MEGADUCT

REVOLUTION SERIES

The Manufacturer & Designer of

BUSDUCT SYSTEM

MEGADUCT

CONTENT

MEGADUCT

OUR BACKGROUND

LINKK Busway Systems (M) Sdn Bhd is the leading designer and manufacturer of busduct trunking systems in Asia Pacific. Established in 1992, we have expanded our operations and now supply busduct trunking systems to over 30 countries worldwide.

Our focus on product R&D and manufacturing standards ensures that we are able to continuously improve product design and performance. In providing a product line that complies with newest international standards, we are constantly upgrading ourselves with renowned certification bodies like ASTA, KEMA, UL etc.

LINKK is determined to combine the best available product with the most comprehensive customer service in our delivery commitment to all our clients. Together with a strong track record of both private and national-level projects, this is the best testament to our reliability.

OUR VISION

- We aim to become the leading busduct manufacturer in the world.
- To meet customer needs and provide prompt services.
- Committed to produce uniform product quality and achieve total customer satisfaction.

VISION STATEMENT

We aim to design and manufacture the most reliable busduct system and provide custom engineering to our clients.

COMPANY QUALITY POLICY

- Total customer's satisfaction.
- Consistent product quality.
- Continual improvement.

OUR MISSION

- Improving our quality by benchmarking our product and process.
- Expanding our range of products and services.
- Increasing our marketing activities worldwide.
- Investing in R&D.
- Developing and enhancing our human resources.

MEGADUCT

TECHNICAL FEATURES

MEGADUCT is a busduct system developed by **LINKK Busway Systems (M) Sdn Bhd**. It is designed for commercial and industrial electrical distributions.

Standards

MEGADUCT systems are tested and certified by **KEMA**, **ASTA** and **UL** to comply with:

- IEC 61439 Part 1:2011 (Updated from IEC 60439 Part 1:2005)
- IEC 61439 Part 6:2012 (Updated from IEC 60439 Part 2:2005)
- IEC 60331
- IEC 60529

Busduct types

MEGADUCT is light weight, low impedance, non-ventilated, naturally cooled and totally enclosed within the **steel** or **aluminium** housing for protection against mechanical damages and dust accumulation. It consists copper bars with conductivity 100% (IACS), or aluminium bars with conductivity >61% (IACS).

- Feeder and plug-in type busducts.
- Indoor protection IP40 ~ IP66.
- Outdoor protection IP66.
- Tap-off units (plug-in) protection IP2X/IP40/IP42/IP54/IP55.
- Fire retardant protection conforms to IEC 60331, CNS 14286 and BS 6387.

**IACS: International Annealed Copper Standard*

System

Our busduct can be applied to different system configuration as below:

- 3P3W
- 3P3W+50%E
- 3P4W
- 3P4W+50%E
- 3P4W+100%E
- 3P4W(200%N)
- 3P4W(200%N)+50%E
- 3P4W(50%N)
- 3P4W(50%N)+50%E

Other type of configuration can be designed upon special request from customer.

Unique features

The latest MEGADUCT systems are incorporated with many improved designs/features to provide cost effective solutions for building a power system:

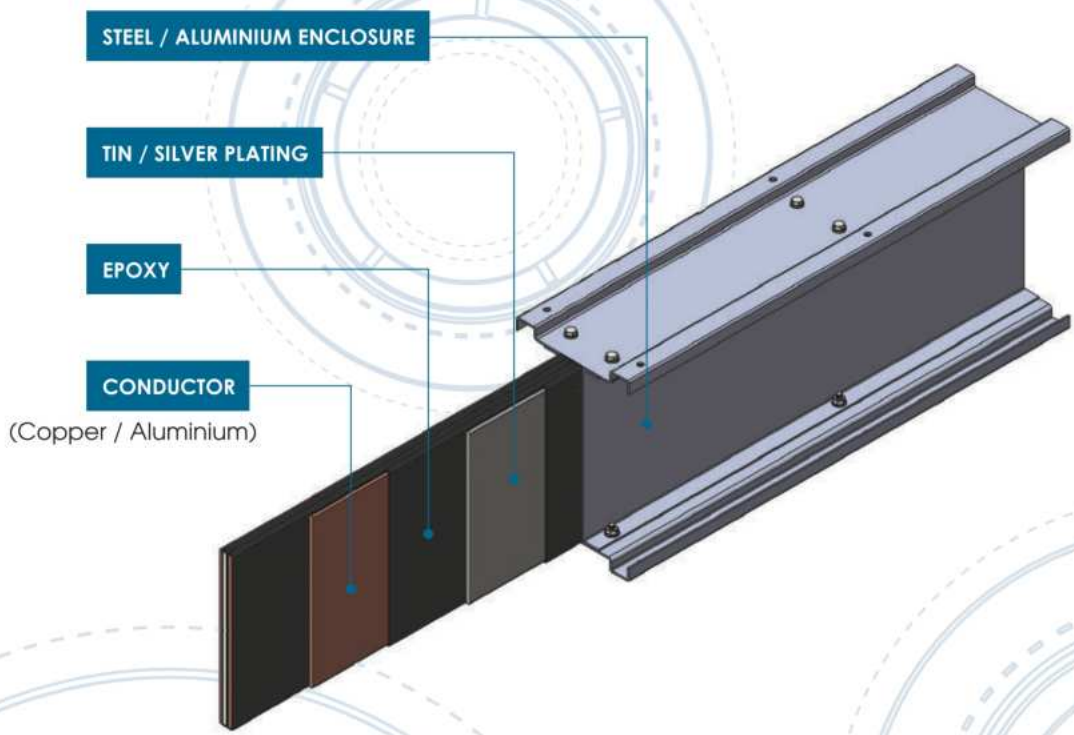
- Higher efficiency in power transmission/distribution.
- Lower installation cost.
- Easier maintenance.
- More compact and suitable for tight plan room space.
- Higher reliability.
- Longer life span.
- Higher flexibility for future expansion.
- Extremely flexible in installation.

MEGADUCT CONDUCTOR

All MEGADUCT conductor are high density and conductivity. Copper conductor has minimum purity of 99.95% with conductivity of >100% IACS while aluminium has minimum purity of 99.7% with conductivity>61% IACS. It is fabricated through a sophisticated thermal compression process developed by Megaduct which involves application of tremendous heat under high pressure. It can be tinned or silver-plated with epoxy powder coated as insulation giving 100% water and chemical resistance. Optional specifications can be designed and fabricated to customer requirement.

Advantage of using MEGADUCT conductor are:

- High electrical conductivity
- Low impurity
- Excellent fatigue resistance
- High thermal conductivity
- High mechanical strength
- Outstanding corrosion resistant



MEGADUCT EPOXY

Megaduct Epoxy System is the 3rd generation with own formulation. The class H-180°C standard epoxy coating provides 100% water proofing and high mechanical strength. It has been tested in accordance with IEC 61439-1 and IEC 61439-6.

Advantages of using epoxy coating as insulations are :

- Design to withstand glitch and spikes in electrical system.
- Design to cater for expansion and contraction during peak and off-peak hours.
- Capable of withstanding heat shock.
- High reliability under static conditions.
- High mechanical strength against impact.
- High thermal conductivity.
- Water and chemical resistant.

MEGADUCT

OTHER INSULATION TYPE

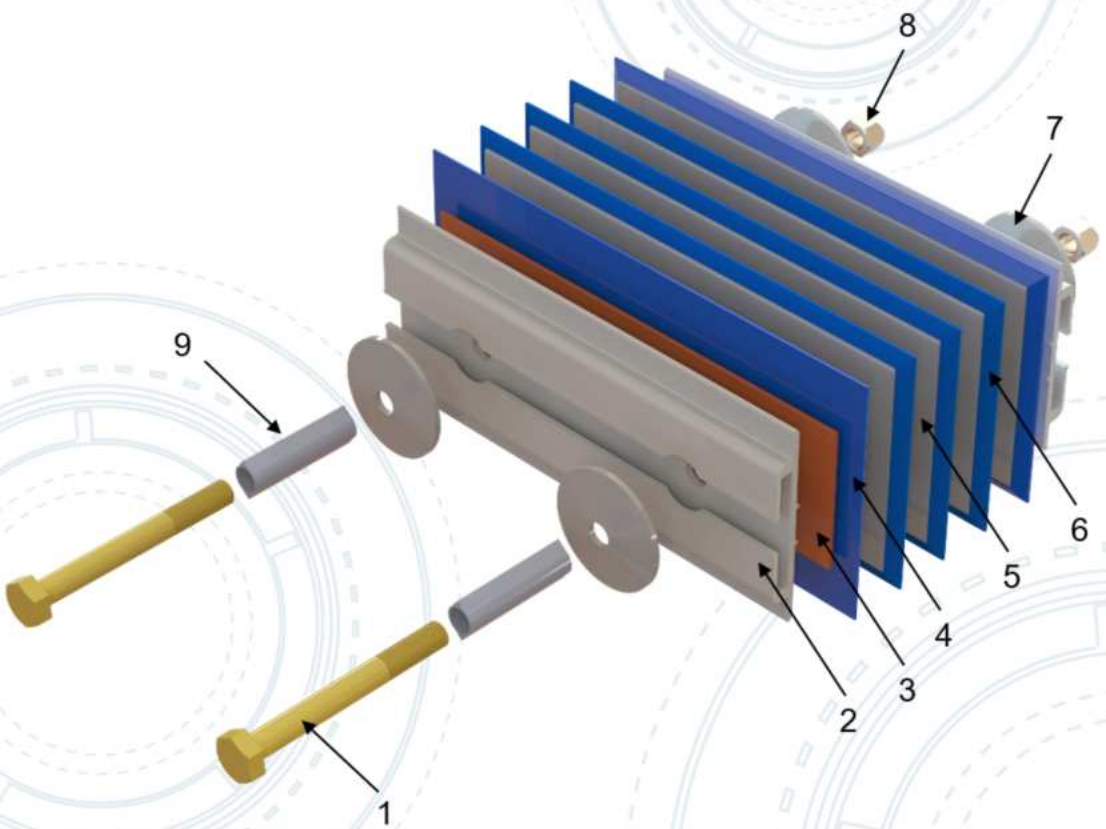
Besides epoxy insulation, we also provide other classes of insulation as below:

- **Class B** - It consists of two layers of Mylar(Polyester Film) which resists temperature up to 130°C.
- **Fire Rated** - It consists of 1 layer of Mylar(Polyester Film) and 2 layers of Mica (mineral silicate sheet) which resist temperature up to 950°C.

JOINT SYSTEM

In order to overcome extreme rugged conditions at site, the new MEGADUCT joint has been designed precisely and manufactured using the highest quality of materials to minimize all possible problems and enhance system performance. This special design provides outstanding features as follows:

- Incorporates a 5mm thermal expansion and movement at every joint.
- Allow ±15mm of lateral adjustment(total 30mm) to correct site measurement inaccuracy.
- Able to tilt an angle of ±5°(total 10° along single axis).
- Bolt and nuts can be stainless steel, galvanized or chromed black high tensile steel.
- Degree of protection of IP40~IP66.
- Easy installation and removal of any joint in a run without disturbing the two adjacent busduct sections.
- Water/chemical resistance BMC insulation plates.



1.Joint bolt
2.Joint backing plate
3.Joint Earth Bar
4.Joint end insulator
5.Joint conductor bar
6.Joint phase insulator
7.Belleville disc
8.Nylon lock nut
9.Fiber tube

TAP-OFF UNITS(PLUG-IN UNITS)

Tap-off unit with moulded case circuit breaker(MCCB) or fused-switch breakers of various current ratings are available to cater for most installations. Maximum 5 tap-off units per side can be installed, total 10 nos per length of 3m busduct subject to the size of MCCBs.

- All tap-off unit are designed with interlocking safety features to prevent removal when tap-off unit in 'On' position.
- When tap-off unit cover is open, automatically MCCB cannot be turned 'On'

On/off handle design

(a) Single Handle Design

(b) Double Handle Design

Bottom entry cable design

**For Tap Off-Unit above 300A is using double handle design.*

(a) Single Handle Design

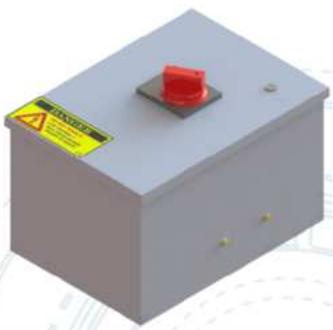
(b) Double Handle Design

Top entry cable design

**For Tap Off-Unit above 300A is using double handle design.*

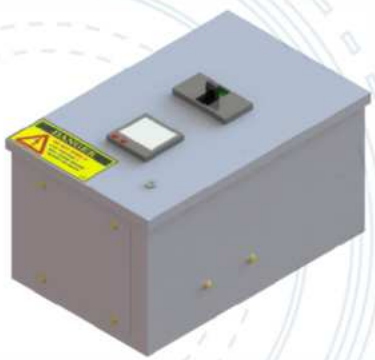
Rotary handle design

Bottom entry cable design



Top entry cable design

Outlet design



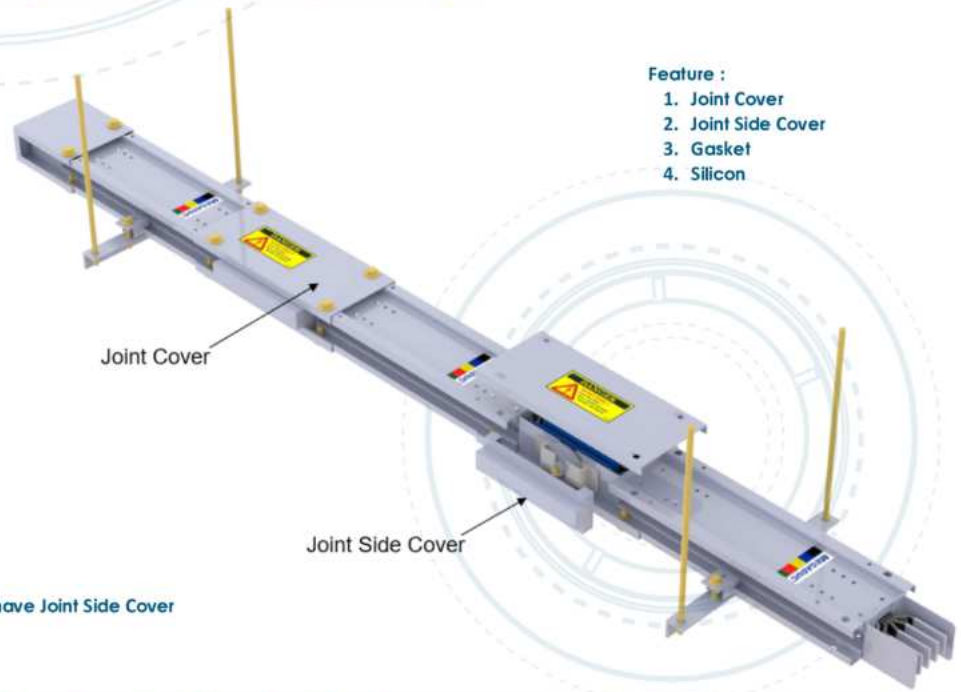
Bottom entry cable design

Top entry cable design

MEGADUCT

IP BUSDUCT

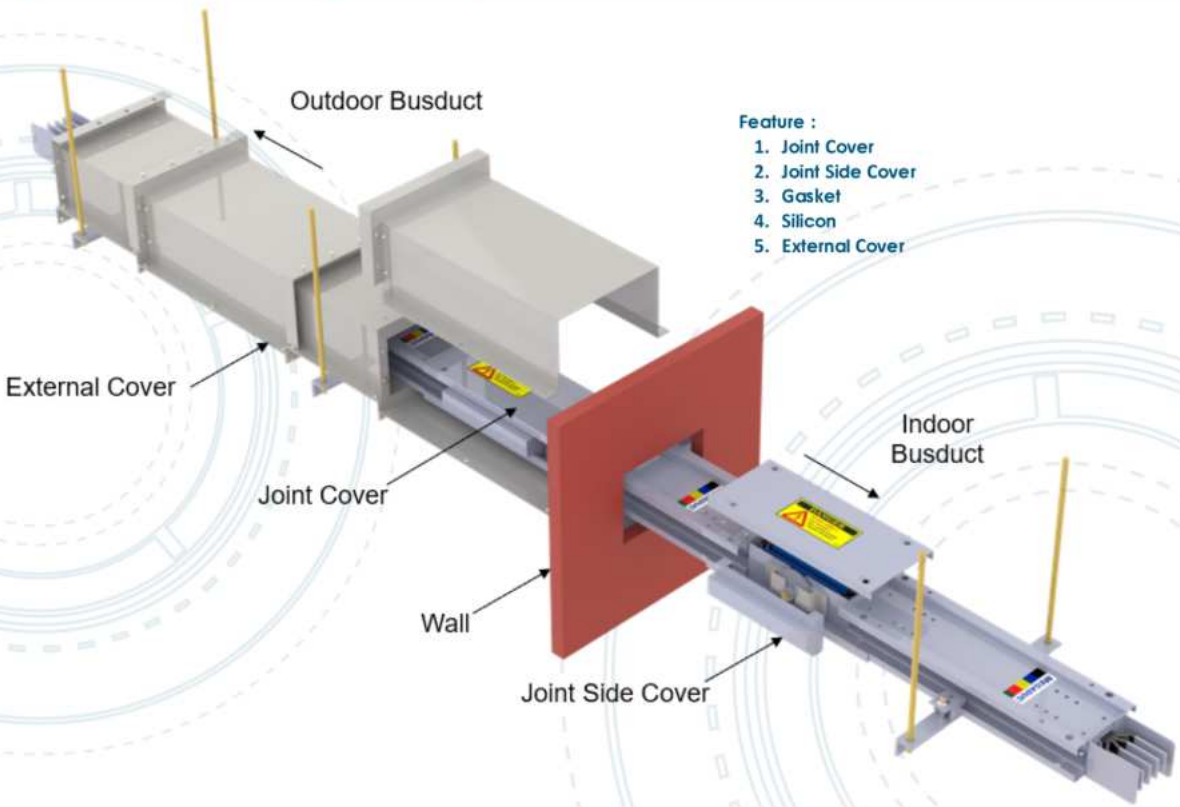
IP 54 to IP66 (Indoor Busduct Application)



Feature :
1. Joint Cover
2. Joint Side Cover
3. Gasket
4. Silicon

* IP42 does not have Joint Side Cover

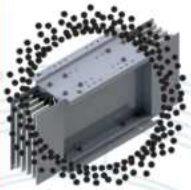
IP 66 (Outdoor Busduct Application)



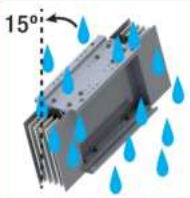
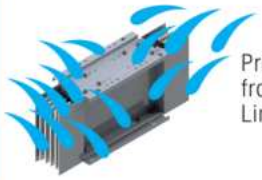
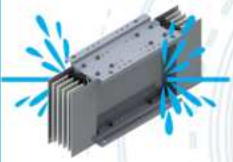
Feature :
1. Joint Cover
2. Joint Side Cover
3. Gasket
4. Silicon
5. External Cover

IP (INGRESS PROTECTION RATING GUIDE)

SOLIDS

1		Protection against a solid object greater than 50mm such as a hand.
2		Protection against a solid object greater than 12.5mm such as a finger.
3		Protection against a solid object greater than 2.5mm such as a screwdriver.
4		Protection against a solid object greater than 1mm such as a wire.
5		Dust Protected. Limited ingress of dust permitted. Will not interfere with operation of the equipment. Two to eight hours.
6		Dust tight. No ingress of dust. Two to eight hours.

WATER

1		Protection against vertically falling drops of water. Limited ingress permitted.
2		Protection against vertically falling drops of water with enclosure tilted up to 15 degrees from the vertical. Limited ingress permitted.
3		Protection against sprays of water up to 60 degrees from the vertical. Limited ingress permitted for three minutes.
4		Protection against splashed from all directions. Limited ingress permitted.
5		Protection against jets of water. Limited ingress permitted.
6		Water from heavy seas or water projected in powerful jets shall not enter the enclosure in harmful quantities.
7		Protection against the effects of immersion in water between 15cm and 1m for 30 minutes
8		Protection against the effects of immersion in water under presure for long periods.

Rating Example:

MEGADUCT

CONFIGURATION OF MEGADUCT BUSWAY TRUNKING

Electrical Characteristics For Copper & Aluminium in 50Hz

Copper - 50Hz

Rated Current (A)	Cross Sectional Area in mm2	Impedance (10^{-6} Ω/m)			Line to line voltage drop in (mV/m) at rated current and various power factors								
		R	X	Z	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20
400	400	48.30	26.80	55.24	33.46	38.21	37.91	36.68	34.93	32.81	30.40	27.75	24.89
630	630	46.10	25.80	52.83	50.30	57.55	57.13	55.32	52.70	49.53	45.92	41.95	37.64
800	240	44.72	21.40	49.58	61.97	68.69	67.36	64.55	60.90	56.66	51.96	46.88	41.45
1000	360	36.10	19.38	40.97	62.53	70.91	70.16	67.74	64.37	60.33	55.78	50.78	45.39
1250	450	30.80	15.35	34.41	66.68	74.50	73.29	70.41	66.60	62.12	57.13	51.71	45.90
1600	600	22.36	12.10	25.42	61.97	70.39	69.69	67.32	64.01	60.02	55.52	50.58	45.25
2000	720	29.58	21.37	20.64	61.97	71.33	70.99	68.86	65.73	61.89	57.49	52.63	47.35
2500	960	26.20	20.10	15.84	58.11	68.19	68.36	66.71	64.03	60.63	56.66	52.21	47.35
3200	1320	9.58	4.67	10.66	53.10	59.07	58.01	55.65	52.57	48.96	44.96	40.62	35.98
4000	1680	6.71	3.75	7.69	46.49	53.16	52.78	51.10	48.68	45.74	42.41	38.73	34.75
5000	2700	6.60	2.91	7.21	57.16	62.43	60.85	58.01	54.46	50.40	45.96	41.19	36.12

Aluminium - 50Hz

Rated Current (A)	Impedance (10^{-6} Ω/m)			Line to line voltage drop in (mV/m) at rated current and various power factors									
	R	X	Z	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10
400	134.23	82.12	157.36	93.00	108.50	108.53	105.73	101.31	95.77	89.34	82.17	74.34	65.91
630	101.20	62.42	118.90	110.43	129.08	129.21	125.94	120.75	114.20	106.60	98.10	88.82	78.81
800	73.80	20.16	76.50	102.26	104.21	98.57	91.53	83.70	75.32	66.51	57.33	47.82	38.02
1000	52.50	15.68	54.79	90.93	93.68	89.04	83.05	76.29	68.99	61.26	53.19	44.80	36.12
1250	41.97	11.26	43.45	90.87	92.41	87.32	81.02	74.02	66.55	58.69	50.52	42.06	33.34
1600	30.78	9.76	32.29	85.30	88.56	84.47	79.03	72.82	66.07	58.91	51.39	43.56	35.44
2000	23.08	7.97	24.42	79.95	83.99	80.53	75.68	70.06	63.89	57.28	50.32	43.04	35.47
2500	20.98	6.75	22.04	90.85	94.50	90.21	84.47	77.89	70.74	63.13	55.14	46.81	38.17
3200	15.39	5.02	16.19	85.30	88.90	84.93	79.58	73.44	66.75	59.62	52.13	44.32	36.21
3600	11.54	2.32	11.77	71.96	71.07	66.24	60.70	54.75	48.51	42.04	35.39	28.57	21.59
4000	11.54	2.32	11.77	79.95	78.96	73.61	67.44	60.83	53.90	46.71	39.32	31.74	23.99
5000	7.85	1.24	7.95	67.98	65.87	60.83	55.26	49.38	43.29	37.04	30.64	24.12	17.48
6300	6.87	1.32	7.00	74.96	73.75	68.61	62.76	56.50	49.96	43.19	36.23	29.11	21.83

Note: For the 60Hz calculation, divide the reactance (X) by 0.83. And the resistance (R) remains unchanged due to the negligible difference in frequency.

Voltage Drop Calculation

As per IEC 61439-6:2012

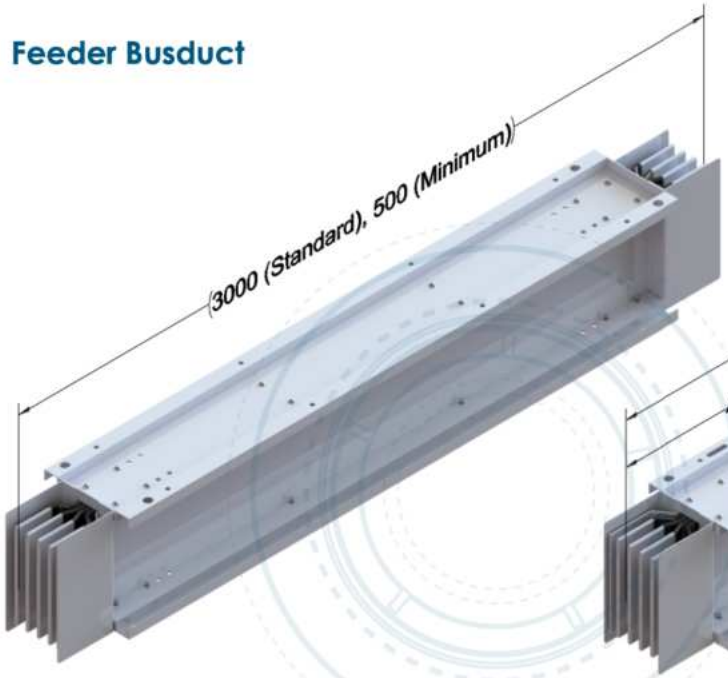
$$DV = k \times (\sqrt{3}) \times I (R \cos\varnothing + X \sin\varnothing)$$

where,

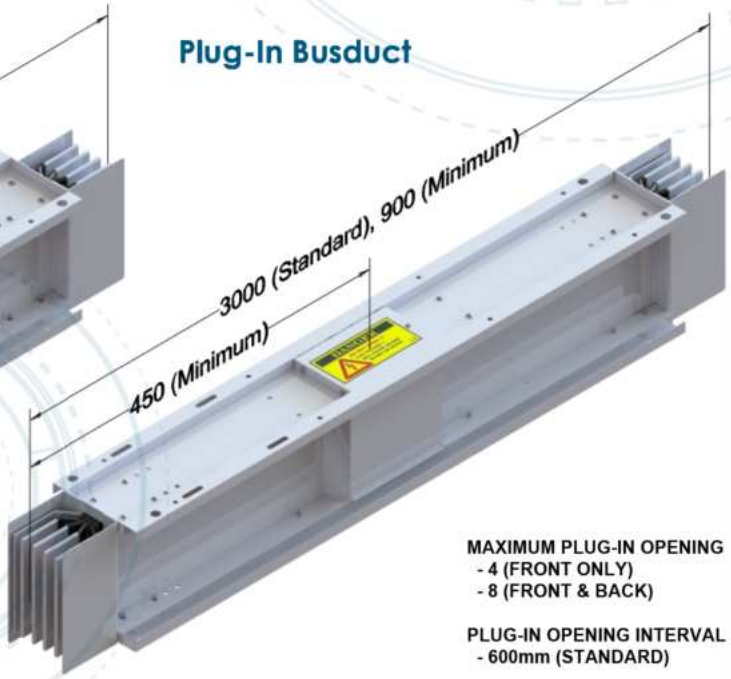
DV	=	Line to line voltage drop per meter (to be calculated)
I	=	Load curent
CosØ	=	Load Power Factor
SinØ	=	SinØ = Sq. Root (1 - $\cos^2\varnothing$)
R	=	Resistance
X	=	Reactance
k	=	The load distribution factor
	*	1 if the load is concentred at the end of the BT run;
	*	(n+1) / (2 x n) if the load is uniformly spread between n branches (where n = no. of TOU)

MEGADUCT STANDARD COMPONENTS

Feeder Busduct

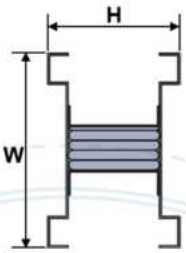


Plug-In Busduct

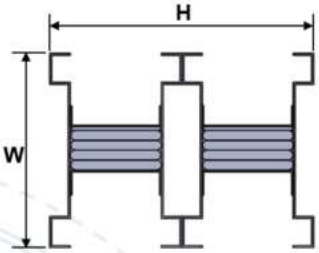


MAXIMUM PLUG-IN OPENING
- 4 (FRONT ONLY)
- 8 (FRONT & BACK)

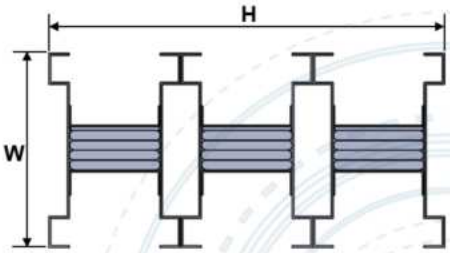
PLUG-IN OPENING INTERVAL
- 600mm (STANDARD)



[Fig.L1-1]



[Fig.L1-2]



[Fig.L1-3]

Copper

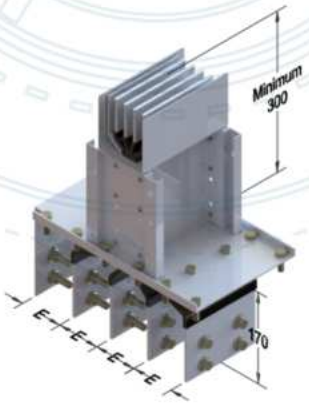
Ampere (A)	W x H (mm)			Weight (kg/m)		Fig.
				3P4W	3P4W+50%E	
400	150	x	74	14.0	15.0	L1-1
630	150	x	64	16.0	17.0	L1-1
800	150	x	74	17.0	18.0	L1-1
1000	150	x	94	21.5	23.0	L1-1
1250	150	x	104	25.0	27.0	L1-1
1600	150	x	134	28.5	31.0	L1-1
2000	150	x	188	42.5	46.0	L1-2
2500	150	x	218	51.0	55.0	L1-2
3200	150	x	268	67.0	73.0	L1-2
3600	150	x	288	71.0	77.0	L1-2
4000	150	x	348	84.5	92.0	L1-2
5000	150	x	468	129.0	140.0	L1-2
6300	150	x	582	150.0	163.0	L1-3

Aluminium

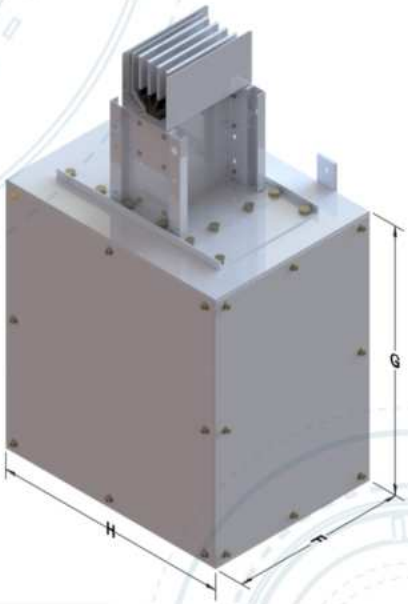
Ampere (A)	W x H (mm)			Weight (kg/m)		Fig.
				3P4W	3P4W+50%E	
400	150	x	59	9.7	10.0	L1-1
630	150	x	74	10.6	11.0	L1-1
800	150	x	84	11.5	12.0	L1-1
1000	150	x	114	14.3	15.0	L1-1
1250	150	x	144	17.0	18.0	L1-1
1600	150	x	184	21.7	23.0	L1-1
2000	150	x	234	26.3	28.0	L1-1
2500	150	x	288	24.0	36.0	L1-2
3200	150	x	368	43.5	46.0	L1-2
3600	150	x	468	52.5	56.0	L1-2
4000	150	x	468	52.5	56.0	L1-2
5000	150	x	582	71.0	75.0	L1-3
6300	150	x	792	95.0	101.0	L1-3

MEGADUCT

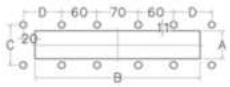
Flange End



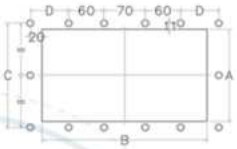
End Feed Cable Box



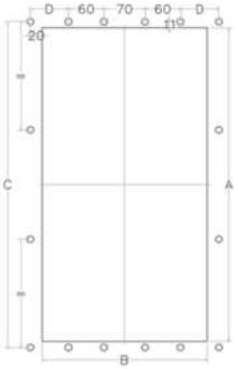
Mounting Cut Out



[Fig.2-1]



[Fig.2-2]



[Fig.2-3]

Copper

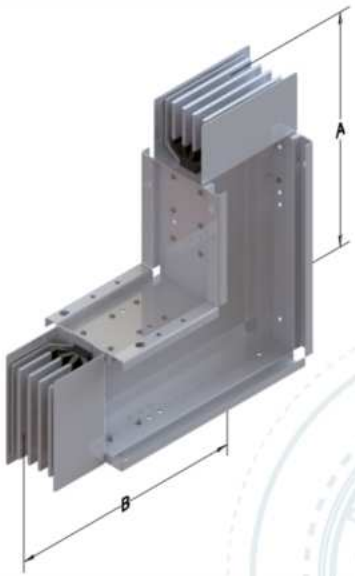
Ampere (A)	Mounting Cut Out (mm)				Interval (mm)	End Feed Box Size (mm)			Fig.
	A	B	C	D	E	F	G	H	
400	70	280	92	65	80	330	500	450	Figure 2-1
630	60		82						
800	70		92						
1000	90		112						
1250	100		122						
1600	130	340	152	95	100	450	650	550	Figure 2-2
2000	184		206						
2500	214		236						
3200	264		286						
3600	284		306						
4000	344		366			500			
5000	464		486			600			
6300	578		600			750	700		Figure 2-3

Aluminium

Ampere (A)	Mounting Cut Out (mm)				Interval (mm)	End Feed Box Size (mm)			Fig.
	A	B	C	D	E	F	G	H	
400	55	280	77	65	80	330	500	450	Figure 2-1
630	70		92						
800	80		102						
1000	110		132						
1250	140		162						
1600	180	340	202	95	100	450	650	550	Figure 2-2
2000	230		252						
2500	284		306			500			
3200	364		386			600	700		
3600	464		486						
4000	464		486			750			Figure 2-3
5000	578		600						
6300	788		810			950	800		

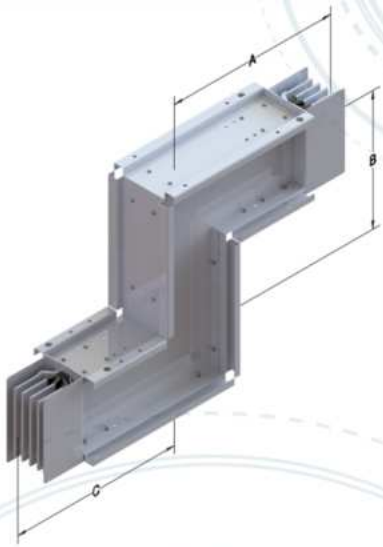
**Interval may varies to connection design, please refer to manufacturer.*

Flatwise Elbow



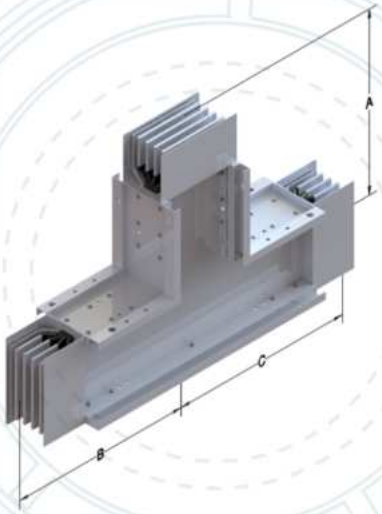
Ampere (A)	Copper	Aluminium
	Standard (mm) A x B	
400	335 x 335	330 x 330
630	330 x 330	335 x 335
800	335 x 335	340 x 340
1000	345 x 345	355 x 355
1250	350 x 350	370 x 370
1600	365 x 365	390 x 390
2000	390 x 390	415 x 415
2500	405 x 405	440 x 440
3200	430 x 430	480 x 480
3600	440 x 440	530 x 530
4000	470 x 470	530 x 530
5000	530 x 530	590 x 590
6300	590 x 590	695 x 695

Flatwise Offset



Ampere (A)	Copper	Aluminium
	Standard (mm) A x B x C	
400	335 x 300 x 335	330 x 300 x 330
630	330 x 300 x 330	335 x 300 x 335
800	335 x 300 x 335	340 x 300 x 340
1000	345 x 300 x 345	355 x 300 x 355
1250	350 x 300 x 350	370 x 300 x 370
1600	365 x 300 x 365	390 x 300 x 390
2000	390 x 300 x 390	415 x 300 x 415
2500	405 x 300 x 405	440 x 300 x 440
3200	430 x 300 x 430	480 x 300 x 480
3600	440 x 300 x 440	530 x 300 x 530
4000	470 x 300 x 470	530 x 300 x 530
5000	530 x 300 x 530	590 x 300 x 590
6300	590 x 300 x 590	695 x 300 x 695

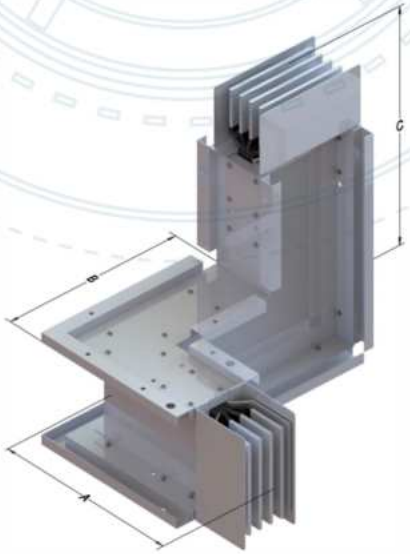
Flatwise Tee



Ampere (A)	Copper	Aluminium
	Standard (mm) A x B x C	
400	335 x 335 x 335	330 x 330 x 330
630	330 x 330 x 330	335 x 335 x 335
800	335 x 335 x 335	340 x 340 x 340
1000	345 x 345 x 345	355 x 355 x 355
1250	350 x 350 x 350	370 x 370 x 370
1600	365 x 365 x 365	390 x 390 x 390
2000	390 x 390 x 390	415 x 415 x 415
2500	405 x 405 x 405	440 x 440 x 440
3200	430 x 430 x 430	480 x 480 x 480
3600	440 x 440 x 440	530 x 530 x 530
4000	470 x 470 x 470	530 x 530 x 530
5000	530 x 530 x 530	590 x 590 x 590
6300	590 x 590 x 590	695 x 695 x 695

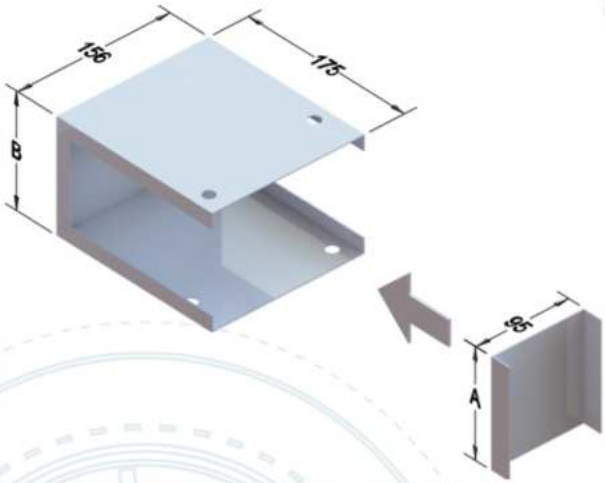
MEGADUCT

Combination Elbow



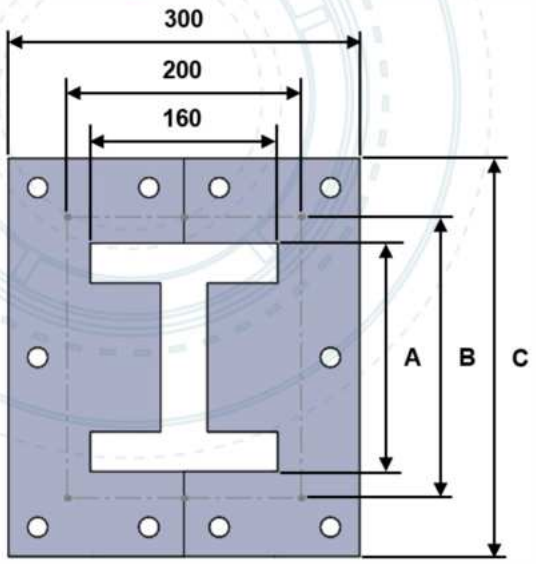
Ampere (A)	Copper	Aluminium
	Standard (mm) A x B x C	
400	310 x 300 x 335	310 x 300 x 330
630	310 x 300 x 330	310 x 300 x 335
800	310 x 300 x 335	310 x 300 x 340
1000	310 x 300 x 345	310 x 300 x 355
1250	310 x 300 x 350	310 x 300 x 370
1600	310 x 300 x 365	310 x 300 x 390
2000	310 x 300 x 390	310 x 300 x 415
2500	310 x 300 x 405	310 x 310 x 440
3200	310 x 310 x 430	310 x 350 x 480
3600	310 x 310 x 440	310 x 400 x 530
4000	310 x 340 x 470	310 x 400 x 530
5000	310 x 400 x 530	310 x 460 x 590
6300	310 x 460 x 590	310 x 570 x 695

End Cover



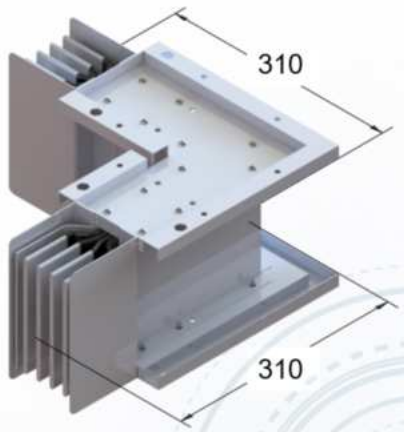
Ampere (A)	Copper	Aluminium
	Standard (mm) A x B	
400	74 x 80	59 x 65
630	64 x 70	74 x 80
800	74 x 80	84 x 90
1000	94 x 100	114 x 120
1250	104 x 110	144 x 150
1600	134 x 140	184 x 190
2000	188 x 195	234 x 240
2500	218 x 225	288 x 295
3200	268 x 275	368 x 375
3600	288 x 295	468 x 475
4000	348 x 355	468 x 475
5000	468 x 475	582 x 590
6300	582 x 590	792 x 800

Wall Flange

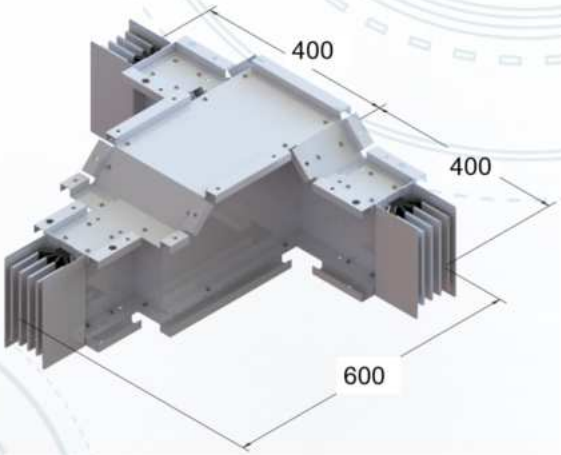


Ampere (A)	Copper	Aluminium
	Standard (mm) A x B x C	
400	85 x 130 x 230	70 x 115 x 215
630	75 x 120 x 220	85 x 130 x 230
800	85 x 130 x 230	95 x 140 x 240
1000	105 x 150 x 250	125 x 170 x 270
1250	115 x 160 x 260	155 x 200 x 300
1600	145 x 190 x 290	195 x 240 x 340
2000	200 x 245 x 345	245 x 290 x 390
2500	230 x 275 x 375	300 x 345 x 445
3200	280 x 325 x 425	380 x 425 x 525
3600	300 x 345 x 445	480 x 525 x 625
4000	360 x 405 x 505	480 x 525 x 625
5000	480 x 525 x 625	595 x 640 x 740
6300	595 x 640 x 740	805 x 850 x 950

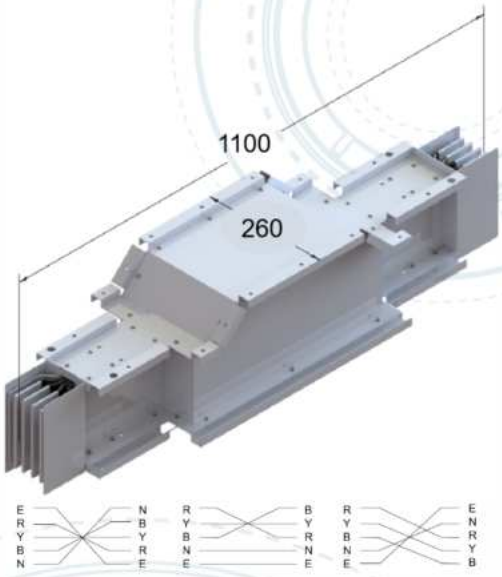
Edgewise Elbow



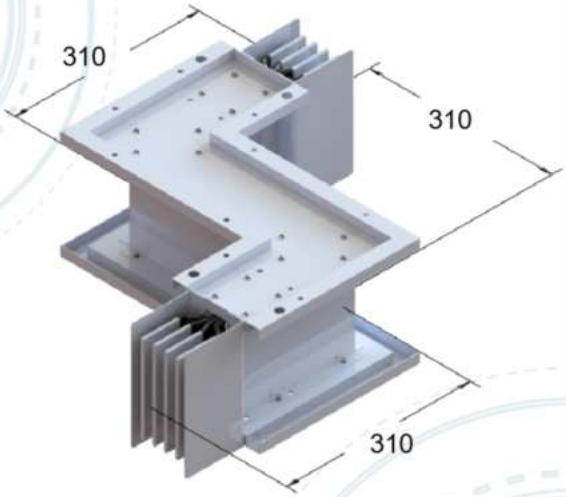
Edgewise Tee



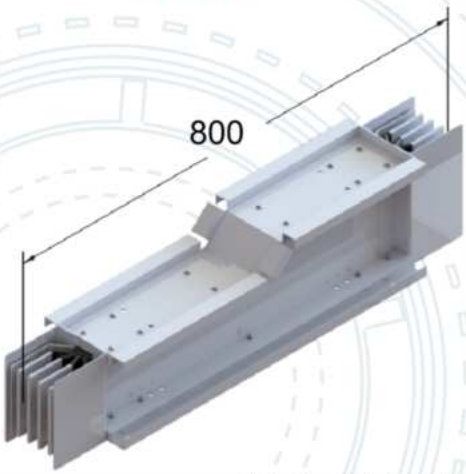
Phase Transposition Unit



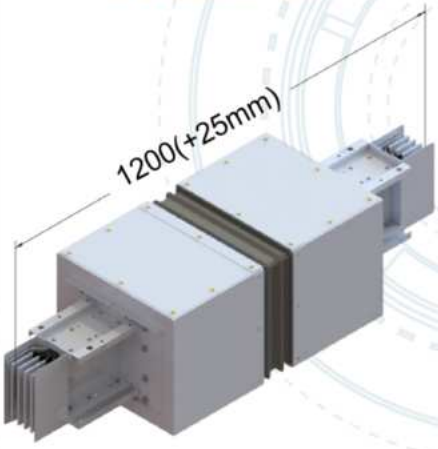
Edgewise Offset



Reducer



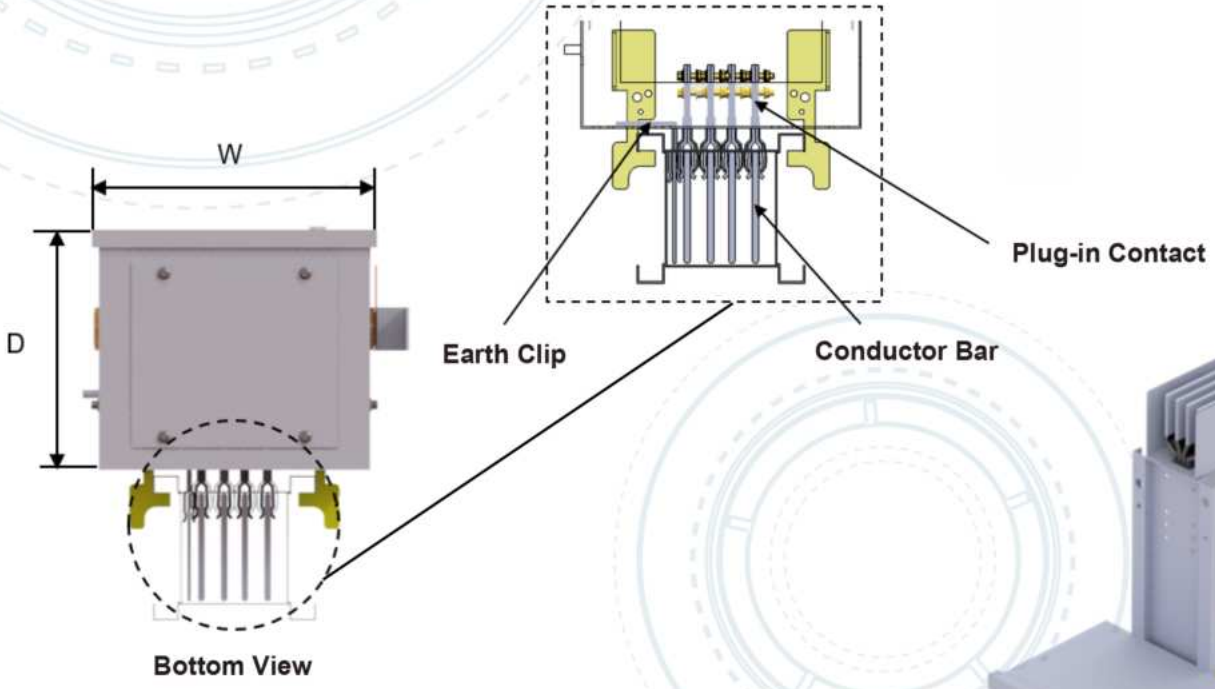
Expansion Unit

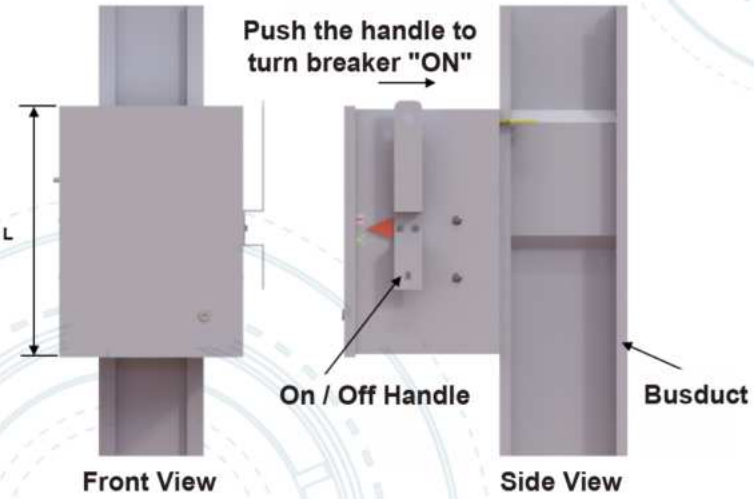


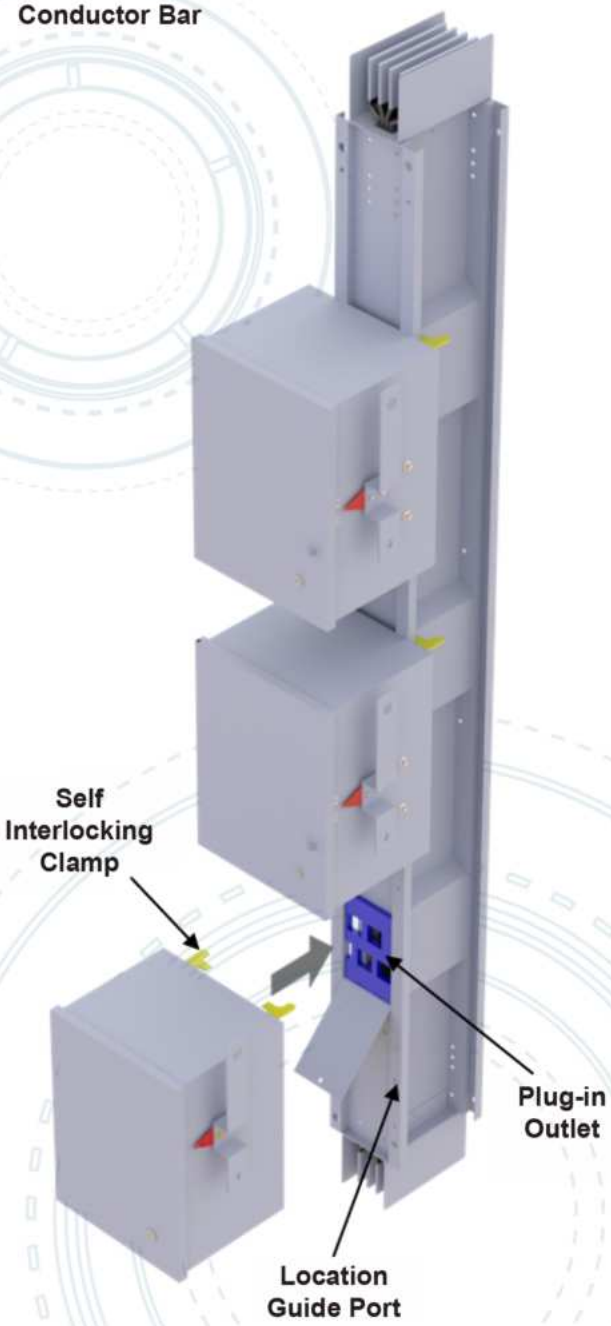
Noted:
* Edgewise Elbow = Horizontal Elbow
* Flatwise Elbow = Vertical Elbow
* Refer to manufacturer for SPECIAL degree Elbow

MEGADUCT

Tap-Off Unit





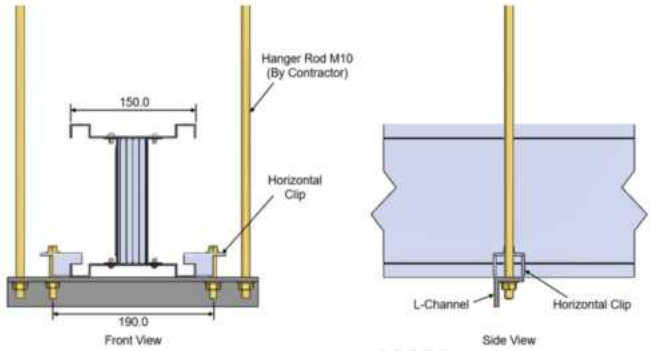


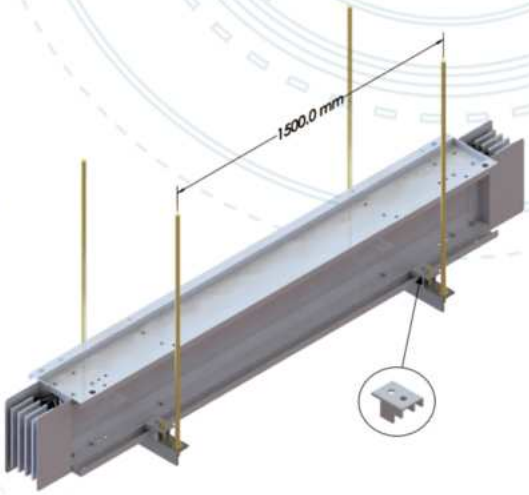
Ampere (A)	Box Size (mm) D x W x L		
15A ~ 125A	220	250	350
150A ~ 400A	250	250	500
500A ~ 800A	300	350	850

* Tap-Off Unit above 400A use double Plug-in outlet
* Refer to manufacturer for Tap-Off above 800A
* Box size may varies to MCCB Model, please refer to manufacturer for details
* Quick and easy modifications or expansions with tap–off units (up to 800A) on energised[1] busbars.

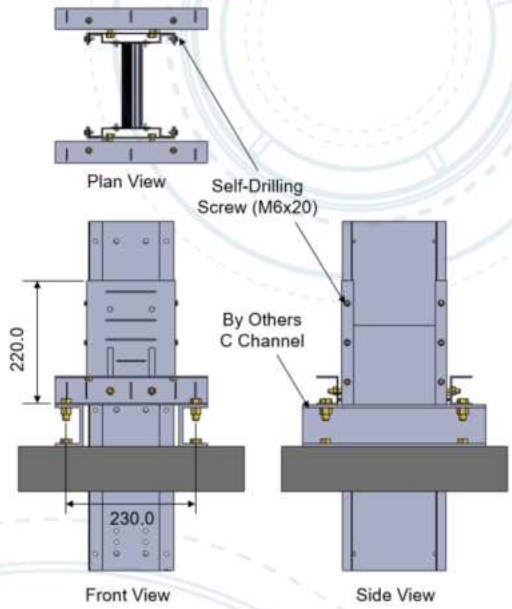
1) In accordance with EN 50110-1 (VDE 0105-1); please always observe national regulations/standards.

Horizontal Support(Clip)

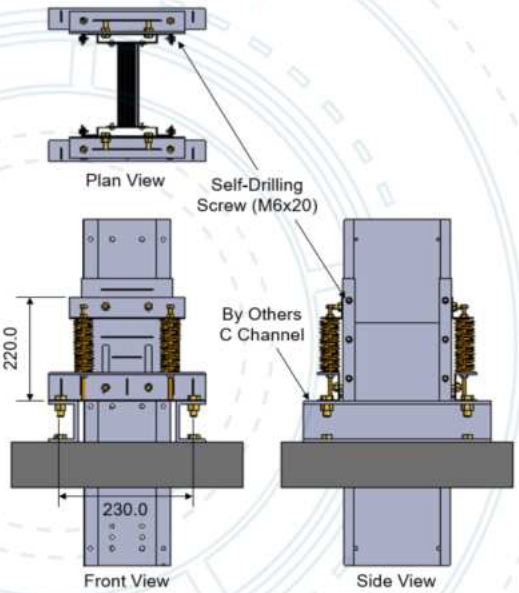


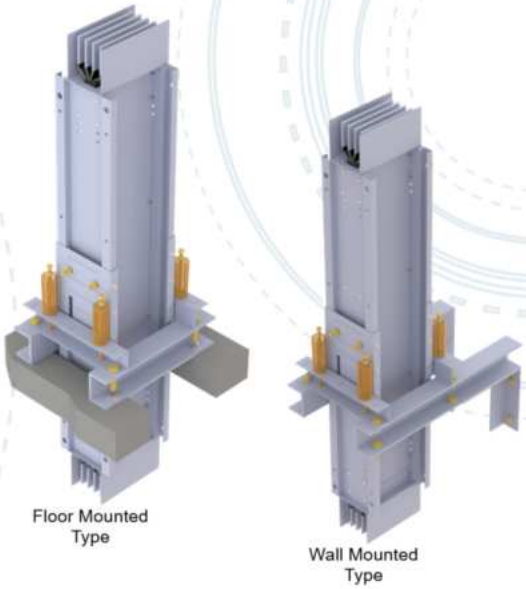


Vertical Fixed Support



Vertical Spring Hanger



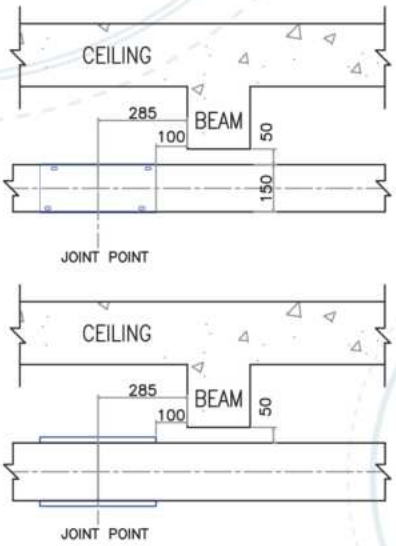


MEGADUCT

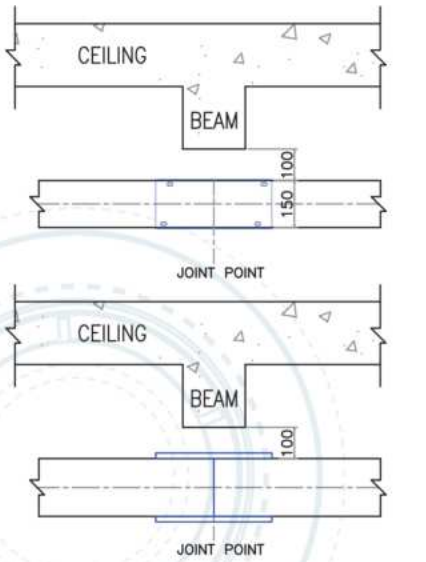
BUSDUCT LAYOUT DESIGN CONSIDERATION

Minimum Distance From Beam

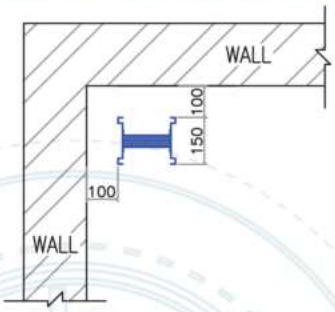
(BUSDUCT UNDER BEAM WITHOUT JOINT POINT)



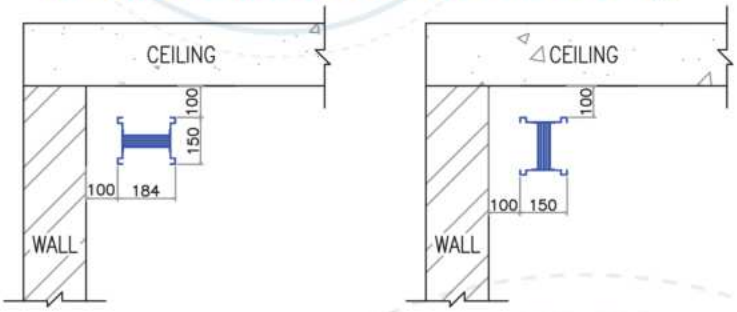
(BUSDUCT UNDER BEAM WITH JOINT POINT)



Minimum Distance From Wall

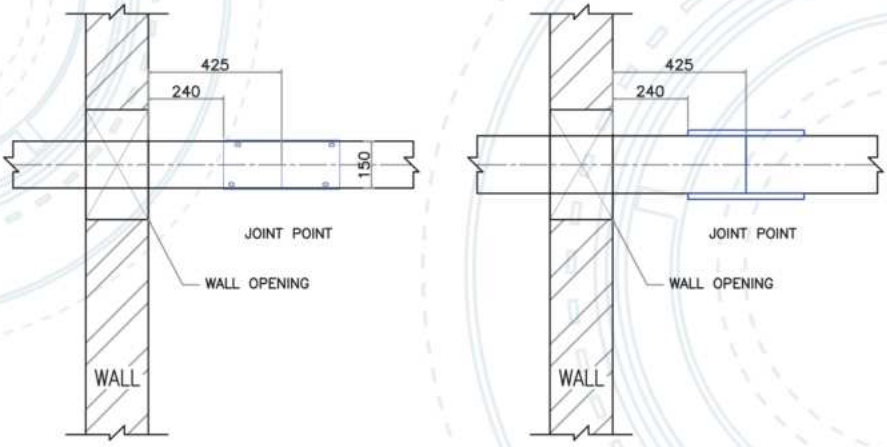


Minimum Distance From Wall And Ceiling



Busduct Jointing Point Through Wall Opening Installation

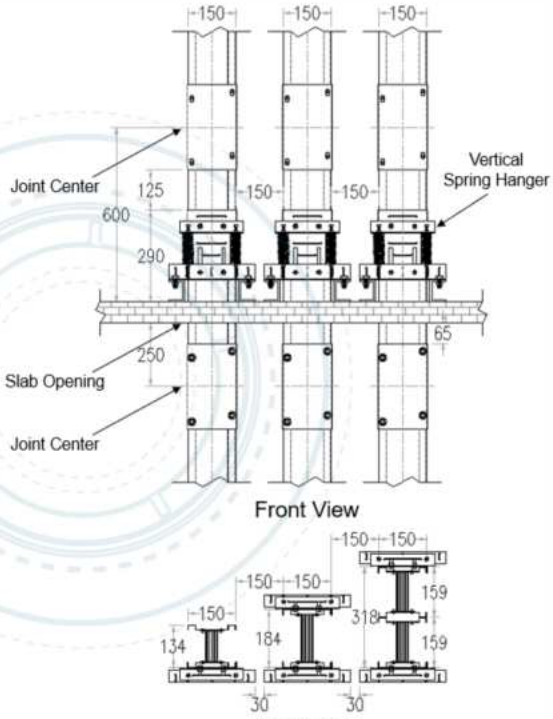
(Joints Should Not Be Installed Inside Walls)



BUSDUCT LAYOUT DESIGN CONSIDERATION

Minimum Clearance Of Vertical Feeder Busduct Joints Side By Side

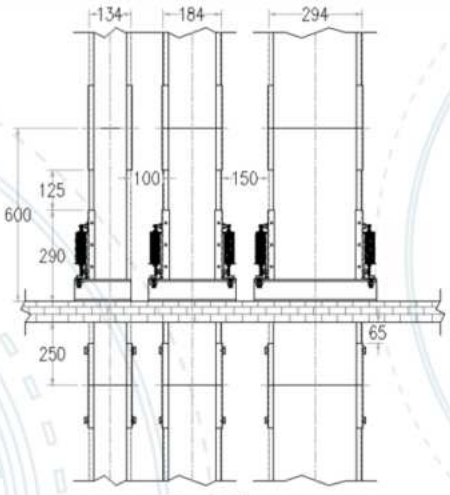
WITH VERTICAL SUPPORT



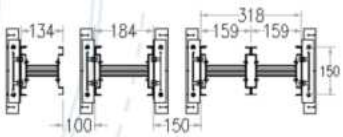
Front View

Plan View

IN PARALLEL POSITION WITH VERTICAL SUPPORT



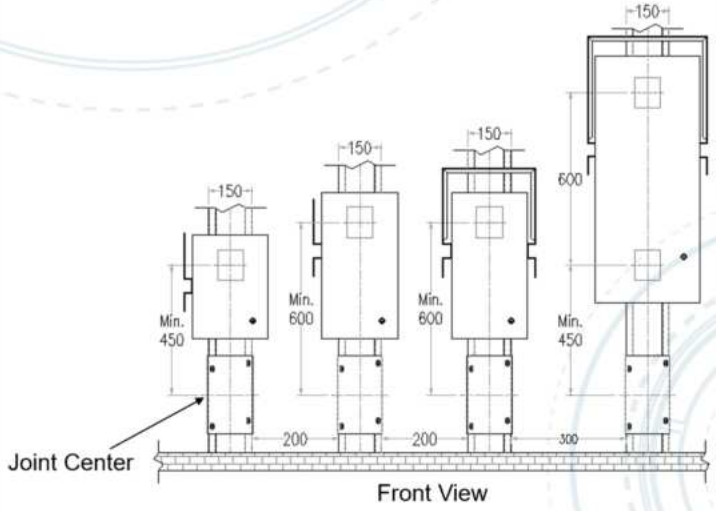
Front View



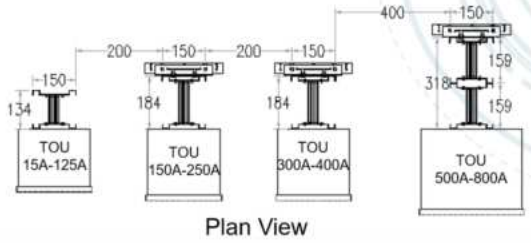
Plan View

BUSDUCT LAYOUT DESIGN CONSIDERATION

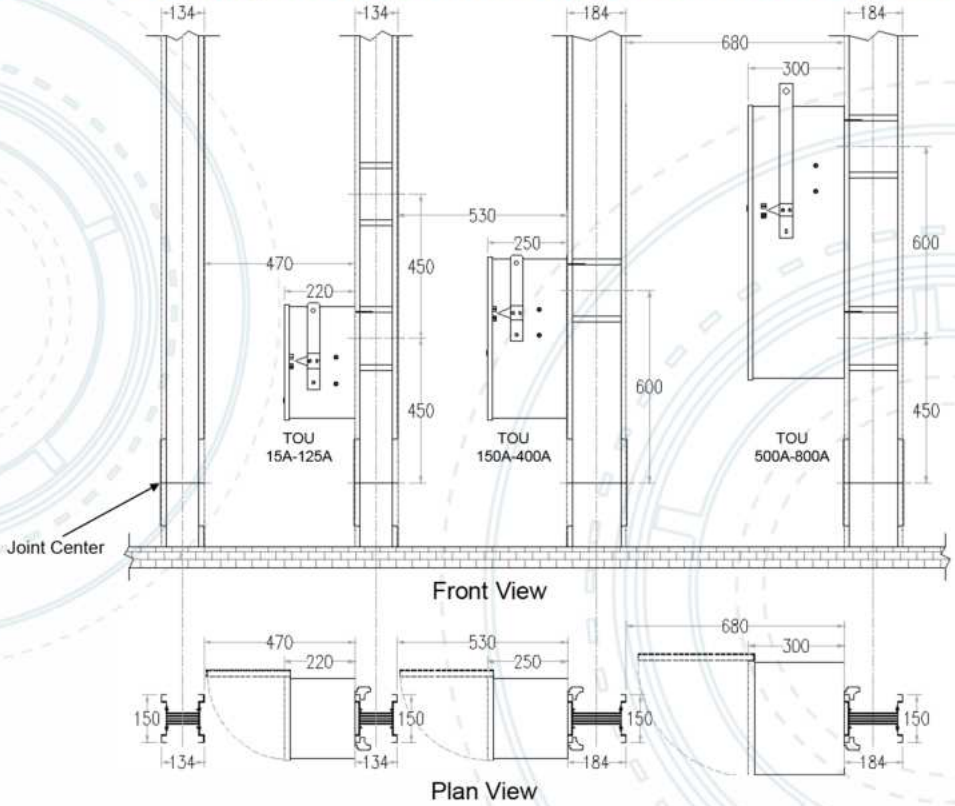
Minimum Clearance Of Vertical Plug-In Busduct With Tap-Off Unit Installed



Ampere (A)	Length (mm)	Plug-In Interval (mm)	Distance (mm)
15-125	350	450	200
150-250	500	600	200
300-400	500	600	200
500-800	850	450	270



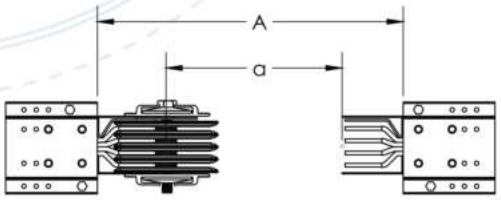
Minimum Clearance Of Plug-In Busducts With Tap-Off Unit Installed Flat In Parallel Position



MEGADUCT

MEASUREMENT GUIDELINE

Feeder

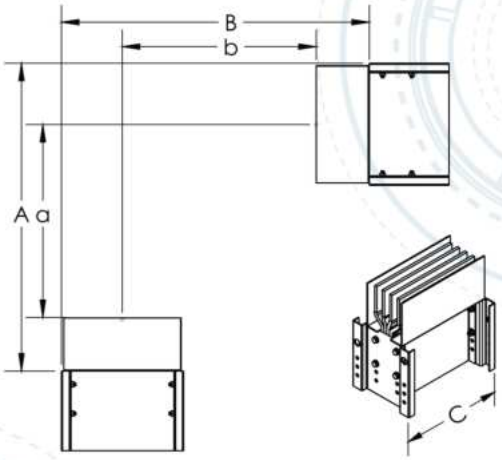


a=A-115mm-115mm

Example:
A=800mm

a=800-115-115
a=570mm

Flatwise Elbow



a= A-115mm-C/2

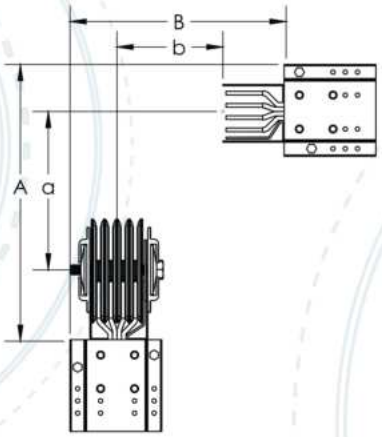
b= B-115mm-C/2

Example:
A=800mm, B=1000mm, C=180mm

a=800-115-180/2
a=595mm

b=1000-115-180/2
b=795mm

Edgewise Elbow



a=A-115mm-75mm

b=B-115mm-75mm

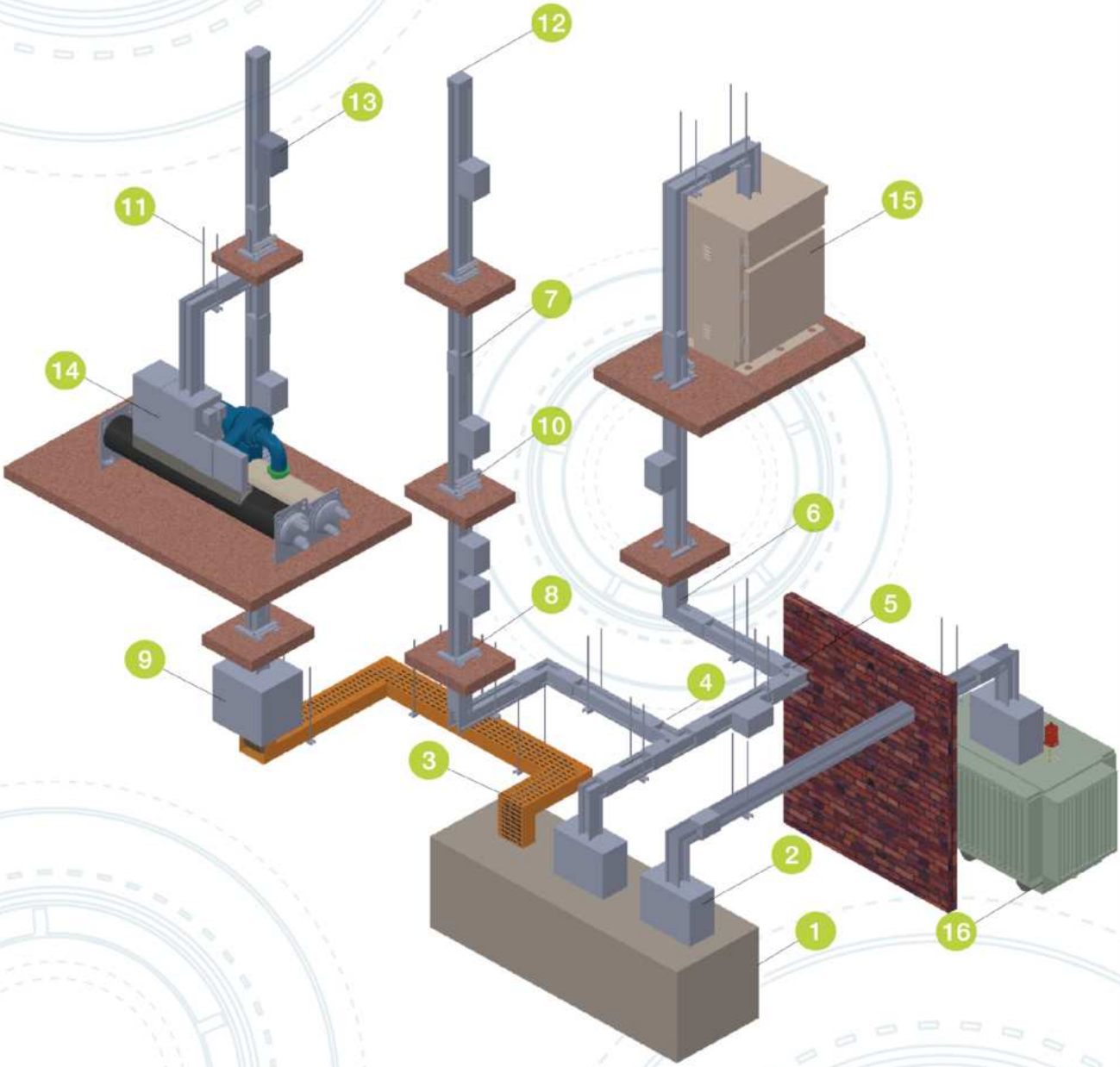
Example:
a=800mm, B=1000mm

a=800-115-75
a=610

b=1000-115-75
b=810

MEGADUCT

ILLUSTRATIONS OF MEGADUCT BUSDUCT TRUNKING SYSTEM

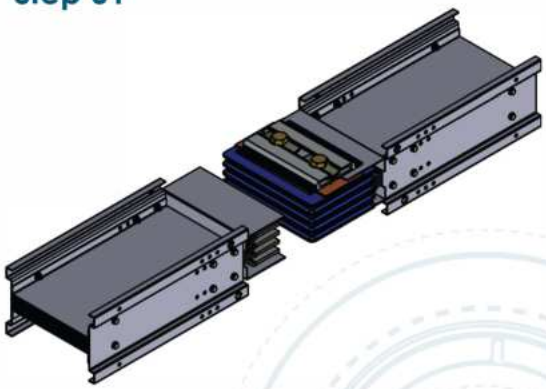


Power Transmission System

1. Main switch board
2. Flange end connection
3. Cable tray
4. Tee section
5. Flatwise elbow
6. Edgewise elbow
7. Joint
8. Fixed support
9. End feed cable
10. Spring hanger
11. Horizontal support
12. End cover
13. Tap off unit
14. Chiller
15. Sub switch board
16. Transformer

INSTALLATION

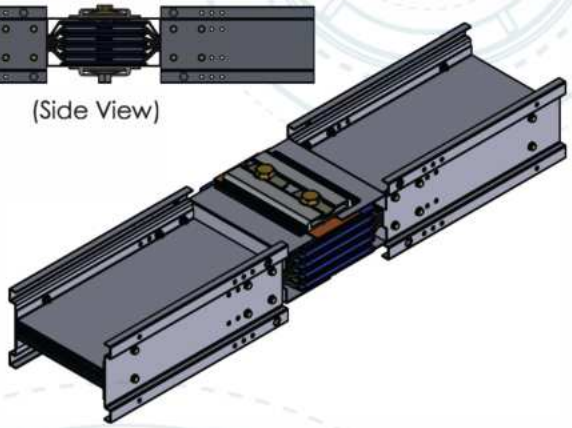
Step 01



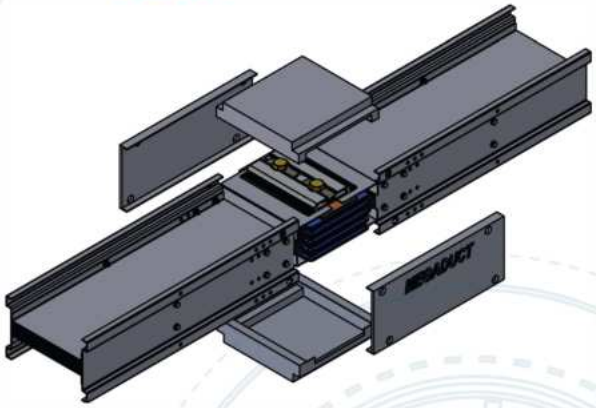
Step 02

Step 03

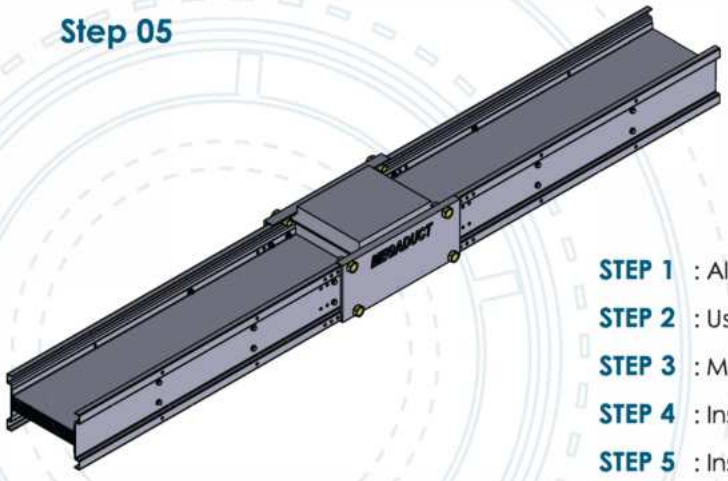
(Side View)



Step 04



Step 05



STEP 1 : Align busduct with joint properly. Push busduct into joint.

STEP 2 : Use torque wrench to tighten for about 70~75Nm.

STEP 3 : Make sure busduct and joint are aligned properly.

STEP 4 : Insert joint cover and joint side cover on the joint system.

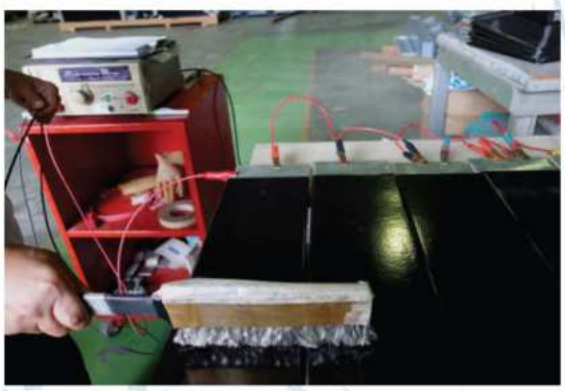
STEP 5 : Insert and fasten joint cover bolt.

MEGADUCT

QUALITY CONTROL

Temperature Rise

Dielectric Test



Pinhole Detector

Conductivity Test

Megger Test

Epoxy Thickness Test

MEGADUCT

CERTIFICATES

UL

UL TYPE EXAMINATION CERTIFICATE

KEMA KEUR

CERTIFICATE

SGS

SGS

TEST REPORT

ISO

TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015 / MS ISO 9001 : 2015

Linkk Busway Systems (M) Sdn Bhd
(1018052-D)
Lot 3226, Jalan Perindustrian Mahkota Utama,
Taman Perindustrian Mahkota,
43700 Beranang,
Selangor Darul Ehsan,
Malaysia

Design, Manufacturing, Testing & Delivery of Electrical Busway Trunking System & Accessories

CE

ATTESTATION OF CONFORMITY

MEGADUCT

STANDARD & TESTING

Megaduct provides a good structure short circuit protection design which had been certified by ASTA, KEMA & UL

Megaduct Busduct is capable of carrying full rated current continuously in ambient condition of 95% related humidity and also ambient temperature in 50°C.

Busduct design verification according to IEC 61439.

10.2 Strength of material and parts.
10.3 Degree of protection of enclosure.
10.4 Clearance and creepage distances.
10.5 Protection against electric shock an integrity of protective circuits.
10.7 Internal electrical circuit and connections.
10.8 Terminals for external conductors.
10.9 Dielectric properties.
10.10 Verification of temperature-rise.
10.11 Short-circuit withstand strength.
10.12 Electromagnetic compatibility(EMC).
10.13 Mechanical operating.

PROJECT REFERENCES

MEGADUCT

PROJECT REFERENCES

Residences


AEQUA Sukhumvit 49, Thailand


Marina Bay Central, UAE


Forest City, Malaysia


Binh Khanh, Vietnam

Hotels


Shangri-La Hotel, China


Langham Places, Hong Kong


1 Borneo, Malaysia


Conrad Hotel, Philippines

Commercial Complex / Business Premises


Oriental Plaza, Vietnam


Equity Tower, Indonesia


Saigon M&C Tower, Vietnam


Telekom Tower, Malaysia


Al Shoumoukh Tower, Qatar

Airport / High Speed Rail Station

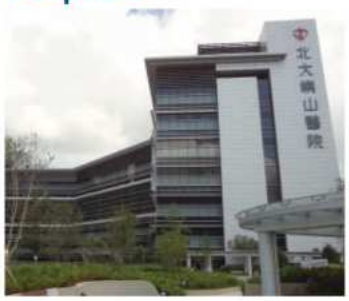

Male International Airport, Maldives


MRT, Singapore


HSR Zuoying Station, Taiwan

PROJECT REFERENCES

Hospitals



Lantau Hospital, Hong Kong

Belfast City Hospital, Northern Ireland

Bhumibol Adulyadej Hospital, Thailand

Selayang Hospital, Malaysia

Industries / Assembly Lines

Proton Factory, Shah Alam, Malaysia

Perodua Assembly Plant, Malaysia

Singpost Logistics Hub, Singapore

Galtronics, Vietnam

Public Centres

Changi Prison, Singapore

Garden By The Bay, Singapore

Chiang Mai Convention Centre, Thailand

Customs Headquarters Building, Hong Kong

Information Technology

Microsoft Office, India

PCCW, Hong Kong

Vista Hub, Philippines

MEGADUCT

CONTINUOUS BUSDUCT MONITORING SYSTEMS

Our Solutions

- We provide a temperature sensor that is not affected by electromagnetic noise.
- By quickly detecting overheating and pinpointing the location of a hotspot remotely, our thermal sensor ensures that any problem can be responded to immediately, before it leads to a costly and expensive plant shutdown. Our thermal sensor can be installed directly on a busbar and on the surface of a busbar or cover.

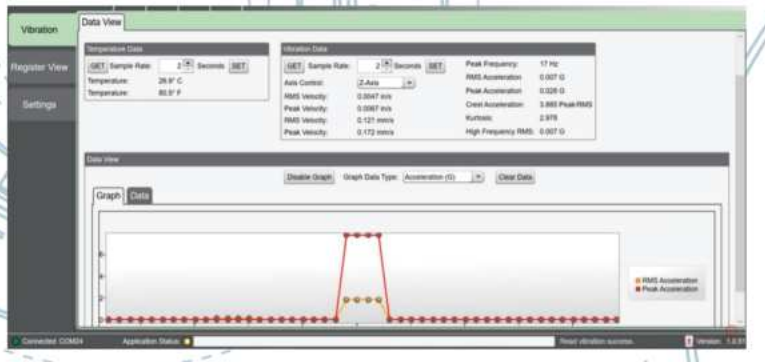
Benefits

Provide the temperature report quickly and accurately of any joints at any time.

- Monitor busbar and alert maintenance teams when aging and over-used equipment are on the verge of failure resulting in flash over.
- Improve human safely, reliability, quality of service, and ensure that equipment keeps running.
- Pinpoint exact location of the busbar when temperature spikes flag pending components failures.
- Accurate temperature monitoring under a strong electric field.
- Quick detection with abnormal location to prevent burnout.
- Condition based inspection work by temperature changes.

Temperature Trending

Vibration Trending



Marina 101 Dubai is the tallest residential building in the world which is 426.5m (1399ft) tall. There are total 16 runs of busways (3400m) in the building from 1200A to 4000A. The skyscraper will have 5-star hotel, residential apartment and restaurant in the hotel tower. The 101st floor of the skyscraper will feature a club lounge, restaurant and merchandise store.

MEGADUCT

REVOLUTION SERIES

LINKK BUSWAY SYSTEMS

LINKK BUSWAY SYSTEMS (M) SDN BHD (1018052-D)

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