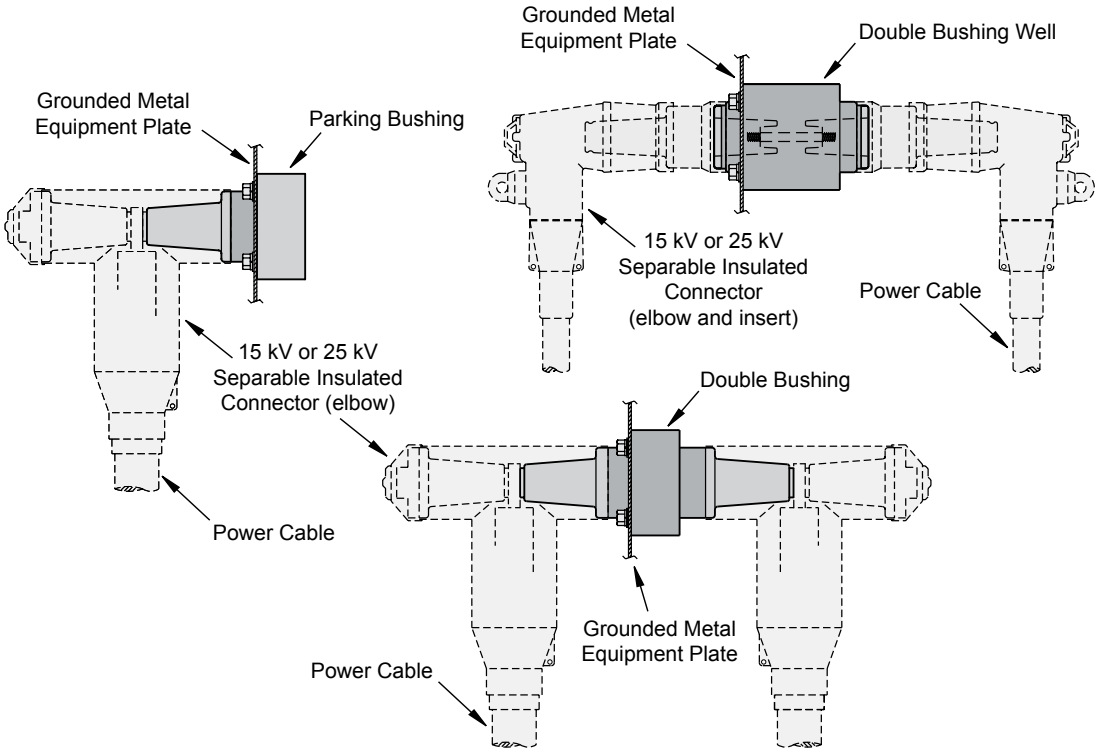
25-kV Apparatus Bushings

"B" Series (bolt-in) for Elbow to Elbow Service
200 Amp, 600 Amp, 900 Amp and 1250 Amp



ELRIM Cycloaliphatic Epoxy Provides:

Nontracking, self-scouring, nonweathering performance
Superior dielectric strength, dielectric loss and power factor
Choice of shapes allows design innovation
Mechanical and thermal toughness
Shatter-free arc flashover performance
Oil resistant

Elliott Design Provides:

Precision molded interfaces per IEEE Standard 386
"Bolt-In" design
Integral shielding to prevent destructive corona discharge
Thermal cycle withstand from +200° to -200° F for long life
High Strength - field proven performance since 1975

For 15-kV and 25-kV Connectors (Elbows)

Elliott "B" Series (bolt-in) apparatus bushings are used to construct air-insulated equipment that connects to the utility's underground shielded cable system with IEEE Standard separable insulated connectors (i.e. elbows). The same 5-hole mounting provision accommodates all "B" Series bushings. Integral shielding prevents "edge-of-hole" corona discharge. The heavy-duty flange provides exceptionally high cantilever strength. In addition to IEEE Standard 386 design tests, Elliott bushings are design tested for thermal cycle withstand from +200º to -200º F to assure long field life. Every bushing is production tested "in-air" mounted in a grounded steel plate with an insulated bushing extension (or bushing extension and protective cap) installed on the interface to accurately simulate operating conditions.

Ratings and Dimensions of Double Bushing Wells & Double Bushings

Catalog Number	Voltage Class kV	Continuous Current Amps	Withstand Test Voltage Kilovolts			Minimum Leakage Inches	Minimum Strike Inches
			Impulse 1.2 x 50	One Min. Dry	10 Sec. Dew		
1325-225B-DW	25	200	125	40	N/A	N/A	N/A
1330-625B-DB	25	600	125	40	N/A	N/A	N/A
1330-925B-DB	25	900	125	40	N/A	N/A	N/A
1330-1225B-DB	25	1250 Special Order	125	40	N/A	N/A	N/A

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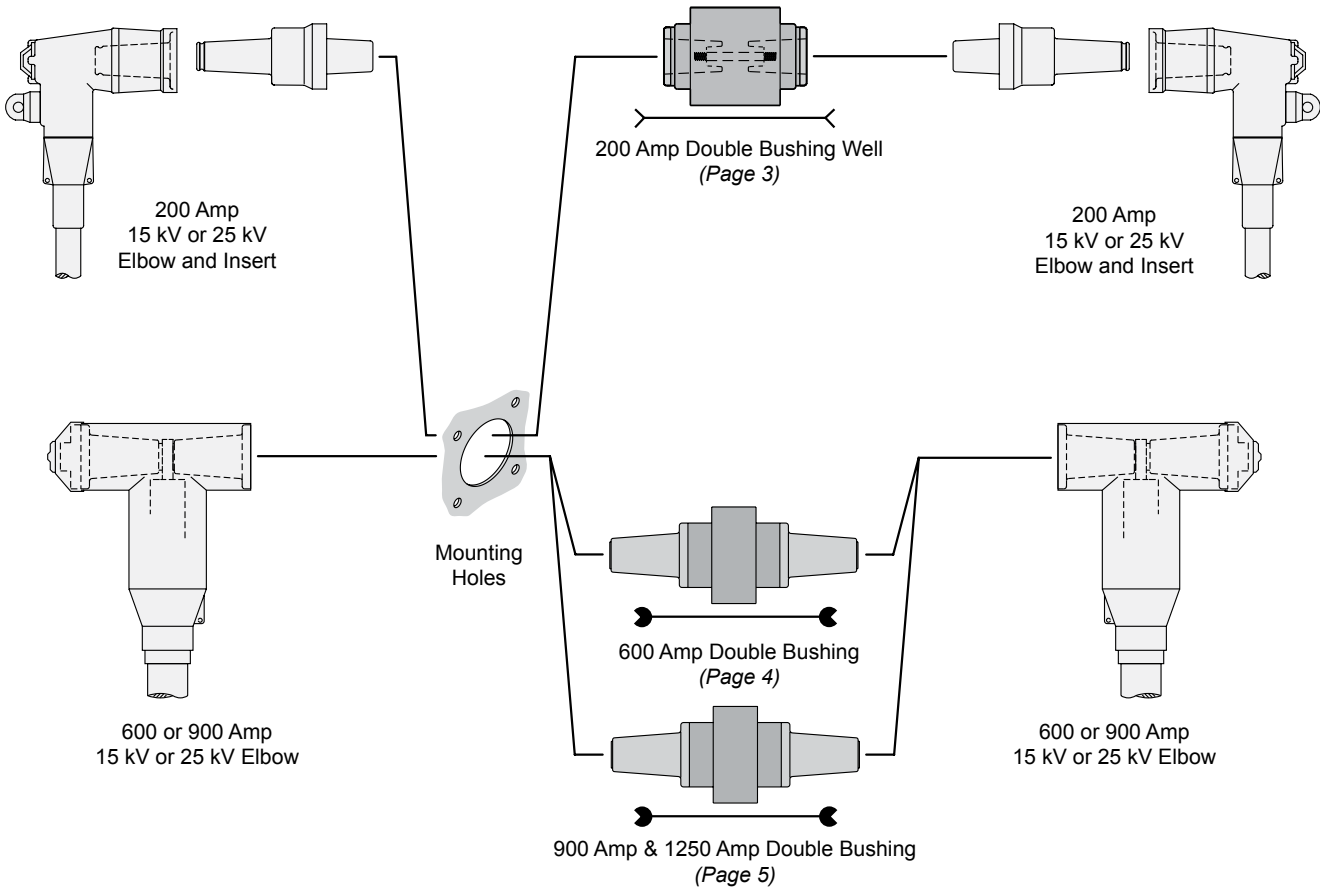
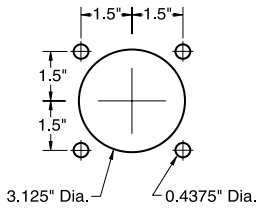


Elliott Double Bushing Wells are designed as specified by IEEE Standard 386 Fig. 3 for use with 15 kV or 25 kV Loadbreak Inserts and Elbows.

Elliott Double Bushings and Parking Bushings are designed to accept 600 amp or 900 amp 15 kV and 25 kV Elbows. Double Bushing Wells and Bushings include a conductor between the two interfaces to provide a means of electrically connecting one elbow to another. Parking Bushings provide an insulated interface as a means to "park" an elbow with an energized cable.



Standard Mounting Holes for Elliott "B" Series Bushings

These products can be used to:

- Construct pad-mounted switchgear using Double Bushing Wells and Double Bushings.
- Install a Parking Bushing next to an Apparatus Bushing for use with the Elastimold Link-Op™ connection system.
- Mount a Double Bushing on wall brackets in vaults or industrial locations as a way to connect several 600 amp elbows.
- Install a Parking Bushing to provide a permanent parking device for a 600 amp elbow.

Common Mounting – All "B" Series bushings have the same mounting-bolt pattern. The installer can punch one mounting-hole pattern and install any "B" Series bushing, insulator or parking bushing.

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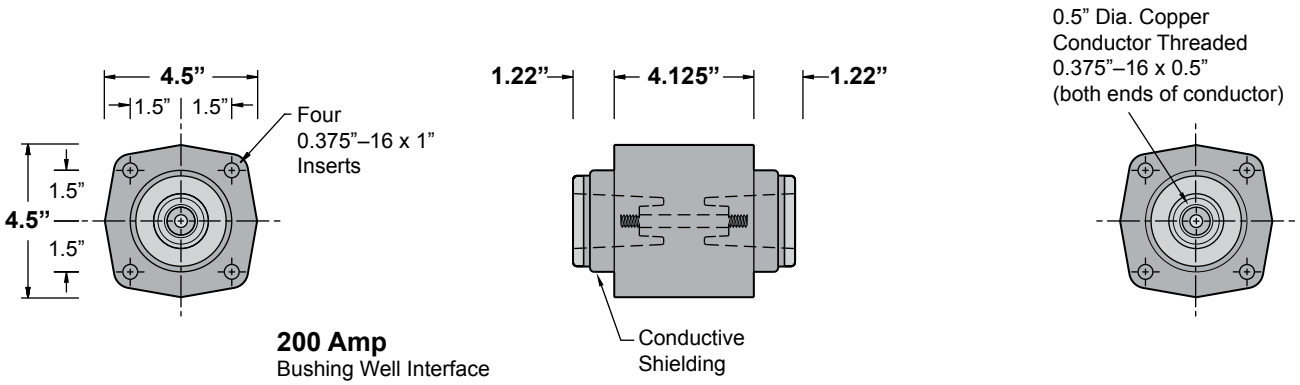
200 Amp Double Bushing Well #1325-225B-DW



200 Amp
Bushing Well Interface
15 and 25 kV class per
IEEE Standard 386-2016

Voltage Class	25 kV
Phase-to-Ground Voltage	15.2 kV
BIL	125 kV
AC Withstand - 1 Min. Dry	40 kV
10 Sec. Dew	N/A
DC Withstand - 15 Min. Dry	78 kV
Corona Extinction Level - Minimum	19 kV
Continuous Current	200 Amps
Momentary - RMS, Sym., 0.17 sec	10,000 Amps
RMS, Sym., 3 sec	3,500 Amps

Leakage Distance, Inches	N/A
Dry Arcing Distance, Inches	N/A
Mechanical - Strength Rating, Pounds	
Cantilever, Ultimate 2.5 inches past end	>1,000
Tensile, Pounds	>5,000
Torsion, Inches-Pounds (bolt breaks)	>700
Compression, Pounds	20,000
Insert Thread Size	0.375"–16 x 1"
Conductor Thread Size	0.375"–16 x 0.5"
Net Weight, Pounds (kg)	5.07 (2.30)

Typical Specifications - 200 Amp 15-kV and 25-kV Double Bushing Wells

Bushing Wells shall be 200 ampere Elliott #1325-225B-DW, 25 kV Class (15.2 kV to ground) Bushing Wells, 125 kV BIL, per IEEE Standard 386-2016 Fig. 3 (Interface 3: a 200 A bushing well interface) *for use with either 8.3/14.4 kV or 15.2/26.3 kV separable insulated connectors* (Elastimold®, Eaton's Cooper Power Systems or other approved equal). The bushing wells shall be pressure-molded cycloaliphatic epoxy with a 0.5-inch diameter copper conductor that is threaded 0.375-inch–16UNC on both ends. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Double Bushing Wells shall mount in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that "cut" through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing well interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each Double Bushing Well shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, and with a bushing well plug (Eaton's Cooper Power Systems #IBWP225 or equal) installed in the well interface to accurately simulate operating conditions *(gas or liquid dielectric on the interface shall not be acceptable for this test)*. Each bushing well shall meet the requirements for 25 kV devices in accordance with IEEE Standard 386 (latest revision), including 100 percent production testing.

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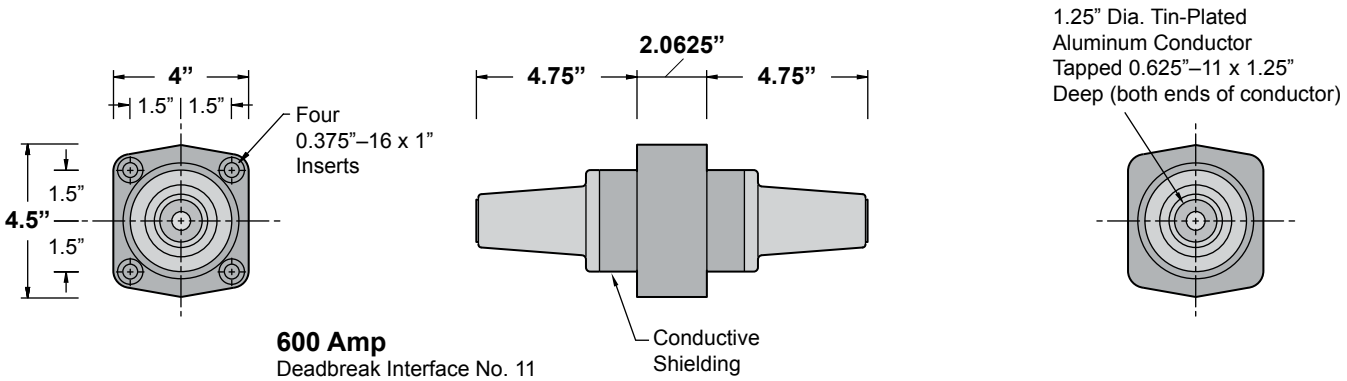
600 Amp Double Bushing #1330-625B-DB



600 Amp
Deadbreak Interface No. 11
15 and 25 kV class per
IEEE Standard 386-2016

Voltage Class	25 kV
Phase-to-Ground Voltage	15.2 kV
BIL	125 kV
AC Withstand - 1 Min. Dry	40 kV
10 Sec. Dew	N/A
DC Withstand - 15 Min. Dry	78 kV
Corona Extinction Level - Minimum	19 kV
Continuous Current	600 Amps
Momentary - RMS, Sym., 0.17 sec	25,000 Amps
RMS, Sym., 3 sec	10,000 Amps

Leakage Distance, Inches	N/A
Dry Arcing Distance, Inches	N/A
Mechanical - Strength Rating, Pounds	
Cantilever, Ultimate 2.5 inches past end	>1,000
Tensile, Pounds	>5,000
Torsion, Inches-Pounds	>3,000
Compression, Pounds	20,000
Insert Thread Size	0.375"–16 x 1"
Conductor Thread Size	0.625"–11 x 1.25"
Net Weight, Pounds (kg)	6.20 (2.83)

Typical Specifications - 600 Amp 15-kV and 25-kV Double Bushings

Double Bushings shall be 600 ampere Elliott #1330-625B-DB, 25 kV Class (15.2 kV to ground) Bushings, 125 kV BIL, per IEEE Standard 386-2016 Fig. 13 (Interface 11: a 600 and 900 A deadbreak interface, 15 and 25 kV class) *for use with either 8.3/14.4 kV or 15.2/26.3 kV separable insulated connectors* (Elastimold®, Eaton's Cooper Power Systems or other approved equal). The bushings shall be pressure-molded cycloaliphatic epoxy with a 1.25-inch diameter tin-plated aluminum conductor that is drilled and tapped 0.625-inch–11UNC x 1-inch deep on both ends. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Double Bushings shall mount in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that "cut" through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, and with an insulated protective cap (Eaton's Cooper Power Systems #DPC625 or equal) installed on one interface and an insulated bushing extension (Eaton's Cooper Power Systems #DBE625 or equal) installed on the other interface to accurately simulate operating conditions *(gas or liquid dielectric on the interface shall not be acceptable for this test)*. Each bushing shall meet the requirements for 25 kV devices in accordance with IEEE Standard 386 (latest revision), including 100 percent production testing.

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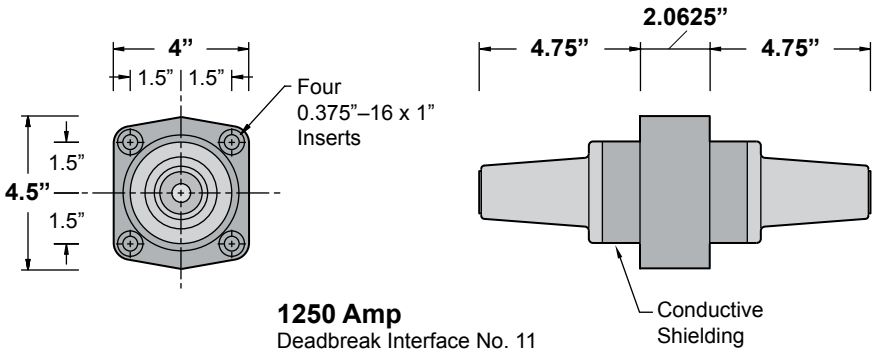
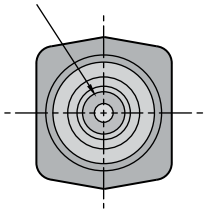
900 Amp Double Bushing #1330-925B-DB



1250 Amp
Deadbreak Interface No. 11
15 and 25 kV class per
IEEE Standard 386-2016

1250 Amp Double Bushing with a Silver-Plated Conductor is available by Special Order

1.25" Dia. Copper Conductor Tapped 0.625"–11 x 1.25" Deep (both ends of conductor)



Voltage Class	25 kV
Phase-to-Ground Voltage	15.2 kV
BIL	125 kV
AC Withstand - 1 Min. Dry	40 kV
10 Sec. Dew	N/A
DC Withstand - 15 Min. Dry	78 kV
Corona Extinction Level - Minimum	19 kV
Continuous Current	900 Amps
Momentary - RMS, Sym., 0.17 sec	25,000 Amps
RMS, Sym., 3 sec	10,000 Amps

Leakage Distance, Inches	N/A
Dry Arcing Distance, Inches	N/A
Mechanical - Strength Rating, Pounds	
Cantilever, Ultimate 2.5 inches past end	>1,000
Tensile, Pounds	>5,000
Torsion, Inches-Pounds	>3,000
Compression, Pounds	20,000
Insert Thread Size	0.375"–16 x 1"
Conductor Thread Size	0.625"–11 x 1.25"
Net Weight, Pounds (kg)	9.30 (4.22)

Typical Specifications - 900 Amp 15-kV and 25-kV Double Bushings

Double Bushings shall be 900 ampere Elliott #1330-925B-DB, 25 kV Class (15.2 kV to ground) Bushings, 125 kV BIL, per IEEE Standard 386-2016 Fig. 13 (Interface 11: a 600 and 900 A deadbreak interface, 15 and 25 kV class) *for use with either 8.3/14.4 kV or 15.2/26.3 kV separable insulated connectors* (Elastimold®, Eaton's Cooper Power Systems or other approved equal). The bushings shall be pressure-molded cycloaliphatic epoxy with a 1.25-inch diameter silver-plated copper conductor that is drilled and tapped 0.625-inch–11UNC x 1-inch deep on both ends. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Double Bushings shall mount in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that "cut" through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, and with an insulated protective cap (Eaton's Cooper Power Systems #DPC625 or equal) installed on one interface and an insulated bushing extension (Eaton's Cooper Power Systems #DBE625 or equal) installed on the other interface to accurately simulate operating conditions *(gas or liquid dielectric on the interface shall not be acceptable for this test)*. Each bushing shall meet the requirements for 25 kV devices in accordance with the test values of IEEE Standard 386 (latest revision), including 100 percent production testing.

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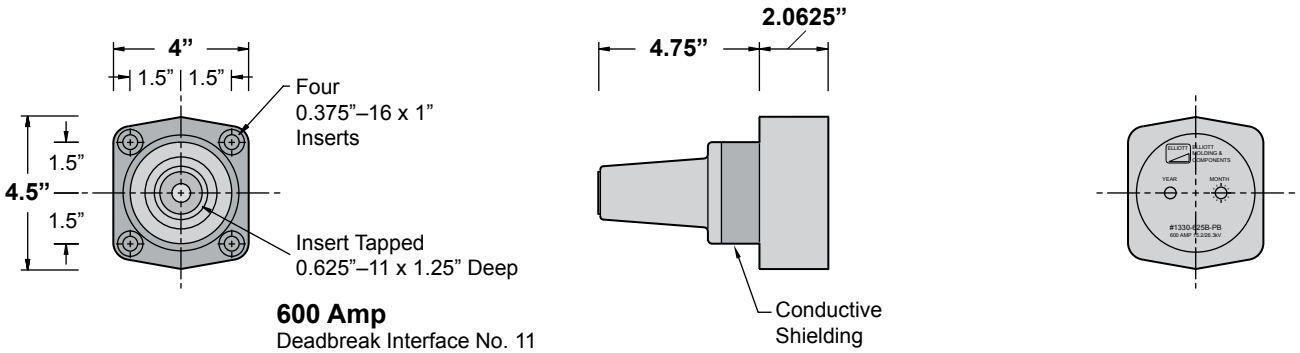
Parking Bushing #1330-625B-PB



600 Amp
Deadbreak Interface No. 11
per IEEE Standard 386-2016

Voltage Class	25 kV
Phase-to-Ground Voltage	15.2 kV
BIL	125 kV
AC Withstand - 1 Min. Dry	40 kV
10 Sec. Dew	N/A
DC Withstand - 15 Min. Dry	78 kV
Corona Extinction Level - Minimum	19 kV
Continuous Current	N/A
Momentary - RMS, Sym., 0.17 sec	N/A
RMS, Sym., 3 sec	N/A

Leakage Distance, Inches	N/A
Dry Arcing Distance, Inches	N/A
Mechanical - Strength Rating, Pounds	
Cantilever, Ultimate 2.5 inches past end	>1,000
Tensile, Pounds	>5,000
Torsion, Inches-Pounds	>3,000
Compression, Pounds	20,000
Insert Thread Size	0.375"–16 x 1"
Conductor Insert Thread Size	0.625"–11 x 1.25"
Net Weight, Pounds (kg)	5.50 (2.50)

Typical Specifications - 600 Amp 15-kV and 25-kV Parking Bushings

Parking Bushings shall be Elliott #1330-625B-PB, 25 kV Class (15.2 kV to ground) Bushings, 125 kV BIL, per IEEE Standard 386-2016 Fig. 13 (Interface 11: a 600 and 900 A deadbreak interface, 15 and 25 kV class) *for use with either 8.3/14.4 kV or 15.2/26.3 kV separable insulated connectors* (Elastimold®, Eaton's Cooper Power Systems or other approved equal). The bushings shall be pressure-molded cycloaliphatic epoxy with a 1.25-inch diameter aluminum insert that is drilled and tapped 0.625-inch–11UNC x 1-inch deep. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Parking Bushings shall mount in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that "cut" through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, and with an insulated bushing extension (Eaton's Cooper Power Systems #DBE625 or equal) installed on the interface to accurately simulate operating conditions *(gas or liquid dielectric on the interface shall not be acceptable for this test)*. Each bushing shall meet the requirements for 25 kV devices in accordance with IEEE Standard 386 (latest revision), including 100 percent production testing.

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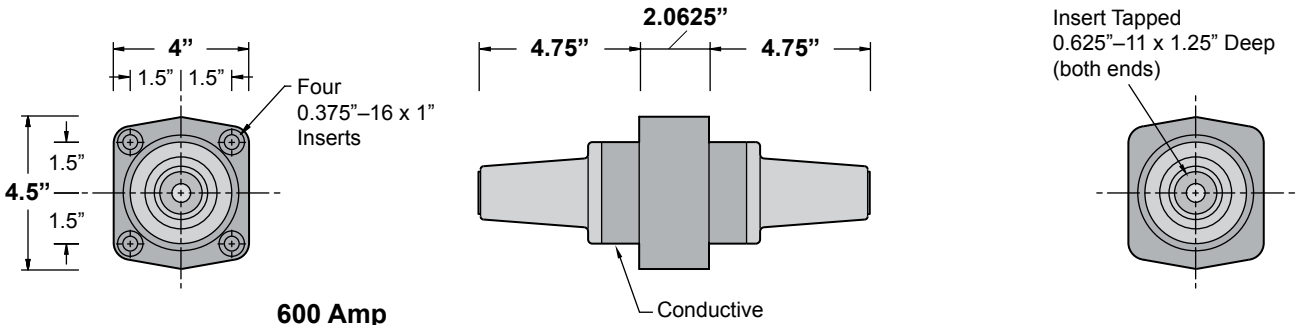
Double Parking Bushing #1330-625B-DPB



600 Amp
Deadbreak Interface No. 11
per IEEE Standard 386-2016

Voltage Class	25 kV
Phase-to-Ground Voltage	15.2 kV
BIL	125 kV
AC Withstand - 1 Min. Dry	40 kV
10 Sec. Dew	N/A
DC Withstand - 15 Min. Dry	78 kV
Corona Extinction Level - Minimum	19 kV
Continuous Current	N/A
Momentary - RMS, Sym., 0.17 sec	N/A
RMS, Sym., 3 sec	N/A

Leakage Distance, Inches	N/A
Dry Arcing Distance, Inches	N/A
Mechanical - Strength Rating, Pounds	
Cantilever, Ultimate 2.5 inches past end	>1,000
Tensile, Pounds	>5,000
Torsion, Inches-Pounds	>3,000
Compression, Pounds	20,000
Insert Thread Size	0.375"–16 x 1"
Conductor Insert Thread Size	0.625"–11 x 1.25"
Net Weight, Pounds (kg)	3.36 (1.53)

Typical Specifications - 600 Amp 15-kV and 25-kV Double Parking Bushings

Double Parking Bushings shall be Elliott #1330-625B-DPB, 25 kV Class (15.2 kV to ground) Bushings, 125 kV BIL, per IEEE Standard 386-2016 Fig. 13 (Interface 11: a 600 and 900 A deadbreak interface, 15 and 25 kV class) *for use with either 8.3/14.4 kV or 15.2/26.3 kV separable insulated connectors* (Elastimold®, Eaton's Cooper Power Systems or other approved equal). The bushings shall be pressure-molded cycloaliphatic epoxy with two 1.25-inch diameter aluminum inserts that are drilled and tapped 0.625-inch–11UNC x 1-inch deep. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Double Parking Bushings shall mount in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that "cut" through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, and with an insulated bushing extension (Eaton's Cooper Power Systems #DBE625 or equal) installed on the interface to accurately simulate operating conditions *(gas or liquid dielectric on the interface shall not be acceptable for this test)*. Each bushing shall meet the requirements for 25 kV devices in accordance with the test values of IEEE Standard 386 (latest revision), including 100 percent production testing.

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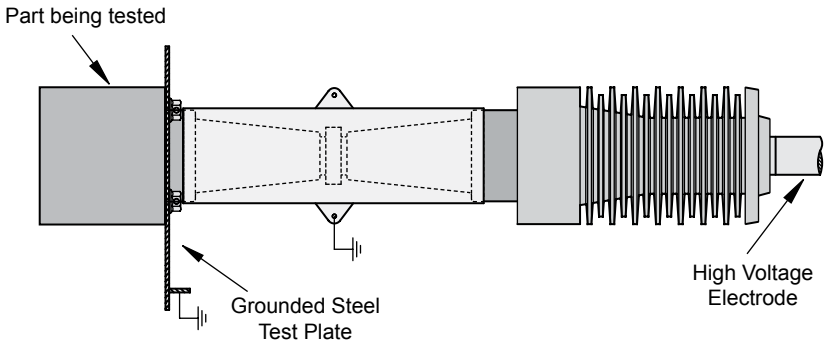
Production Tests

Every bushing is production tested in free air, mounted in an 11-gauge grounded steel plate not less than 10 inches x 10 inches, with an insulating protective plug or bushing extension (and protective cap for double bushings) installed on the interface to accurately simulate operating conditions. Each bushing must meet or exceed the requirements for 15.2/26.3 kV devices in accordance with the test values of IEEE Standard 386 (latest revision) for partial discharge (corona) and AC voltage withstand when tested in this manner.

Test Configuration



Installation Instructions

Elliott "B" Series Apparatus Bushings require a 3.125-inch diameter mounting hole with four 0.4375-inch diameter bolt holes. The bushing bolts in place utilizing four 0.375-inch–16UNC x 1-inch serrated-flange hex-head bolts (or bolts with external tooth lock washers).

Every Elliott Bushing is tested at the factory, mounted in a grounded steel plate. A greased bushing well plug or insulating bushing extension (and protective cap for double bushings) is installed on the interface to accurately simulate operating conditions. To prevent contamination of the silicone grease, it is important to keep the shipping cap in place until you are ready to install the bushing elbow. Should the grease become contaminated, thoroughly clean the interface and reapply silicone grease before installing the bushing insert or elbow.

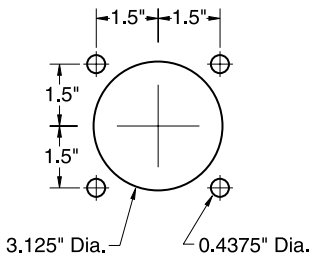
NOTE: *The shipping cap on the bushing well (or bushing) should be left in place to prevent contamination of the interface.*

1. The bushing installs from the rear (live) side for easy installation.

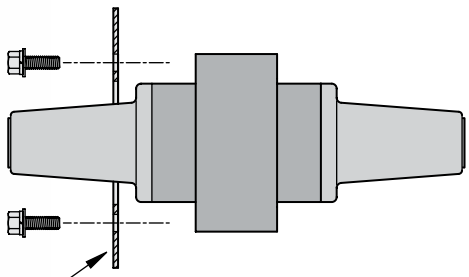
2. Serrated-flange bolts (or bolts and external tooth lock washers) are installed. The bolts should be tightened in a uniform manner (rather than one-by-one in a random sequence). Do not apply more than 90 inch-pounds torque to each bolt. The serrated-flange bolts (or external tooth lock washers) must "cut" into the mounting plate to provide a connection from the shielding to the grounded mounting plate. If the bushing is mounted on an ungrounded or insulated plate (such as fiberglass) a ground strap should be attached to one of the mounting bolts.

IMPORTANT:

Do not energize this bushing with only the shipping cap in place. To do so would lead to failure of the bushing and create a hazard to operating personnel. *This product is designed to be used **only** when it is mated with an appropriate 15 kV or 25 kV Class bushing insert (or elbow) conforming to the latest revision of IEEE Standard 386.* The bushing insert (or elbow) should be installed in accordance with the instructions supplied by the connector manufacturer.



Standard Mounting Holes for Elliott "B" Series Bushings



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