

HD11F, HS11F Series Knife Switches

1 Scope of Application

The HD series and HS series open-type knife switches and blade-type transfer switches (hereinafter referred to as "switches") are suitable for AC 50Hz systems with a rated voltage up to 380V and DC systems up to 220V, and a rated current up to 3000A, in complete switchgear assemblies. They are used for infrequent manual making and breaking of AC/DC circuits, or as isolating switches.

1.1 Central handle type switches are mainly used in power distribution cubicles for switching off circuits with load, serving as isolating switches.

1.2 Side-front lever operating mechanism type switches are mainly used in switchgear cabinets for front operation and rear maintenance, with the operating mechanism mountable on either side of the cubicle.

1.3 Central-front lever operating mechanism type switches are mainly used in switchgear cabinets for front operation and rear maintenance, with the operating mechanism located at the front center.

1.4 Side handle type switches are mainly used in power distribution boxes.

1.5 Switches with arc chutes can break current-carrying circuits; other series of knife switches are only used as isolating switches.

2 Model and Its Meaning

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"BX" indicates rotary operating type; no "BX" indicates lever operating type.
"0" indicates no arc chute; "1" indicates with arc chute.

For central handle type:

"8" indicates front-panel wiring; "9" indicates rear-panel wiring.

No designation indicates only one wiring method, i.e., front-panel wiring.

Number of poles (1, 2, 3, 4)

Rated thermal current (A)

Design code:

"11": Central handle type; "12": Side-front lever operating mechanism type

"13": Central lever operating mechanism type; "14": Side handle type

Group code:

"HD": Open-type knife switch; "HS": Double-throw blade-type transfer switch

3 Normal Operating and Installation Conditions

3.1 Ambient air temperature shall not exceed +40 °C and shall not be lower than -5 °C.

3.2 The altitude of the installation site shall not exceed 2000m.

3.3 Humidity: At the maximum temperature of +40 °C, the relative humidity of air shall not exceed 50%. Higher relative humidity is allowed at lower temperatures, e.g., up to 90% at 20 °C. Special measures shall be taken against condensation occasionally caused by temperature changes.

3.4 The pollution degree of the surrounding environment is Grade 3.

3.5 The switch shall be installed in a place free from significant shaking, shock, vibration, rain, and snow. The installation site shall also be free from explosive hazardous media, and the medium shall not contain gases or dust that can corrode metals or damage insulation.

4 Main Parameters and Technical Performance

4.1 The rated operating voltage is AC 380V, DC 220V.

4.2 Main technical performance and parameters (see Table 1).

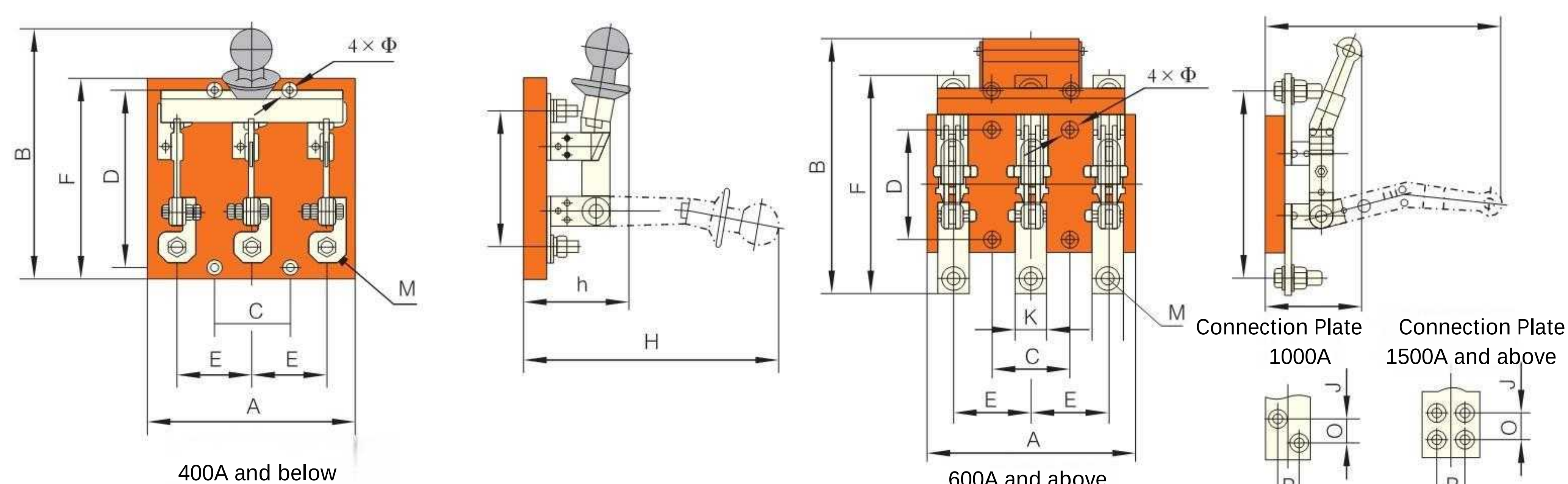
Table 1

Rated thermal current (A)		100	200	400	600	1000	1500	2000	3000
Rated operating current (A)		100	200	400	600	1000	1500	2000	3000
Making and breaking capacity (A)	AC 380V、COS Φ=0.72~0.8	100	200	400	600	1000	1500		
	DC T=0.01~0.011S 220V	100	200	400	600	1000	1500		
Mechanical life (cycles)		10000	10000	10000	5000	5000	5000	3000	3000
Electrical life (cycles)		1000	1000	1000	500	500	500	300	300
1s short-time withstand current (kA)		6	10	20	25	30	40	50	50
Peak dynamic stability current (kA)	Operating Mechanism Type	20	30	40	50	60	80	100	100
	Handle Type	15	20	30	40	50			
Operating force (N)		≤300	≤300	≤400	≤400	≤450	≤450	≤450	≤450

5 Dimensions and Installation Sizes

5.1 HD11F front-panel wiring (see Figure 1, Table 2).

Figure 1



Tabel 2(mm)

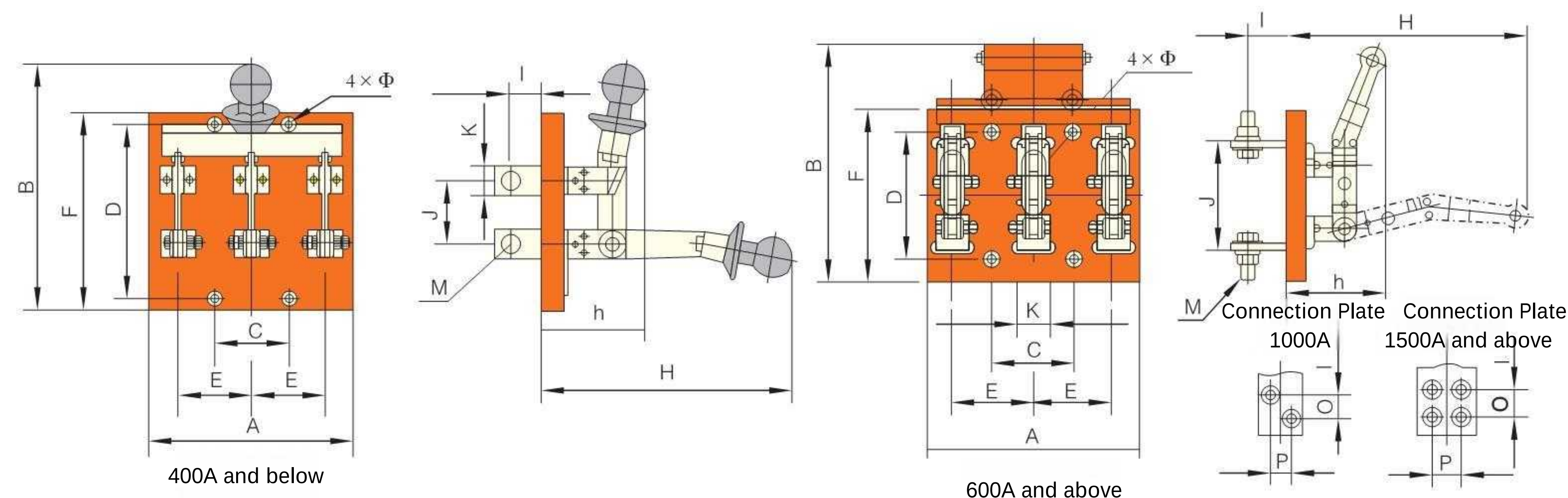
Model	Specific ation	100A		200A				400A				600A			
		2P	3P	1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HD11 Central Handle Type Open- Type Knife Switch with Front- Panel Wiring	A	90	130	100	190	190	270	120	190	210	300	140	240	260	360
	B	210	210	210	210	210	230	270	270	270	300	350	350	330	330
	C	—	40	60	120	70	140	80	160	80	160	100	200	100	200
	D	140	140	140	140	140	140	190	190	190	190	140	140	140	140
	E	50	40	—	70	70	70	—	80	80	80	—	100	100	100
	F	165	165	165	165	165	165	215	215	215	215	274	274	274	274
	H	210	220	220	220	220	240	270	270	270	300	330	330	310	310
	h	110	120	120	120	120	120	135	135	135	145	140	140	125	125
	J	110	110	110	110	110	110	146	146	146	146	234	234	234	234
	K	—	—	—	—	—	—	—	—	—	—	40	40	40	40
	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	P	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	M	8	8	8	8	8	8	12	12	12	12	16	16	16	16
	Φ	7	7	7	7	7	7	7	7	7	7	9	9	9	9

Continued Tabel 2(mm)

Model	Specific ation	1000A				1500A				2000A				3000A(2500A)			
		1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HD11 Central Handle Type Open- Type Knife Switch with Front- Panel Wiring	A	160	280	320	440	170	300	350	480	240	400	500	680	260	460	600	680
	B	380	380	360	360	410	410	390	390	420	420	420	420	450	450	450	450
	C	120	240	120	240	130	260	130	260	180	360	180	360	200	400	200	400
	D	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	E	—	120	120	120	—	130	130	130	—	180	180	180	—	200	200	200
	F	284	284	284	284	330	330	330	330	320	320	320	320	365	365	365	365
	H	380	380	360	360	390	390	370	370	380	380	380	380	390	390	390	390
	h	175	175	160	160	175	175	160	160	170	170	170	170	180	180	180	180
	J	208	208	208	208	230	230	230	230	204	204	204	204	230	230	230	230
	K	50	50	50	50	70	70	70	70	100	100	100	100	120	120	120	120
	O	25	25	25	25	35	35	35	35	40	40	40	40	45	45	45	45
	P	25	25	25	25	35	35	35	35	55	55	55	55	68	68	68	68
	M	12	12	12	12	12	12	12	12	12	12	12	12	16	16	16	16
	Φ	9	9	9	9	9	9	9	9	9	9	9	9	11	11	11	11

5.2 HD11 Rear-Panel Wiring (see Figure 2, Table 3)

Figure 2



Tabel 3(mm)

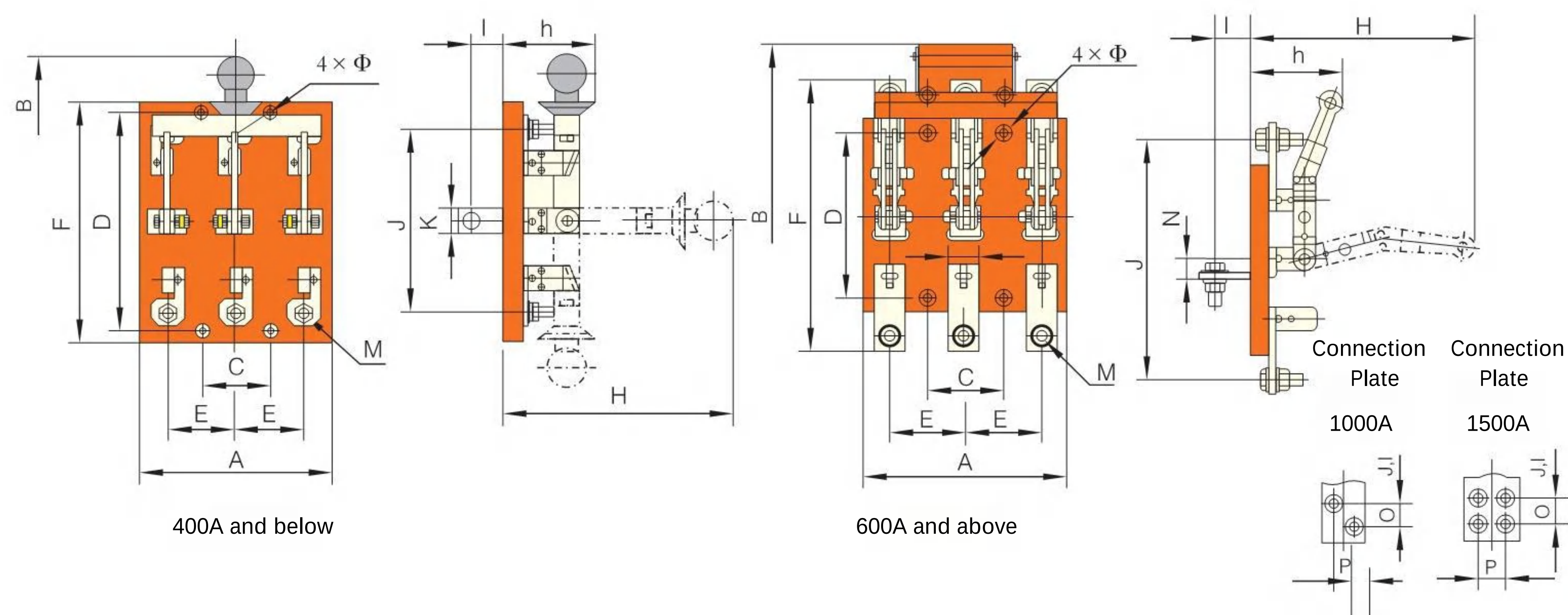
Model	Specific ation	100A、200A				400A				600A			
		1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HD11 Central Handle Type Open- Type Knife Switch with Rear- Panel Wiring	A	100	200	200	270	120	200	220	300	140	240	270	370
	B	230	230	230	250	280	280	280	310	340	340	320	320
	C	70	140	70	140	80	160	80	160	100	200	100	200
	D	160	160	160	160	190	190	190	190	220	220	220	220
	E	—	70	70	70	—	80	80	80	—	100	100	100
	F	190	190	190	190	215	215	215	215	260	260	260	260
	H	220	220	220	240	270	270	270	300	330	330	310	310
	h	120	120	120	120	135	135	135	145	140	140	125	125
	I	35	35	35	35	26	26	26	26	36	36	36	36
	J	60	60	60	60	70	70	70	70	140	140	140	140
	K	20	20	20	20	30	30	30	30	40	40	40	40
	O	—	—	—	—	—	—	—	—	—	—	—	—
	P	—	—	—	—	—	—	—	—	—	—	—	—
	M	8	8	8	8	12	12	12	12	16	16	16	16
	Φ	7	7	7	7	7	7	7	7	9	9	9	9

Continued Tabel 3(mm)

Model	Specific ation	1000A				1500A				2000A				3000A(2500A)			
		1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HD11 Central Handle Type Open- Type Knife Switch with Rear- Panel Wiring	A	160	280	330	450	170	300	380	510	240	400	500	680	260	460	600	800
	B	380	380	360	360	410	410	390	390	390	390	390	390	420	420	420	420
	C	120	240	120	240	130	260	130	260	180	360	180	360	200	400	200	400
	D	260	260	260	260	300	300	300	300	260	260	260	260	300	300	300	300
	E	—	120	120	120	—	130	130	130	—	180	180	180	—	200	200	200
	F	290	290	290	290	340	340	340	340	300	300	300	300	350	350	350	350
	H	380	380	360	360	390	390	370	370	380	380	380	380	390	390	390	390
	h	175	175	160	160	175	175	160	160	170	170	170	170	180	180	180	180
	I	36	36	36	36	32	32	32	32	48	48	48	48	50	50	50	50
	J	160	160	160	160	180	180	180	180	180	180	180	180	190	190	190	190
	K	50	50	50	50	70	70	70	70	100	100	100	100	120	120	120	120
	O	25	25	25	25	35	35	35	35	40	40	40	40	45	45	45	45
	P	25	25	25	25	35	35	35	35	55	55	55	55	68	68	69	68
	M	12	12	12	12	12	12	12	12	12	12	12	12	16	16	16	16
	Φ	9	9	9	9	9	9	9	9	9	9	9	9	11	11	11	11

5.3 HS11 Front-Panel Inlet & Rear-Panel Outlet Wiring (see Figure 3, Table 4)

Figure 3



Tabel 4(mm)

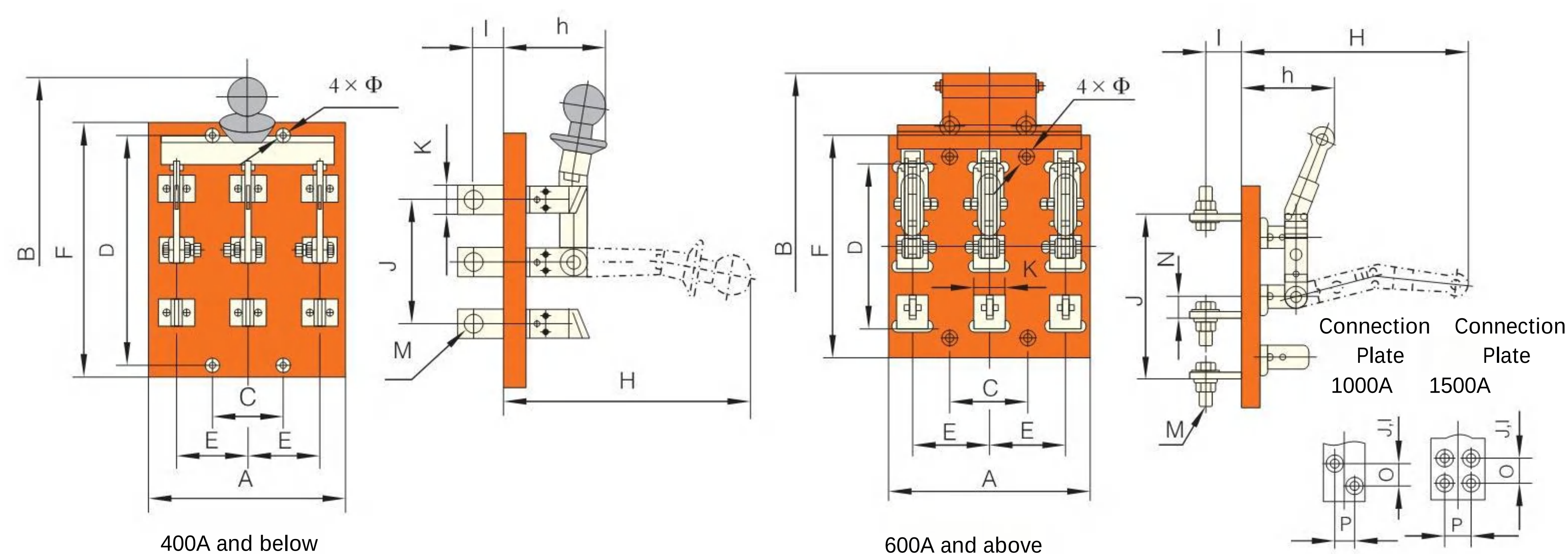
Model	Specific ation	100A、200A				400A				600A				1000A			
		1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HS11 Central Handle Type Blade -Type Transfer Switch with Front- Panel Inlet & Rear- Panel Outlet Wiring	A	100	160	190	265	120	200	220	300	140	240	270	370	160	280	330	450
	B	330	330	330	370	395	395	395	455	500	500	460	460	560	560	520	520
	C	60	120	70	140	80	160	80	160	100	200	100	200	120	240	120	240
	D	220	220	220	220	260	260	260	260	220	220	220	220	220	220	220	220
	E	—	70	70	70	—	80	80	80	—	100	100	100	—	120	120	120
	F	245	245	245	245	285	285	285	285	354	354	354	354	374	374	374	374
	H	240	240	240	240	280	280	280	300	390	390	370	370	450	450	430	430
	h	100	100	100	100	110	110	110	110	100	100	95	95	150	150	145	145
	I	35	35	35	35	26	26	26	26	36	36	36	36	36	36	36	36
	J	170	170	170	170	216	216	216	216	320	320	320	320	304	304	304	304
	K	20	20	20	20	30	30	30	30	40	40	40	40	50	50	50	50
	N	—	—	—	—	—	—	—	—	30	30	30	30	40	40	40	40
	O	—	—	—	—	—	—	—	—	—	—	—	—	25	25	25	25
	P	—	—	—	—	—	—	—	—	—	—	—	—	25	25	25	25
	M	8	8	8	8	12	12	12	12	16	16	16	16	12	12	12	12
	Φ	7	7	7	7	7	7	7	7	9	9	9	9	9	9	9	9

Continued Tabel 4(mm)

Model	Specific ation	1500A				2000A				3000A			
		1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HS11 Central Handle Type Blade -Type Transfer Switch with Front- Panel Inlet & Rear- Panel Outlet Wiring	A	170	300	380	510	240	400	500	680	260	460	600	800
	B	580	580	540	540	680	680	680	680	710	710	710	710
	C	130	260	130	260	180	360	180	360	200	400	200	400
	D	260	260	260	260	240	240	240	240	280	280	280	280
	E	—	130	130	130	180	180	180	180	200	200	200	200
	F	434	434	434	434	480	480	480	480	540	540	540	540
	H	470	470	450	450	380	380	380	380	390	390	390	390
	h	160	160	150	150	170	170	170	170	180	180	180	180
	I	32	32	32	32	48	48	48	48	50	50	50	50
	J	340	340	340	340	370	370	370	370	404	404	404	404
	K	70	70	70	70	100	100	100	100	120	120	120	120
	N	46	46	46	46	50	50	50	50	50	50	50	50
	O	35	35	35	35	40	40	40	40	45	45	45	45
	P	35	35	35	35	55	55	55	55	68	68	68	68
	M	12	12	12	12	12	12	12	12	16	16	16	16
	Φ	9	9	9	9	11	11	11	11	13	13	13	13

5.4 HS11 Rear-Panel Wiring (see Figure 4, Table 5)

Figure 4



Tabel 5(mm)

Model	Specific ation	100A、200A				400A				600A				1000A			
		1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HS11 Central Handle Type Blade -Type Transfer Switch with Rear- Panel Wiring	A	100	170	200	270	120	200	220	300	140	240	270	370	160	280	330	450
	B	330	330	330	370	395	395	395	455	500	500	460	460	560	560	520	520
	C	70	140	70	140	80	160	80	160	100	200	100	200	120	240	120	240
	D	220	220	220	220	260	260	260	260	300	300	300	300	350	350	350	350
	E	—	70	70	70	—	80	80	80	—	100	100	100	—	120	120	120
	F	245	245	245	245	285	285	285	285	340	340	340	340	390	390	390	390
	H	240	240	240	240	280	280	280	300	330	330	310	310	380	380	360	360
	h	120	120	120	120	135	135	135	145	140	140	125	125	175	175	160	160
	I	35	35	35	35	26	26	26	26	36	36	36	36	36	36	36	36
	J	120	120	120	120	140	140	140	140	220	220	220	220	250	250	250	250
	K	20	20	20	20	30	30	30	30	40	40	40	40	50	50	50	50
	N	—	—	—	—	—	—	—	—	30	30	30	30	40	40	40	40
	O	—	—	—	—	—	—	—	—	—	—	—	—	25	25	25	25
	P	—	—	—	—	—	—	—	—	—	—	—	—	25	25	25	25
	M	8	8	8	8	12	12	12	12	16	16	16	16	12	12	12	12
	Φ	7	7	7	7	7	7	7	7	9	9	9	9	9	9	9	9

Continued Tabel 5(mm)

Model	Specific ation	1500A				2000A				3000A			
		1P	2P	3P	4P	1P	2P	3P	4P	1P	2P	3P	4P
HS11 Central Handle Type Blade -Type Transfer Switch with Rear- Panel Wiring	A	170	300	380	510	240	400	500	680	260	460	600	800
	B	580	580	540	540	680	680	680	680	710	710	710	710
	C	130	260	130	260	180	360	180	360	200	400	200	400
	D	410	410	410	410	240	240	240	240	280	280	280	280
	E	—	130	130	130	180	180	180	180	200	200	200	200
	F	450	450	450	450	420	420	420	420	500	500	500	500
	H	390	390	370	370	380	380	380	380	390	390	390	390
	h	175	175	160	160	170	170	170	170	180	180	180	180
	I	32	32	32	32	48	48	48	48	50	50	50	50
	J	285	285	285	285	310	310	310	310	330	330	330	330
	K	70	70	70	70	100	100	100	100	120	120	120	120
	N	46	46	46	46	50	50	50	50	50	50	50	50
	O	35	35	35	35	40	40	40	40	45	45	45	45
	P	35	35	35	35	55	55	55	55	68	68	68	68
	M	12	12	12	12	12	12	12	12	16	16	16	16
	Φ	9	9	9	9	11	11	11	11	13	13	13	13

Figure 5

5.5 HD12 Dimensions and Installation Sizes (see Figure 5, Table 6)

HD12 Dimensions and Installation Sizes

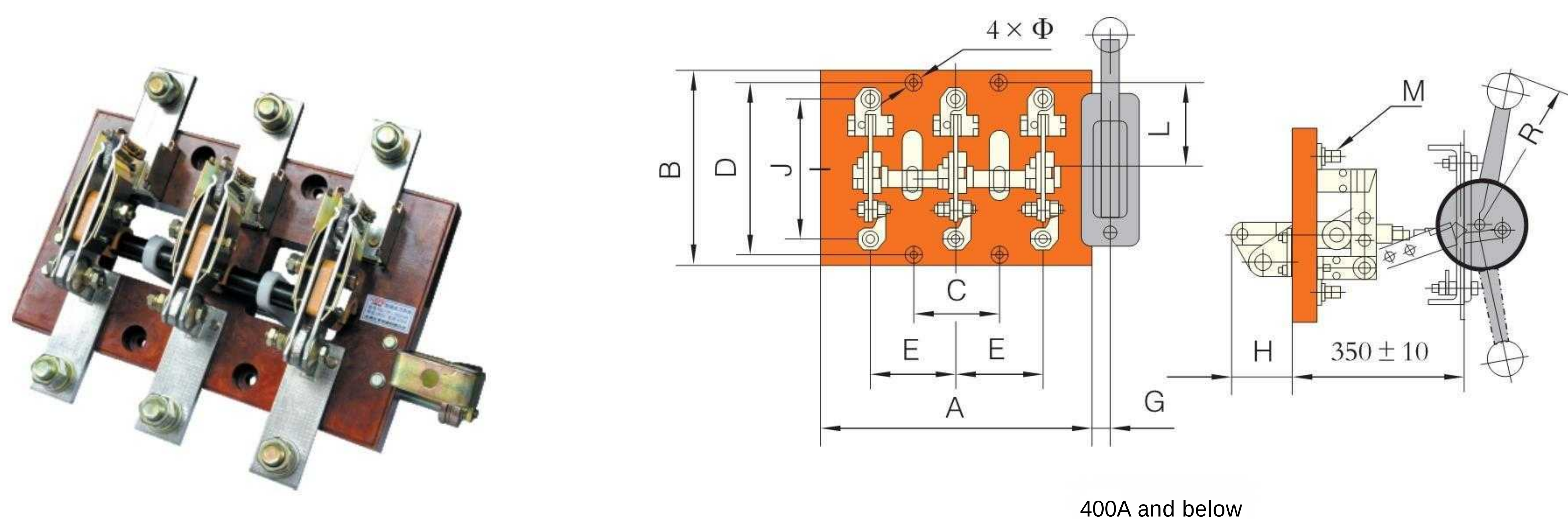
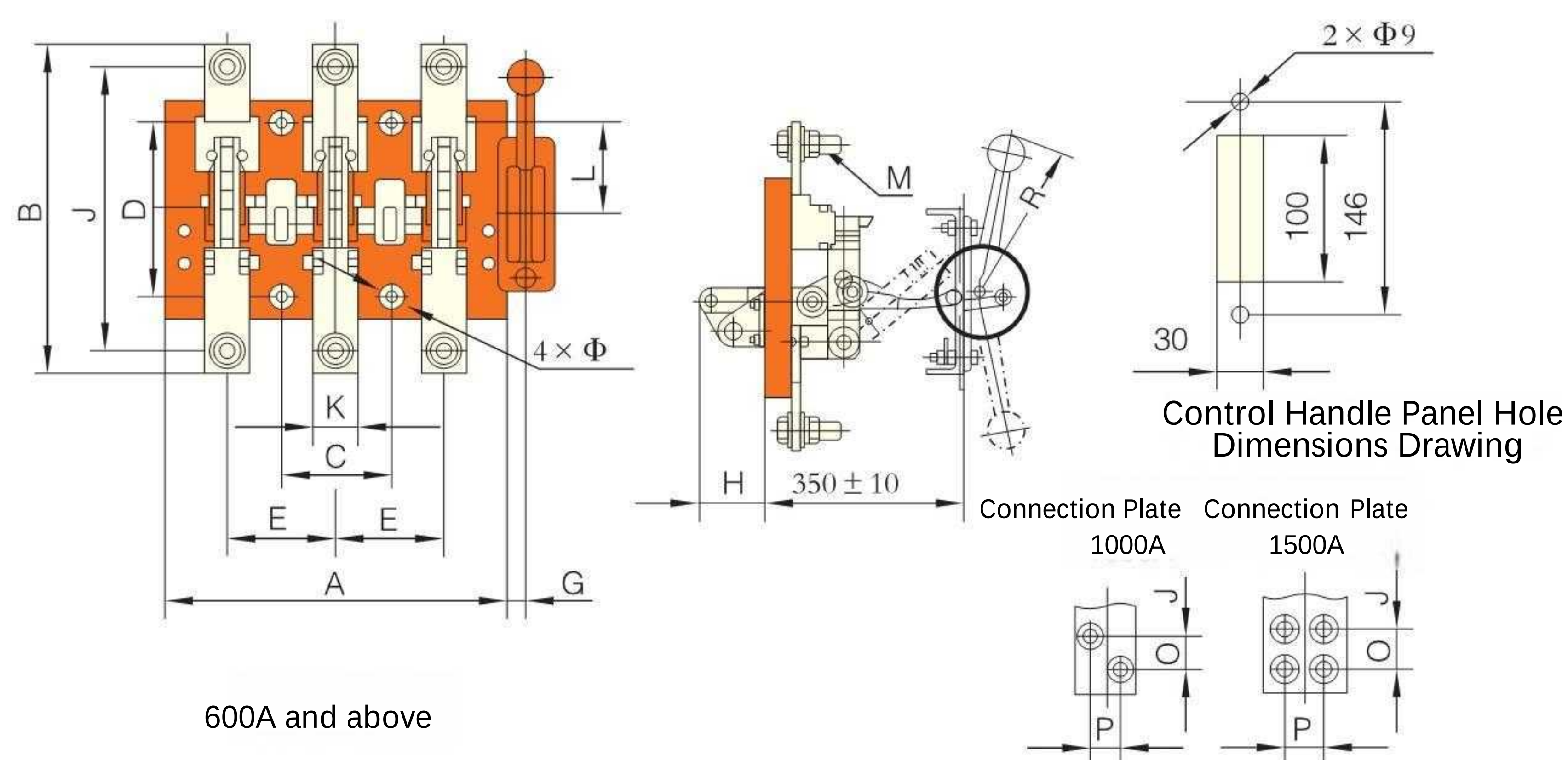


Figure 5

HD12 Dimensions and Installation Sizes



Tabel 6(mm)

Model	Specification	100A、200A			400A			600A			1000A		1500A	
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	2P	3P
HD12 Side- Front Lever Operating Mechanism Type Open- Type Knife Switch	A	200	280	360	220	310	400	250	330	430	300	400	330	440
	B	200	200	200	210	210	210	294	294	294	314	314	354	354
	C	160	80	160	180	90	180	200	100	200	240	120	260	130
	D	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	130	130
	G	40	40	40	30	30	30	30	30	30	30	30	30	30
	H	80	80	80	90	90	90	95	95	95	110	110	110	110
	J	130	130	130	16	166	166	254	254	254	238	238	254	254
	K	—	—	—	—	—	—	40	40	40	50	50	70	70
	L	75	75	75	75	75	75	80	80	80	80	80	80	80
	O	—	—	—	—	—	—	—	—	—	25	25	35	35
	P	—	—	—	—	—	—	—	—	—	25	25	35	35
	R	180	180	180	180	180	180	180	180	180	230	230	230	230
	M	8	8	8	12	12	12	16	16	16	12	12	12	12
	Φ	7	7	7	7	7	7	9	9	9	9	9	9	9

5.6 HS12 Dimensions and Installation Sizes (see Figure 6, Table 7)

Figure 6 HS12 Dimensions and Installation Sizes

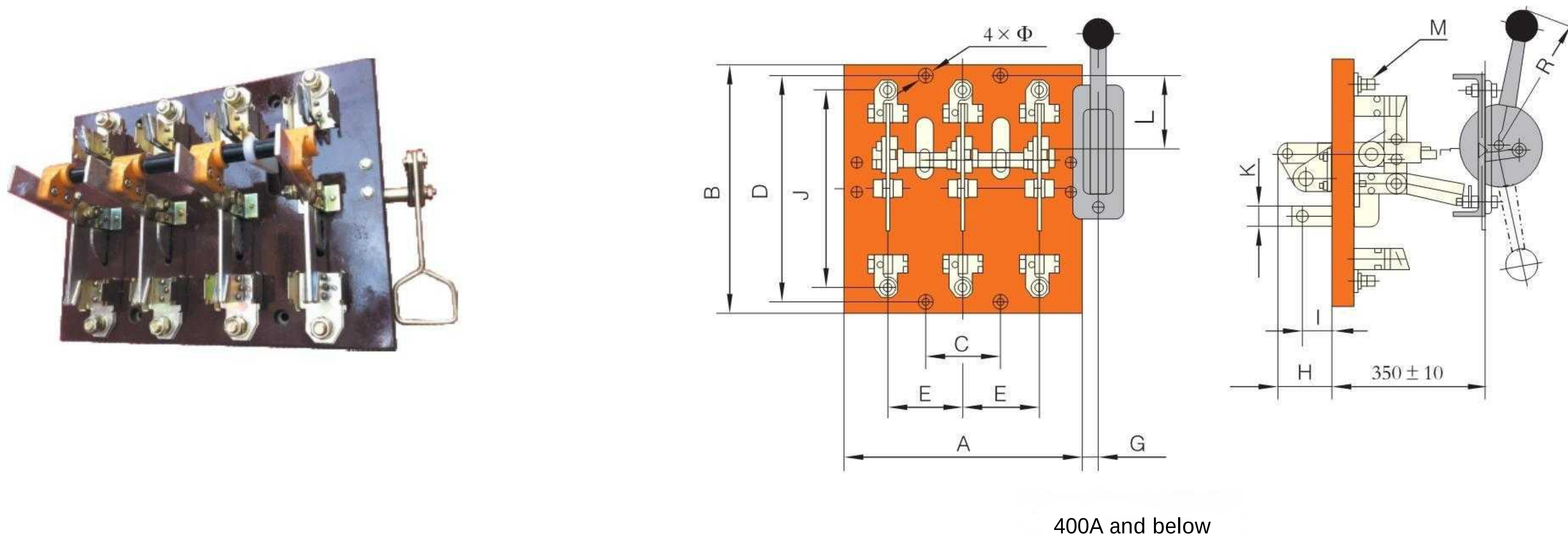
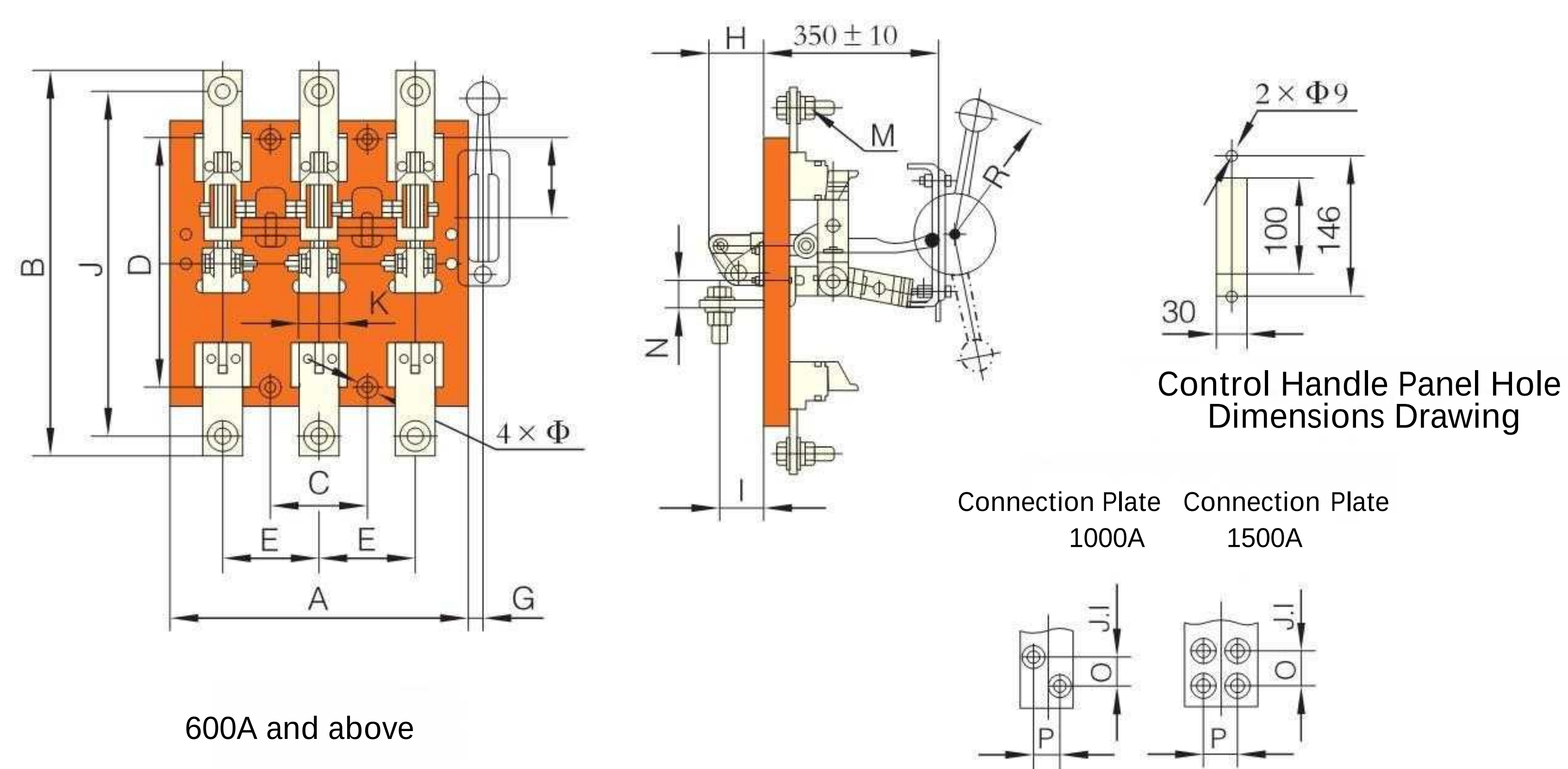


Figure 6 HS12 Dimensions and Installation Sizes

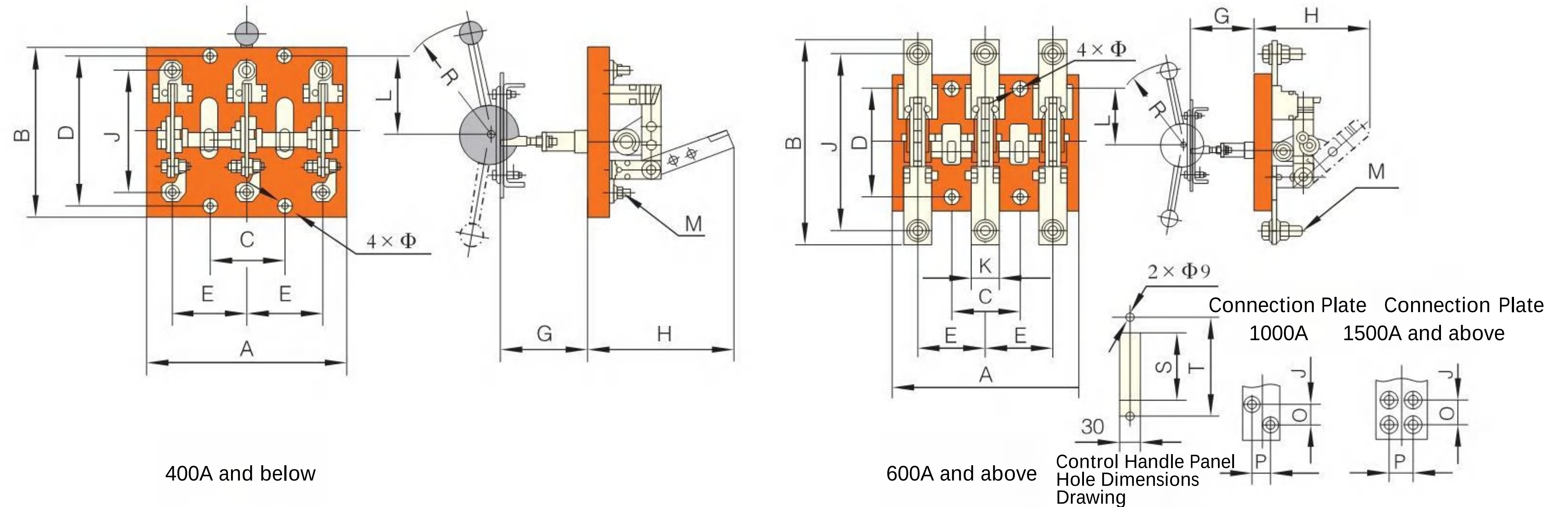


Tabel 7(mm)

Model	Specific ation	100A、200A			400A			600A			1000A		1500A	
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	2P	3P
HS12 Side- Front Lever Operatin g Mechanis m Type Blade- Type Transfer Switch	A	200	280	360	220	310	400	250	330	430	300	400	330	440
	B	280	280	280	300	300	300	394	394	394	434	434	504	504
	C	160	80	160	180	90	180	200	100	200	240	120	260	130
	D	240	240	240	240	240	240	240	240	240	240	240	280	280
	E	80	80	80	90	90	90	100	100	100	120	120	130	130
	G	40	40	40	30	30	30	30	30	30	30	30	30	30
	H	80	80	80	90	90	90	95	95	95	110	110	110	110
	I	35	35	35	26	26	26	36	36	36	36	36	32	32
	J	210	210	210	256	256	256	354	354	354	358	358	404	404
	K	20	20	20	30	30	30	40	40	40	50	50	70	70
	L	75	75	75	75	75	75	70	70	70	60	60	70	70
	N	-	-	-	-	-	-	30	30	30	40	40	46	46
	O	-	-	-	-	-	-	-	-	-	25	25	35	35
	P	-	-	-	-	-	-	-	-	-	25	25	35	35
	R	180	180	180	180	180	180	180	180	180	230	230	230	230
	M	8	8	8	12	12	12	16	16	16	12	12	12	12
	Φ	7	7	7	7	7	7	9	9	9	9	9	9	9

5.7 HD13 Dimensions and Installation Sizes (see Figure 7, Table 8)

Figure 7
HD13 Dimensions and Installation Sizes



Tabel 8(mm)

Model	Specific ation	100A、200A			400A			600A			1000A		
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
HD13 Central Lever Operatin g Mechanis m Type Open- Type Knife Switch	A	190	210	300	220	245	335	240	260	360	280	320	460
	B	200	200	200	210	210	210	294	294	294	314	314	314
	C	160	80	160	180	90	180	200	100	200	240	120	240
	D	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
	G Front	350~370			350~370			350~370			350~370		
	G Rear	245~265			245~265			245~265			245~265		
	H	160	160	160	185	185	185	190	190	190	230	230	230
	J	130	130	130	166	166	166	254	254	254	238	238	238
	K	—	—	—	—	—	—	40	40	40	50	50	50
	L	75	75	75	75	75	75	80	80	80	80	80	80
	O	—	—	—	—	—	—	—	—	—	25	25	25
	P	—	—	—	—	—	—	—	—	—	25	25	25
	R	180	180	180	180	180	180	180	180	180	230	230	230
	S	100	100	100	100	100	100	100	100	100	100	100	100
	T	146	146	146	146	146	146	146	146	146	146	146	146
	M	8	8	8	12	12	12	16	16	16	12	12	12
	Φ	7	7	7	7	7	7	9	9	9	9	9	9

Continued Tabel 8(mm)

Model	Specific ation	1500A			2000A			3000A(2500A)		
		2P	3P	4P	2P	3P	4P	2P	3P	4P
HD13 Central Lever Operatin g Mechanis m Type Open- Type Knife Switch	A	310	350	510	500	500	680	600	600	800
	B	354	354	354	360	360	360	400	400	400
	C	260	130	260	180	180	360	200	200	400
	D	160	160	160	160	160	160	160	160	160
	E	130	130	130	180	180	180	200	200	200
	G Front	350~370			350~370			350~370		
	G Rear	245~265			345~265			245~265		
	H	235	235	235	230	230	230	235	235	235
	J	254	254	254	244	244	244	264	264	264
	K	70	70	70	100	100	100	120	120	120
	L	80	80	80	80	80	80	80	80	80
	O	35	35	35	40	40	40	45	45	45
	P	35	35	35	55	55	55	68	68	68
	R	230	230	280	280	280	280	280	280	280
	S	100	100	130	130	130	130	140	140	140
	T	146	146	164	164	164	164	180	180	180
	M	12	12	12	12	12	12	16	16	16
	Φ	9	9	9	11	11	11	11	11	11

Note: G(Front): Installation distance for front-panel operation; G(Rear): Installation distance for rear-panel operation

5.8 HS13 Dimensions and Installation Sizes (see Figure 8, Table 9)

Figure 8

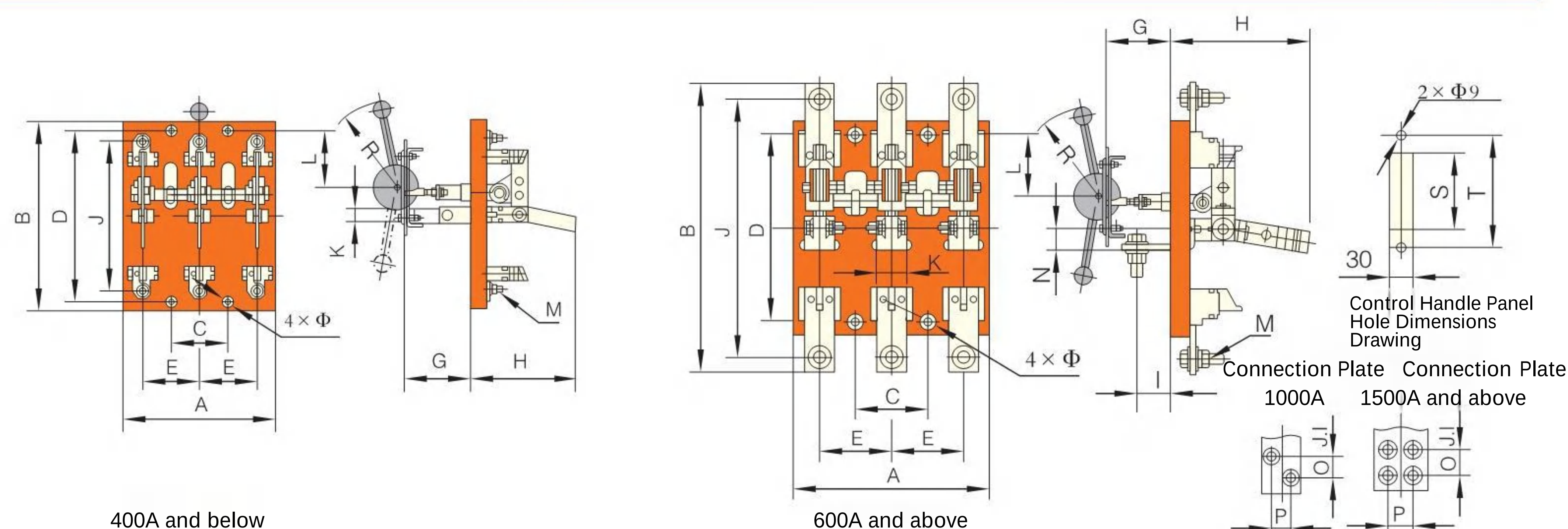


Table 9(mm)

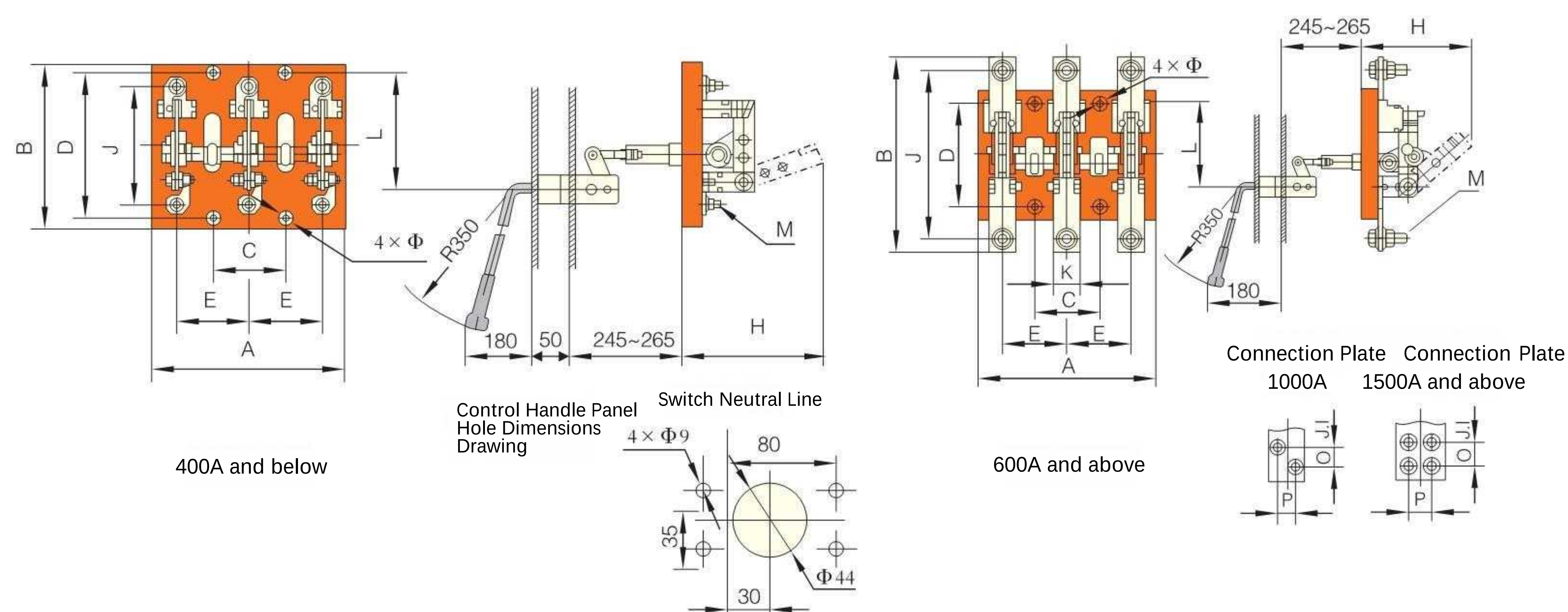
Model	Specification	100A、200A			400A			600A			1000A		
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
HS13 Central Lever Operating Mechanism Type Blade- Type Transfer Switch	A	190	210	300	220	245	335	240	260	360	280	320	460
	B	280	280	280	300	300	300	394	394	394	434	434	434
	C	160	80	160	180	90	180	200	100	200	240	120	240
	D	240	240	240	240	240	240	240	240	240	240	240	240
	E	80	80	80	90	90	90	100	100	100	120	120	120
	G	245~265			245~265			245~265			245~265		
	H	160	160	160	185	185	185	190	190	190	235	235	235
	I	35	35	35	26	26	26	36	36	36	36	36	36
	J	210	210	210	256	256	256	354	354	354	358	358	358
	K	-	-	-	-	-	-	40	40	40	50	50	50
	L	75	75	75	70	70	70	70	70	70	60	60	60
	N	-	-	-	-	-	-	30	30	30	40	40	40
	O	-	-	-	-	-	-	-	-	-	25	25	25
	P	-	-	-	-	-	-	-	-	-	25	25	25
	R	180	180	180	180	180	180	180	180	180	230	230	230
	T	100	100	100	100	100	100	100	100	100	100	100	100
	T	146	146	146	146	146	146	146	146	146	146	146	146
	M	8	8	8	8	8	8	16	16	16	12	12	12
	Φ	7	7	7	7	7	7	7	9	9	9	9	9

Continued Table 9(mm)

Model	Specification	1500A			2000A			3000A(2500A)		
		2P	3P	4P	2P	3P	4P	2P	3P	4P
HS13 Central Lever Operating Mechanism Type Blade- Type Transfer Switch	A	310	370	510	500	500	680	600	600	800
	B	504	504	504	480	480	480	540	540	540
	C	260	130	260	180	180	360	200	200	400
	D	280	280	280	240	240	240	280	280	280
	E	130	130	130	180	180	180	200	200	200
	G	245~265			245~265			245~265		
	H	255	255	255	235	235	235	260	260	260
	I	32	32	32	48	48	48	50	50	50
	J	404	404	404	37	37	370	404	404	404
	K	70	70	70	100	100	100	120	120	120
	L	70	70	70	60	60	60	70	70	70
	N	46	46	46	50	50	50	50	50	50
	O	35	35	35	40	40	40	45	45	45
	P	35	35	35	55	55	55	68	68	68
	R	280	280	280	280	280	280	280	280	280
	T	130	130	130	130	130	130	140	140	140
	T	164	164	164	164	164	164	180	180	180
	M	12	12	12	12	12	12	16	16	16
	Φ	11	11	11	11	11	11	13	13	13

Figure 9

5.9 HD13-/BX Dimensions and Installation Sizes (see Figure 9, Table 10) HD13-/BX Dimensions and Installation Sizes



Tabel 10(mm)

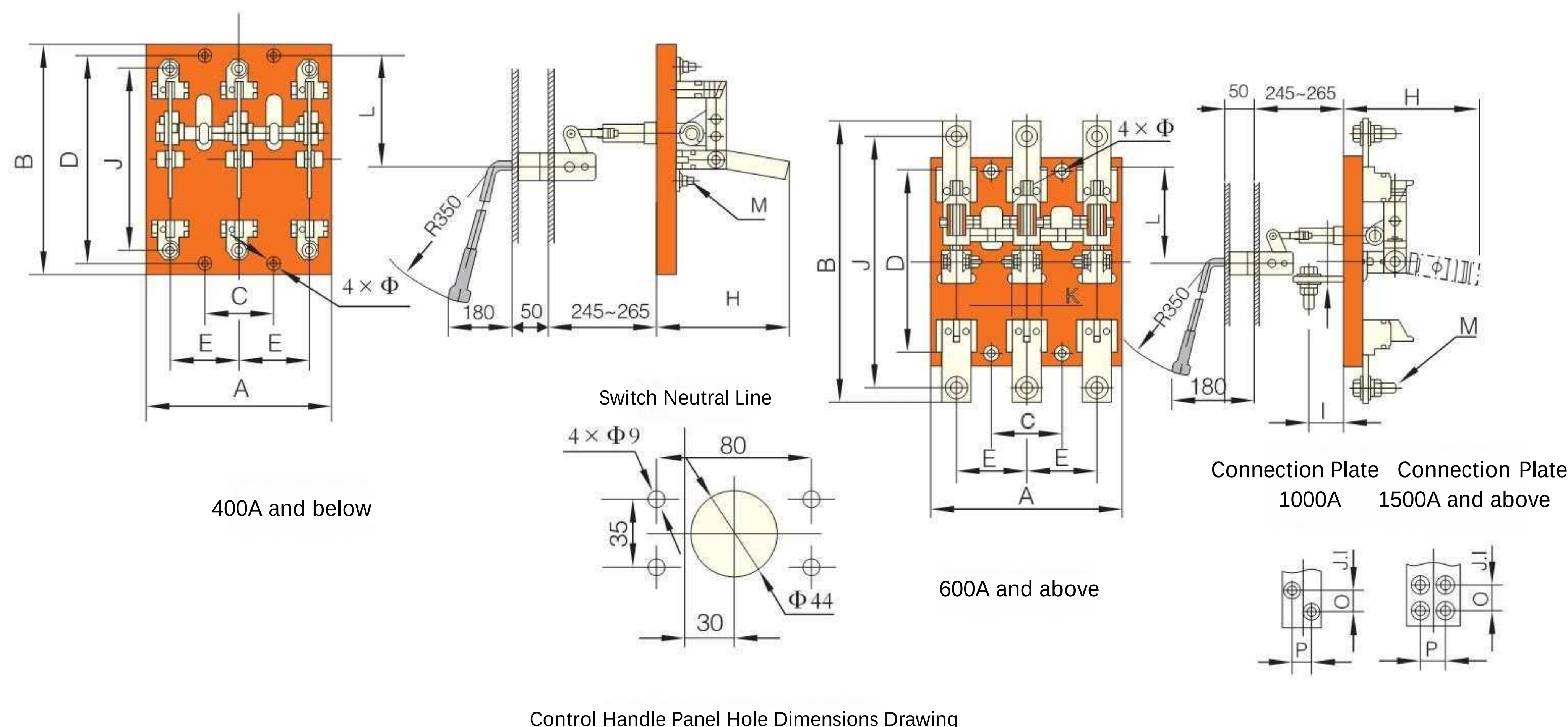
Model	Specific ation	100A、200A			400A			600A			1000A		
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
HD13-/BX Central Rotary Operating Mechanis m Type Open- Type Knife Switch	A	190	210	300	220	245	335	240	260	360	280	320	460
	B	200	200	200	210	210	210	294	294	294	314	314	314
	C	160	80	160	180	90	180	200	100	200	240	120	240
	D	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
	H	160	160	160	185	185	185	190	190	190	230	230	230
	J	130	130	130	166	166	166	254	254	254	238	238	238
	K	—	—	—	—	—	—	40	40	40	50	50	50
	L	125	125	125	125	125	125	135	135	135	137	137	137
	O	—	—	—	—	—	—	—	—	—	25	25	25
	P	—	—	—	—	—	—	—	—	—	25	25	25
	M	8	8	8	12	12	12	16	16	16	12	12	12
	Φ	7	7	7	7	7	7	9	9	9	9	9	9

Continued Tabel 10(mm)

Model	Specific ation	1500A			2000A			3000A(2500A)		
		2P	3P	4P	2P	3P	4P	2P	3P	4P
HD13-/BX Central Rotary Operating Mechanis m Type Open- Type Knife Switch	A	310	350	510	500	500	680	600	600	800
	B	354	354	354	360	360	360	400	400	400
	C	260	130	260	180	180	360	200	200	400
	D	160	160	160	160	160	160	160	160	160
	E	130	130	130	180	180	180	200	200	200
	H	235	235	235	230	230	230	235	235	235
	J	254	254	254	244	244	244	264	264	264
	K	70	70	70	100	100	100	120	120	120
	L	137	137	137	137	137	137	137	137	137
	O	35	35	35	40	40	40	45	45	45
	P	35	35	35	55	55	55	68	68	68
	M	12	12	12	12	12	12	16	16	16
	Φ	9	9	9	11	11	11	11	11	11

5.10 HS13-/BX Dimensions and Installation Sizes (see Figure 10, Table 11)

Figure 10 HS13-/BX Dimensions and Installation Sizes



Tabel 11(mm)

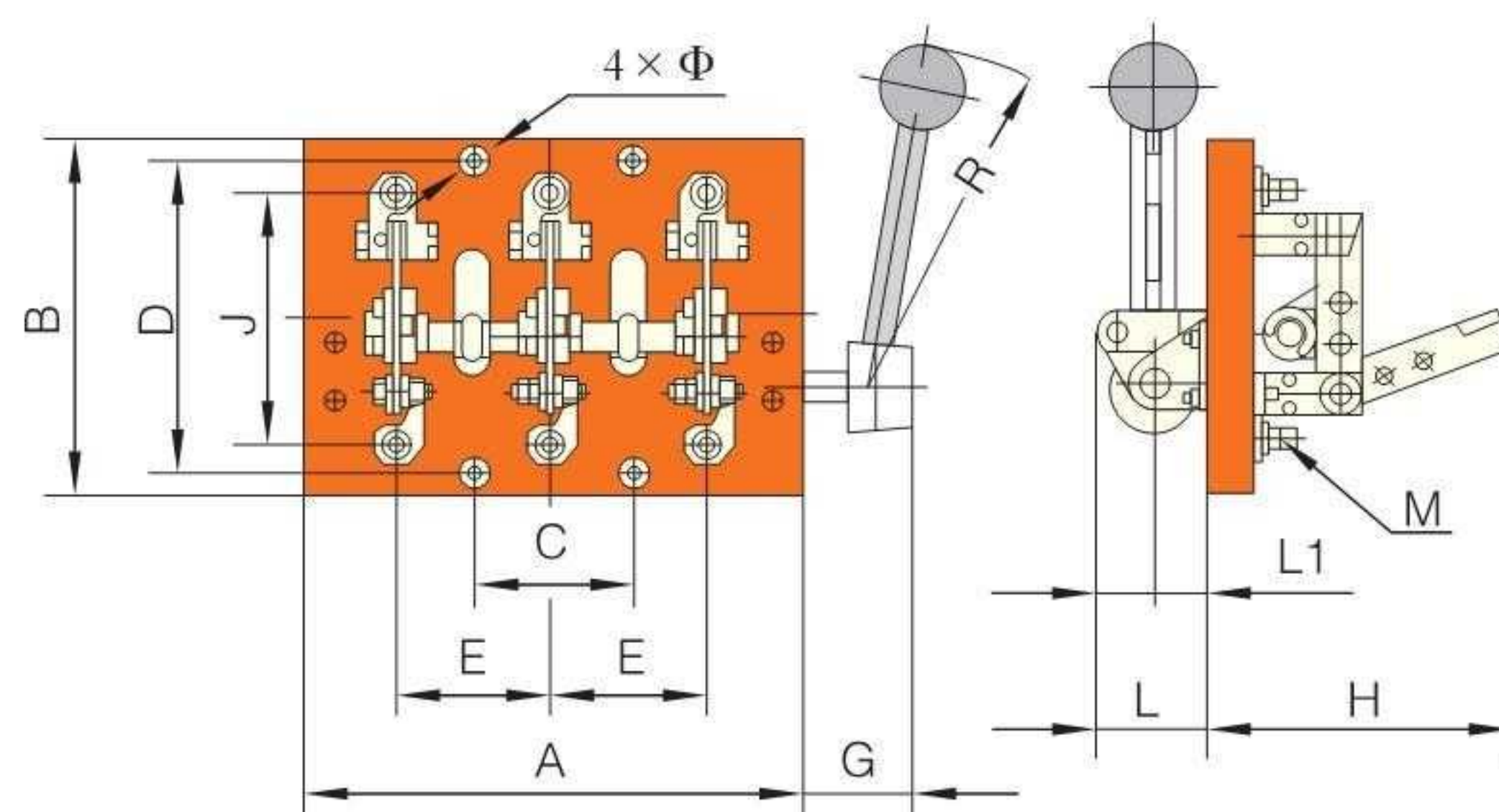
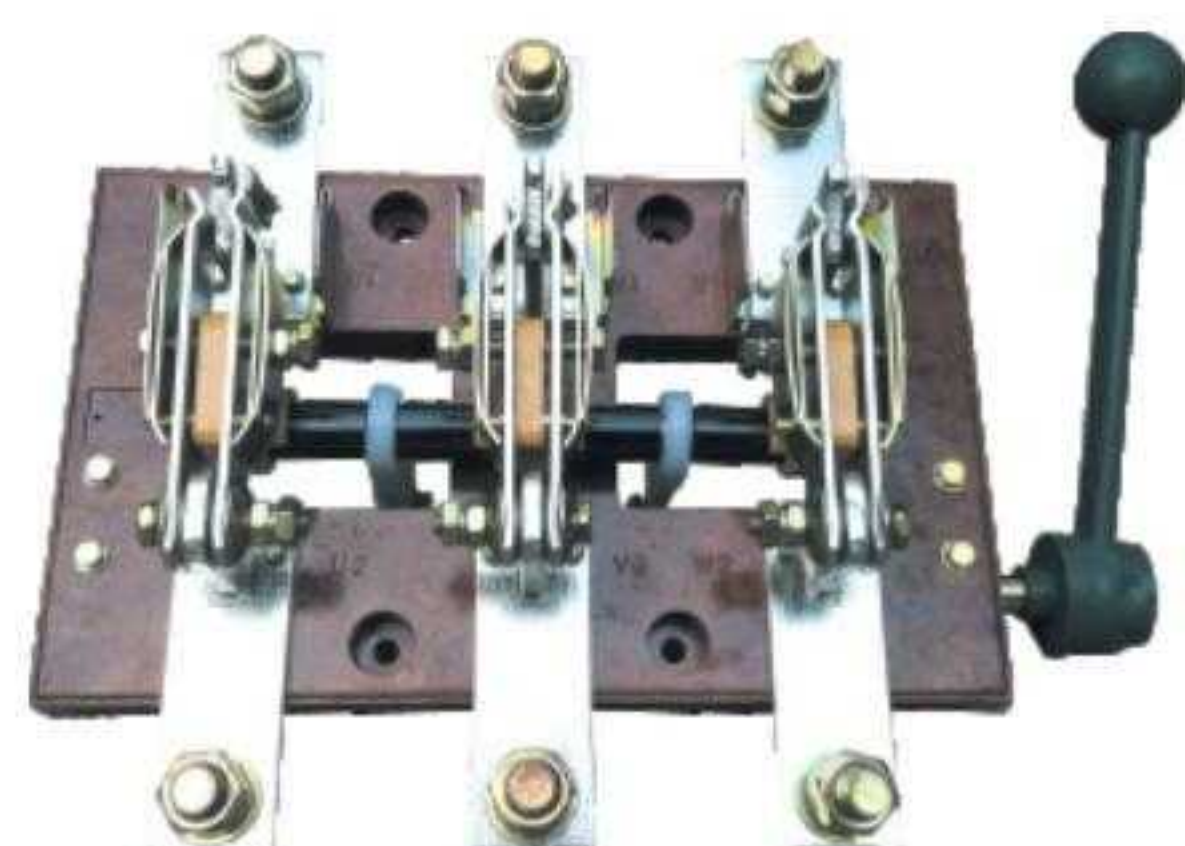
Model	Specific ation	100A、200A			400A			600A			1000A		
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
HS13-/BX Central Rotary Operating Mechanis m Type Blade- Type Transfer Switch	A	190	210	300	220	245	335	240	260	360	280	320	460
	B	280	280	280	300	300	300	394	394	394	434	434	434
	C	160	80	160	180	90	180	200	100	200	240	120	240
	D	240	240	240	240	240	240	240	240	240	240	240	240
	E	80	80	80	90	90	90	100	100	100	120	120	120
	H	160	160	160	185	185	185	190	190	190	235	235	235
	I	35	35	35	26	26	26	36	36	36	36	36	36
	J	210	210	210	256	256	256	354	354	354	358	358	358
	K	—	—	—	—	—	—	40	40	40	50	50	50
	L	125	125	125	120	120	120	125	125	125	117	117	117
	N	—	—	—	—	—	—	30	30	30	40	40	40
	O	—	—	—	—	—	—	—	—	—	25	25	25
	P	—	—	—	—	—	—	—	—	—	25	25	25
	M	8	8	8	12	12	12	16	16	16	12	12	12
	Φ	7	7	7	7	7	7	9	9	9	9	9	9

Continued Tabel 11(mm)

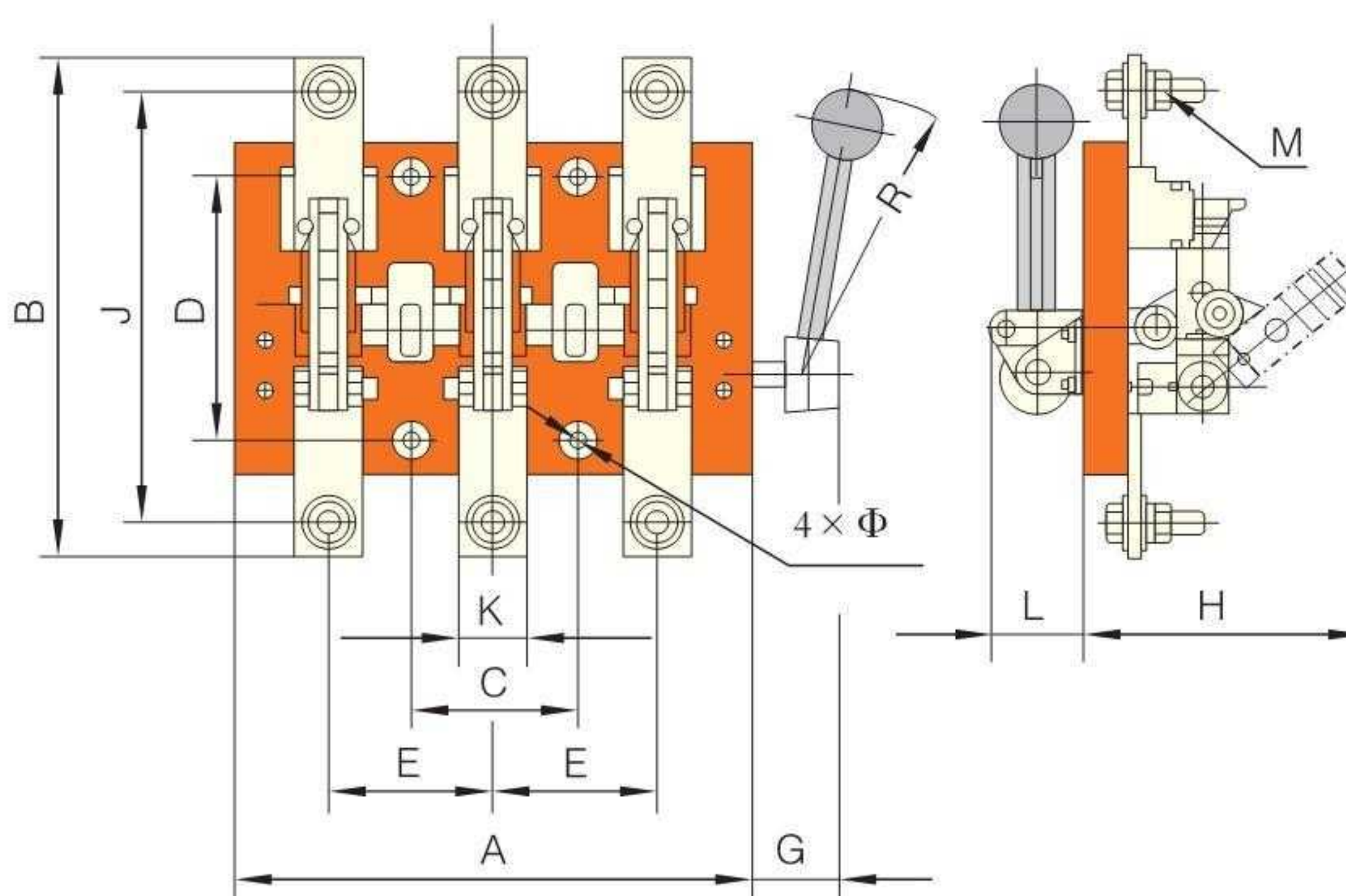
Model	Specific ation	1500A			2000A			3000A(2500A)		
		2P	3P	4P	2P	3P	4P	2P	3P	4P
HS13-/BX Central Rotary Operating Mechanis m Type Blade- Type Transfer Switch	A	310	370	510	500	500	680	600	600	800
	B	504	504	504	480	480	480	540	540	540
	C	260	130	260	180	180	360	200	200	400
	D	280	280	280	240	240	240	280	280	280
	E	130	130	130	180	180	180	200	200	200
	H	255	255	255	235	235	235	260	260	260
	I	32	32	32	48	48	48	50	50	50
	J	404	404	404	370	370	370	404	404	404
	K	70	70	70	100	100	100	120	120	120
	L	127	127	127	117	117	117	127	127	127
	N	46	46	46	50	50	50	50	50	50
	O	35	35	35	40	40	40	45	45	45
	P	35	35	35	55	55	55	68	68	68
	M	12	12	12	12	12	12	16	16	16
	Φ	9	11	11	11	11	11	13	13	13

5.11 HD14 Dimensions and Installation Sizes (see Figure 11, Table 12)

Figure 11

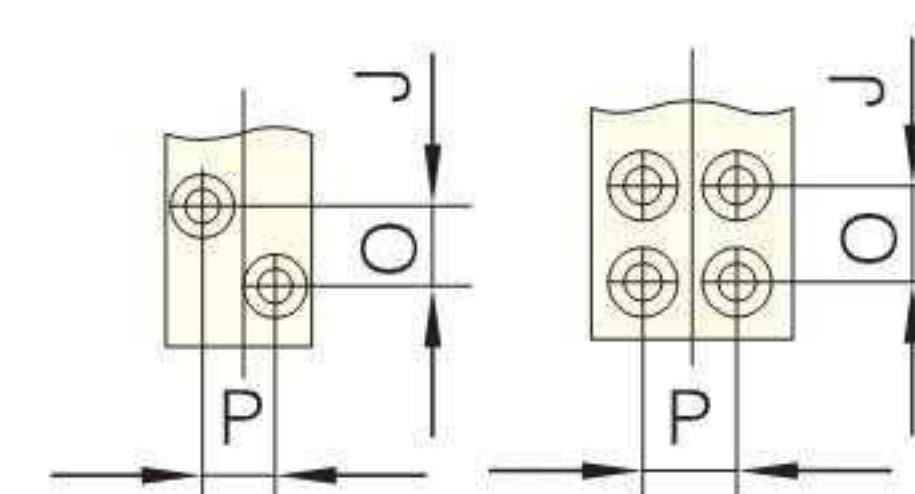


400A and below



600A and above

Connection Plate 1000A Connection Plate 1500A

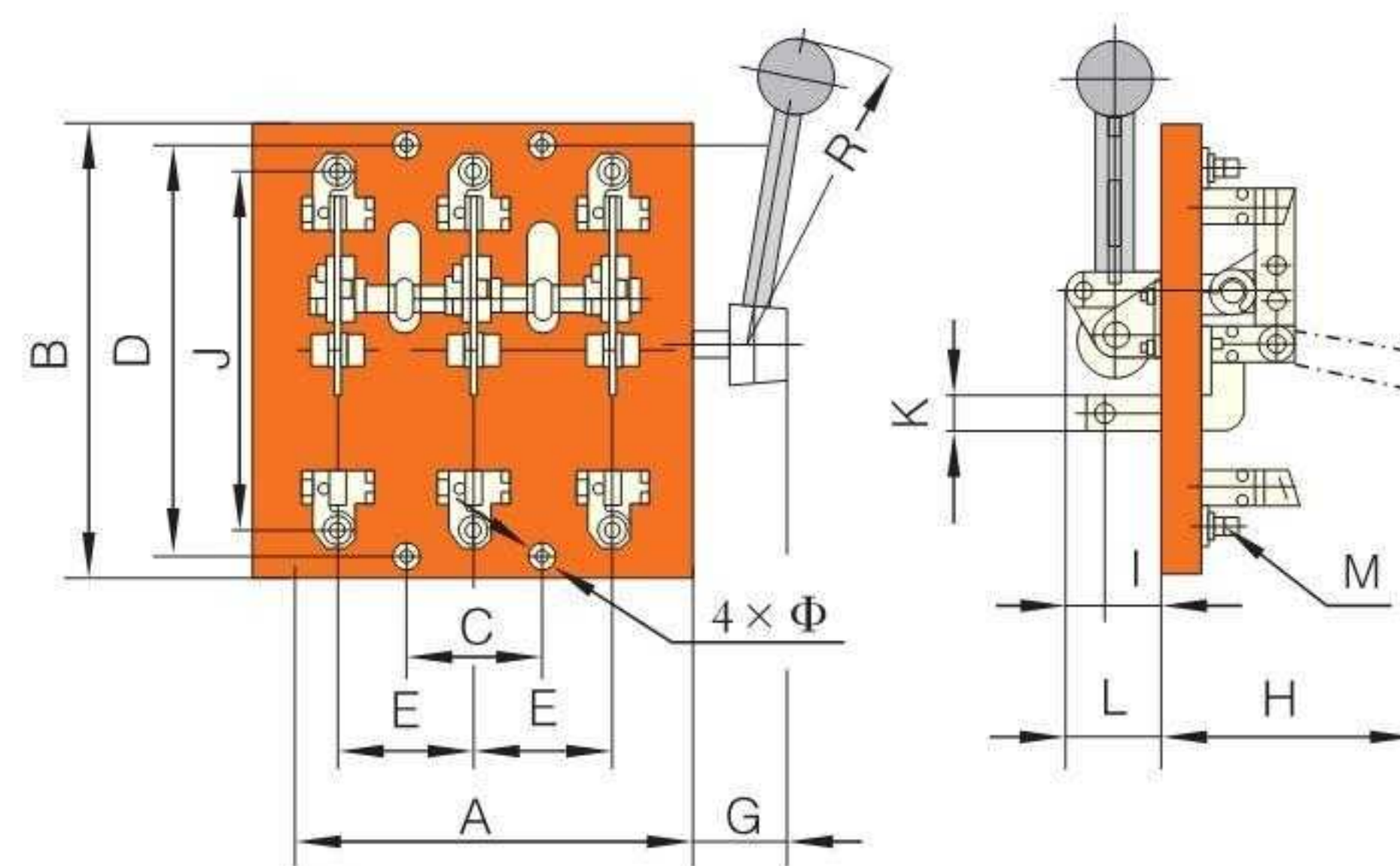
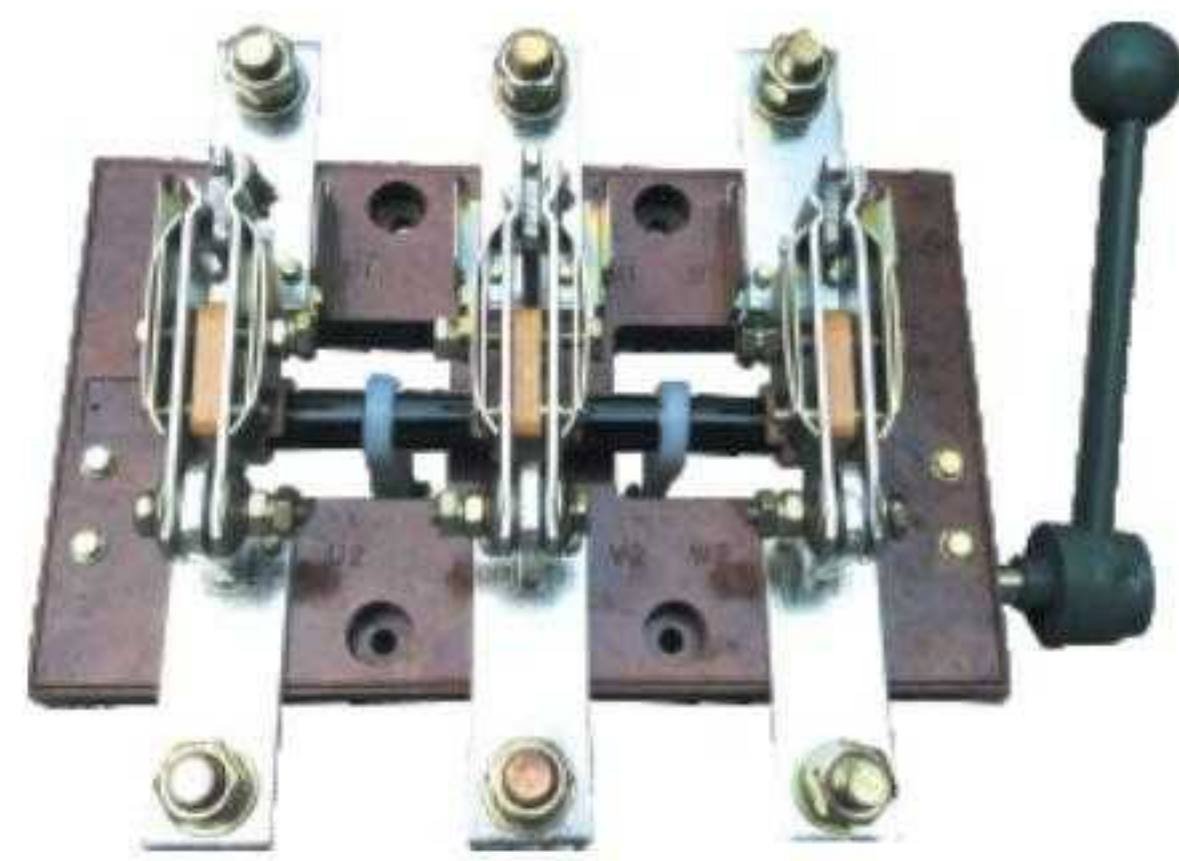


Tabel 12(mm)

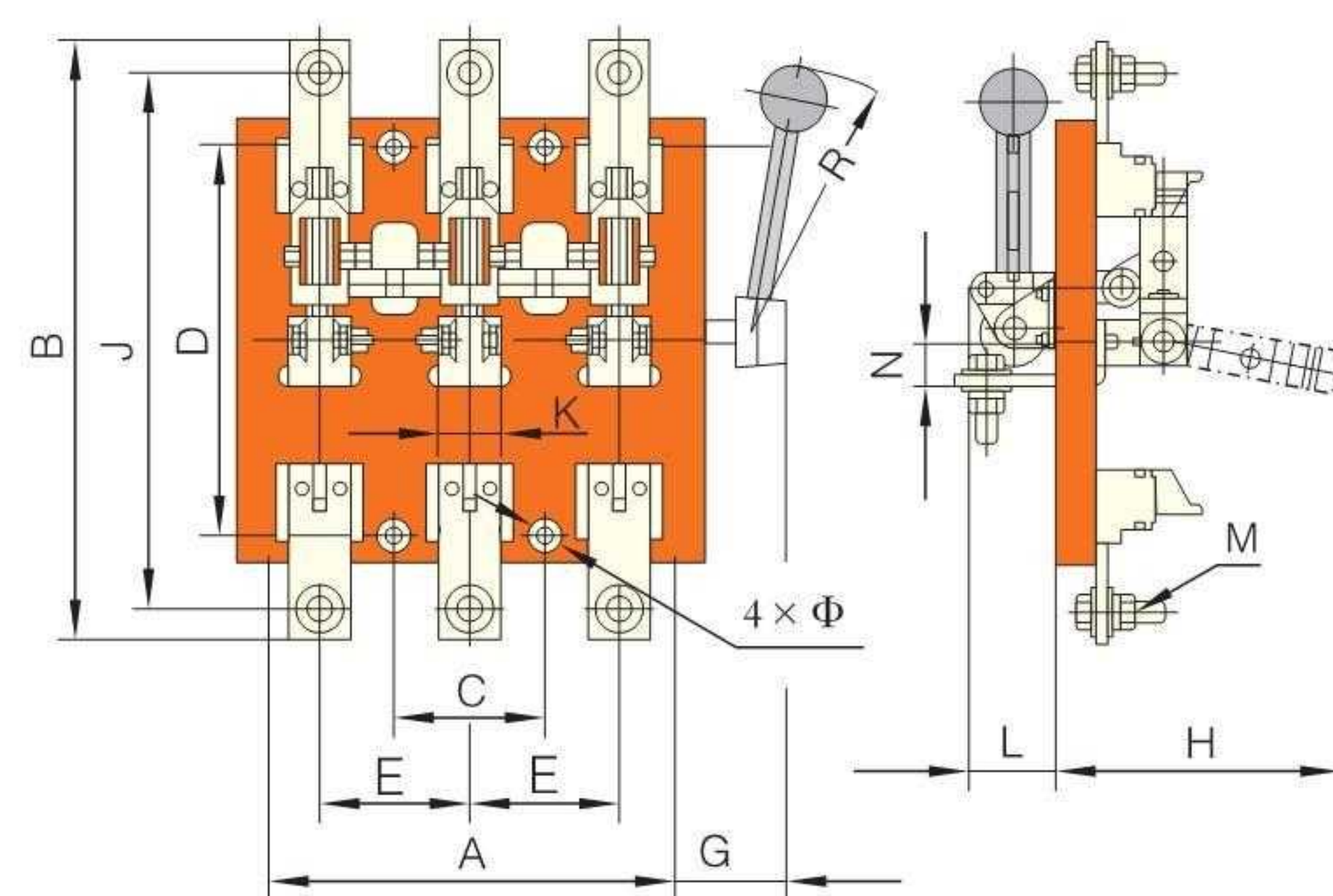
Model	Specification	100A、200A			400A			600A			1000A		1500A	
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	2P	3P
HD14 Side Handle Type Open- Type Knife Switch	A	200	280	360	220	310	400	250	330	430	300	400	330	440
	B	200	200	200	210	210	210	294	294	294	314	314	354	354
	C	160	80	160	180	90	180	200	100	200	240	120	260	130
	D	160	160	160	160	160	160	160	160	160	160	160	160	160
	E	80	80	80	90	90	190	100	100	100	120	120	130	130
	G	100	100	100	100	100	100	100	100	100	100	100	100	100
	H+L	160+80	160+80	160+80	185+90	185+90	185+90	190+95	190+95	190+95	230+110	230+110	235+110	235+110
	L1	48	48	48	48	48	48	48	48	48	53	53	53	53
	J	130	130	130	166	166	166	254	254	254	238	238	254	254
	K	-	-	-	-	-	-	40	40	40	50	50	70	70
	O	-	-	-	-	-	-	-	-	-	25	25	35	35
	P	-	-	-	-	-	-	-	-	-	25	25	35	35
	R	250	250	250	250	250	250	250	250	250	250	250	250	250
	M	8	8	8	12	12	12	16	16	16	12	12	12	12
	Φ	7	7	7	7	7	7	9	9	9	9	9	9	9

5.12 HS14 Dimensions and Installation Sizes (see Figure 12, Table 13). Note: (Current model is changed to HS13-□ /Number of Poles 114; e.g., HS13-200/3114)

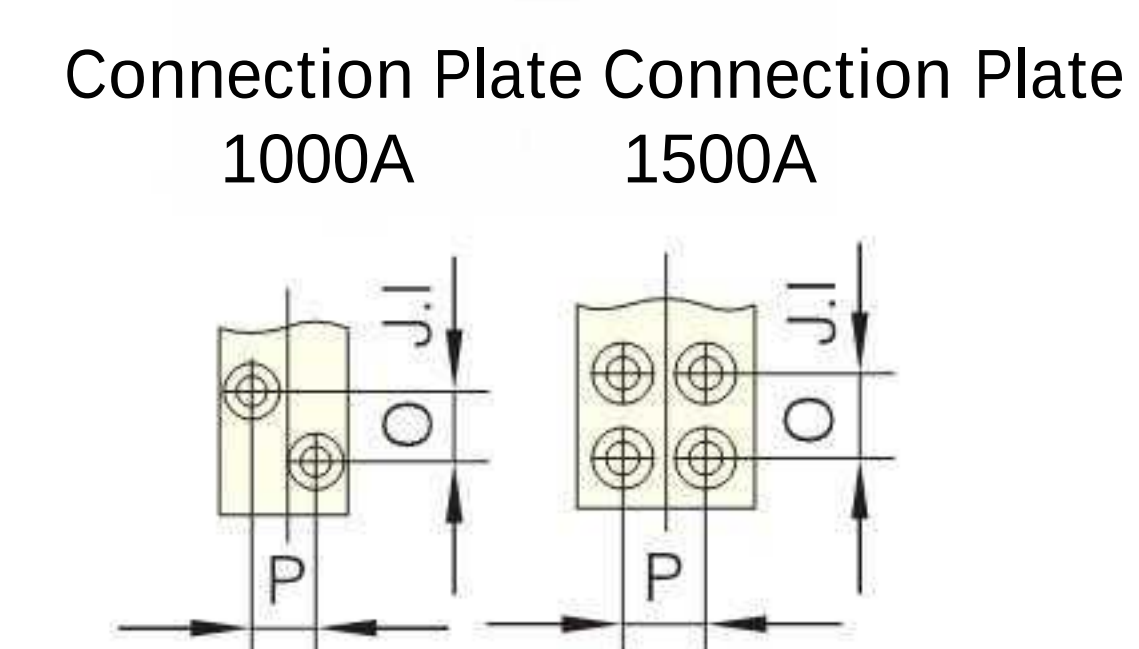
Figure 12



400A and below



600A and above



Tabel 13(mm)

Model	Specific ation	100A、200A			400A			600A			1000A		1500A	
		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	2P	3P
HS14 Side Handle Type Blade- Type Transfer Switch	A	200	280	360	220	310	400	250	330	430	300	400	330	440
	B	280	280	280	300	300	300	394	394	394	434	434	504	504
	C	160	80	160	180	90	180	200	100	200	240	120	260	130
	D	240	240	240	240	240	240	240	240	240	240	240	280	280
	E	80	80	80	90	90	90	100	100	100	120	120	130	130
	G	100	100	100	100	100	100	100	100	100	100	100	100	100
	H+L	160+80	160+80	160+80	185+90	185+90	185+90	190+95	190+95	190+95	235+110	235+110	255+110	255+110
	I	35	35	35	26	26	26	36	36	36	36	36	32	32
	J	210	210	210	256	256	256	354	354	354	358	358	404	404
	K	20	20	20	30	30	30	40	40	40	50	50	70	70
	N	-	-	-	-	-	-	30	30	30	40	40	46	46
	O	-	-	-	-	-	-	-	-	-	25	25	35	35
	P	-	-	-	-	-	-	-	-	-	25	25	35	35
	R	250	250	250	250	250	250	250	250	250	250	250	250	250
	M	8	8	8	12	12	12	16	16	16	12	12	12	12
	Φ	7	7	7	7	7	7	9	9	9	9	9	9	9

6 Ordering Instructions

The ordering unit shall specify the switch's type characteristics, voltage class, current class, number of poles, operating mode, and quantity. For special orders, please contact the Technical Department of Mingri Electric Co., Ltd.

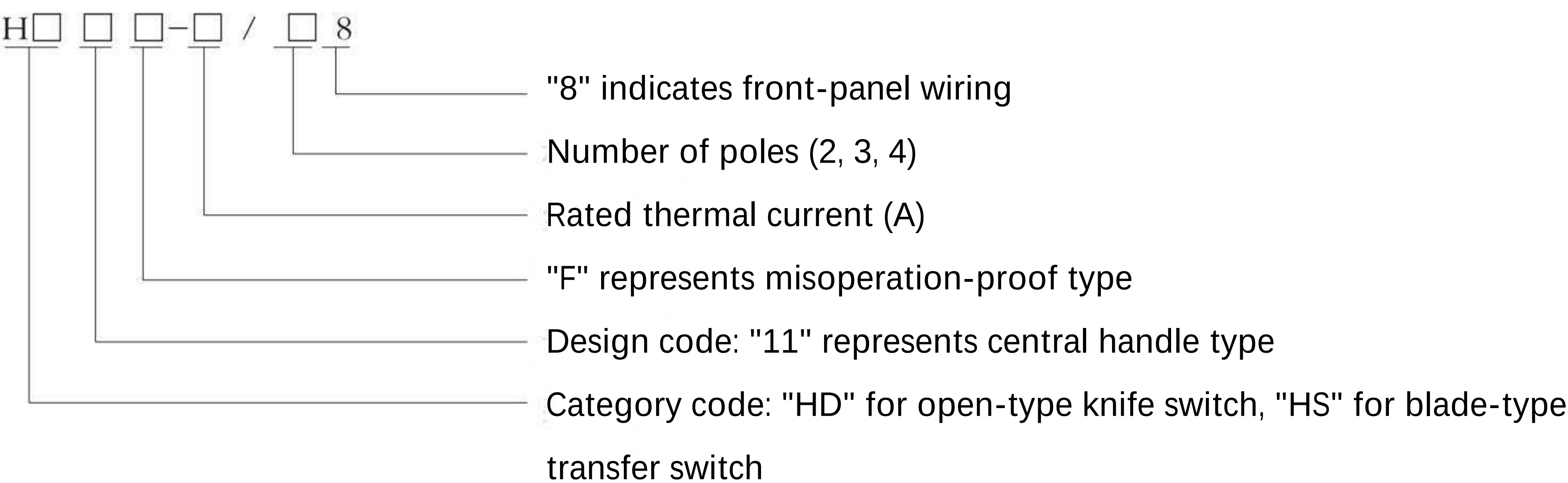
Example: HS13-600/31 380V, 10 units

1 Scope of Application

The HD11F and HS11F series single-throw and double-throw protective knife switches are newly developed derivative products based on our HD11 and HS11 switches. They are ideal replacements for HD11, HD11F, and HS11 switches, significantly improving personal safety performance and preventing accidental electric shock. This series of products is mainly used in low-voltage power distribution equipment for infrequent manual connection, disconnection, and isolation of power supplies.

Compliant with standards: GB14048.3, IEC60947-3.

2 Model and Its Meaning



3 Normal Operating and Installation Conditions

- 3.1 Ambient air temperature shall not exceed +40℃ and shall not be lower than -5℃.
- 3.2 The altitude of the installation site shall not exceed 2000m.
- 3.3 Humidity:

At the maximum temperature of +40℃, the relative humidity of air shall not exceed 50%. Higher relative humidity is allowed at lower temperatures, e.g., up to 90% at 20℃. Special measures shall be taken against condensation occasionally caused by temperature changes.
- 3.4 The pollution degree of the surrounding environment is Grade 3.
- 3.5 The switch shall be installed in a place free from significant shaking, shock, vibration, rain, and snow. The installation site shall also be free from explosive hazardous media, and the medium shall not contain gases or dust that can corrode metals or damage insulation.

4 Main Parameters and Technical Performance

- 4.1 The rated operating voltage is AC 380V, DC 220V.
- 4.2 Main technical performance and parameters (see Table 1).

Table 1

Rated thermal current (A)		100	200	400	600	1000
Rated operating current (A)		100	200	400	600	1000
Making and breaking capacity (A)	AC380VCOSΦ0.72~0.8	100	200	400	600	1000
	DC T=0.01~0.011S 220V	100	200	400	600	1000
Mechanical life (cycles)		10000	10000	10000	5000	3000
Electrical life (cycles)		1000	1000	1000	500	300
1s short-time withstand current (kA)		6	10	20	25	30
Peak dynamic stability current (kA)		15	20	30	40	50
Operating force (N)		≤300	≤300	≤400	≤400	≤450

5 Dimensions and Installation Sizes

5.1 HD11F front-panel wiring (see Figure 1, Table 2).

Figure 1

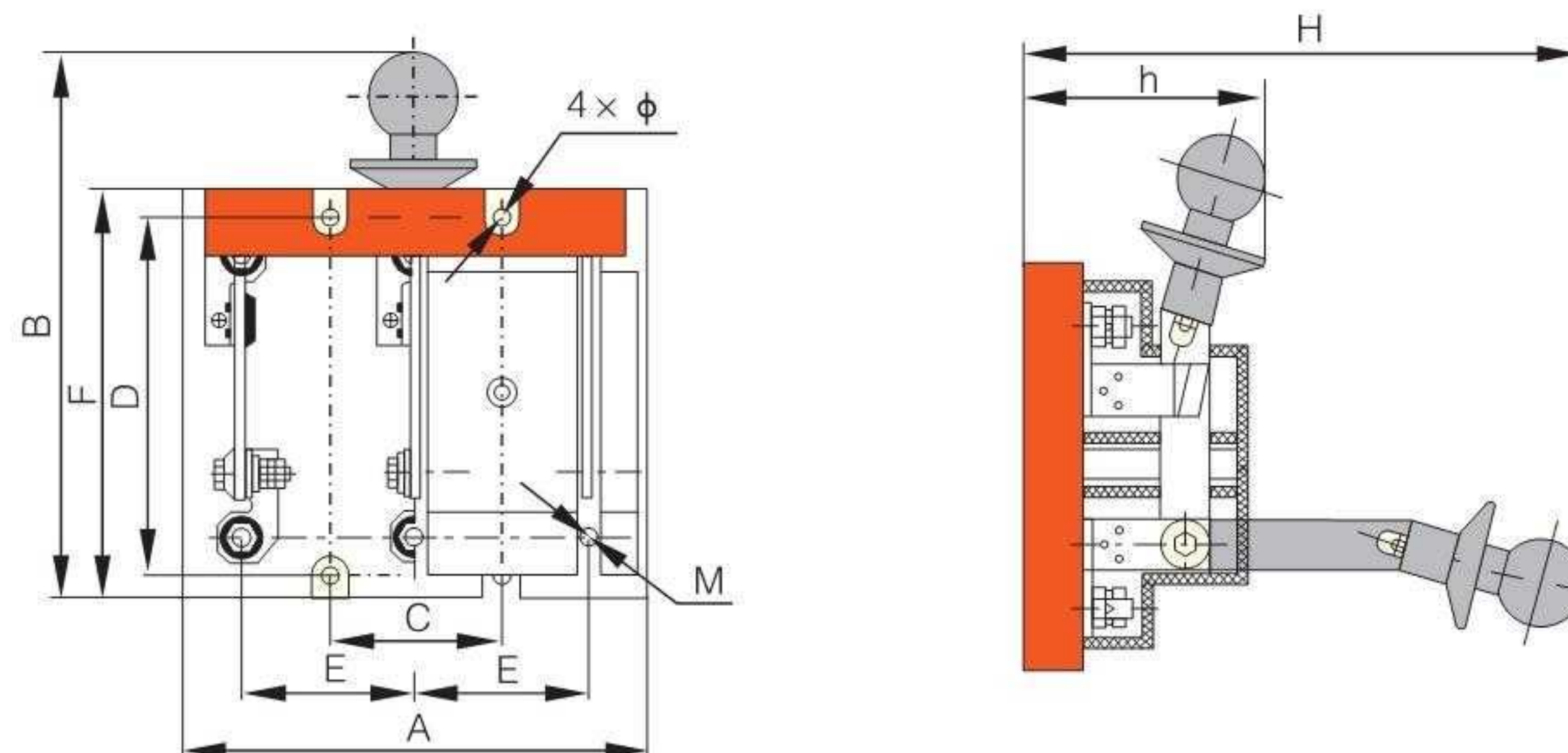


Table 2

Model	Specification	100			200			400			600	1000
		2P	3P	4P	2P	3P	4P	2P	3P	4P	3P	3P
HS11F Protective Open-Type Knife Switch with Front-Panel Wiring	A	90	130	270	200	200	270	200	220	300	290	322
	B	210	210	230	210	210	230	270	270	300	330	350
	C	—	40	140	140	70	140	160	80	160	100	115
	D	140	140	140	140	140	140	190	190	190	140	140
	E	50	50	70	70	70	70	80	80	80	100	115
	F	165	165	165	165	165	165	215	215	215	260	275
	H	220	220	240	220	220	240	270	270	300	305	335
	h	110	120	120	120	120	120	135	135	145	125	160
	M	8	8	8	8	8	8	12	12	12	16	12
	Φ	7	7	7	7	7	7	7	7	7	9	9

5.2 HS11F front-panel wiring (see Figure 2, Table 3).

Figure 2

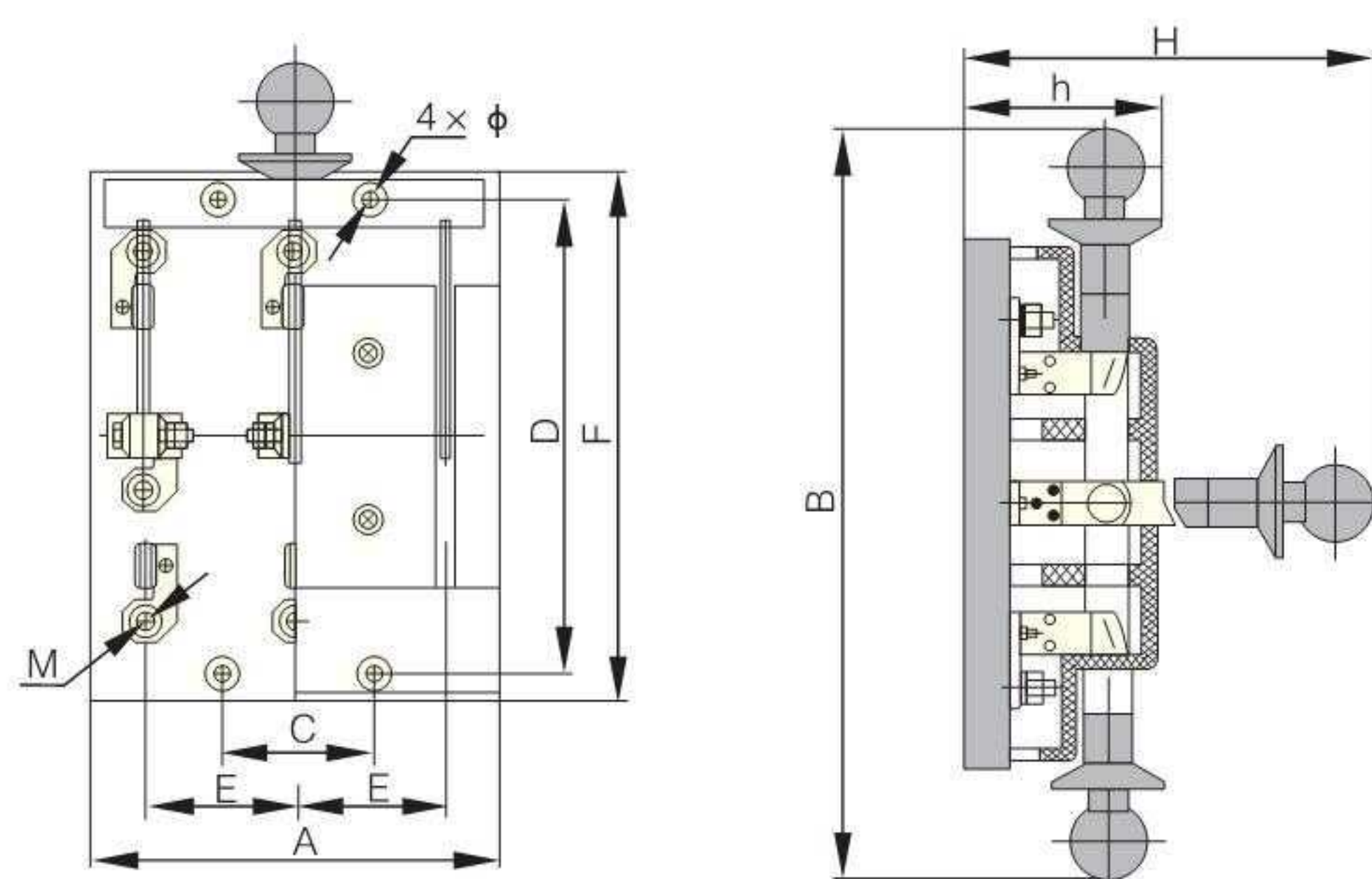


Table 3

Model	Specification	100			200			400		
		2P	3P	4P	2P	3P	4P	2P	3P	4P
HS11F Protective Blade-Type Transfer Switch with Front-Panel Wiring	A	78	140	170	200	200	270	210	210	300
	B	245	290	300	330	330	370	450	450	450
	C	—	40	80	70	70	140	160	80	160
	D	112	120	120	220	220	220	260	260	260
	E	40	50	40	140	70	70	80	80	80
	F	165	165	165	245	245	245	312	312	312
	H	180	190	200	240	240	240	280	280	300
	h	70	70	70	100	100	100	110	110	110
	M	—	—	—	8	8	8	8	8	8
	Φ	7	7	7	7	7	7	7	7	7

6 Ordering Instructions

The ordering unit shall specify the switch's type characteristics, voltage class, current class, number of poles, operating mode, and quantity. For special orders, please contact the Technical Department of Mingri Electric Co., Ltd.

Example: HD11-200/38B 380V, 10 units

Open-type and Knife-type Change-over High-current Isolating Switches

1 Scope of Application

Suitable for AC 50Hz, voltage up to 1000V, DC 1200V, and rated operating current up to 6000A in power circuits, for no-load operation and power isolation.

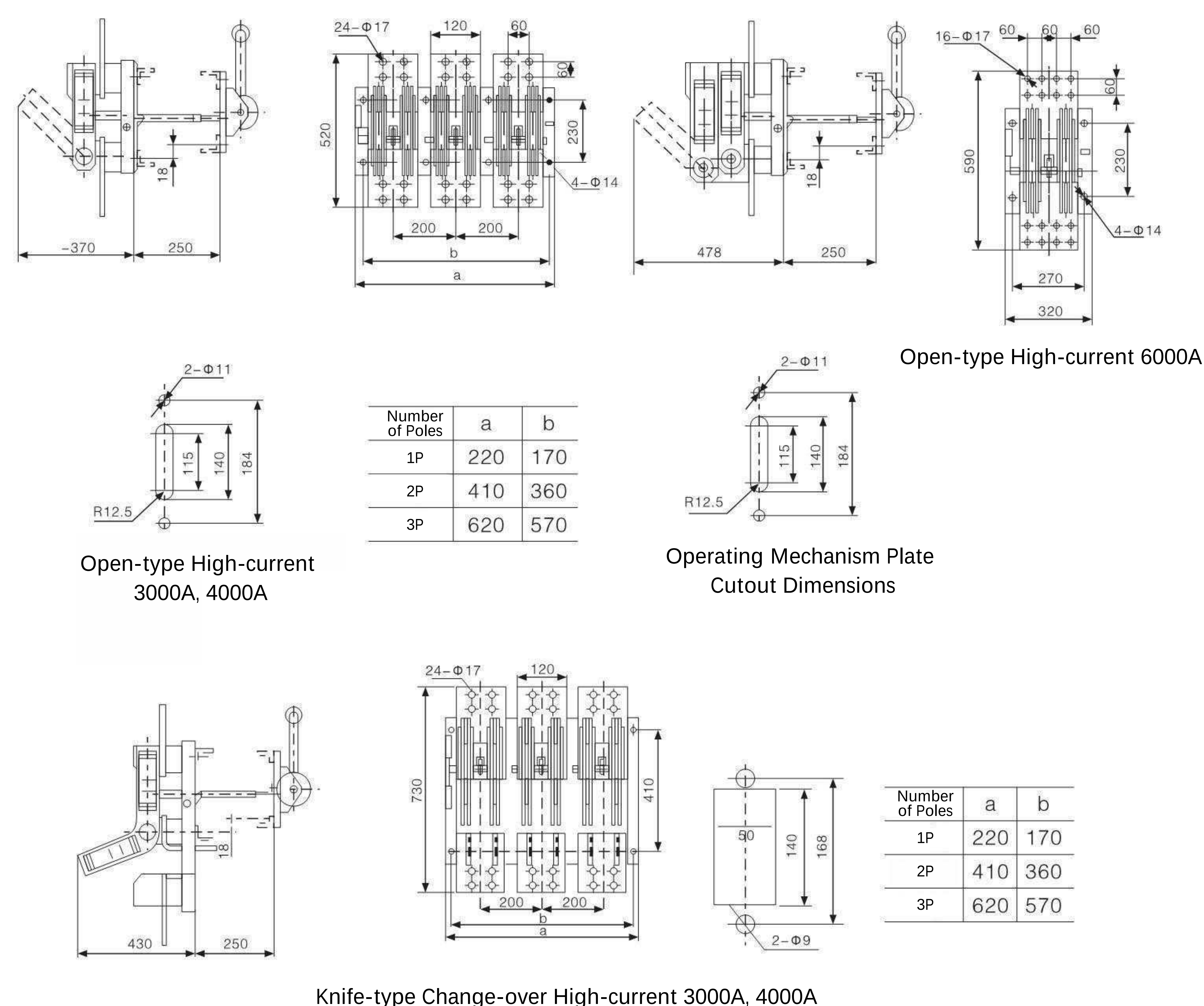
2 Main Technical Parameters

Tabel 1

Rated Operating Voltage (V)	Rated Operating Current (A)	Number of Poles	Peak Dynamic Stable Current (kA)	Is Thermal Stable Current (RMS Value) (kA)	Auxiliary Switch
AC 1000 DC 1200	3000	1P	100	50	AC 380V 5A
		2P			
		3P			
	4000	1P			
		2P			
		3P			
	6000	1P			

3 Outline and Installation Dimensions

Figure 1



4 Structural Features

4.1 The knife switch adopts double blades distributed on both sides of the fixed contact, locked by leaf springs and screws. When a short circuit occurs in the power grid, the electromagnetic locking force generated between the two parallel blades and the spring plates compensates for the contact repulsion force, thus achieving high dynamic stability.

4.2 The conductive parts of the knife switch are fixed to the base via an insulating bottom plate made of glass fiber reinforced thermosetting plastic, which features high insulation strength and mechanical strength. The pull rod made of glass fiber reinforced thermosetting plastic also has high mechanical strength, thus ensuring the mechanical life of the knife switch.