Commercial Products

Conduit Expansion/Deflection Couplings

Crouse-Hinds by Eaton
Flexible and water-tight connections that protect conduit wiring systems from damage caused by movement.
Conduit Expansion/Deflection Couplings

Conduit expansion and deflection couplings are used to accommodate expansion and deflection in rigid/IMC and EMT conduit runs in a wide variety of markets and applications. Typical installations for these fittings are driven by structural or geological conditions that often exist in commercial, light industrial and civil construction.

- **Structural movement** – used where a raceway crosses a structural joint intended for expansion, contraction or deflection, used in buildings, bridges, parking garages or other structures
- **Long conduit runs** – expansion fittings should be used in building installations with long conduit runs subject to expansion or contraction
- **Earth movement** – expansion fittings should be used where movement due to settlement or frost can affect direct-buried conductors, raceways or cables
- **Temperature fluctuation** – expansion fittings should be used where thermal fluctuation exists, causing expansion or contraction in long conduit runs

**Bridges and Tunnels:**

**Marinas, Docks and Piers:**

**Building Construction and Parking Garages:**

**Data Centers:**

**Mass transit System:**

**Solar:**
XJG Rigid/IMC Expansion Couplings

XJG Rigid/IMC expansion couplings provide flexible, water-tight connections that protect rigid and IMC conduit wiring systems from damage caused by movement.

Applications:
XJG expansion couplings are used with rigid metal conduit and IMC:
- To couple together two (2) sections of conduit subject to longitudinal movement
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- Indoors or outdoors in long conduit runs to permit linear movement caused by thermal expansion and contraction
- In conduit runs that cross structural joints
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures

Features:
- Weatherproof and approved for use indoors or outdoors without an external bonding jumper
- Available in ½” through 6” trade sizes
- For use with rigid metal and IMC conduit
- Available in 4” and 8” maximum conduit movement
- Internal bonding springs and metallic bushings create high integrity internal ground connection and eliminate need for external bonding jumpers and clamps (up to 4” trade size)
- Optional redundant tinned copper bonding jumpers (BJ Series – ordered separately)
- UL Listed for use in wet locations
- Patented design

Certifications and Compliances:
- UL Standard: 514B
- CSA 22.2 No. 18 3-12
- NEMA FB1
- Wet locations
- Third party certified as an effective grounding means (i.e. the path to ground is permanent and continuous) for two sections of conduit subject to expansion or contraction

Options:
Available in copper-free aluminum .......... SA
(Not available on 5” and 6” sizes)
Available hot dipped galvanized ................. HDG
Available with redundant bonding jumper for visible indication of bonding – order separately (BJ Series)†

Materials and Finishes:
Body:
- Steel - electrogalvanized
- Copper-free aluminum - natural
- Feraloy® iron alloy - electrogalvanized (5” and 6” only)
Reducer, Gland Nut and Bushing:
- ½” through 1” - Steel - electrogalvanized
- 1-1/4” through 6” - Feraloy® iron alloy - electrogalvanized and aluminum paint
- Copper-free aluminum - natural
Packing:
- PTFE composite
- Steel - electrogalvanized
Gasket:
- Vellum
Ground Springs:
- Phosphor bronze - electrogalvanized
Ground Strap:
- Braided tinned copper
U-Bolts:
- Malleable iron - electrogalvanized

Dimensions (In.):

<table>
<thead>
<tr>
<th>XJG Caterpillar #</th>
<th>XJG - Alum.</th>
<th>XJG - HDG</th>
<th>XJG shown with optional bonding jumper</th>
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<td>XJG14 HDG</td>
<td>BJ14 1.75 6.75 20”</td>
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<td>BJ74 4.87 9.31 24”</td>
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<td>XJG84 SA</td>
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<td>XJ148 HDG‡</td>
<td>9.56 16.00 –</td>
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Notes:
†XJG expansion couplings use a metallic bushing and ground springs to create a high integrity internal ground connection. External ground straps offer a redundant ground path and easy visible indication of ground.
‡XJ128 and XJ148 are not internally grounded. A pair of 36” bonding jumpers are provided with fitting.
XJG EMT Expansion Couplings

XJG EMT expansion couplings provide flexible, water-tight connections that protect EMT conduit wiring systems from damage caused by movement.

**Applications:**
XJG EMT expansion couplings are used with EMT conduit:
- To couple together two (2) sections of conduit subject to longitudinal movement
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- Indoors or outdoors in long conduit runs to permit linear movement caused by thermal expansion and contraction
- In conduit runs that cross structural joints
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures

**Features:**
- Weatherproof and approved for use indoors or outdoors without an external bonding jumper
- Available in ½” through 4” trade sizes
- For use with EMT conduit
- Available in 4” maximum conduit movement
- Internal bonding springs and metallic bushings create high integrity internal ground connection and eliminate need for external bonding jumpers and clamps (up to 4” trade size)
- Optional redundant tinned copper bonding jumpers (BJ Series – ordered separately)
- UL Listed for use in wet locations
- Flat surface on gland nut provides smooth, flat surface for easy wrenching
- Distinct black gland nut provides quick identification as a wet location fitting
- Patented design

**Certifications and Compliances:**
- UL Standard: 514B
- CSA 22.2 No. 18 3-12
- NEMA FB1
- Wet locations

**Options:**
Available with redundant bonding jumper for visible indication of bonding – order separately (BJ Series)†

**Materials and Finishes:**
- **Body:** Steel - electrogalvanized
- **Reducer and Bushing:**
  - ½” through 1” - Steel - electrogalvanized
  - 1-1/4” through 4” - Feraloy® iron alloy - electrogalvanized and aluminum paint
- **Gland Nut:**
  - Steel - black painted finish
- **Packing:**
  - PTFE composite
- **Washer:**
  - Steel - electrogalvanized
- **Gasket:**
  - Vellum
- **Ground Springs:**
  - Phosphor bronze - electrogalvanized
- **Ground Strap:**
  - Braided tinned copper
- **U-Bolts:**
  - Malleable iron - electrogalvanized

**Dimensions (In.):**

**XJG EMT Ordering Information:**

<table>
<thead>
<tr>
<th>Conduit Size</th>
<th>Max. Conduit Movement</th>
<th>XJG EMT Cat. #</th>
<th>Optional Bonding Jumper†</th>
<th>A Diameter</th>
<th>B Length</th>
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<td>6-5/8”</td>
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</tbody>
</table>

†XJG expansion couplings use a metallic bushing and bonding springs to create a high integrity internal ground connection. External ground straps offer a redundant ground path and easy visible indication of ground.
XD Deflection Couplings

XD deflection couplings provide flexible, water-tight connections that protect rigid/IMC or PVC conduit wiring systems from damage caused by axial expansion and contraction up to ¾” and angular and parallel misalignment.

Applications:
XD couplings can be installed indoors, outdoors, buried underground or embedded in concrete in non-hazardous areas. XDAs are used with standard rigid conduit or PVC rigid conduit. (PVC requires rigid metal conduit nipples and rigid metal-to-PVC conduit adapters.) XDAs provide a flexible and water-tight connection for protection of conduit wiring systems from damage due to movement.

Typical applications include:
• Underground conduit feeder runs
• Runs between sections of concrete subject to relative movement
• Runs between fixed structures
• Conduit entrances in high-rise buildings
• Bridges
• Marinas, docks, piers

Features:
• XD couplings accommodate the following movements without collapsing or fracturing the conduit, and damaging the wires it contains:
  1. Axial expansion or contraction up to ¾”
  2. Angular misalignment of the axes of the coupled conduit runs in any direction to 30°
  3. Parallel misalignment of the axes of coupled conduit runs in any direction to ¾”
• Inner sleeve maintains constant I.D. in any position and provides a smooth insulated wireway for protection of wire insulation
• Watertight flexible-neoprene outer jacket is corrosion resistant and protects the grounding strap and the attachment points of the hubs
• Tinned copper flexible braid bonding straps assure bonding continuity
• Stainless steel jacket clamps for strength and corrosion resistance
• Standard tapered electrical threads fit standard rigid conduit
• Integral hub bushing protects insulation of conductors

Size Ranges:
• 1” to 6” (smaller sizes can be obtained by using reducing bushings)

Materials and Finishes:
Hubs:
• Feraloy® iron alloy - electrogalvanized
Outer Jacket:
• Molded neoprene - natural (black)
Inner Sleeve:
• Stainless steel - natural
Bonding Strap:
• Molded plastic - natural (brown)

Options:
Available hot dipped galvanized ........................................................ HDG

Certifications and Compliances:
• UL Standard: 514B
• CSA 22.2 No. 18 3-12
• Wet locations

Dimensions (In.):

XD Ordering Information:

<table>
<thead>
<tr>
<th>Hub Size</th>
<th>XD Cat. #</th>
<th>Hot Dip Cat. #</th>
<th>A Diameter</th>
<th>B Length</th>
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<td>8-3/8”</td>
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</table>

*3/4” trade size can be created using third party certified 1”- 3/4” reducing bushings.
XJGD Rigid/IMC Expansion/Deflection Couplings

XJGD rigid/IMC expansion couplings provide flexible, water-tight connections that protect rigid and IMC conduit wiring systems from damage caused by expansion and contraction up to 4” and angular and parallel misalignment.

Applications:
XJGD combination expansion/deflection couplings are used with rigid metal conduit and IMC:
- To couple together two (2) sections of conduit subject to longitudinal movement
- To accommodate axial expansion, angular misalignment and parallel misalignment.
- Indoors or outdoors in long conduit runs to permit linear and axial movement caused by thermal expansion and contraction
- To maintain electrical continuity without the need for an external bonding jumper and clamps
- In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures

Features:
- XJGD fittings are weatherproof and approved for use indoors or outdoors without an external bonding jumper
- Available in ½” through 4” trade sizes
- For use with rigid metal and IMC conduit
- Available in 4” maximum conduit movement
- XJGD Couplings include XD couplings which accommodate the following movements without collapsing or fracturing the conduit, and damaging the wires it contains:
  1. Axial expansion or contraction up to 3/4”
  2. Angular misalignment of the axes of the coupled conduit runs in any direction to 30°
  3. Parallel misalignment of the axes of coupled conduit runs in any direction to 3/4”
- XD component includes inner sleeve which maintains constant I.D. in any position and provides a smooth insulated wire way for protection of wire insulation
- XD component contains a watertight flexible neoprene outer jacket which is corrosion-resistant and protects the grounding strap and the attachment points of the hubs
- XD component includes stainless steel jacket clamps for strength and corrosion resistance
- XJG component includes internal bonding springs and metallic bushings to create high integrity internal ground connection and eliminate need for external bonding jumpers and clamps (up to 4” trade size)
- Optional redundant tinned copper flexible braid bonding jumpers assure continuity (BJ Series – ordered separately)
- UL Listed for use in wet locations
- NPT threads fit standard rigid conduit
- Patented design

Materials and Finishes:
Body Hubs, Gland Nut, Washer and Bushing:
- Feraloy® iron alloy - electrogalvanized
Packing:
- PTFE composite
Gasket:
- Vellum
Ground Springs:
- Phosphor bronze - electrogalvanized
XD Component Outer Jacket:
- Molded neoprene - natural (black)
XD Jacket Clamps:
- Stainless steel - natural
XD Inner Sleeve:
- Molded plastic - natural (brown)
Bonding Strap:
- Braided tinned copper

Certifications and Compliances:
- UL Standard: 514B
- CSA 22.2 No. 18 3-12
- Wet locations

Dimensions (In.):

XJGD Ordering Information:

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</table>
Commercial Products delivers quality, reliability, labor savings and lower installed cost, all from a single, dependable source.
See the complete offering of Commercial Products at www.crouse-hinds.com.

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