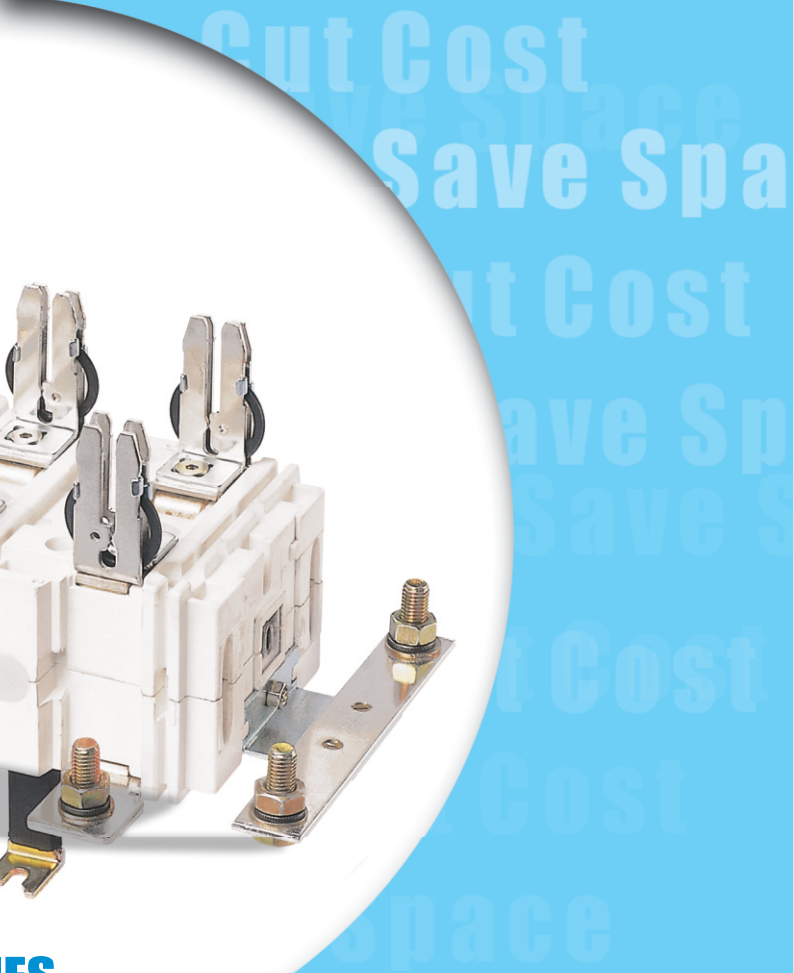


Save Space



- Breaking
- at Circuit Capacity
- Elimination
- Protection
- al Design

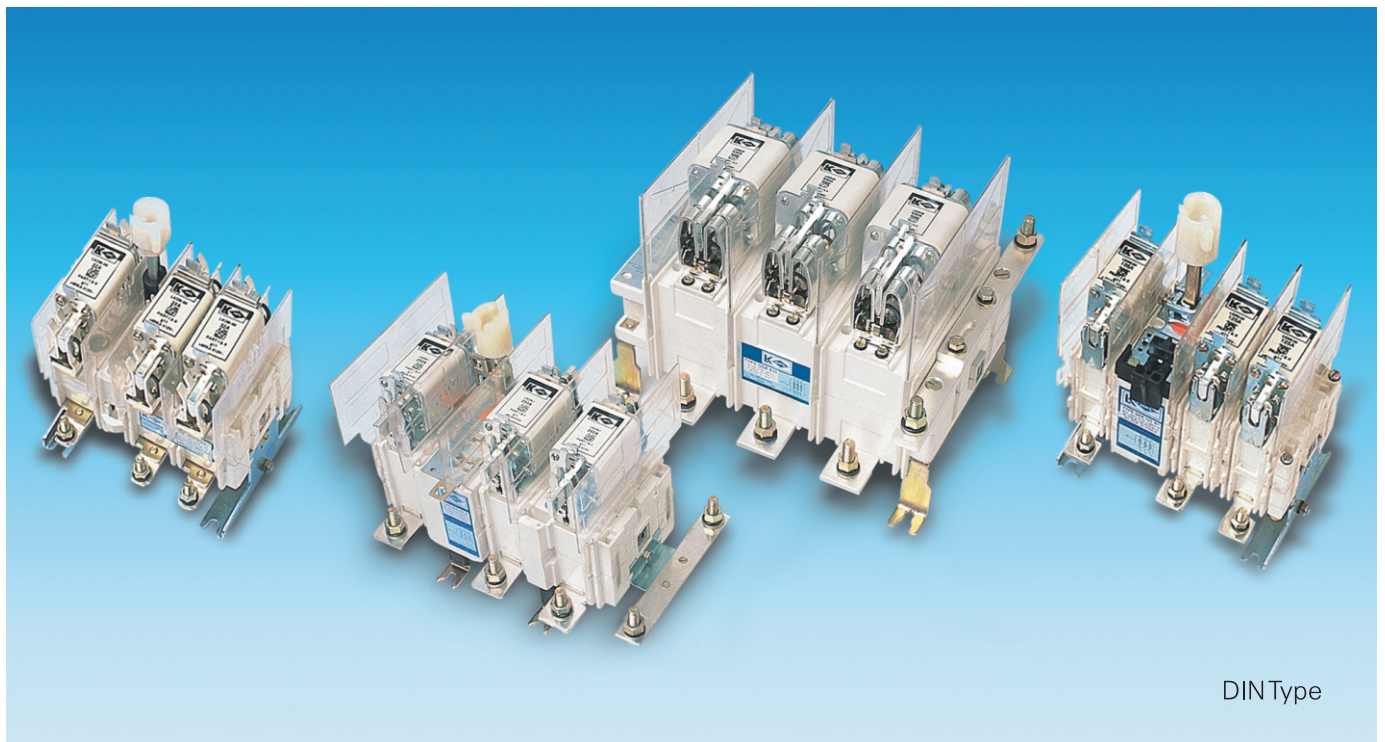




SWITCH DISCONNECTOR FUSE

The Q-line range of switches is the result of more than 50 years development, and it complies with all requirements to short-circuit capacity, breaking capacity, and isolating distance as specified in IS, BS, and IEC Standards. The Q-line Switches have moving contact system with unique properties, combining the advantages found both in knife as well as roller contact systems. Moving contact system is based on four spring loaded, silver plated copper rollers, held in position by a spring loaded steel retainer, which permits the rollers to rotate individually.

The spring pressure is so adjusted to the friction between rollers and knife that, during operation, the rollers normally wipe the knife surface (no roller rotation - self cleaning effect). If the contacts attempt to weld during closing under faulty conditions, the roller knife friction increases and the rollers will rotate breaking the pin points where incipient welding has occurred, thus preventing actual welding from taking place.

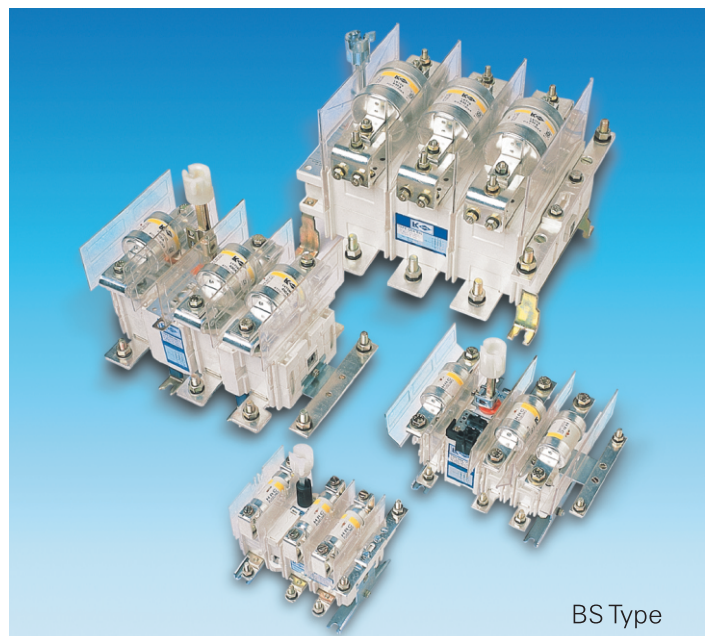


DIN Type

HIGH ISOLATION LEVEL

In distribution system, it is foremost requirement that the feeder voltage from a transformer or generator can be positively separated from the distribution switch board. The Q-line switches fully meet these requirements.

The required isolating distance is maintained not only across the Switch Disconnecter Fuse terminals, but also between terminals and fuse holders. The double safety built into the design is important both when fuses are changed



BS Type

SWITCH DISCONNECTOR FUSE



and when the distribution board is opened for inspection or maintenance.

The direct mechanical connection between the operating handle and the moving contact system ensures that the opening movement of the handle causes the contacts to open, so that the position of the handle is a positive indication of the contact position inside the switch.

HIGH SHORT-CIRCUIT CAPACITY

In the contact system described, each sector will carry only one fourth of the current, and during closing, the electro-dynamic counter force in each contact sector will be reduced by a factor of $(1/4)^2$.

This fact, together with the increase of the electro-dynamic forces between the parallel current paths in the copper rollers, prevents the contacts from opening even at extreme fault currents of 100KA rms. The effects described manifest themselves both in the case of through faults and also when the switches are closed on a short-circuit due to the high closing speed of the switch.



STRONG POINTS

- Range : 32A to 800A, TP,TPN & 4 Pole, 415V, 50Hz
- Conforms to latest IEC/IS specifications, IS/IEC 60947-3
- Tested at CPRI
- Multiple Roller Contact Mechanism for long life and better performance
- Available in open execution and sheet steel enclosure

HIGH BREAKING CAPACITY

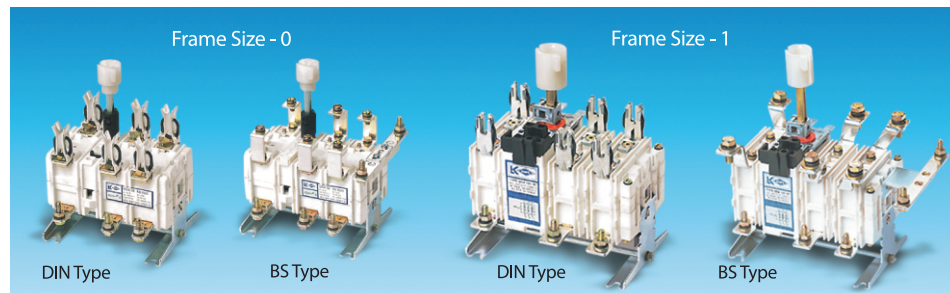
The high breaking capacity (Category AC-23A at 415V) is achieved mainly by dividing the breaking into four breaking points per phase. This results in a distribution of the breaking load, with the effect that arcing time and contact erosion are reduced. This results in longer contact life.



SWITCH DISCONNECTOR FUSE

TECHNICAL DATA

Ref. IS/IEC 60947-3

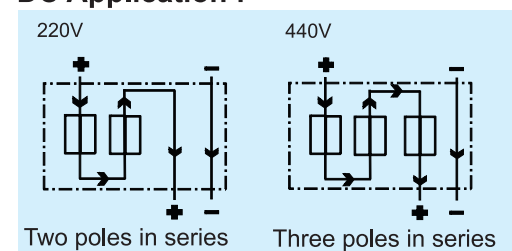


TECHNICAL DATA		QSA 32N0	QSA 63N0	QSA 100N0	QSA 125N1	QSA 160N1
Number of main poles	P	3*+Neutral	3*+Neutral	3*+Neutral	3*+Neutral	3*+Neutral
Rated operational voltage (Ue)	V	415	415	415	415	415
Rated insulation voltage (Ui)	V	1000	1000	1000	1000	1000
Rated impulse withstand Voltage (Uimp)	kV	8	8	8	8	8
Rated frequency	Hz	50/60	50/60	50/60	50/60	50/60
Conventional enclosed thermal current at 40°C (Ithe)	A	32	63	100	125	160
Rated operational current (Ie) AC - 23A duty of utilization	A	32	63	100	125	160
Rated making capacity (415V, cosØ = 0.35)	A	320	630	1000	1250	1600
Rated breaking capacity (415V, cosØ = 0.35)	A	256	504	800	1000	1280
Capacitor Duty -Δconnected - 415V, 50/60 Hz	kVAr	20	40	40	60	60
Rated operational current (Ie) : d.c ***						
220V L/R = 15 ms. category DC 23	A	32	63	125	125	160
440V L/R = 15ms. category DC 23	A	32	63	100	125	160
Rated fused short circuit current, 415V KA rms		80	80	80	80	80
Max. fuse link	A	32	63	100	125	160
Mechanical endurance	operations	15000	15000	15000	12000	12000
Weight	kg	1.00	1.15	1.15	1.7	1.85
Required torque	Nm	2.5	2.5	2.5	7.5	16
Fuse Knife type IS : 13703	Size	00	00	00	00	00
Fuse bolted type IS : 13703	Size	A2	A3	A3	B1-B2	B1-B2
Neutral links Ithe	A	32	63	100	160	160
Auxiliary contact 440V AC11	A	4	4	4	4	4
Auxiliary contact 660 V AC1	A	10	10	10	10	10
Terminal capacity (main)	mm ²	35	35	35	95	95
Terminal capacity (neutral)	mm ²	35	35	35	50	50
Terminal screw	mm	M6X12	M6X12	M6X12	M8X20	M8X20

NOTE:

- * Both knife type and Bolted type available in complete range of Switch Disconnecter Fuse.
- ** Subject to availability of 800A Fuse in size 3.
- *** DC application
220V, two poles in series. 440V, three poles in series

DC Application :

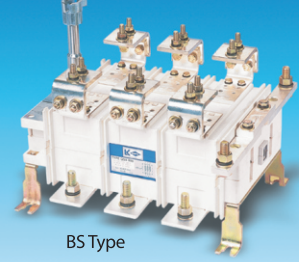
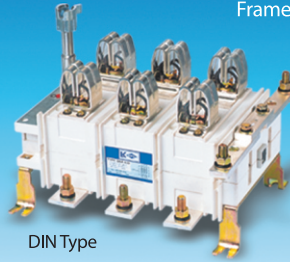
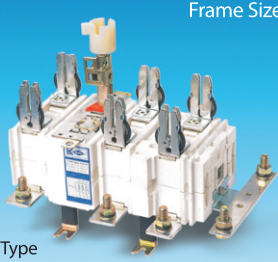


SWITCH DISCONNECTOR FUSE



Frame Size - 2

Frame Size - 3



QSA 200N

QSA 250N

QSA 315N

QSA 400N

QSA 630

QSA 800

3*+Neutral

3*+Neutral

3*+Neutral

3*+Neutral

3*+Neutral

3*+Neutral

415

415

415

415

415

415

1000

1000

1000

1000

1000

1000

8

8

8

8

8

8

50/60

50/60

50/60

50/60

50/60

50/60

200

250

315

400

630

800

200

250

315

400

630

800

2000

2500

3150

4000

6300

8000

1600

2000

2520

3200

5040

6400

100

125

125

200

315

400

200

250

315

400

630

800

200

250

315

400

630

800

80

80

80

80

80

80

200

250

315

400

630

800

12000

12000

12000

12000

10000

10000

4.2

4.5

4.5

4.7

14

14.3

16

16

16

16

30

30

1

1-2

1-2

1-2

3

3**

B2

B2

B2

B2

C2

C2

200

250

315

400

630

630

4

4

4

4

6

6

10

10

10

10

10

10

240

400

400

2X400

2X625

2X625

120

240

240

240

400

400

M10X30

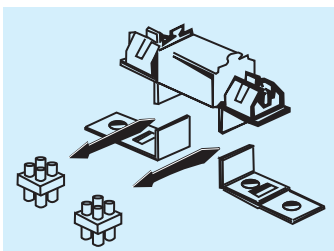
M10X30

M10X30

M10X30

M12X40

M16X50



ROLLER CONTACT MECHANISM

Parallel current paths result in greater contact pressure and higher short circuit capacity



SWITCH DISCONNECTOR - QA SERIES

Range : 32A - 1000A, 415V



QA Series

TECHNICAL DATA		32NO	63NO	100NO	125N1	160N1	200N	250N	315N	400N	630	800	1000
Number of main poles	P	3	3	3	3	3	3	3	3	3	3	3	3
Rated operational voltage (Ue)	V	415	415	415	415	415	415	415	415	415	415	415	415
Rated insulation voltage	V	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage(Uimp) kV		8	8	8	8	8	8	8	8	8	8	8	8
Conventional enclosed thermal current at 40°C (Ithe)	A	32	63	100	125	160	200	250	315	400	630	800	1000
Rated operational current (Ithe) AC - 23A duty of utilization	A	32	63	100	125	160	200	250	315	400	630	800	1000
Rated operational current (Ie) : d.c													
220 v L/R=15ms, category DC 23	A	32	63	100	125	160	200	250	315	400	630	800	1000
440 L/R=15ms, category DC 23	A	32	63	100	125	160	200	250	315	400	630	800	1000
Rated capacitor power 415V ac	kV ar	20	40	40	60	60	100	125	155	200	315	390	390
Mechanical endurance	operations	15000	15000	15000	12000	12000	12000	12000	12000	12000	10000	10000	10000
Weight	kg	1.00	1.15	1.15	1.7	4.1	4.2	4.5	4.5	4.7	14.0	14.3	14.7
Required torque	Nm	2.5	2.5	2.5	7.5	7.5	16	16	16	16	30	30	30
Switch neutral pole Ithe/Ie (AC22)	A/A	32/32	63/63	100/100	125/125	160/160	200/200	250/250	315/315	400/400	630/630	800/630	1000/630
Neutral links Ithe	A	32	63	100	125	160	200	250	315	400	630	630	1000
Auxiliary contact 440C AC11	A	4	4	4	4	4	4	4	4	4	4	4	4
Auxiliary contact 660 C AC1	A	10	10	10	10	10	10	10	10	10	10	10	10

SWITCH DISCONNECTOR - QP SERIES



Range : 1250A-3150A, 415V (Modular Type)

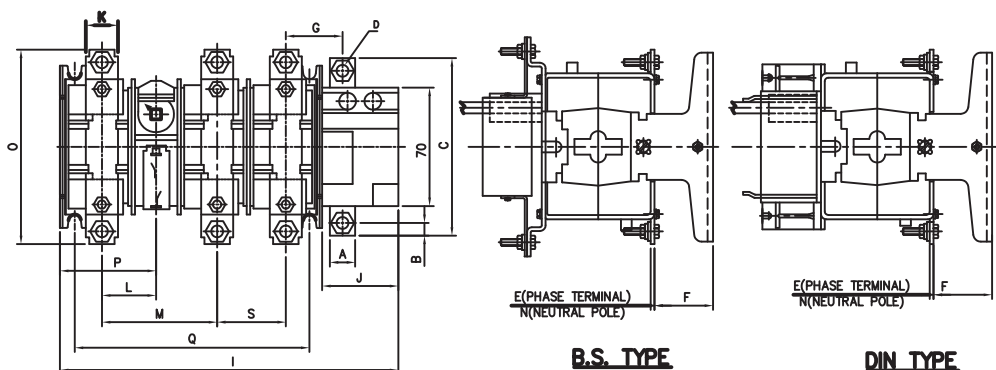
TECHNICAL DATA		1250N2	1600N2	2500N2	3150N2
Number of main poles	P	3/4	3/4	3/4	3/4
Rated operational voltage (Ue)	V	415	415	415	415
Rated insulation voltage	V	1000	1000	1000	1000
Rated impulse withstand voltage (Uimp)	kV	8	8	8	8
Conventional enclosed thermal current at 40° (Ithe)	A	1250	1600	2500	3150
Rated operational current (Ie) AC-23A duty of utilization	A	1250	1600	2500	3150
Rated fused short-circuit current, 415V (kA R.M.S)		80	80	80	80
Mechanical endurance	operations	5000	5000	3000	3000
Weight	kg	23/31	24/35	37/49	39/52
Required torque	Nm	65/85	65/85	65/85	65/85
Switch neutral pole Ithe/Ie (AC22)	A/A	1250	1600	2500	3150
Auxiliary contact 440CAC11	A	4	4	4	4
Auxiliary contact 660 CAC1	A	10	10	10	10



SWITCH DISCONNECTOR FUSE

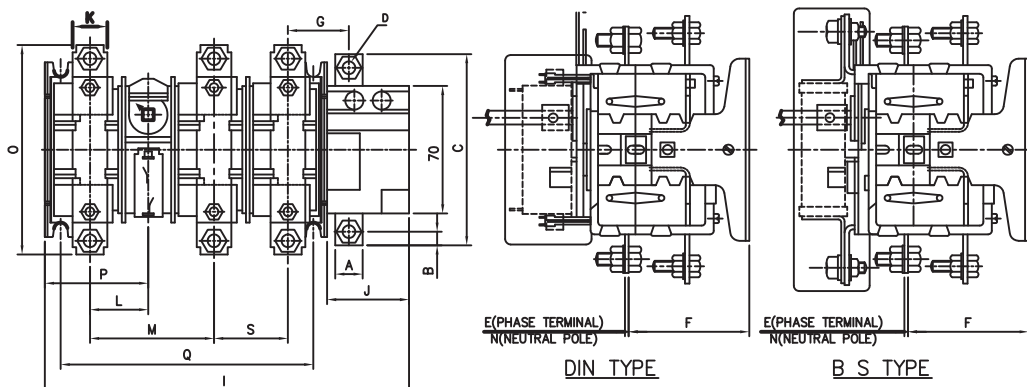
Switch Disconnecter Fuse - QSA 4P Series - Dimensions (mm)

Frame Size - 0 Range : QSA 32A - 100A



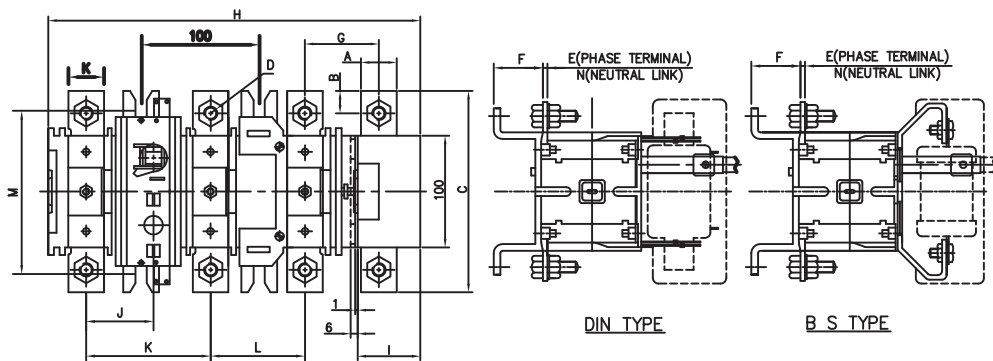
TYPE (DIN/BS)	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	S
QSA 32N0	12	7.5	100	Ø7	2	88	36	177	45	14	45	53	2	115	47	110	33
QSA 63N0	12	7.5	100	Ø7	2.5	88	36	177	45	14	45	53	2	115	47	110	33
QSA 100N0	12	7.5	100	Ø7	3	88	36	177	45	19	45	53	4	115	47	110	33

Frame Size - 1 Range : QSA 125A - 160A



TYPE (DIN/BS)	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	S
QSA 125N1-160N1	15	7.5	105	Ø7	4	102	33.5	200	45	19	37	66.5	4	128	57.5	172	45

Frame Size - 2 Range : QSA 200A - 400A

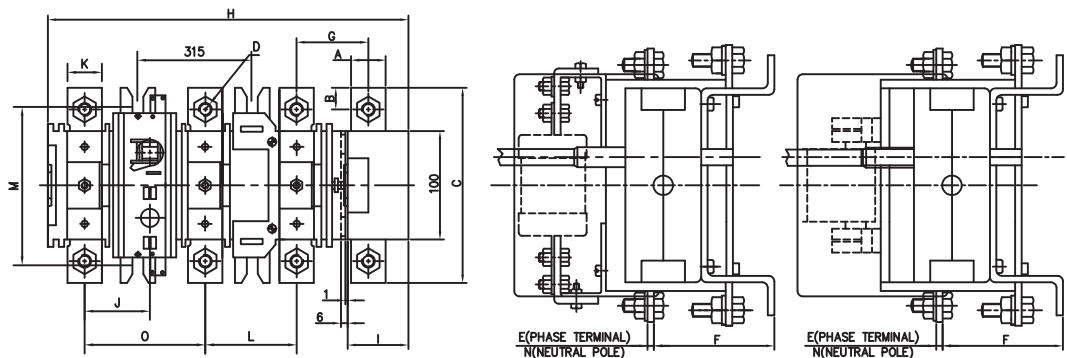


TYPE (DIN/BS)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
QSA 200N	25	12.5	160	M10	4	84	55.5	299	53	59.5	20	72	135	4	100
QSA 250N	25	12.5	160	M10	4	84	55.5	299	53	59.5	32	72	135	4	100
QSA 315N-400N	25	12.5	160	M10	6	84	55.5	299	53	59.5	38	72	135	4	100

SWITCH DISCONNECTOR FUSE



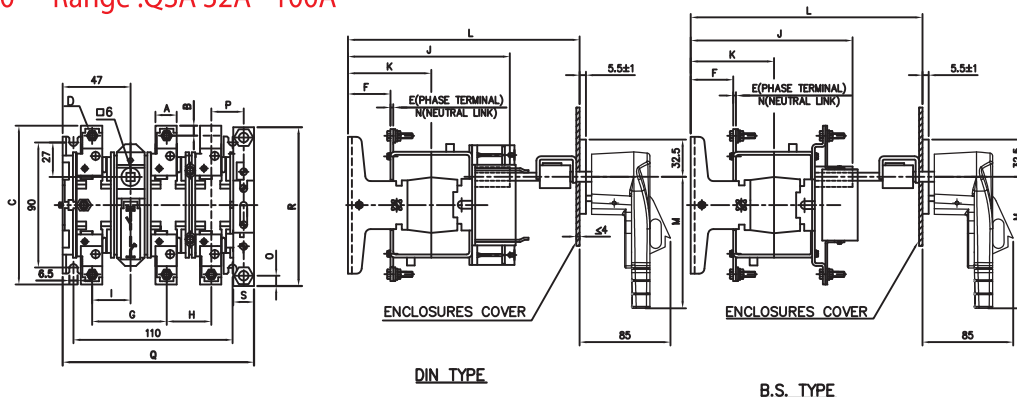
Frame Size - 3 Range : QSA 630A - 800A



TYPE (DIN/BS)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
QSA 630	32	20	180	M12	6	89	95	395	53	60	40	87	208	4	87
QSA 800	32	20	180	M12	6	89	95	395	53	60	50	87	208	4	87

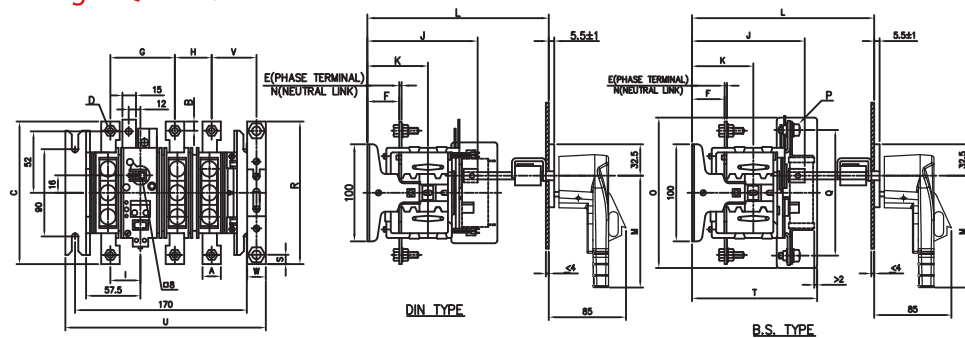
Switch Disconnecter Fuse - QSA TPN Series - Dimensions (mm)

Frame Size - 0 Range :QSA 32A - 100A



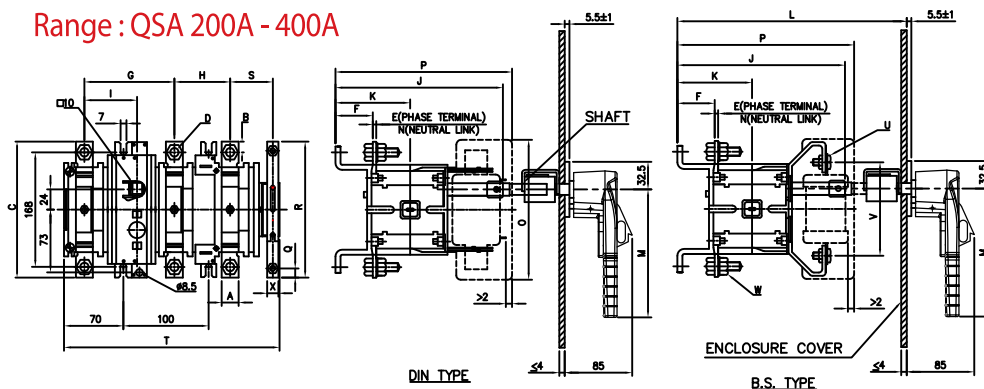
TYPE (DIN/BS)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
QSA 32N0	14	6	115	M6x1	2	29	53	33	26	112	61.5	203-233	115	2	7.5	45	163	115	15
QSA 63N0	14	6	115	M6x1	2.5	28.5	53	33	26	121	61.5	203-233	115	2	7.5	45	163	115	15
QSA 100N0	14	6	115	M6x1	3	28	53	33	26	121	61.5	203-233	115	3	7.5	45	163	115	15

Frame Size - 1 Range :QSA 125A - 160A

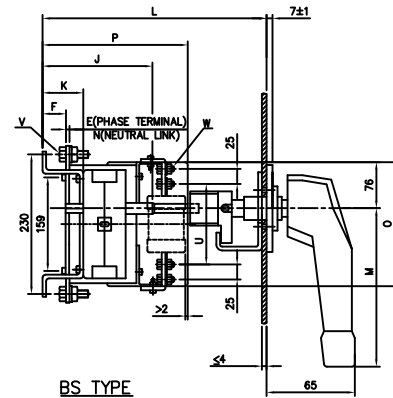


TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
QSA 125N1 DIN	19	9.5	128	M6x1	3	42	66.5	45	37	135	71.5	205-250	115	3	150	M8	-	115	7.5	173	202	44	15
QSA 125N1 BS	19	9.5	128	M6x1	3	42.	66.5	45	37	135	71.5	205-250	115	3	150	M8	111	115	7.5	173	202	44	15
QSA 160N1 DIN	19	9.5	128	M6x1	4	42	66.5	45	37	135	71.5	205-250	115	3	150	M8	-	115	7.5	173	202	44	15
QSA 160N1 BS	19	9.5	128	M6x1	4	42	66.5	45	37	135	71.5	205-250	115	3	150	M8	111	115	7.5	173	202	44	15

Frame Size - 2 Range :QSA 200A - 400A



TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
QSA 200N	20	12.5	160	M10x1.5	4	44	107	65	59.5	185	86	225-270	150	4	160	213	15	165	62.5	283	M8x1.25	111	M10x1.5	25
QSA 250N	32	16	177	M10x1.5	4	42	107	72	59.5	185	86	225-270	150	4	160	213	15	165	62.5	283	M8x1.25	111	M10x1.5	25
QSA315N&400N	38	16	187	M10x1.5	6	42	107	78	59.5	185	86	225-270	150	4	160	213	15	165	62.5	283	M8x1.25	111	M10x1.5	25

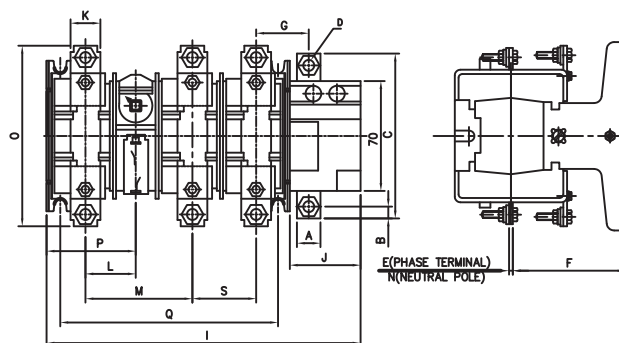


TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
QSA 630	40	20.5	270	M12x1.75	6	43	87	87	60	181	67.5	280-300	212	10	205	260	20	300	60.5	350	133	M12x1.75	M8x1.25	25
QSA 800	50	20.5	280	M12x1.75	6	43	87	87	65	181	67.5	280-300	212	10	205	260	20	300	60.5	350	133	M12x1.75	M8x1.25	25

TYPE	A	B	C	D	E	F	K
32A-100A	54	110	90	120	265	210	M6X20
125A-160A	36	172	90	120	265	260	M6X20
200A-250A	118	100	168	188	350	285	M6X20
315A-400A	118	100	168	188	350	325	M6X20
630A	49.5	315	208	230	420	380	M8X20
800A	49.5	315	208	230	420	440	M8X20

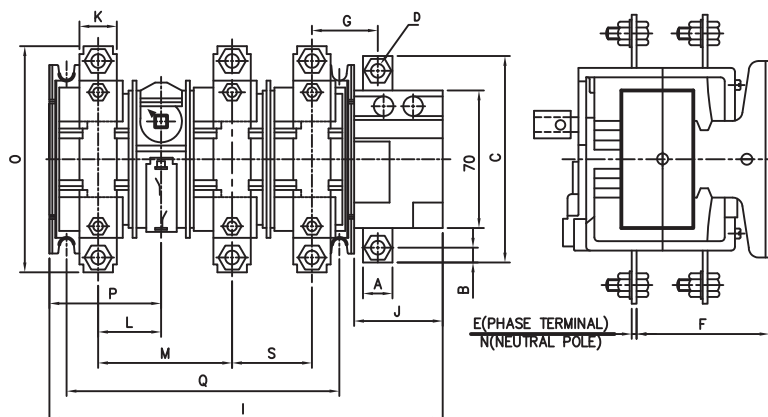
Switch Disconnecter QA/QP 4 Pole Series - Dimensions (mm)

Frame Size - 0 Range : QA 32A - 125A



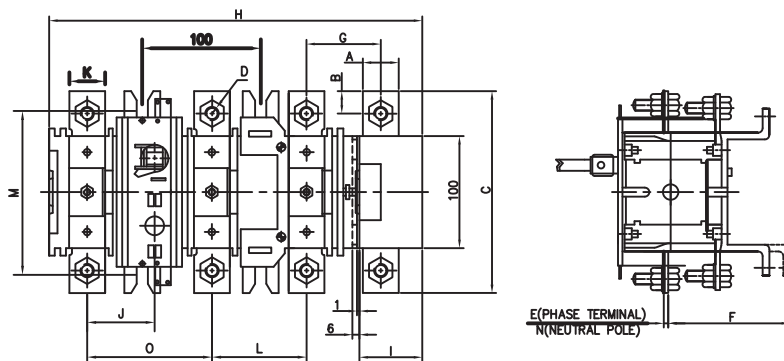
TYPE (DIN/BS)	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	S
QA 32N0	12	7.5	100	Ø7	2	88	36	177	45	14	45	53	2	115	47	110	33
QA 63N0	12	7.5	100	Ø7	2.5	88	36	177	45	14	45	53	2	115	47	110	33
QA 100N0	12	7.5	100	Ø7	3	88	36	177	45	14	45	53	4	115	47	110	33

Frame Size - 1 Range : QA 125A-160A



TYPE (DIN/BS)	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	S
QA125N1-160N1	15	7.5	105	Ø7	4	102	33.5	200	45	19	37	66.5	4	128	57.5	172	45

Frame Size - 2 Range : QA 200A - 400A

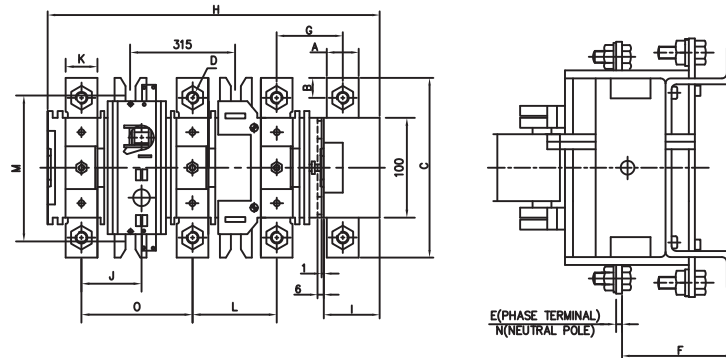


TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
QA 200N	25	12.5	160	M10	4	84	55.5	299	53	59.5	20	72	135	4	100
QA 250N	25	12.5	160	M10	4	84	55.5	299	53	59.5	32	72	135	4	100
QA 315N-400N	25	12.5	160	M10	6	84	55.5	299	53	59.5	38	72	135	4	100

SWITCH DISCONNECTOR



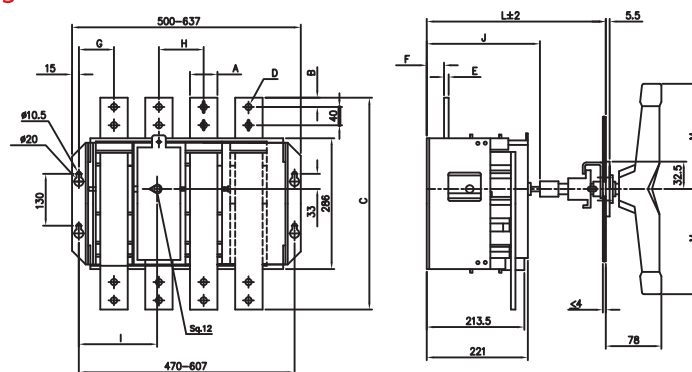
Frame Size - 3 Range : QA 630A - 1000A



TYPE (DIN/BS)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
QA 630	32	20	180	M12	6	89	95	395	53	60	40	87	208	4	87
QA 800	32	20	180	M12	6	89	95	395	53	60	50	87	208	4	87
QA 1000	32	20	180	M12	12	89	95	395	53	60	50	87	208	4	87

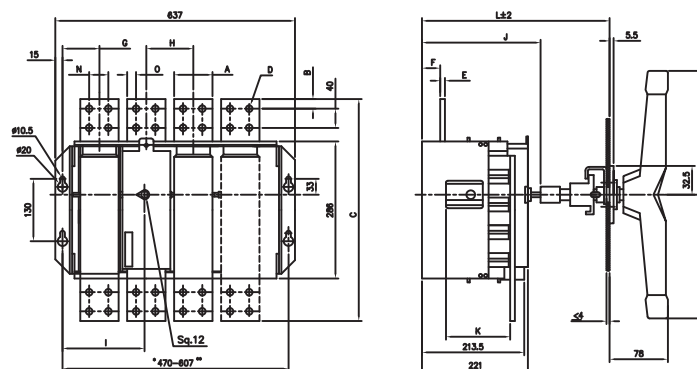
Switch Disconnecter QP Series - Dimensions (mm)

Frame Size - QP/N2 Range : 1250A - 1600A (MODULAR)



TYPE (DIN/BS)	A	B	C	D	E	F	G	H	I	J	K	L	M
QP1250N2	60	20	480	2xØ14	10	53	98	137	226	245	136	415	165
QP1600N2	70	20	480	2xØ14	10	53	98	137	226	245	136	415	165

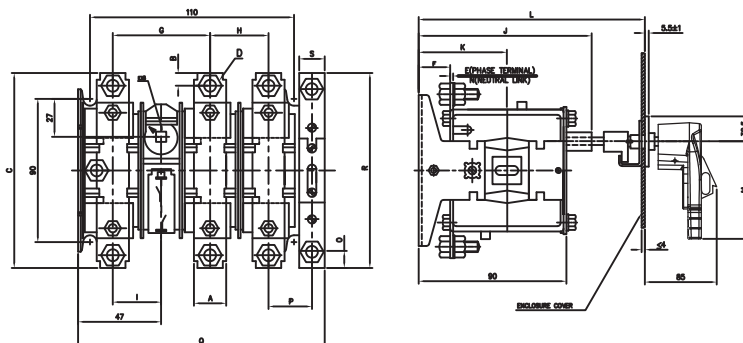
Frame Size - QP/N2 Range : 2000A - 3150A (MODULAR)



TYPE (DIN/BS)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
QP2000N2	80	20	463	4XØ14	10	38	98	137	226	264	136	368	212	50	20
QP2500N2	100	20	463	4XØ14	15	38	98	137	226	264	136	368	212	50	25
QP3150N2	100	20	463	4XØ14	15	38	98	137	226	264	136	368	212	50	25

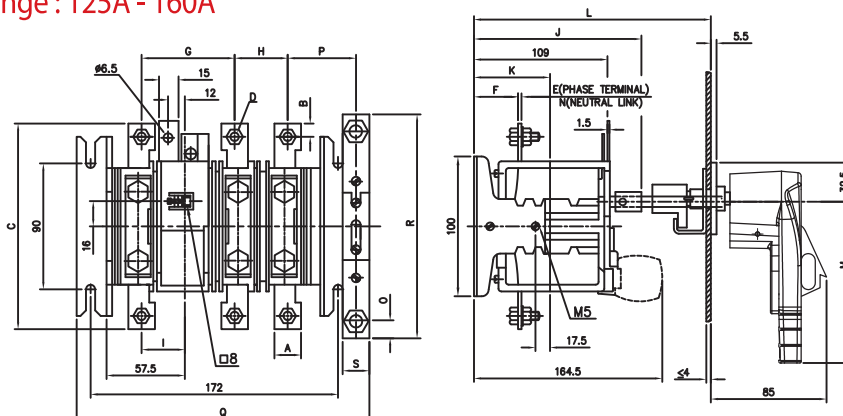
QA/QP TPN Series - Dimensions (mm)

Frame Size - 0 Range : 32A - 100A



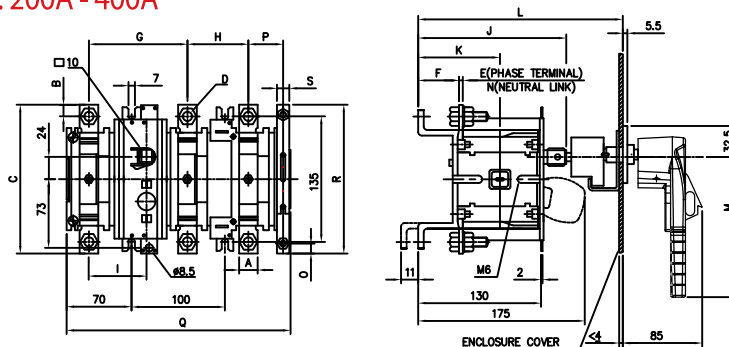
TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
QA 32N0	14	6	115	M6x1	2	29	53	33	26.5	121	61.5	203-233	115	2	7.5	45	163	115	15
QA 63N0	14	6	115	M6x1	2.5	28.5	53	33	26.5	121	61.5	203-233	115	2	7.5	45	163	115	15
QA 100N0	19	6	115	M6x1	3	28	53	33	26.5	121	61.5	203-233	115	2	7.5	45	163	115	15

Frame Size - 1 Range : 125A - 160A



TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
QA 125N1	19	9.5	128	M6x1	3	42	66.5	45	37	135	71.5	205-250	115	3	7.5	44	202	115	15
QA 160N1	19	9.5	128	M6x1	4	42	66.5	45	37	135	71.5	205-250	115	3	7.5	44	202	115	15

Frame Size - 2 Range : 200A - 400A

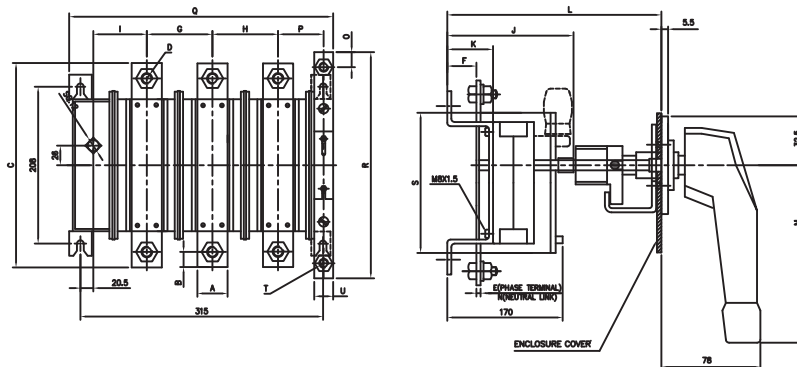


TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
QA 200N	32	16	177	M10x1.5	4	44	107	72	59.5	185	86	225-270	140	4	15	62.5	283	165	25
QA 250N	32	16	177	M10x1.5	4	44	107	72	59.5	185	86	225-270	140	4	15	62.5	283	165	25
QA 315N	38	16	187	M10x1.5	6	40	107	78	59.5	185	86	225-270	140	4	15	60	283	165	25
QA 400N	38	16	187	M10x1.5	6	40	107	78	59.5	185	86	225-270	140	4	15	60	283	165	25

SWITCH DISCONNECT

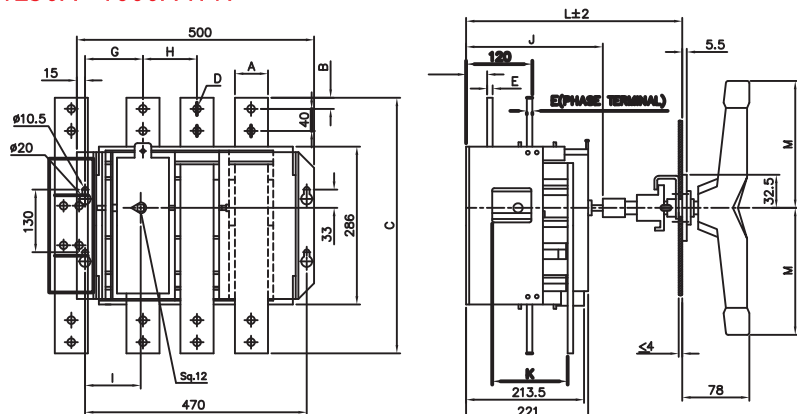


Frame Size - 3 Range: 630A- 1000A



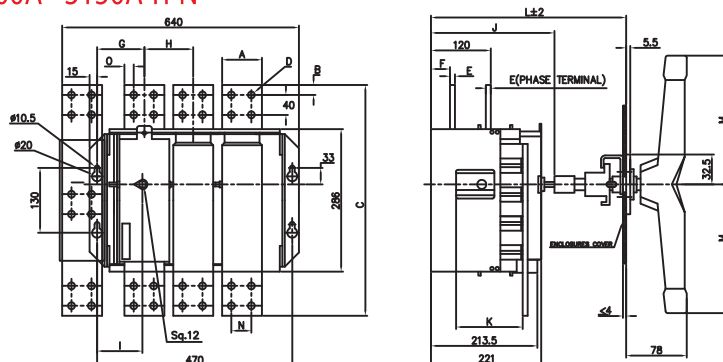
TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
QA 630	40	20	235	M10x1.5	6	42	87	87	60	181	65.5	280-300	212	10	20	60.5	350	300	205	M12x1.75	25
QA 800	50	25	235	M12x1.75	6	42	87	87	60	181	65.5	280-300	212	10	20	60.5	350	300	205	M12x1.75	25
QA 1000	50	25	235	M12x1.75	12	36	87	87	60	181	65.5	280-300	212	10	20	60.5	350	300	205	M12x1.75	25

Frame Size - QP / N2 - 1250A - 1600A TPN



TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M
QP1250N2	60	20	480	2xø14	10	53	98	137	226	245	136	415	165
QP1600N2	70	20	480	2xø14	10	53	98	137	226	245	136	415	165

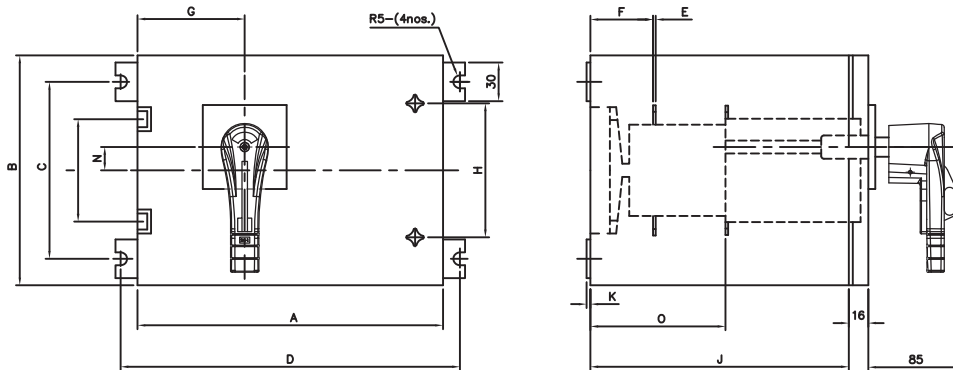
Frame Size - QP / N2 - 2000A - 3150A TPN



TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
QP2000N2	80	20	463	4xø14	10	38	98	137	226	264	136	368	212	50	20
QP2500N2	100	20	463	4xø14	15	38	98	137	226	264	136	368	212	50	25
QP3150N2	100	20	463	4xø14	15	38	98	137	226	264	136	368	212	50	25

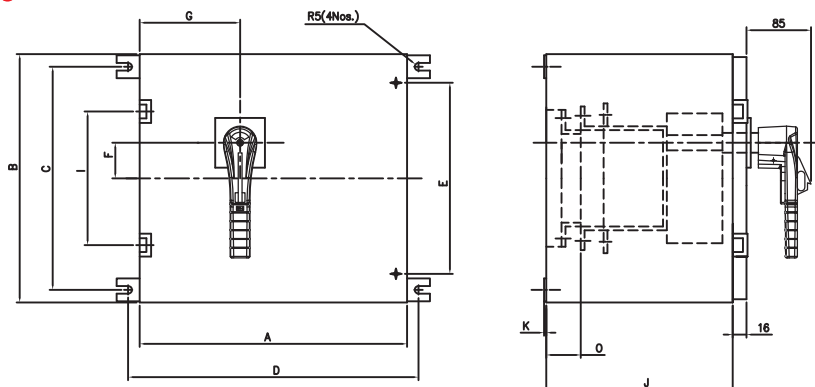
Sheet Steel Enclosures for QSA/QA Series - Dimensions (mm)

Frame Size - 0 Range : 32A - 160A



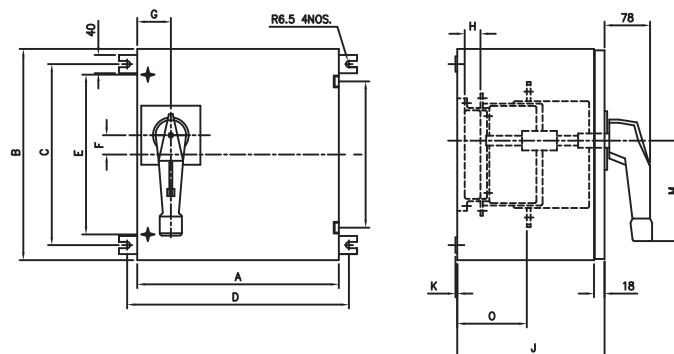
Frame	TYPE	A	B	C	D	E	F	G	H	I	J	K	O	N
Size-0	32A-100A	265	210	170	295	2	48.5	90	140	100	205	3	104.5	18
Size-1	125A-160A	265	260	220	295	3	59	100	184	155	205	3	122.5	16

Frame Size - 2 Range : 200A - 400A



Frame	TYPE	A	B	C	D	E	F	G	I	J	K	O
Size-2	200A-250A	350	285	240	380	210	24	130	182	260	3	42
	315A-400A	350	325	280	380	250	24	130	220	260	3	42

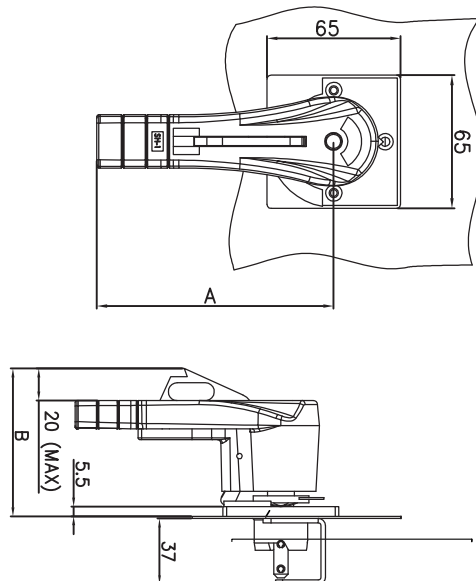
Frame Size - 3 Range : 630A - 800A



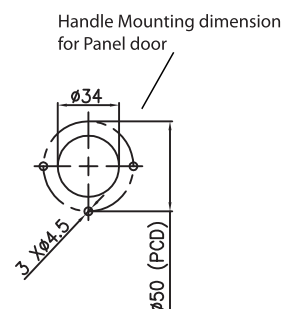
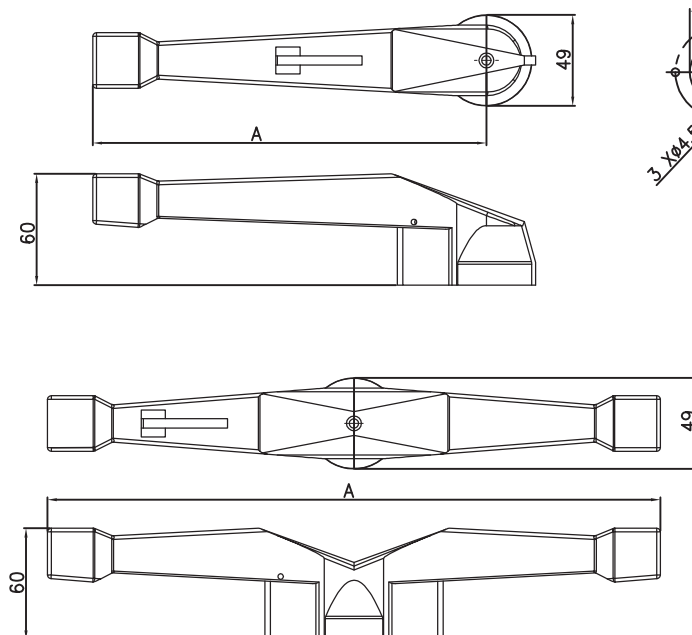
Frame	TYPE	A	B	C	D	E	F	G	H	I	J	K	O	M
Size-3	630A	420	380	316	460	290	26	70	43	275	323	3	140	212
	800A	420	440	376	460	290	26	70	43	335	323	3	140	212

Handle Assembly

HANDLE FOR 32A TO 400A



HANDLE FOR 630A TO 1000A



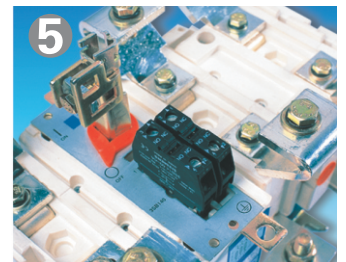
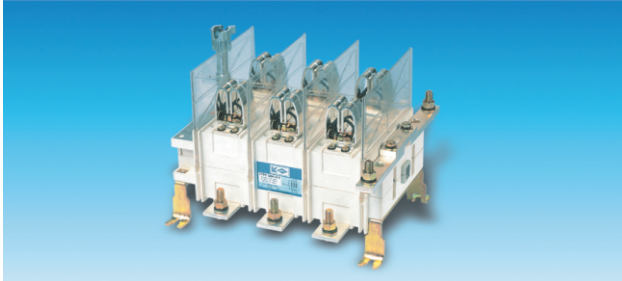
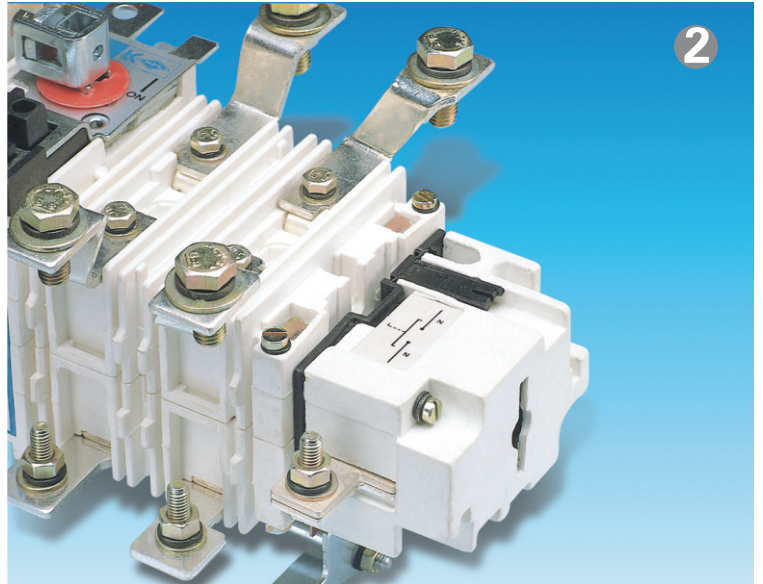
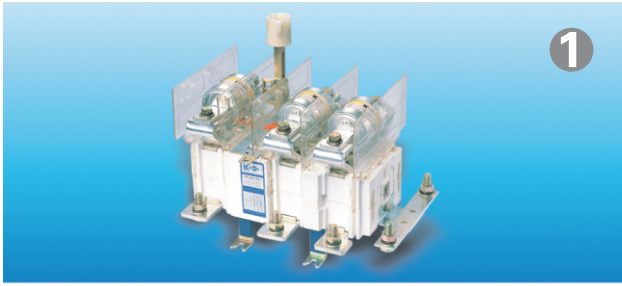
TYPE	A	B
32A TO 160A	115	85
200A TO 400A	150	85
630A TO 1000A	212	96
1250A TO 3150A	330	96

Notes



Notes





- ❶ Neutral line mounted on the switch.
- ❷ An extra switching 4th Pole can be snapped onto the right side of the frame size 0,1, 2 & 3 switches.
- ❸ Telescopic shaft is a standard for all switches. This makes an easy and flexible mounting depth. Switches in frame size 1 and 2 have 60mm depth while frame size - 3 has 25mm telescopic shaft.

- ❹ S-Line Handle assembly is normally supplied with all Switches.
- ❺ The Switches can be mounted with two separate auxiliary contact blocks, each 1 N/O + 1 N/C.
- ❻ Safety handle with padlock. All handles have built-in devices for mounting of padlocks.

Due to continuous development, specifications and features are subject to change without prior notice.



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