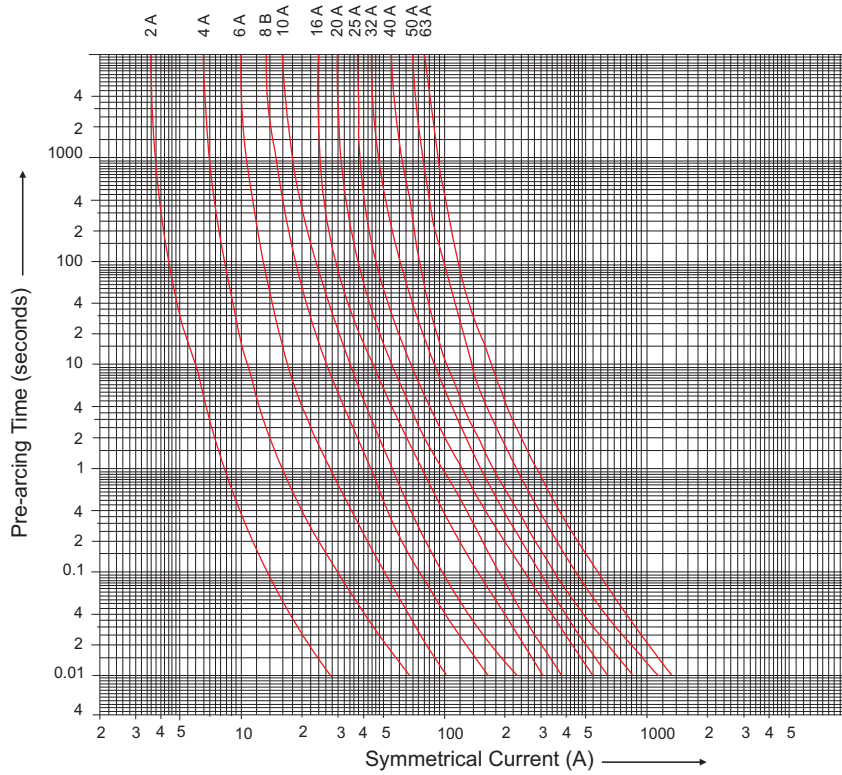


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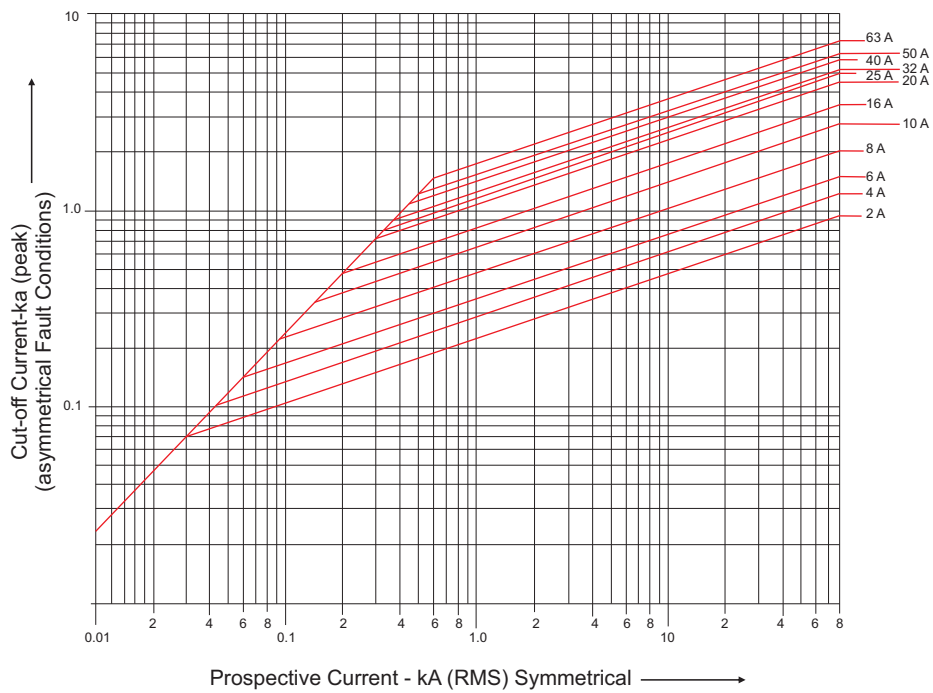
# Characteristics Curve

## HRC Fuse-links Type HF

### Time-Current Characteristics



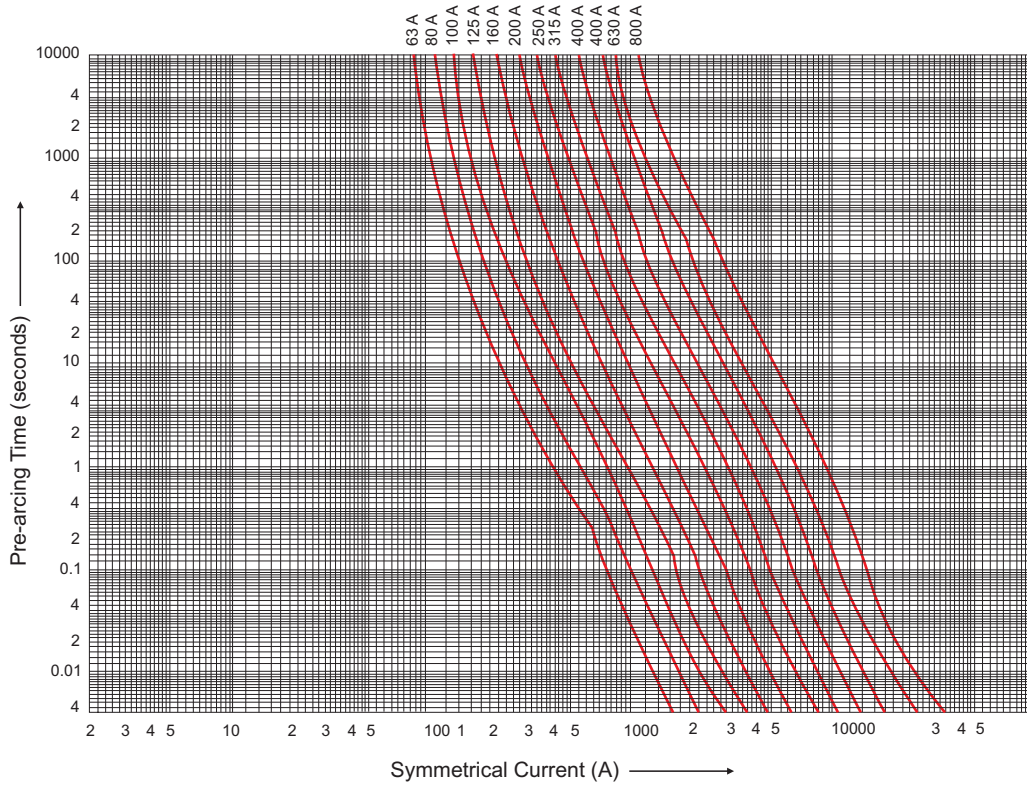
### Cut-off Current Characteristics



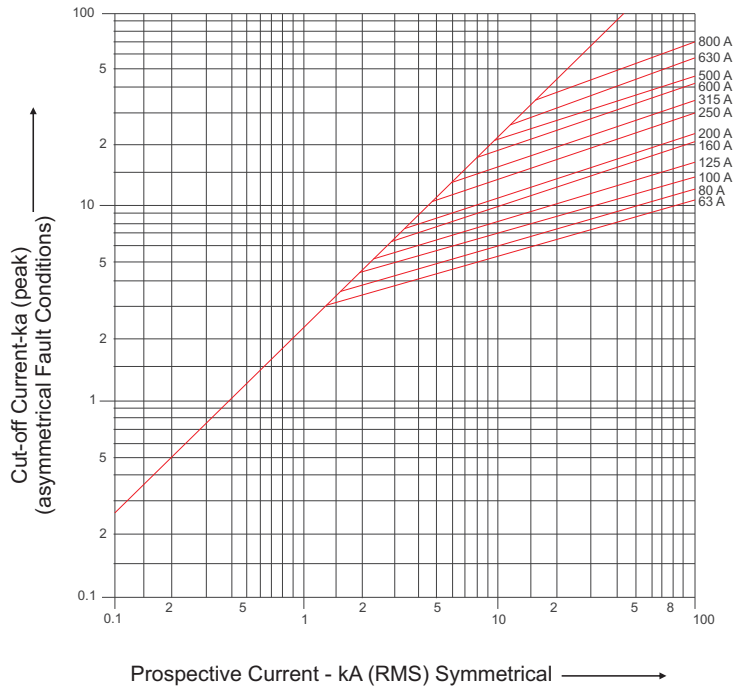
# Characteristics Curve

## HRC Fuse-links Type HN

### Time-Current Characteristics



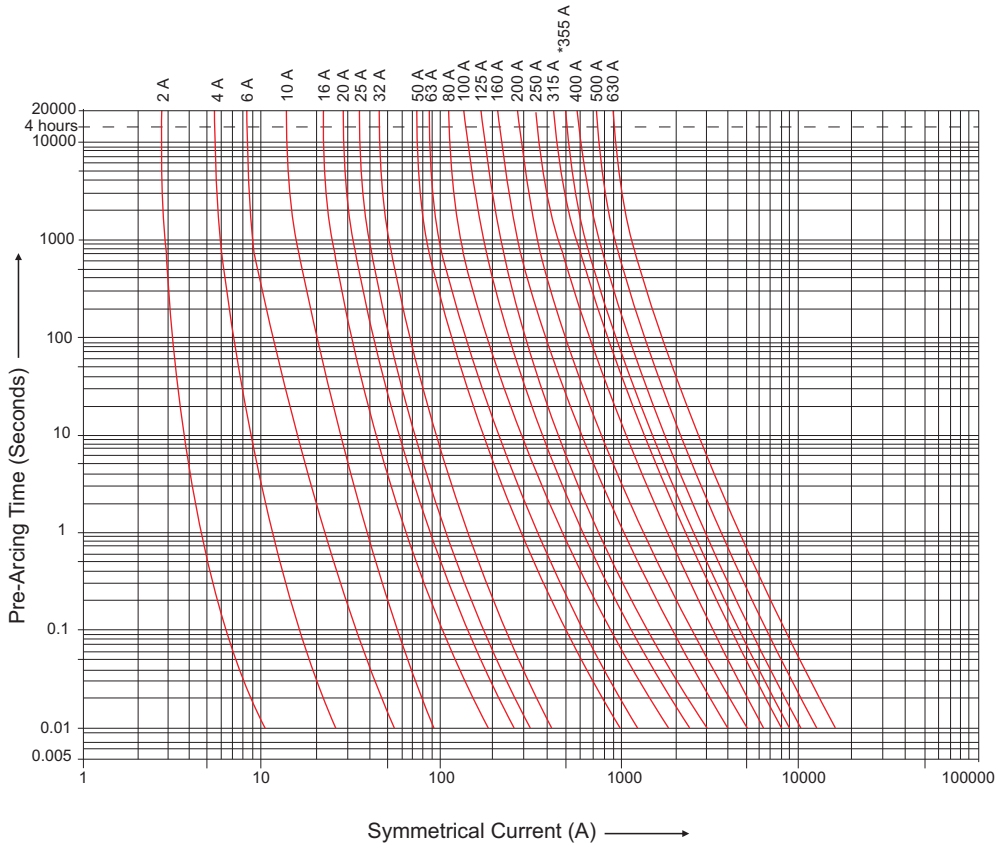
### Cut-off Current Characteristics



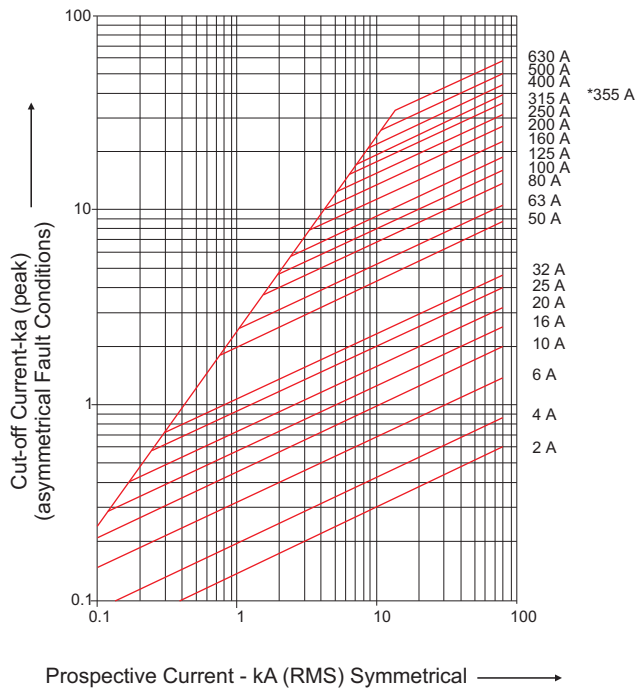
# Characteristics Curve

## HRC Fuse-links Type HQ

### Time-Current Characteristics



### Cut-off Current Characteristics





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