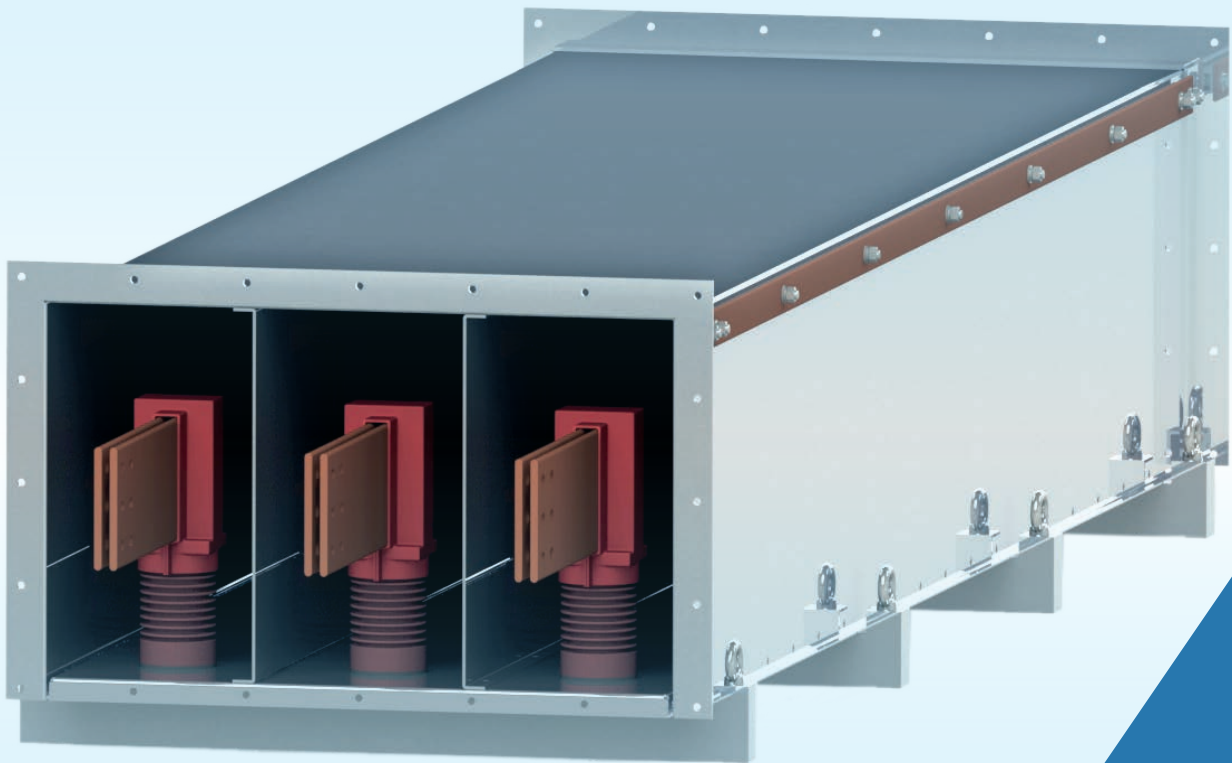




E+I ENGINEERING GROUP

MV SEGREGATED AND NON SEGREGATED

PHASE POWERBAR



PowerBar

MV SEGREGATED AND NON SEGREGATED

PHASE POWERBAR

E+I Engineering's Medium Voltage Segregated Phase Powerbar (MVSPB) is available from 3.6kV to 36kV. Medium Voltage Non Segregated Phase Powerbar (MVNSPB) is available from 660V to 22kV.

The busbar is available from 630A to 6000A with multiple bar configurations to suit project requirements. Earth/half earth conductors can be included if necessary.

The bar is housed in an aluminium casing which also acts as a ground. Ingress Protection ratings are available in IP55 or IP66.

STANDARDS

Standards

The MVSPB & MVNSPB busbar system range is fully ASTA tested and certified. It is manufactured in a certified management system environment where quality ISO 9001, safety ISO 45001 and environmental ISO 14001 standards are applied to all aspects of the manufacturing and installation processes.

It is manufactured in accordance with IEC62271- 200 and IEEE-C37.23

Type Tests

- Short-time withstand current test
- Temperature rise test
- Lightning impulse withstand voltage test
- IP test
- Creepage and clearance
- Mechanical strength
- Dielectric test
- Electrical characteristics

Routine Tests

- Verification of dimensions
- Dimensional check of termination assembly
- Dry power frequency voltage withstand test
- Insulation resistance test
- Continuity of auxiliary wiring
- Operational test of space heater system
- Coating thickness measurement
- Polyester coating adhesion test
- Shade matching
- Welding (NDT) test
- Radiography test
- Dye penetration test

ASTA Certificates

Powerbar has completed extensive testing at ASTA accredited laboratories to ensure the product is certified in accordance with international standards.



All certificates available on request

Health and Safety
ISO 45001:2018
No.0087570

Quality Management
ISO 9001: 2015
No.18346

Environmental Management
ISO 14001: 2015
No.18346

MEDIUM VOLTAGE NON SEGREGATED PHASE POWERBAR (MVNSPB)

MVNSPB is typically used in power generating stations and industrial application for lower capacity generator connections.

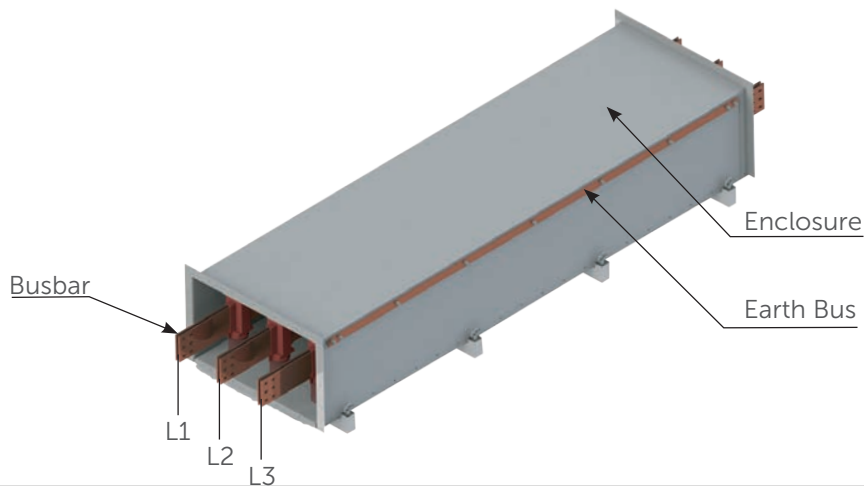
It can be used for interconnections between switchgear panels and from switchgear to transformer.

Phase configuration for MVNSPB

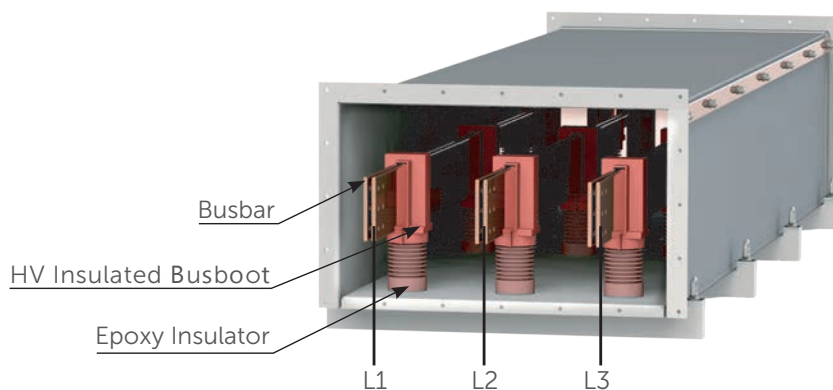
Configuration	Phase	Neutral	Earth	Earth
TP & E	100%	0%	50%	Case
TPN & E	100%	100%	50%	Case

Key features:

- 3Ph 3 wire or 3Ph 4 wire LV/ MV (0.66kV - 22kV) busbar mounted in an aluminium enclosure without segregation between phases
- Available in three configurations: .66kV ~ 7.2kV, 12kV ~ 17.5kV, & 22kV
- Busbar supported epoxy insulators and HV insulated busboots
- Conductors engineered from high conductivity copper.



Indoor Type



Outdoor Type

MEDIUM VOLTAGE SEGREGATED PHASE POWERBAR (MVSPB)

MVSPB is used in power generating stations and industrial applications for medium capacity generator connections.

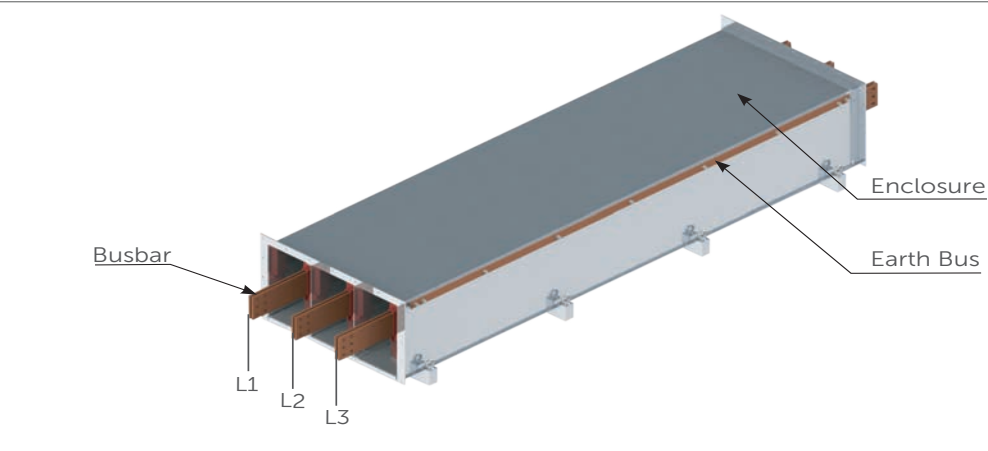
It can be used for interconnections between switchgear panels and from switchgear to transformer.

Phase configuration for MVSPB

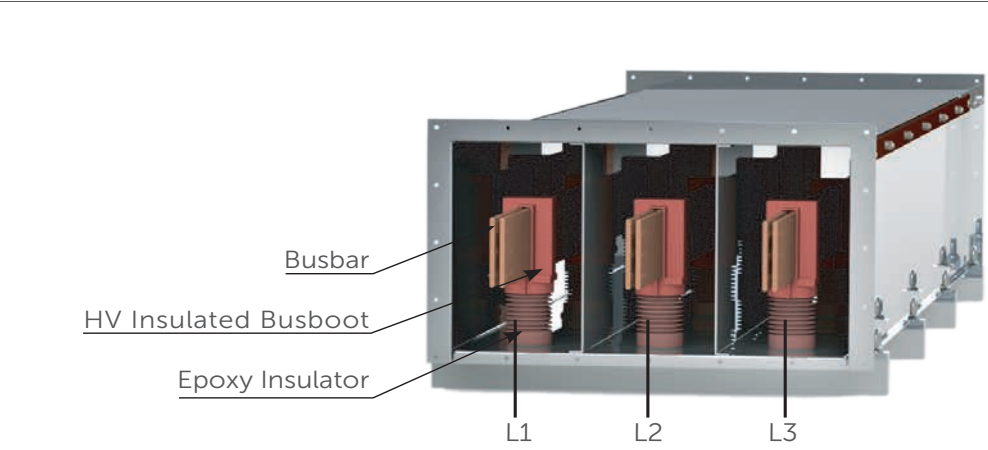
Configuration	Phase	Neutral	Earth	Earth
Phase	100%	0%	50%	Case

Key features:

- 3Ph 3 wire MV (3.6kV ~ 36kV) busbars mounted in an aluminium enclosure
- Phases segregated by nonmagnetic isolating barrier
- Excellent shielding reduces possibility of short circuit between phases
- Available in three configurations: 3.6 ~ 17.5kV, 22kV, 36kV
- Busbar supported with epoxy insulators and HV insulated busboots
- Conductors engineered from high conductivity copper.

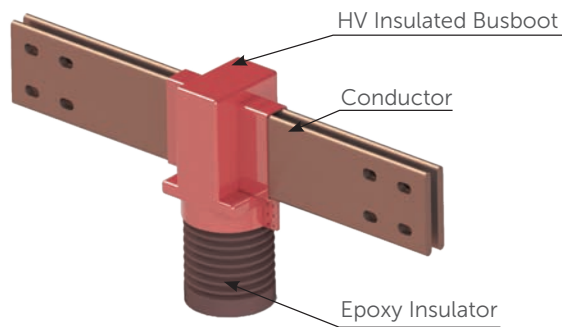


Indoor Type



Outdoor Type

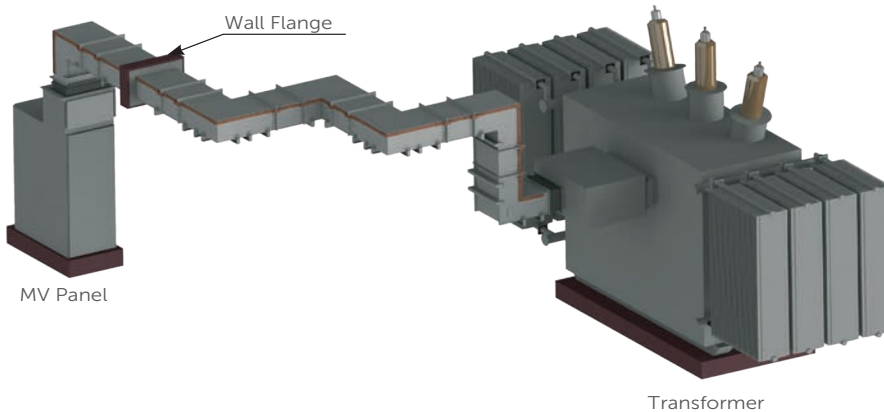
TECHNICAL FEATURES



Busbar Arrangement

Conductors

- Conductors are engineered from high density, high conductivity copper and are insulated by air within the busbar enclosure.
- The busbar and all joint surfaces are tin plated as standard. Silver plating on the joint surfaces is available upon request.
- Joints are made by solidly bolting busbars together with overlapping fish-plates on each side. After bolting, each joint is covered by a pre-formed, flame retardant insulating boot providing full insulation. These boots are easily removable for inspection of the joints.
- Busbars are securely supported on insulators so as to withstand the rated short time current.



Enclosure

MVSPB and MVNSPB are constructed with an aluminium housing which offers numerous advantages:

- Aluminium is a very light, non-ferrous metal which offers significant reduction in reactance when compared to steel
- No hysteresis loss occurs on the distribution system with low temperature rise on the housing, thus reducing energy losses on the complete distribution system
- The aluminium casing also serves as an excellent fully rated earth conductor in the event of an earth fault in the system.
- Polyester coating of aluminum prolongs housing life > 25 years

Insulators

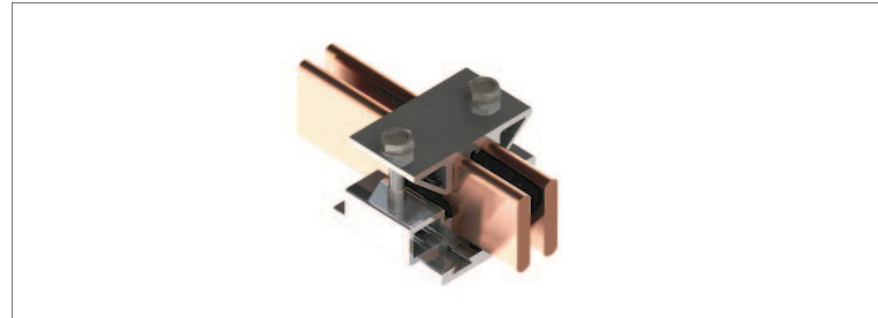
- Epoxy insulators provide support for the conductor and are arranged in the enclosure to ensure the correct clearances in air between each pole and the grounded enclosure.
- Insulators are non-hygroscopic, impervious, non-carbonising, high in dielectric strength and resistant to thermal and mechanical shocks.

Epoxy Insulator			
Rating kV	Impulse withstand voltage kV	Power Frequency withstand voltage kV	Creepage distance mm
7.2	60	50	110
17.5	110	50	301
22	125	50	340
36	170	70	720

Epoxy Insulator

Busbar expansion support

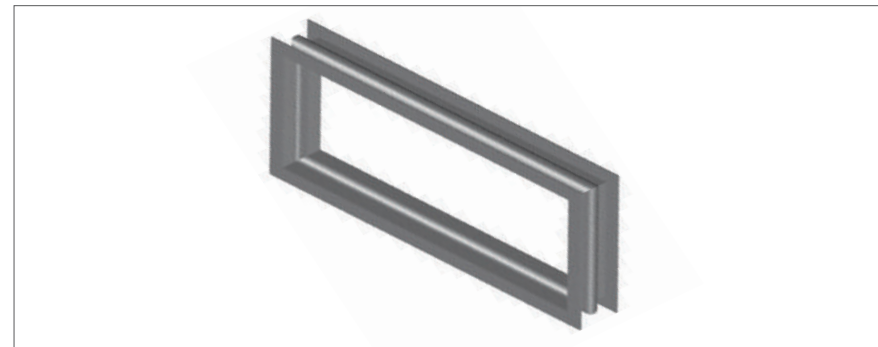
- An aluminium extrusion is used for fabricated busbar expansion supports. This allows thermal expansions during normal operation / thermal cycling
- All expansion supports are covered with HV insulated busboot to maintain clearance in air.



Busbar expansion support

Rubber Bellow for MVSPB & MVNSPB

- Rubber bellows manufactured from UV resistant EPDM rubber are used to reduce vibration on the terminations (eg: transformer or generator) and to make minor adjustments in the length of the busway.



Rubber Bellow for MVSPB & MVNSPB

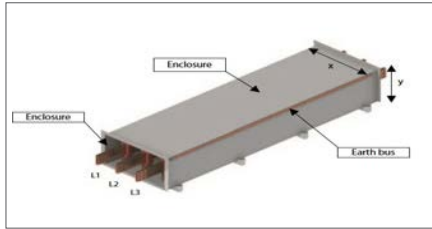
Seal off Bushings

- Wall flanges with seal off bushings are provided when MVSPB / MVNSPB passes through a wall or floor. These prevent flames or vapour from passing from one room to another.

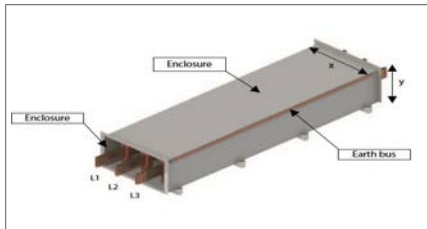


Seal off Bushings

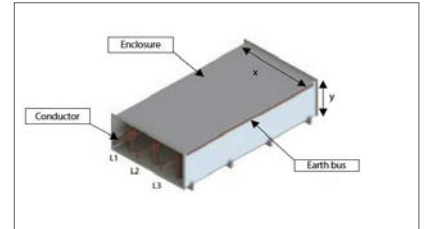
STRAIGHT LENGTH MVNSPB



MVNSPB – Type 1 (0.66kV ~ 7.2kV)



MVNSPB – Type 2 (12 kV ~ 17.5 kV)

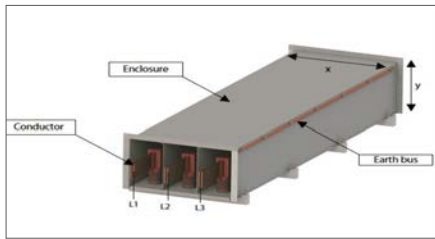


MVNSPB – Type 3 (22 kV)

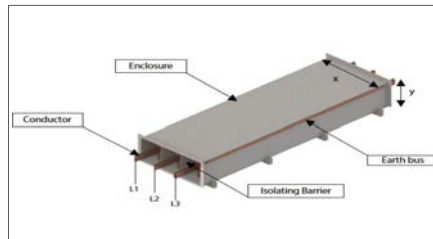
Size of the Enclosure Depending on the Busbar Rating - MVNSPB

	Rated Voltage	Rated Continuous Current Amperes	Conductor Material	Enclosure Material	X	Y
TYPE - 1	0.66kV	1600A	Cu	Aluminium	440mm	300mm
	0.66kV	2000A	Cu	Aluminium	440mm	320mm
	0.66kV	2500A	Cu	Aluminium	440mm	340mm
	0.66kV	3200A	Cu	Aluminium	440mm	370mm
	0.66kV	4000A	Cu	Aluminium	440mm	420mm
	1.1kV	1600A	Cu	Aluminium	440mm	300mm
	1.1kV	2000A	Cu	Aluminium	440mm	320mm
	1.1kV	2500A	Cu	Aluminium	440mm	340mm
	1.1kV	3200A	Cu	Aluminium	440mm	370mm
	1.1kV	4000A	Cu	Aluminium	440mm	420mm
	3.6kV	1600A	Cu	Aluminium	440mm	300mm
	3.6kV	2000A	Cu	Aluminium	440mm	320mm
	3.6kV	2500A	Cu	Aluminium	440mm	340mm
	3.6kV	3200A	Cu	Aluminium	440mm	370mm
	3.6kV	4000A	Cu	Aluminium	440mm	420mm
	TYPE - 2	7.2kV	1600A	Cu	Aluminium	440mm
7.2kV		2000A	Cu	Aluminium	440mm	320mm
7.2kV		2500A	Cu	Aluminium	440mm	340mm
7.2kV		3200A	Cu	Aluminium	440mm	370mm
7.2kV		4000A	Cu	Aluminium	440mm	420mm
12kV		1600A	Cu	Aluminium	650mm	340mm
12kV		2000A	Cu	Aluminium	650mm	360mm
12kV		2500A	Cu	Aluminium	650mm	380mm
12kV		3200A	Cu	Aluminium	650mm	410mm
12kV		4000A	Cu	Aluminium	710mm	430mm
TYPE - 3	17.5kV	1250A	Cu	Aluminium	770mm	316mm
	17.5kV	1600A	Cu	Aluminium	770mm	400mm
	17.5kV	2000A	Cu	Aluminium	770mm	420mm
	17.5kV	2000A	Cu	Aluminium	770mm	366mm
	17.5kV	2500A	Cu	Aluminium	770mm	440mm
	17.5kV	3200A	Cu	Aluminium	770mm	470mm
	17.5kV	4000A	Cu	Aluminium	890mm	490mm
	22kV	630A	Cu	Aluminium	860mm	365mm
	22kV	1250A	Cu	Aluminium	860mm	385mm
	22kV	1600A	Cu	Aluminium	860mm	405mm
22kV	2000A	Cu	Aluminium	860mm	425mm	
22kV	2500A	Cu	Aluminium	860mm	445mm	
22kV	3200A	Cu	Aluminium	860mm	475mm	
22kV	4500A	Cu	Aluminium	860mm	545mm	
22kV	6000A	Cu	Aluminium	860mm	585mm	

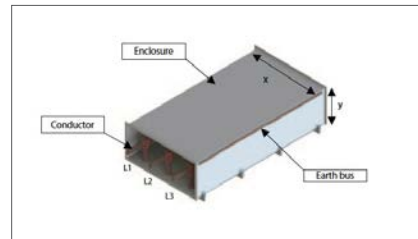
STRAIGHT LENGTH MVSPB



MVSPB – Type 1 (3.6kV ~ 17.5kV)



MVSPB – Type 2 (22kV)



MVSPB – Type 3 (36kV)

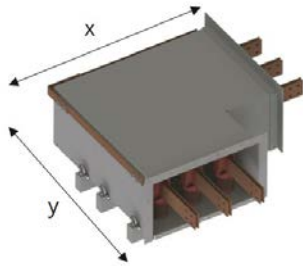
Size of the Enclosure Depending on the Busbar Rating - MVSPB

	Rated Voltage	Rated Continuous Current Amperes	Conductor Material	Enclosure Material	X	Y
TYPE - 1	3.6kV	1600A	Cu	Aluminium	840mm	380mm
	3.6kV	2000A	Cu	Aluminium	840mm	400mm
	3.6kV	2500A	Cu	Aluminium	840mm	420mm
	3.6kV	3200A	Cu	Aluminium	840mm	450mm
	3.6kV	4000A	Cu	Aluminium	840mm	500mm
	17.5kV	1600A	Cu	Aluminium	840mm	380mm
	17.5kV	2000A	Cu	Aluminium	840mm	400mm
	17.5kV	2500A	Cu	Aluminium	840mm	420mm
	17.5kV	3200A	Cu	Aluminium	840mm	450mm
	17.5kV	3500A	Cu	Aluminium	840mm	480mm
17.5kV	4000A	Cu	Aluminium	840mm	500mm	
TYPE - 2	22kV	630A	Cu	Aluminium	950mm	365mm
	22kV	1250A	Cu	Aluminium	950mm	385mm
	22kV	1600A	Cu	Aluminium	950mm	405mm
	22kV	2000A	Cu	Aluminium	950mm	425mm
	22kV	2500A	Cu	Aluminium	950mm	445mm
	22kV	3200A	Cu	Aluminium	950mm	475mm
	22kV	4500A	Cu	Aluminium	950mm	545mm
	22kV	6000A	Cu	Aluminium	950mm	585mm
TYPE - 3	36kV	1600A	Cu	Aluminium	1565mm	655mm
	36kV	2000A	Cu	Aluminium	1565mm	675mm
	36kV	2500A	Cu	Aluminium	1565mm	695mm
	36kV	3200A	Cu	Aluminium	1565mm	725mm
	36kV	4000A	Cu	Aluminium	1565mm	775mm

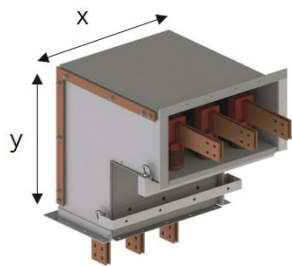
ELBOWS, OFFSETS & COMBINATIONS

Elbows

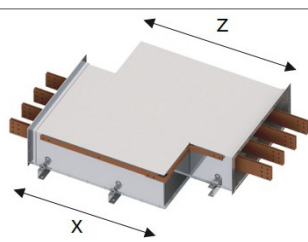
Flatwise and edgewise elbows are used to make 90° changes in the direction of the busbar system. E+I Engineering can also manufacture specially angled elbows for both flatwise and edgewise products.



Edgewise Elbows



Flatwise Elbows



Offset Sections

Combination Elbows

Combination elbows are used to conform to the building's structure and to change the direction of the busbar within a confined space.

	Voltage	Minimum Leg Size		Maximum Leg Size	
		X	Y	X	Y
NSPB	660V	500mm	500mm	750mm	750mm
	1.1kV	500mm	500mm	750mm	750mm
	3.6kV	500mm	500mm	750mm	750mm
	7.2kV	500mm	500mm	750mm	750mm
	12kV	500mm	550mm	750mm	750mm
	17.5kV	600mm	600mm	750mm	750mm
SPB	2.2kV	650mm	650mm	750mm	750mm
	3.6kV	500mm	500mm	750mm	750mm
	17.5kV	500mm	500mm	750mm	750mm
	22kV	650mm	650mm	750mm	750mm
	36kV	1000mm	1000mm	750mm	750mm

	Voltage	Minimum Leg Size		Maximum Leg Size	
		X	Y	X	Y
NSPB	660kV	500mm	500mm	750mm	750mm
	1.1kV	500mm	500mm	750mm	750mm
	3.6kV	500mm	500mm	750mm	750mm
	7.2kV	500mm	500mm	750mm	750mm
	12kV	550mm	550mm	750mm	750mm
	17.5kV	600mm	600mm	750mm	750mm
SPB	22kV	650mm	650mm	750mm	750mm
	3.6kV	500mm	500mm	750mm	750mm
	17.5kV	500mm	500mm	750mm	750mm
	22kV	650mm	650mm	750mm	750mm
	36kV	1000mm	1000mm	1200mm	1600mm

Offset Sections

An offset is used to avoid any obstacles eg. pipes or to steel columns and to conform to the structure of the building.

	Voltage	Minimum Leg Size		
		X	Y	Z
NSPB	660kV	500mm	500mm	650mm
	1.1kV	500mm	500mm	650mm
	3.6kV	500mm	500mm	650mm
	7.2kV	500mm	500mm	650mm
	12kV	650mm	650mm	750mm
	17.5kV	700mm	700mm	800mm
SPB	22kV	750mm	750mm	800mm
	3.6kV	500mm	500mm	650mm
	17.5kV	500mm	500mm	650mm
	22kV	750mm	750mm	800mm
	36kV	1000mm	1000mm	1200mm

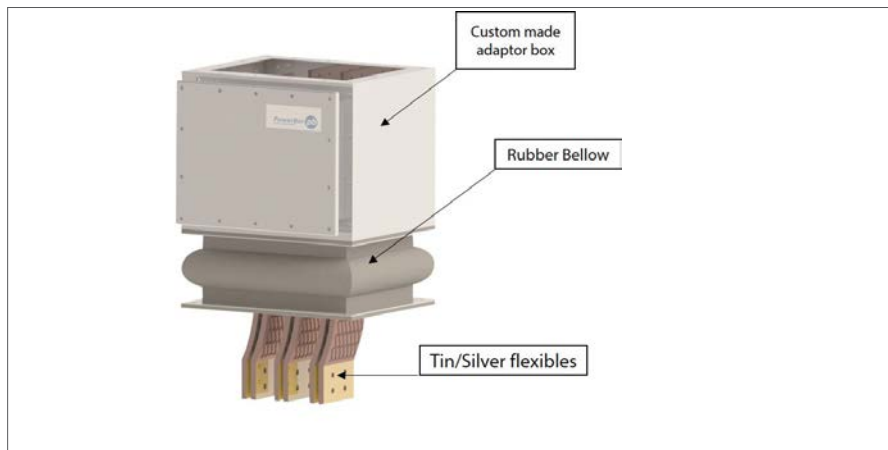
	Voltage	Minimum Leg Size			Maximum Leg Size		
		X	Y	Z	X	Y	Z
NSPB	660kV	500mm	500mm	650mm	750mm	750mm	900mm
	1.1kV	500mm	500mm	650mm	750mm	750mm	900mm
	3.6kV	500mm	500mm	650mm	750mm	750mm	900mm
	7.2kV	500mm	500mm	650mm	750mm	750mm	900mm
	12kV	650mm	650mm	750mm	850mm	850mm	950mm
	17.5kV	700mm	700mm	750mm	900mm	900mm	1000mm
SPB	22kV	750mm	750mm	800mm	1000mm	1000mm	1200mm
	3.6kV	500mm	500mm	500mm	750mm	750mm	900mm
	17.5kV	500mm	500mm	500mm	750mm	750mm	900mm
	22kV	750mm	750mm	750mm	1000mm	1000mm	1200mm
	36kV	1000mm	1000mm	1000mm	1200mm	1200mm	1600mm

FLANGES

Flange Connections

Flange connections provide a direct connection to low voltage switchgear, transformer enclosures and other electrical equipment. Standard flanges can be offset to the left or right of the section as required.

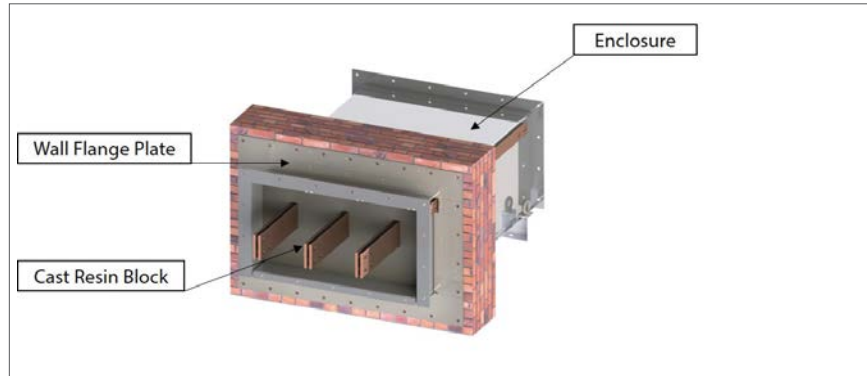
	Voltage	Minimum	Maximum
		X	Z
NSPB	660V	500mm	1000mm
	1.1kV	500mm	1000mm
	3.6kV	500mm	1000mm
	7.2kV	500mm	1000mm
	12kV	500mm	1000mm
	17.5kV	600mm	1000mm
SPB	22kV	1000mm	1500mm
	3.6kV	500mm	1000mm
	17.5kV	500mm	1000mm
	22kV	1000mm	1500mm
	36Kv	10000mm	1500mm



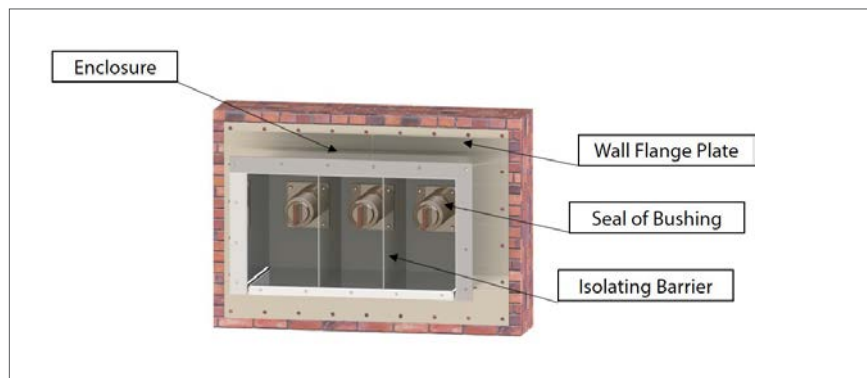
Flange Connection

Wall Flanges

Wall flanges are provided when the busbar passes through a wall or floor. A fire proof barrier is built in for further protection.

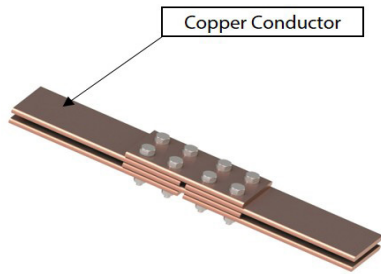


MVNSPB Wall Sealing Arrangement

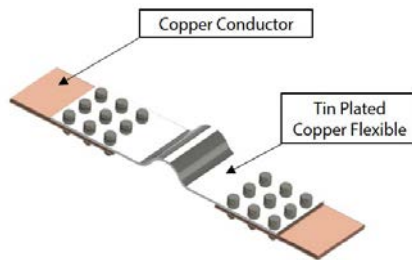


MVSPB Wall Sealing Arrangement With Seal Of Bushing

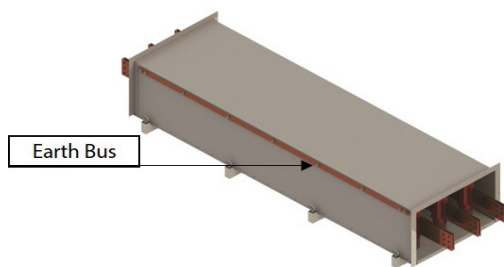
ACCESSORIES



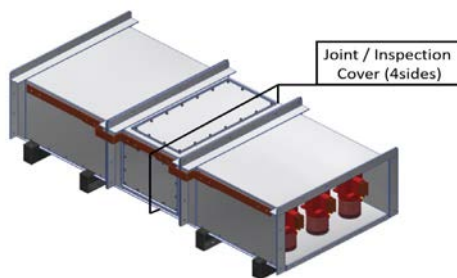
Rigid Joint



Expansion Joint



Earth System



Inspection Doors



Phase Crossover Chamber for MVSPB

Rigid Joints

Rigid joints are designed to be mechanically sound and have low resistance. Joints in the conductor are made through conventional bolting and tightened to a torque level of 80Nm. Joints in the enclosure are secured used gasket and bolted flanges to a torque level of 40Nm.

Once torqued the joint is covered by an HV insulated busboot to maintain clearance distances.

Expansion Joints

Expansion joints are installed in the centre of long busbar runs to accommodate for thermal expansion within the busbar and for building movement.

Earth System

The system is provided with an individual copper or aluminium external earth busbar. This provides an earth path for leakage or fault current along the length of the busbar. Facility to connect the earth busbar to the substation earth is provided at both ends.

Joint / Inspection Cover

Joint/ Inspection Cover are provided for joint assembly and ongoing inspection / maintenance purposes. Access is provided on all four sides if required.

Phase Crossover Chamber for MVNSPB & MVSPB

Phase cross-over chambers are provided where the phase sequence is altered to align with a particular piece of electrical equipment.

BUSBAR SUPPORTS

Single Column Supports

Single column supports from 1m - 3m are available. Other non-standard support lengths can be designed as required.



Single Column Support

Double Column Supports

Double column supports from 2m - 5m are available. Other non-standard support lengths can be designed as required.



Double Column Support

Hanger Supports

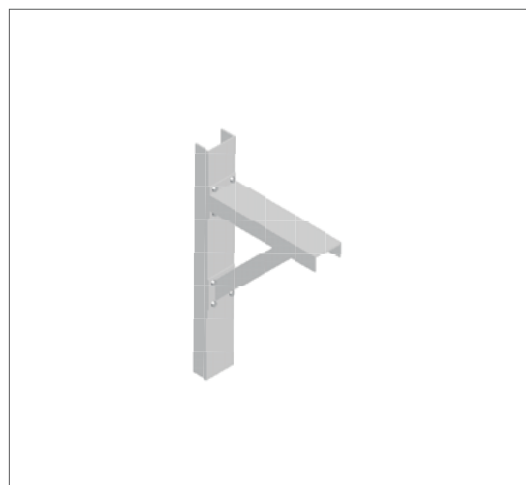
Hanger supports are available for indoor support applications or to support busbar runs from existing outdoor framed structures.



Hanger Support

Knee Brace Supports

Knee brace supports are used where the busbar runs along or near to a wall and space below the busbar is restricted.



Knee Brace Support

TECHNICAL DATA

Technical Data for MVNSPB							
Rated Maximum Voltage kV RMS	Rated Power Frequency in Hz	1 Minute Power Frequency Withstand Voltage Capacity	Impulse Voltage Withstand Capacity	Rated Continuous Current (Amperes)	Short Circuit 3 Sec (kA RMS Symmetrical)	Peak Value (kA)	Weight/ Mtr
0.66kV	50Hz/60Hz	2.5kV	8kV	1600A	50kA	130kA Peak	62kg
0.66kV	50Hz/60Hz	2.5kV	8kV	2000A	50kA	130kA Peak	73kg
0.66kV	50Hz/60Hz	2.5kV	8kV	2500A	50kA	130kA Peak	94kg
0.66kV	50Hz/60Hz	2.5kV	8kV	3200A	50kA	130kA Peak	115kg
0.66kV	50Hz/60Hz	2.5kV	8kV	4000A	50kA	130kA Peak	120kg
1.1kV	50Hz/60Hz	3kV	8kV	1600A	50kA	130kA Peak	65kg
1.1kV	50Hz/60Hz	3kV	8kV	2000A	50kA	130kA Peak	77kg
1.1kV	50Hz/60Hz	3kV	8kV	2500A	50kA	130kA Peak	98kg
1.1kV	50Hz/60Hz	3kV	8kV	3200A	50kA	130kA Peak	118kg
1.1kV	50Hz/60Hz	3kV	8kV	4000A	50kA	130kA Peak	124kg
3.6kV	50Hz/60Hz	10kV	20kV	1600A	50kA	130kA Peak	71kg
3.6kV	50Hz/60Hz	10kV	20kV	2000A	50kA	130kA Peak	83kg
3.6kV	50Hz/60Hz	10kV	20kV	2500A	50kA	130kA Peak	104kg
3.6kV	50Hz/60Hz	10kV	20kV	3200A	50kA	130kA Peak	124kg
3.6kV	50Hz/60Hz	10kV	20kV	4000A	50kA	130kA Peak	130kg
7.2kV	50Hz/60Hz	20kV	40kV	1600A	50kA	130kA Peak	69kg
7.2kV	50Hz/60Hz	20kV	40kV	2000A	50kA	130kA Peak	81kg
7.2kV	50Hz/60Hz	20kV	40kV	2500A	50kA	130kA Peak	97kg
7.2kV	50Hz/60Hz	20kV	40kV	3200A	50kA	130kA Peak	112kg
7.2kV	50Hz/60Hz	20kV	40kV	4000A	50kA	130kA Peak	128kg
12kV	50Hz/60Hz	28kV	75kV	1600A	50kA	130kA Peak	80kg
12kV	50Hz/60Hz	28kV	75kV	2000A	50kA	130kA Peak	90kg
12kV	50Hz/60Hz	28kV	75kV	2500A	50kA	130kA Peak	105kg
12kV	50Hz/60Hz	28kV	75kV	3200A	50kA	130kA Peak	120kg
12kV	50Hz/60Hz	28kV	75kV	4000A	50kA	130kA Peak	135kg
17.5kV	50Hz/60Hz	50kV	100kV	1250A	50kA	130kA Peak	95kg
17.5kV	50Hz/60Hz	38kV	95kV	1600A	50kA	130kA Peak	105kg
17.5kV	50Hz/60Hz	38kV	95kV	2000A	50kA	130kA Peak	115kg
17.5kV	50Hz/60Hz	50kV	100kV	2000A	50kA	130kA Peak	112kg
17.5kV	50Hz/60Hz	38kV	95kV	2500A	50kA	130kA Peak	125kg
17.5kV	50Hz/60Hz	38kV	95kV	3200A	50kA	130kA Peak	135kg
17.5kV	50Hz/60Hz	38kV	95kV	4000A	50kA	130kA Peak	155kg
22kV	50Hz/60Hz	48kV	125kV	630A	50kA	130kA Peak	80kg
22kV	50Hz/60Hz	48kV	125kV	1250A	50kA	130kA Peak	95kg
22kV	50Hz/60Hz	48kV	125kV	1600A	50kA	130kA Peak	125kg
22kV	50Hz/60Hz	48kV	125kV	2000A	50kA	130kA Peak	150kg
22kV	50Hz/60Hz	48kV	125kV	2500A	50kA	130kA Peak	170kg
22kV	50Hz/60Hz	48kV	125kV	3200A	50kA	130kA Peak	210kg
22kV	50Hz/60Hz	48kV	125kV	4500A	50kA	130kA Peak	250kg

TECHNICAL DATA

Technical Data for MVSPB							
Rated Maximum Voltage kV RMS	Rated Power Frequency in Hz	1 Minute Dry Power Frequency Withstand Voltage Capacity	Impulse Voltage Withstand Capacity	Rated Continuous Current (Amperes)	Short Circuit 3 Sec (kA RMS Symmetrical)	Peak Value (kA)	Weight/ Mtr
3.6kV	50Hz/60Hz	10kV	20kV	1600A	50kA	130kA Peak	72kg
3.6kV	50Hz/60Hz	10kV	20kV	2000A	50kA	130kA Peak	84kg
3.6kV	50Hz/60Hz	10kV	20kV	2500A	50kA	130kA Peak	110kg
3.6kV	50Hz/60Hz	10kV	20kV	3200A	50kA	130kA Peak	125kg
3.6kV	50Hz/60Hz	10kV	20kV	4000A	50kA	130kA Peak	131kg
17.5kV	50Hz/60Hz	38kV	95kV	1600A	50kA	130kA Peak	74kg
17.5kV	50Hz/60Hz	38kV	95kV	2000A	50kA	130kA Peak	86kg
17.5kV	50Hz/60Hz	38kV	95kV	2500A	50kA	130kA Peak	115kg
17.5kV	50Hz/60Hz	38kV	95kV	3200A	50kA	130kA Peak	127kg
17.5kV	50Hz/60Hz	38kV	95kV	3500A	50kA	130kA Peak	133kg
17.5kV	50Hz/60Hz	38kV	95kV	4000A	50kA	130kA Peak	145kg
22kV	50Hz/60Hz	48kV	125kV	630A	50kA	130kA Peak	75kg
22kV	50Hz/60Hz	48kV	125kV	1250A	50kA	130kA Peak	90kg
22kV	50Hz/60Hz	48kV	125kV	1600A	50kA	130kA Peak	120kg
22kV	50Hz/60Hz	48kV	125kV	2000A	50kA	130kA Peak	135kg
22kV	50Hz/60Hz	48kV	125kV	2500A	50kA	130kA Peak	150kg
22kV	50Hz/60Hz	48kV	125kV	3200A	50kA	130kA Peak	180kg
22kV	50Hz/60Hz	48kV	125kV	4500A	50kA	130kA Peak	220kg
22kV	50Hz/60Hz	48kV	125kV	6000A	50kA	130kA Peak	250kg
36kV	50Hz/60Hz	70kV	170kV	1600A	50kA	130kA Peak	140kg
36kV	50Hz/60Hz	70kV	170kV	2000A	50kA	130kA Peak	160kg
36kV	50Hz/60Hz	70kV	170kV	2500A	50kA	130kA Peak	190kg
36kV	50Hz/60Hz	70kV	170kV	3200A	50kA	130kA Peak	220kg
36kV	50Hz/60Hz	70kV	170kV	4000A	50kA	130kA Peak	260kg

Moisture Control

- Silica gel **breathers** are used to absorb the moisture inside the busbar. Silica gel can be recycled and is easy to remove.
- **Drain plugs** are used to remove any unwanted build up of water inside the busbar. These are particularly useful in climates that are susceptible to high levels of moisture.
- **Space heaters** are used to prevent the passage of fire or vapour from one location to another. These heaters are controlled by thermostats along the length of the busbar.



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