



NSPB
Metal-Enclosed,
Non-Segregated Phase Bus duct



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Description

■ Features

- Greater reliability electrically and mechanically
- Economically feasible through minimizing the power loss
- Ease of installation and maintenance
- Thorough quality assurance and maintenance

■ Degree of protection (IEC 60529)

- Indoor type : IP41
- Outdoor type : IP53

Note) Contact us for other IP degree than the above ones

■ Applicable standards

- KS C IEC 60439-1 & 2
- IEC 62271-1 & 200
- ANSI C-37. 23

■ Operating environment

- Ambient temperature
 - Indoor installation : -5°C ~ 40°C
 - Outdoor installation : -25°C ~ 40°C
- Altitude: 1,000 m and less

Note) Contact us for use at other conditions

■ Application

- Connections from generators to transformers
- Connections from transformers to switchgears
- Connections from switchgears to switchgears
- Circuits for short and medium distances between power generation facilities
- Main circuits for various industrial and construction equipments

LSIS has been producing global leading products in the industrial field of electrical and electronical systems. NSPB is one of those to supply the electrical energy with greater reliability and efficiency than power cables from transformers to switchgear assemblies in power plants, substations and important facilities.



Ratings

Rated Voltage (kV)	Rated Current (A)	Rated Short-Time Short Circuit Withstand Current (kA)	Power Frequency Withstand Voltage (kV / 1min)	Impulse Withstand Voltage (kV [1.2x50us])
0.69(Ui) <i>Note1)</i>	630~4000	12.5 ~ 80	2.2	8
3.6	630~4000	12.5 ~ 50	10	40
7.2	630~4000	12.5 ~ 50	20	60
12	630~4000	12.5 ~ 50	28	75
17.5	630~4000	12.5 ~ 50	38	95
24	630~3200	12.5 ~ 40	50	125
36	630~3200	12.5 ~ 40	70	170

Note) 1. Ui: Rated insulation voltage

2. Rated currents at ambient temperature of 40°C and temperature rise of 75K.

3. Please consult us for the specifications other than those listed above, including options.

Non-Segregated Phase Bus duct

Construction



Enclosures

- Standard materials for enclosures are mild steel and stainless steel. Aluminum housings are also available upon request.
- The indoors enclosures are painted with Epoxy-polyester powder coat and the outdoor enclosures with Polyester power coat.
- The standard colors are Munsell No. 5Y 7/1 and 7.5BG 6/1.5, and special colors are available upon request.
- Each unit is jointed by bolts, providing ease of connection
- Weather covers are used on joint areas of outdoor enclosures, providing water proof.
- Equipped with an inspection cover on the upper Removable Cover for the ease of maintenance and inspection. (Inspection cover can be installed on the bottom side, depending on conditions.)



Heater

- Outdoor types are provided with heaters in order to maintain electrical properties by removing internal moisture. (Heaters for indoor are available upon request)

Option

- Please specify the scope of supply for the options such as Wall Busing and Flexible Bus Bar in the specification sheets.

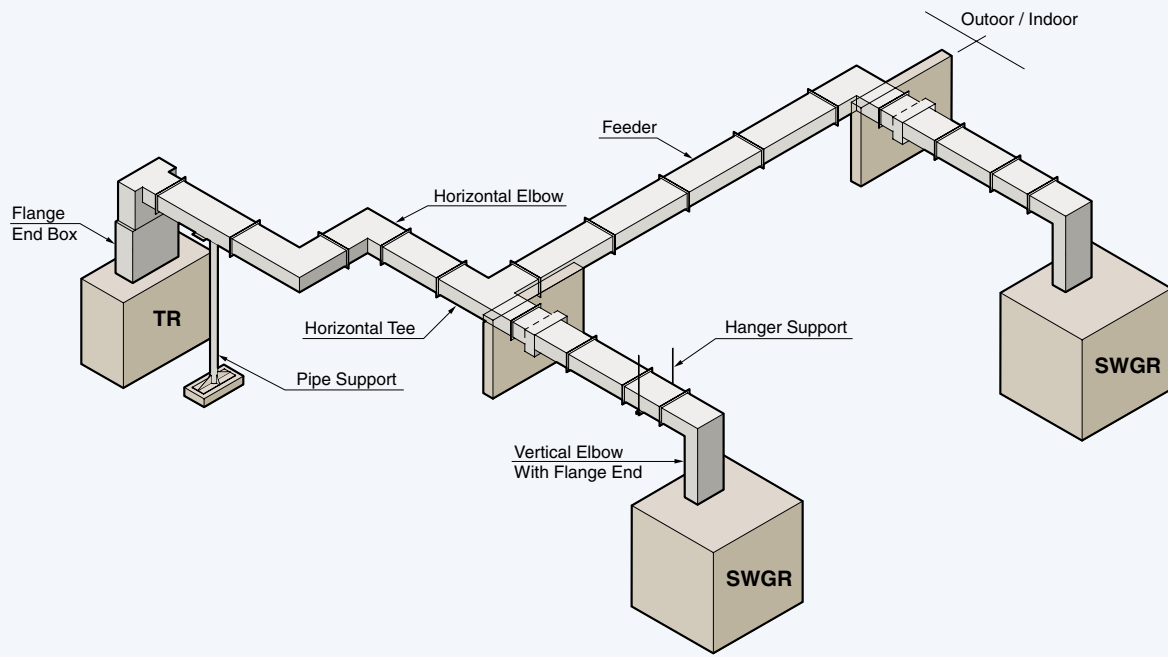
Busbar & Insulation System

- All conductors are over 98% conductivity copper busbar (KS D 5530) as standard. (Upon request, Aluminum busbar is available).
- According to customer's requirements Air Shrinkable Tube and Heat Shrinkable Tube may be used to insulate the conductors. (Boots may be used to insulate the joints.)
- Silver or Tin plating is available for conductor surface.
- Epoxy Insulators are used to support the conductors. (Insulation barriers are optional)
- High tensile bolts are used to improve the contact pressure of the joint surfaces. (Stainless steel bolts are available upon request.)

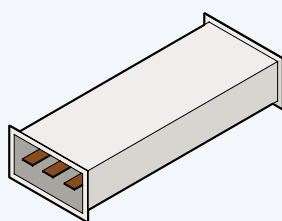
Non-Segregated Phase Bus duct

NSPB System

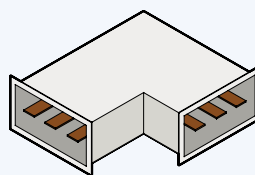
NSPB Layout



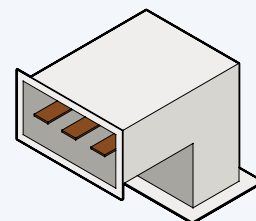
Standard components



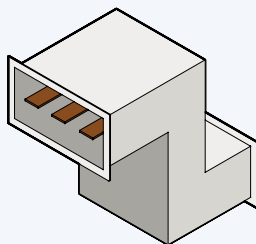
Feeder



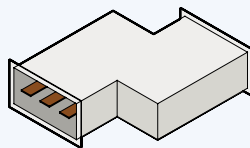
Horizontal Elbow



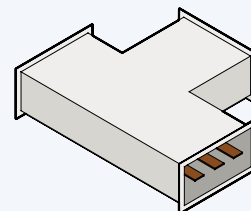
Vertical Elbow



Vertical Offset



Horizontal Offset

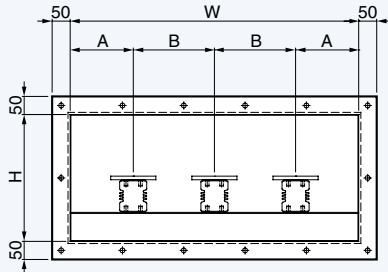


Horizontal Tee

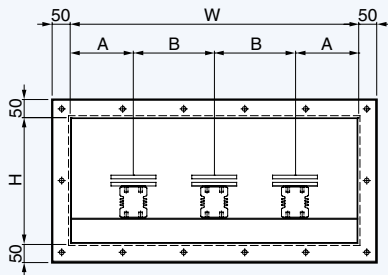
Note) The standard components may be changed and special components may be used in accordance with the layout systems.

Non-Segregated Phase Bus duct

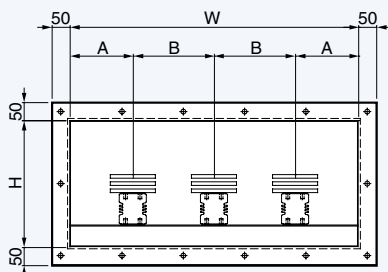
Dimensions



<Fig 1. Single Busbar>



<Fig 2. Double Busbar>



<Fig 3. Triple Busbar>

Rated Voltage (kV)	Rated Current (A)	Dimensions (mm)				Weight (kg/m)	Fig
		W	H	A	B		
7.2 and less	630	600	300	150	150	70	Fig1
	800	600	300	140	160	73	
	1000	600	300	140	160	76	
	1250	600	300	140	160	83	Fig2
	1600	600	350	140	160	91	
	2000	600	350	130	170	99	
	2500	700	350	150	200	111	
	3200	800	350	180	220	139	
	4000	800	350	180	220	172	
12	630	700	400	170	180	74	Fig1
	800	700	400	170	180	77	
	1000	700	400	170	180	81	
	1250	700	400	170	180	87	Fig2
	1600	700	450	170	180	95	
	2000	700	450	150	200	104	
	2500	800	450	180	220	116	
	3200	900	450	200	250	143	
	4000	900	450	200	250	176	
17.5	630	800	450	180	220	81	Fig1
	800	800	450	180	220	84	
	1000	800	450	180	220	87	
	1250	800	450	180	220	94	Fig2
	1600	800	500	180	220	102	
	2000	800	500	180	220	110	
	2500	900	500	200	250	122	
	3200	1000	500	220	280	150	
	4000	1000	500	220	280	183	
24	630	1150	600	275	300	102	Fig1
	800	1150	600	275	300	105	
	1000	1150	600	275	300	108	
	1250	1150	600	275	300	115	Fig2
	1600	1150	650	275	300	123	
	2000	1150	650	275	300	131	
	2500	1200	650	280	320	141	
	3200	1300	650	300	350	169	
	4000	1300	650	300	350	202	

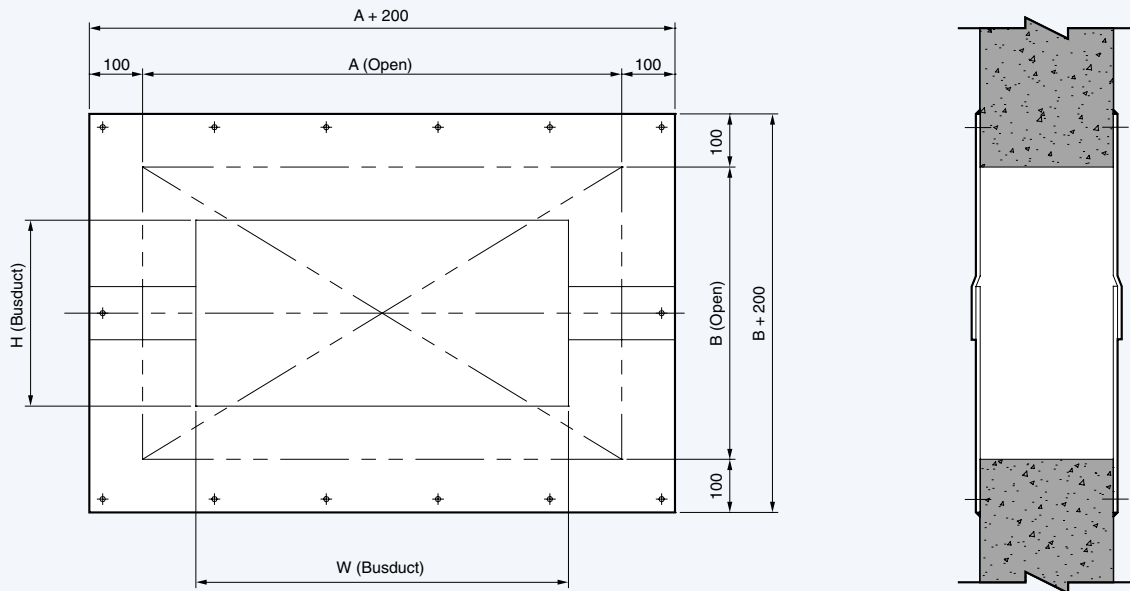
Note) 1. Please consult us for the specifications other than those listed above, including 4-Wire system.

2. Above specifications are based on horizontal arrangement. The specifications for the vertical are subject to change.

3. The above specifications are subject to change. Please contact us before application.

Non-Segregated Phase Bus duct

Dimensions – Wall & Floor Flange and Open

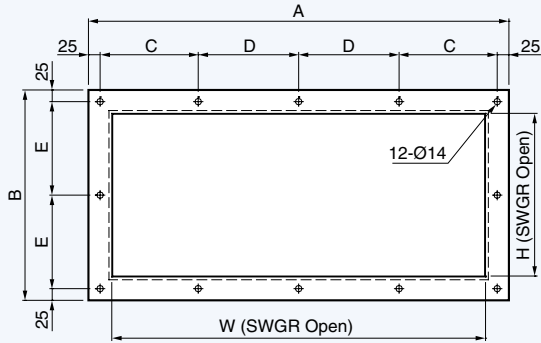


Rated Voltage (kV)	Rated Current (A)	Enclosure Open Dimension (mm)		Wall Open Dimensions (mm)	
		W	H	A	B
7.2 and less	630~1250	600	300	800	500
	1600~2000	600	350	800	550
	2500	700	350	900	550
	3200~4000	800	350	1000	550
12	630~1250	700	400	900	600
	1600~2000	700	450	900	650
	2500	800	450	1000	650
	3200~4000	900	450	1100	650
17.5	630~1250	800	450	1000	650
	1600~2000	800	500	1000	700
	2500	900	500	1100	700
	3200~4000	1000	500	1200	700
24	630~1250	1150	600	1350	800
	1600~2000	1150	650	1350	850
	2500	1200	650	1400	850
	3200~4000	1300	650	1500	850

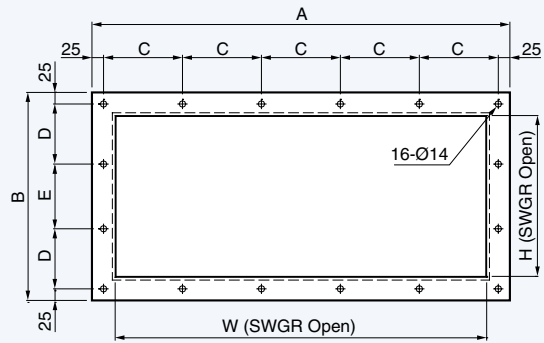
Note) 1. Please consult us for the specifications other than those listed above.
 2. Please specify the scope of supply for the options such as Wall Busing in the specification sheets.
 3. Anchor Bolts(5/16 Inch) are used to fix the Wall Flange.

Non-Segregated Phase Bus duct

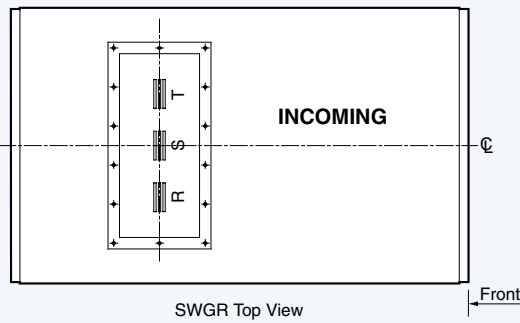
Dimensions – Flange End



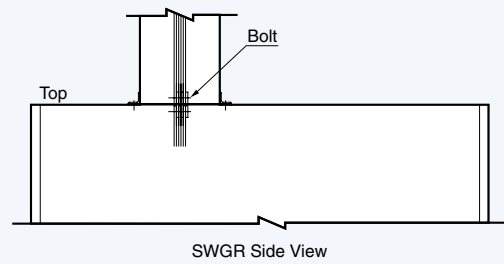
<Fig. 1>



<Fig. 2>



SWGR Top View



SWGR Side View

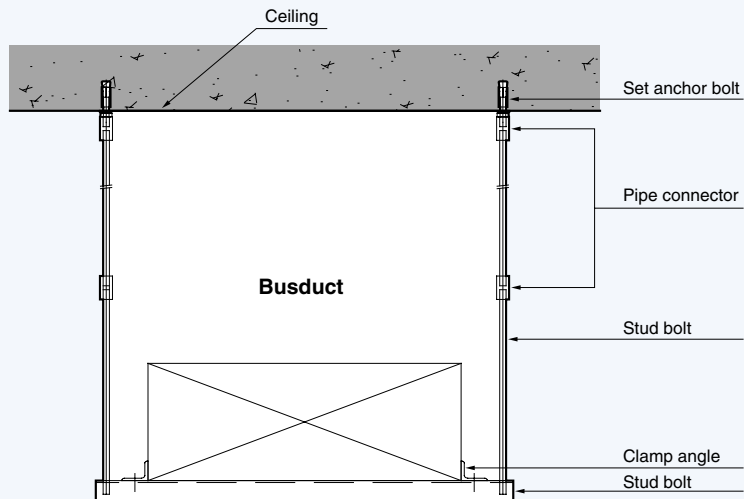
Rated Voltage (kV)	Rated Current (A)	Enclosure Open Dimensions (mm)		Dimensions (mm)					Fig
		W	H	A	B	C	D	E	
7.2 and less	630~1250	600	300	700	400	165	160	175	Fig.1
	1600~2000	600	350	700	450	165	160	200	
	2500	700	350	800	450	185	190	200	
	3200~4000	800	350	900	450	210	215	200	
12	630~1250	700	400	800	500	185	190	225	
	1600~2000	700	450	800	550	185	190	250	
	2500	800	450	900	550	210	215	250	
	3200~4000	900	450	1000	550	235	240	250	
17.5	630~1250	800	450	900	550	210	215	250	
	1600~2000	800	500	900	600	210	215	275	
	2500	900	500	1000	600	235	240	275	
	3200~4000	1000	500	1100	600	260	265	275	
24	630~1250	1150	600	1250	700	240	220	215	Fig.2
	1600~2000	1150	650	1250	750	240	230	235	
	2500	1200	650	1300	750	250	230	235	
	3200~4000	1300	650	1400	750	270	230	235	

Note) Above specifications are for 3-Wire system. Please consult us for the specifications other than those listed above, including 4-Wire system.

Non-Segregated Phase Bus duct

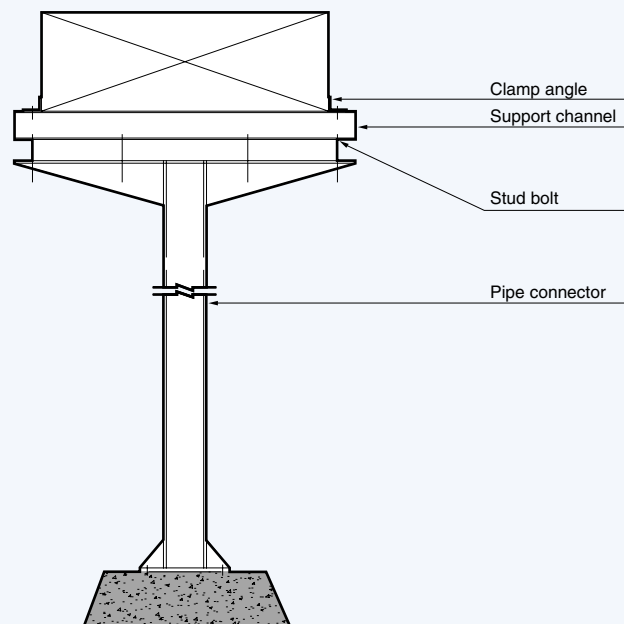
Hanger

Hanger Support (Indoor)



- Note) 1. The Hanger Support are for indoor installation. The structure may change depending on the installation environment.
2. Special installation conditions require separate consultation.
3. Specify the scope of supply when ordering.

Adjustable Pipe Support (Outdoor)



- Note) 1. The Adjustable Pipe Support is for outdoor installation. Pipe Support in case of height of over 6m is replaced with Beam Support.
2. Special installation conditions require separate consultation.
3. Specify the scope of supply when ordering.

Non-Segregated Phase Bus duct

Memo

Green Innovators of Innovation



Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact a qualified service technician when you need maintenance. Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

LSIS Co., Ltd.

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Specifications in this catalog are subject to change without notice due to continuous product development and improvement.