



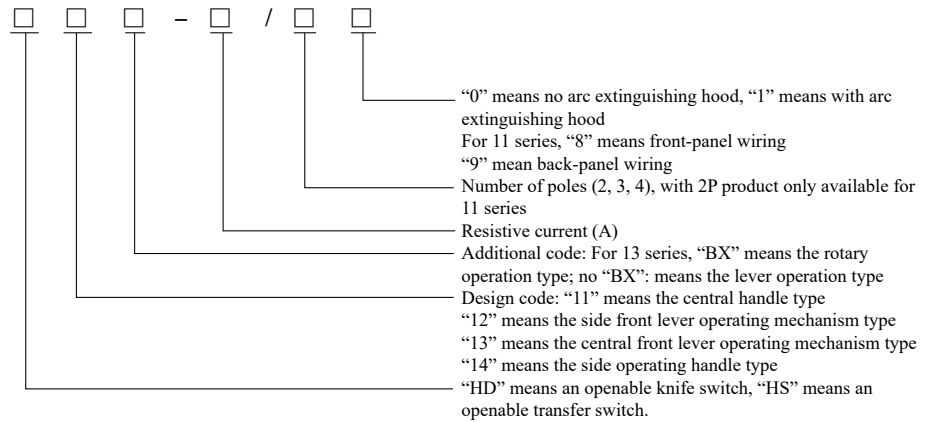
HD, HS Series Knife Switch

1 Overview

HD series, HS series knife switch (hereinafter referred to as switch) is used in the complete set of AC 50Hz power distribution equipment with the rated operating voltage up to 690V and with the rated operating current up to 3000A as infrequent manual connection and disconnection circuit or as a disconnecter. Among them:

- 1.1 The central handle type knife switch is primarily used in the power station as a switch disconnecter not used to cut off a circuit with current.
- 1.2 The side front lever operating mechanism switch is mainly used in the switch cabinet for front operation and front With maintenance, and the operating mechanism can be installed on both sides of the cabinet.
- 1.3 The central front lever operating mechanism type switch is primarily used in the switch cabinet for front operation and rear With maintenance, and the operating mechanism is installed at the front side.
- 1.4 The side operated handle type switch is primarily used in power boxes.
- 1.5 The switch equipped with an arc extinguishing hood can cut off the appropriate current load, and other series of knife switches are only used as switch disconnectors.

2 Type Designation



Notes: 1. The BX rotary operating mechanism is available only for HD13 and HS13, and the wiring method is optional only for HD11 and HS11;

2. Please specify the model, features, voltage grade, current grade, number of poles, operation mode, and quantity of the switch when ordering;

3. Order example: To switch HS13 switch, 250 frame, rated current 250A, three poles, with arc extinguishing hood, rotary operation, 10 units

Please specify HS13BX-250/31 10 units.

Note: 1. The 2000A, 3000A shell frame product with an arc extinguishing hood adopts copper double busbar structure (single-phase double copper busbar), and the product without an arc extinguishing hood adopts single copper busbar. There are differences between the single copper busbar products and the double copper busbar products in the outline and installation dimensions;

2. The outline and installation dimensions of HD(HS)13BX-2000, 3000/31, 41 "double copper busbar type" products are shown in the sample figure 12 and table 13.

3. The outline and installation dimensions of the "single copper busbar type" product see the corresponding chart.

3 Technical Parameters

Table 1

Basic information										
Frame rated current	250	400	630	1000	1600	2000	3000			
Number of poles	2P、3P、4P									
	50									
Rated operating voltage U_e (V)	415/690									
Rated insulation voltage U_i (V)	1000									
Rated impulse withstand voltage U_{imp} (kV)	12									
Rated operating current I_e (A)	200	250	400	600	630	1000	1500	1600	2000	3000
Rated short time withstand current I_{cw} (kA/s)	10		15		20	25	30		30	50
Accessory information										
Handle / operating mechanism	■(Standard)									
Arc extinguishing hood	□(Optional)									

HD, HS Series Knife Switch

4 Operating Conditions

- 4.1 The upper limit of the ambient air temperature does not exceed +40°C, and the lower limit is not below -5°C.
- 4.2 The altitude at the installation site does not exceed 2000m.
- 4.3 Humidity: When the maximum temperature is 40°C, the relative humidity of air does not exceed 50%. A higher relative humidity is allowed at low temperatures, such as up to 90% at 20°C. Special measures are taken for condensation occurred occasionally due to temperature changes.
- 4.4 The Pollution degree of the surrounding environment is Level 3;
- 4.5 The switch shall be vertically installed in a place where there is no obvious shaking, impact vibration and rain and snow immersion and where there is no explosive danger medium that there is no gas or dust sufficient to cause metal corrosion and damage to the insulation.

5 Outline and Installation Dimensions

5.1 HD11 Front-Panel Wiring Connection (see Fig. 1, Table 2).

Fig. 1

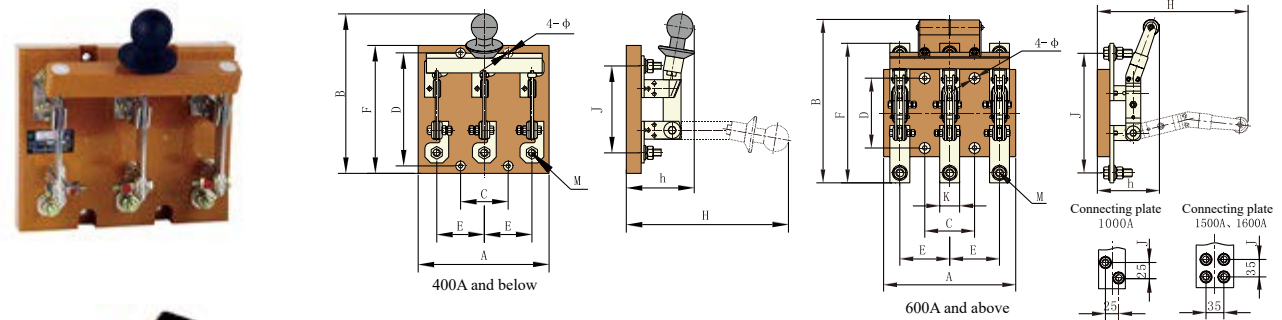


Table 2 (mm)

Spec.	100、160A			200、250A			400A			600、630A			1000A			1500、1600A		
	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
A	85	140	190	150	190	270	190	210	300	240	260	360	280	320	440	300	350	480
B	200	200	200	210	210	210	270	270	300	350	300	330	380	350	360	410	390	390
C	-	50	100	120	70	140	160	80	160	200	100	200	240	120	240	260	130	260
D	140	140	140	140	140	140	190	190	190	140	140	140	140	140	140	140	140	140
E	50	50	50	70	70	70	80	80	80	100	100	100	120	120	120	130	130	130
F	165	165	165	160	160	160	210	210	210	274	274	274	284	284	284	330	330	330
H	210	220	220	220	220	220	270	270	270	330	310	310	380	360	360	390	370	370
h	120	120	120	120	120	120	135	135	135	140	125	125	175	160	160	175	160	160
J	110	110	110	110	110	110	146	146	146	234	234	234	208	208	208	230	230	230
K	-	-	-	-	-	-	-	-	-	40	40	40	50	50	50	70	70	70
M	8	8	8	8	8	8	12	12	12	16	16	16	12	12	12	12	12	12
Φ	6	6	6	7	7	7	7	7	7	9	9	9	9	9	9	11	11	11

HD, HS Series Knife Switch

5.2 HD11 Back-Panel Wiring Connection (see Fig. 2, Table 3).

Fig. 2

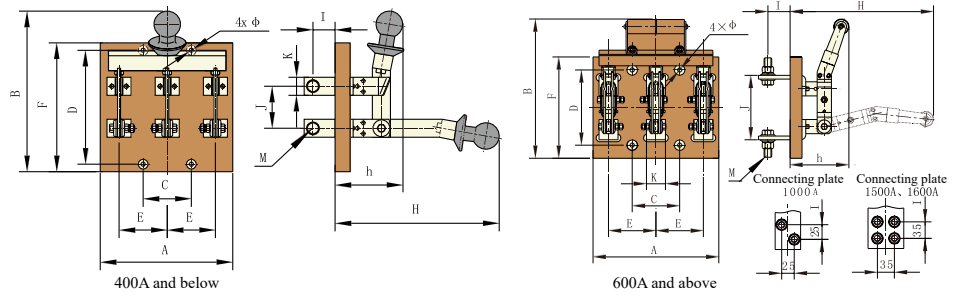
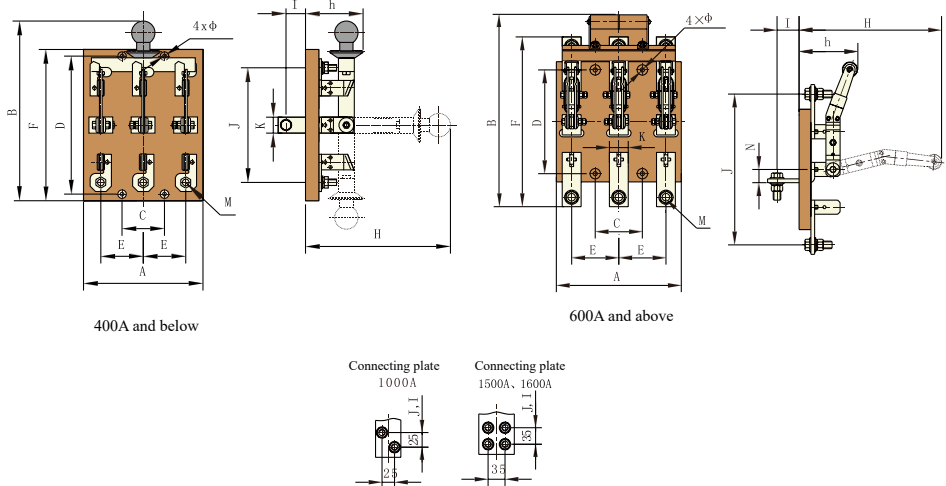


Table 3 (mm)

Spec.	200、250A			400A			600、630A			1000A			1500、1600A		
	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
A	200	200	270	200	220	300	240	270	370	280	330	450	300	380	510
B	230	230	250	280	280	310	340	320	320	380	360	360	410	390	390
C	140	70	140	160	80	160	200	100	200	240	120	240	260	130	260
D	160	160	160	190	190	190	220	220	220	260	260	260	300	300	300
E	70	70	70	80	80	80	100	100	100	120	120	120	130	130	130
F	190	190	190	215	215	215	240	240	240	290	290	290	340	340	340
H	220	220	240	270	270	300	330	310	310	380	360	360	390	370	370
h	120	120	120	135	135	145	140	125	125	175	160	160	175	160	160
I	35	35	35	35	35	35	36	36	36	36	36	36	40	40	40
J	60	60	60	70	70	70	140	140	140	160	160	160	180	180	180
K	20	20	20	30	30	30	40	40	40	50	50	50	70	70	70
M	8	8	8	12	12	12	16	16	16	12	12	12	12	12	12
φ	7	7	7	7	7	7	9	9	9	9	9	9	11	11	11

5.3 HS11 front-panel inlet and back-panel outlet (see Fig. 3, Table 4)

Fig. 3



HD, HS Series Knife Switch

Table 4 (mm)

Spec.	200、250A			400A			600、630A			1000A			1500、1600A		
	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
A	160	190	265	200	220	300	240	270	370	280	330	450	300	380	510
B	330	330	370	395	395	455	500	460	460	560	520	520	580	540	540
C	140	70	140	160	80	160	200	100	200	240	120	240	260	130	260
D	220	220	220	260	260	260	220	220	220	220	220	220	260	260	260
E	70	70	70	80	80	80	100	100	100	120	120	120	130	130	130
F	245	245	245	285	285	285	354	354	354	374	374	374	434	434	434
H	240	240	240	280	280	300	390	370	370	450	430	430	470	450	450
h	100	100	100	110	110	110	100	95	95	150	145	145	160	150	150
I	35	35	35	35	35	35	36	36	36	36	36	36	40	40	40
J	170	170	170	216	216	216	320	320	320	304	304	304	340	340	340
K	20	20	20	30	30	30	40	40	40	50	50	50	70	70	70
N	-	-	-	-	-	-	30	30	30	40	40	40	46	46	46
M	8	8	8	12	12	12	16	16	16	12	12	12	12	12	12
φ	7	7	7	7	7	7	9	9	9	9	9	9	11	11	11

5.4 HS11 back-panel wiring connection (see Fig. 4, Table 5)

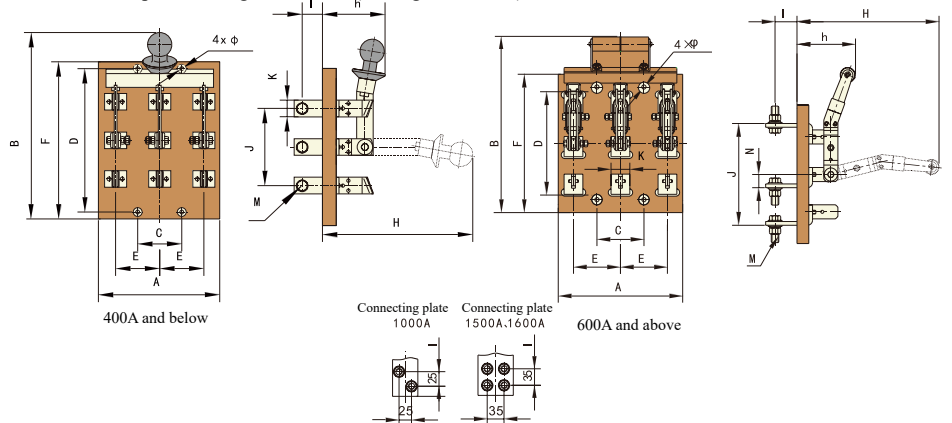


Fig. 4

Table 5 (mm)

Spec.	200、250A			400A			600、630A			1000A			1500、1600A		
	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
A	170	200	270	200	220	300	240	270	370	280	330	450	300	380	510
B	330	330	370	395	395	455	500	460	460	560	520	520	580	540	540
C	140	70	140	160	80	160	200	100	200	240	120	240	260	130	260
D	220	220	220	260	260	260	300	300	300	340	340	340	390	390	390
E	70	70	70	80	80	80	100	100	100	120	120	120	130	130	130
F	245	245	245	285	285	285	340	340	340	390	390	390	450	450	450
H	240	240	240	280	280	300	330	310	310	380	360	360	390	370	370
h	120	120	120	135	135	145	140	125	125	175	160	160	175	160	160
I	35	35	35	35	35	35	36	36	36	36	36	36	40	40	40
J	120	120	120	140	140	140	220	220	220	250	250	250	285	285	285
K	20	20	20	30	30	30	40	40	40	50	50	50	70	70	70
N	-	-	-	-	-	-	30	30	30	40	40	40	46	46	46
M	8	8	8	12	12	12	16	16	16	12	12	12	12	12	12
φ	7	7	7	7	7	7	9	9	9	9	9	9	11	11	11

HD, HS Series Knife Switch

5.5 HD12 Outline and Installation Dimensions (see Fig. 5, Table 6)

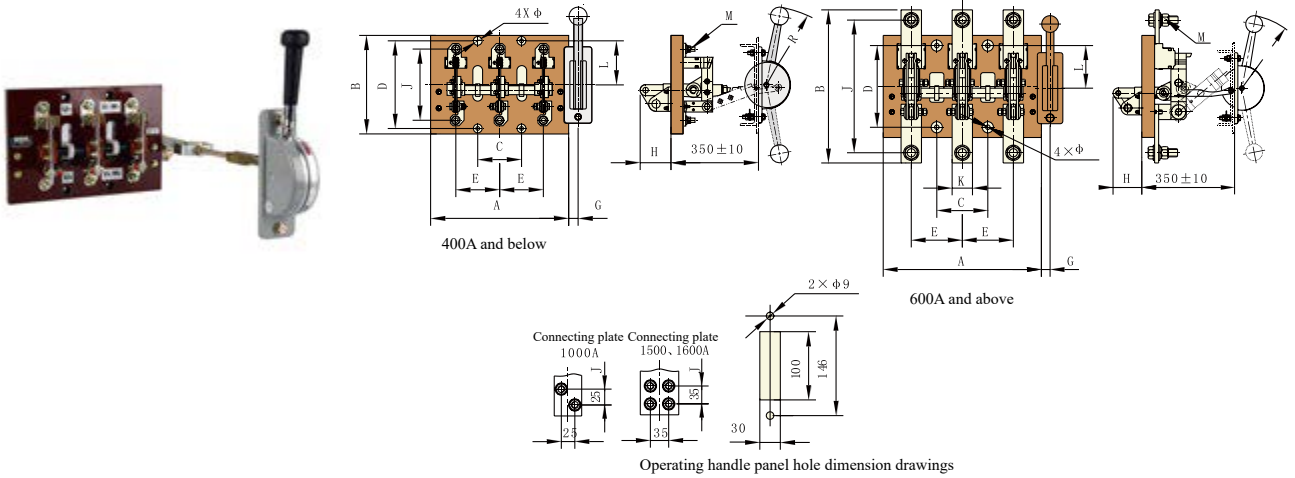


Fig. 5

Table 6 (mm)

Spec.	200、250A			400A			600、630A			1000A			1500、1600A		
	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
A	200	280	360	220	310	400	250	330	430	300	400	520	330	440	570
B	200	200	200	210	210	210	294	294	294	318	318	318	354	354	354
C	160	80	160	180	90	180	200	100	200	240	120	240	260	130	260
D	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
E	80	80	80	90	90	90	100	100	100	120	120	120	130	130	130
G	40	40	40	30	30	30	30	30	30	30	30	30	30	30	30
H	80	80	80	90	90	90	95	95	95	110	110	110	110	110	110
J	130	130	130	166	166	166	254	254	254	242	242	242	254	254	254
K	-	-	-	-	-	-	40	40	40	50	50	50	70	70	70
L	75	75	75	75	75	75	80	80	80	80	80	80	80	80	80
R	180	180	180	180	180	180	180	180	180	230	230	230	230	230	230
M	8	8	8	12	12	12	16	16	16	12	12	12	12	12	12
Φ	7	7	7	7	7	7	9	9	9	9	9	9	11	11	11

5.6 HS12 Outline and Installation Dimensions (see Fig. 6, Table 7)

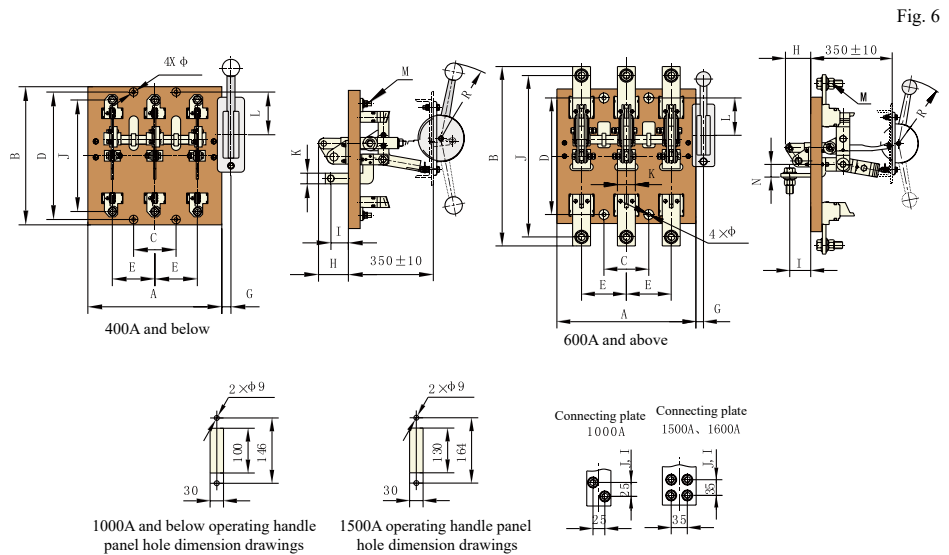


Fig. 6

HD, HS Series Knife Switch

Table 7 (mm)

Spec.	200、250A		400A		600、630A		1000A		1500、1600A	
	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
A	280	360	310	400	330	430	400	520	440	570
B	280	280	305	305	394	394	434	434	485	485
C	80	160	90	180	100	200	120	240	130	260
D	240	240	240	240	240	240	240	240	260	260
E	80	80	90	90	100	100	120	120	130	130
G	40	40	30	30	30	30	30	30	30	30
H	80	80	90	90	95	95	110	110	110	110
I	35	35	35	35	36	36	36	36	40	40
J	210	210	256	256	354	354	362	362	385	385
K	20	20	30	30	40	40	50	50	70	70
L	75	75	75	75	70	70	60	60	70	70
N	-	-	-	-	30	30	40	40	46	46
R	180	180	180	180	180	180	230	230	230	230
M	8	8	12	12	16	16	12	12	12	12
φ	7	7	7	7	9	9	9	9	11	11



5.7 HD13 Outline and Installation Dimensions (see Fig. 7, Table 8)

Fig. 7

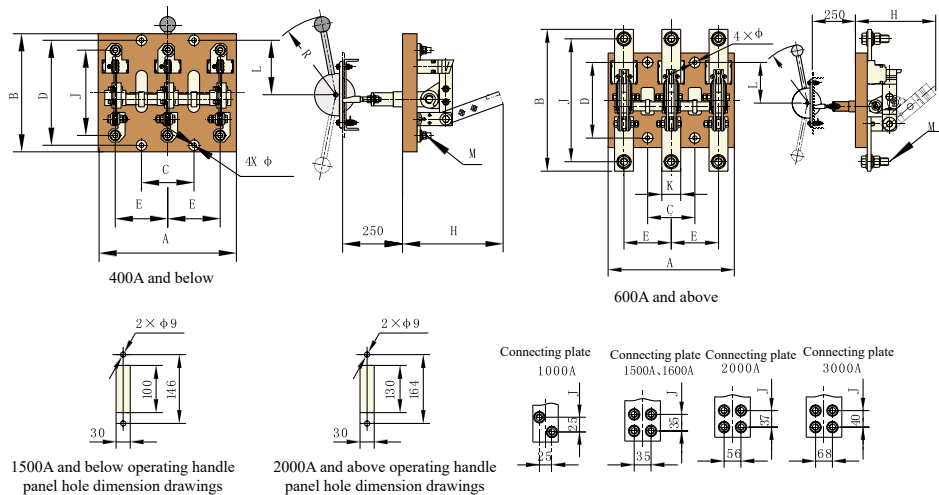


Table 8 (mm)

Spec.	200、250A		400A		600、630A		1000A		1500、1600A		2000A		3000A	
	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
A	210	300	245	335	260	370	310	440	340	480	480	660	580	780
B	200	200	210	210	294	294	315	315	354	354	360	360	400	400
C	80	160	90	180	100	200	120	240	130	260	180	360	200	400
D	160	160	160	160	160	160	160	160	160	160	160	160	160	160
E	80	80	90	90	100	100	120	120	130	130	180	180	200	200
H	160	160	185	185	190	190	230	230	235	235	230	230	235	235
J	130	130	166	166	254	254	242	242	254	254	250	250	280	280
K	-	-	-	-	40	40	50	50	70	70	100	100	120	120
L	75	75	75	75	80	80	80	80	80	80	80	80	80	80
R	180	180	180	180	180	180	230	230	230	230	280	280	280	280
M	8	8	12	12	16	16	12	12	12	12	12	12	16	16
φ	7	7	7	7	9	9	9	9	11	11	11	11	11	11

Note: In the 2000A and 3000A columns of Table 8, there are outline and installation dimensions of the "Single copper busbar type (without arc extinguishing hood)" product.

HD, HS Series Knife Switch

5.8 HS13 Outline and Installation Dimensions (see Fig. 8, Table 9)

Fig. 8

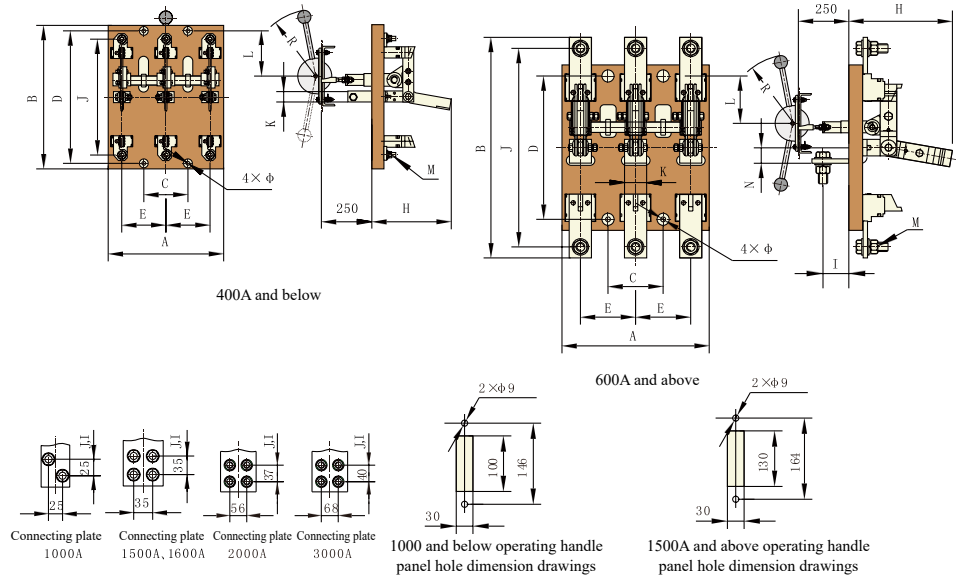


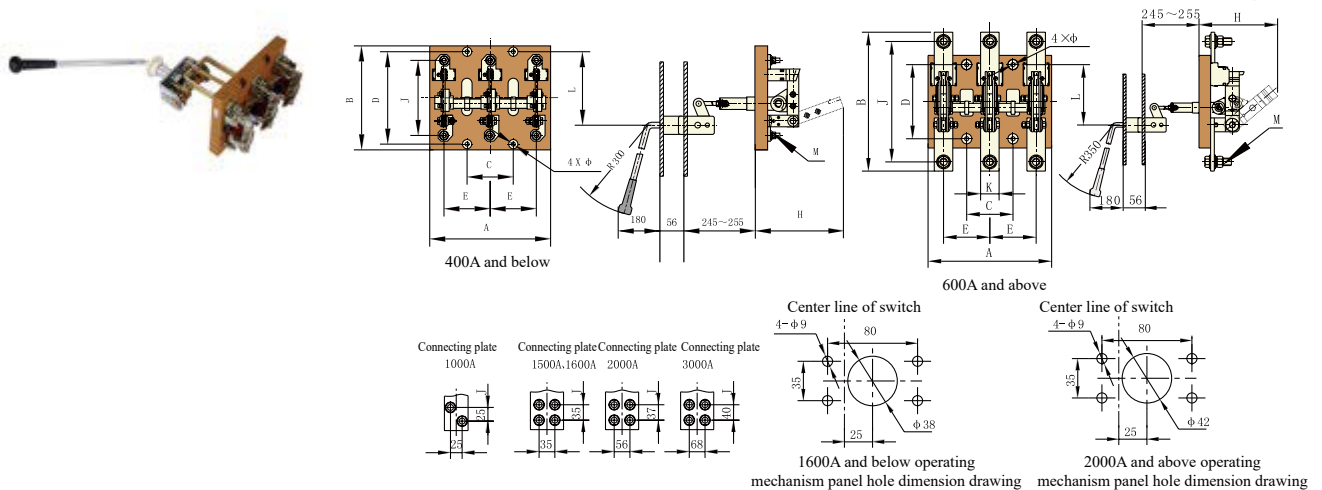
Table 9 (mm)

Spec.	200、250A		400A		600、630A		1000A		1500、1600A		2000A		3000A	
	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
A	210	290	240	335	270	370	330	450	370	500	500	680	600	800
B	260	260	300	300	394	394	434	434	485	485	480	480	540	540
C	80	160	90	180	100	200	120	240	130	260	180	360	200	400
D	240	240	240	240	240	240	240	240	260	260	260	260	260	260
E	80	80	90	90	100	100	120	120	130	130	180	180	200	200
H	153	153	185	185	190	190	235	235	255	255	235	235	260	260
I	35	35	35	35	38	38	32	32	40	40	48	48	50	50
J	210	210	256	256	354	354	362	362	385	385	370	370	404	404
K	-	-	-	-	40	40	50	50	70	70	100	100	120	120
L	78	78	70	70	70	70	65	65	70	70	60	60	70	70
N	-	-	-	-	30	30	40	40	46	46	50	50	50	50
R	180	180	180	180	180	180	230	230	280	280	280	280	280	280
M	8	8	12	12	16	16	12	12	12	12	12	12	16	16
φ	7	7	7	7	9	9	9	9	11	11	11	11	11	11

Note: In the 2000A and 3000A columns of Table 9, there are outline and installation dimensions of the "Single copper busbar type (without arc extinguishing hood)" product.

5.9 HD13BX Outline and Installation Dimensions (see Fig. 9, Table 10)

Fig. 9



HD, HS Series Knife Switch

Table 10 (mm)

Spec.	200、250A		400A		600、630A		1000A		1500、1600A		2000A		3000A	
	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
A	210	300	245	335	260	370	310	440	340	480	480	660	580	780
B	200	200	210	210	294	294	315	315	354	354	360	360	400	400
C	80	160	90	180	100	200	120	240	130	260	180	360	200	400
D	160	160	160	160	160	160	160	160	160	160	160	160	160	160
E	80	80	90	90	100	100	120	120	130	130	180	180	200	200
H	160	160	185	185	190	190	230	230	235	235	230	230	235	235
J	130	130	166	166	254	254	242	242	254	254	250	250	280	280
K	-	-	-	-	40	40	50	50	70	70	100	100	120	120
L	130	130	130	130	135	135	135	135	135	135	135	135	135	135
M	8	8	12	12	16	16	12	12	12	12	12	12	16	16
Φ	7	7	7	7	9	9	9	9	11	11	11	11	11	11

Note: In the 2000A and 3000A columns of Table 10, there are outline and installation dimensions of the "Single copper busbar type (without arc extinguishing hood)" product.



5.10 HS13BX Outline and Installation Dimensions (see Fig. 10, Table 11)

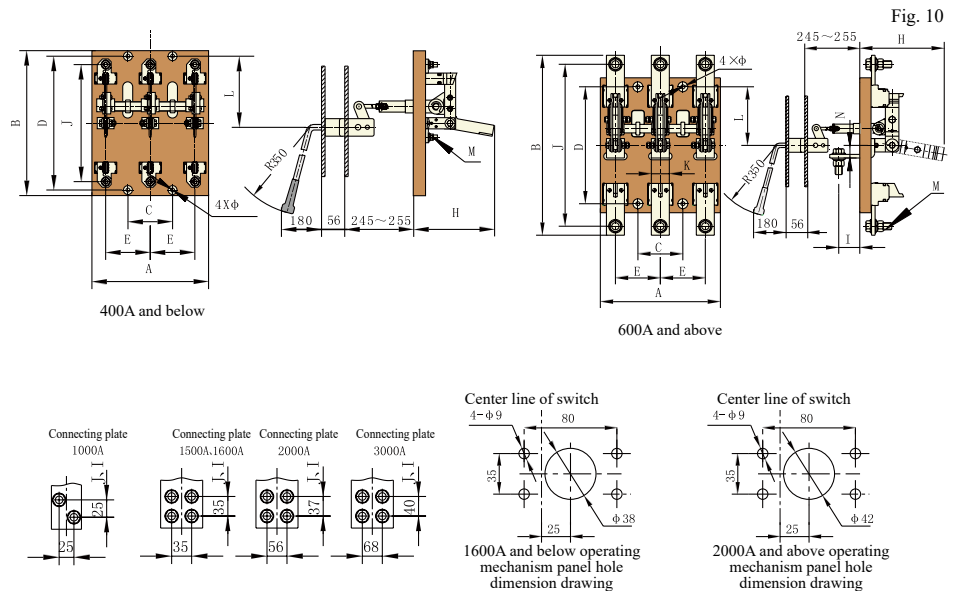


Table 11 (mm)

Spec.	200、250A		400A		600、630A		1000A		1500、1600A		2000A		3000A	
	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
A	210	290	240	335	270	370	330	450	370	500	500	680	600	800
B	260	260	300	300	394	394	434	434	485	485	480	480	540	540
C	80	160	90	180	100	200	120	240	130	260	180	360	200	400
D	240	240	240	240	240	240	240	240	260	260	260	260	260	260
E	80	80	90	90	100	100	120	120	130	130	180	180	200	200
H	153	153	185	185	190	190	235	235	255	255	235	235	260	260
I	35	35	35	35	36	36	32	32	40	40	48	48	50	50
J	210	210	256	256	354	354	362	362	385	385	370	370	404	404
K	-	-	-	-	40	40	50	50	70	70	100	100	120	120
L	130	130	130	130	135	135	135	135	135	135	135	135	135	135
N	-	-	-	-	30	30	30	30	46	46	50	50	50	50
M	8	8	12	12	16	16	12	12	12	12	12	12	16	16
Φ	7	7	7	7	9	9	9	9	11	11	11	11	11	11

Note: In the 2000A and 3000A columns of Table 11, there are outline and installation dimensions of the "Single copper busbar type (without arc extinguishing hood)" product.

HD, HS Series Knife Switch

5.11 HD14 Outline and Installation Dimensions (see Fig. 11, Table 12)

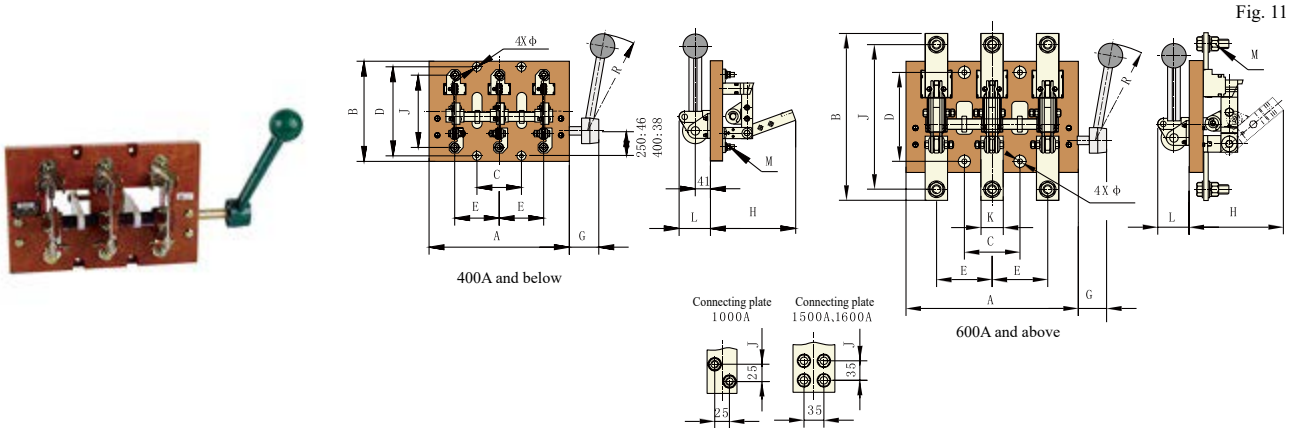
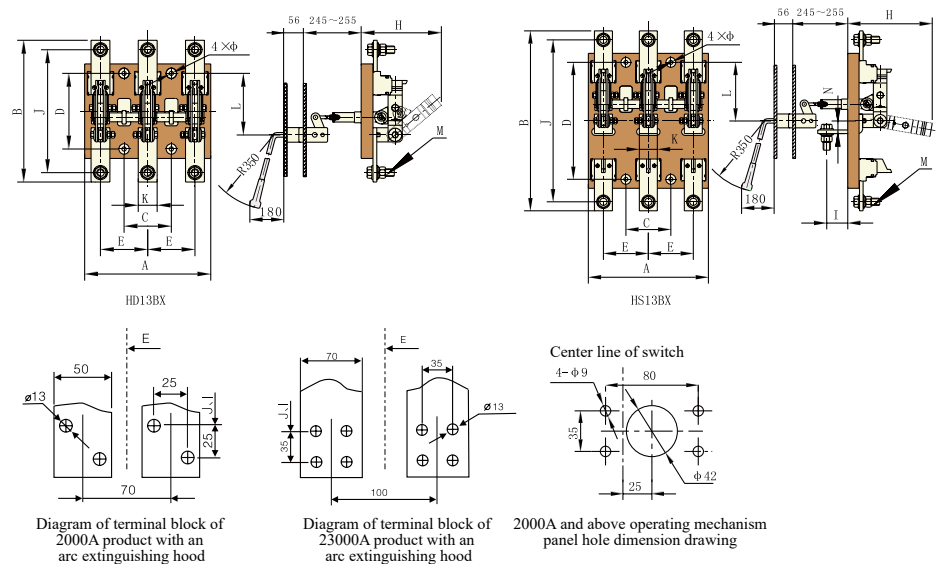


Table 12 (mm)

Spec.	200、250A		400A		600、630A		1000A	1500、1600A
	3P	4P	3P	4P	3P	4P	3P	3P
A	280	360	310	400	330	430	400	440
B	200	200	210	210	294	294	314	354
C	80	160	90	180	100	200	120	130
D	160	160	160	160	160	160	160	160
E	80	80	90	90	100	100	120	130
G	100	100	100	100	100	100	100	100
H+L	160+80	160+80	185+90	185+90	190+90	190+90	230+110	235+110
L1	48	48	48	48	48	48	53	53
J	130	130	166	166	254	254	242	254
K	-	-	-	-	40	40	50	70
R	250	250	250	250	250	250	250	250
M	8	8	12	12	16	16	12	12
φ	7	7	7	7	9	9	9	11

5.12 HD (HS) 13BX-2000, 3000/31, 41 Product Outline and Installation Dimensions (see Fig. 12, Table 13)



Note: 2000A, 3000A frame product with an arc extinguishing hood adopts copper dual busbar structure (single phase dual copper busbar), and adopts the single copper busbar if without an arc extinguishing hood!

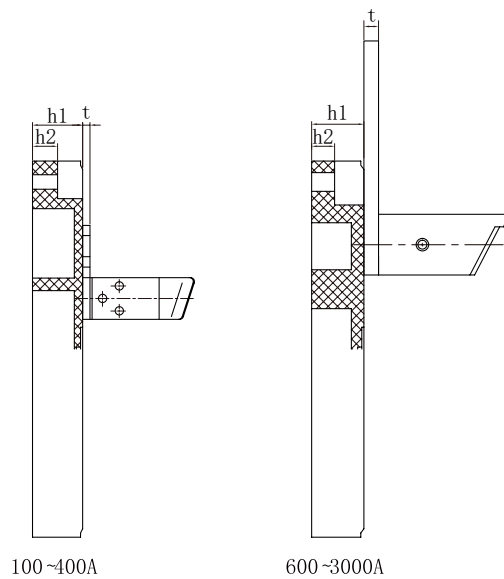
HD, HS Series Knife Switch

Table 13 (mm)

Switch spec.	A	B	C	D	E	H	J	K	L	M	Φ	I	N
HD13BX-2000/31	530	318	180	160	180	230	242	50	135	12	11	-	-
HD13BX-2000/41	710	318	2-180	160	180	230	242	50	135	12	11	-	-
HD13BX-3000/31	710	354	230	160	230	235	254	70	135	12	11	-	-
HD13BX-3000/41	940	354	2-230	160	230	235	254	70	135	12	11	-	-
HS13BX-2000/31	530	434	180	260	180	235	362	50	115	12	11	36	40
HS13BX-2000/41	710	434	2-180	260	180	235	362	50	115	12	11	36	40
HS13BX-3000/31	710	485	230	260	230	235	385	70	125	12	11	40	46
HS13BX-3000/41	940	485	2-230	260	230	235	385	70	125	12	11	40	46

5.13 Fixed Thickness of HD, HS Mounting Plate and Distance from the Busbar to the Mounting Plate (Fig. 13, Table 14, Table 15)

Fig. 13



Glass plate and rubber plate (old) dimensions

Table 14 (mm)

Spec.	100、 160A	200、 250A	400A	600、 630A	1000A	1500、 1600A	2000A		3000A	
							单排	双排	单排	双排
h1	18	23	25	25	30	30	30		30	
h2	10	11	11	11	15	15	15		15	
t	2	3.5	4	7	9	9	10	9	12	9
Busbar width	25	25	38	40	50	70	100	50	120	70

Rubber plate (new) dimensions

Table 15 (mm)

Spec.	100、 160A	200、 250A	400A	600、 630A	1000A	1500、 1600A	2000A		3000A	
							单排	双排	单排	双排
h1	/	20.5	22	23.5	27	/	28.5		28.5	
h2	/	10.5	/	10.5	/	/	/		/	
t	/	3.5	4	7	9	/	10	9	12	9
Busbar width	/	25	38	40	50	/	100	50	120	70

6 Ordering Notice

Please specify the model, features, voltage grade, current grade, number of poles, operation method, and quantity of the switch when ordering. For special orders, please contact the company's technical department. For example: HS13BX-250/31 10 units.