



● C&S Etacom Installations

GLOBAL SPECIALIST FOR POWER BUSBARS



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Domestic

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Plant -II
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SANDWICH BUSTRUNKING



www.cselectric.co.in
 www.etacomcs.com



We touch your electricity everyday!

We touch your electricity everyday!

C&S Electric Ltd. is a leading manufacturer of electrical and electronic equipment in India. It is India's largest exporter of industrial switchgear & power busbar products. C&S Electric products are used in applications ranging from power generation, transmission and distribution, protection and final consumption.

C&S Electric has the following product verticals:

- Switchgear
- Power Busbars
- Protection and Measurement Devices
- Lighting
- Diesel Generator
- Electrical EPC

MARKET LEADER	<p>C&S is amongst the top 4 players in the switchgear business segment and a market leader in the busbar business with more than 50% share in Indian market.</p>	18 MANUFACTURING PLANTS	<p>C&S Electric have 18 state-of-the-art manufacturing facilities equipped with latest tools and systems to ensure highest level of quality and services.</p>
<p>A dedicated network of channel partners, ensuring access to the farthest corners of India, with an obsession for customer services. In addition C&S products are available in 7500+ retail counters nationally.</p>	600+ STOCKISTS	<p>C&S has 5 international sales offices at London, The Netherlands, Dubai, Germany & USA. C&S exports the entire range of products across all 7 continents, thus reaffirming its position as India's largest exporter of industrial electrical products. Our new subsidiary C&S Electric UK Limited will enhance our coverage and customer service for the international market.</p>	EXPORTS TO OVER 80 COUNTRIES
5000+ EMPLOYEES	<p>5000+ Employees including over 600 engineers, dedicated sales team of 350 people & millions of satisfied customers.</p>	2% OF REVENUE INVESTED IN R&D	<p>C&S Electric have 18 state-of-the-art manufacturing facilities equipped with latest tools and systems to ensure highest level of quality and services.</p>

Power Busbar division of C&S Electric Ltd has evolved by continuously addressing the market needs over past 40 year. With the acquisition of Eta-com, Belgium having specialization in cast resin insulated Busway, the merger between the two companies resulted in making C&S as "Global Power Busbar specialist."

C&S Power Busbars products comply with relevant national & International standards and proven with the Installation references available throughout the continents finding its applications in Power generating stations, Process & manufacturing industries, Commercial & residential Buildings, Infrastructure establishment - Airports, Metros, Railways, Hospitals, Tunnels, Ports, Shopping centers, Exhibition centers, Warehouses IT Parks, Data centers solutions, Solar farms, Oil & Gas and Chemical Industry.

C&S Power Busbar Division with combination of supreme range, vast experience in R&D, Engineering, state of art manufacturing plants, in-house testing facilities and strong project management is aimed to provide one stop solutions to user.

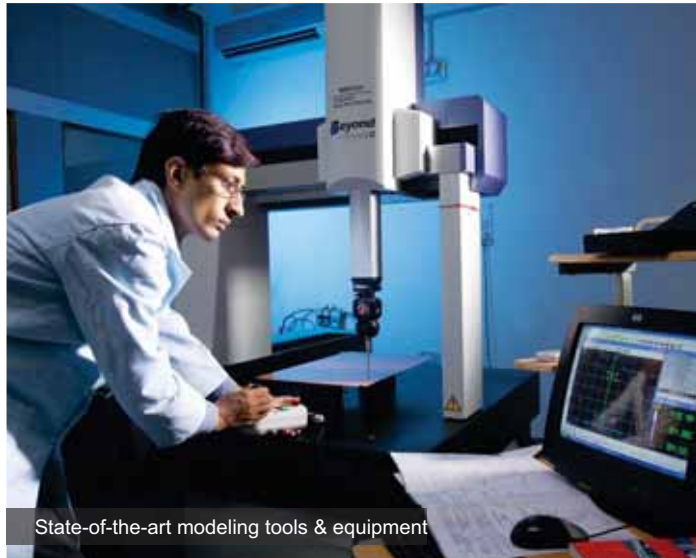


C&S Electric, India



Eta-com, Belgium

R&D and Testing Facilities



State-of-the-art modeling tools & equipment



Research Center



Impulse Testing Facilities at BD Plant



Dedicated team of engineers for development & value engineering



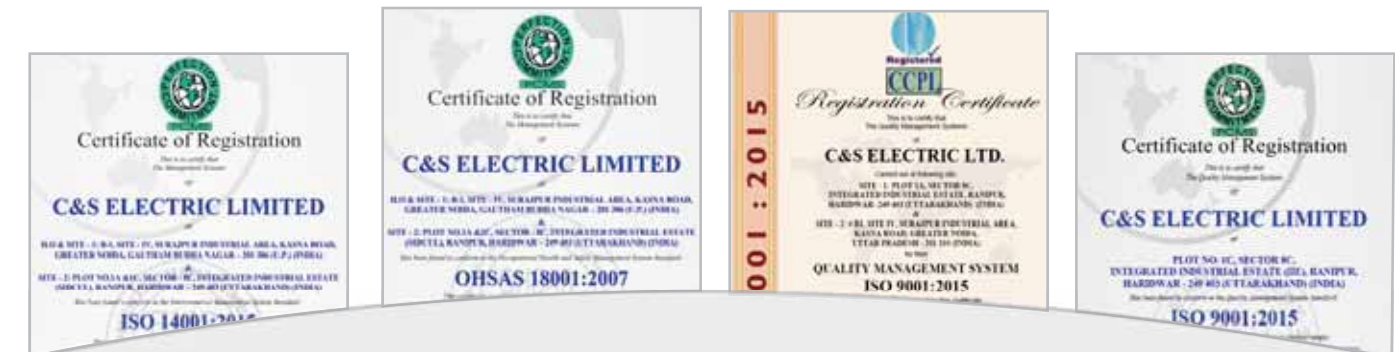
India's only 30kA power busbar test center

Quality Assurance

C&S is committed to:

- Establishing and reviewing Quality objectives at relevant functions within the organisation.
- Meet Customer expectations of Corporate responsibilities
- Effective Management of Health and safety in the workplace & welfare of our staff and external Parties.

All our Power Busbar products are manufactured as per relevant standards in accordance with ISO 9001 : 2015 quality standards.



metabar Range offers Low Voltage Power busbar solutions covering Sandwich Bustrunking, Air Insulated Bustrunking Lighting Trunking & Track Busway ranging from 25A to 6300A.

Salient Features:

- Low impedance and compact size.
- Safety features in terms of compliance resistance to fire propagation and fire penetration, seismic integrity, Interlocks in Plug in boxes.
- Flexibility in distribution, ease of Installation , upgradeability , reusability & aesthetics which makes it easy for users

Sandwich Bustrunking (SB) -LV

Compliance of standard	IEC61439 (1&6)
Conductor Material & Ratings	Copper 630A-6300A, Aluminium 400A-5000A
Rated Operational Voltage (Ue)	1000V
Rated Impulse Withstand Voltage (Uimp)	12kV (1.2/50 μSec)
Enclosure Material	G.I.
Degree Of Protection	IP54/ IP55*
Plug In Box	32A-630A

*IP65 available on request



Compact Air Bustrunking (CB) - LV

Compliance of standard	IEC61439 (1&6)
Conductor Material & Ratings	Copper 125A-1250A Aluminium 200A-800A
Rated Operational Voltage (Ue)	1000V
Rated Impulse Withstand Voltage (Uimp)	12kV (1.2/50 μSec)
Enclosure Material	G.I.
Degree Of Protection	IP54
Plug In Box	32A-400A



Lighting Trunking (LB) - LV

Compliance of standard	IEC61439 (1&6)
Conductor Material & Ratings	Copper 25A, 40A
Rated Operational Voltage (Ue)	500V
Enclosure Material	Aluminium
Degree Of Protection	IP54/ IP55
Plug In Box	Upto 16A



Track Busway (MB) - LV

Compliance of standard	IEC61439 (1&6)
Conductor Material & Ratings	Copper 250A-400A
Rated Operational Voltage (Ue)	690V
Enclosure Material	Aluminium
Degree Of Protection	IP42
Plug In Box	Upto 63A



betobar Range offers Low Voltage and Medium Voltage cast resin Insulated Busway solutions ranging from 1000V, 630A to 17.5kV, 6100A.

This concept is unique as it is based on the direct encapsulation of copper or aluminium conductors with an insulation compound B.I.M casting mix, consisting of epoxy –resin mixed under vacuum. A flexible fabrication method, universal moulds and an integrated process controlled mixing technique allow the production of an almost unlimited number of elements forms for Low Voltage (LV) & Medium Voltage (MV) applications. The prefabricated elements are self –supporting and are interconnected electrically by joining the conductors with 2 –sided compression contacts, ensuring an excess of contact surfaces and maximum of adjustment. Junctions and element extremities are over casted with a B.I.M casting mix resulting in a homogeneous insulation over the full length of the connection.

Salient features:

- Fire retardant, self-extinguishing and homogeneous insulation mix based on epoxy cast –resin with mineral fillers, ensuring high mechanical strength, high short circuit withstand capabilities.
- High degree of Ingress protection (IP68) and resistance to UV makes it acceptable to critical applications.
- Reliable for application in explosive areas, chemical atmosphere, outdoor and in trenches by virtue of compliance to resistance to fungi, Insects and rodents.
- Conformity to International standards.

Cast Resin Insulated Busway (LA) -LV

Compliance of standard	IEC61439 (1&6)
Conductor Material & Ratings	Copper 800A-6300A, Aluminium 630A-5000A
Rated Operational Voltage (Ue)	1000V
Rated Impulse Withstand Voltage (Uimp)	12kV (1.2/50 μSec)
Degree of Protection	IP68
Mechanical Resistance	IK 10



Cast Resin Insulated Busway (SH) -MV

Compliance of standard	IEC 62271 (1 & 201)
Conductor Material & Ratings	Copper 1300A - 1850A Aluminium 1350A - 1500A
Rated Operational Voltage (Ue)	3.6 kV 7,2kV
Rated Impulse Withstand Voltage (Uimp)	12kV (1.2/50 μSec)
Degree of Protection	IP66/IP67
Mechanical Resistance	IK 10



Cast Resin Insulated Busway (PH) MV

Compliance of standard	IEC 62271
Conductor Material & Ratings	Copper 1750A - 6100A, Aluminium 1350A - 5000A
Rated Operational Voltage (Ue)	3.6 kV - 17.5kV (AC)
Rated Impulse Withstand Voltage (Uimp)	12kV (1.2/50 μSec)
Degree Of Protection	IP66 / IP67
Mechanical resistance	IK10



isobar Range offers Medium Voltage and Low Voltage duct solutions with Isolated Phase duct (IPB), Segregated phase duct (SPB) and Non Segregated phase duct (NSPB) ranging from 415V, 630A to 38KV, 30000 A .

C&S is a leading supplier for isolated phase ducts designing, manufacturing, erecting & commissioning upto 1000MW power generating stations worldwide.

Salient Features:

- Excellent shielding under short circuit conditions by virtue of non-magnetic metal barriers between phases.
- Minimizes phase to phase faults.
- IPB Conductor & Insulator design eliminates Corona discharge, minimizes skin effects factor& eliminates the effect of cantilever forces, uniform heat dissipation respectively.
- Conformity to International standards

Isolated Phase Busduct (IPB) MV

Compliance of standard	IEC62271 (1 & 200) / IS 8084 / IEEE C37.23
Rated Continuous Current	100A-30,000A
Conductor	Aluminium*
Rated Operational Voltage (Ue)	11KV 38KV
Enclosure Material	Aluminum Alloy
Rated Impulse Withstand Voltage (Uimp)	75kV - 170kV (1.2/50 μSec)
Degree of Protection	IP 55 / IP 65



*Copper Conductor available on request

Segregated Phase Busduct (SPB)** MV

Compliance of standard	IEC62271 (1 & 200) / IS 8084 / IEEE C37.23
Rated Continuous Current	630A-5000A
Conductor	Aluminium / Copper
Rated Operational Voltage (Ue)	3.3kV - 33kV
Enclosure Material	Aluminum Alloy
Rated Impulse Withstand Voltage (Uimp)	40kV - 170kV (1.2/50 μSec)
Degree of Protection	IP 55 / IP 65



**Non-Segregated Phase Busduct (NSPB) - MV design available on request

Non Segregated Phase Busduct (NSPB) -LV

Compliance of standard	IEC 61439 (1&6) / IS 8623 (1&2)
Rated Continuous Current	630A-6500A
Conductor	Aluminium / Copper
Rated Operational Voltage (Ue)	415V
Enclosure Material	Aluminum Alloy
Rated Impulse Withstand Voltage (Uimp)	12kV (1.2/50 μSec)
Degree of Protection	IP 55 / IP 65



SANDWICH BUSTRUNKING
SB Series





Product Highlights:

- ◆ Superior Housing Construction results in excellent Heat dissipation thus reducing voltage drop and enhancing Power transmission efficiency.
- ◆ Power coating housing is corrosion resistant with default true integral earth & options available for isolated earth.
- ◆ Sandwich design saves space as it easily fits into today's architectural & aesthetic needs.
- ◆ Superior Insulation Performance & mechanical strength against any short circuit dynamic forces.
- ◆ Effortless and Tamper-proof jointing system makes Installation very simple.
- ◆ Compliance to resistance to Fire propagation, Penetration & seismic conditions makes it suitable product for any application.
- ◆ Interlocks in Plug n boxes & with bustrunking ensures safe working conditions for operators.
- ◆ Bustrunking systems can be easily extended & circuits can be added easily by means of plug-in & tap-off provisions and Boxes.

Technical Specification of Sandwich BusTrunking

Compliance of Standard	IEC 61439 (1&6)
Independent Certification Authority	CPRI, ASTA, UL
Busbar Arrangement	Sandwich Type
Busbar Ratings	Copper 630 -6300A Aluminium 400-5000A
Busbar Configuration	3 Phase + Integral Ground Earth 3 Phase + 100% Neutral + Integral Ground Earth 3 Phase + 100% Neutral + 100% Internal Earth + Integral Ground Earth 3 Phase + 100% Neutral + 100% Internal Earth + Integral Ground Earth 3 Phase + 200% Neutral + Integral Ground Earth
Busbar Material (Phase/ Neutral)	Copper (ETP Grade) / Aluminium (high conductivity)
Busbar Material-Internal Earth	Copper
Busbar Material-External Earth	Copper / Aluminium
Busbar Insulation	Polyester + Mica
Rated Frequency	50 Hz / 60 Hz
Rated Operational Voltage	1000 Volt, AC
Rated Insulation Voltage	1000 Volt, AC
Rated Impulse Withstand Voltage	12 kV
Fire Rating	240 Minutes
Joint	Uniblock Joint
Enclosure Material	Galvanized Iron (GI)
Enclosure Surface Coating	Powder Coated (RAL 7032)
Plug in Box Ratings	32A - 630A
Seismic Compliance	Zone - 5
Degree of Protection	IP54 for Plug in type, IP55 for Feeder type (IP65 on request)

Technical Parameters of Copper Sandwich Bustrunking (SBC)

Physical Dimensions																					
Rated Current	I	Amps	630	800	900	1000	1100			1250	1600	1800	2000	2250	2500	3200	3600	4000	4500	5000	6300
Product Code	...	...	SBC	SBC	SBC	SBC	SBC			SBC	SBC	SBC	SBC	SBC	SBC	SBC	SBC	SBC	SBC	SBC	SBC
			040N1	050N1	060N1	070N1	080N1			100N1	125N1	150N1	175N1	200N1	230N1	125N2	150N2	175N2	200N2	230N2	175N3
Number of Busbar per Phase	...	...	1	1	1	1	1			1	1	1	1	1	1	2	2	2	2	2	3
Busbar Dimensions per Phase	L x H	mm x mm	6x40	6x50	6x60	6x70	6x80			6x100	6x125	6x150	6x175	6x200	6x230	6x125	6x150	6x175	6x200	6x230	6x175
Overall Height of Bustrunking	...	mm	85	95	105	115	125			145	170	195	220	245	275	340	390	440	490	550	660
Ambient Temperature	t	°C	40	40	40	40	40			40	40	40	40	40	40	40	40	40	40	40	40
Approximate Weight of Bustrunking																					
3 Phase + 50% Integral Earth	...	Kg/mtr.	20	22	24	27	29			34	40	46	52	58	65	75	87	100	112	127	145
3 Phase + 100% Neutral + 50% Integral Earth	...	Kg/mtr.	22	25	28	31	34			40	47	55	62	70	79	90	105	121	136	155	177
3 Phase + 100% Neutral + 50% Internal Earth	...	Kg/mtr.	23	26	30	33	36			43	51	59	67	75	85	97	113	130	147	167	191
3 Phase + 200% Neutral + 50% Integral Earth	...	Kg/mtr.	25	29	32	36	40			47	56	65	74	83	94	106	124	142	161	183	209
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Integral Earth	...	Kg/mtr.	25	29	32	36	40			47	56	65	74	83	94	106	124	142	162	183	209
Short Circuit Capacity																					
Rated 3 Phase RMS Short Time Current for 1 Second	I _{cw}	kA	40	50	50	65	65			80	100	100	100	100	100	120	120	120	120	120	120
Rated 3 Phase Peak Short Time Current	I _{pk}	kA	84	105	105	143	143			176	220	220	220	220	220	264	264	264	264	264	264
Rated 1 Phase RMS Short Time Current for 1 Second	I _{cw}	kA	24	30	30	39	39			48	60	60	60	60	60	72	72	72	72	72	72
Rated 1 Phase Peak Short Time Current	I _{pk}	kA	50.4	63	63	81.9	81.9			100.8	132	132	132	132	132	158.4	158.4	158.4	158.4	158.4	158.4
Electrical Characteristics for Phase Conductor at 50 Hz																					
AC Resistance at 20 °C	R ₂₀	mΩ/mtr.	0.0740	0.0592	0.0499	0.0427	0.0378			0.0311	0.0249	0.0207	0.0179	0.0157	0.0136	0.0124	0.0104	0.0090	0.0078	0.0068	0.0060
AC Resistance at Thermal Condition	R _t	mΩ/mtr.	0.0959	0.0767	0.0645	0.0553	0.0489			0.0403	0.0322	0.0268	0.0232	0.0203	0.0177	0.0161	0.0134	0.0116	0.0102	0.0088	0.0077
Reactance	X	mΩ/mtr.	0.0417	0.0333	0.0278	0.0238	0.0208			0.0170	0.0136	0.0127	0.0109	0.0095	0.0083	0.0070	0.0064	0.0055	0.0049	0.0042	0.0038
Impedance	Z	mΩ/mtr.	0.1045	0.0836	0.0703	0.0602	0.0531			0.0437	0.0350	0.0297	0.0256	0.0224	0.0195	0.0176	0.0149	0.0128	0.0113	0.0098	0.0086
Voltage Drop on Full Load concentrated at the end of the Bustrunking for 50 Hz	ΔU	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	0.0364	0.0316	0.0280	0.0242	0.0209	0.0183	0.0160	0.0141
	ΔU	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	0.0380	0.0331	0.0296	0.0252	0.0218	0.0191	0.0166	0.0147
	ΔU	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	0.0389	0.0338	0.0304	0.0257	0.0222	0.0195	0.0170	0.0149
	ΔU	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	0.0352	0.0306	0.0279	0.0232	0.0201	0.0176	0.0153	0.0134
Electrical Characteristics for Phase Conductor at 60 Hz																					
AC Resistance at 20 °C	R ₂₀	mΩ/mtr.	0.0742	0.0594	0.0500	0.0429	0.0379			0.0313	0.0251	0.0209	0.0181	0.0159	0.0138	0.0126	0.0106	0.0092	0.0080	0.0070	0.0062
AC Resistance at Thermal Condition	R _t	mΩ/mtr.	0.0961	0.0769	0.0648	0.0556	0.0491			0.0405	0.0325	0.0271	0.0235	0.0206	0.0179	0.0163	0.0137	0.0119	0.0104	0.0091	0.0080
Reactance	X	mΩ/mtr.	0.0500	0.0400	0.0333	0.0286	0.0250			0.0204	0.0163	0.0152	0.0130	0.0114	0.0099	0.0084	0.0077	0.0066	0.0059	0.0051	0.0046
Impedance	Z	mΩ/mtr.	0.1083	0.0867	0.0729	0.0625	0.0551			0.0454	0.0363	0.0311	0.0268	0.0235	0.0205	0.0184	0.0157	0.0136	0.0119	0.0104	0.0092
Voltage Drop on Full Load concentrated at the end of the Bustrunking for 60 Hz	ΔU	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	0.0390	0.0340	0.0302	0.0260	0.0225	0.0199	0.0173	0.0153
	ΔU	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	0.0403	0.0351	0.0314	0.0269	0.0233	0.0205	0.0179	0.0158
	ΔU	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	0.0407	0.0354	0.0318	0.0271	0.0234	0.0206	0.0180	0.0159
	ΔU	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	0.0356	0.0310	0.0283	0.0237	0.0205	0.0180	0.0158	0.0138

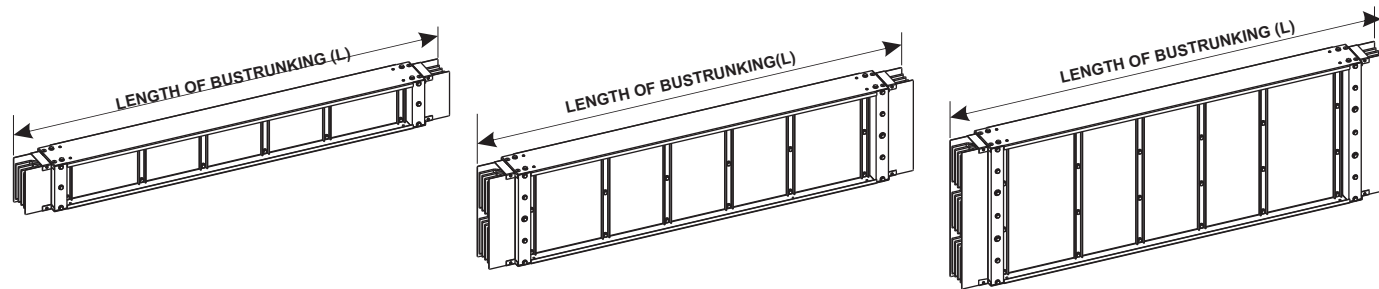
Technical Parameters of Aluminium Sandwich Bustrunking (SBA)

Physical Dimensions																						
Rated Current	I	Amps	400	500	630	700	800			1000	1250	1350	1600	1800	2000	2250	2500	3200	3600	4000	4500	5000
Product Code	...	...	SBA	SBA	SBA	SBA	SBA			SBA	SBA	SBA	SBA	SBA	SBA	SBA	SBA	SBA	SBA	SBA	SBA	SBA
			040N1	050N1	060N1	070N1	080N1			100N1	125N1	150N1	175N1	200N1	230N1	125N2	150N2	175N2	200N2	230N2	175N3	200N3
Number of Busbar per Phase	...	...	1	1	1	1	1			1	1	1	1	1	1	2	2	2	2	2	3	3
Busbar Dimensions per Phase	L x H	mm x mm	6x40	6x50	6x60	6x70	6x80			6x100	6x125	6x150	6x175	6x200	6x230	6x125	6x150	6x175	6x200	6x230	6x175	6x200
Overall Height of Bustrunking	...	mm	85	95	105	115	125			145	170	195	220	245	275	340	390	440	490	550	660	735
Ambient Temperature	t	°C	40	40	40	40	40			40	40	40	40	40	40	40	40	40	40	40	40	40
Approximate Weight of Bustrunking																						
3 Phase + 50% Integral Earth	...	Kg/mtr.	15	16	17	18	19			22	25	28	30	33	38	44	50	57	63	71	81	90
3 Phase + 100% Neutral + 50% Integral Earth	...	Kg/mtr.	16	17	18	19	21			24	27	30	34	37	42	49	56	63	71	80	91	101
3 Phase + 200% Neutral + 50% Integral Earth	...	Kg/mtr.	17	18	20	22	23			26	30	34	38	42	46	55	63	71	79	89	101	114
3 Phase+100% Neutral+100% Isolated Earth+50% Integral Earth	...	Kg/mtr.	17	18	20	22	23			26	30	34	38	42	46	55	63	71	79	89	101	114
Short Circuit Capacity																						
Rated 3 Phase RMS Short Time Current for 1Second	I _{cw}	kA	25	30	40	40	50			50	65	65	80	80	80	120	120	120	120	120	120	120
Rated 3 Phase Peak Short Time Current	I _{pk}	kA	52.5	63	84	84	105			105	143	143	176	176	176	264	264	264	264	264	264	264
Rated 1 Phase RMS Short Time Current for 1Second	I _{cw}	kA	15	18	24	24	30			30	39	39	48	48	48	72	72	72	72	72	72	72
Rated 1 Phase Peak Short Time Current	I _{pk}	kA	30	36	50.4	50.4	63			63	81.9	81.9	100.8	100.8	100.8	158.4	158.4	158.4	158.4	158.4	158.4	158.4
Electrical Characteristics for Phase Conductor at 50 Hz																						
AC Resistance at 20 °C	R ₂₀	mΩ/mtr.	0.1198	0.0958	0.0806	0.0691	0.0611			0.0503	0.0402	0.0335	0.0290	0.0254	0.0221	0.0201	0.0168	0.0145	0.0127	0.0111	0.0097	0.0085
AC Resistance at Thermal Condition	R _t	mΩ/mtr.	0.1553	0.1243	0.1046	0.0896	0.0792			0.0652	0.0522	0.0435	0.0376	0.0329	0.0314	0.0261	0.0217	0.0188	0.0165	0.0157	0.0125	0.0110
Reactance	X	mΩ/mtr.	0.0417	0.0333	0.0278	0.0238	0.0208			0.0170	0.0136	0.0127	0.0109	0.0095	0.0083	0.0070	0.0064	0.0055	0.0049	0.0042	0.0038	0.0033
Impedance	Z	mΩ/mtr.	0.1608	0.1286	0.1082	0.0927	0.0819			0.0674	0.0539	0.0453	0.0392	0.0343	0.0325	0.0270	0.0227	0.0196	0.0172	0.0162	0.0131	0.0115
Voltage Drop on Full Load concentrated at the end of the Bustrunking for 50 Hz	ΔU	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	0.0517	0.0483	0.0403	0.0343	0.0296	0.0260	0.0242	0.0199	0.0174
	ΔU	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	0.0555	0.0521	0.0434	0.0368	0.0318	0.0279	0.0261	0.0213	0.0187
	ΔU	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	0.0585	0.0552	0.0460	0.0387	0.0335	0.0293	0.0277	0.0224	0.0196
	ΔU	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	0.0570	0.0544	0.0452	0.0377	0.0326	0.0285	0.0272	0.0217	0.0190
Electrical Characteristics for Phase Conductor at 60 Hz																						
AC Resistance at 20 °C	R ₂₀	mΩ/mtr.	0.1200	0.0961	0.0809	0.0694	0.0614			0.0506	0.0405	0.0338	0.0293	0.0257	0.0225	0.0204	0.0171	0.0148	0.0130	0.0112	0.0100	0.0088
AC Resistance at Thermal Condition	R _t	mΩ/mtr.	0.1557	0.1246	0.1050	0.0900	0.0796			0.0656	0.0526	0.0439	0.0380	0.0333	0.0286	0.0265	0.0221	0.0192	0.0169	0.0143	0.0129	0.0114
Reactance	X	mΩ/mtr.	0.0500	0.0400	0.0333	0.0286	0.0250			0.0204	0.0163	0.0152	0.0130	0.0114	0.0099	0.0084	0.0077	0.0066	0.0059	0.0051	0.0046	0.0040
Impedance	Z	mΩ/mtr.	0.1635	0.1309	0.1101	0.0944	0.0834			0.0687	0.0551	0.0464	0.0402	0.0352	0.0288	0.0278	0.0234	0.0203	0.0178	0.0162	0.0137	0.0121
Voltage Drop on Full Load concentrated at the end of the Bustrunking for 60 Hz	ΔU	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	0.0545	0.0388	0.0425	0.0363	0.0314	0.0277	0.0242	0.0213	0.0187
	ΔU	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	0.0580	0.0431	0.0454	0.0386	0.0334	0.0294	0.0261	0.0227	0.0199
	ΔU	mV/mtr./A at 0.9 P.F.	0.2805	0.2245	0.1888	0.1619	0.1431			0.1177	0.0943	0.0799	0.0691	0.0606	0.0472	0.0476	0.0403	0.0349	0.0307	0.0277	0.0236	0.0207
	ΔU	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	0.0577	0.0496	0.0459	0.0383	0.0333	0.0292	0.0272	0.0224	0.0197

Straight Length

- Straight length constitutes the major element portion for a bustrunking route.
- Availability in standard lengths of 3000 mm and minimum length of 500 mm.
- Ingress protection of IP 55 (IP 65 on request).

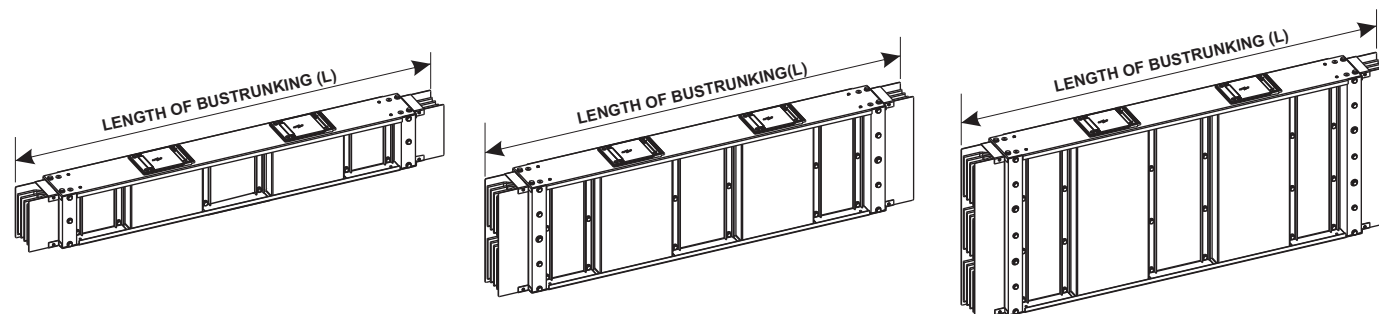
Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Straight Length	500	3000	3000



Straight Length With PIP

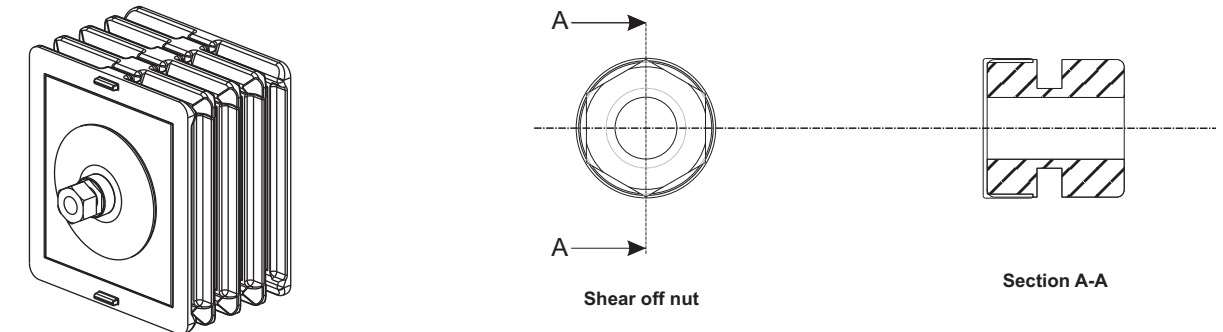
- Facilitates tapping off power from Plug-in Point (PIP) through Plug-in Boxes (PIB) for current distribution.
- Availability of various combinations for number of PIPs on standard lengths with option of PIPs on both sides.
- PIPs on both sides of PIBs are available with busbar size 100mm and above.
- Distance between PIPs in a multiple of 125mm.
- Bolted Type tap-off straight length for typical application available on request.

Current Rating	Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Aluminium 400-5000A Copper 630-6300A	Straight Length with front PIPs			
	Straight Length with 1 PIP	2000	2900	2900
	Straight Length with 2 PIP	2000	2900	2900
	Straight Length with 3 PIP	2900	2900	2900
	Straight Length with both side PIPs			
	Straight Length with 2+2 PIP	2900	2900	2900
	Straight Length with 3+3 PIP	2900	2900	2900

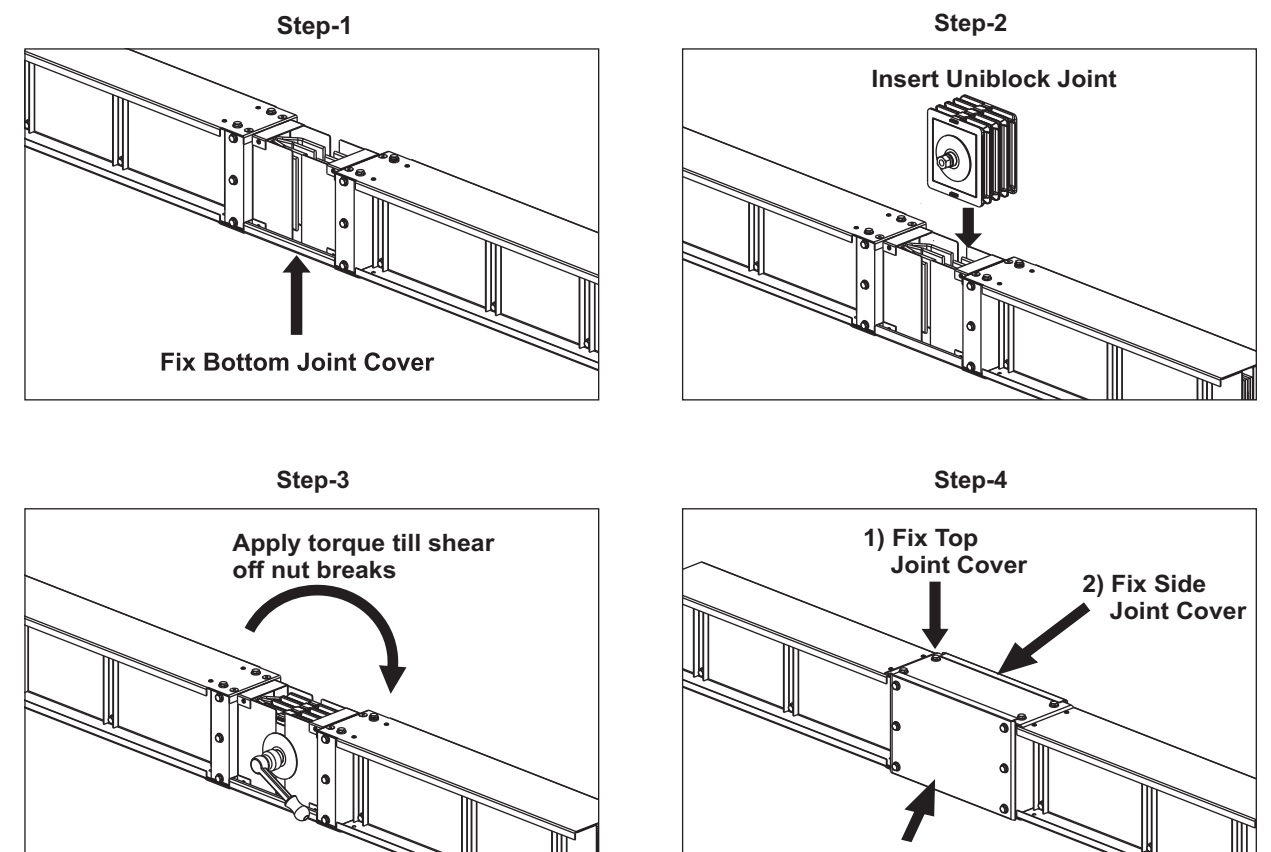


Uniblock Joint

- Facilitates joining of two elements of bustrunking route.
- Disc spring used on both sides for distributing uniform pressure in the joint.
- Uniblock joint can be tightened on nut side with a torque of 100 N-m.
- Shearing of nut ensures tightening of joint at desired torque with tamper proof cap over shear off nut prevents opening of nut for joint reliability.
- Uniblock joint can be inserted and removed in installed condition without removing any element of the Bustrunking run.



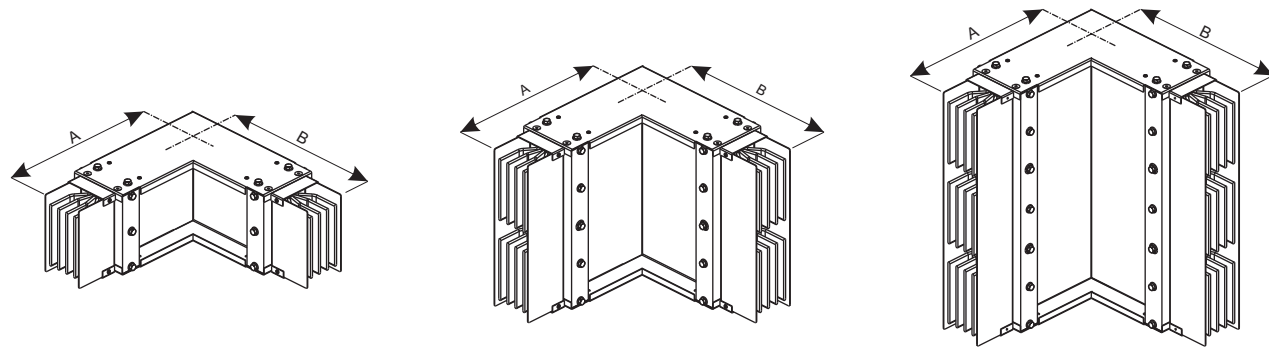
Procedure for making joint of two Bustrunking element



Edge Elbow

Facilitates an edge wise orientation change of the Bustrunking run.

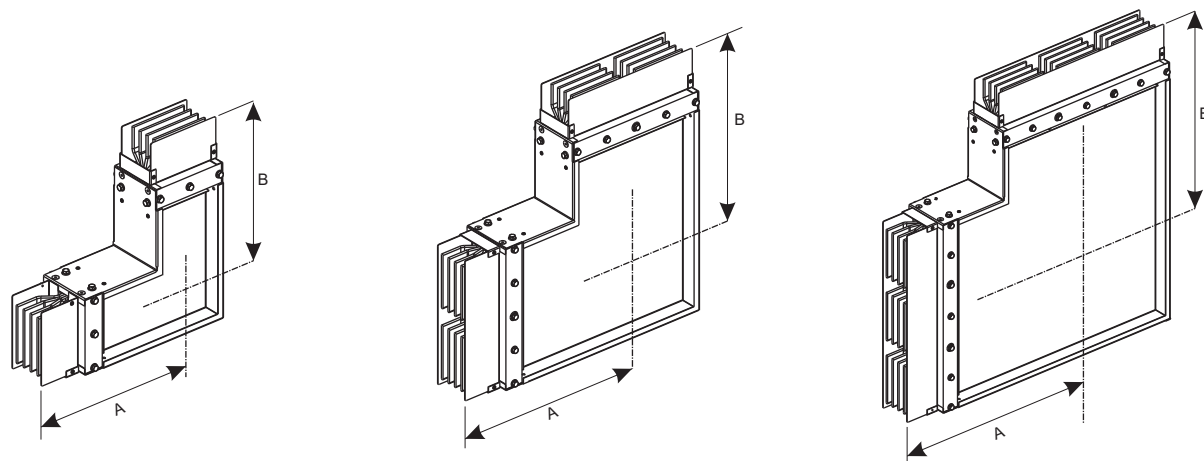
Current Rating	Minimum AxB (mm)	Standard AxB (mm)	Maximum AxB (mm)
Aluminium 400-2000A Copper 630-2500A	500 x 500	500 x 500	500 x 1000
Aluminium 2250-4000A Copper 3200-5000A	500 x 500	500 x 500	500 x 1000
Aluminium 4500-5000A Copper 6300A	500 x 500	500 x 500	500 x 1000



Flat Elbow

Facilitates an flat wise orientation change of the Bustrunking run.

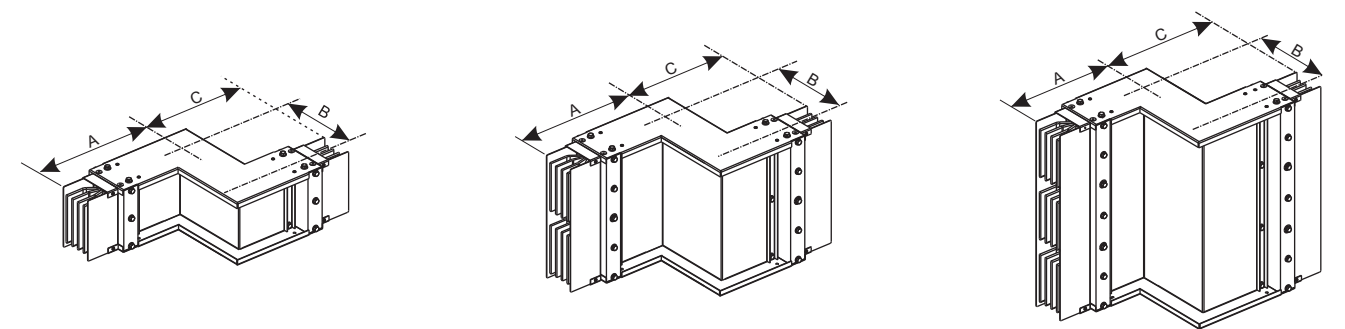
Current Rating	Minimum AxB (mm)	Standard AxB (mm)	Maximum AxB (mm)
Aluminium 400-2000A Copper 630-2500A	500 x 500	500 x 500	500 x 1000
Aluminium 2250-4000A Copper 3200-5000 A	500 x 500	500 x 500	500 x 1000
Aluminium 4500-5000A Copper 6300A	600 x 600	600 x 600	600 x 1000



Offset Edge Elbow

Facilitates an offset during edge wise orientation change of the Bustrunking run

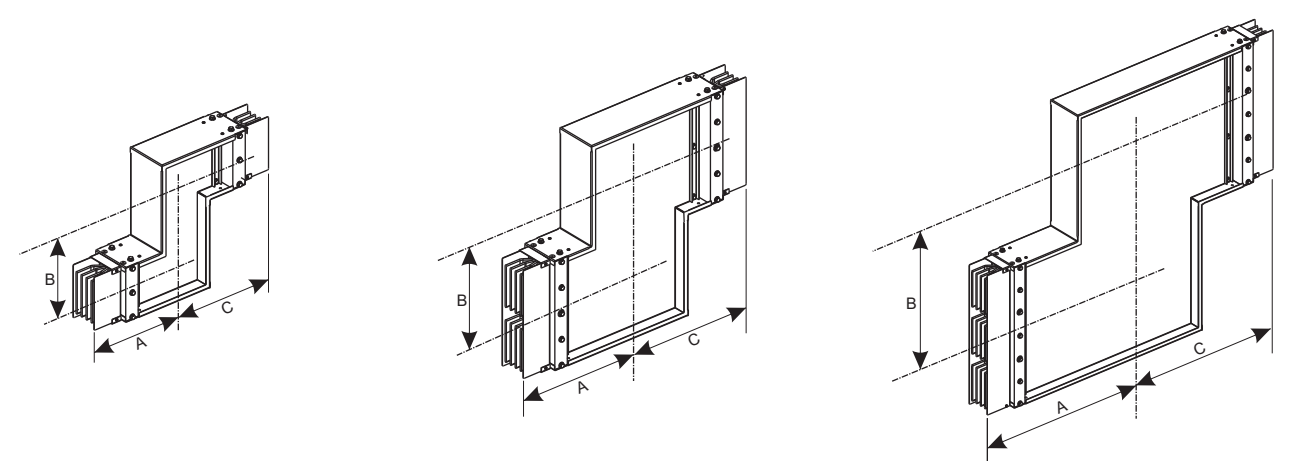
Current Rating	Minimum AxBxC (mm)	Standard AxBxC(mm)	Maximum AxBxC (mm)
Aluminium 400-2000A Copper 630-2500A	500 x 200 x 500	500 x 500 x 500	500 x 1000 x 500
Aluminium 2250-4000A Copper 3200-5000 A	500 x 200 x 500	500 x 500 x 500	500 x 1000 x 500
Aluminium 4500-5000A Copper 6300A	500 x 200 x 500	500 x 500 x 500	500 x 1000 x 500



Offset Flat Elbow

Facilitates an offset during flat wise orientation change of the Bustrunking run

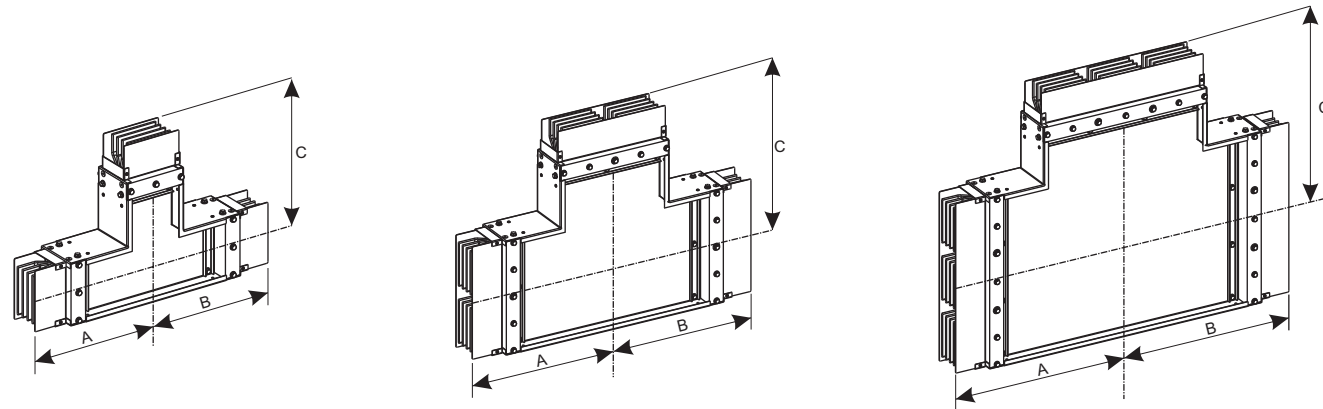
Current Rating	Minimum AxBxC (mm)	Standard AxBxC(mm)	Maximum AxBxC (mm)
Aluminium 400-2000A Copper 630-2500A	500 x 200 x 500	500 x 500 x 500	500 x 1000 x 500
Aluminium 2250-4000A Copper 3200-5000 A	500 x 200 x 500	500 x 500 x 500	500 x 1000 x 500
Aluminium 4500-5000A Copper 6300A	600 x 200 x 600	600 x 600 x 600	600 x 1200 x 600



Flat Tee

Facilitates branching of the run without changing the Bustrunking rating

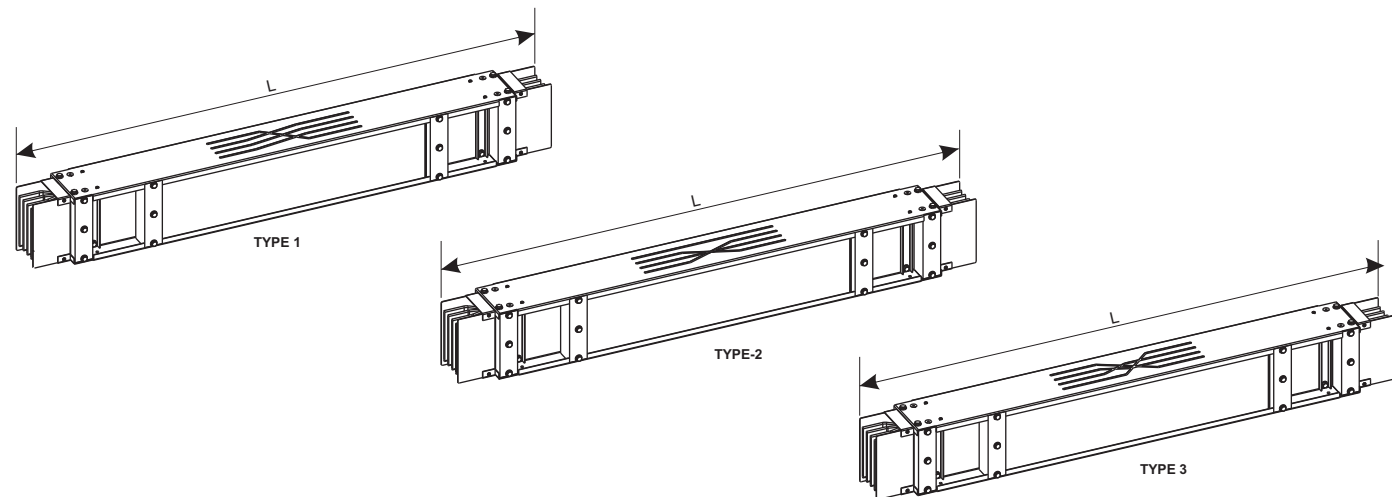
Current Rating	Minimum AxBxC (mm)	Standard AxBxC(mm)	Maximum AxBxC (mm)
Aluminium 400-2000A Copper 630-2500A	500 x 200 x 500	500 x 500 x 500	1000 x 1000 x 500
Aluminium 2250-4000A Copper 3200-5000 A	500 x 200 x 500	500 x 500 x 500	1000 x 1000 x 500
Aluminium 4500-5000A Copper 6300A	600 x 600 x 600	600 x 600 x 600	1000 x 1000 x 600



Phase Transposition Unit

- Facilitates sequence matching of different phase sequence origins
- Facilitates phase balancing by inter changing the phase sequence at regular intervals

Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Phase Transposition Unit	1500	1500	1500

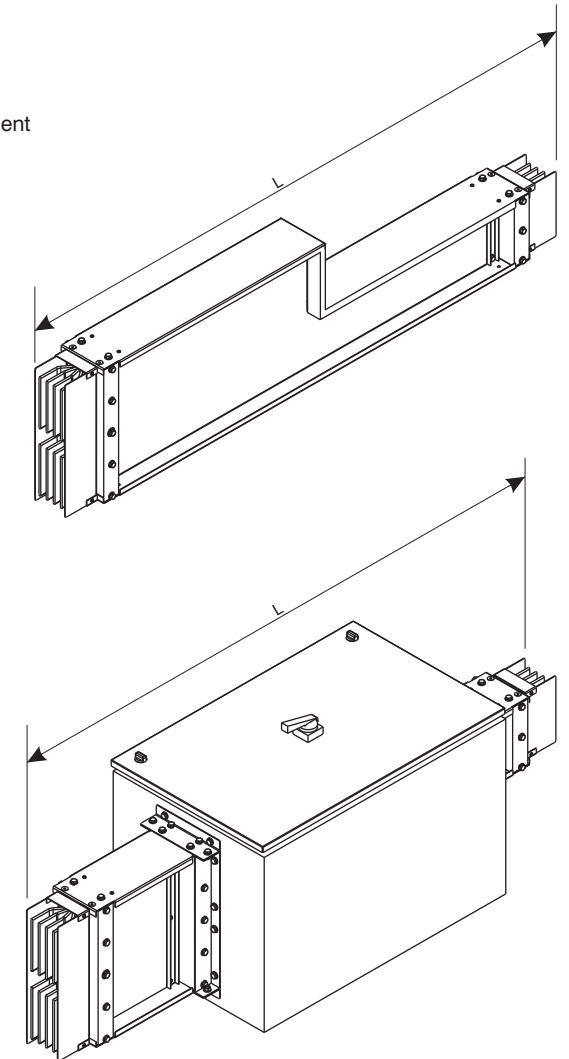


Reducer

- Facilitates connection between two dissimilar ratings of Bustrunking
- Comes with switchgear to isolate/switch the further route connected
- Facilitates reduction of the Bustrunking rating for optimum usage of power requirement

Reducer Direct	Minimum (mm)	Standard (mm)	Maximum (mm)
Aluminium 400-2000A Copper 630-2500A	1000	1000	1000
Aluminium 2250-4000A Copper 3200-5000 A	1000	1000	1000
Aluminium 4500-5000A Copper 6300A	1000	1000	1000

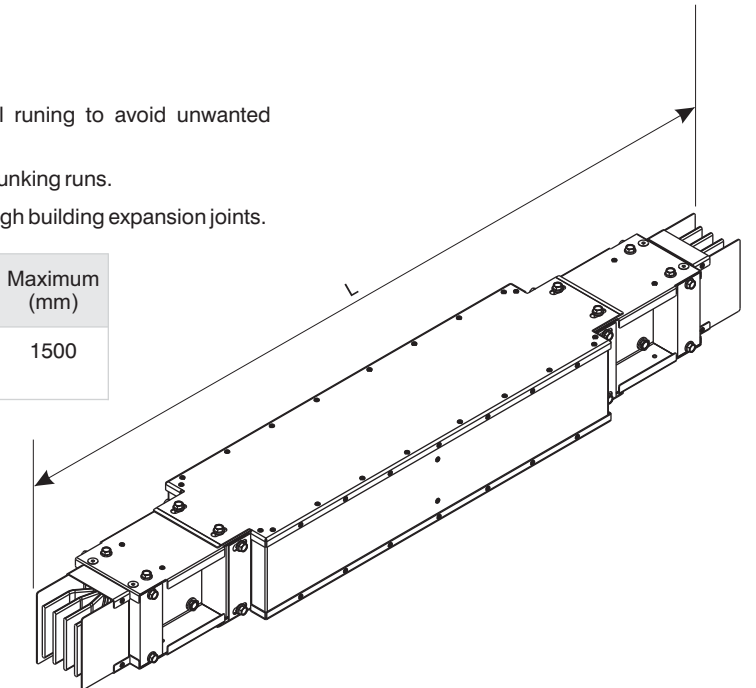
Reducer with Switchgear	Minimum (mm)	Standard (mm)	Maximum (mm)
Aluminium 400-2000A Copper 630-2500A	1500	1500	1500
Aluminium 2250-4000A Copper 3200-5000 A	2000	2000	2000



Expansion Unit

- Facilitates to absorb the thermal expansion during normal runing to avoid unwanted stresses on joints.
- Recommended at an interval of 40 mtr for long horizontal Bustrunking runs.
- Recommended to use where Bustrunking run is crossing through building expansion joints.

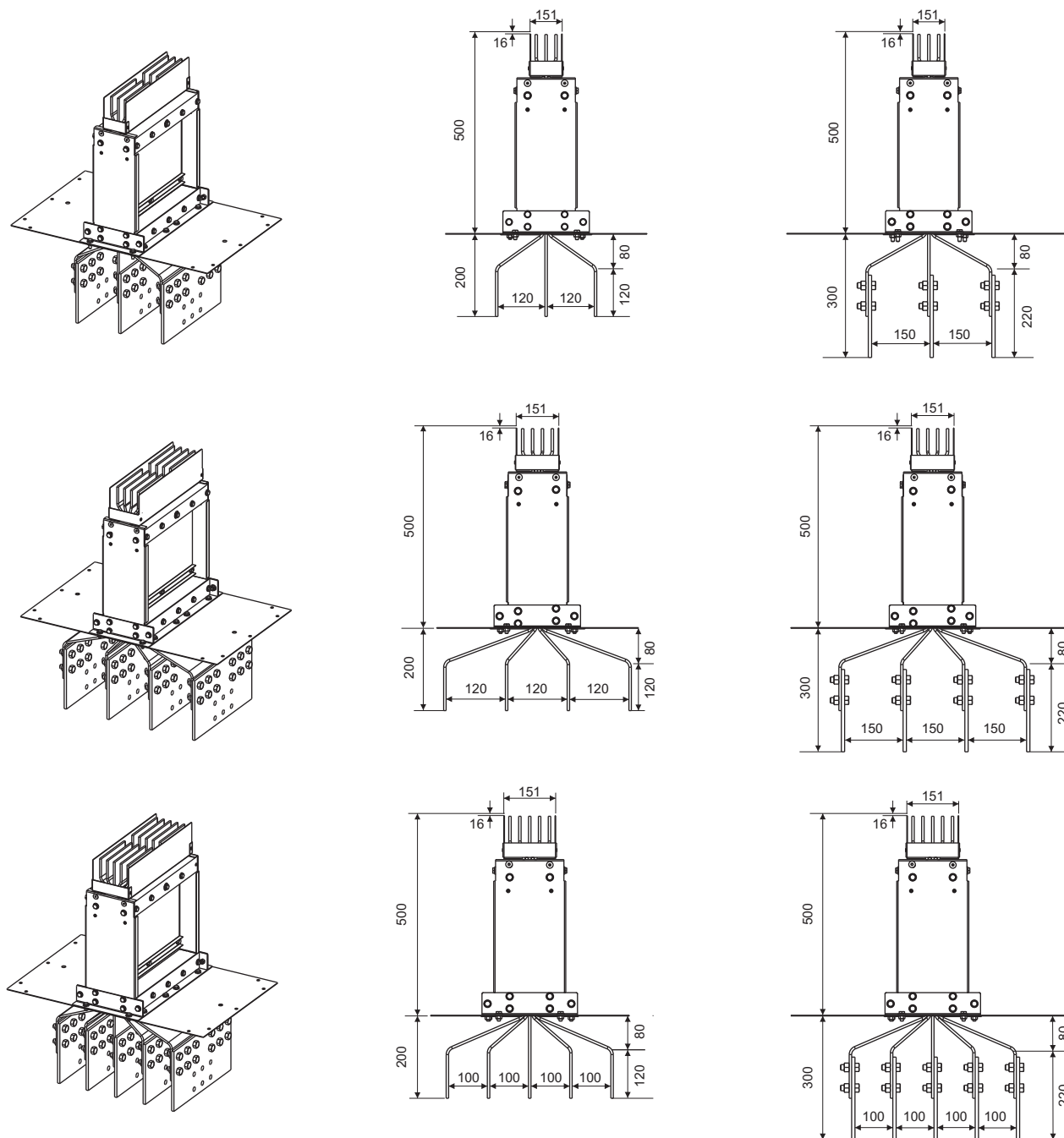
Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Expansion Unit	1500	1500	1500



Flanged End

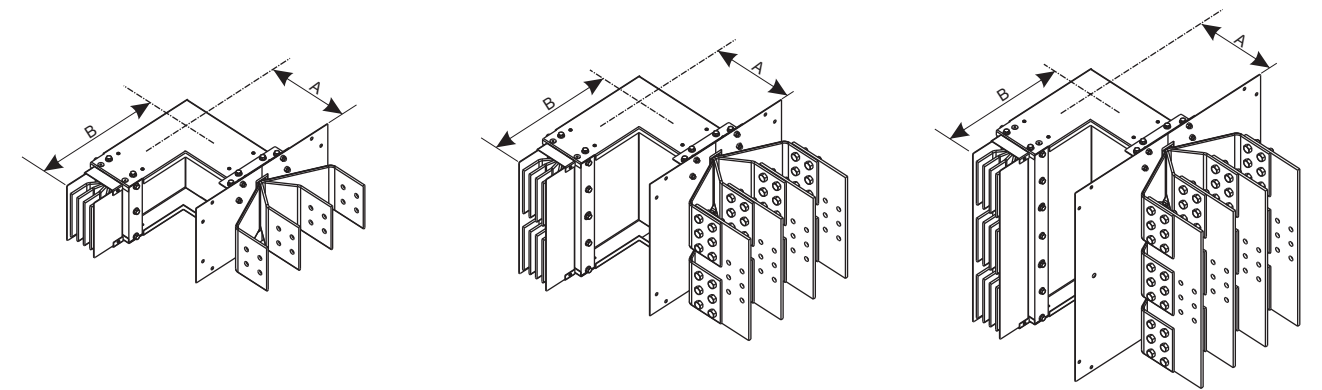
- Facilitates a direct connection to power panels, transformers and low voltage switchgear etc.

Flanged End	Minimum (mm)	Standard (mm)	Maximum (mm)
Aluminium 400-2000A Copper 630-2500A	500	500	1000
Aluminium 2250-4000A Copper 3200-5000 A	500	500	1000
Aluminium 4500-5000A Copper 6300A	500	500	1000



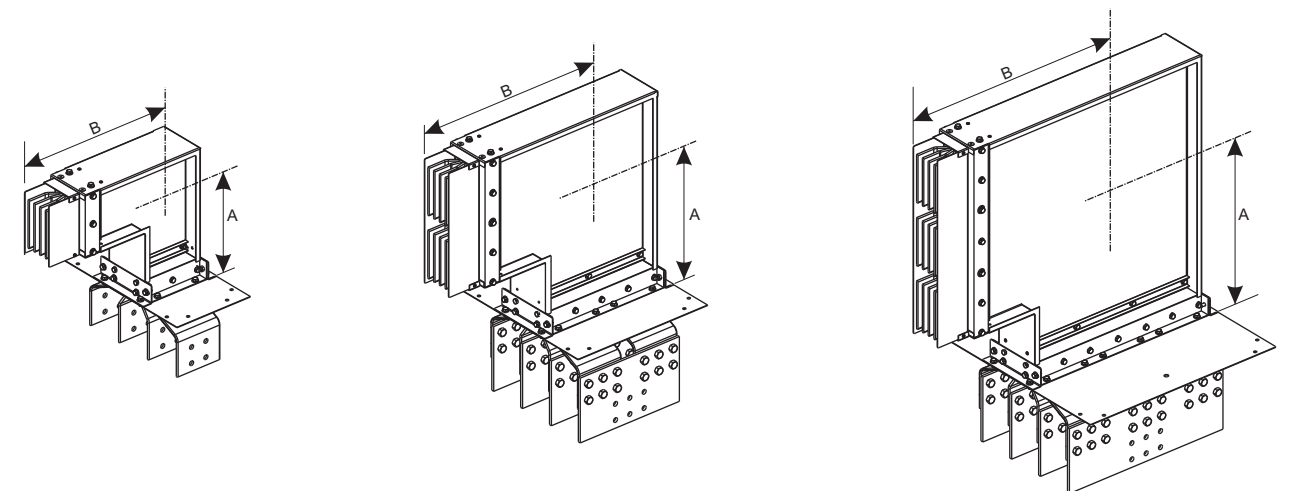
Flanged End with Edge Elbow

Current Rating	Minimum AxB (mm)	Standard AxB (mm)	Maximum AxB (mm)
Aluminium 400-2000A Copper 630-2500A	300 x 500	500 x 500	1000 x 500
Aluminium 2250-4000A Copper 3200-5000 A	300 x 500	500 x 500	1000 x 500
Aluminium 4500-5000A Copper 6300A	300 x 500	500 x 500	1000 x 500



Flanged End with Flat Elbow

Current Rating	Minimum AxB (mm)	Standard AxB (mm)	Maximum AxB (mm)
Aluminium 400-2000A Copper 630-2500A	300 x 500	500 x 500	1000 x 500
Aluminium 2250-4000A Copper 3200-5000 A	400 x 500	500 x 500	1000 x 500
Aluminium 4500-5000A Copper 6300A	500 x 600	500 x 600	1100 x 600



Flanged End

- Flanged End cut out details, dimensions and drilling Drawing provided proper coordination between the busbar system with other equipment.

Size	Rating (A)	Code	Rating (A)	Code	D	A	E	Hole Detail	Details
40 x 6 (1)	630	SBC 40 N1	400	SBA 40 N1	146	40		Figure 1	Figure 5
50 x 6 (1)	800	SBC 50 N1	500	SBA 50 N1	156	50		Figure 1	Figure 5
60 x 6 (1)	900	SBC 60 N1	630	SBA 60 N1	166	60		Figure 1	Figure 5
70 x 6 (1)	1000	SBC 70 N1	700	SBA 70 N1	176	70		Figure 1	Figure 5
80 x 6 (1)	1100	SBC 80 N1	800	SBA 80 N1	186	80		Figure 1	Figure 5
100 x 6 (1)	1250	SBC 100 N1	1000	SBA 100 N1	206	100		Figure 2	Figure 5
125 x 6 (1)	1600	SBC 125 N1	1250	SBA 125 N1	231	125		Figure 2	Figure 5
150 x 6 (1)	1800	SBC 150 N1	1350	SBA 150 N1	256	150		Figure 3	Figure 5
175x 6 (1)	2000	SBC 175 N1	1600	SBA 175 N1	281	175		Figure 3	Figure 5
200 x 6 (1)	2250	SBC 200 N1	1800	SBA 200 N1	306	200		Figure 4	Figure 5
230 x 6 (1)	2500	SBC 230 N1	2000	SBA 230 N1	336	230		Figure 4	Figure 5
125 x 6 (2)	3200	SBC 125 N2	2250	SBA 125 N2	402	296		Figure 2	Figure 6
150 x 6 (2)	3600	SBC 150 N2	2500	SBA 150 N2	452	346		Figure 3	Figure 6
175 x 6 (2)	4000	SBC 175 N2	3200	SBA 175 N2	502	396		Figure 3	Figure 6
200 x 6 (2)	4500	SBC 200 N2	3600	SBA 200 N2	552	446		Figure 4	Figure 6
230 x 6 (2)	5000	SBC 230 N2	4000	SBA 230 N2	612	506		Figure 4	Figure 6
175 x 6 (3)	6300	SBC 175 N3	4500	SBA 175 N3	723	617	221	Figure 3	Figure 7
			5000	SBA 200 N3	798	692	246	Figure 3	Figure 7

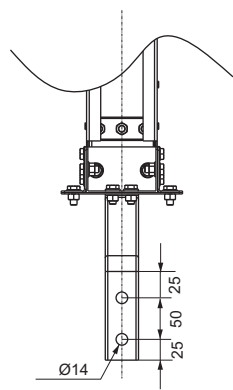
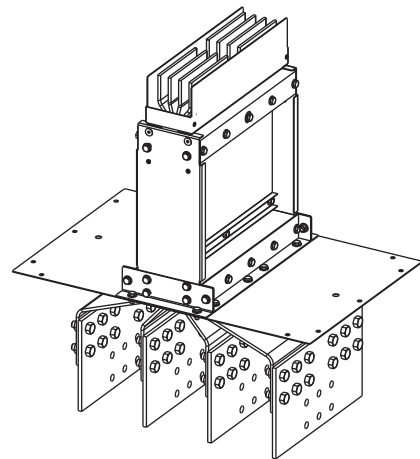


Fig. 1

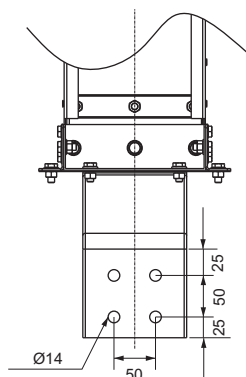


Fig. 2

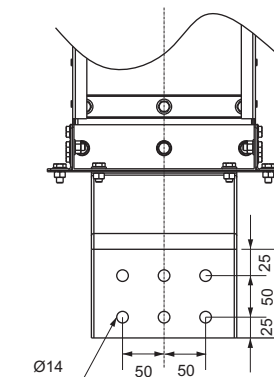


Fig. 3

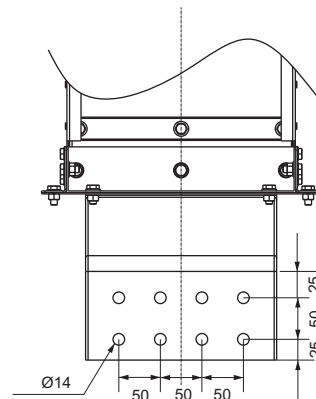


Fig. 4

Flanged End

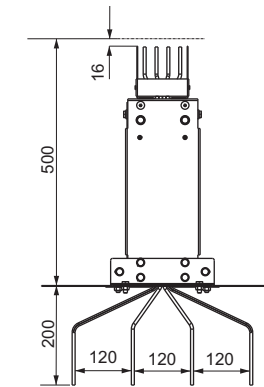
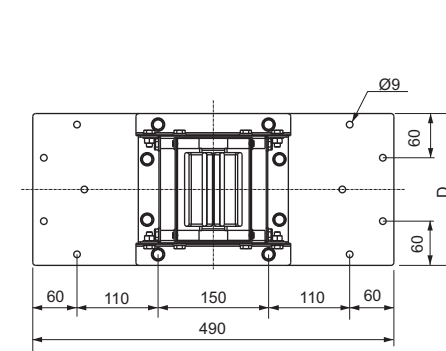


Fig. 5

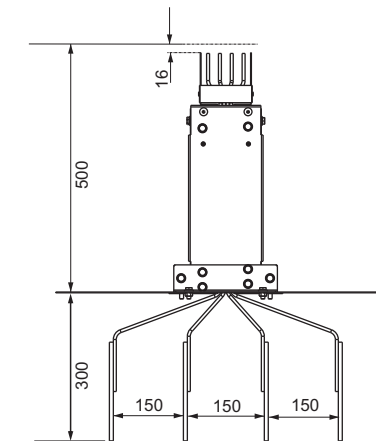
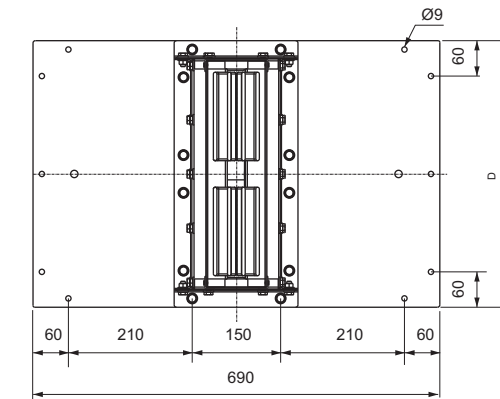
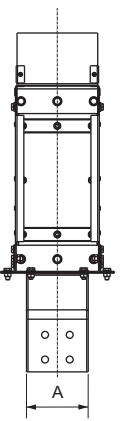
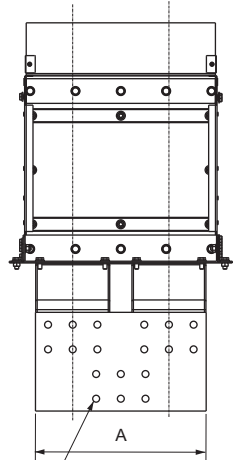


Fig. 6



TERMINATION HOLES (Ø14) AS PER REQUIREMENT

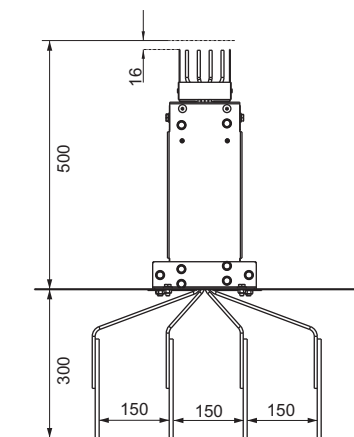
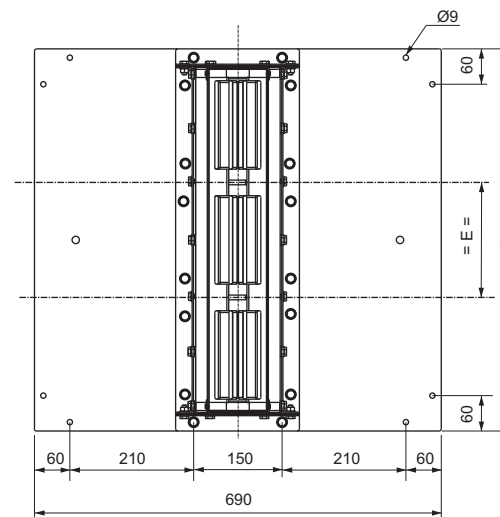
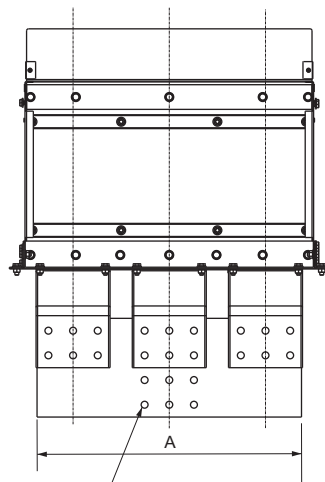


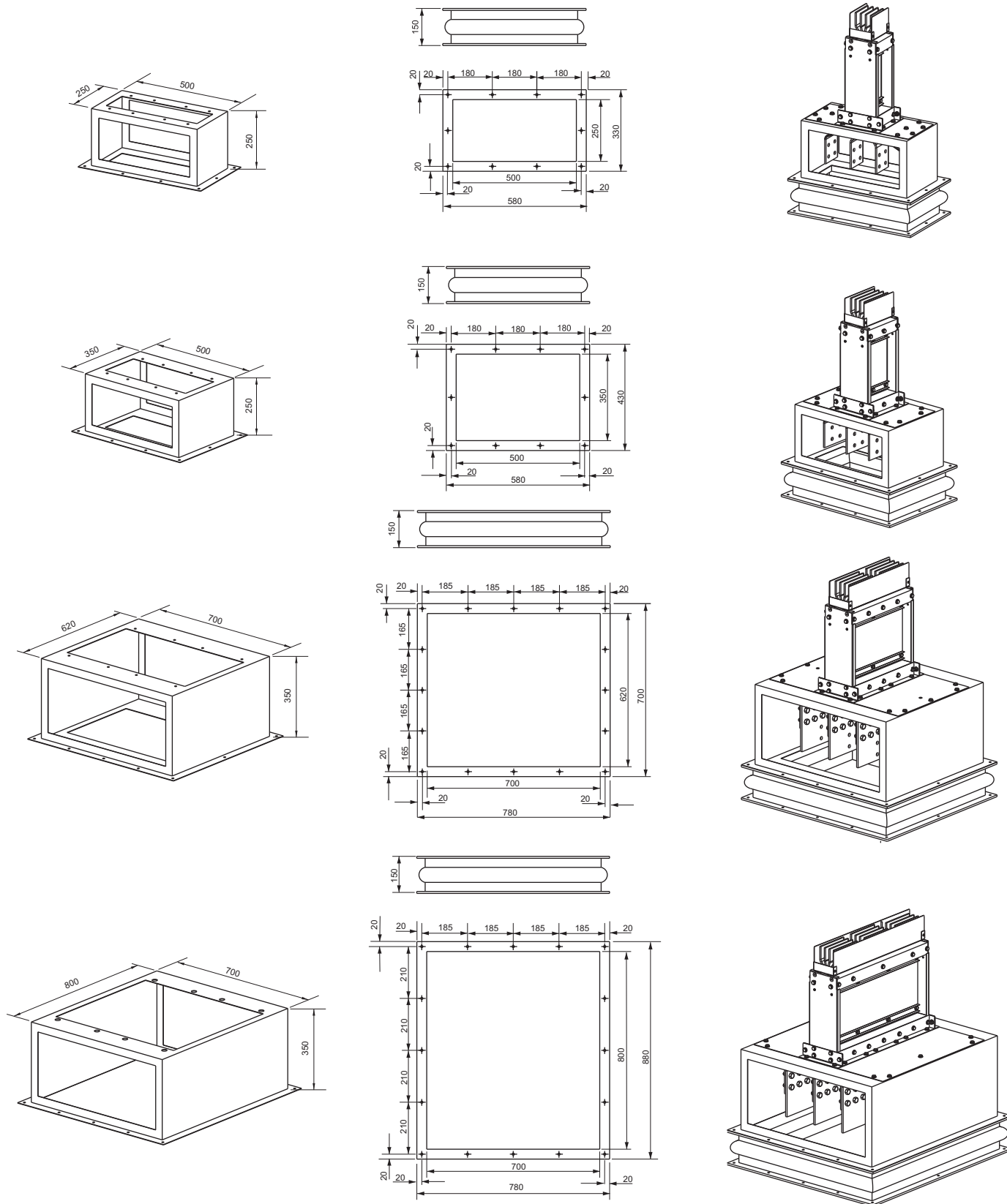
Fig. 7



TERMINATION HOLES (Ø14) AS PER REQUIREMENT

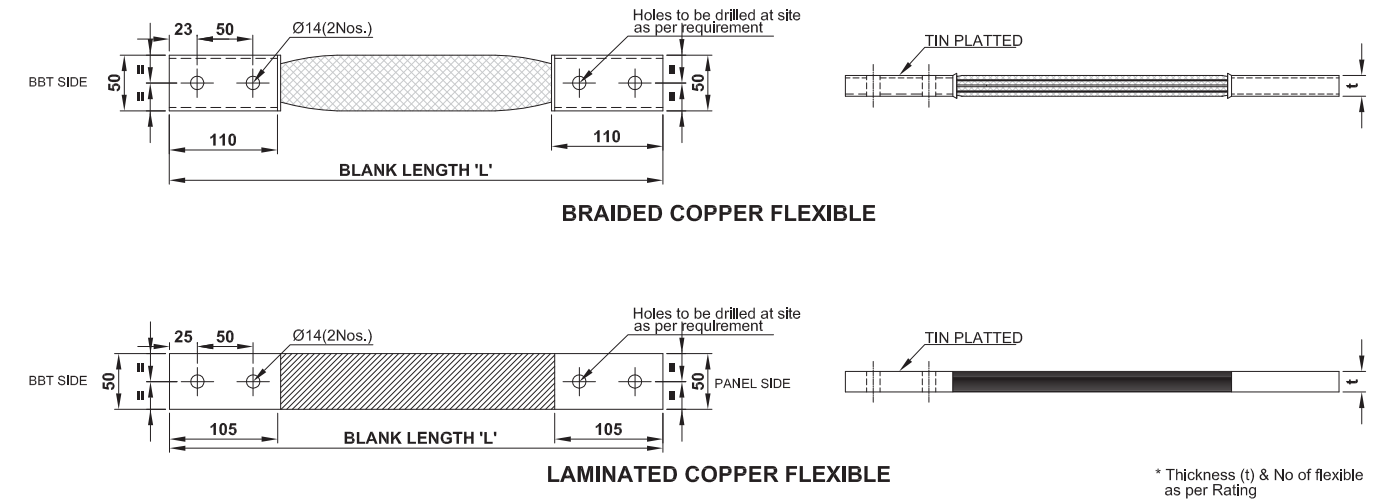
Flanged End Box and Flange Bellow

- Flanged End Box is used for matching the standard bustrunking flange assembly with the Panel / DG / Transformer flange
- Flange Bellow needs to be fixed between Flanged End Box and Genset termination box to avoid impact of vibrations of Genset being transferred to bustrunking



Copper Flexible

Braided / Laminated Copper Flexible need to be used to connect flanged end busbar with busbars of panel / Transformer / Generators.



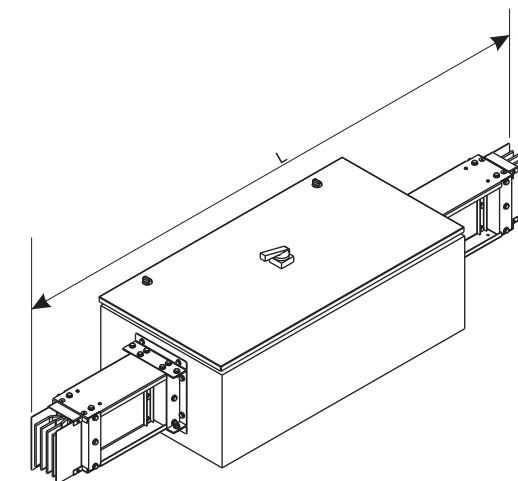
* Thickness (t) & No of flexible as per Rating

Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Blank Length L	300	350	400

Sectional Isolator

- Facilitates isolation of the Bustrunking run, from further elements for various maintenance / operational requirement.
- Sectional isolator unit can be fitted with Load breaker switches/ SFUs/ MCCBs.

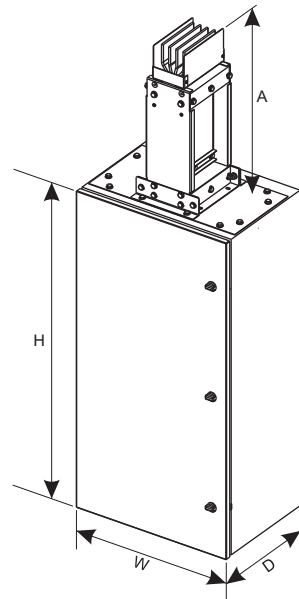
Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Aluminium 400-2000A Copper 630-2500A	1500	1500	1500
Aluminium 2250-4000A Copper 3200-5000 A	2000	2000	2000



End Feed Unit Direct

- Facilitates feeding the Bustrunking through cables from one end of the run.
- End feed unit is available with sufficient space for direct connection.
- Flange with height of 300mm is supplied an integral part of the end feed unit.
- Undrilled cable gland plate is provided at bottom for cable entry.

Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
End Feed Unit Direct (A)	500	500	1000

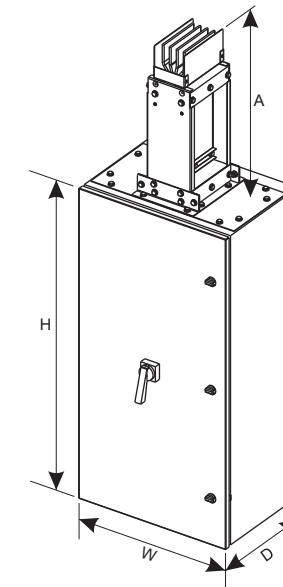


Copper		Dimensions (mm)			Recommend Cu Cable Size 3.5 Core sqmm (No)	Aluminium			Dimensions (mm)			Recommend Al Cable Size 3.5 Core sqmm (No)
Rating	Code	Height (H)	Width (W)	Depth (D)		Rating	Code	Height (H)	Width (W)	Depth (D)		
630	SBC 40N1	600	500	370	300 (2)	400	SBA 40N1	600	500	370	150 (2)	
800	SBC 50N1	600	500	370	400 (2)	500	SBA 50N1	600	500	370	240 (2)	
900	SBC 60N1	600	500	370	400 (2)	630	SBA 60N1	600	500	370	300 (2)	
1000	SBC 70N1	600	500	370	185 (4)	700	SBA 70N1	600	500	370	300 (2)	
1100	SBC 80N1	600	500	370	240 (4)	800	SBA 80N1	600	500	370	400 (2)	
1250	SBC 100N1	600	500	370	300 (4)	1000	SBA 100N1	600	500	370	185 (4)	
1600	SBC 125N1	800	500	370	240 (6)	1250	SBA 125N1	800	500	370	300 (4)	
1800	SBC 150N1	800	500	370	240 (6)	1350	SBA 150N1	800	500	370	300 (4)	
2000	SBC 175N1	800	500	370	300 (6)	1600	SBA 175N1	800	500	370	240 (6)	
2250	SBC 200N1	800	500	370	300 (6)	1800	SBA 200N1	800	500	370	240 (6)	
2500	SBC 230N1	800	500	370	300 (8)	2000	SBA 230N1	800	500	370	300 (6)	
3200	SBC 125N2	800	650	600	240 (12)	2250	SBA 125N2	800	650	600	300 (8)	
3600	SBC 150N2	800	650	600	240 (14)	2500	SBA 150N2	800	650	600	300 (8)	
4000	SBC 175N2	800	650	600	300 (12)	3200	SBA 175N2	800	650	600	240 (12)	
4500	SBC 200N2	800	650	600	300 (14)	3600	SBA 200N2	800	650	600	240 (14)	
5000	SBC 230N2	800	650	600	300 (16)	4000	SBA 230N2	Data on Request				
6300	SBC 175N3	Data on Request				4500	SBA 175N3	Data on Request				
						5000	SBA 200N3	Data on Request				

End Feed Unit with Switchgear

- Facilitates feeding the Bustrunking through cables from one end of the run.
- End feed unit is available with MCCB, SFU, Isolator, Fuse etc. can be fitted in end feed as per requirement of the customer.
- Flange with height of 300mm is supplied an integral part of the end feed unit.
- Undrilled cable gland plate is provided at bottom for multiple cable entry

Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
End Feed Unit with Switchgear (A)	500	500	1000

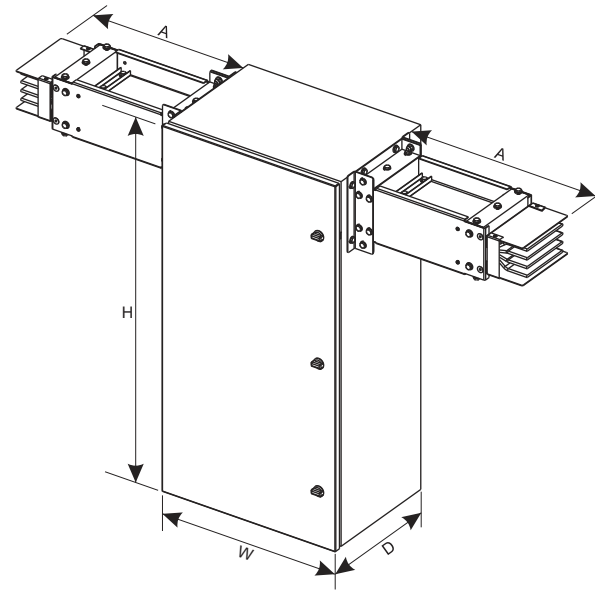


Copper		Dimensions (mm)			Recommend Cu Cable Size 3.5 Core sqmm (No)	Aluminium			Dimensions (mm)			Recommend Al Cable Size 3.5 Core sqmm (No)
Rating	Code	Height (H)	Width (W)	Depth (D)		Rating	Code	Height (H)	Width (W)	Depth (D)		
630	SBC 40N1	800	500	370	300 (2)	400	SBA 40N1	800	500	370	150 (2)	
800	SBC 50N1	800	500	370	400 (2)	500	SBA 50N1	800	500	370	240 (2)	
900	SBC 60N1	1000	500	370	400 (2)	630	SBA 60N1	800	500	370	300 (2)	
1000	SBC 70N1	1000	500	370	185 (4)	700	SBA 70N1	800	500	370	300 (2)	
1100	SBC 80N1	1000	500	370	240 (4)	800	SBA 80N1	800	500	370	400 (2)	
1250	SBC 100N1	1000	500	370	300 (4)	1000	SBA 100N1	1000	500	370	185 (4)	
1600	SBC 125N1	1000	500	370	240 (6)	1250	SBA 125N1	1000	500	370	300 (4)	
1800	SBC 150N1	Data on Request				1350	SBA 150N1	1000	500	370	300 (4)	
2000	SBC 175N1	Data on Request				1600	SBA 175N1	1000	500	370	240 (6)	
2250	SBC 200N1	Data on Request				1800	SBA 200N1	Data on Request				
2500	SBC 230N1	Data on Request				2000	SBA 230N1	Data on Request				
3200	SBC 125N2	Data on Request				2250	SBA 125N2	Data on Request				
3600	SBC 150N2	Data on Request				2500	SBA 150N2	Data on Request				
4000	SBC 175N2	Data on Request				3200	SBA 175N2	Data on Request				
4500	SBC 200N2	Data on Request				3600	SBA 200N2	Data on Request				
5000	SBC 230N2	Data on Request				4000	SBA 230N2	Data on Request				
6300	SBC 175N3	Data on Request				4500	SBA 175N3	Data on Request				
						5000	SBA 200N3	Data on Request				

Center Feed Unit Direct

- Facilitates feeding the Bustrunking through cables from middle of the run.
- Center feed unit is available with sufficient space for direct connection.
- Flange with height of 300mm is supplied an integral part of the end feed unit.
- Undrilled cable gland plate is provided at bottom for multiple cable entry.

Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Center Feed Unit Direct (A)	500 x 500	500 x 500	500 x 500

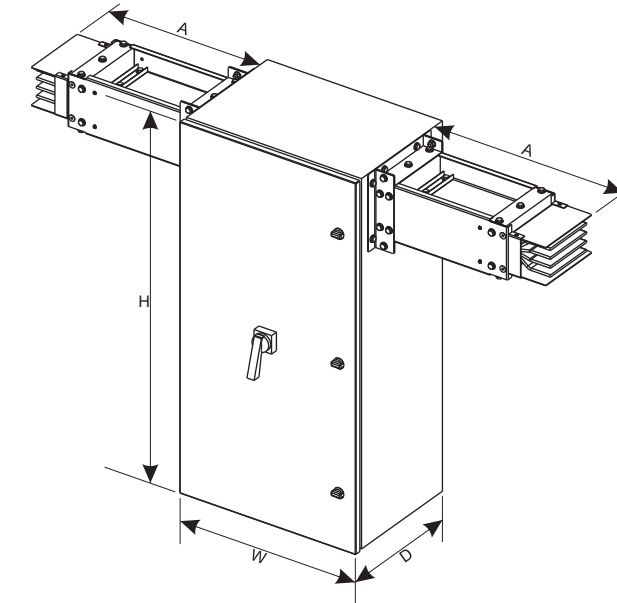


Copper		Dimensions (mm)			Recommend Cu Cable Size 3.5 Core sqmm (No)	Aluminium			Dimensions (mm)			Recommend Al Cable Size 3.5 Core sqmm (No)
Rating	Code	Height (H)	Width (W)	Depth (D)		Rating	Code	Height (H)	Width (W)	Depth (D)		
630	SBC 40N1	800	500	370	300 (2)	400	SBA 40N1	800	500	370	150 (2)	
800	SBC 50N1	800	500	370	400 (2)	500	SBA 50N1	800	500	370	240 (2)	
900	SBC 60N1	800	500	370	400 (2)	630	SBA 60N1	800	500	370	300 (2)	
1000	SBC 70N1	800	500	370	185 (4)	700	SBA 70N1	800	500	370	300 (2)	
1100	SBC 80N1	800	500	370	240 (4)	800	SBA 80N1	800	500	370	400 (2)	
1250	SBC 100N1	800	500	370	300 (4)	1000	SBA 100N1	800	500	370	185 (4)	
1600	SBC 125N1	1000	500	370	240 (6)	1250	SBA 125N1	800	500	370	300 (4)	
1800	SBC 150N1	1000	500	370	240 (6)	1350	SBA 150N1	1000	500	370	300 (4)	
2000	SBC 175N1	1000	500	370	300 (6)	1600	SBA 175N1	1000	500	370	240 (6)	
2250	SBC 200N1	1000	500	370	300 (6)	1800	SBA 200N1	1000	500	370	240 (6)	
2500	SBC 230N1	1000	500	370	300 (8)	2000	SBA 230N1	1000	500	370	300 (6)	
3200	SBC 125N2	1000	650	600	240 (12)	2250	SBA 125N2	1000	650	600	300 (8)	
3600	SBC 150N2	1000	650	600	240 (14)	2500	SBA 150N2	1000	650	600	300 (8)	
4000	SBC 175N2	1000	650	600	300 (12)	3200	SBA 175N2	1000	650	600	240 (12)	
4500	SBC 200N2	1000	650	600	300 (14)	3600	SBA 200N2	1000	650	600	240 (14)	
5000	SBC 230N2	1000	650	600	300 (16)	4000	SBA 230N2	Data on Request				
6300	SBC 175N3	Data on Request				4500	SBA 175N3	Data on Request				
						5000	SBA 200N3	Data on Request				

Center Feed Unit with Switchgear

- Facilities feeding the Bustrunking through cables from middle of the run.
- Center feed unit is available with MCCB, SFU, Isolator, Fuse etc. can be fitted in end feed as per requirement of the customer.
- Flange with height of 300mm is supplied an integral part of the end feed unit.
- Undrilled cable gland plate is provided at bottom for multiple cable entry.

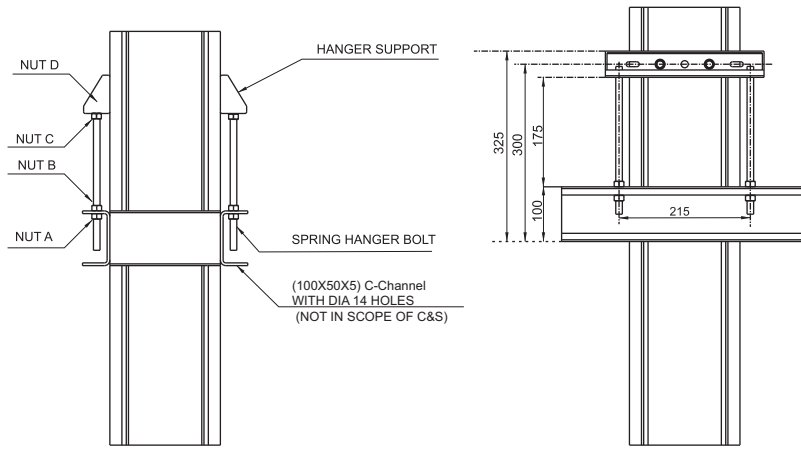
Element Name	Minimum (mm)	Standard (mm)	Maximum (mm)
Center Feed Unit with Switchgear (A)	500 x 500	500 x 500	500 x 500



Copper		Dimensions (mm)			Recommend Cu Cable Size 3.5 Core sqmm (No)	Aluminium			Dimensions (mm)			Recommend Al Cable Size 3.5 Core sqmm (No)
Rating	Code	Height (H)	Width (W)	Depth (D)		Rating	Code	Height (H)	Width (W)	Depth (D)		
630	SBC 40N1	1000	500	370	300 (2)	400	SBA 40N1	1000	500	370	150 (2)	
800	SBC 50N1	1000	500	370	400 (2)	500	SBA 50N1	1000	500	370	240 (2)	
900	SBC 60N1	1000	500	370	400 (2)	630	SBA 60N1	1000	500	370	300 (2)	
1000	SBC 70N1	1000	500	370	185 (4)	700	SBA 70N1	1000	500	370	300 (2)	
1100	SBC 80N1	1000	500	370	240 (4)	800	SBA 80N1	1000	500	370	400 (2)	
1250	SBC 100N1	1000	500	370	300 (4)	1000	SBA 100N1	1000	500	370	185 (4)	
1600	SBC 125N1	Data on Request				1250	SBA 125N1	1000	500	370	300 (4)	
1800	SBC 150N1	Data on Request				1350	SBA 150N1	Data on Request				
2000	SBC 175N1	Data on Request				1600	SBA 175N1	Data on Request				
2250	SBC 200N1	Data on Request				1800	SBA 200N1	Data on Request				
2500	SBC 230N1	Data on Request				2000	SBA 230N1	Data on Request				
3200	SBC 125N2	Data on Request				2250	SBA 125N2	Data on Request				
3600	SBC 150N2	Data on Request				2500	SBA 150N2	Data on Request				
4000	SBC 175N2	Data on Request				3200	SBA 175N2	Data on Request				
4500	SBC 200N2	Data on Request				3600	SBA 200N2	Data on Request				
5000	SBC 230N2	Data on Request				4000	SBA 230N2	Data on Request				
6300	SBC 175N3	Data on Request				4500	SBA 175N3	Data on Request				
						5000	SBA 200N3	Data on Request				

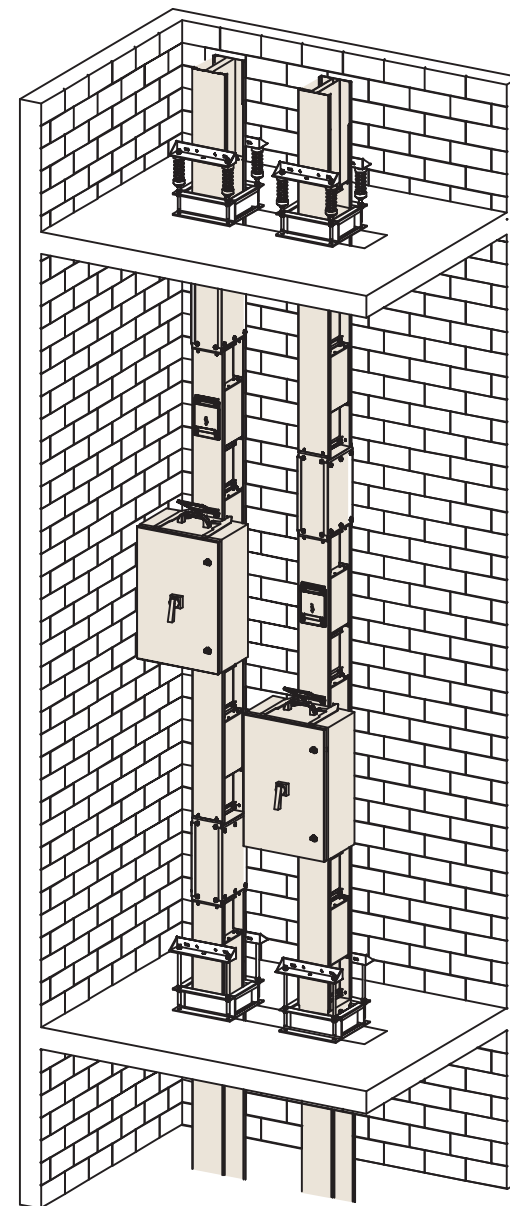
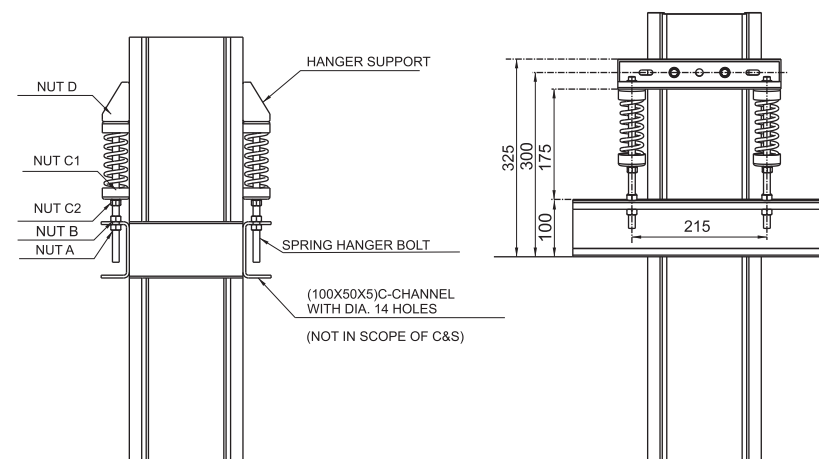
Vertical Rigid Hanger

- One set of rigid hanger per rising main must be installed at the start of the rising mains to prevent expansion of Bustrunking in downward direction. These can be fitted on 100x50x5 (or equivalent) channels mounted on floor/ wall as shown below.
- Up to 4.5 M : 01 rigid hanger + 01 vertical support (for ensuring vertical alignment of rising mains.)
- 4.5 m > 6.0M : 01 rigid hanger + 01 vertical support + 01 spring hanger.



Vertical Spring Hanger

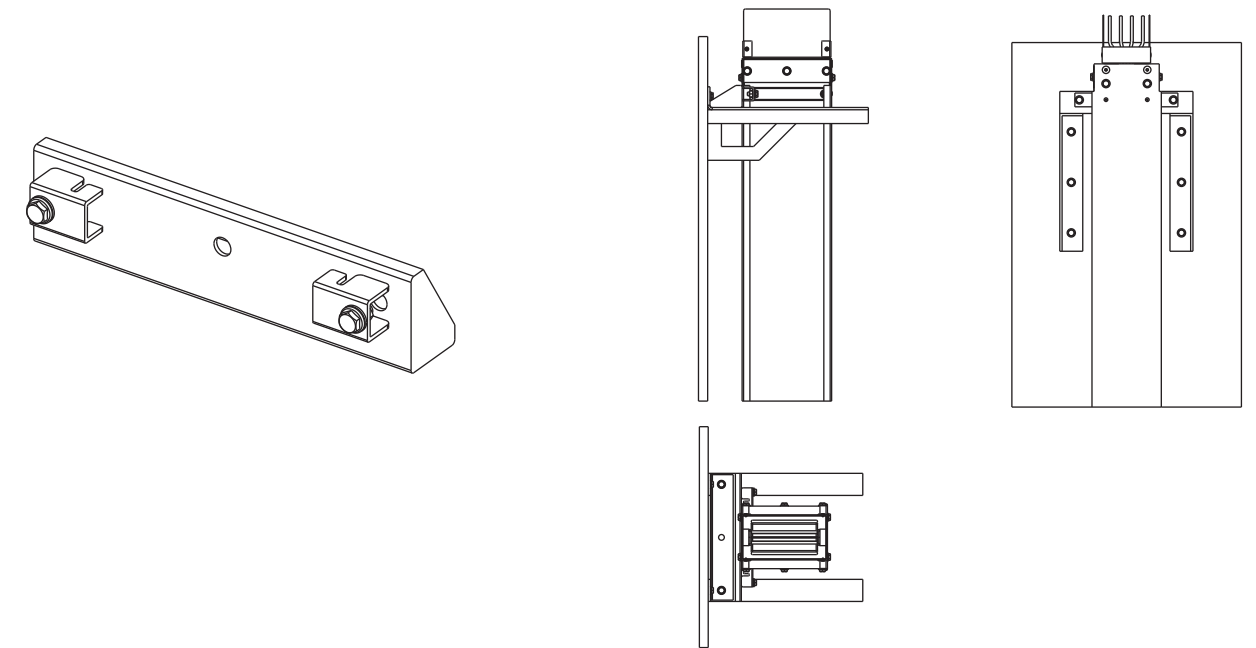
- One set of spring hanger per rising main per floor need to be installed to sustain the Bustrunking load and to allow vertical expansion of Bustrunking in upward direction only. These can be fitted on 100x50x5 (or equivalent) channels mounted on floor/ wall as shown below .
- Up to 4.5 M : 01 vertical spring hanger + 01 vertical support. (for ensuring vertical alignment of rising mains)
- 4.5 m > 6.0M : 02 vertical spring hanger + 01 vertical support.



Typical Supporting Arrangement in Rising Mains

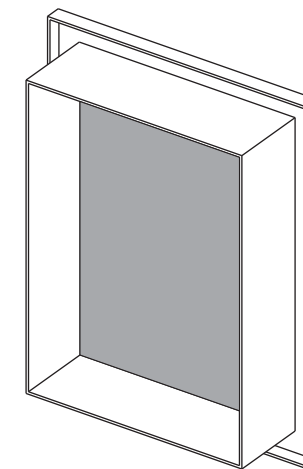
Vertical Support

- Vertical Support is used to control horizontal movement of Rising Mains.
- Vertical support is required per floor per rising main along with rigid or spring hanger when the floor height is between 3.5 to 4.5 metres for ensuring vertical alignment of rising mains.
- Vertical support is common for all ratings of Sandwich Bustrunking.
- Vertical support is installed approximately at 2 metre height from the floor level.



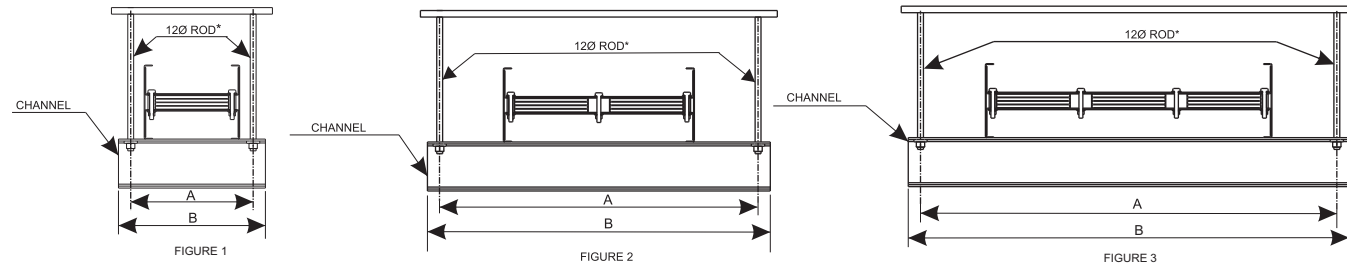
End Cover

- It is used to terminate and to protect the end of plug-in Bustrunking element
- It can be removed easily for extension of Bustrunking



Flat wise Horizontal Support

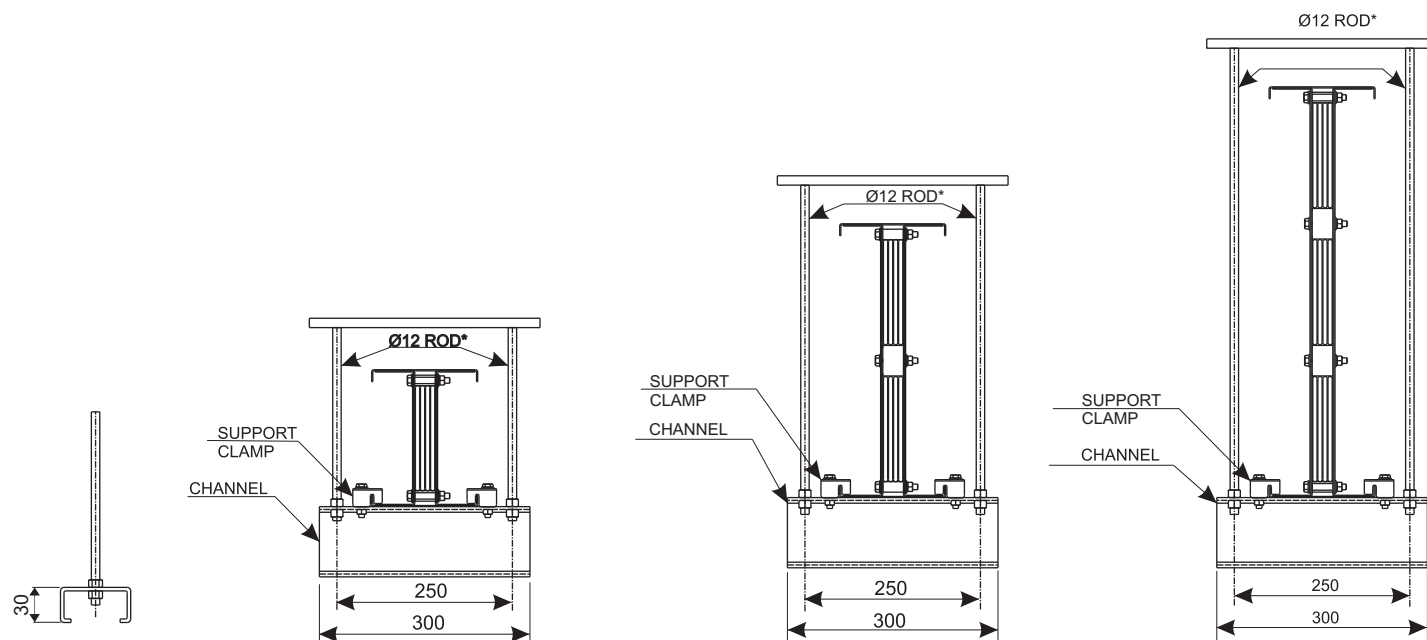
These supports are required for horizontal feeder run and recommended at an interval of 1.5 meter (as per site requirement)



Element Name	Standard Dimensions		Code	Details
	A	B		
Copper 630A~1250A Aluminium 630A~1250A	250	300	Type-A	Figure 1
Copper 1600A~2500A Aluminium 1250A~2000A	400	450	Type-B	Figure 1
Copper 3200A~5000A Aluminium 2250A~4000A	650	700	Type-C	Figure 2
Copper 6000A~6600A Aluminium 4500A~5000A	850	900	Type-D	Figure 3

Edge wise Horizontal Support

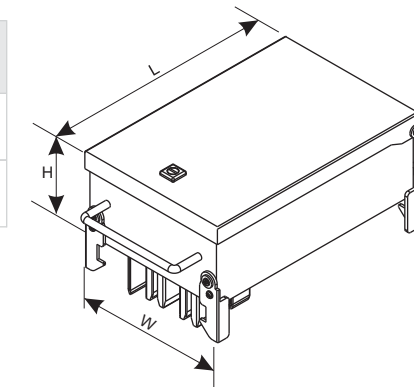
These supports are required for horizontal feeder run and recommended at an interval of 1.5 meter (as per site requirement).



Plug in Box with MCB / Fuse

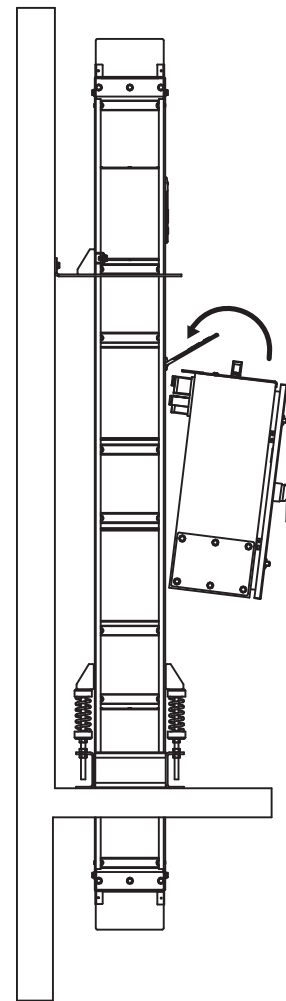
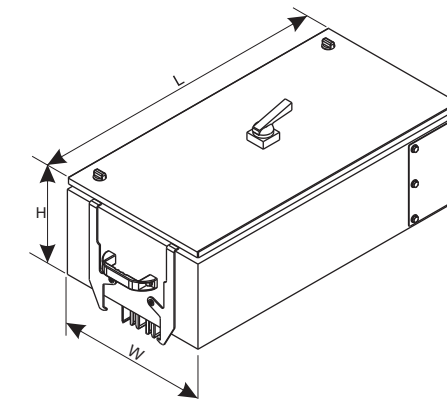
- Facilitates to draw power through PIPs of Bustrunking system.
- Plug in Contacts are made out of silver plated copper with spring steel backup pressure clips to ensure uniform pressure and low contact resistance.
- For cable entry, provision of gland plates is provided on bottom of plug in box.
- Earth contact of plug in boxes makes first and breaks last during plug-in and plug-out.
- Silver plated contacts are properly shrouded / isolated.
- Plug in boxes can be mounted on to the Bustrunking with correct polarity only.
- Plug in boxes are available with MCB or fuse holder upto 63A.

PIBX-S	H	W	L
No. of Poles			
3 Pole / 4 Pole	100	180	280
5 Pole	100	204	280



Plug in Box with MCCB / SFU

- Plug in boxes are suitable for MCCB / SFU with rotatory handle and door interlocking.
- Plug in boxes are available with interlocking with bus-trunking to ensure Plug-in and Plug-out is possible only in OFF condition.



Product Code	PIBX-N	PIBX-B	PIBX-C	PIBX-D
	3B/4B/5B	3B/4B/5B	3B/4B/5B	3B/4B/5B
With MCCB	32 125A	160-250A	315-400A	500-630A
With MCCB + Extended R/H	32 125A	160-250A	315-400A	500-630A
With MCCB + Direct R/H	32 125A	160-250A	315-400A	500-630A
With SFU	32 125A	160-250A	315-400A	500-630A
Final Box Size (L X W X H)	400x300x200	500x300x250	600x400x250	800x400x250
Recommended Cable Size (Aluminium)	70 Sqmm	150 Sqmm	2x150 Sqmm	2x300 Sqmm

Recent prestigious clientele & projects references

Data Centres & IT Parks

Project Name	Location	State/Country
Project Name	City	Location
Emerson Network (Airtel)	Calicut	Kerala
Netmagic IT Services P. Ltd	Bangalore	Karnataka
ITI Data Center	Bangalore	Karnataka
Cisco Systems Indis Pvt Ltd	Bangalore	Karnataka
Tulip Data City	Bangalore	Karnataka
SBI - Data Center	Hyderabad	Telangana
Sify Technologies Ltd	Hyderabad	Telangana
Netmagic IT Services P. Ltd	Mumbai	Maharashtra
IDC Data centre	Nagpur	Maharashtra
Wipro Ltd	Pune	Maharashtra
Dr. Fresh IT park	Gurgaon	Haryana
Aachvis IT Park	Noida	Uttar Pradesh
Tata Consultancy Services	Kolkata	West Bengal
Tata Consultancy Services	Bhubaneshwar	Odisha
Meenkashi Infra IT Building	Hyderabad	Andhra Pradesh
LEPL-11	Hyderabad	Telangana
Raheja Building	Hyderabad	Telangana
CCHPL	Hyderabad	Telangana
Mahaveer Infra	Hyderabad	Telangana
Mahindra Satyam	Hyderabad	Telangana
Wipro Ltd	Hyderabad	Telangana
HP GR Tech Park	Hyderabad	Telangana
Tata Consultancy Services	Hyderabad	Telangana
Tech Mahindra Technology Centre	Hyderabad	Telangana
Elegans IT Commercial Building	Hyderabad	Telangana
Olympia Tech park	Chennai	Tamil Nadu
Platinum Holdings	Chennai	Tamil Nadu
Tata Consultancy Services	Chennai	Tamil Nadu
ETA Technopark	Chennai	Tamil Nadu
Mahindra Satyam Building-2	Chennai	Tamil Nadu
Estancia IT Park Pvt Ltd	Chennai	Tamil Nadu
Meenakshi Tech park	Hyderabad	Telangana
Perot Systems	Coimbatore	Tamil Nadu
IGS Infra Limited	Chennai	Tamil Nadu
Sands Infra IT Park	Kochi	Kerala
Lulu Cyber Tower	Kochi	Kerala
Tata Consultancy Services	Kochi	Kerala
Tata Consultancy Services	Thiruvinthapuram	Kerala
Sify IT Park	Navi Mumbai	Maharashtra
Tech Mahindra	Mumbai	Maharashtra
Global software solution	Mumbai	Maharashtra
Overseas		
Next Data Center	Sydney	Australia
Reliance IT Center	Manila	Philippines

Recent prestigious clientele & projects references

Office / Commercial Building

Project Name	Location	State/Country
One Horizon	Gurgaon	Haryana
Sky View Corporate park	Gurgaon	Haryana
Pureearth Infra	New Delhi	New Delhi
World Trade Center	Noida	Uttar Pradesh
Buddha International Circuit	Noida	Uttar Pradesh
Stellar Business Park	Greater Noida	Uttar Pradesh
HSBC Bank	Kolkata	West Bengal
Utkal Signature	Bhubaneshwar	Odisha
TS I Business Park,	Hyderabad	Telangana
Shanta Sriram Tech Park	Hyderabad	Telangana
Manjeera Trinity Corporate	Hyderabad	Telangana
Vikas Telecom limited	Hyderabad	Telangana
Sattva Knowledge City	Hyderabad	Andhra Pradesh
Laxmi Infobahn -GAR Corpn. P. Ltd	Hyderabad	Andhra Pradesh
Prestige Palladium,	Chennai	Tamil Nadu
SP Infocity	Chennai	Tamil Nadu
Anand Citi Centre Holdings Pvt Ltd,	Chennai	Tamil Nadu
Prestige Polygon	Chennai	Tamil Nadu
Kochar Globe	Chennai	Tamil Nadu
Nirlon Knowledge Park	Bangalore	Karnataka
RMZ Galleria	Bangalore	Karnataka
Time Square	Mumbai	Maharashtra
TCG House	Mumbai	Maharashtra
Carlsberg India Pvt Ltd	Mumbai	Maharashtra
Surat Diamond Bourse	Ahmedabad	Gujarat
Shapath V	Ahmedabad	Gujarat
Surat Diamond Bourse	Ahmedabad	Gujarat
Shapath V	Ahmedabad	Gujarat
Overseas		
HSBC Bank	Colombo	Sri Lanka
Castle street	Colombo	Sri Lanka
Capital Trust	Colombo	Sri Lanka
Eathulkote	Colombo	Sri Lanka
Vajiro Road	Colombo	Sri Lanka
Seirra Tower	Colombo	Sri Lanka
Westlink 3 - Tuas	Singapore	Singapore
The Index	Singapore	Singapore
Asia Pacific	Jakarta	Indonesia
Mandiri Bank	Sumatra	Indonesia
Golden Empire	Yangon	Myanmar
PS bank centre	Manila	Philippines
Clayx	Cebu city	Philippines
Eastwood Legrand	Quezon City	Philippines
Royal	Cebu City	Philippines

Recent prestigious clientele & projects references

Office / Commercial Building

Project Name	Location	State/Country
SM Cyberwest	Cebu City	Philippines
Marco Polo	Metro Manila	Philippines
Alturas	Bohol	Philippines
Glorietta	Metro Manila	Philippines
Decathlon store	Alabang	Philippines
350 Queen Street	Melbourne	Australia
Lonsdale	Melbourne	Australia
Vijana	Dar e Salaam	Tanzania
Ushindi	Dar e Salaam	Tanzania
Girls Guide Building	Dar e Salaam	Tanzania
Britam Tower Upperhill	Narobi	Kenya
Hulamin	Johanesburg	South Africa
140 West Street	Johanesburg	South Africa
92, Rivonia	Johanesburg	South Africa
Exxaro Head Office	Johanesburg	South Africa
Church Road Building	Lusaka	Zambia

Residential Building / Apartments

Project Name	Location	State/Country
Ambience Creacions	Gurgaon	Haryana
SRS Residency	Faridabad	Haryana
Cyberwalk	Gurgaon	Haryana
Canary Residency	Gurgaon	Haryana
Verandas	Gurgaon	Haryana
Imperial Estate	Faridabad	Haryana
SAS Royal Hills	Faridabad	Haryana
Vatika Town Square	Gurgaon	Haryana
The Villas, DLF	Gurgaon	Haryana
Lumbini terrace homes	Gurgaon	Haryana
Lumbini terrace homes	Gurgaon	Haryana
Michael Schumacher World Building	Gurgaon	Haryana
Enigma Housing Society	Gurgaon	Haryana
Emmar MGF -The Views	Mohali	Punjab
Winter Hills	New Delhi	New Delhi
Jaypee Greens (Sun Court)	Noida	Uttar Pradesh
Jaypee infratech - Pavilion Courts	Noida	Uttar Pradesh
Jaypee Moon Court	Greater Noida	Uttar Pradesh
Jaypee Klassic Buildings	Noida	Uttar Pradesh
Paras Tiera	Noida	Uttar Pradesh
JP Kosmos	Noida	Uttar Pradesh
Ambience Tiverton Buildings	Noida	Uttar Pradesh
My Home Avatar	Hyderabad	Andhra Pradesh
Alien Space Station	Hyderabad	Andhra Pradesh
My Home Bhooja	Hyderabad	Andhra Pradesh
Princeton Buildings	Hyderabad	Telangana
PBEL city	Hyderabad	Telangana

Recent prestigious clientele & projects references

Residential Building / Apartments

Project Name	Location	State/Country
CyberCity	Hyderabad	Telangana
Prestige Shantiniketan	Bangalore	Karnataka
The Park	Mumbai	Maharashtra
Lodha Primero	Mumbai	Maharashtra
Indiabulls Sky 882	Mumbai	Maharashtra
Overseas		
Rakeen City	Dhaka	Bangladesh
Star city	Thanlynin	Myanmar
The Residence	Yangon	Myanmar
Royal Maung Bamar	Yangon	Myanmar
Unitop Puerto Princea	Palawan	Philippines
Celadon Park San Lazaro	Manila	Philippines
Alturas-ubay	Bohol	Philippines
Manhattan Parkway	Metro Manila	Philippines
Suntrust Aurora	Metro Manila	Philippines
Little Baguio Terraces	Metro Manila	Philippines
1016 Residencies	Cebu	Philippines
81-Xavier	Metro Manila	Philippines
Makati Residences	Manila	Philippines
Calyx Residences	Cebu	Philippines
Manhattan Park View	Manila	Philippines
Gaisano South	Cebu	Philippines
spianada - 11 Storey Building	Cebu	Philippines
Fort Victoria-1	Taguig	Philippines
Aeon Prime TGU	Alabang	Philippines
Marco Polo- 2	Cebu	Philippines
Abreeza Residences	Davao City	Philippines
Azon Residences	Lapu-Lapu City	Philippines
Chioson	Cebu	Philippines
Aeon Prime	Alabang	Philippines
Insperia	Davao City	Philippines
Sandstone Portico	Pasig City	Philippines
AMA Tower	Metro Manila	Philippines
Jamona north & South towers	Ho Chi Minh City	Vietnam
Kris Vue	Ho Chi Minh City	Vietnam
Season Avenue	Hanoi	Vietnam
Crown Residence	Hanoi	Vietnam
Bouverie student accomodaton	Melbourne	Australia
Paragon	Melbourne	Australia
Fortis Tower	Narobi	Kenya
Ushrika	Narobi	Kenya
Vangards	Johanesburg	South Africa
B + G + 3P + 31 Tower at Hilal City	Fujeirah	UAE

Recent prestigious clientele & projects references

Residential Building / Apartments

Project Name	Location	State/Country
3B+G+19 Storey Al Yousuf Twin Tower	Dubai	UAE
3B+G+18 Storey Al Wazzan Tower	Dubai	UAE
G+7P+35+HC Jamal Bin Jawher	Sharjah	UAE
3B+G+3P+16+Roof Sobha Sapphire	Dubai	UAE
2B+G+18 Building at Al Nahda	Dubai	UAE
B+G+4P+HC+20 Storey Building	Dubai	UAE
Y-Office Tower at Lusail	Doha	Qatar
Zenon Tower	Doha	Qatar
NBK Residences - 4B+G+10F	Doha	Qatar
B+G+4 @ Rowdat Al Khail	Doha	Qatar
B+G+7 @ Farij Bin Mahmoud	Doha	Qatar
Al Nazar Tower	Sabha Al Salem	Kuwait
Al Mazaya Tower	Sabha Al Salem	Kuwait

Hotel & Service Apartments

Project Name	Location	State/Country
Hyatt Regency	Chandigarh	Punjab
The Lalit Hotel	New Delhi	New Delhi
JW Merriot	New Delhi	New Delhi
Leela Hotel	New Delhi	New Delhi
Hyatt Hotel	New Delhi	New Delhi
The Pride Hotel	New Delhi	New Delhi
Crown Plaza	Greater Noida	Uttar Pradesh
Taj Hotel	Varanasi	Uttar Pradesh
Shrishti Hotel Pvt. Ltd.	Kolkata	West Bengal
The Gateway Hotel	Tirupathi	Andhra Pradesh
MFAR Hotels Ltd	Chennai	Tamil Nadu
GBJ Hotels	Coimbatore	Tamil Nadu
Chalet Hotel	Bangalore	Karnataka
Lulu Marriott courtyard	Bangalore	Karnataka
Harvest Hotels & Serviced Apt.	Bangalore	Karnataka
Mahindra Holidays & Resort	Bangalore	Karnataka
Raddison Hotel	Jaipur	Rajasthan
Overseas		
Hotel Grand Keisha	Yogyakarta	Indonesia
Haris Hotel	Jakarta	Indonesia
Golden Empire Hotel	Yangon	Myanmar
Shwe Taung Tan Hotel	Monywa	Myanmar
H.K.H Hotel	Manila	Philippines
Cobalt Hotel	Manila	Philippines
Resort world	Manila	Philippines
Hoa sen Hotel	Lang Son	Vietnam
City Max Hotel	Dubai	UAE

Recent prestigious clientele & projects references

Hotel & Service Apartments

Project Name	Location	State/Country
3B+G+19 Crown Plaza Hotel	Dubai	UAE
2B+G+14 Hotel Appartment	Dubai	UAE
2B+G+M+12 Storey Hotel	Dubai	UAE
Sky Mark	Dar e Salaam	Tanzania

Airport, Metro, Railway and other Institutional Buildings

Project Name	Location	State/Country
ATC Building, Airport Authority of India	Kolkata	West Bengal
Kolkata Airport	Kolkata	West Bengal
Durgapur Airport	Durgapur	West Bengal
Biju Patnaik Airport	Bhubaneswar	Odisha
Goa Airport	Goa	Goa
Chhatrapati Shivaji Maharaj Int. Airport	Mumbai	Maharashtra
JKIA Nairobi Expansion	Narobi	Kenya
Northern Railway	New Delhi	Delhi
Delhi Metro Rail Corporation	New Delhi	Delhi
Kolkata Metro Rail Corporation Ltd	Kolkata	West Bengal
Rail Vikas Nigum Ltd (RVNL),	Kolkata	West Bengal
Hyderabad Metro Rail Ltd.	Hyderabad	Telangana
Mumbai Metro Rail Corporation Ltd	Mumbai	Maharashtra
Jaipur Metro	Jaipur	Rajasthan
Military Engineering Services	New Delhi	Delhi
National Thermal Power Corp. Ltd	Tanda	Uttar Pradesh
DG MAP Sukna	Kolkata	West Bengal
Teesta Urja Ltd	Sikkim	Sikkim
Indian National Centre for Ocean Information Services (NCOIS)	Hyderabad	Telangana
Kundankulam Nuclear Power Plant	Chennai	Tamil Nadu
NATRIP	Chennai	Tamil Nadu
Raja Ramanna Centre (RRCAT)	Indore	Madhya Pradesh
National Small Industry Corp. (NSIC)	New Delhi	Delhi
Military Engineer Services (MES)	New Delhi	Delhi
Vaayu Bhawan	New Delhi	Delhi
Rail Bhawan	New Delhi	Delhi
Rashtrapati Bhawan	New Delhi	Delhi
Standing Conference (SCOPE) Minar	New Delhi	Delhi
Oil and Natural Gas Corp. (ONGC)	Dehradun	Uttarakhand
Lucknow New High Court	Lucknow	Uttar Pradesh
Coal India Ltd.(CIL) -Rajarhat	Kolkata	West Bengal
Assam Legislative Assembly	Dispur	Assam
New Central Library at ISMU	Dhanbad	Jharkhand
Director General Naval Projects	Vizag	Andhra Pradesh
Bharat Sanchar Nigam Ltd (BSNL)	Vellore	Tamil Nadu
Employee Provident Fund Office	Bangalore	Karnataka
Bombay Stock Exchange	Mumbai	Maharashtra

Recent prestigious clientele & projects references

Airport, Metro,
Railway and other
Institutional
Buildings

Project Name	Location	State/Country
Bhabha Atomic Research Centre	Mumbai	Maharashtra
Bank of India	Mumbai	Maharashtra
Oil and Natural Gas Corp. (ONGC)	Mumbai	Maharashtra
Overseas		
Uganda Revenue Authority	Kampala	Uganda
PPF Samjumo	Dar e Salaam	Tanzania
GHQ for Armed Forces	Al Ain	UAE

Learning &
Research Centre
/Colleges

Project Name	Location	State/Country
Indian Institutes of Technology (IIT)	New Delhi	Delhi
American Embassy School	New Delhi	Delhi
Indian Institute of Petroleum (IIP)	Dehradun	Uttarakhand
National Institute of science education and Research (NISER)	Khurda	Odisha
Tata Inst. of Fundamental Research	Hyderabad	Telangana
Indian Institutes of Technology (IIT)	Chennai	Tamil Nadu
Indian Institues of Science Education and Research (IISER)	Kochi	Kerala
Indian Institues of Science Education and Research (IISER)	Bhopal	Madhya Pradesh
Overseas		
Jinasena Engineering School	colombo	Srilanka
Bach Khoa Da Nang University	Da Nang	Vietnam
UJ University South Africa	Johannesburg	South Africa
Istiglal Mosque	Jakarta	Indonesia
New York University	Abu Dhabi	UAE

Railways,
Metro Rail,
Aviation &
Institutional

Project Name	Location	State/Country
National Cancer Institute	Jhajjar	Haryana
AIIMS - Mother & Child Care	New Delhi	New Delhi
RR Hospital (MES)	New Delhi	New Delhi
Employee's State Ins. Corp.(ESIC)	Mandi	Himachal Pradesh
Employee's State Ins. Corp.(ESIC)	Noida	Uttar Pradesh
Jaypee Hospital	Noida	Uttar Pradesh
B. R. Singh Hospital	Kolkata	West Bengal
Employee's State Ins. Corp.(ESIC)	Kolkata	West Bengal
Indira Gandhi Inst. of Medical Science	Patna	Bihar
Employee's State Ins. Corp.(ESIC)	Behita	Bihar
Super Speciality Hospital (Ultimate)	Bhubaneswar	Odisha
Sahrudaya Health Care	Hyderabad	Telangana
SRM Hospital	Chennai	Tamil Nadu
Apollo Hospital	Chennai	Tamil Nadu
Apollo Proton Cancer Centre	Chennai	Tamil Nadu
SRM Hospital	Chennai	Tamil Nadu
Employee's State Ins. Corp.(ESIC)	Kollam	Kerala
Continental Hospital	Bangalore	Karnataka

Recent prestigious clientele & projects references

Hospitals

Project Name	Location	State/Country
Employee's State Ins. Corp.(ESIC)	Gulbarga	Karnataka
Vedanta Hospital	Mumbai	Maharashtra
CDKD Hospital	Mumbai	Maharashtra
Employee's State Ins. Corp.(ESIC)	Mumbai	Maharashtra
Cooper Hospital	Mumbai	Maharashtra
Zydus Hospital	Mumbai	Maharashtra
UN Mehta Hospital	Ahmedabad	Gujarat
LG Hospital	Ahmedabad	Gujarat
Employee's State Ins. Corp.(ESIC)	Ahmedabad	Gujarat
AIIMS - Mother & Child Care	Bhopal	Madhya Pradesh
Overseas		
Sromo Bhabon Hospital	Dhaka	Bangladesh
Nuwara Eliya General Hospital	Nuwara Eliya	Srilanka
Windhoek Hospital	Johanesburg	South Africa
Johanesburg General Hospital	Johanesburg	South Africa
Mulago Hospital	Kampala	Uganda
Hamms Hospital	Kampala	Uganda
Nepal Medciti Hospital	kathmandu	Nepal

Shopping Centres
& Warehouse

Project Name	Location	State/Country
The Trilium Mall	Amritsar	Punjab
Central Square Plaza -6	New Delhi	New Delhi
Scope complex, Lodhi Road	New Delhi	New Delhi
TOI Mall Kundli Sonipat	Sonipat	Haryana
MFG Metropolis Mall	Gurgaon	Haryana
Phoenix Mall Lucknow	Lucknow	Uttar Pradesh
Lulu Mall,Lucknow	Lucknow	Uttar Pradesh
Grand Venezia Mall	Greater Noida	Uttar Pradesh
Forum Rangoli Mall	Kolkata	West Bengal
DCN Mall	Kolkata	West Bengal
Century Mall	Kolkata	West Bengal
Trendset Mall	Hyderabad	Telangana
Kurnool Mall	Kurnool	Andhra Pradesh
Tex Valley Erdode Mall,	Chennai	Tamil Nadu
Fun Republic	Coimbatore	Tamil Nadu
Sobha City Mall	Thrissur	Kerala
Lotus Mall	Mangalore	Karnataka
Market City - Kurla	Mumbai	Maharashtra
Kumar Pacific Mall	Pune	Maharashtra
Centrio Mall	Cagayan de Oro	Philippines
Alturas Mall	Bohol	Philippines

Recent prestigious clientele & projects references

Process,
Manufacturing &
Industrial Plants

Project Name	Location	State/Country
HLL Lifecare Limited	Gurgaon	Haryana
Suzuki Motor Cycle India Pvt. Ltd	Gurgaon	Haryana
Timken Services (P) Ltd.	Gurgaon	Haryana
JCB India Ltd	Faridabad	Haryana
Century Textile	New Delhi	New Delhi
Ashoka Leyland Ltd	Pant Nagar	Uttarakhand
Munjal Showa Ltd	Haridwar	Uttarakhand
Continental India Limited	Meerut	Uttar Pradesh
Hero Motors Ltd	Noida	Uttar Pradesh
Subros Ltd	Noida	Uttar Pradesh
Hindustan Coca Cola Beverages Pvt. Ltd.,	Varanasi	Uttar Pradesh
Tata Motors	Jamshedpur	Jharkhand
Bansal Biscuits Pvt Ltd	Patna Bihar	Bihar
Hindustan Coca Cola Beverages Pvt. Ltd.,	Jalpaiguri	West Bengal
Ankit Metals & Power Ltd .	Kolkata	West Bengal
Bharat Aluminium Company Ltd. (BALCO)	Korba	Chattisgarh
Tata Aerospace	Hyderabad	Telangana
Manjushree technopack	Hyderabad	Telangana
Hindustan Coca Cola Beverages Pvt. Ltd.,	Hyderabad	Telangana
Cadbury India Ltd	Tada	Andhra Pradesh
Wipro Infrastructure Engineering Pvt Limited	Hindpur	Andhra Pradesh
Amara Raja Infra Pvt Ltd	chitoor	Andhra Pradesh
Thermax Limited	Sricity	Andhra Pradesh
ASV Construction - Kattavakkam	Chennai	Tamil Nadu
Ethnic tobacco India Ltd	Guntur	Tamil Nadu
Husky Injection Moulding	Chennai	Tamil Nadu
BMW	Chennai	Tamil Nadu
Sundram Clayton	Chennai	Tamil Nadu
Nokia Siemens Network	Chennai	Tamil Nadu
L&T Kobelco Machinery Pvt Ltd	Chennai	Tamil Nadu
Royal Enfield	Chennai	Tamil Nadu
Flextronics Technologies India Pvt Ltd	Chennai	Tamil Nadu
Apollo Tyres	Chennai	Tamil Nadu
Hyundai WIA machine Tool	Chennai	Tamil Nadu
Hyundai Mobis Audio & Air Bag System	Chennai	Tamil Nadu
Hitachi Automative Systems India Pvt Ltd	Chennai	Tamil Nadu
Tirumala Dairy Pvt Ltd,	Chennai	Tamil Nadu
Dailmer india Commercial Vehicles Pvt Ltd,	Chennai	Tamil Nadu
Texmo Industries	Coimbatore	Tamil Nadu
Heavy Vehicles Factory	Avadi	Tamil Nadu
SAC Engine Components pvt. Ltd	Chennai	Tamil Nadu
Samsung India Electronics Pvt Ltd	Chennai	Tamil Nadu
Vodafone Idea Limited	Coimbatore	Tamil Nadu
Corteco India Pvt Ltd	Chennai	Tamil Nadu

Recent prestigious clientele & projects references

Process,
Manufacturing &
Industrial Plants

Project Name	Location	State/Country
AO Smith	Bangalore	Karnataka
Bharat Heavy Electricals Ltd	Bangalore	Karnataka
Molex India Pvt Ltd	Bangalore	Karnataka
JSW Steel Limited	Bangalore	Karnataka
Honda Motor Cycles & Scooter India	Bangalore	Karnataka
Hindustan Coca Cola Beverages	Bangalore	Karnataka
Kern-Liebers (India) Pvt. Ltd.	Bangalore	Karnataka
Bosch Ltd.	Bangalore	Karnataka
Magellan Aerospace, SEZ Park	Bangalore	Karnataka
Faurecia Interior Systems India Pvt Ltd	Bangalore	Karnataka
Imsofer Manufacturing India Pvt Ltd	Baramati	Maharashtra
Nipro India Corporation Pvt. Ltd	Pune	Maharashtra
Magneti Marelli Motherson	Pune	Maharashtra
Varroc Engineering	Pune	Maharashtra
Jabil Circuit	Pune	Maharashtra
Avery Dennison	Pune	Maharashtra
Can-pack India Pvt. Ltd	Aurangabad	Maharashtra
Perkins India Pvt. Limited	Aurangabad	Maharashtra
Emersion Network Power India	Mumbai	Maharashtra
Hindustan Coca Cola Beverages	Ahmedabad	Gujarat
Harsha Engineering Ltd	Ahmedabad	Gujarat
Ford Motors Ltd	Ahmedabad	Gujarat
Banas Dairy	Location	Gujarat
Colgate Palmolive (India) Ltd .	Chharodi	Gujarat
Toyo Ink India Pvt.Ltd.	Location	Gujarat
Ewac Alloys Ltd	Ankaleshwar	Gujarat
Eicher Motors Ltd.	Indore	Madhya Pradesh
The Hi-Tech Gears Ltd.	Bhiwadi	Rajasthan
Hero MotoCorp	Neemrana	Rajasthan
JCB India Ltd	Jaipur	Rajasthan
Nitin Spinners	Bhilwara	Rajasthan
The Hi-Tech Gears Ltd.	Bhiwadi	Rajasthan
Overseas		
Al Ghurair Iron & Steel Factory	Abu Dhabi	UAE
Orange Cable factory	Colombo	Srilanka
MB Jeans Haiti (Pvt) Ltd	Colombo	Srilanka
Partex tissue paper	Dhaka	Bangladesh
Purvani Fabrics Ltd	Dhaka	Bangladesh
Emami Bangladesh Limited	Dhaka	Bangladesh
Topaz dress Ltd	Dhaka	Bangladesh
B2B Garments	Dhaka	Bangladesh
Section Seven International Limited	Nilphamari	Bangladesh
Section Seven Limited	Chittagong	Bangladesh
Nitol Machinerles Ltd	Dhaka	Bangladesh

Recent prestigious clientele & projects references

Process,
Manufacturing &
Industrial Plants

Project Name	Location	State/Country
Southeast Sweaters Ltd	Dhaka	Bangladesh
Herocorp	Dhaka	Bangladesh
KG Garments Ltd	Dhaka	Bangladesh
Papertech Industries Ltd	Dhaka	Bangladesh
Tongi Fair Brothers	Dhaka	Bangladesh
Executive Attire Ltd	Dhaka	Bangladesh
Nutty Fruity	Lagos	Nigeria
Wabag dangote	Lagos	Nigeria
My Gas Plant	Narobi	Kenya
Raymonds	Hawasa	Ehiopia
Arvind Invisol Ltd	Hawasa	Ehiopia
Dwarsriver Chrome Mine	Johanesburg	South Africa
Syngenta	Johanesburg	South Africa

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- Routing drawing preparation
- Bill of Quantity generation as per approved Drawings

After Sales (On-site service on request):

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- Commissioning
- Supervision
- Pre-commissioning audits
- Annual Maintenance