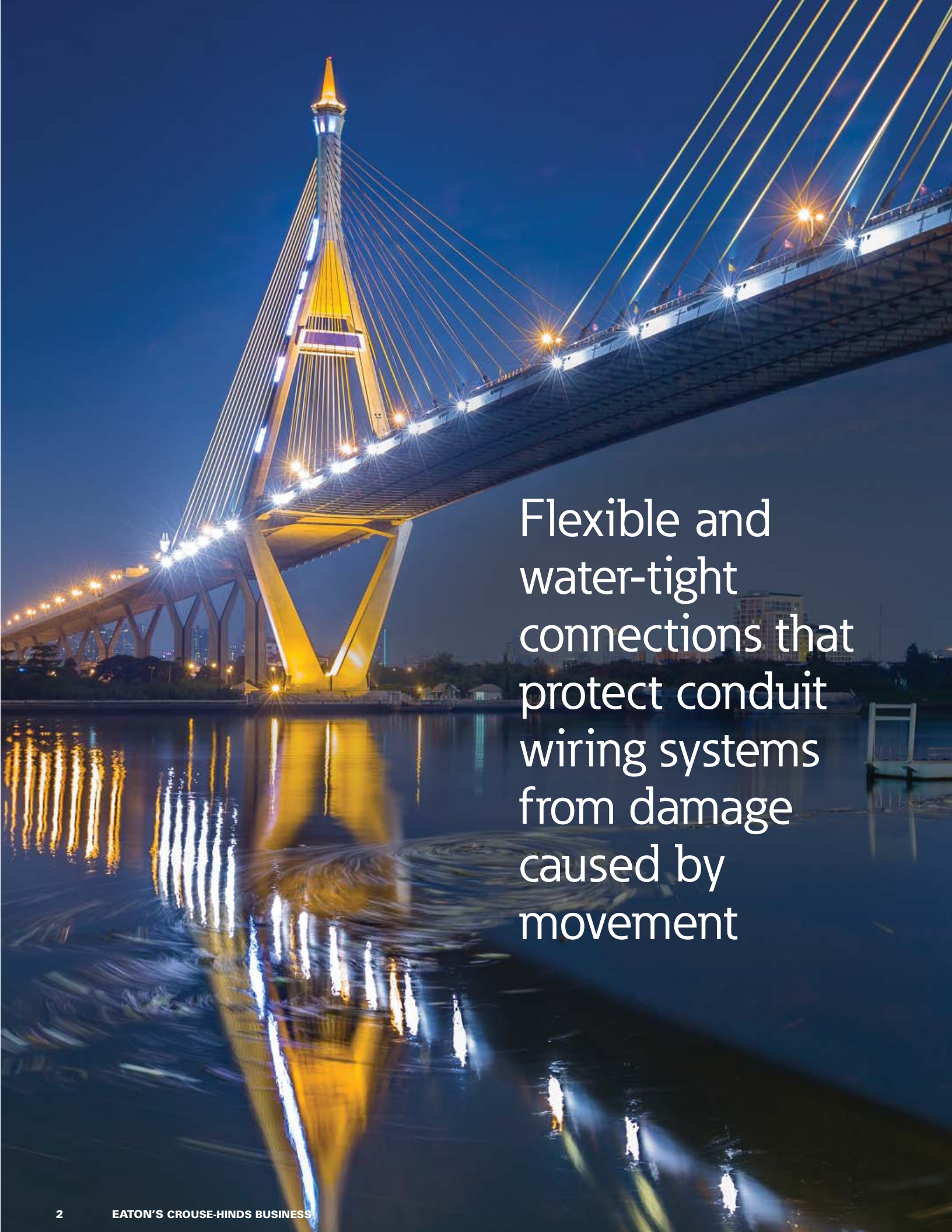


Conduit Expansion/ Deflection Couplings



Crouse-Hinds
by **EAT•N**



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 1/2" 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:

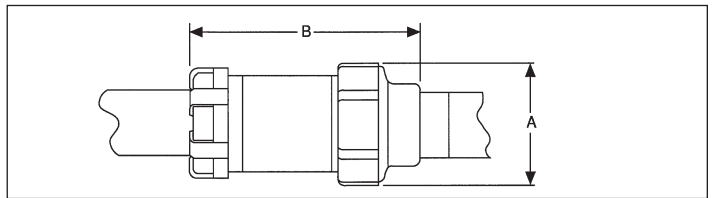
- Body:
- Steel - electrogalvanized
 - Copper-free aluminum - natural
 - Feraloy® iron alloy - electrogalvanized (5" and 6" only)
- Reducer, Gland Nut and Bushing:
- 1/2" through 1" - Steel - electrogalvanized
 - 1-1/4" through 6" - Feraloy® iron alloy - electrogalvanized and aluminum paint
- Copper-free aluminum - natural
- Packing:
- PTFE composite
- Washer:
- Steel - electrogalvanized
- Gasket:
- Vellum
- Ground Springs:
- Phosphor bronze - electrogalvanized
- Ground Strap:
- Braided tinned copper
- U-Bolts:
- Malleable iron - electrogalvanized



XJG shown with optional bonding jumper



Dimensions (In.):



XJG Ordering Information:

Conduit Size	Max. Conduit Movement	XJG Cat. #	XJG - Alum. Cat. #	Hot Dip Cat. #	Optional Bonding Jumper†	A Diameter	B Length	Bonding Jumper Length
1/2	4	XJG14	XJG14 SA	XJG14 HDG	BJ14	1.75	6.75	20"
1/2	8	XJG18	XJG18 SA	XJG18 HDG	BJ18	1.75	10.75	30"
3/4	4	XJG24	XJG24 SA	XJG24 HDG	BJ24	2.12	6.75	20"
3/4	8	XJG28	XJG28 SA	XJG28 HDG	BJ28	2.12	10.75	30"
1	4	XJG34	XJG34 SA	XJG34 HDG	BJ34	2.43	7.25	20"
1	8	XJG38	XJG38 SA	XJG38 HDG	BJ38	2.43	11.25	30"
1-1/4	4	XJG44		XJG44 HDG	BJ44	3.19	7.56	24"
1-1/4	8	XJG48		XJG48 HDG	BJ48	3.19	11.56	30"
1-1/2	4	XJG54	XJG54 SA	XJG54 HDG	BJ54	3.68	7.87	24"
1-1/2	8	XJG58	XJG58 SA	XJG58 HDG	BJ58	3.68	11.87	30"
2	4	XJG64	XJG64 SA	XJG64 HDG	BJ64	4.75	8.25	24"
2	8	XJG68	XJG68 SA	XJG68 HDG	BJ68	4.75	12.25	30"
2-1/2	4	XJG74		XJG74 HDG	BJ74	4.87	9.31	24"
2-1/2	8	XJG78		XJG78 HDG	BJ78	4.87	13.31	36"
3	4	XJG84	XJG84 SA	XJG84 HDG	BJ84	5.37	10.00	30"
3	8	XJG88	XJG88 SA	XJG88 HDG	BJ88	5.37	14.00	36"
3-1/2	4	XJG94		XJG94 HDG	BJ94	6.62	9.81	30"
3-1/2	8	XJG98		XJG98 HDG	BJ98	6.62	13.81	36"
4	4	XJG104	XJG104 SA	XJG104 HDG	BJ104	6.62	9.81	30"
4	8	XJG108	XJG108 SA	XJG108 HDG	BJ108	6.62	13.81	36"
5	8	XJ128‡		XJ128 HDG‡	—	7.64	15.50	—
6	8	XJ148‡		XJ148 HDG‡	—	9.56	16.00	—

†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 1/2" 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:

- 1/2" 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

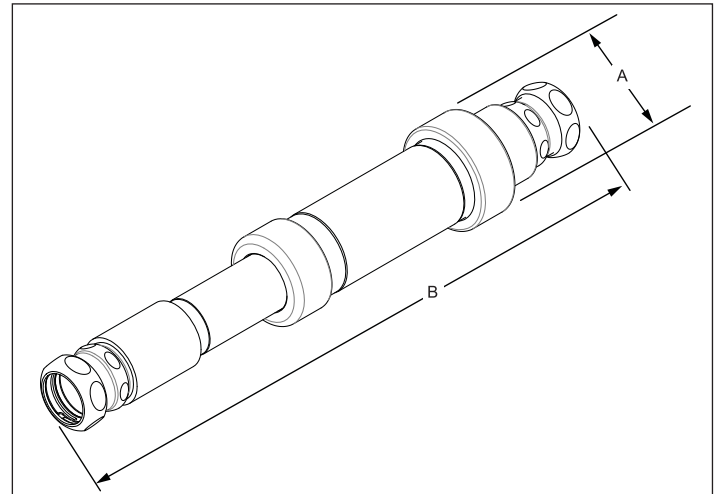
Ground Strap:

- Braided tinned copper

U-Bolts:

- Malleable iron - electrogalvanized

Dimensions (In.):



XJG EMT Ordering Information:

Conduit Size	Max. Conduit Movement	XJG EMT Cat. #	Optional Bonding Jumper†	A Diameter	B Length
1/2	4	XJG14 EMT	BJ14	1-3/4"	10-3/4"
3/4	4	XJG24 EMT	BJ24	2-1/8"	11"
1	4	XJG34 EMT	BJ34	2-7/16"	11-1/2"
1-1/4	4	XJG44 EMT	BJ44	3-1/8"	15-1/4"
1-1/2	4	XJG54 EMT	BJ54	3-5/8"	15-1/2"
2	4	XJG64 EMT	BJ64	4-3/4"	15-1/2"
2-1/2	4	XJG74 EMT	BJ74	4-7/8"	18-3/4"
3	4	XJG84 EMT	BJ84	5-3/8"	19-7/8"
3-1/2	4	XJG94 EMT	BJ94	6-5/8"	21-1/4"
4	4	XJG104 EMT	BJ104	6-5/8"	21-1/4"

†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 3/4" and angular and parallel misalignment

Applications:

XD couplings can be installed indoors, outdoors, buried underground or embedded in concrete in non-hazardous areas. XDs are used with standard rigid conduit or PVC rigid conduit. (PVC requires rigid metal conduit nipples and rigid metal-to-PVC conduit adapters.) XDs 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 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"
- 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)

Certifications and Compliances:

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

Materials and Finishes:

Hubs:

- Feraloy® iron alloy - electrogalvanized

Outer Jacket:

- Molded neoprene - natural (black)

Jacket Clamps:

- Stainless steel - natural

Inner Sleeve:

- Molded plastic - natural (brown)

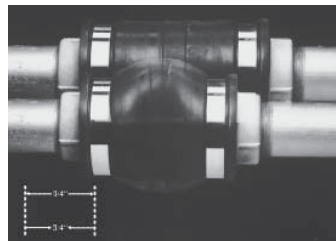
Bonding Strap:

- Braided tinned copper

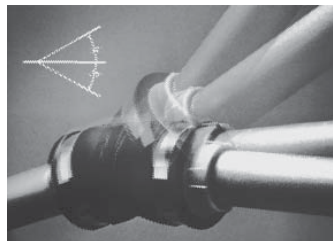


Options:

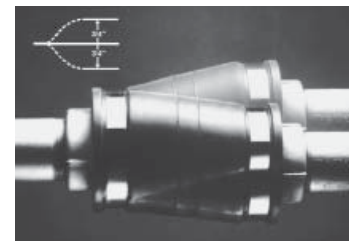
Available hot dipped galvanized HDG



1. Axial expansion/contraction

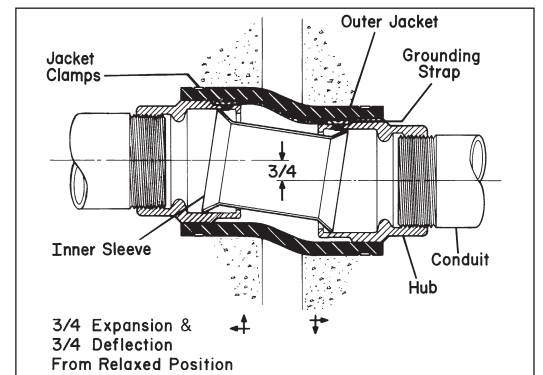
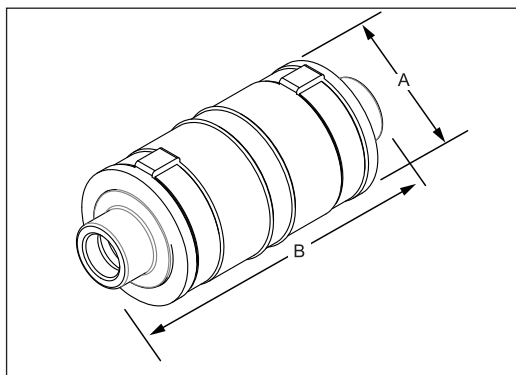


2. Angular misalignment



3. Parallel misalignment

Dimensions (In.):



XD Ordering Information:

Hub Size	XD Cat. #	Hot Dip Cat. #	A Diameter	B Length
1	XD3*	XD3 HDG	7"	3-15/16"
1-1/4	XD4	XD4 HDG	7-3/8"	4-1/4"
1-1/2	XD5	XD5 HDG	7-1/4"	4-1/2"
2	XD6	XD6 HDG	7-1/4"	4-15/16"
2-1/2	XD7	XD7 HDG	7-1/2"	5-5/16"
3	XD8	XD8 HDG	7-5/8"	5-15/16"
3-1/2	XD9	XD9 HDG	7-3/4"	6-1/2"
4	XD010	XD010 HDG	7-7/8"	6-15/16"
5	XD012	XD012 HDG	7-3/4"	8"
6	XD014	XD014 HDG	8-3/8"	9"

*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

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

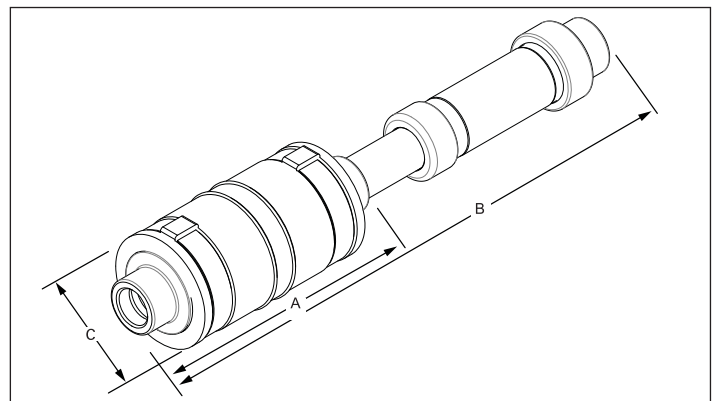


Features:

- XJGD fittings are weatherproof and approved for use indoors or outdoors without an external bonding jumper
- Available in 1/2" 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

Dimensions (In.):



XJGD Ordering Information:

Hub Size	XJGD Cat. #	A Length	B Length	C Diameter
1	XJGD34	3-15/16"	17-3/4"	7"
1-1/4	XJGD44	4-1/4"	18-1/8"	7-3/8"
1-1/2	XJGD54	4-1/2"	18-5/8"	7-1/4"
2	XJGD64	4-15/16"	19-1/4"	7-1/4"
2-1/2	XJGD74	5-5/16"	20-3/4"	7-1/2"
3	XJGD84	5-15/16"	21-5/8"	7-5/8"
3-1/2	XJGD94	6-1/2"	21-5/8"	7-3/4"
4	XJGD104	8"	27-3/4"	7-7/8"



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