

INDEX

Bustrunking System	.....	(1)
Standard & Specifications	.....	(2)
Technical Parameters		
Copper	.....	(3-4)
Aluminum	.....	(5-6)
Components		
Straight Length (Feeder & Plug in type)	.....	(7)
Uniblock Joint, Edge Elbow & Offset Edge Elbow	.....	(8)
Flat Elbow, Offset Flat Elbow & Flat Tee	.....	(9)
Flanged End	.....	(10)
Flange End with Flat Elbow &	.....	(11)
Flange End with Edge Elbow	.....	(11)
Flange End Box & Flange Bellow	.....	(12)
Reducer & Sectional Isolator	.....	(13)
Center Feed Unit & Copper Flexible	.....	(14)
End Feed & End Cover	.....	(15)
Vertical Support & Vertical Rigid Hanger	.....	(16)
Vertical Spring Hanger	.....	(17)
Horizontal Support	.....	(18)
Plug in box	.....	(19)
Domestic References	.....	( )
International References	.....	( )
Installation References	.....	( )
Certificates	.....	( )

GENERAL

Busbar Trunking System for electrical distribution is an alternative to cumbersome conventional cable distribution system.

Busbar Trunking System has the advantage of expansions, Changes, replacement and reusing capability in the future.

Loads can be fed from Plug-in Box unlike cables, where each floor/ machine is to be fed separately from the main switchboard.

Repositioning of distribution points is simpler. Installation time is much shorter than cable system. This provides low installation and manpower costs and help for better time management.

Busbar Trunking systems have a modern and aesthetic look.

System is maintenance free.

SALIENT FEATURES

Close proximity of busbars reduces inductive reactance, resistance, impedance and voltage drop is much lower than cable & any other busbar system.

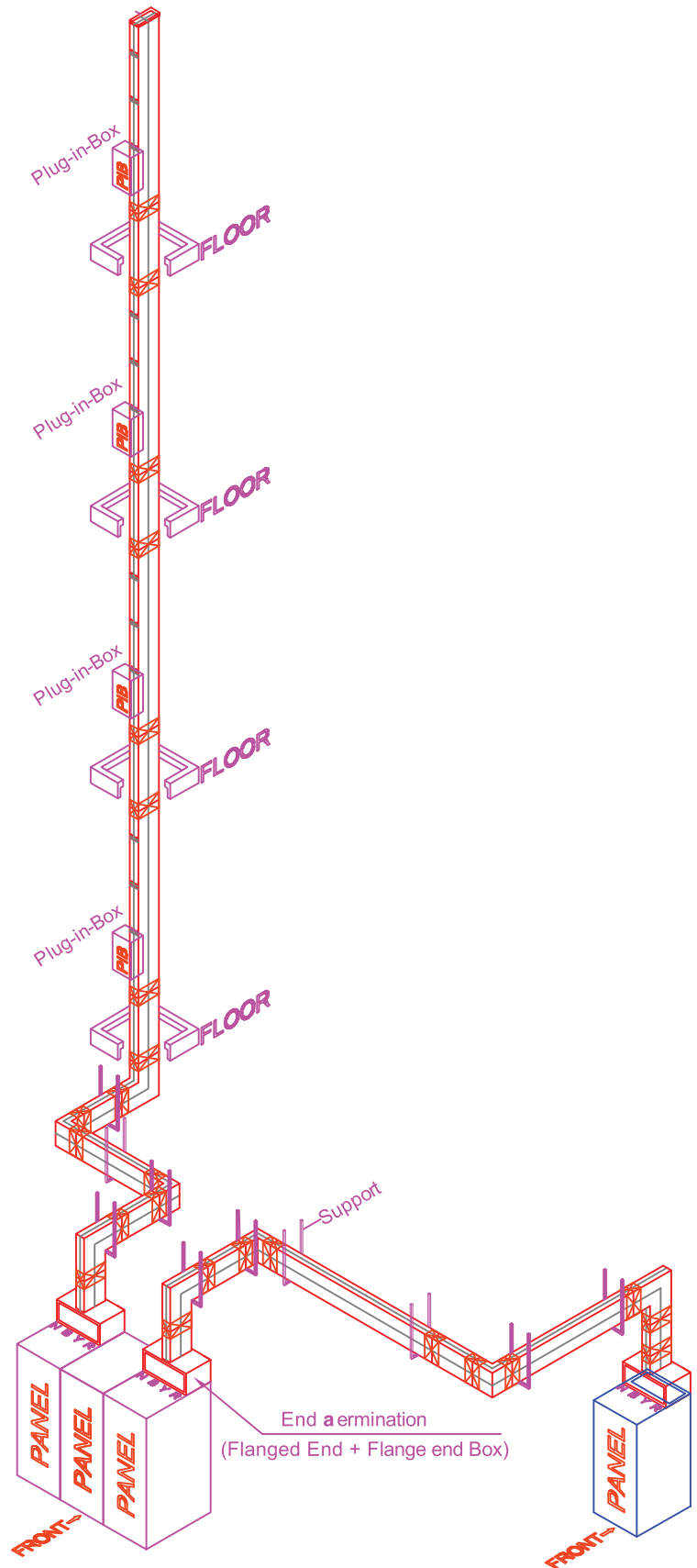
Specially designed housing act as a heat sink to yield improved thermal characteristic, high mechanical and short circuit strength.

Busbar System has no chimney effect, hence provide a better resistance to the spread of fire.

Automatic polarity is maintained during installation.

System can be mounted edgewise OR flat wise horizontally or vertically in any direction with all kinds of bends and tees etc.

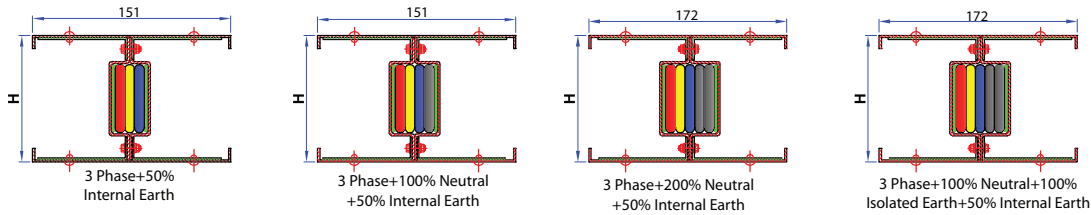
The compact structure and steel housing allows much lower electromagnetic field around busbar system than cable. Busbars does not generate electromagnetic.



SPECIFICATIONS

Compliance of Standard	IEC 60439 (1&2) & IS 8623 (1&2)
Independent Certification Authority	VMtec - Germany
Busbar Arrangement	Sandwich Type
Busbar Ratings	Copper 630 ~ 6600A
Busbar Configuration	Aluminium 400 ~ 5000A 3 Phase+50% Internal Earth 3 Phase+100% Neutral+50% Internal Earth 3 Phase+200% Neutral+50% Internal Earth 3 Phase+100%Neutral+100% Isolated Earth +50%Internal Earth
Rated Operational Voltage (Ue)	1000 Volt, AC
Rated Insulation Voltage (Ui)	1000 Volt, AC
Rated Dielectric Voltage	3.5 KV r.m.s
Rated Impulse Withstand Voltage (Uimp)	12 kV (1.2/50 μ s)
Rated Frequency	50 Hz / 60 Hz
Enclosure Material	1.6mm G.I
Surface Coating on Enclosure	Epoxy polyester powder coated (RAL-7032)
Busbar Material (Phase/Neutral)	Copper (full round edge),99.9% pure ETP grade Aluminium (full round edge), 99.5% pure.
Busbar Material (Internal Earth)	G.I 1.5mm / Copper 1.5 mm.
Busbar Material (External Earth)	Copper / Aluminium
Busbar Insulation	Multi layer Class- 'F' Insulation (Polyester +Mica)
Degree of Protection	IP 54 for Plug in type. IP55 / IP65 / IP67 for feeder bustrunking.
Joint	Uniblock Joint (With Isolation and tamper proof shear off nut)
Plug -in-Box	32-800 A

SBC (Copper Sandwich Insulated Bus Trunking)



Rated Current (In)	Amps	630	800	900	1000	1100	1250	1600	1800	2000
Product Code	--	SBC 40N1	SBC 50N1	SBC 60N1	SBC 70N1	SBC 80N1	SBC 100N1	SBC 125N1	SBC 150N1	SBC 175N1
Busbar size per phase (No. of busbars)	mm	6x40(1)	6x50(1)	6x60(1)	6x70(1)	6x80(1)	6x100(1)	6x125(1)	6x150(1)	6x175(1)
Overall Height (H)	mm	85	95	105	115	125	145	170	195	220
Rated Three Phase RMS Short Time Current for 1 Second (Icw)	kA	40	50	50	50	65	85	100	100	100
Rated Three phase Peak short time current (Ipk)	kA	84	105	105	105	143	187	220	220	220
Rated Single Phase RMS Short Time Current for 1 Second (Icw)	kA	24	30	30	30	39	51	60	60	60
Rated Single phase Peak short time current (Ipk)	kA	50.4	63	63	63	81.9	112.2	132	132	132
Approximate Weight of Bustrunking										
3 Phase + 50% Internal Earth	kg/mtr.	20	22	24	27	29	34	40	46	52
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	22	25	28	31	34	40	47	55	62
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	25	29	32	36	40	47	56	65	74
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	25	29	32	36	40	47	56	65	74
Electrical Characteristics for 60 Hz										
AC Resistance at 20°C (R20)	miliohms /mtr.	0.0740	0.0592	0.0499	0.0427	0.0378	0.0311	0.0249	0.0207	0.0179
A.C. Resistance at thermal conditions (Rt)	miliohms /mtr.	0.0959	0.0767	0.0645	0.0553	0.0489	0.0403	0.0322	0.0268	0.0232
Reactance (X)	miliohms /mtr.	0.0417	0.0333	0.0278	0.0238	0.0208	0.0170	0.0136	0.0127	0.0109
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1045	0.0836	0.0703	0.0602	0.0531	0.0437	0.0350	0.0297	0.0256
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.1678	0.1342	0.1126	0.0965	0.0850	0.0698	0.0559	0.0482	0.0416
	mV/mtr./A at 0.8 P.F.	0.1761	0.1409	0.1183	0.1014	0.0894	0.0735	0.0588	0.0504	0.0435
	mV/mtr./A at 0.9 P.F.	0.1809	0.1447	0.1216	0.1042	0.0920	0.0756	0.0605	0.0514	0.0444
	mV/mtr./A at 1.0 P.F.	0.1660	0.1328	0.1118	0.0958	0.0847	0.0697	0.0558	0.0465	0.0402
Electrical Characteristics for 60 Hz										
AC Resistance at 20°C (R20)	miliohms /mtr.	0.0742	0.0594	0.0500	0.0429	0.0379	0.0313	0.0251	0.0209	0.0181
A.C. Resistance at thermal conditions (Rt)	miliohms /mtr.	0.0961	0.0769	0.0648	0.0556	0.0491	0.0405	0.0325	0.0271	0.0235
Reactance (X)	miliohms /mtr.	0.0500	0.0400	0.0333	0.0286	0.0250	0.0204	0.0163	0.0152	0.0130
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1083	0.0867	0.0729	0.0625	0.0551	0.0454	0.0363	0.0311	0.0268
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.1784	0.1427	0.1198	0.1027	0.0905	0.0743	0.0595	0.0516	0.0446
	mV/mtr./A at 0.8 P.F.	0.1851	0.1482	0.1244	0.1067	0.0941	0.0773	0.0619	0.0533	0.0461
	mV/mtr./A at 0.9 P.F.	0.1876	0.1501	0.1262	0.1082	0.0955	0.0785	0.0629	0.0537	0.0464
	mV/mtr./A at 1.0 P.F.	0.1664	0.1332	0.1122	0.0962	0.0851	0.0702	0.0562	0.0469	0.0407

TECHNICAL PARAMETERS

Voltage Drop Calculation Formulae

$$\Delta V = k \times 3 \times (R_t \cos \phi + X \sin \phi) \times I_B \times L$$

Where

ΔV is the composite voltage drop of the system (V);
 R_t & X are the mean resistance and reactance values of the system ($^{\circ}/m$);

I_B is the actual load current of the circuit being considered (A);

L is the length of the system being considered (M);

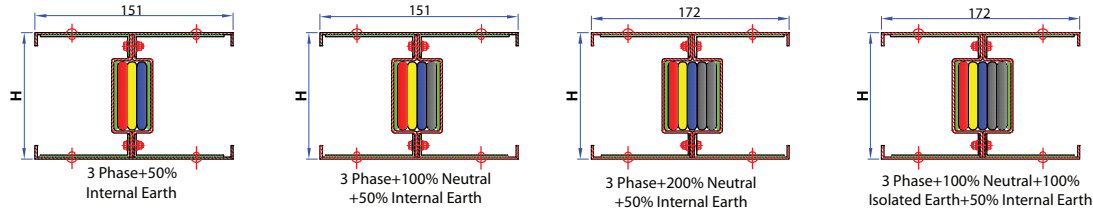
$\cos \phi$ is the load power factor being considered;

k is the load distribution factor.

$k=1$, if full load is concentrated at the end of the busbar trunking run;

$k=(n+1)/2n$, if the load is uniformly spread between n branches.

Rated Current (In)	Amps	2250	2500	3200	3600	4000	4500	5000	6000	6600
Product Code	--	SBC 200N1	SBC 230N1	SBC 125N2	SBC 150N2	SBC 175N2	SBC 200N2	SBC 230N2	SBC 175N3	SBC 200N3
Busbar size per phase (No. of busbars)	mm	6x200(1)	6x230(1)	6x125(2)	6x150(2)	6x175(2)	6x200(2)	6x230(2)	6x175(3)	6x200(3)
Overall Height (H)	mm	245	275	340	390	440	490	550	660	735
Rated Three Phase RMS Short Time Current for 1 Second (Icw)	kA	100	100	120	120	120	150	150	175	175
Rated Three phase Peak short time current (Ipk)	kA	220	220	264	264	264	330	330	385	385
Rated Single Phase RMS Short Time Current for 1 Second (Icw)	kA	60	60	72	72	72	90	90	105	105
Rated Single phase Peak short time current (Ipk)	kA	132	132	158.4	158.4	158.4	198	198	231	231
Approximate Weight of Bustrunking										
3 Phase + 50% Internal Earth	kg/mtr.	58	65	75	87	100	112	127	145	164
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	70	79	90	105	121	136	155	177	200
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	83	94	106	124	142	161	183	209	236
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	83	94	106	124	142	161	183	209	236
Electrical Characteristics for 50 Hz										
AC Resistance at 20°C (R20)	miliohms /mtr.	0.0157	0.0136	0.0124	0.0104	0.0090	0.0078	0.0068	0.0060	0.0052
A.C. Resistance at thermal conditions (Rt)	miliohms /mtr.	0.0203	0.0177	0.0161	0.0134	0.0116	0.0102	0.0088	0.0077	0.0068
Reactance (X)	miliohms /mtr.	0.0095	0.0083	0.0070	0.0064	0.0055	0.0049	0.0042	0.0038	0.0033
Impedance at thermal conditions (Z)	miliohms /mtr.	0.0224	0.0195	0.0176	0.0149	0.0128	0.0113	0.0098	0.0086	0.0076
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.0364	0.0316	0.0282	0.0242	0.0209	0.0183	0.0160	0.0141	0.0123
	mV/mtr./A at 0.8 P.F.	0.0380	0.0331	0.0296	0.0252	0.0218	0.0191	0.0166	0.0147	0.0129
	mV/mtr./A at 0.9 P.F.	0.0389	0.0338	0.0304	0.0257	0.0222	0.0195	0.0170	0.0149	0.0131
	mV/mtr./A at 1.0 P.F.	0.0352	0.0306	0.0279	0.0232	0.0201	0.0176	0.0153	0.0134	0.0117
Electrical Characteristics for 60 Hz										
AC Resistance at 20°C (R20)	miliohms /mtr.	0.0159	0.0138	0.0126	0.0106	0.0092	0.0080	0.0070	0.0062	0.0054
A.C. Resistance at thermal conditions (Rt)	miliohms /mtr.	0.0206	0.0179	0.0163	0.0137	0.0119	0.0104	0.0091	0.0080	0.0070
Reactance (X)	miliohms /mtr.	0.0114	0.0099	0.0084	0.0077	0.0066	0.0059	0.0051	0.0046	0.0040
Impedance at thermal conditions (Z)	miliohms /mtr.	0.0235	0.0205	0.0184	0.0157	0.0136	0.0119	0.0104	0.0092	0.0081
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.0390	0.0340	0.0302	0.0260	0.0225	0.0199	0.0173	0.0153	0.0135
	mV/mtr./A at 0.8 P.F.	0.0403	0.0351	0.0314	0.0269	0.0233	0.0205	0.0179	0.0158	0.0139
	mV/mtr./A at 0.9 P.F.	0.0407	0.0354	0.0318	0.0271	0.0234	0.0206	0.0180	0.0159	0.0140
	mV/mtr./A at 1.0 P.F.	0.0356	0.0310	0.0283	0.0237	0.0205	0.0180	0.0157	0.0138	0.0122

SBA (Aluminium Sandwich Insulated Bus Trunking)


Rated Current (In)	Amps	400	500	630	700	800	1000	1250	1350	1600
Product Code	--	SBA 40N1	SBA 50N1	SBA 60N1	SBA 70N1	SBA 80N1	SBA 100N1	SBA 125N1	SBA 150N1	SBA 175N1
Busbar size per phase (No. of busbars)	mm	6x40(1)	6x50(1)	6x60(1)	6x70(1)	6x80(1)	6x100(1)	6x125(1)	6x150(1)	6x175(1)
Overall Height (H)	mm	85	95	105	115	125	145	170	195	220
Rated Three Phase RMS Short Time Current for 1 Second (Icw)	kA	25	30	40	40	50	50	65	85	85
Rated Three phase Peak short time current (Ipk)	kA	52.5	63	84	84	105	105	143	187	187
Rated Single Phase RMS Short Time Current for 1 Second (Icw)	kA	15	18	24	24	30	30	39	51	51
Rated Single phase Peak short time current (Ipk)	kA	30	36	50.4	50.4	63	63	81.9	112.2	112.2
Approximate Weight of Bustrunking										
3 Phase + 50% Internal Earth	kg/mtr.	15	16	17	18	19	22	25	28	30
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	16	17	18	19	21	24	27	30	34
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	17	18	20	22	23	26	30	34	38
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	17	18	20	22	23	26	30	34	38
Electrical Characteristics for 50 Hz										
AC Resistance at 20°C (R20)	miliohms /mtr.	0.1198	0.0958	0.0806	0.0691	0.0611	0.0503	0.0402	0.0335	0.0290
A.C. Resistance at thermal conditions (Rt)	miliohms /mtr.	0.1553	0.1243	0.1046	0.0896	0.0792	0.0652	0.0522	0.0435	0.0376
Reactance (X)	miliohms /mtr.	0.0417	0.0333	0.0278	0.0238	0.0208	0.0170	0.0136	0.0127	0.0109
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1608	0.1286	0.1082	0.0927	0.0819	0.0674	0.0539	0.0453	0.0392
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.2398	0.1919	0.1612	0.1381	0.1218	0.1001	0.0801	0.0684	0.0591
	mV/mtr./A at 0.8 P.F.	0.2585	0.2068	0.1738	0.1490	0.1314	0.1081	0.0864	0.0734	0.0634
	mV/mtr./A at 0.9 P.F.	0.2736	0.2189	0.1840	0.1577	0.1392	0.1145	0.0916	0.0774	0.0669
	mV/mtr./A at 1.0 P.F.	0.2690	0.2152	0.1811	0.1553	0.1372	0.1130	0.0904	0.0753	0.0652
Electrical Characteristics for 60 Hz										
AC Resistance at 20°C (R20)	miliohms /mtr.	0.1200	0.0961	0.0809	0.0694	0.0614	0.0506	0.0405	0.0338	0.0293
A.C. Resistance at thermal conditions (Rt)	miliohms /mtr.	0.1557	0.1246	0.1050	0.0900	0.0796	0.0656	0.0526	0.0439	0.0380
Reactance (X)	miliohms /mtr.	0.0500	0.0400	0.0333	0.0286	0.0250	0.0204	0.0163	0.0152	0.0130
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1635	0.1309	0.1101	0.0944	0.0834	0.0687	0.0551	0.0464	0.0402
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.2506	0.2006	0.1685	0.1445	0.1274	0.1048	0.0839	0.0720	0.0622
	mV/mtr./A at 0.8 P.F.	0.2677	0.2143	0.1801	0.1544	0.1363	0.1121	0.0898	0.0766	0.0662
	mV/mtr./A at 0.9 P.F.	0.2805	0.2245	0.1888	0.1619	0.1430	0.1177	0.0943	0.0799	0.0691
	mV/mtr./A at 1.0 P.F.	0.2697	0.2159	0.1818	0.1559	0.1379	0.1137	0.0911	0.0760	0.0659

TECHNICAL PARAMETERS

Voltage Drop Calculation Formulae

$$\Delta V = k \times 3 \times (R_t \cos \phi + X \sin \phi) \times I_B \times L$$

Where

ΔV is the composite voltage drop of the system (V);

R_t & X are the mean resistance and reactance values of the system (" /m);

I_B is the actual load current of the circuit being considered (A);

L is the length of the system being considered (M);

$\cos \phi$ is the load power factor being considered;

k is the load distribution factor.

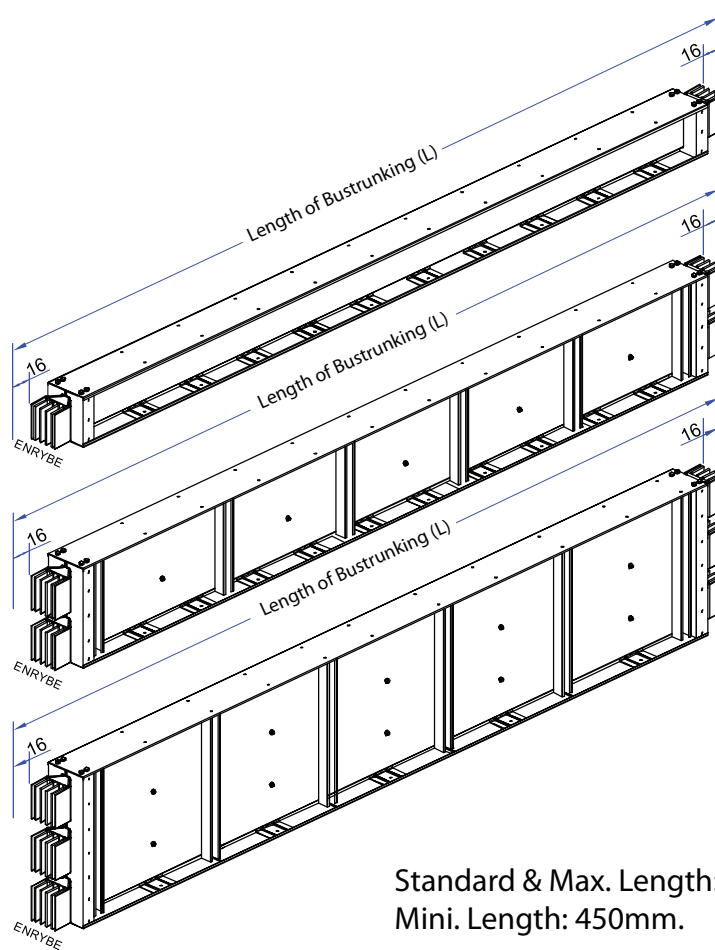
$k=1$, if full load is concentrated at the end of the busbar trunking run;

$k=(n+1)/2n$, if the load is uniformly spread between n branches.

Rated Current (In)	Amps	1800	2000	2250	2500	3200	3600	4000	4500	5000
Product Code	--	SBA 200N1	SBA 100N2	SBA 125N2	SBA 150N2	SBA 175N2	SBA 200N2	SBA 150N3	SBA 175N3	SBA 200N3
Busbar size per phase (No. of busbars)	mm	6x200(1)	6x100(2)	6x125(2)	6x150(2)	6x175(2)	6x200(2)	6x150(3)	6x175(3)	6x200(3)
Overall Height (H)	mm	245	290	340	390	440	490	585	660	735
Rated Three Phase RMS Short Time Current for 1 Second (I _{sc})	kA	85	120	120	120	120	120	175	175	175
Rated Three phase Peak short time current (I _{pk})	kA	187	264	264	264	264	264	385	385	385
Rated Single Phase RMS Short Time Current for 1 Second (I _{sc})	kA	51	72	72	72	72	72	105	105	105
Rated Single phase Peak short time current (I _{pk})	kA	112.2	158.4	158.4	158.4	158.4	158.4	231	231	231
Approximate Weight of Bustrunking										
3 Phase + 50% Internal Earth	kg/mtr.	33	38	44	50	57	63	71	81	90
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	37	42	49	56	63	71	80	91	101
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	42	46	55	63	71	79	89	101	114
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	42	46	55	63	71	79	89	101	114
Electrical Characteristics for 50 Hz										
AC Resistance at 20°C (R ₂₀)	miliohms /mtr.	0.0254	0.0251	0.0201	0.0168	0.0145	0.0127	0.0112	0.0097	0.0085
A.C. Resistance at thermal conditions (R _t)	miliohms /mtr.	0.0329	0.0326	0.0261	0.0217	0.0188	0.0165	0.0145	0.0125	0.0110
Reactance (X)	miliohms /mtr.	0.0095	0.0088	0.0070	0.0064	0.0055	0.0049	0.0044	0.0038	0.0033
Impedance at thermal conditions (Z)	miliohms /mtr.	0.0343	0.0338	0.0270	0.0227	0.0196	0.0172	0.0152	0.0131	0.0115
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.0517	0.0504	0.0403	0.0343	0.0296	0.0260	0.0231	0.0199	0.0174
	mV/mtr./A at 0.8 P.F.	0.0555	0.0543	0.0434	0.0368	0.0318	0.0279	0.0247	0.0213	0.0187
	mV/mtr./A at 0.9 P.F.	0.0585	0.0575	0.0460	0.0387	0.0335	0.0293	0.0260	0.0224	0.0196
	mV/mtr./A at 1.0 P.F.	0.0570	0.0565	0.0452	0.0377	0.0326	0.0285	0.0251	0.0217	0.0190
Electrical Characteristics for 60 Hz										
AC Resistance at 20°C (R ₂₀)	miliohms /mtr.	0.0257	0.0254	0.0204	0.0171	0.0148	0.0130	0.0115	0.0100	0.0088
A.C. Resistance at thermal conditions (R _t)	miliohms /mtr.	0.0333	0.0330	0.0265	0.0221	0.0192	0.0169	0.0149	0.0129	0.0114
Reactance (X)	miliohms /mtr.	0.0114	0.0105	0.0084	0.0077	0.0066	0.0059	0.0053	0.0046	0.0040
Impedance at thermal conditions (Z)	miliohms /mtr.	0.0352	0.0346	0.0278	0.0234	0.0203	0.0178	0.0158	0.0137	0.0121
Composite Voltage drop at full Load concentrated at the end of bustrunking run (V)	mV/mtr./A at 0.7 P.F.	0.0545	0.0530	0.0425	0.0363	0.0314	0.0277	0.0246	0.0213	0.0187
	mV/mtr./A at 0.8 P.F.	0.0580	0.0566	0.0454	0.0386	0.0334	0.0294	0.0262	0.0227	0.0199
	mV/mtr./A at 0.9 P.F.	0.0606	0.0594	0.0476	0.0403	0.0349	0.0307	0.0272	0.0236	0.0207
	mV/mtr./A at 1.0 P.F.	0.0577	0.0572	0.0459	0.0383	0.0333	0.0292	0.0258	0.0224	0.0197

Straight Length (Feeder)

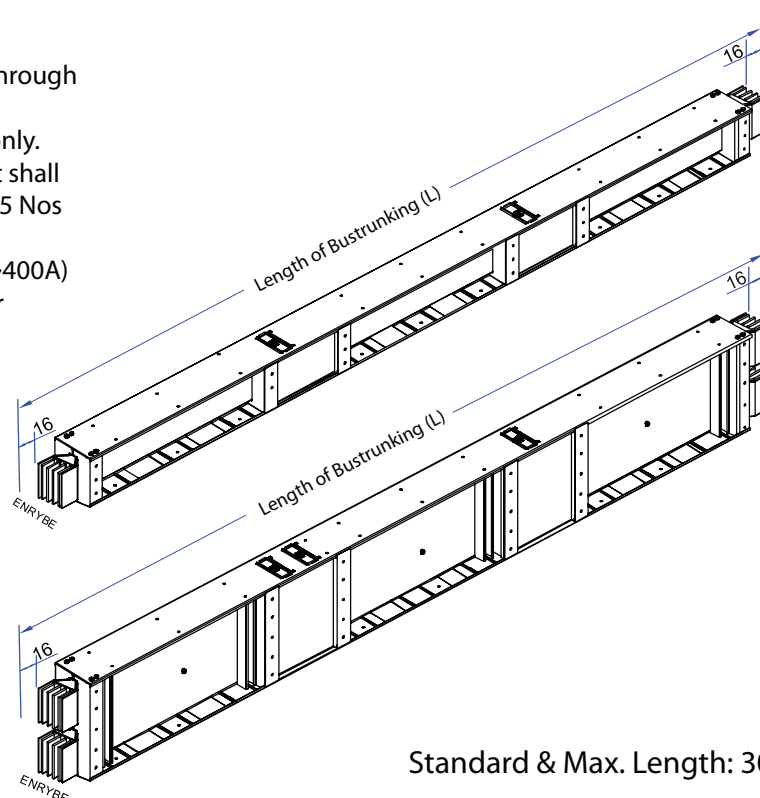
- Transformer to Panel.
- Panel to Panel.
- Generator to Panel.
- Panel to Rising mains.



Standard & Max. Length: 3000mm.
Mini. Length: 450mm.

Straight Length (PIP)

- For tapping Power from Main Line through Plug-in-Boxes.
- Plug-in point shown are indicative only.
- Rating and number of Plug-in -Point shall be as per the site requirement (up to 5 Nos max on either side).
- Two type of Plug-in Points(PIP): (32~400A) & (500 ~800A) can be provided as per requirement.



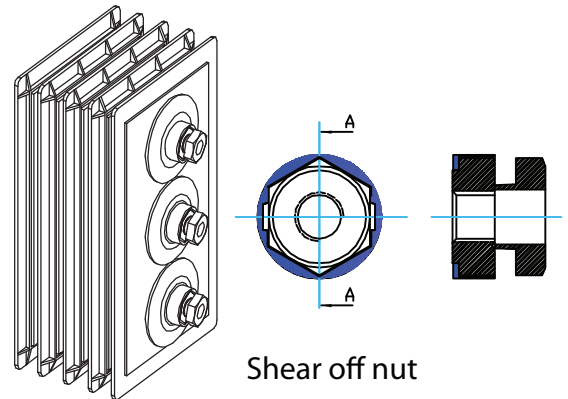
Standard & Max. Length: 3000mm.

COMPONENTS

Uniblock Joint

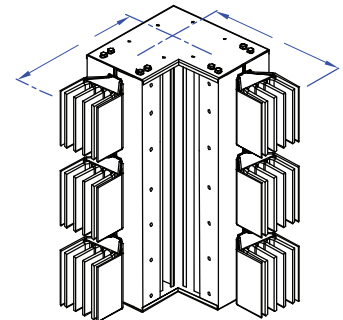
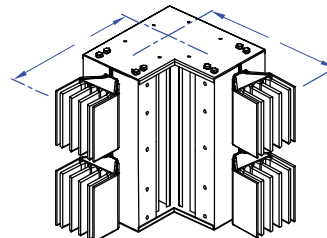
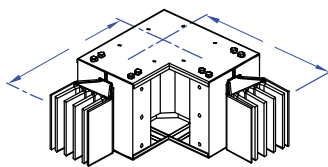
Joint can be fitted / removed in installed condition without removal of section.

- Heavy duty disc spring used on both sides for uniform distribution of pressure.
- Joint can be tightened easily with help of spanner on nut side only. (spanner not required on bolt head side)
- Shear off nut ensure tightness of joint at desired torque and eliminates the need of torque wrench during installation.
- Tamper proof cap over shear off nut prevents opening of nut after achieving desired torque. Nut can only be opened after breaking the cap.



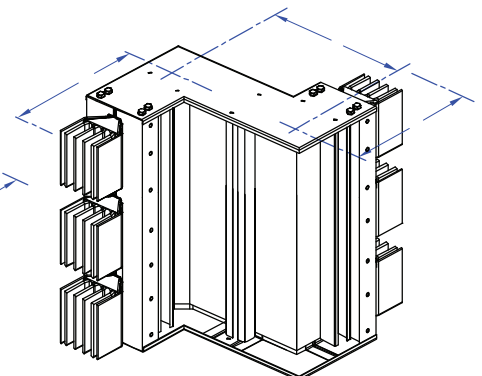
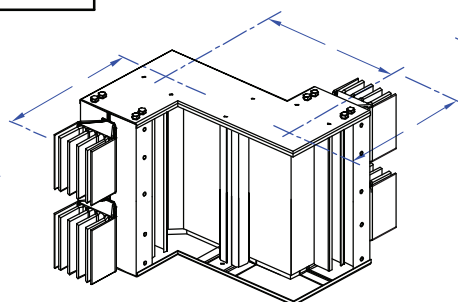
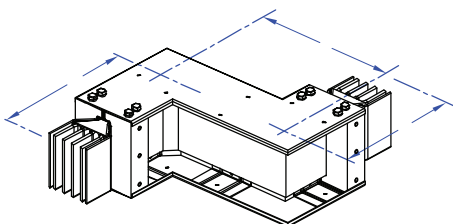
Edge Elbow

Current Rating	Standard & Mini. Dimn.AxB (mm)
Copper 630~6600A Aluminum 400~5000A	300 x 300



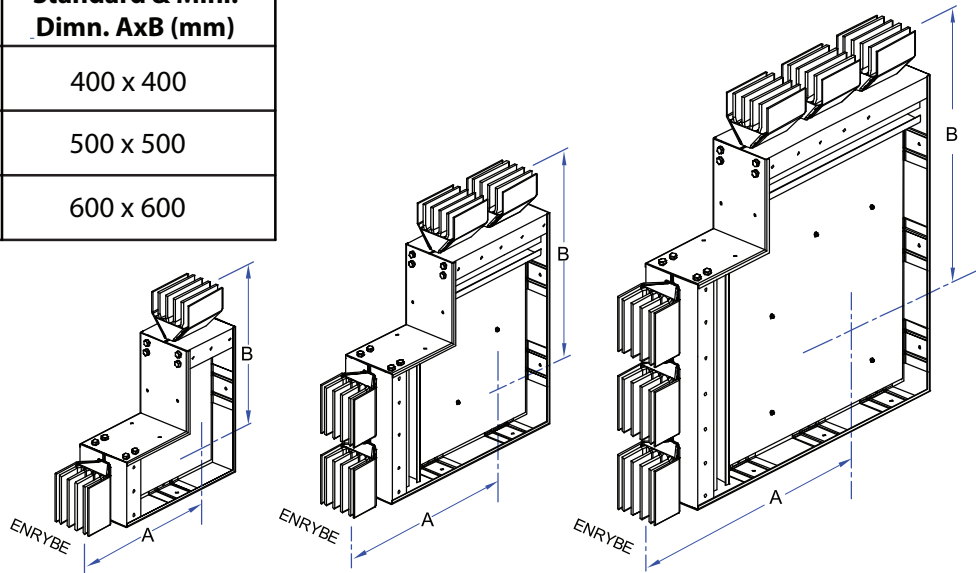
Offset Edge Elbow

Current Rating	Standard & Mini. Dimn.AxBxC (mm)
Copper 630~6600A Aluminum 400~5000A	300 x 300 x 300



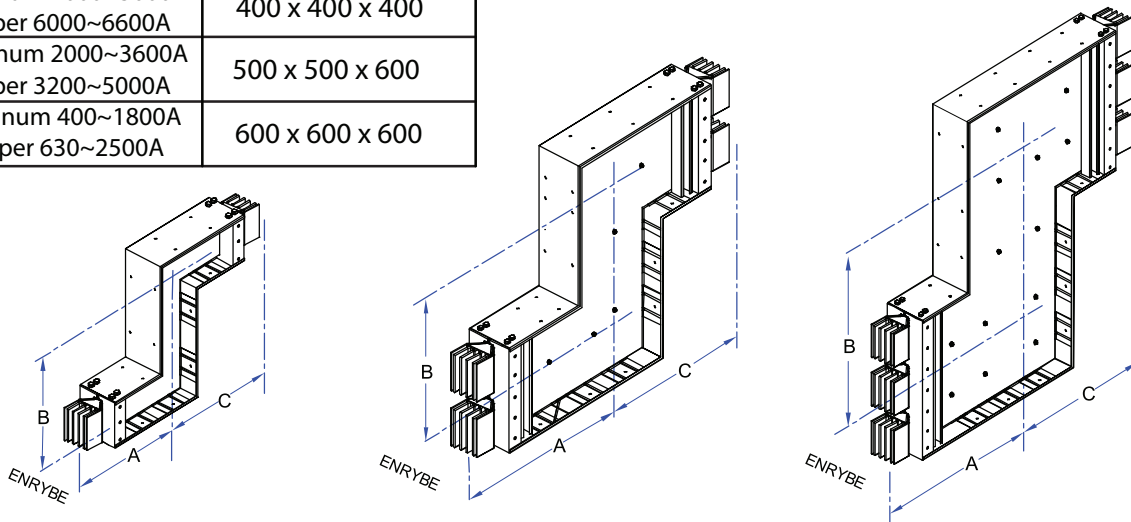
Flat Elbow

Current Rating	Standard & Mini. Dimn. AxB (mm)
Aluminum 4000~5000A Copper 6000~6600A	400 x 400
Aluminum 2000~3600A Copper 3200~5000A	500 x 500
Aluminum 400~1800A Copper 630~2500A	600 x 600



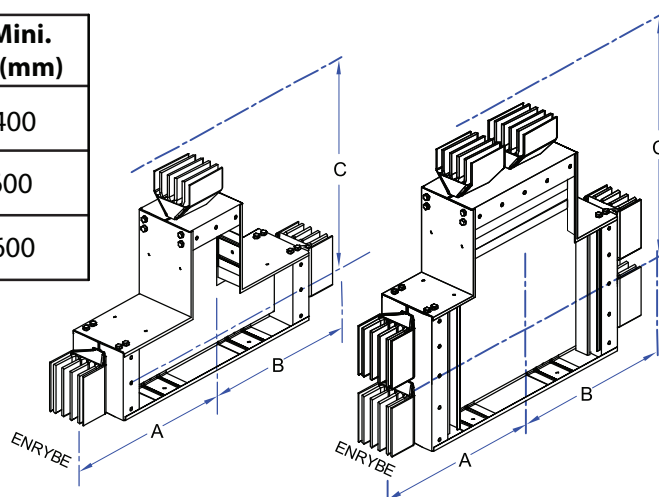
Offset Flat Elbow

Current Rating	Standard & Mini. Dimn. AxBxC (mm)
Aluminum 4000~5000A Copper 6000~6600A	400 x 400 x 400
Aluminum 2000~3600A Copper 3200~5000A	500 x 500 x 600
Aluminum 400~1800A Copper 630~2500A	600 x 600 x 600



Flat Tee

Current Rating	Standard & Mini. Dimn. AxBxC (mm)
Aluminum 4000~5000A Copper 6000~6600A	400 x 400 x 400
Aluminum 2000~3600A Copper 3200~5000A	500 x 500 x 600
Aluminum 400~1800A Copper 630~2500A	600 x 600 x 600



COMPONENTS

Flanged End

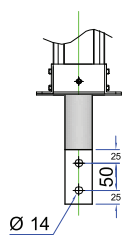
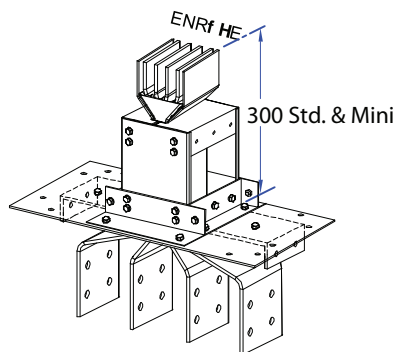


Fig. 1
BUSBAR WIDTH
40 ~ 80mm

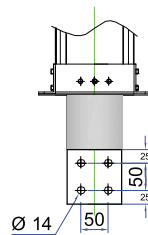


Fig. 2
BUSBAR WIDTH
100 ~ 125mm

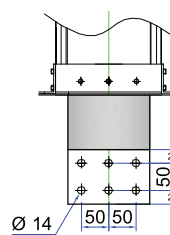


Fig. 3
BUSBAR WIDTH
150 ~ 175mm

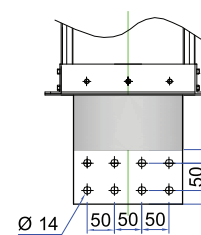


Fig. 4
BUSBAR WIDTH
200 ~ 230mm

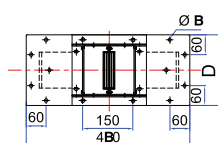


Fig. 5

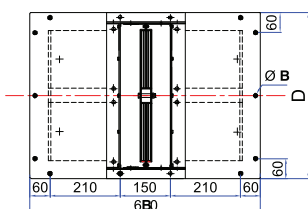


Fig. 6

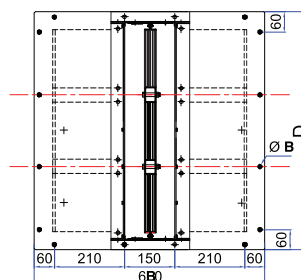
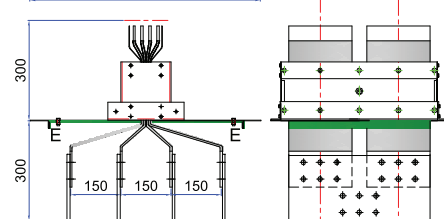
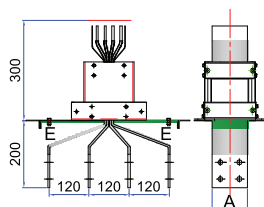
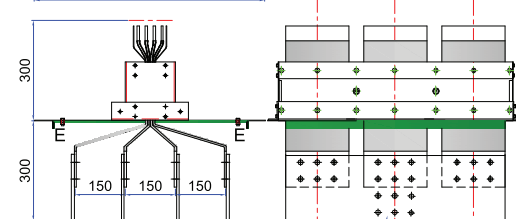


Fig. 7



TERMINATION HOLES
Ø14) AS PER REQUIREMENT



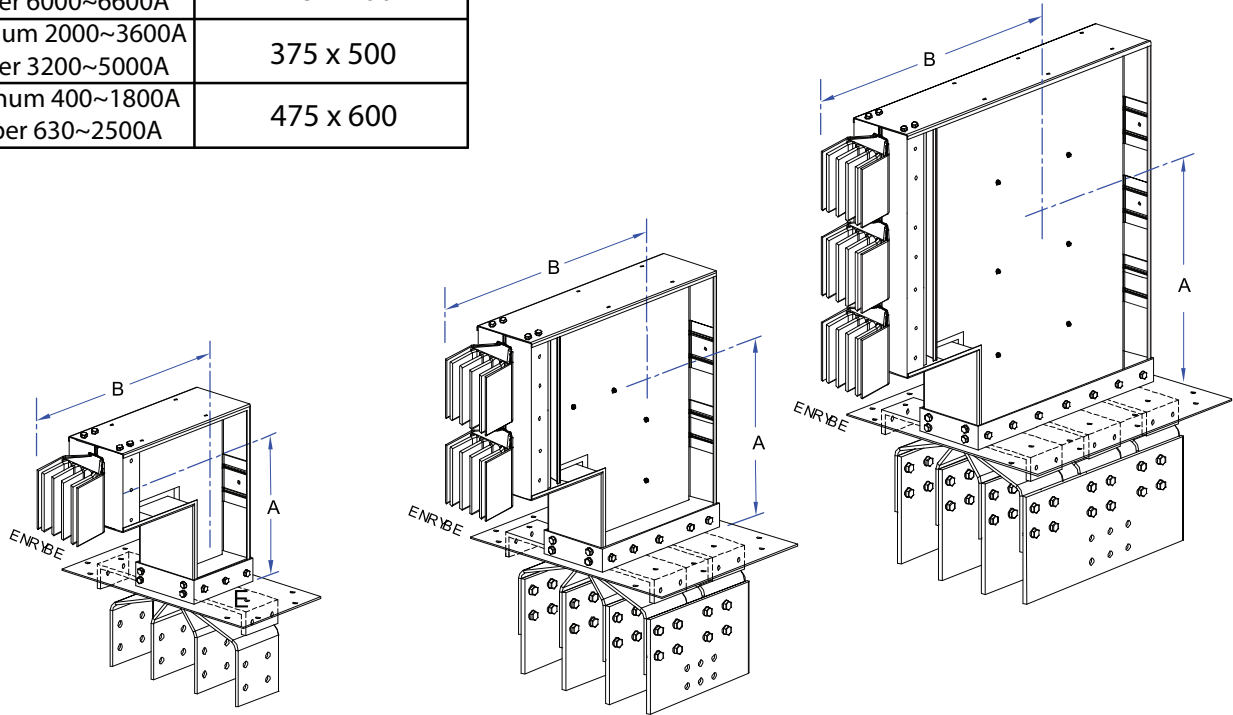
TERMINATION HOLES
Ø14) AS PER REQUIREMENT

Flanged End cut out & Drilling

S.No	Copper		Aluminum		Busbar Size (No.ot Busbar)	DIMENSIONS		Bus bar Hole Details	Terminal Detail
	Rating	Product Code	Rating	Product Code		D	A		
01.	630	SBC 40 N1	400	SBA 40 N1	40x6(1)	146	40	fig 1	fig 5
02.	800	SBC 50 N1	500	SBA 50 N1	50x6(1)	156	50	fig 1	fig 5
03.	900	SBC 60 N1	630	SBA 60 N1	60x6(1)	166	60	fig 1	fig 5
04	1000	SBC 70 N1	700	SBA 70 N1	70x6(1)	176	70	fig 1	fig 5
05.	1100	SBC 80 N1	800	SBA 80 N1	80x6(1)	186	80	fig 1	fig 5
06.	1250	SBC 100 N1	1000	SBA 100 N1	100x6(1)	206	100	fig 2	fig 5
07.	1600	SBC 125 N1	1250	SBA 125 N1	125x6(1)	231	125	fig 2	fig 5
08.	1800	SBC 150 N1	1350	SBA 150 N1	150x6(1)	256	150	fig 3	fig 5
09.	2000	SBC 175 N1	1600	SBA 175 N1	175x6(1)	281	175	fig 3	fig 5
10.	2250	SBC 200 N1	1800	SBA 200 N1	200 x 6 (1)	306	200	fig 4	fig 5
11.	2500	SBC 230 N1			230x6(1)	336	230	fig 4	fig 5
12.			2GG0	SBA 100 N2	100x6(2)	246	246	fig 2	fig 6
13.	3200	SBC 125 N2	2250	SBA 125 N2	125x6(2)	296	296	fig 2	fig 6
14.	3600	SBC 150 N2	25G0	SBA 150 N2	150x6(2)	346	346	fig 3	fig6
15.	4000	SBC 175 N2	3200	SBA 175 N2	175x6(2)	396	396	fig 3	fig6
16.	4500	SBC 200 N2	36G0	SBA 200 N2	200 x 6 (2)	446	446	fig 4	fig6
17.	5000	SBC 230 N2			230 x 6 (2)	506	506	fig 4	fig 6
18.			4000	SBA 150 N3	150x6(3)	542	542	fig 3	fig 7
19.	6000	SBC 175 N3	4500	SBA 175 N3	175x6(3)	617	617	fig3	fig 7
20.	6600	SBC 200 N3	5000	SBA 200 N3	200 x 6 (3)	692	692	fig 4	fig 7

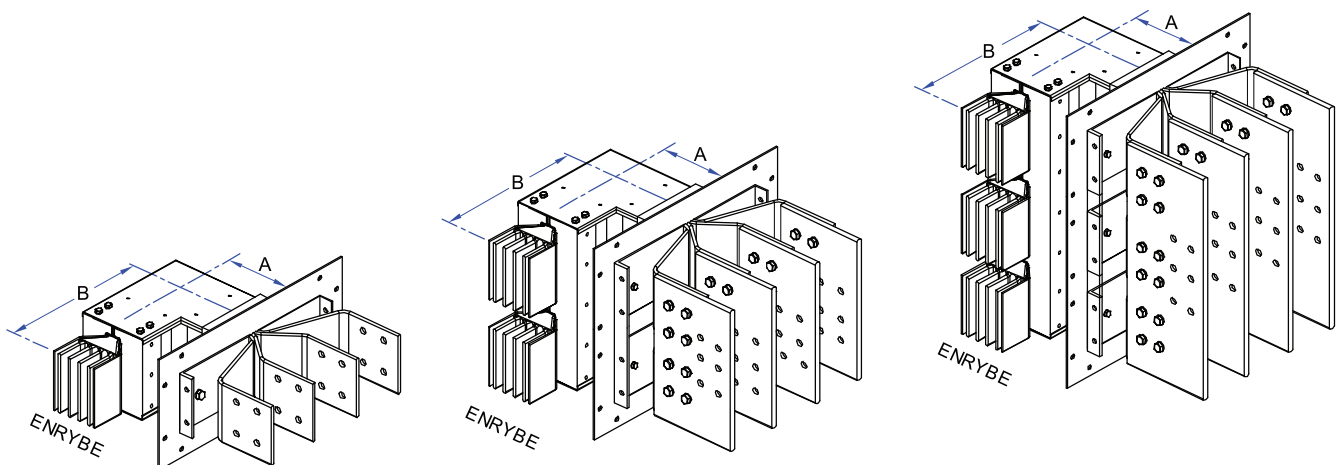
Flanged End with Flat Elbow

Current Rating	Standard & Mini. Dimn. A x B (mm)
Aluminum 4000~5000A Copper 6000~6600A	275 x 400
Aluminum 2000~3600A Copper 3200~5000A	375 x 500
Aluminum 400~1800A Copper 630~2500A	475 x 600



Flanged End with Edge Elbow

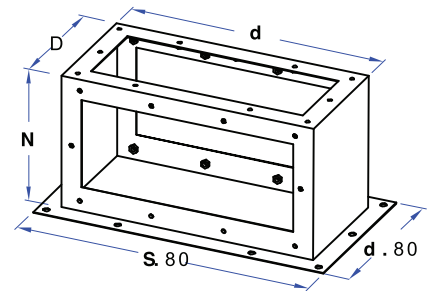
Current Rating	Standard & Mini. Dimn. A x B (mm)
Copper 630~6600A Aluminum 400~5000A	175 x 300



COMPONENTS

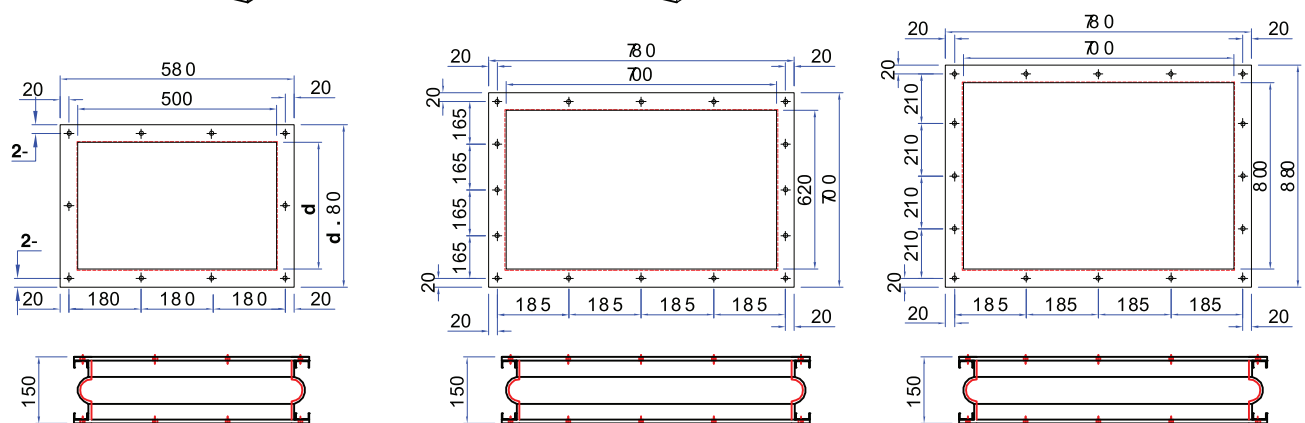
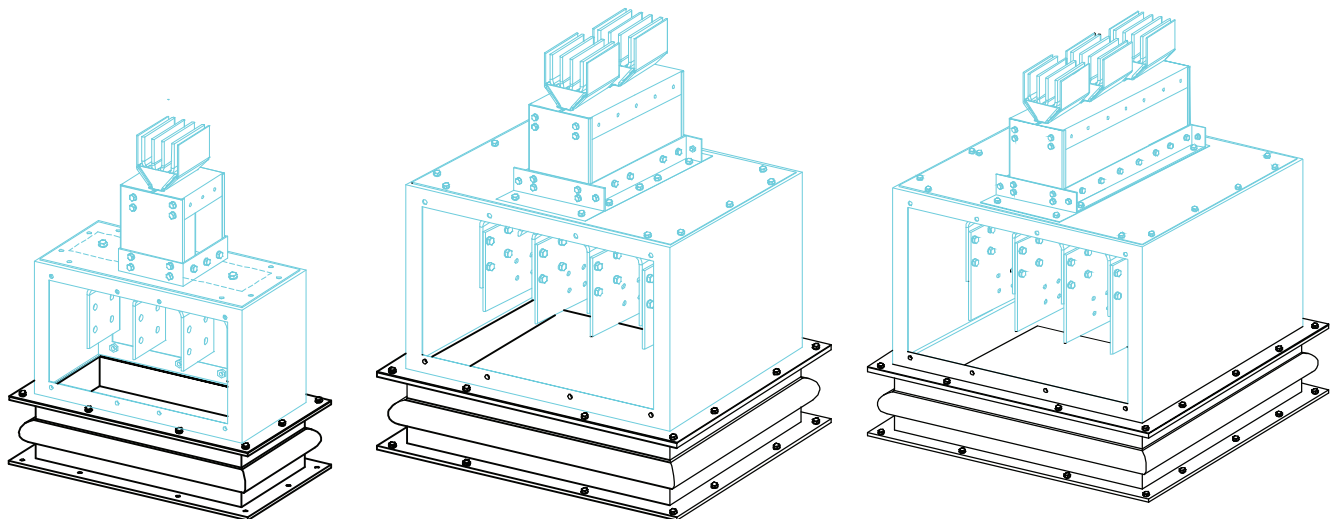
Flanged End Box

S.NO	Current Rating	STANDARD DIMENSIONS		
		W	D	B
01.	Aluminum 4000~5000A Copper 6000~6600A	500	250	250
02.	Aluminum 2000~3600A Copper 3200~5000A	500	350	250
03.	Aluminum 1350~1800A Copper 1800~2500A	700	620	350
04.	Aluminum 400~1250A Copper 630~1600A	700	800	350



Flange Bellow

Flange Bellow need to be fixed between Flanged End Box and Genset termination box to avoid impact of vibrations of Genset being transferred to bustrunking.



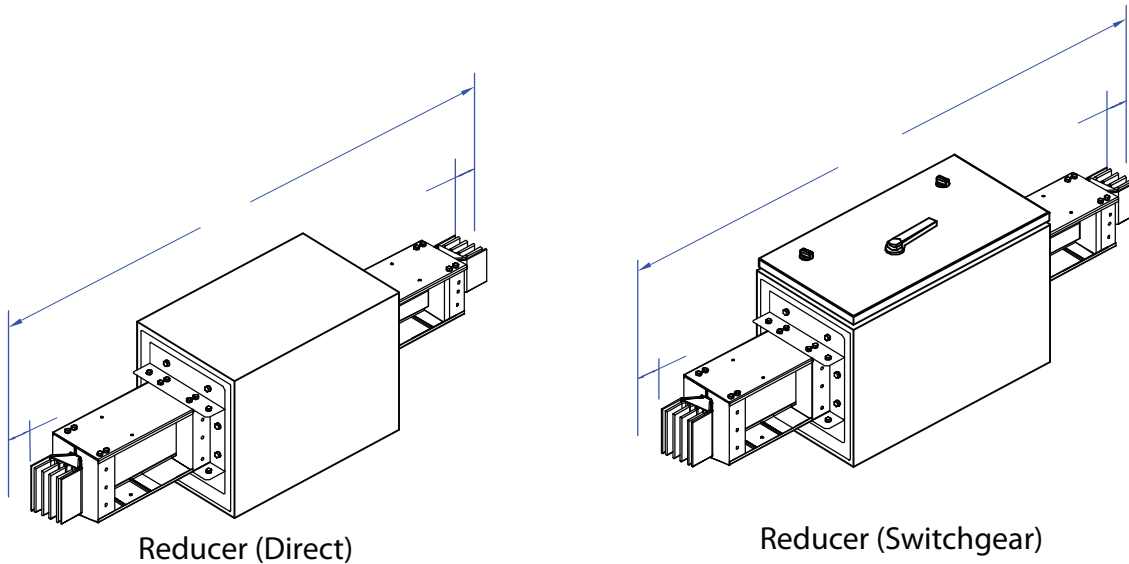
S. No	Current Rating	Standard Dimensions	Code
01.	Copper 630~1600A Aluminum 400~1250A	250	SFBE-1
02.	Copper 1800~2500A Aluminum 1350~1800A	350	SFBE-2

S. No	Current Rating	Code
01.	Copper 3200~5000A Aluminum 2000~3600A	SFBE-3

S. No	Current Rating	Code
01.	Copper 6000~6600A Aluminum 4000~5000A	SFBE-4

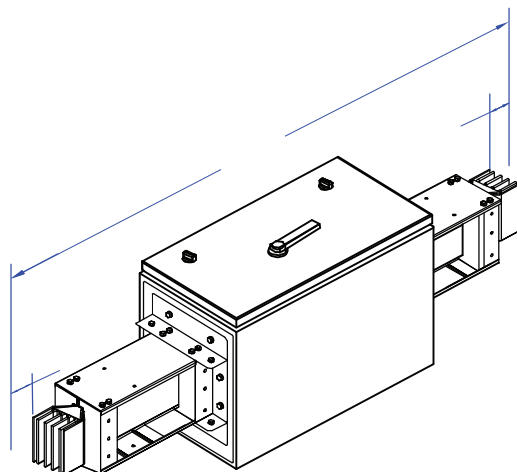
Reducer

- These are required to connect two dissimilar rating of bustrunking. Reducer may be designed with switching or isolating device.



Sectional Isolator

- These are required to isolate the bustrunking run in between, for various reasons. Section Isolator Unit can be fitted with load Break Switches / SFU's / MCCB's.

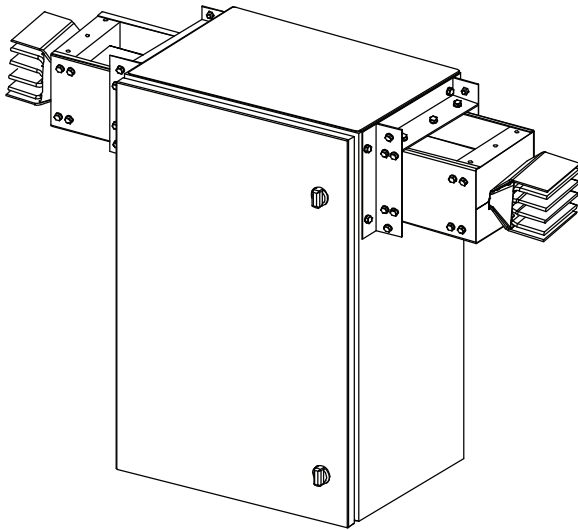


COMPONENTS

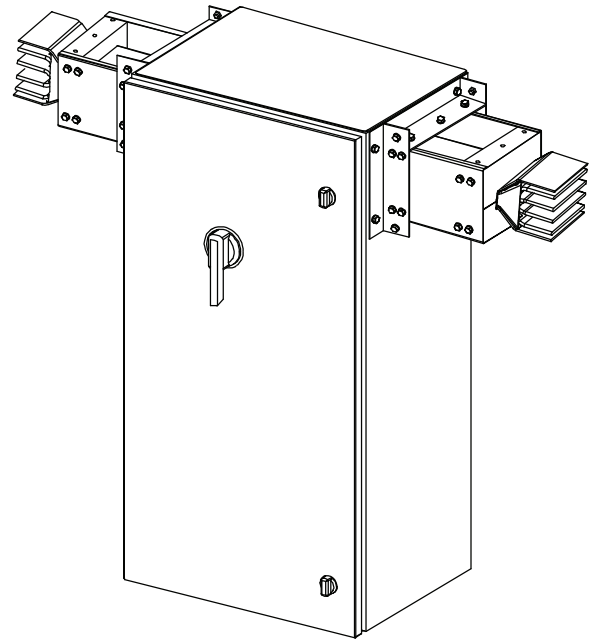
Center Feed Unit

To charge bustrunking through cables from middle of bustrunking.

- Center feed Unit is available with sufficient space for direct connection through lugs and bolts. MCCB, SFU, Isolators, fuse holders etc. can be fitted in Center Feed Unit as per requirement.
- Undrilled cable gland plate is provided at bottom for multiple cable entry.



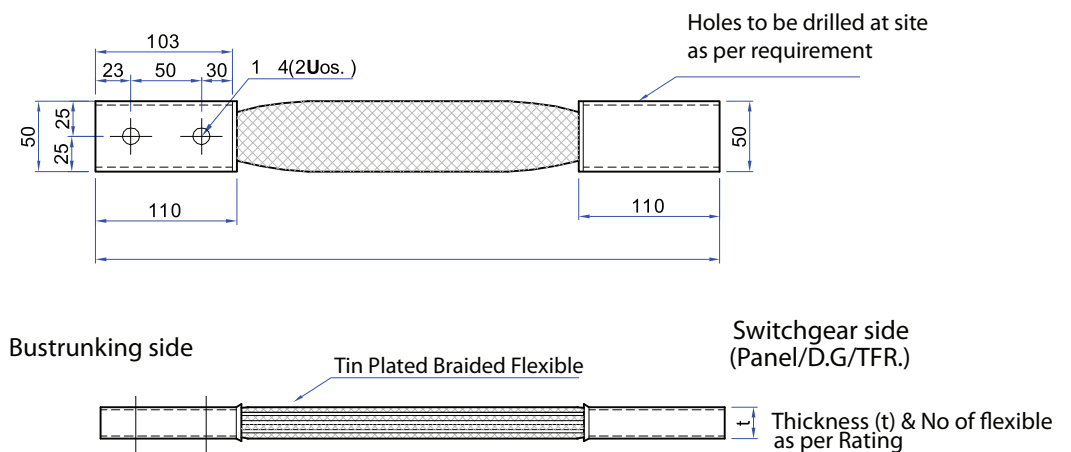
Center Feed Unit (Direct)



Center Feed Unit (Switchgear)

Copper Flexible

- Copper Flexible need to be used to connect flanged end busbar with busbars (Terminals) of Panel / Transformer / Generators.



End Feed

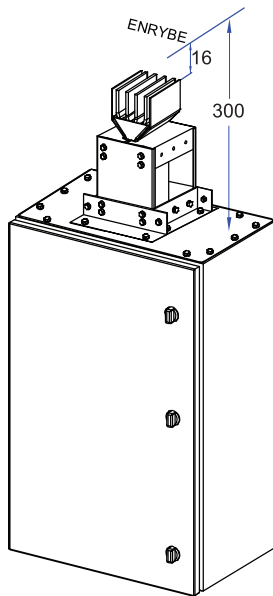
To charge bustrunking through cables from one end of bustrunking.

- End feed is available with sufficient space for direct connection through lugs and bolts. MCCB, SFU, Isolators, fuse holders etc. can be fitted in End Feed as per requirement.
- 300 mm length of bustrunking is integrally fitted (measured with bustrunking) along with End Feed as standard practice so that joint between End Feed and bustrunking is exactly same as joint of two normal bustrunking lengths.
- Undrilled cable gland plate is provided at bottom for multiple cable entry.

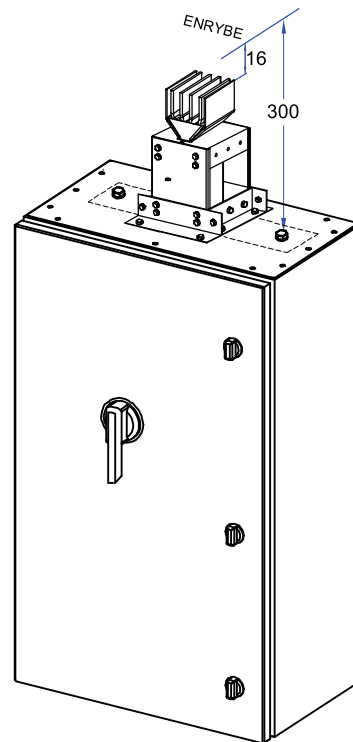
End Cover

- It is used to terminate and to protect the end of plug-in bustrunking (Rising mains run.)
- It can be removed easily for extension of bustrunking.

End



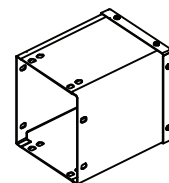
End Feed (Direct)



End Feed (Switchgear)

End Cover

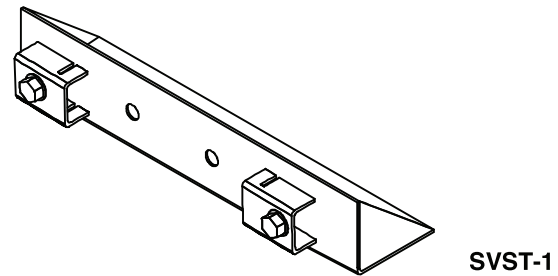
- It is used to terminate and to protect the end of plug-in bustrunking (Rising mains run.)
- It can be removed easily for extension of bustrunking.



COMPONENTS

Vertical Support

Vertical support is used to control Horizontal movement of sandwich rising main .



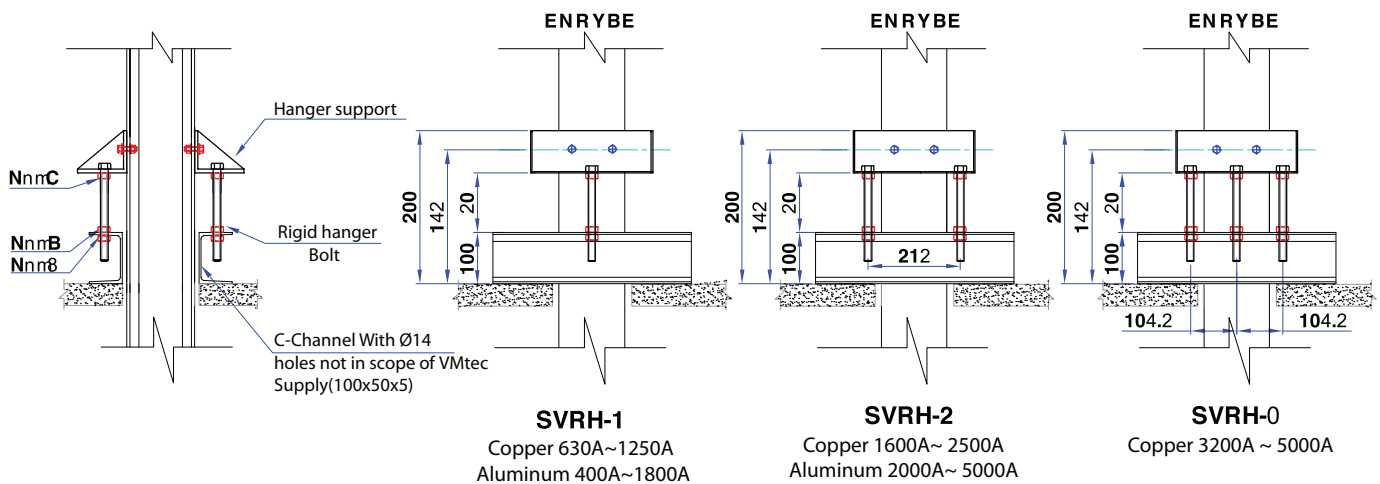
SVST-1

Vertical Rigid Hanger

One set of Rigid hanger per rising main must be installed at the start of the rising mains (i.e. At the lowest floor) to prevent expansion of bustrunking in downward direction. These can be fitted on 100x50X5 (or equivalent) channels mounted on floor / wall as shown below (not in scope of VMtec supply)

Recommendation for using hangers per floor:-

- Up to 3.5 M: 01 rigid hanger.
- 3.5M >4.5 M: 01 rigid hanger + 01 Vertical support. (for ensuring vertical alignment of rising mains.)
- 4.5 m > 6.0 M: 02 rigid hanger



Installation Sequence

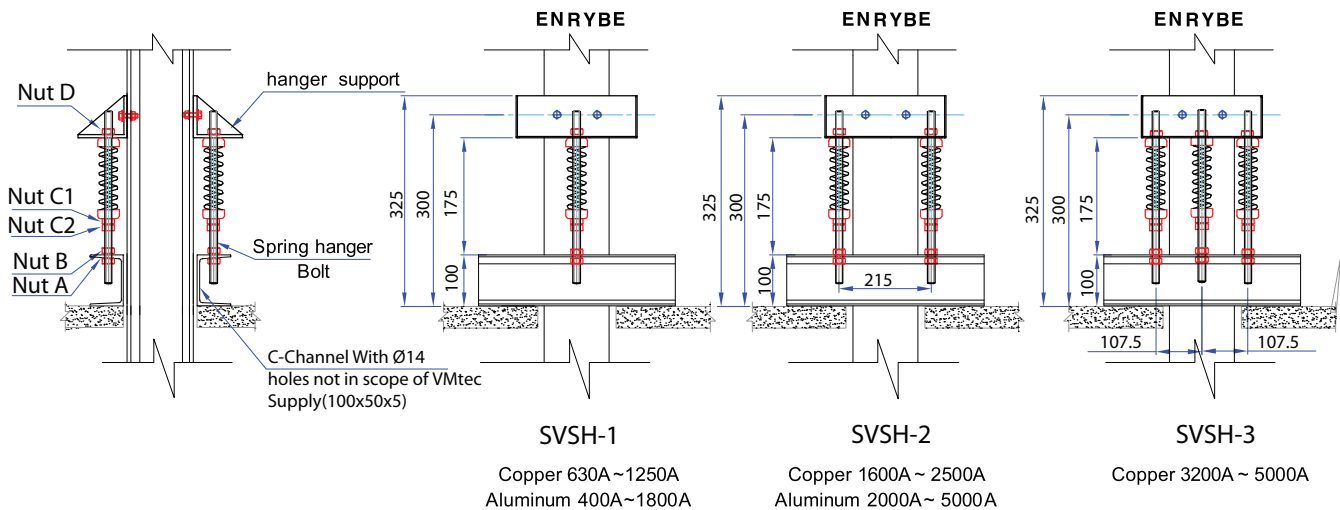
- Remove Nut A from Rigid Hanger on both sides.
- Mount " Hanger Support" through 2Nos. Ø 13 predrilled holes provided on desired rising main section.
- Insert "Rigid hanger bolts" into C-channel (already fixed at the floor level with desired holes)
- Adjust Nut B on to the C-channel (on both sides parallelly) ensuring center line () of rigid hanger support positioned as 175 mm from floor level (or as indicated in drawing)
- Tighten & lock nut A.
- Ensure nut "C" remains fully tightened during entire process.

Vertical Spring Hanger

One set of Spring hanger per rising main per floor (excluding lowest floor) need to be installed to sustain the bustrunking load and to allow vertical expansion of bustrunking in upward direction only. These can be fitted on 100x50X5 (or equivalent) channels mounted on floors / walls as shown below (not in scope of VMtec supply)

Recommendation for using hangers per floor:-

- Up to 3.5 M: 01 Vertical spring hanger .
- 3.5M >4.5 M: 01 Vertical spring hanger + 01 Vertical support. ((for ensuring vertical alignment of rising mains.)
- 4.5 M > 6.0 M: 02 Vertical spring hanger.



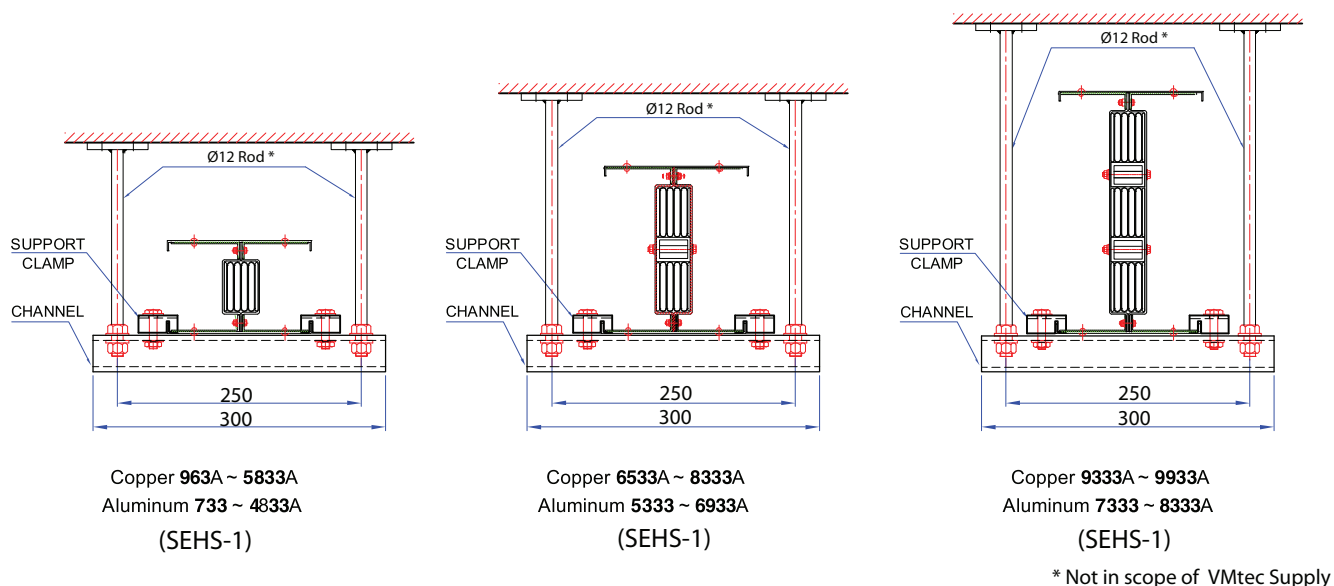
Instalation Sequense

- Remove nut A from spring hanger on both sides.
- Mount " Hanger support" through 2 Nos. Ø13 predrilled holes provided on desired Rising main section
- Insert "Spring hanger bolts" into C-channel (already fixed at the floor level with desired holes)
- Adjust nut B on to the C-Channel ensuring center line () of Hanger Support positioned at 300 mm from floor level (or as indicated in drawing)
- If two section are required at any floor, then (join) upper section with lower section (fitted with spring hanger) so that entire weight of rising main for that floor falls on spring hanger.
- open & bring down nut C1 & C2 slowly (on both sides parallelly) until a gap of 1~2mm is created between nut D and spring hanger support
- Lock nut C1 & C2 at this position
- Loosen Nut D for allowing thermal expansion of rising main.

COMPONENTS

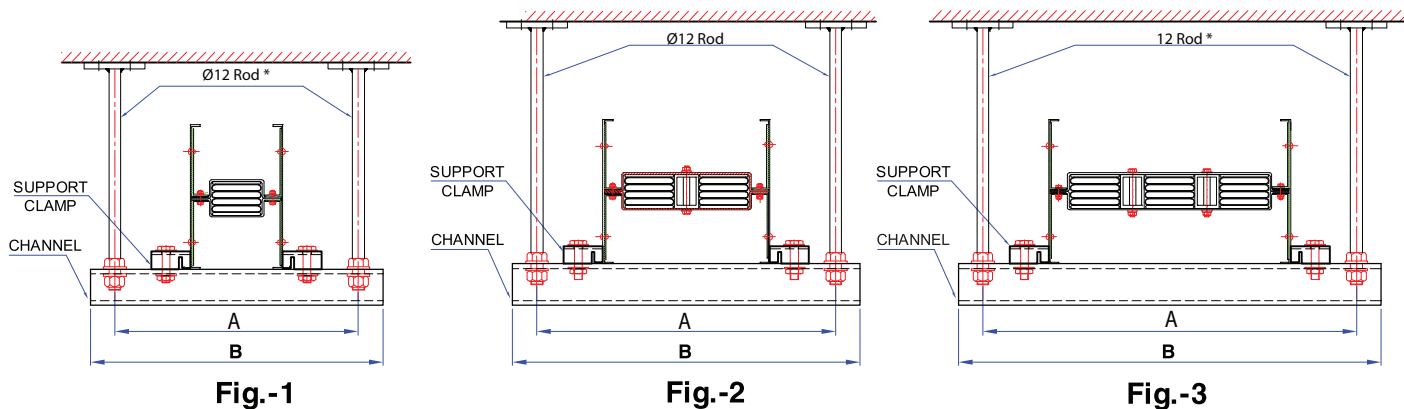
Edgewise Horizontal Support

These support need to be provided on horizontal feeder run at an interval of 1.5 M (or as per site requirement)



Flatwise Horizontal Support

These support need to be provided on horizontal feeder run at an interval of 1.5 M (or as per site requirement)



Current Rating	Standard Dimensions		Code	Detail
	A	B		
Copper 963~4583A Aluminum 733~4333A	250	300	SFHS-1	Fig.-1
Copper 4933~5833A Aluminum 4583~4833A	400	450	SFHS-2	Fig.-1
Copper 6533~8333A Aluminum 5333~6933A	650	700	SFHS-3	Fig.-2
Copper 9333~9933A Aluminum 7333~8333A	850	900	SFHS-4	Fig.-3

* Not in scope of VMtec Supply

Plug-in-Box

Plug in box enclosure is made from G.I with side hinged door.

- Plug in contacts are made out of silver plated copper with spring steel backup pressure clips for ensuring uniform pressure and low contact resistance .
- For cables entry, provision of gland plates are provided on both sides and bottom of Plug in Box.
- Earth contact of Plug-in boxes makes first & breaks last.
- Plug in box are suitable for MCCB/SFU's with rotary handle and door interlocking.
- Plug in boxes are available with Interlocking with bustrunking to ensure "plug-in" and "Plug-Out" possible only in "Off" Condition.
- Silver Plated contacts are properly shrouded / isolated.
- Plug in box up to 400 A are compatible to all ratings of Bustrunking with 400 A Plug-in-points
- Plug in box from 500A to 800 A are compatible to all ratings of Bustrunking with 800 A plug in points.
- Plug in boxes can only be fitted on to the Bustrunking with corrected polarity i.e. ENRYBE.

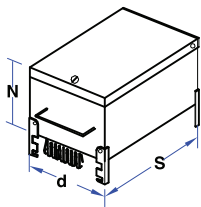


Fig.-1

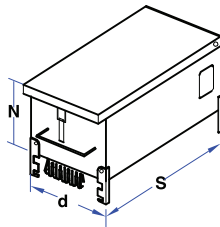


Fig.-2

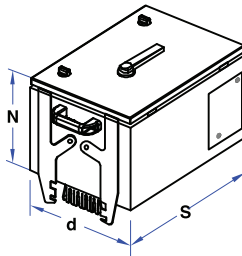


Fig.-3

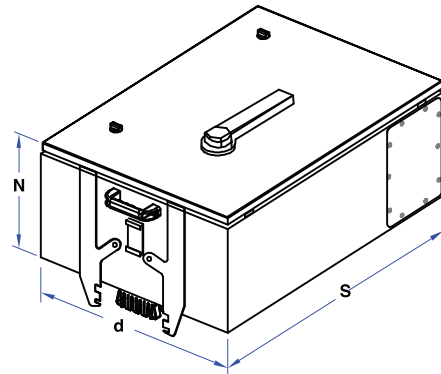


Fig.-4

Product Code	PIBX-S-4B	PIBX-S-5B	PIBX-A-4B	PIBX-A-5B	PIBX-N-4B	PIBX-N-5B	PIBX-B-4B	PIBX-B-5B	PIBX-C-4B	PIBX-C-5B	PIBX-D-4B	PIBX-D-5B	PIBX-E-4B	PIBX-E-5B
Figurer	Figure 1		Figure 2		Figure 3		Figure 4		Figure 4		Figure 4		Figure 4	
With MCB/FUSES	32-63A	32-63A	32-125A		NA		NA		NA		NA		NA	
With SOCKET-1No.	32A	32A	63A		NA		NA		NA		NA		NA	
With MCB+SOCKET-1No	NA	NA	32~63A		NA		NA		NA		NA		NA	
With MCCB	NA	NA	32~125A		NA		160~200A		250~400A		500~630A		800A	
With MCCB+FVH	NA	NA	NA		32~125A		160~200A		250~400A		500~630A		800A	
With SFU	NA	NA	NA		32~125A		160~200A		315~400A		500~630A		800A	
FINAL BOX SIZE (L x W x H)	240x130x100	240x204x100	380x130x124	380x204x124	430x300x170		430X300X250		600X400X250		800x400X250		1000x400X250	
Recommended Cable Size (Aluminum)	25 Sqmm	25 Sqmm	70 Sqmm	70 Sqmm	70 Sqmm	70 Sqmm	150 Sqmm	150 Sqmm	2X150 Sqmm	2X150 Sqmm	2X300 Sqmm	2X300 Sqmm	2X400 Sqmm	2X400 Sqmm

* Available with Isolater.

PIB with subcode 4B is applicable for-

- 3 Phase+50% Internal Earth
- 3 Phase+200% Neutral +50% Internal Earth
- 3 Phase+100% Neutral +50% Internal Earth
- 3 Phase+100% Neutral+100% Isolated Earth+50% Internal Earth