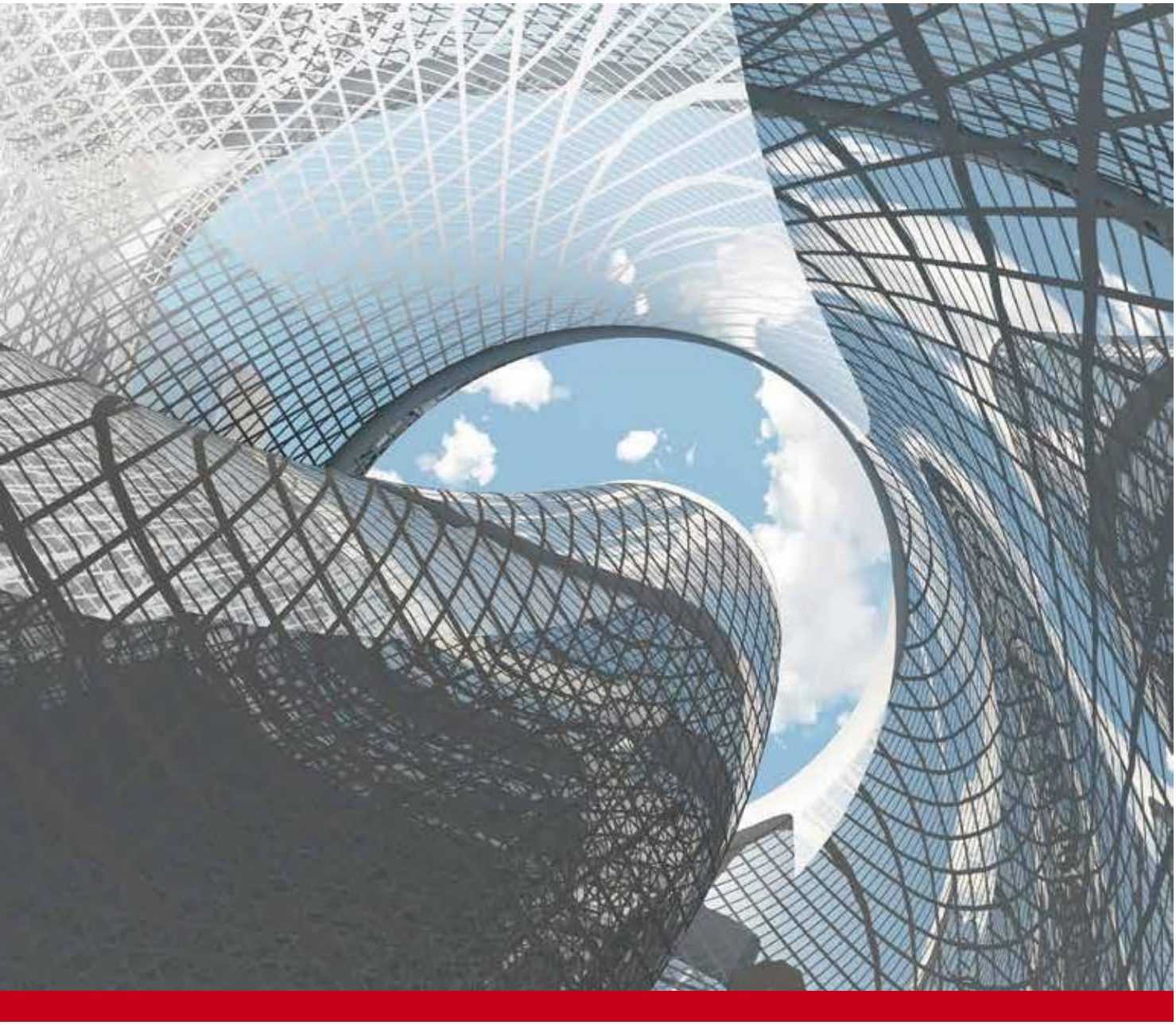
ORANGE ELECTRIC®

SUPERBAR



BUSBAR TRUNKING SYSTEM

800A - 6300A

INNOVATE . DESIGN . MANUFACTURE

ITALIAN TECHNOLOGY

MADE IN UAE

INTRODUCTION

SUPERBAR, quality manufacturer of LV Busbar Trunking Systems with a new manufacturing facility established exclusively for MENA, Asiapacific, and Africa markets with Italian Technology and partnership.

The new generation design comes with promoters combined experience of 40 years in delivering Busbar Trunki ng Solutions.

We are ISO 9001:2015 Certified Manufactuirng Facility in UAE and parent company in Torino, ITALY.

Our Mission is to deliver tangible products with professional services to ever demanding and complex global power distribution requirements across all segments i.e., Industry, Construction, Infrastructure and Hospitality that offer customers more value than they expect to receive.

We commit to relentlessly engage in continuous improvement driven by passion, integrity, creativity and teamwork.

Explore growth opportunities and continually innovate with proactive employee engagements for enhanced customer satisfaction and also ensure superior returns to our Stakeholders.

ITALIAN TECHNOLOGY

MADE IN UAE

40 YEARS COMBINED EXPERIENCE

INNOVATE

Objective is to provide higher surface area to achieve better heat dissipation with 5mm conductors in comparison to 6mm being industry standard.

Result:

- Excellent Heat Dissipation
- Minimum Inductance
- Minimum Voltage Drop

RELIABLE

Domain experience and expertise helps us understand unique customer requirmetns to deliver quality products, developed and designed in Europe to meet latest international norms.

- Fully Type Tested and certified by DEKRA and UL as per IEC 61439-6
- True Sandwich Plug-in
- Halogen Free
- Seismic Compliant
- Fire Resistant
- ISO 9001:2015

MANUFACTURING

Strategically located in UAE to cater target markets, on the crossroads of trade routes. Multicultural, integrated and connected environment is congenial for business. Flexible and customer friendly approach to meet tight project commitments.

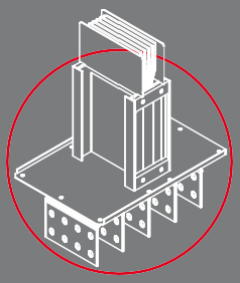
CUSTOMFIT

Pre-fabricated and engineered end-to-end solution for any kind of power distribution applications. Outsourced items like switchgear, copper flexibles etc. can be provided as per customer requirements.

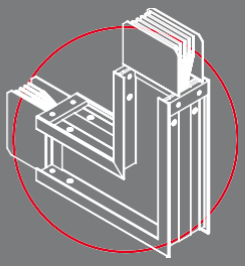
SUPERBAR SYSTEM

We offer complete End-to-End busbar trunking solution for Horizontal and Vertical Distirbution.

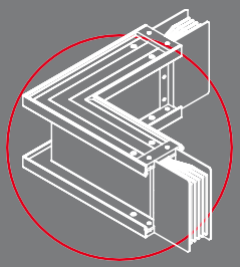
1 Flange End



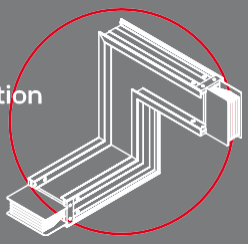
2 Flatwise Elbow



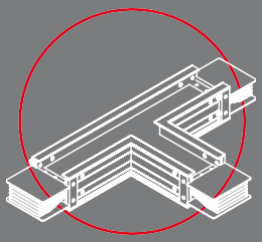
3 Edgewise Elbow



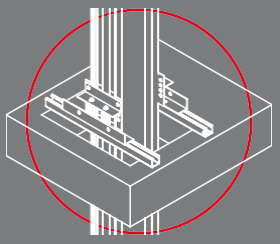
4 Combination Elbow



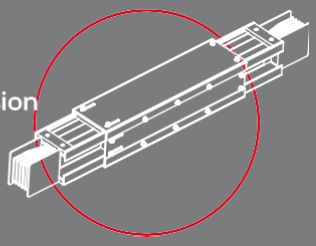
5 Flat Tee



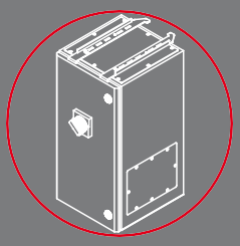
6 Spring Hanger



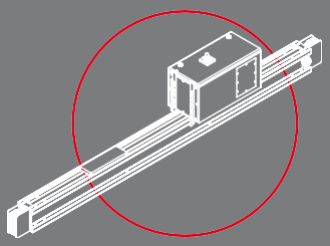
7 Expansion Unit

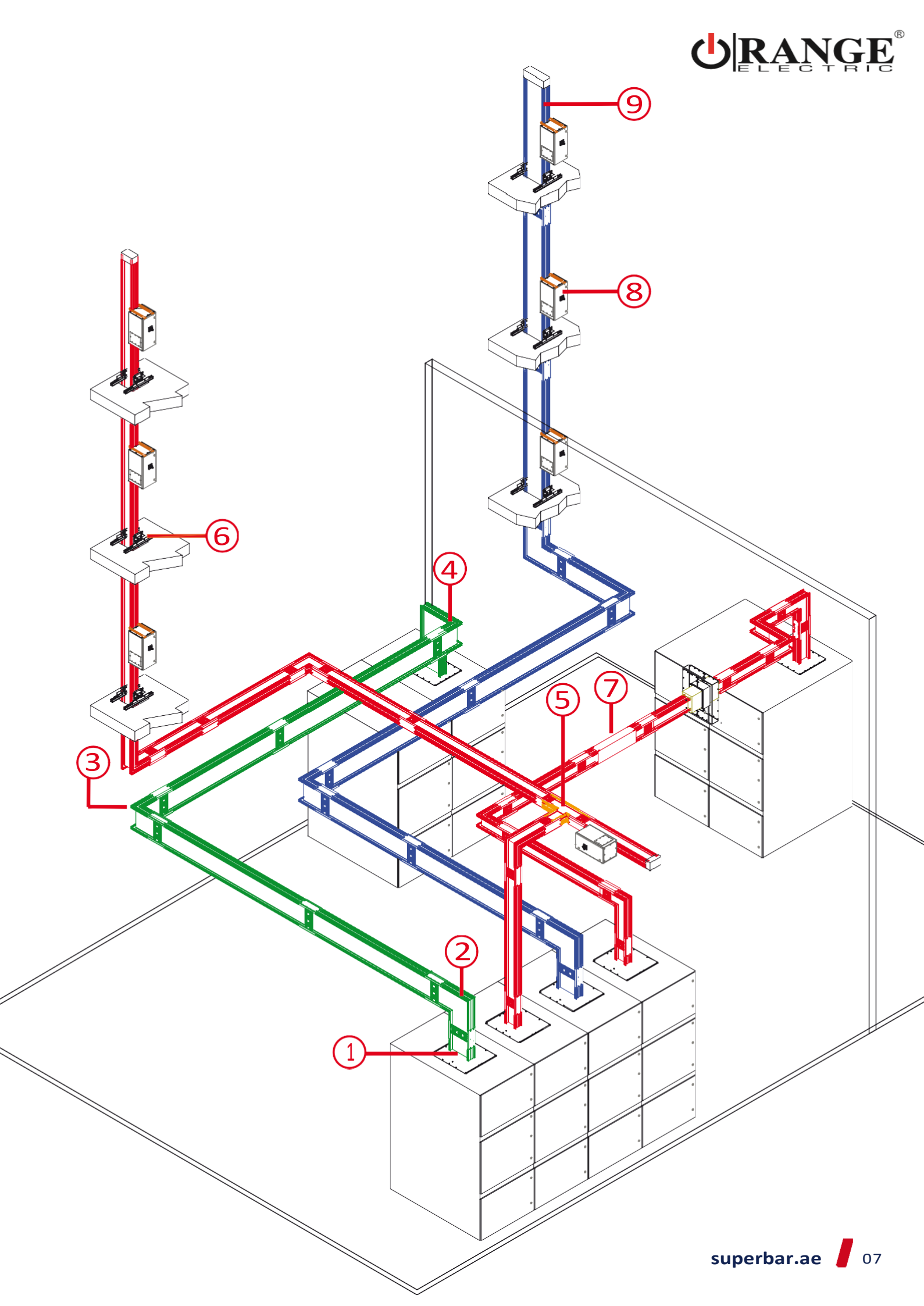


8 Tap Off Box



9 Plug In Busbar

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1

BENEFITS & FEATURES

1

COMPACT

Sandwich Busbar Trunking is an ideal choice to easily fit in congested service areas and LV rooms.

2

MINIMAL MAINTENANCE

Monoblock joint system with self shearing Nuts and heavy duty extruded Aluminium joint side plates to achieve quality joint.

3

LOW INSTALLATION COST

System being modular plug & play type reduces the installation time and cost in comparison to conventional cables and trays.

4

EXCELLENT HEAT DISSIPATION

Aluminium Enclosure and 5mm conductors provide better heat dissipation resulting in longevity of the system

8

DESIGNED FOR ELEVATED AMBIENT

Busways are also tested at Actual **50°C** ambient and certified by **UL & DEKRA.**

7

SEISMIC & FIRE COMPLIANT

Engineered to withstand Seismic conditions, Fire Penetration & Propagation

6

EASY TO MODIFY

Modular nature of installation provides flexibilty to easily expand, modify any time to accomodate change of site conditions / user requirements.

5

BETTER ELECTRICAL CHARACTERISTICS

Products are highly engineered to achieve Higher Short Circuit Ratings and Low Voltage Drop.

OVERVIEW

CONDUCTORS

- 99.9% Purity, ETP Grade, Conductivity > 100% IACS Copper Conductors. (Tin Plated)
- 99.5% Purity EC Grade, Conductivity 59.5% IACS Aluminium Conductors.

INSULATION

- UL F-Rated Polyester
- Excellent phase-to-phase and phase-to-ground separation
- Enhanced Short Circuit Ratings.

HOUSING

- Aluminium Enclosure with RAL 7035 epoxy coated.
- Light weight, corrosion resistant & mechanically robust.
- High thermal conductivity and magnetic field isolation

JOINT BLOCK

- Simple monoblock joint with Belleville washers, insulated high tension bolts with shear off nuts for easy installation.
- Extra Heavy Duty Extruded Aluminium Joint Side Plates ensures higher compression and better heat dissipation.

COMMITTED

To deliver and build lifetime relationships.

SOLUTIONS

Custom engineered to meet stringent project requirements

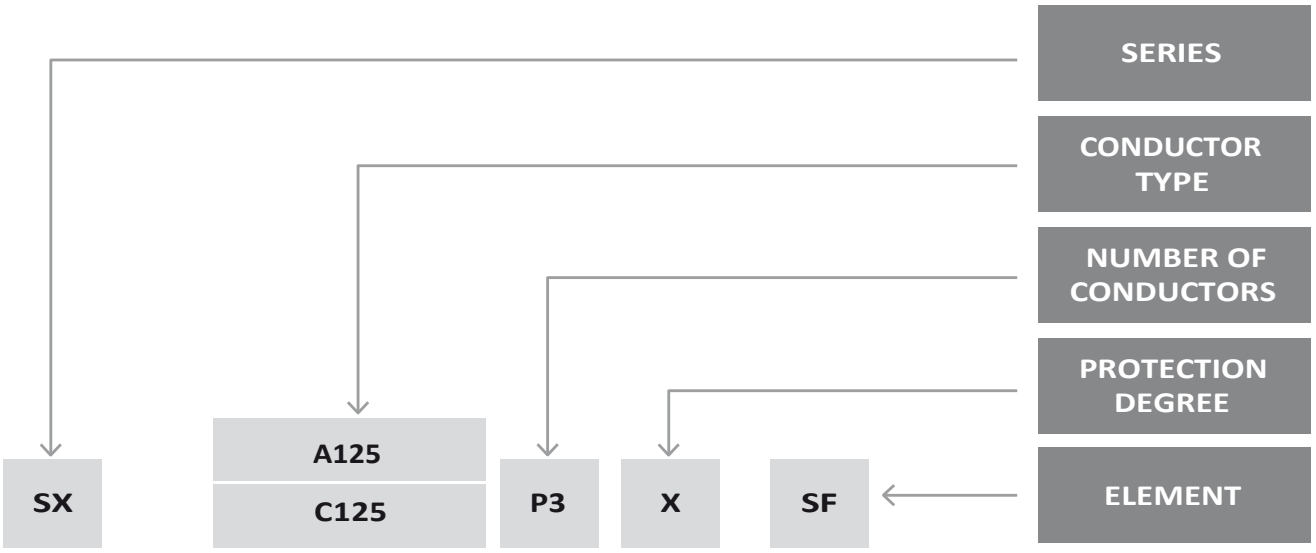
EXPERIENCE

Tailor made product manufacturing to every complex projects

AFFORDABLE

Quality Products Competitive

CODING



ALUMINIUM (AI)

RATING (Amps)	CODE
800	A80
1000	A100
1250	A125
1500	A150
1800	A180
2150	A215
2750	A275
3500	A350
4000	A400
5000	A500

COPPER (Cu)

RATING (Amps)	CODE
800	C80
1000	C100
1250	C125
1600	C160
2000	C200
2250	C225
2500	C250
3200	C320
4000	C400
5000	C500

CODE	IP
X5	55
X6	65
X7	67

SEQUENCE	CODE
RYB	P3
NRYB	P4
NNRYB	P5
NRYBE	E5
NRYB+50%E	H5

DESCRIPTION	C ODE
STRAIGHT FEEDER	SF
PLUG IN	PI
EDGE ELBOW	EE
FLAT ELBOW	FE
OFFSET EGDE ELBOW	OE
OFFSET FLAT ELBOW	OF
COMBINATION	CO
EDGE TEE	ET
FLAT TEE	FT
FLANGE END	FL
FLANGE END BOX	FEB
END FEED	EFD
END FEED WITH SWITCHGEAR	EFS
FLANGE END WITH EDGE ELBOW	FEE
FLANGE END WITH FLAT ELBOW	FEF
CENTER FEED	CFD
CENTER FEED WITH SWITCHGEAR	CFS
REDUCER	R
REDUCER WITH SWITCH GEAR	RS
PHASE CROSSOVER	PX
EXPANSION JOINT	XJ
END COVER	C

TECHNICAL DATA -COPPER

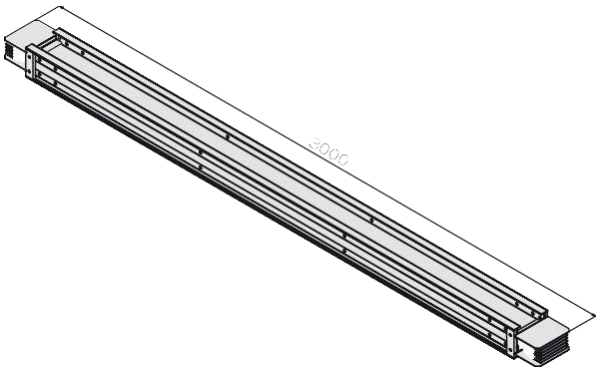
Standards	IEC 61439-6										
Rated Insulation Voltage	Ui 1000 V										
Rated Operational Voltage	Ue 1000 V										
Rated Impulse Withstand Voltage	Uimp 12 kV										
Rated Frequency	fn 50/60 Hz										
Pollution Degree	III										
Protection Degree	IP55 / IP65 / IP67										
External Mechanical Impacts (IK Code)	IK 10										
Rated Current In	Ampere		1000	1250	1600	2000	2250	2500	3200	4000	5000
Rated Short-time Withstand Current (1s) 3Ø	Icw	kA	65	65	65	65	65	100	100	100	100
Rated Peak Withstand Current	Ipk	kA	143	143	143	143	143	220	220	220	220
Rated Short-time Withstand Current for Neutral (1s) 1Ø	Icw	kA	39	39	39	39	39	60	60	60	60
Rated Peak Withstand Current for Neutral	Ipk	kA	81.9	81.9	81.9	81.9	81.9	132	132	132	132
Rated Short-time Withstand Current for PE Conductor (1s) 1Ø	Icw	kA	39	39	39	39	39	60	60	60	60
Rated Peak Withstand Current for PE Conductor	Ipk	kA	81.9	81.9	81.9	81.9	81.9	132	132	132	132
DIMENSIONS & WEIGHT											
Overall Dimension	W x H		140x120	140x130	140x160	140x190	140x220	140x230	140x290	140x370	140x450
Busbar Trunking Weight (4 Conductors)	kg/m		21.5	23.5	29.5	35.5	41.5	43.5	53	69	85
Busbar Trunking Weight (4.5 Conductors)	kg/m		24	26	32.5	39.5	46	48.5	59.5	76.5	95
Busbar Trunking Weight (5 Conductors)	kg/m		25	27.5	34.5	42	49.5	52	63.5	82	102
Aluminium Housing Cross Section	mm²		2460	2520	2700	2880	3060	3120	3780	4080	6370
MEAN PHASE CONDUCTOR CHARACTERISTICS AT RATED CURRENT In											
Resistance at a conductor temp of 20 °C	R20	mϕı/m	0.047	0.042	0.0254	0.02	0.0174	0.0145	0.013	0.01	0.007
Resistance at an ambient air temp of 35 °C	R	mϕı/m	0.064	0.056	0.0336	0.0265	0.0232	0.0202	0.017	0.013	0.010
Reactance (Independent from temp)	X	mϕı/m	0.021	0.018	0.0145	0.0126	0.0126	0.0115	0.007	0.006	0.006
Positive and negative sequence impedances at an ambient air temp of 35 °C	Z	mϕı/m	0.067	0.059	0.0366	0.0294	0.0264	0.0233	0.018	0.015	0.012
Positive and negative sequence impedances at a conductor temp of 20 °C	Z20	mϕı/m	0.052	0.046	0.0293	0.0237	0.0215	0.0184	0.015	0.012	0.009
Rated Power Loss at 35 °C		w/m	192.0	262.5	258.0	318.0	352.4	378.8	516.1	636.0	757.5
MEAN FAULT-LOOP CHARACTERISTICS (Zero-sequence Impedance)											
Zero-sequence impedance at a conductor temp of 20 °C	Z (0)b20phN	mϕı/m	0.32	0.261	0.2217	0.1798	0.1489	0.1658	0.111	0.090	0.083
Zero-sequence impedance at a conductor temp of 20 °C (PE)	Z (0)b20phPE	mϕı/m	0.397	0.16	0.3447	0.2873	0.2256	0.2323	0.172	0.144	0.116
Zero-sequence impedance at an ambient temp of 35 °C	Z (0)bphN	mϕı/m	0.412	0.33	0.2328	0.187	0.1546	0.1708	0.116	0.094	0.085
Zero-sequence impedance at an ambient temp of 35 °C (PE)	Z (0) bphPE	mϕı/m	0.523	0.217	0.3616	0.3031	0.2358	0.2436	0.181	0.152	0.122
RESISTANCE & REACTANCE											
Resistance at a conductor temp of 20 °C	Rb20phph	mϕı/m	0.109	0.09	0.0794	0.0678	0.0467	0.0448	0.040	0.034	0.022
Resistance at a conductor temp of 20 °C	Rb20phN	mϕı/m	0.118	0.101	0.082	0.07	0.0483	0.0464	0.041	0.035	0.023
Resistance at a conductor temp of 20 °C (PE)	Rb20phPE	mϕı/m	0.148	0.124	0.1014	0.0882	0.0642	0.0601	0.051	0.044	0.030
Resistance at an ambient air temp of 35 °C	Rbphph	mϕı/m	0.148	0.122	0.0842	0.0723	0.0498	0.0478	0.042	0.036	0.024
Resistance at an ambient air temp of 35 °C	RbphN	mϕı/m	0.161	0.137	0.087	0.0747	0.0515	0.0494	0.044	0.037	0.025
Resistance at an ambient air temp of 35 °C (PE)	RbphPE	mϕı/m	0.2	0.168	0.1075	0.0942	0.0685	0.0671	0.054	0.047	0.034
Reactance (Independent from temp)	Xbphph	mϕı/m	0.04	0.029	0.0411	0.0391	0.039	0.0335	0.021	0.020	0.017
Reactance (Independent from temp)	XbphN	mϕı/m	0.059	0.051	0.0501	0.0531	0.0475	0.0469	0.025	0.027	0.023
Reactance (Independent from temp)	XbphPE	mϕı/m	0.058	0.048	0.056	0.0522	0.0493	0.046	0.028	0.026	0.023

TECHNICAL DATA - ALUMINIUM

Standards	IEC 61439-6										
Rated Insulation Voltage	Ui 1000 V										
Rated Operational Voltage	Ue 1000 V										
Rated Impulse Withstand Voltage	Uimp 8 kV										
Rated Frequency	fn 50/60 Hz										
Pollution Degree	III										
Protection Degree	IP55 / IP65 / IP67										
External Mechanical Impacts (IK Code)	IK 10										
Rated Current In			1000	1250	1500	1800	2150	2750	3500	4000	5000
Rated Short-time Withstand Current (1s) 3Ø	Icw	kA	50	50	50	50	100	100	100	100	100
Rated Peak Withstand Current	Ipk		105	105	105	105	220	220	220	220	220
Rated Short-time Withstand Current for Neutral (1s) 1Ø	Icw	kA	30	30	30	30	60	60	60	60	60
	Ipk		63	63	63	63	132	132	132	132	132
Rated Short-time Withstand Current for PE Conductor (1s) 1Ø	Icw	kA	30	30	30	30	60	60	60	60	60
Rated Peak Withstand Current for PE Conductor	Ipk		63	63	63	63	132	132	132	132	132
WEIGHT											
Overall Dimension			140x140	140x160	140x200	140x240	140x290	140x340	140x440	140x540	140x590
Busbar Trunking Weight (4 Conductors)	kg/m	kg/m	14	15	18	21	25	29	37	44	50
Busbar Trunking Weight (5 Conductors)	kg/m	kg/m			20		29	33	43	52	59
Aluminium Housing Cross Section	mm^2	mm^2	2610	2730	2970	3210	3510	3810	4410	5010	5610
MEAN PHASE CONDUCTOR CHARACTERISTICS AT RATED CURRENT In											
Resistance at a conductor temp of 20 °C	R20	mΩ/m	0.066	0.051	0.041	0.036	0.025	0.020	0.014	0.011	0.010
Resistance at an ambient air temp of 35 °C	R	mΩ/m	0.071	0.055	0.050	0.046	0.032	0.026	0.017	0.014	0.013
Reactance (Independent from temp)	X	mΩ/m	0.037	0.031	0.021	0.016	0.018	0.013	0.009	0.008	0.006
Positive and negative sequence impedances at an ambient air temp of 35 °C	Z	mΩ/m	0.080	0.063	0.055	0.049	0.037	0.029	0.019	0.016	0.014
Positive and negative sequence impedances at a conductor temp of 20 °C	Z20	mΩ/m	0.076	0.060	0.046	0.039	0.031	0.024	0.016	0.014	0.012
Rated Power Loss at 35 °C		w/m	214.2	258.8	340.2	446.1	445.1	587.6	632.1	676.8	971.25
MEAN FAULT-LOOP CHARACTERISTICS (Zero-sequence Impedance)											
Zero-sequence impedance at a conductor temp of 20 °C	Z (0)b20phN	mΩ/m	0.296	0.263	0.240	0.194	0.183	0.142	0.120	0.107	0.071
Zero-sequence impedance at a conductor temp of 20 °C (PE) Housing	Z (0)b20phPE	mΩ/m	0.683	0.672	0.520	0.659	0.648	0.640	0.278	0.348	0.31995
Zero-sequence impedance at an ambient temp of 35 °C	Z (0)bphN	mΩ/m	0.311	0.277	0.253	0.205	0.192	0.152	0.126	0.113	0.07595
Zero-sequence impedance at an ambient temp of 35 °C (PE) Housing	Z (0) bphPE	mΩ/m	0.727	0.716	0.554	0.707	0.697	0.689	0.294	0.374	0.345
RESISTANCE & REACTANCE											
Resistance at a conductor temp of 20 °C	Rb20phph	mΩ/m	0.148	0.127	0.117	0.072	0.069	0.054	0.041	0.036	0.02695
Resistance at a conductor temp of 20 °C	Rb20phN	mΩ/m	0.147	0.129	0.099	0.072	0.071	0.055	0.045	0.039	0.027
Resistance at a conductor temp of 20 °C (Housing)	Rb20phPE	mΩ/m	0.180	0.158	0.173	0.230	0.225	0.270	0.089	0.101	0.135
Resistance at an ambient air temp of 35 °C	Rbphph	mΩ/m	0.158	0.136	0.125	0.077	0.074	0.058	0.044	0.039	0.029
Resistance at an ambient air temp of 35 °C	RbphN	mΩ/m	0.157	0.139	0.106	0.078	0.076	0.059	0.048	0.042	0.029
Resistance at an ambient air temp of 35 °C (Housing)	RbphPE	mΩ/m	0.192	0.170	0.185	0.246	0.241	0.291	0.095	0.109	0.146
Reactance (Independent from temp)	Xbphph	mΩ/m	0.073	0.061	0.055	0.027	0.027	0.031	0.030	0.027	0.015
Reactance (Independent from temp)	XbphN	mΩ/m	0.079	0.064	0.079	0.039	0.038	0.042	0.041	0.039	0.021
Reactance (Independent from temp)	XbphPE	mΩ/m	0.059	0.052	0.046	0.030	0.029	0.029	0.023	0.015	0.014

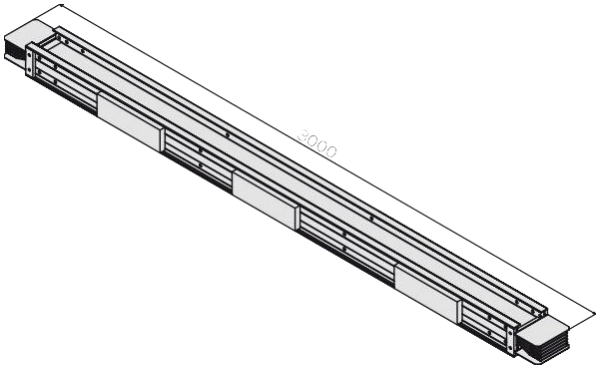
STANDARD ELEMENTS

STRAIGHT FEEDER



COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	MIN	MAX	RATING	MIN	MAX
1000	500	3000	800	750	3000
1250	500	3000	1000	750	3000
1600	500	3000	1250	750	3000
2000	500	3000	1500	750	3000
2250	500	3000	1800	750	3000
2500	500	3000	2150	750	3000
3200	500	3000	2750	750	3000
4000	500	3000	3500	750	3000
5000	500	3000	4000	750	3000
6300	500	3000	5000	750	3000

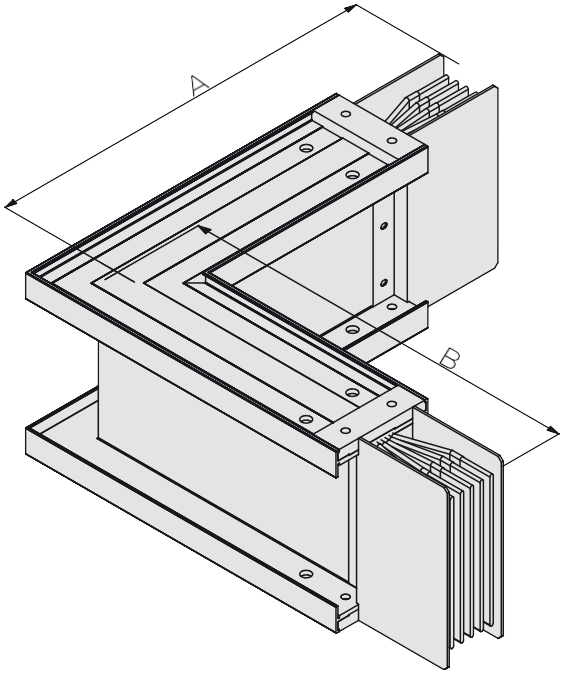
PLUG-IN



COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	MIN	MAX	RATING	MIN	MAX
1000	900	3000	800	900	3000
1250	900	3000	1000	900	3000
1600	900	3000	1250	900	3000
2000	900	3000	1500	900	3000
2250	900	3000	1800	900	3000
2500	900	3000	2150	900	3000
3200	900	3000	2750	900	3000
4000	900	3000	3500	900	3000
5000	900	3000	4000	900	3000
6300	900	3000	5000	900	3000

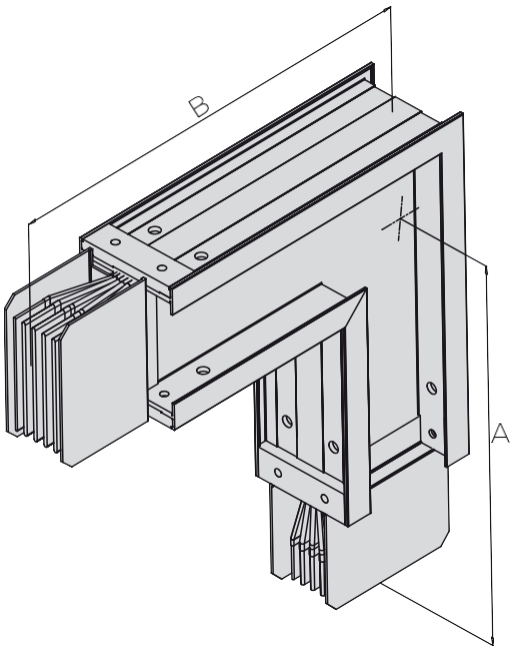
Note: Up to 5 plug-in windows / 3m length.

EDGE ELBOW



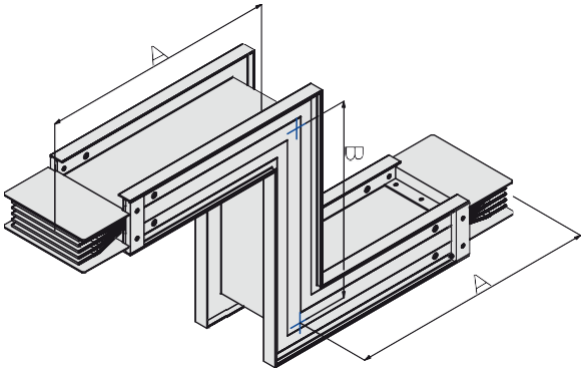
COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	A	B	RATING	A	B
1000	350	350	800	350	350
1250	350	350	1000	350	350
1600	350	350	1250	350	350
2000	350	350	1500	350	350
2250	350	350	1800	350	350
2500	350	350	2150	350	350
3200	350	350	2750	350	350
4000	350	350	3500	350	350
5000	350	350	4000	350	350
6300	350	350	5000	350	350

FLAT ELBOW



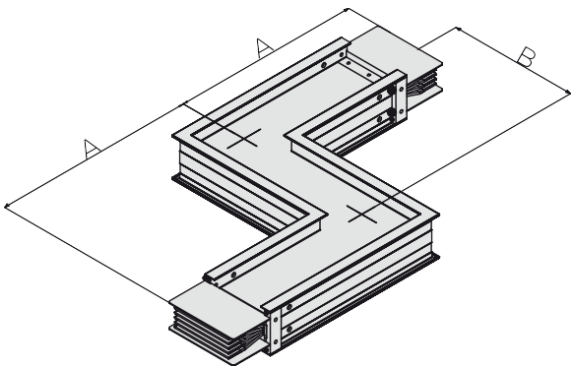
COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	A	B	RATING	A	B
1000	350	350	800	350	350
1250	350	350	1000	350	350
1600	350	350	1250	350	350
2000	350	350	1500	500	500
2250	500	500	1800	500	500
2500	500	500	2150	500	500
3200	500	500	2750	600	600
4000	500	500	3500	600	600
5000	500	500	4000	600	600
6300	500	500	5000	600	600

EDGEWISE OFFSET



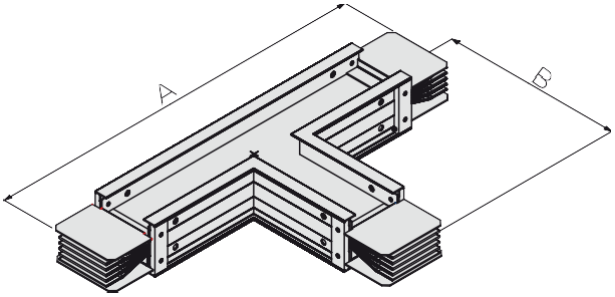
COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	A	B	RATING	A	B
1000	350	350	800	350	350
1250	350	350	1000	350	350
1600	350	350	1250	350	350
2000	350	350	1500	500	350
2250	350	350	1800	500	350
2500	350	350	2150	500	350
3200	500	500	2750	500	350
4000	500	500	3500	600	350
5000	500	500	4000	600	350
6300	500	500	5000	600	500

FLATWISE OFFSET



COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	A	B	RATING	A	B
1000	350	350	800	350	350
1250	350	350	1000	350	350
1600	350	350	1250	350	350
2000	350	350	1500	500	350
2250	500	500	1800	500	350
2500	500	500	2150	500	350
3200	500	500	2750	600	350
4000	500	500	3500	600	350
5000	500	500	4000	600	350
6300	600	600	5000	600	500

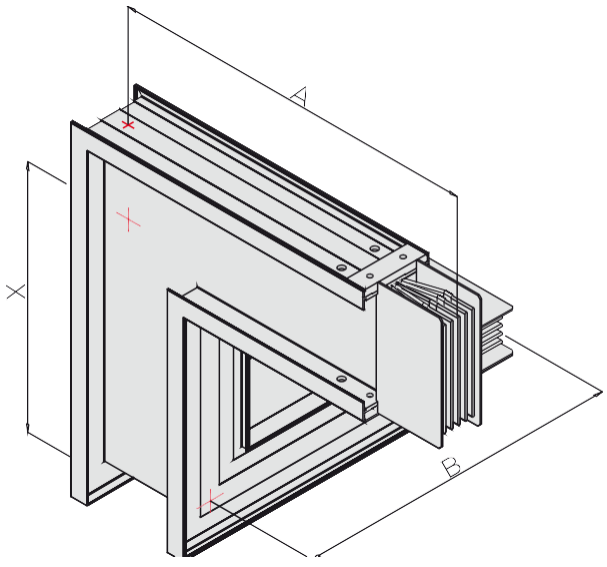
FLAT TEE



COPPER	STANDARD SIZE (mm)	
RATING	A	B
1000	700	350
1250	700	350
1600	700	350
2000	700	350
2250	700	350
2500	700	500
3200	1000	500
4000	1000	500
5000	On Request	On Request
6300	On Request	On Request

ALUMINIUM	STANDARD SIZE (mm)	
RATING	A	B
800	700	350
1000	700	350
1250	700	350
1500	700	350
1800	800	400
2150	1000	500
2750	1000	500
3500	1100	550
4000	1100	550
5000	On Request	On Request

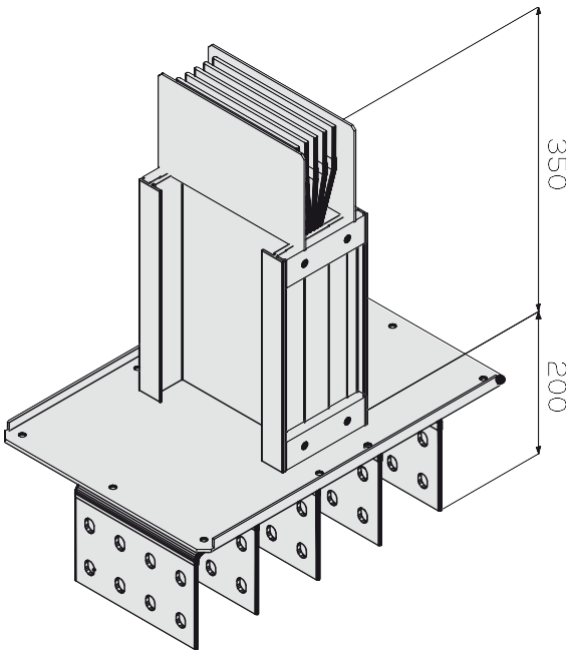
COMBINATION ELBOW



COPPER	STANDARD SIZE (mm)		
RATING	A	B	X
1000	350	350	350
1250	350	350	350
1600	350	350	350
2000	350	350	350
2250	350	350	350
2500	500	350	350
3200	500	350	350
4000	500	350	400
5000	500	350	400
6300	600	350	500

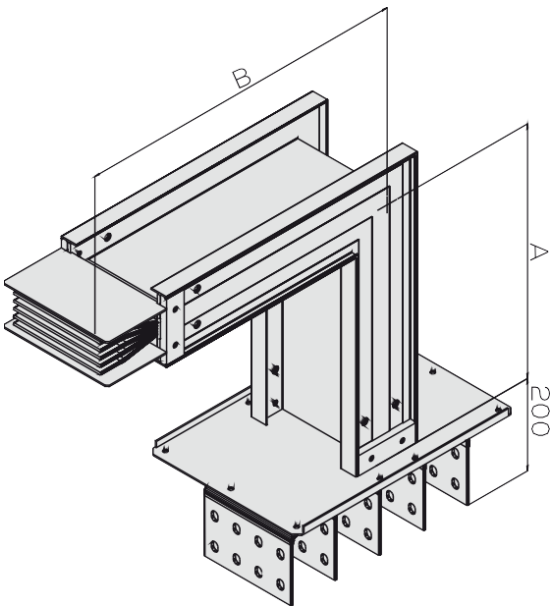
ALUMINIUM	STANDARD SIZE (mm)		
RATING	A	B	X
800	350	350	350
1000	350	350	350
1250	350	350	350
1500	500	350	350
1800	500	350	350
2150	500	350	350
2750	500	350	400
3500	500	350	500
4000	500	350	500
5000	600	350	500

FLANGED END



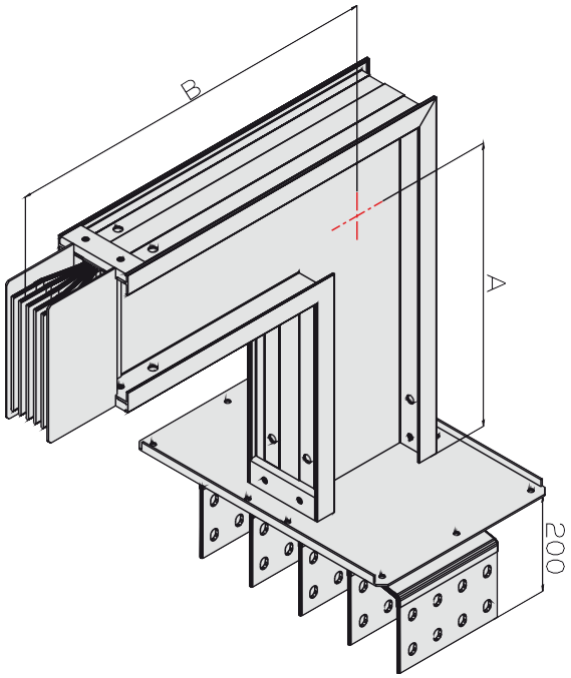
COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	MIN	MAX	RATING	MIN	MAX
1000	350	750	800	350	750
1250	350	750	1000	350	750
1600	350	750	1250	350	750
2000	350	750	1500	350	750
2250	350	750	1800	350	750
2500	350	750	2150	350	750
3200	350	750	2750	350	750
4000	350	750	3500	350	750
5000	350	750	4000	350	750
6300	350	750	5000	350	750

FLANGED END WITH EDGE ELBOW



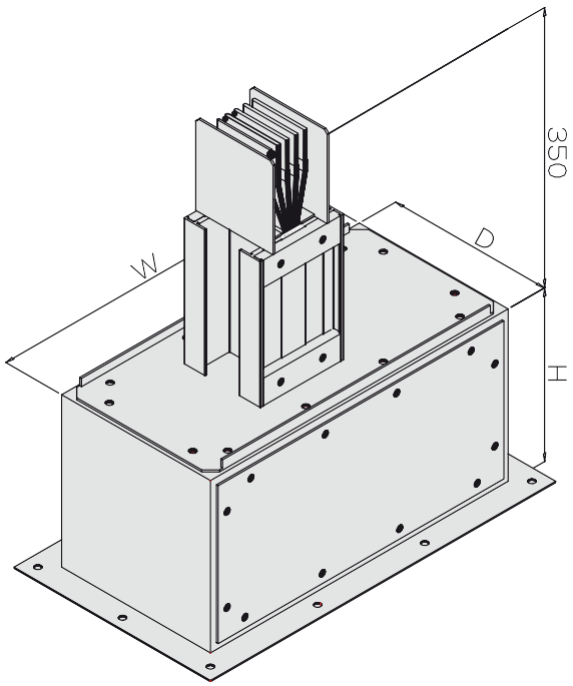
COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	A	B	RATING	A	B
1000	350	350	800	350	350
1250	350	350	1000	350	350
1600	350	350	1250	350	350
2000	350	350	1500	350	350
2250	350	350	1800	350	350
2500	350	350	2150	350	350
3200	350	350	2750	350	350
4000	350	350	3500	350	350
5000	350	350	4000	350	350
6300	350	350	5000	350	350

FLANGED END WITH FLAT ELBOW



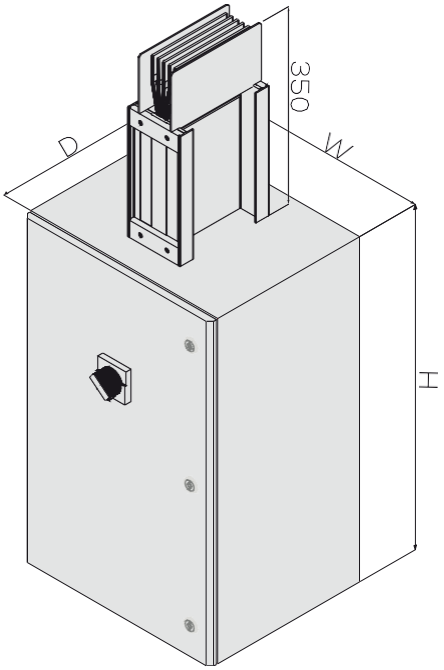
COPPER	STANDARD SIZE (mm)		ALUMINIUM	STANDARD SIZE (mm)	
RATING	A	B	RATING	A	B
1000	350	350	800	350	350
1250	350	350	1000	350	350
1600	350	350	1250	350	350
2000	350	350	1500	500	350
2250	500	500	1800	500	350
2500	500	500	2150	500	350
3200	500	500	2750	500	350
4000	500	500	3500	600	500
5000	500	500	4000	600	500
6300	600	600	5000	600	600

FLANGED END BOX



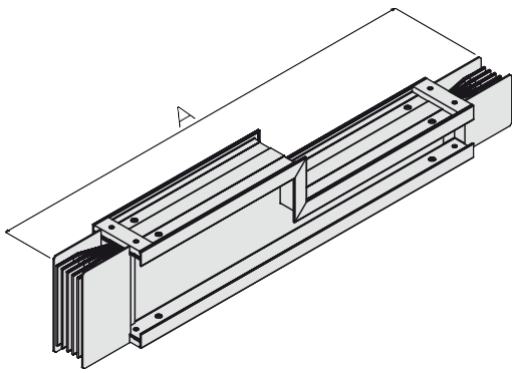
COPPER	STANDARD SIZE (mm)			ALUMINIUM	STANDARD SIZE (mm)		
RATING	H	D	W	RATING	H	D	W
1000	350	220	600	800	350	250	500
1250	350	230	600	1000	350	270	500
1600	350	260	600	1250	350	310	500
2000	350	290	750	1500	350	350	500
2250	350	320	750	1800	350	400	650
2500	350	350	750	2150	350	400	650
3200	450	400	750	2750	450	450	650
4000	450	550	750	3500	450	550	650
5000	450	570	750	4000	450	650	650
6300	450	650	750	5000	450	750	650

FLANGED END



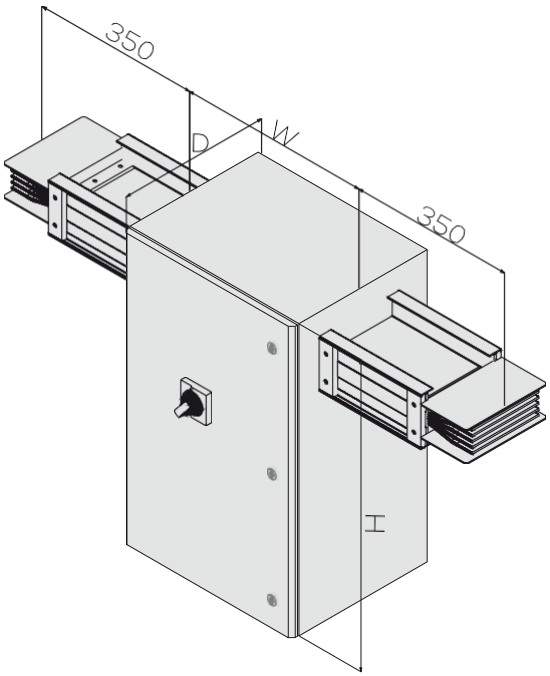
COPPER	STANDARD SIZE (mm)			ALUMINIUM	STANDARD SIZE (mm)		
RATING	H	D	W	RATING	H	D	W
1000	850	400	450	800	750	400	400
1250	850	400	450	1000	750	400	400
1600	1000	400	450	1250	850	400	400
2000	1000	500	500	1500	850	500	500
2250	1000	500	500	1800	850	500	500
2500	1200	500	500	2150	1000	500	500
3200	1200	600	600	2750	1000	600	600
4000	1350	600	600	3500	1200	600	600
5000	1350	600	600	4000	1200	600	700
6300	1350	700	600	5000	1500	700	700

REDUCER



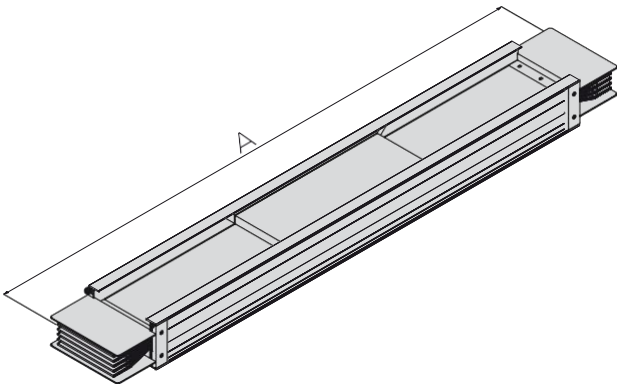
COPPER	STANDARD SIZE (mm)	ALUMINIUM	STANDARD SIZE (mm)
RATING	A	RATING	A
1000	1500	800	1500
1250	1500	1000	1500
1600	1500	1250	1500
2000	1500	1500	1500
2250	1500	1800	1500
2500	1500	2150	1500
3200	1500	2750	1500
4000	1500	3500	1500
5000	1500	4000	1500
6300	1500	5000	1500

CENTER FEED DIRECT



COPPER	STANDARD SIZE (mm)			ALUMINIUM	STANDARD SIZE (mm)		
RATING	H	D	W	RATING	H	D	W
1000	850	400	450	800	750	400	400
1250	850	400	450	1000	750	400	400
1600	1000	400	450	1250	850	400	400
2000	1000	400	500	1500	850	400	500
2250	1000	450	500	1800	850	450	500
2500	1200	450	500	2150	1000	500	500
3200	1200	500	600	2750	1000	500	600
4000	1350	500	600	3500	1200	600	600
5000	1350	600	600	4000	1200	700	700
6300	1350	700	600	5000	1500	750	700

PHASE CROSSOVER



COPPER	STANDARD SIZE (mm)	ALUMINIUM	STANDARD SIZE (mm)
RATING	A	RATING	A
1000	1500	800	1500
1250	1500	1000	1500
1600	1500	1250	1500
2000	1500	1500	1500
2250	1500	1800	1500
2500	1500	2150	1500
3200	1500	2750	1500
4000	1500	3500	1500
5000	1500	4000	1500
6300	1500	5000	1500

SPECIFICATIONS

CERTIFICATIONS & STANDARDS

The equipment covered by this specification shall unless otherwise stated, be designed, constructed and tested in accordance with the latest revision of relevant International Standards.

IEC 61439-6	Low Voltage Switchgear and Control Gear Assemblies – Busbar Trunking Systems.
IEC 60332 Prt-3	Resistance to Flame Propagation
IEC 60695 Prt-2	Resistance of the Materials to Abnormal Heat
IEEE 693	Recommended Practice for Seismic Design of Subtations
ISO 834	Integrity of Electrical Circuits Under Fire Condition & The Verification of Fire Barrier
ISO 9001:2015	Quality Management System

Busbar system shall be tested at any independent internationally accredited laboratory for below tests:

1. Verification of Temperature Rise Limits
2. Verification of The Dielectric Properties
3. Verification of The Short Circuit Withstand Strength
4. Verification of The Effectiveness of The Protective Circuit
5. Verification of Clearance & Creepage Distances
6. Verification of Mechanical Operation
7. Verification of The Degree of Protection
8. EMC Tests (as applicable)
9. Verification of The Resistance of Insulating Materials to Abnormal Heat and Fire
10. Verification of the Electrical Characteristics
11. Verification of Structural Strength
12. Verification of Crushing Resistance
13. Veirification of Resistance to Flame Propagation
14. Verification of The Fire Resistance in Building Penetration

Busbar system shall include a CE MARK on its labels in accordance with the LV directive number 2014/35/EU. Products shall be individually labelled and indicate brand, series, electrical details and manufacturing date.

ELECTRICAL CHARACTERISTICS

Busbar System Rated Operational Voltage Ue and Rated Insulation Voltage Ui shall be 1000V. Busbar trunking system shall be capable of withstanding the short circuit capacity of the electrical installation without damaging the electrical, mechanical and thermal stress under fault condition of the service voltage.

Rated Current Aluminium Conductor	Short Circuit Withstand Capacity	Rated Current Copper Conductor	Short Circuit Withstand Capacity
630A ~ 800A	36kA/Sec Ipk-75.6kA	800A ~ 2250A	65kA/Sec Ipk-143kA
1000A ~ 1600A	50kA/Sec Ipk-105kA	2500A ~ 6300A	100kA/Sec Ipk-220kA
2000A ~ 6000A	100kA/Sec Ipk-220kA		

- The maximum hot spot temperature rise at any point of the busbar enclosure at continuous rated load shall not exceed 55°C above the max ambient temperature of 40°C in any position.

CONSTRUCTION

- Shall be totally enclosed, non-ventilated design busbar and is fully insulated using halogen free, fire retardant polyester insulation.
- The construction shall be 'True Sandwich' System and also at the plug-in points. Conductors shall be so arranged in the enclosure with no air gap to achieve low reactance.
- Enclosure Material shall be EC Grade Aluminium RAL 7035 Electrostatic Coated.
- Entire length shall be rivetted.

CONDUCTORS

- Busbar conductors shall be Mill Finish rectangular cross-section. The purity and conductivity of the busbars shall be:

Conductor Type		Purity	Conductivity
Copper	ETP Grade	>99.9%	>100% IACS
Aluminium	EC Grade	>99.5%	>59.5% IACS

Aluminium / Copper conductors between phases shall be insulated by double sheath Polyester.

- Range for Copper Busbar System : 800A ~ 6300A
- Range for Aluminium Busbar System : 800A ~ 6300A

Configuration Options ;

1. 3P+100%N*+Housing PE
2. 3P+100%N*+50% Internal Earth
3. 3P+200%N*+Housing PE
4. 3P+100%N*+ 100% Internal Earth

** Neutral conductors shall be fully insulated and same cross-section of phase conductors.*

INSULATION

- Busbar shall meet UL F-Rated insulation Class.
- Joint plate insulation shall be minimum Class-F UL94V0 Halogen free, Red Phosphorus free and complies with RoHS. Insulating material shall be self-extinguishing and non-fire propagating type.

JOINT CONSTRUCTION

- Joint Pack shall comprise two fish plates per phase and use shear off nut system with Belleville washers to tighten the joints. It shall be possible to remove the Joint Pack as an Assembly to isolate the Sections in case of Fault.
- Joint shall be so designed to allow removal of any length without disturbing adjacent length.
- Each bolt of monoblock to be supplied with belleville washer on either side to achieve uniform contact pressure on the bar so as to absorb all the mechanical vibrations due to the flow of current. The tightening of the joint to be done by double headed torque nut to specified torque setting.

INGRESS PROTECTION

Busbar Trunking System shall be totally enclosed and comply with degree of protection of at least IP55, as specified and defined in IEC 60529.
The plug-in outlet and joint cover/plug-in tap off box should comply with minimum IP54.

** Provide final protection to ensure that moisture does not enter bus assembly.*

Indoor Installation	IP55
Outdoor Installation*	IP65 / IP67
Plug-in Units	IP54
IP for Plug-in Openings	IP2X

** Canopy is highly recommended to enhance product performance and life time.*

ACCESSORIES

- Standard range of accessories shall include Horizontal and Vertical Elbows, T-Elements, Dihedral Elbows, Phase Transposition, Expansion Joints, Reducers, Connecting Elements to Switchgear/Transformer/Generator.
- The busbar system shall have standalone expansion element and be fitted at least every 40m of horizontal run and wherever busbars cross a building expansion.

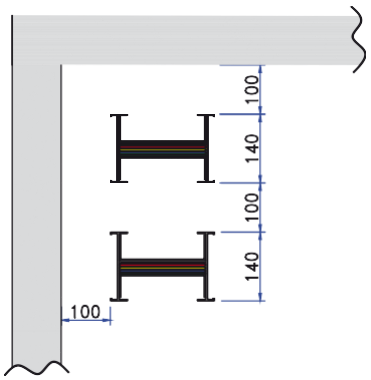
TAP OFF BOXES

- Shall be constructed from Galvanized Sheet Steel with paint finish
- Shall be interlocked with the busbar trunking housing to prevent removal of plug-in unit when the switch is at 'ON' position.
- Shall have hinged front cover, provision for external operating handle with ON / OFF / TRIP indications.
- Plug-in contacts shall be silver plated.
- Tap off boxes shall be suitable for any brand of MCCBs.
- Shall be suitable for supplying three phase loads from 63A to 800A.
- Plug in type Tap Off Boxes shall be installed and removed when busbar is energized. *(Refer Manual)*
- Shall have protective conductor which is the first to make an electrical connection when plugged into the outlet, and the last to disconnect when the tap-off is unplugged.

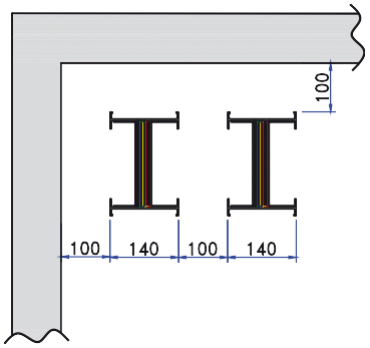
CERTIFICATION

VERTICAL & HORIZONTAL
BUSBAR ARRANGEMENT

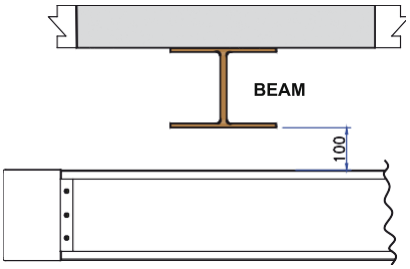
FLATWISE POSITION

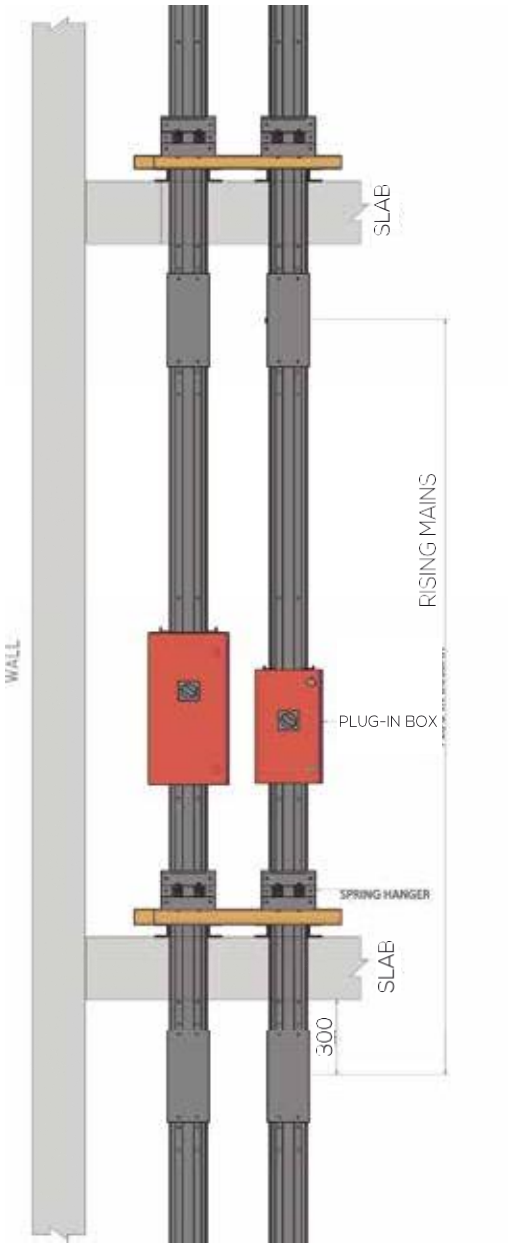


EDGEWISE POSITION

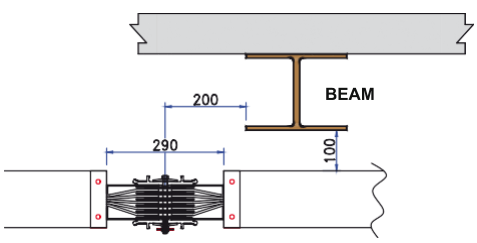


CROSSING UNDER A BEAM EDGEWISE POSITION

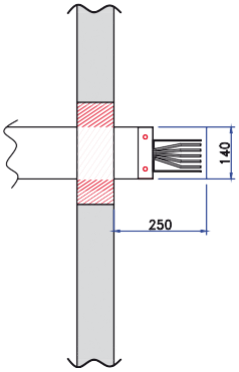




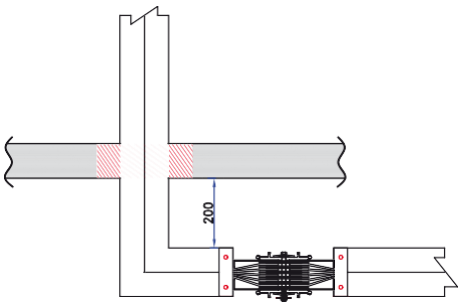
CROSSING UNDER A BEAM FLATWISE POSITION



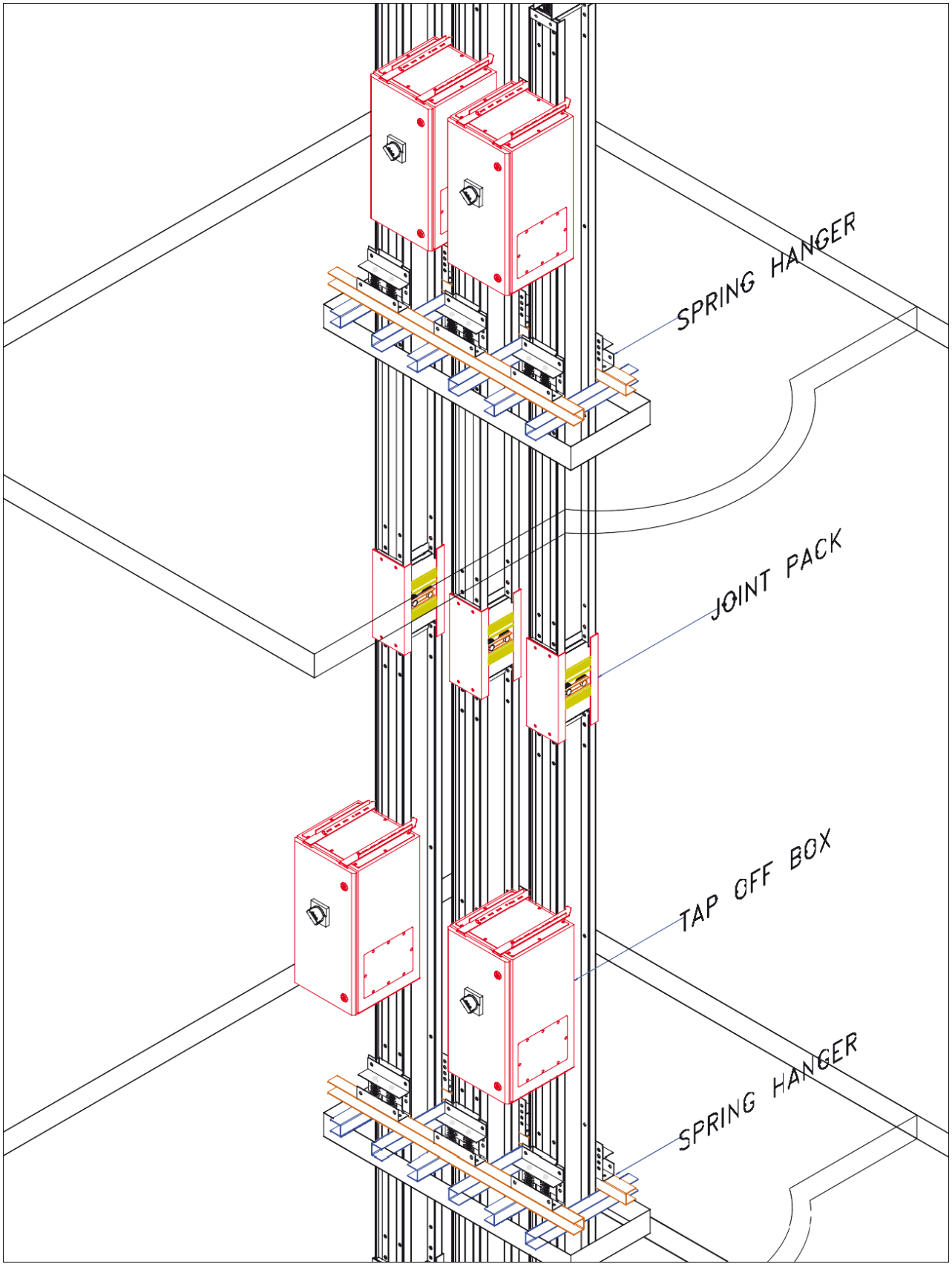
STANDARD WALL CROSSING



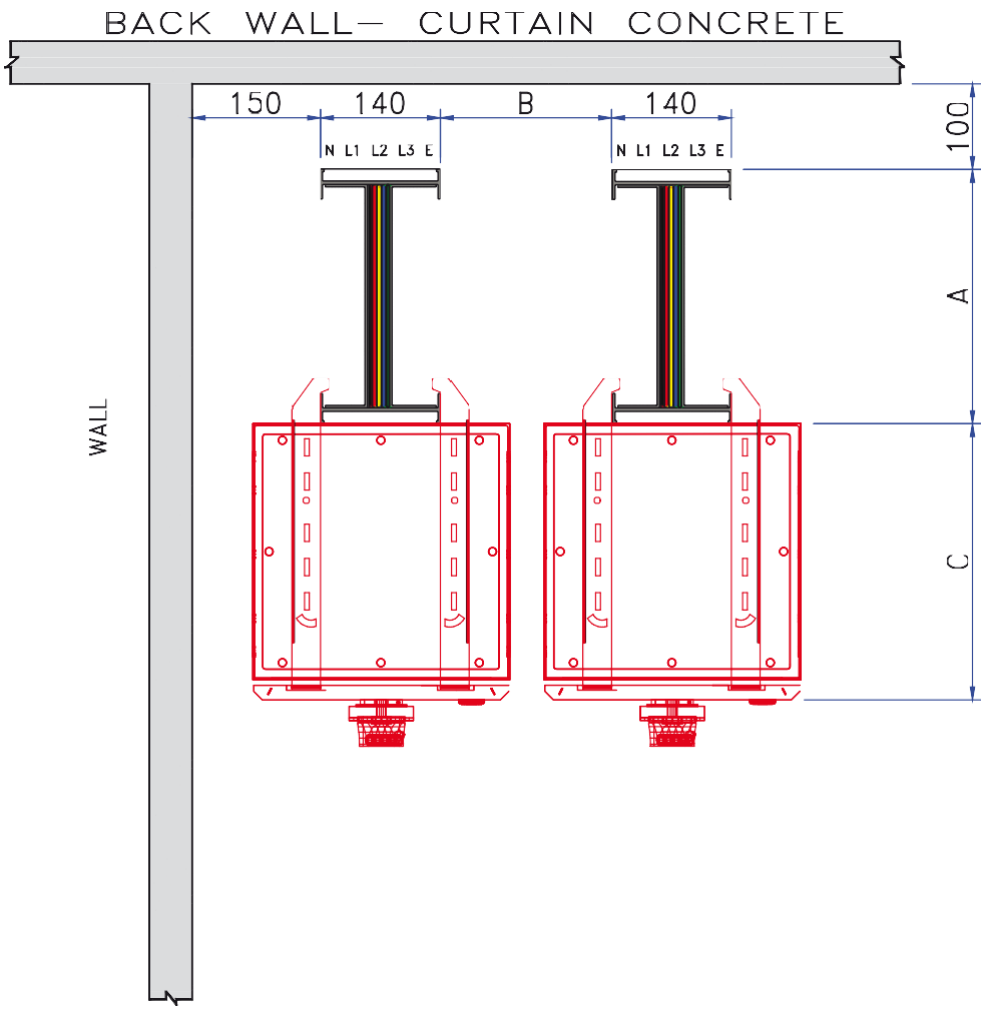
STANDARD SLAB CROSSING

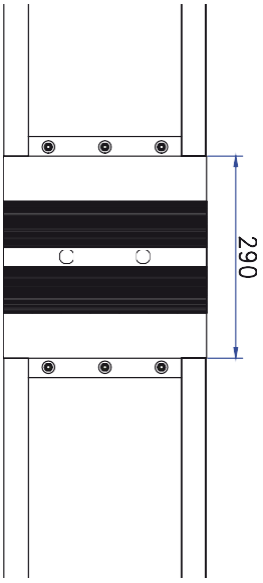


VERTICAL ARRANGEMENT



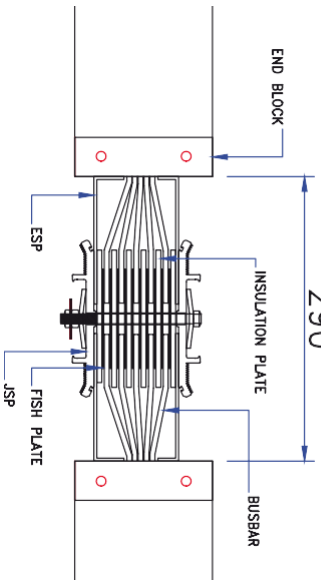
VERTICAL ARRANGEMENT





RATING	Alu BBT Depth (A)	TOB RATING 63A~400A (B)	TOB RATING 630A~800A (B)	TOB DEPTH 63A~250A (C)	TOB DEPTH 400A (C)	TOB DEPTH 630A~800A (C)
1000A	137 mm	200 mm	300 mm	300 mm	320 mm	400 mm
1250A	157 mm					
1500A	197 mm					
1800A	237 mm					
2150A	287 mm					
2750A	337 mm					
3500A	437 mm					
4000A	537 mm					

RATING	Cu BBT Depth (A)	TOB RATING 63A~400A (B)	TOB RATING 630A~800A (B)	TOB DEPTH 63A~250A (C)	TOB DEPTH 400A (C)	TOB DEPTH 630A~800A (C)
1000A	117 mm	200 mm	300 mm	300 mm	320 mm	400 mm
1250A	127 mm					
1600A	157 mm					
2000A	187 mm					
2500A	227 mm					



PROJECT DESIGN FORM

NOTES

ITEM	QUANTITY

COMPANY :

PROJECT :

PROJECT NO. :

PREPARED BY

NAME :

DATE :

SIGN. :

NOTES

ITEM	QUANTITY

COMPANY :

PROJECT :

PROJECT NO. :

PREPARED BY

NAME :

DATE :

SIGN. :

NOTES

ITEM	QUANTITY

COMPANY :

PROJECT :

PROJECT NO. :

PREPARED BY

NAME :

DATE :

SIGN. :

SUPERBAR

BUSBAR TRUNKING SYSTEMS

superbar.ae

Orel South Asia Pvt Ltd
Plot No-74, Block-A, Okhla
Industrial Area FIEE complex
Phase -2,
New Delhi-110020.

IEC 61439-6

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