

The Reliable, Eco-Friendly

Busduct

Bus Duct Trunking Systems

E-BD Insulated Bus Duct

F-PE Fire-Resistant Bus Duct



Long time best selling product

E-BD Insulated Bus Duct Characteristics

By taking the bus duct, a system that can be connected regardless of orientation, and giving its jointing the ability to branch load, we have created the E-BD Bus Duct, a bus duct with dramatically improved versatility. Able to handle large currents even up to 6000A, it can be used for trunking in factories, hospitals, high-rise apartment complexes, and other large-scale facilities. It can also be used for power distribution in the electrical rooms of various types of buildings.

Branch Load from Joints

Bus duct joints, with the added ability to branch load, can now be used freely to immediately increase or reallocate load, allowing you to keep costs down.



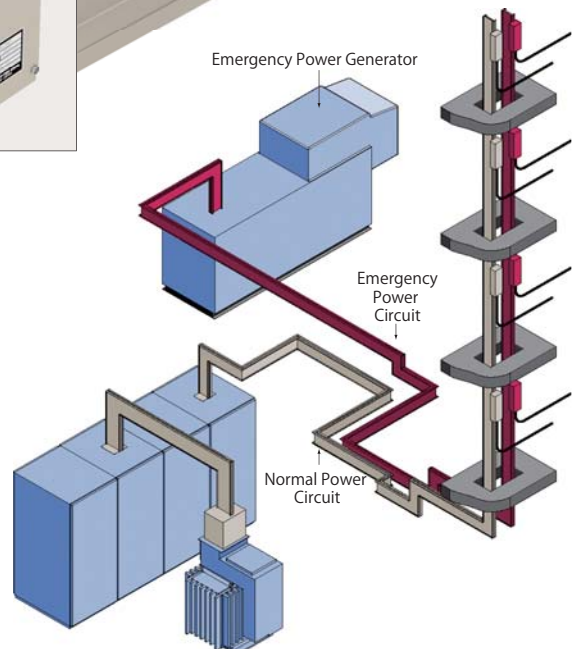
● How Load is Branched

Load can be branched simply by inserting a plug-in branch box into any plug-in hole, standard on all joints. Branch box insertion and removal can even be performed while live.



Optimized for BCP

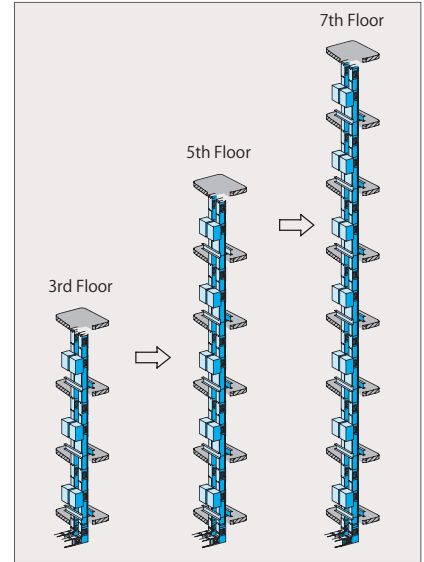
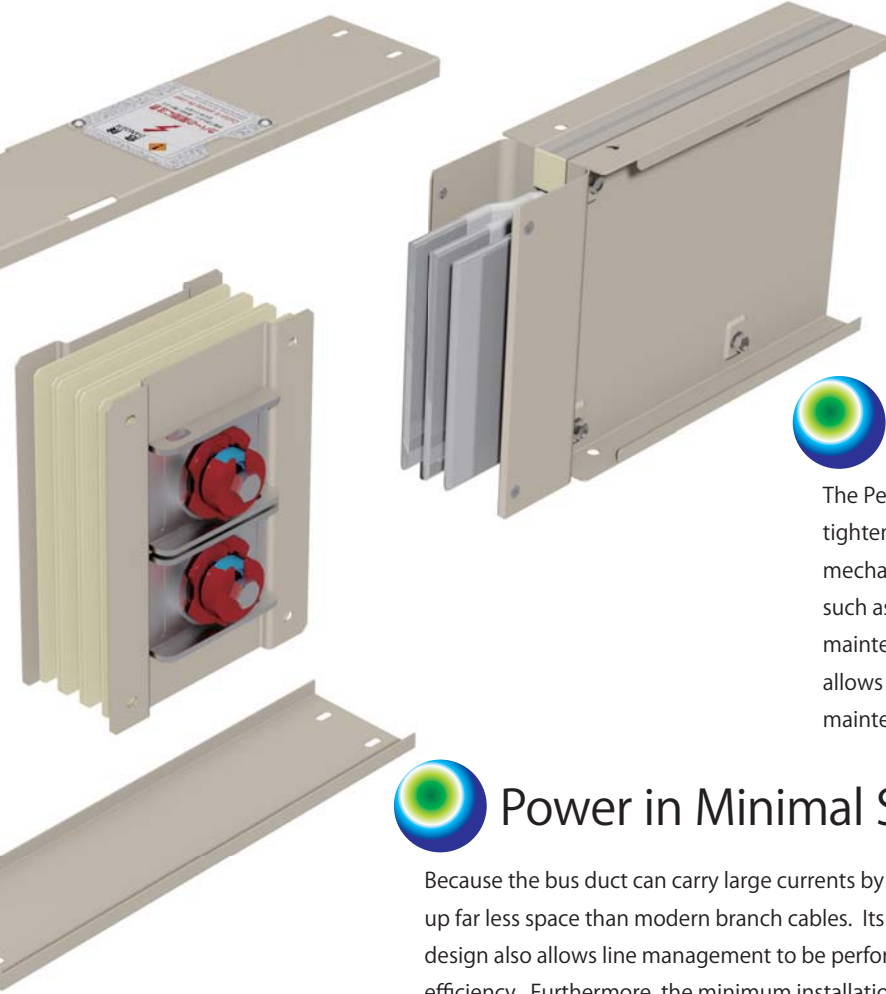
The bus duct, with superior earthquake resistance, integrates easily into BCP (Business Continuity Planning). In times of emergency, bus ducts can even be used to route power from emergency generators. Power can be routed to the desired location simply by inserting a plug-in branch box, providing flexibility even during unforeseeable circumstances.





Installable According to Your Schedule

Bus ducts can be installed in prefabricated structures, and can also be installed according to a specific installation schedule. If used for vertical trunking, it can be installed on each floor according to the construction schedule. If used for horizontal trunking, it can be installed area-by-area, allowing you to reduce installation time and worker distribution.



Example Installation in Prefabricated Structure



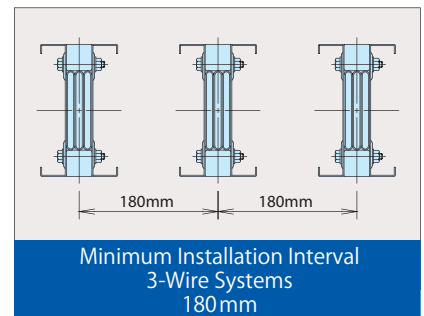
Secure Jointing

The Perfect Bolt, used in bus duct jointing, utilizes both a tightening confirmation mechanism as well as a self-locking mechanism that prevents the bolt from loosening. Mechanisms such as these allow for perfect joint bolt management and maintenance. From installation to maintenance, the Perfect Bolt allows for complete security in jointing sections. It is also maintenance-free; no additional tightening is required.



Power in Minimal Space

Because the bus duct can carry large currents by itself, it takes up far less space than modern branch cables. Its simplified design also allows line management to be performed with efficiency. Furthermore, the minimum installation interval between bus ducts is 180mm for 3-wire systems and 200mm for 4-wire systems, allowing bus duct installations to be compact.



Total Cost Reduction

The bus duct can oblige those who seek to reduce construction costs for prefabricated structures. Also, since trunking is supplied all from the same system, it can comply with large power demands. With that in mind, trunking can be efficiently designed to match transformer output, making it possible to reduce initial cost. In addition, the simplicity of load branching can help to keep down costs associated with increasing and reallocating load.



Designed with Style

With the bus duct, power distribution lines are streamlined and look great. Their silvery-white galvalume sheet steel housing has been designed with style in mind, made to match the look of modern buildings.



The Perfect Joint System

The most important thing during bus duct installation is making sure that joint bolts are tightened correctly. With Kyodo KY-Tec's revolutionary Perfect Joint System, the joint bolts are automatically tightened and installed correctly, regardless of who installs jointing or the conditions under which it is installed. Furthermore, with the Perfect Joint System, the installation status of the joint bolts can be checked simply by looking at them.

The Perfect Bolt

Manage E-BD bus duct joint bolt functions perfectly



When tightening the outer bolt head, upon reaching the specified torque, the outer head will twist off and the red ring will detach. After that, breaking the red plate will cause the self-locking mechanism to activate. Once the red plate has been removed, the bolt can no longer be loosened.

If properly tightened, each perfect bolt will only have the blue ring still attached.

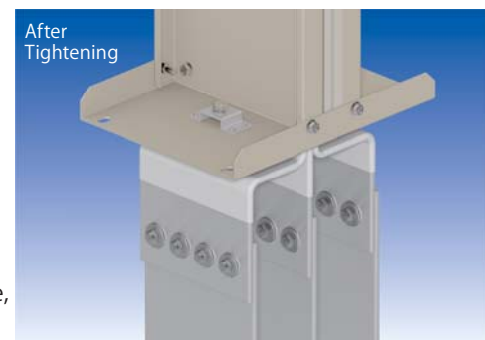
Bolt inspection can be performed simply by visually confirming that only the blue rings remain on all perfect bolts.

The PS Torque Bolt

Create the best connections using tightening torque management



The PS torque bolt is a double-headed bolt that allows for tightening torque management. Upon reaching the specified torque, the outer head will twist off.

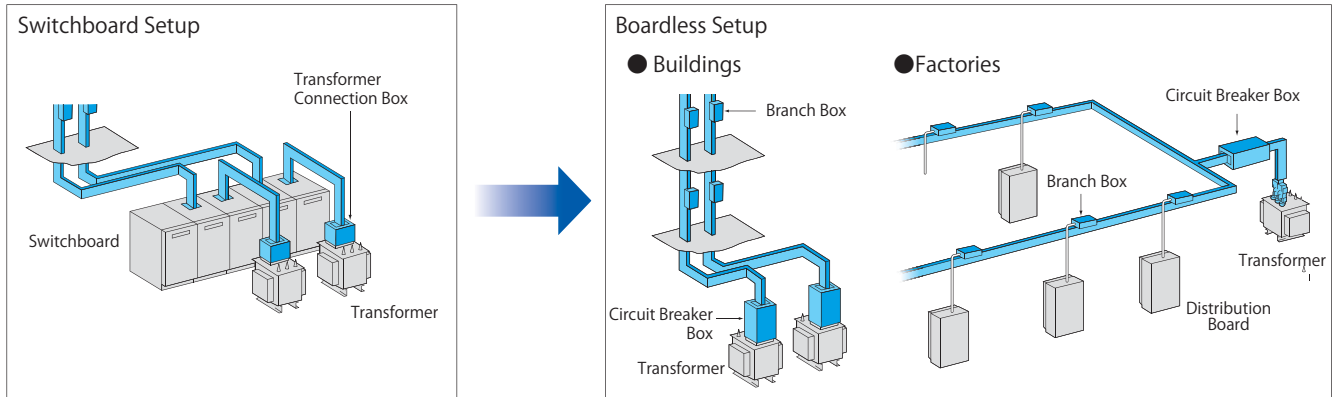


The PS torque bolt is a bolt used for securing conductors in jointing between the bus duct and attached equipment. If a general tool is used to tighten the red outer bolt head, when the specified torque is reached, the outer bolt head will twist off. The outer head that twists off is made of plastic, so it is electrically and mechanically safe. The PS torque bolt has torque management capabilities that allow for tightening to always be perfect. It also allows for tightening status to be checked simply through visual inspection.

Boardless Power Distribution

With Built-In Switchboard Capabilities

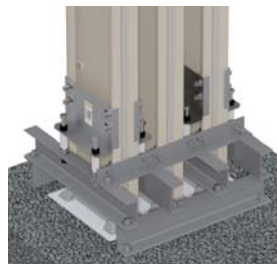
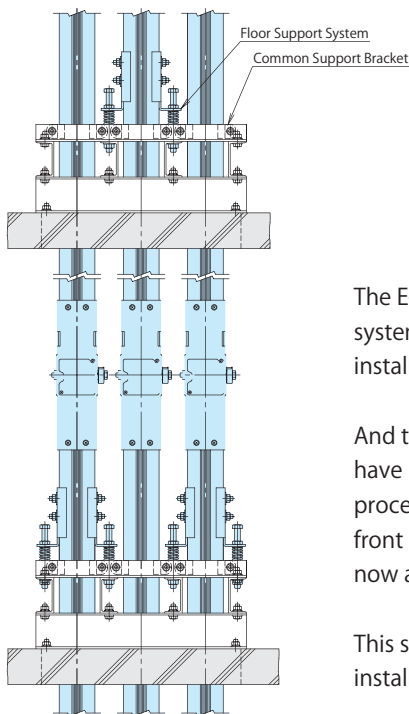
We want to keep electrical rooms in buildings and factories as small as possible while also increasing the amount of effectively usable space. By giving circuit breaker and switchboard capabilities to bus duct lines, we have conserved the space that is normally needed for switchboards while also reducing facility costs. The transformer and switchboard facilities on each line can be managed together, simplifying maintenance and helping to reduce any associated running costs.



E-Support System

For Simplified Floor Support System Installation

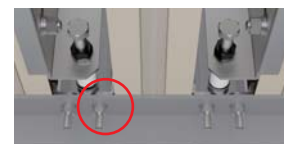
(PAT. 4693894, 4698760)



The E-Support System is a breakthrough system for minimizing the bus duct installation interval.

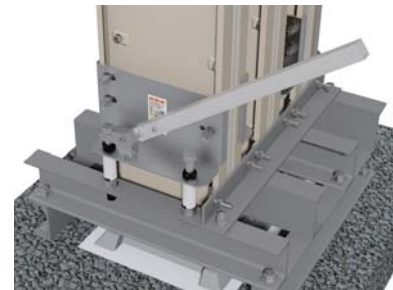
And to make installation even easier, we have made it so that all installation procedures can now be performed from the front of the unit. Accordingly, systems can now also be installed close to walls.

This system has also been optimized for installing multiple lines in narrow EPS.



● Common Support Bracket

Common support brackets can only be installed on the front. The bolts used in it are coach bolts.



● Spring-Disengage Jig

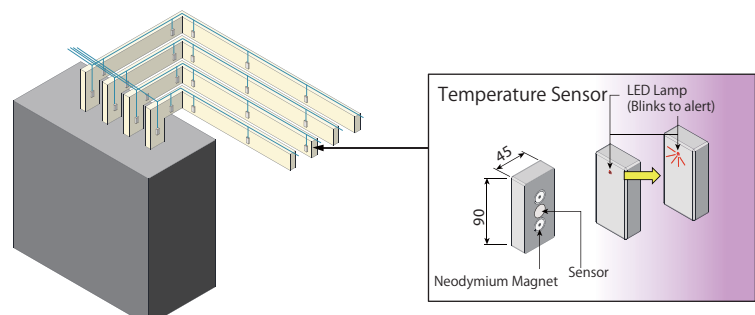
By using the above jig to disengage springs, the tightening nuts (black) on support bolts can be loosened and springs can easily be disengaged from in front of the system.

See Bus Duct Temperatures with the

MLT Temperature Monitoring System

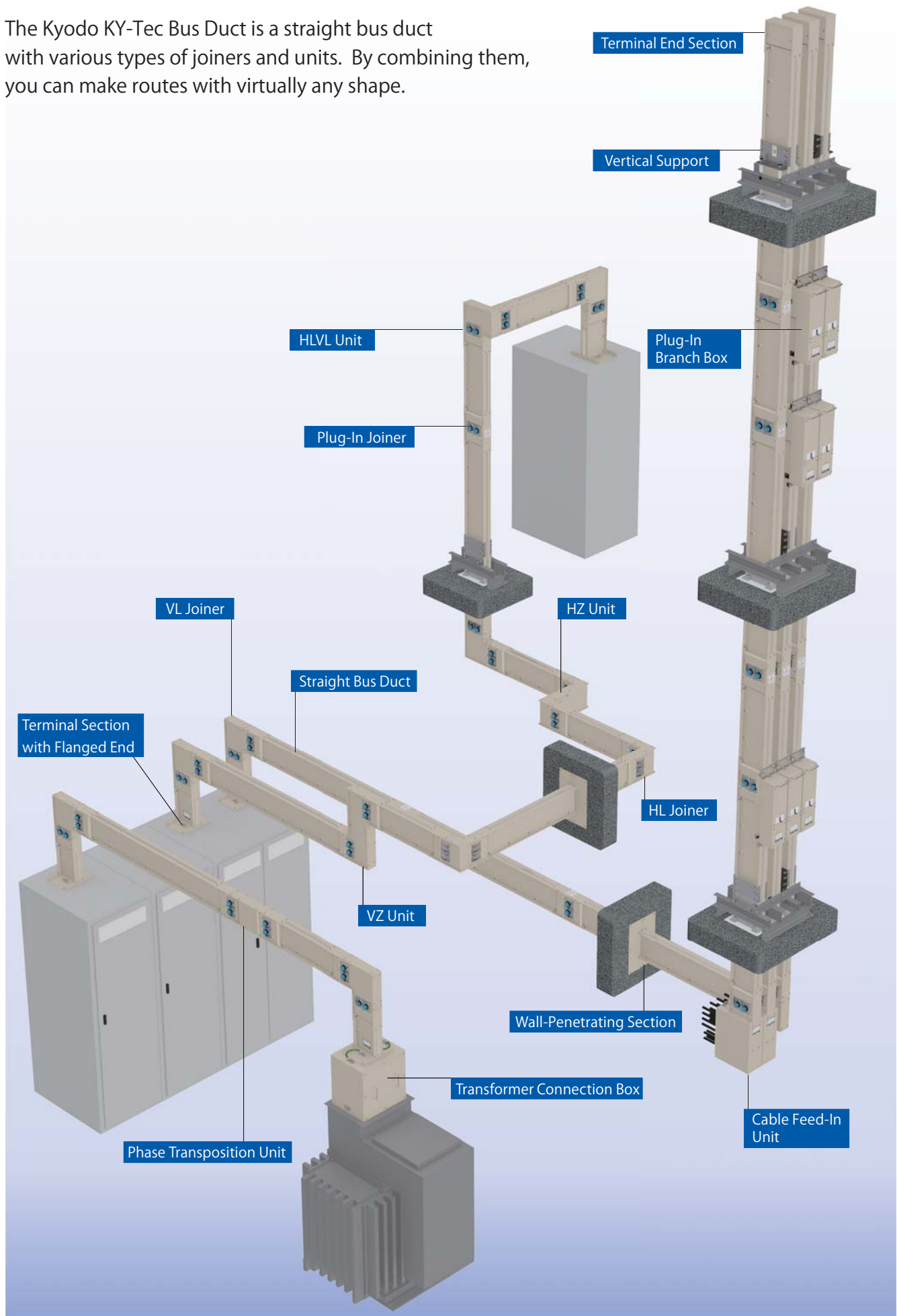
After installing temperature sensor units in places where you want temperature to be measured, connect the cables to each sensor, and then begin monitoring temperature. On the system display, you can see the temperature readout at each measurement point, as well as the trend graph and the warning history, each of which can be output as a form on demand.

This system makes it possible to monitor the temperature of bus duct joints and other parts in real time.



Bus Duct Route Overview

The Kyodo KY-Tec Bus Duct is a straight bus duct with various types of joiners and units. By combining them, you can make routes with virtually any shape.



Bus Duct Dimensions & Specifications



Ratings and Specifications

- Applicable Standards : JIS C 8364 IEC 60439-1 IEC 60439-2
- Degrees of Protection : Indoor: IP 3X Outdoor: IP 44 (Not including ventilated sections)
- Power Distribution : 3-Phase 3-Wire, 3-Phase 4-Wire, 1-Phase 3-Wire, 1-Phase 2-Wire, DC Configuration
- Rated Voltage : 600V (AC) 750V (DC)
- Rated Current : 3-Phase 600A ~ 6000A 1-Phase 800A ~ 3500A
- Conductors : Aluminum or copper conductors (electroplated)
- Insulation : Heat-resistant multi-layered polyester sheet
- Housing : Zinc-plated sheet steel or galvalume sheet steel with extruded aluminum housing
- Grounding Type : Case grounding
- Standard Finish(Surface) : Sheet steel: 5Y7/1 (semigloss) or galvalume sheet steel
Aluminum: Electrolytic coloration (Stainless coloration with alumite treatment)
- Rated Short-Time Withstand Current (JIS Example Reference for 3-Phase Units)

Rated Current (A)	Rated Short-Time Withstand Current (kA)	
	0.1 sec	1 sec
600 ~ 1000	22	22
1200 ~ 1600	42	42
2000 ~ 3500	60	60
4000 ~ 6000	90	90

CAUTION

- ※ On our standard bus duct, the cut surface of the sheet steel exposes the iron base material, so it may develop red rust. However, the sacrificial anticorrosion effect of the zinc, which covers the surface from the time the metal is cut, prevents rust from spreading through the iron.
- ※ The special second digit in the IP code, "4", indicates that the unit is built such that water cannot penetrate sections receiving current.

● 5Y7/1 (Semigloss)

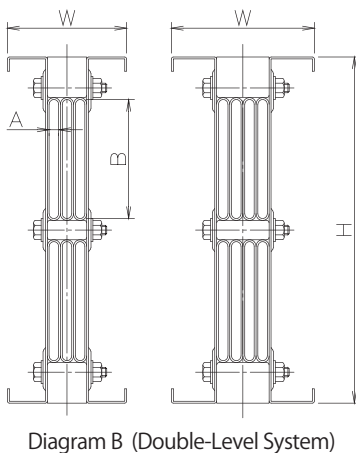
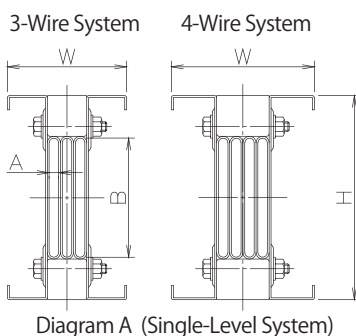


● Galvalume Sheet Steel



- ※ Color can be selected as an option. However, even if color is selected, joiner side plates and aluminum sections will remain their standard colors.
- ※ Whisker-free units are also available. Please inquire for more details.

Indoor Unit Cross Section



For specific dimensions, download drawings from the DXF standard drawing library on our website:
<http://www.ky-tec.co.jp>

Indoor Unit External Dimensions

Aluminum Conductor Bus Duct

Rated Current (A)		DWG	Conductor Dimensions (mm) A × B × N	3-Wire System			4-Wire System		
3-Phase	1-Phase			W (mm)	H (mm)	Mass (kg/m)	W (mm)	H (mm)	Mass (kg/m)
600	800	a	8 × 40 × 1	100	110	11	120	110	12
800	1000	a	8 × 60 × 1	100	130	12	120	130	14
1000	1200	a	8 × 75 × 1	100	145	14	120	145	16
1200	1500	a	8 × 100 × 1	100	170	17	120	170	19
1500	1600	a	8 × 135 × 1	100	205	20	120	205	23
1600	2000	a	8 × 150 × 1	100	220	22	120	220	26
2000	2500	a	8 × 190 × 1	100	260	26	120	260	31
2500	3000	a	8 × 240 × 1	100	310	31	120	310	37
3000	3500	a	8 × 300 × 1	100	370	37	120	370	45
3500	—	b	8 × 170 × 2	100	430	42	120	430	52
4000	—	b	8 × 190 × 2	100	470	47	120	470	57
4500	—	b	8 × 220 × 2	100	530	53	120	530	65
5000	—	b	8 × 250 × 2	100	590	59	120	590	82
6000	—	b	8 × 300 × 2	100	690	69	120	690	85

Copper Conductor Bus Duct

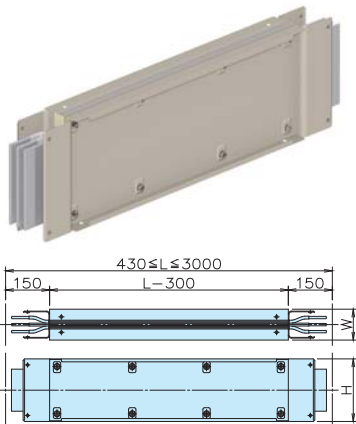
Rated Current (A)		DWG	Conductor Dimensions (mm) A × B × N	3-Wire System			4-Wire System		
3-Phase	1-Phase			W (mm)	H (mm)	Mass (kg/m)	W (mm)	H (mm)	Mass (kg/m)
800	1000	a	8 × 40 × 1	100	110	17	120	110	20
1000	1200	a	8 × 60 × 1	100	130	22	120	130	27
1200	1500	a	8 × 75 × 1	100	145	26	120	145	32
1500	1600	a	8 × 100 × 1	100	170	33	120	170	40
1600	2000	a	8 × 110 × 1	100	180	35	120	180	44
2000	2500	a	8 × 150 × 1	100	220	46	120	220	58
2500	3000	a	8 × 190 × 1	100	260	56	120	260	71
3000	3500	a	8 × 240 × 1	100	310	69	120	310	88
3500	—	b	8 × 135 × 2	100	360	77	120	360	99
4000	—	b	8 × 150 × 2	100	390	86	120	390	110
4500	—	b	8 × 170 × 2	100	430	97	120	430	123
5000	—	b	8 × 190 × 2	100	470	106	120	470	137
6000	—	b	8 × 240 × 2	100	570	132	120	570	171

*The mass above has been approximately calculated for indoor units with steel housing.
*The dimensions for horizontally-oriented units are the same as above.

Bus Duct Components

◀ Straight Bus Ducts, Joiners, Units ▶

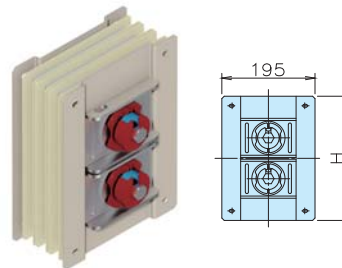
■ Straight Bus Duct: Horizontal Duct (HD)



- * Manufactured length (L): $430\text{mm} \leq L \leq 3000\text{mm}$
- * Standard-length units are 3000mm.

■ Plug-In Joiner (PJ)

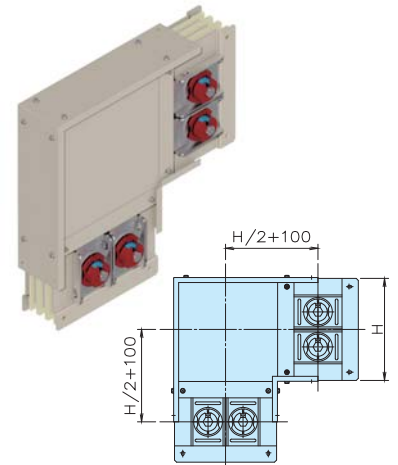
- Joining that connects straight bus ducts
- Features plug-in hole



- * Supports plug-in branch boxes
- * For details on plug-in branch boxes
- * Units with double-sided branching are available. (Standard units branch from one side.)

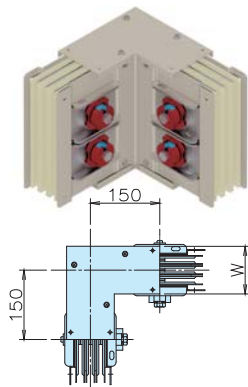
■ Vertical Elbow (VL) Joiner

- Vertical jointing used to connect bus ducts at a right angle



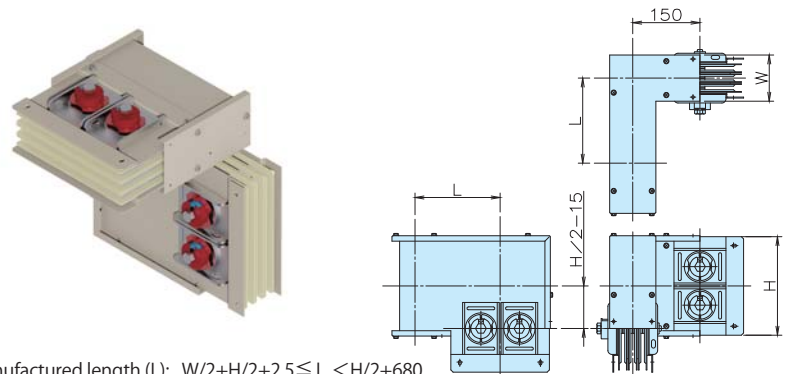
■ Horizontal Elbow (HL) Joiner

- Horizontal jointing used to connect bus ducts at a right angle



■ Horizontal Elbow & Vertical Elbow (HLVL) Unit

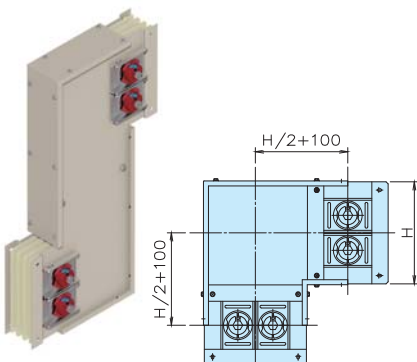
- Combined jointing unit consisting of one horizontal and one vertical unit



- * Manufactured length (L): $W/2 + H/2 + 2.5 \leq L < H/2 + 680$
- * Units are reversible.

■ Vertical Offset (VZ) Unit

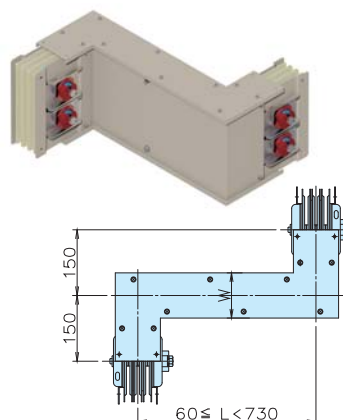
- Joining unit used to adjust route position vertically by the smallest amount possible



- * Manufactured length (L): $50\text{mm} \leq L < H + 630\text{mm}$
- * When H is 260mm or above, Z = H.
- * When H is less than 260mm, Z is 260mm.

■ Horizontal Offset (HZ) Unit

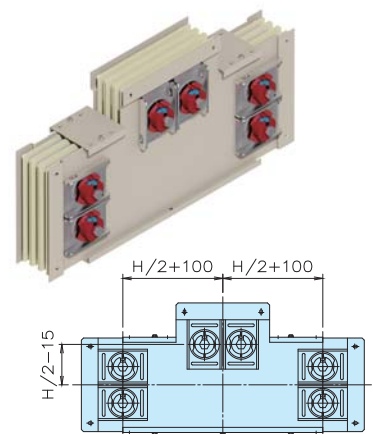
- Joining unit used to adjust route position horizontally by the smallest amount possible



- * Manufactured length (L): $60\text{mm} \leq L < 730\text{mm}$

■ Vertical Tee (VT) Unit

- Vertical jointing unit used to branch bus duct in three directions



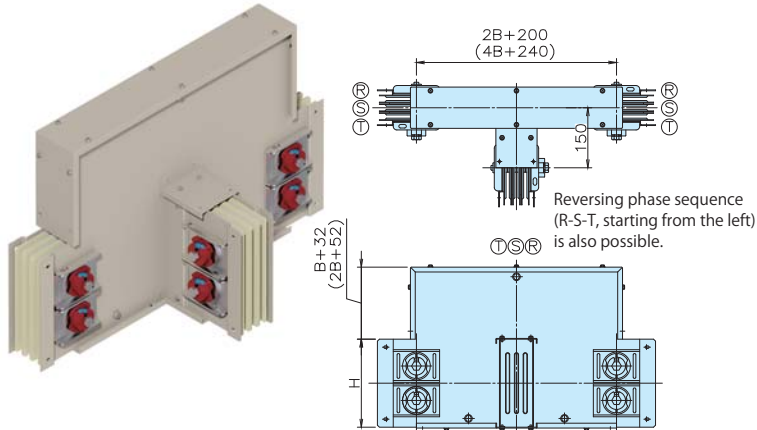
※For dimensions W, H, and B, refer to the chart on page 6.

※For dimensions other than those displayed above, please consult us.

Other Units

Horizontal Tee (HT) Unit

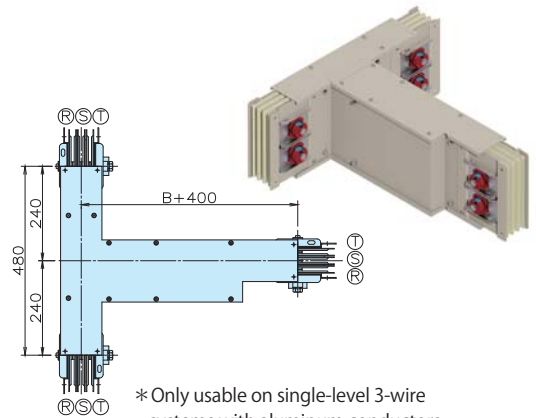
-Horizontal jointing unit used to branch bus duct in three directions



* Dimensions in parenthesis () are for double-level systems.

New Horizontal Tee (N-HT) Unit

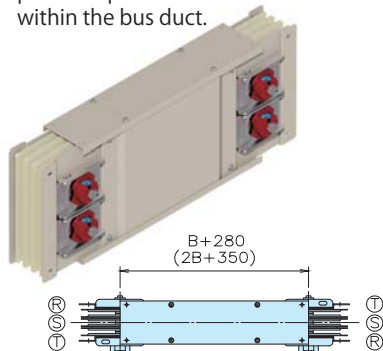
-A reduced version of the HT unit to the left, but without the protruding upper section



* Only usable on single-level 3-wire systems with aluminum conductors.

Phase Transposition Unit

-Jointing unit used for rearranging phase sequence within the bus duct.



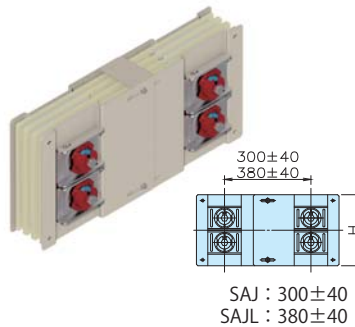
* Dimensions in parenthesis () are for double-level systems.

* All 4-wire systems use the dimensions in parenthesis.

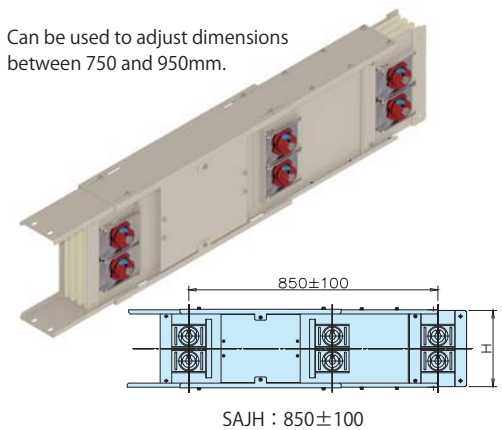
Dimension Adjustment Unit

-Jointing unit used for adjusting bus duct dimensions on-site.

Can be used to adjust dimensions between 260 and 420mm. (When both SAJ and SAJL have arrived on site.)



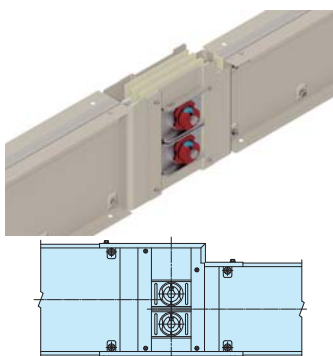
Can be used to adjust dimensions between 750 and 950mm.



* Only usable on 3-wire systems with aluminum conductors.

Reducer Joiner

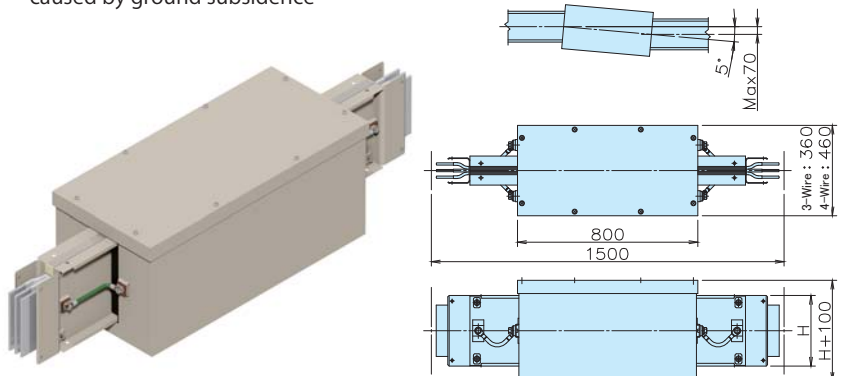
-Jointing used to reduce rated current in the middle of a bus duct circuit



* There are two ways to align the units: The bottom surfaces can be aligned (as shown in the image above), or the centers of the units can be aligned.

Type F Expansion (F-EXP) Unit

-Used to pass through expanded sections of buildings
-Also used to counteract irregularities in the building foundation caused by ground subsidence



* Only usable on units with single-level conductors.

※ For dimensions W, H, and B, refer to the chart on page 6. ※ For dimensions other than those displayed above, please consult us.



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