

Liquidtight Flexible Metal Conduit Fittings

Specifications

Ref. CEC Rule 12-1300

Liquidtight flexible metal conduit is a raceway of circular cross section having an outer liquidtight nonmetallic, sunlight resistant jacket over a flexible metal core.

Liquidtight flexible metal conduit is permitted to be used for exposed or concealed work, in dry, damp or wet locations indoors and outdoors. With the exception of Class I Division I locations, liquidtight flexible metal conduit is considered an acceptable wiring method in hazardous locations Class 1 Division 2 (CEC Rule J18-152(6)).

Liquidtight flexible metal conduit is not permitted where subjected to mechanical injury. The conduit is not permitted to be used underground or embedded in cinder fill or concrete. It cannot be used as a general purpose raceway.

Use of liquidtight conduit is not permitted where any combination of ambient or conductor temperature will produce temperature in excess of that for which the jacket is rated or in locations where flexing at low temperature will injure jacket. Liquidtight flexible metal conduit is not permitted for conductors over 600 volts.

Liquidtight flexible conduit is available in 3/8 in. through 6 in. trade size. Conduit is constructed with galvanized steel or aluminum core, regular or extra flex. Outer jacket is available for a variety of applications, e.g. oil resistant where exposed to cutting oils and for service temperature ranging from -50°C to 150°C.

Listed and certified conduits are constructed of galvanized steel core and thermoplastic jacket rated for maximum service temperature of 60°C and suitable for exposure to mineral oils but not to gasoline and similar solvents.

Conduit is required to be supported adequately, and bending is restricted to 360 degrees total.

Please refer to the following for further details and complete information:

1. UL 360... Safety Standards for Liquidtight Flexible Steel Conduit
2. UL 514A and 514B, Safety Standards for Outlet Boxes and Fittings
3. W-F-406... Federal Specification: Fittings for Cable, Power, Electrical and Conduit, Metal, Flexible

4. NEMA FB-1... Standards Publication: Fittings, Cast Metal Boxes and Conduit Bodies for Conduit, Electrical Metallic Tubing and Cable
5. EMP-1... JIC Electrical Standards for Mass Production Equipment
6. EGP-1... JIC Electrical Standards for General Purpose Machine Tools
7. CEC Section 12-1300... Wiring Methods (Liquidtight Metal Conduit)
8. CSA C22.2 No. 56... Safety Standard for Flexible Metallic Conduit and Liquidtight Flexible Metal Conduit
9. CSA C22.2 Nos. 18.1 and 18.3... Safety Standards for Outlet Boxes, Conduit Boxes and Fittings

Please Note

The excerpts and other material herein, whether relating to the Canadian Electrical Code 2012 Part I, the Underwriters Laboratories, Inc. listing, to industry practice or otherwise, are not intended to provide all relevant information required for use and installation. Reference to original or primary source material and data is mandatory before any application or use is made of the product.

Liquidtight Flexible Metal Conduit Fittings

Suggested Specifications for Liquidtight Flexible Metal Conduit Fittings

- Liquidtight Flexible Metal conduit used shall be of the type with galvanized steel core inside and outside and outer thermoplastic jacket suitable for the ambient environmental conditions. Jacket shall be positively locked to core to prevent sleeving. Where used as an equipment grounding conductor, the conduit shall conform to applicable standards UL 360/CSA C22.2 No. 56.
- Flexible conduit when installed shall have sufficient slack to avoid sharp flexing and straining due to vibration and thermal expansion/constriction. Conduit shall be installed in such a manner that liquids will tend to run off the surface instead of draining toward the fittings.
- Where liquidtight flexible metal conduit terminates into a threaded or threadless opening, the conduit shall be assembled with approved liquidtight fittings. Fittings used shall be reusable type of malleable iron/steel construction, electro-zinc plated inside and outside, furnished with nylon insulated throat and taper threaded hub as manufactured by Thomas & Betts, Series 5331.

Approved fittings installed shall be:

- (1) Designed to prevent sleeving, assure plastic (raceway jacket) to plastic (gasket) seal.

- (2) Equipped with grounding device to assure ground continuity irrespective of raceway core construction. Grounding device if inserted into raceway and directly in contact with conductors shall have rolled over edges for sizes under 5 inches.

At the point of flexing (i.e. where raceway leaves fitting) the thermoplastic raceway jacket shall not be permitted to be in direct contact with metal.

- Where liquidtight flexible metal conduit is terminated into a threadless opening using a threaded hub fitting such as Thomas & Betts Series 5331, a suitable moisture resistant/oil resistant synthetic rubber gasket such as Thomas & Betts Series 5262 shall be provided between the outside of box or enclosure and fitting shoulder. Gasket shall be adequately protected by and permanently bonded to a metallic retainer.
- Where liquidtight flexible metallic raceway is installed in outdoor or indoor locations and is exposed to environmental conditions that are more than normally corrosive to exposed surfaces, PVC coated liquidtight flexible metal conduit fittings such as Series 3321 manufactured by Thomas & Betts shall be used. Fittings shall be coated with a nominal thickness of 0.040

PVC and must meet the general requirements for liquidtight flexible metal conduit fittings indicated above.

- Liquidtight fittings required to couple threaded end of a fitting or pipe where rotation of fitting or pipe is limited or restricted shall be reusable type of malleable iron/steel construction, electro-zinc plated inside/outside with taper threaded hub as manufactured by Thomas & Betts, Series 41. Fittings shall be equipped with a moisture resistant/oil resistant synthetic rubber gasket. Metal to metal seal or metal to thermoplastic seal for this application shall be considered unacceptable.



Series 5331; Series 5231AL
Liquidtight Flexible Metal
Conduit Fittings



Series 5262
Sealing Gasket



Series 3321
PVC Coated Liquidtight Flexible
Metal Conduit Fittings



Series 41
Liquidtight Union



5331GR Series
External Bonding

Liquidtight Flexible Metal Conduit Fittings

Specifications

Application

- Used where flexible metal raceway is installed in outdoor or indoor locations where exposed to continuous or intermittent moisture
- To positively bond conduit to box or enclosure

Features

- Ability to install quickly with low torque effort
- Ground cone design offers following advantages
 - (1) Compresses metallic convolutions; provides high quality ground contact with low impedance and high raceway holding power (A)
 - (2) Single helical thread on ground cone is easy to install without cross threading; accepts variations in raceway diameters and convolution pitch (B)
 - (3) Rolled over edge protects conductors (C)

Sealing ring design has following exclusive features:

- (1) Grips and seals at leading and trailing edge — will not abrade raceway jacket (D)
 - (2) Provided with grooves on inside diameter for anti-sleeving (E)
 - (3) Shoulders on both ends for extra sealing (F)
 - (4) Symmetrical shape assures foolproof assembly
- Can be disconnected and reused
 - Watertight/oiltight installation at box or enclosure termination is assured by
 - (1) External taper thread hub on 5331 Series and use of sealing gasket 5262 Series (G)
 - (2) Captive sealing 'O' ring on 5361 Series (H)
 - (3) Taper tapped hole on 5271 Series
 - For Hazardous Location applications, please refer to CEC Section 18

- CEC Rule 12-1306 stipulates "a separate bonding conductor shall be installed in liquidtight flexible conduit in accordance with section 10
- 1/2 in. and 1-1/4 in. sizes Laboratory tested to carry ground fault current of up to 1000 amps RMS with duration of fault current 3 cycles
- Conforms with JIC requirements
- Available with imperial, I.S.O. and PG threaded hub

Standard Material 5331-5361-5271 Series

Body, Gland, Locknut and Ground Cones: All steel or malleable iron.

Sealing Ring and Insulator: All thermoplastic rated min. -20°C max. 105°C

Sealing Gasket: Stainless Steel and Buna N

5231 AL Series

All Copper-free Aluminum (non-insulated)

Standard Finish 5331-5361-5271 Series

Electro Zinc Plated and Chromate Coated

5231 AL Series

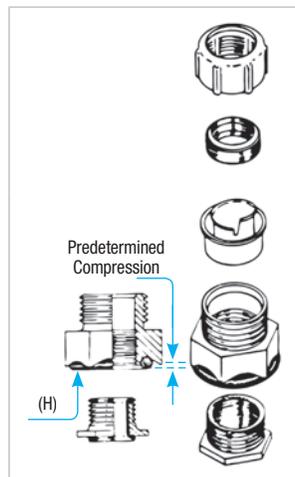
Copper-free Aluminum

Range

- 5331 Series 3/8 in. thru 6 in. conduit
- 5341 Series 3/8 in. thru 4 in. conduit
- 5351 Series 3/8 in. thru 4 in. conduit
- 5361 Series 3/8 in. thru 4 in. conduit
- 5271 Series 3/8 in. thru 1-1/4 in. conduit
- 5231 AL Series 3/8 in. thru 4 in. conduit
All hubs provided with taper pipe threads (NPT)

Conformity

UL 514B
CSA C22.2 No. 18.3
NEMA FB-1
NFPA 70-2008 (ANSI)
JIC EGP1, JIC EMP1
Federal Specification W-F-406
Federal standard H-28 (Threads)



5361 Series
Chase Style



5331 Series
5231 AL Series



5361 Series



5271 Series

5341 Series...
same as 5331,
except 45° Fittings

5351 Series...
same as 5331,
except 90° Fittings

Liquidtight Flexible Metal Conduit Fittings

High Temperature Flexible Metal Liquidtight Fittings



T&B HT-Series Liquidtight Fittings are available straight, 45°, and 90°

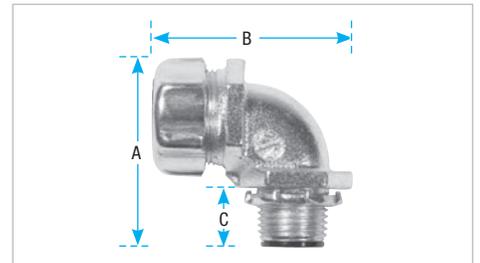
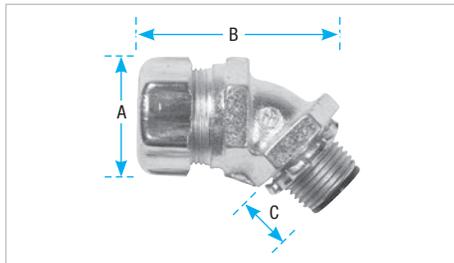
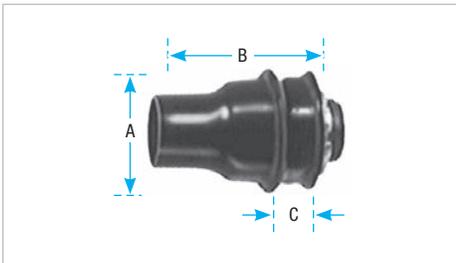
Suggested Specification

Where Liquidtight flexible metal fittings are required in high temperature environments up to 150°C:

- Fitting's body, gland, locknut and ground cone shall be constructed from steel or malleable iron, electro-zinc plated and chromate coated for corrosion protection
- Fitting's sealing ring and throat insulator will be molded from high temperature nylon suitable for temperatures up to 150°C and a minimum UL flammability rating of UL94-V2
- The fitting shall be constructed to accept high temperature flexible metal liquidtight conduit rated to 150°C (works with our ATX Series conduit, p. G11)
- The fitting shall have a plastic throat insulator to protect conductors
- The fitting shall have a steel ground cone to:
 - provide high quality ground contact

- single helical thread for easy installation into conduit
- rolled over edge to protect conductors

- The fitting shall have a plastic sealing ring to:
 - grip and seal at leading and trailing edge (double bevel up to 2 in.) of conduit jacket
 - provide a watertight/oiltight seal
- The fittings shall be able to terminate the conduit in either a threaded or threadless opening
- For applications where termination into a threaded opening is required the fitting shall have external tapered NPT threads
- For applications where termination into a threadless opening is required use an acceptable sealing ring
- Fittings shall conform to UL 514B
- Accepted Manufacturers: Thomas & Betts — 5331-HT straight Series, 5341-HT 45° Series, 5351-HT 90° Series; 5262 sealing ring Series



Straight Liquidtight Fittings

Cat. No.	Conduit Size (in.)	Dimensions (in.)		
		A	B	C
5331-HT	3/8	1-5/32	1-1/2	9/16
5332-HT	1/2	1-3/8	1-9/16	9/16
5333-HT	3/4	1-21/32	1-5/8	9/16
5334-HT	1	1-7/8	2-1/16	3/4
5335-HT	1-1/4	2-9/32	2-1/2	13/16
5336-HT	1-1/2	2-22/32	2-11/16	13/16
5337-HT	2	3-1/4	3-1/16	7/8
5338-HT	2-1/2	3-3/4	4-1/8	1
5339-HT	3	4-1/2	4-1/4	1
5340-HT	4	5-1/2	4-1/2	1-1/8

45° Liquidtight Fittings

Cat. No.	Conduit Size (in.)	Dimensions (in.)		
		A	B	C
5341-HT	3/8	1-5/32	1-9/16	9/16
5342-HT	1/2	1-3/8	1-7/8	9/16
5343-HT	3/4	1-21/32	2-1/8	9/16
5344-HT	1	1-7/8	2-1/4	3/4
5345-HT	1-1/4	2-9/32	2-3/4	13/16
5346-HT	1-1/2	2-22/32	2-3/8	13/16
5347-HT	2	3-1/4	3-7/8	7/8

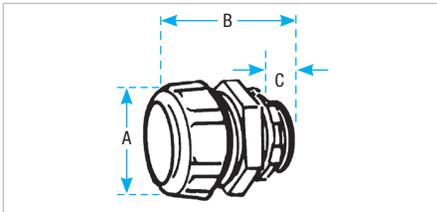
90° Liquidtight Fittings

Cat. No.	Conduit Size (in.)	Dimensions (in.)		
		A	B	C
5351-HT	3/8	1-5/32	1-3/8	9/16
5352-HT	1/2	1-3/8	1-9/16	9/16
5353-HT	3/4	1-21/32	1-3/4	9/16
5354-HT	1	1-7/8	2-3/16	3/4
5355-HT	1-1/4	2-9/32	2-3/4	13/16
5356-HT	1-1/2	2-22/32	2-15/16	13/16
5357-HT	2	3-1/4	3-7/16	7/8

Please note: There is no CSA and UL Standards applicable for High Temperature Fittings or Conduits. Therefore neither HT Fittings nor HT Conduit bear these Certifications/Listings.

Liquidtight Flexible Metal Conduit Fittings

For Control and Power Cable Applications



Steel, malleable iron, or aluminum tapered hub threads. With safe-edge ground thru 4 in. cone and double bevel sealing ring (through 2 in.)

Cat. No.	Hub Size (in.)	Conduit Size (in.)	Dimensions (in.)		
			A	B	C
5229*	1/4	1/4	27/32	1-3/8	15/32
5330*	3/8	5/16	63/64	1-3/8	15/32

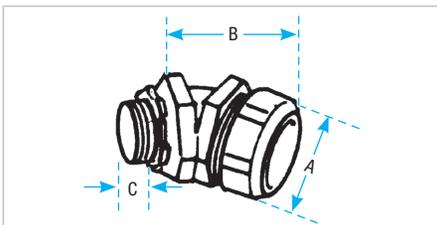
* UL and CSA not applicable

Straight Fittings



Cat. No.				Conduit Size (in.)	Dimensions (in.)		
	Insulated	Non-insulated	Aluminum		A	B	C
5331**	5231	5231AL		3/8	1-5/32	1-1/2	9/16
5332	5232	5232AL		1/2	1-3/8	1-9/16	9/16
5333	5233	5233AL		3/4	1-21/32	1-5/8	9/16
5334-TB	5234-TB	5234AL		1	1-7/8	2-1/16	27/32
5335	5235	5235AL		1-1/4	29/32	2-1/2	13/16
5336+	5236	5236AL		1-1/2	2-23/32	2-11/16	13/16
5337+	5237	5237AL		2	3-1/4	3-1/16	7/8
5338+	5238	5238AL		2-1/2	3-3/4	4-1/8	1
5339+	5239	5239AL		3	4-1/2	4-1/4	1
5340+	5240	5240AL		4	5-1/2	4-1/2	1-1/8
5385*+	5285*	—		5	8-3/4	7	1-7/8
5386*+	—	—		6	8-3/4	8-1/2	2

** 3/8 in. Conduit Fitting has 1/2 in. hub
 UL Listed liquidtight, and CSA Certified watertight
 For Dura-Plate® finish, add prefix 040- to Cat. No. Consult your Regional Sales Office for details
 * Not CSA Certified
 + Malleable Iron



Malleable iron, tapered hub threads. With safe-edge ground cone and double bevel sealing ring (through 2 in.)

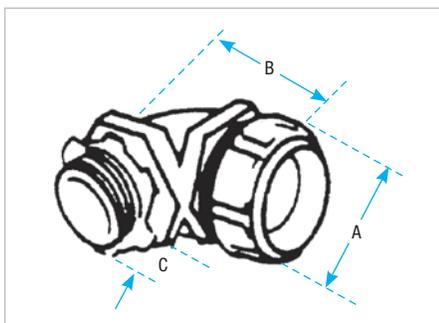
45° Angle Fittings*



Cat. No.			Size (in.)	Dimensions (in.)		
	Insulated	Non-insulated		A	B	C
5341**	5241		3/8	1-5/32	1-9/16	9/16
5342	5242		1/2	1-3/8	1-7/8	9/16
5343	5243		3/4	1-21/32	2-1/8	9/16
5344	5244		1	1-7/8	2-1/4	3/4
5345	5245		1-1/4	29/32	2-3/4	1-3/16
5346	5246		1-1/2	2-23/32	3-3/8	1-3/16
5347	5247		2	3-1/4	3-7/8	7/8
5348	5248		2-1/2	3-3/4	4-1/4	1
5349	5249		3	4-1/2	4-1/4	1
5350	5250		4	5-1/2	4-5/8	1-1/8

** 3/8 in. Conduit Fitting has 1/2 in. hub
 UL Listed liquidtight, and CSA Certified watertight
 For Dura-Plate® finish, add prefix 040- to Cat. No. Consult Regional Sales Office for details
 For Wiremesh Grips refer to page B74

Liquidtight Flexible Metal Conduit Fittings



90° Angle Fittings



Cat. No.			Hub Size (in.)	Conduit Size (in.)	Dimensions (in.)		
Insulated	NonInsulated	Aluminium			A	B	C
5351	5251	5251AL	3/8	3/8	1-5/32	1-3/8	9/16
5352	5252	5252AL	1/2	1/2	1-3/8	1-9/16	9/16
5353	5253	5253AL	3/4	3/4	1-21/32	1-3/4	9/16
5354	5254	5254AL	1	1	1-7/8	2-3/16	3/4
5355	5255	5255AL	1-1/4	1-1/4	29/32	2-3/4	13/16
5356	5256	5256AL	1-1/2	1-1/2	2-23/32	2-15/16	13/16
5357	5257	5257AL	2	2	3-1/4	3-7/16	7/8
5358	5258	5258AL*	2-1/2	2-1/2	3-3/4	8-7/8	1
5359	5259	—	3	3	4-1/2	10-1/4	1
5360	5260	—	4	4	5-1/2	12-5/8	1-1/8

For Hazardous Location applications, please refer to CEC Section 18.
 UL Listed liquidtight; and CSA Certified watertight
 * Not CSA Certified



Prevents severe conduit bends and pullout

Wiremesh Grips for Liquidtight Fittings



Cat. No.	Conduit Size (in.)	Liquidtight Fittings			Chase	90° Chase	Adapter
		Straight	45°	90°			
WMG-LT1	3/8	5331	5341	5351	5361	5371	5271
WMG-LT2	1/2	5332	5342	5352	5362	5372	5272
WMG-LT3	3/4	5333	5343	5353	5363	5373	5273
WMG-LT4	1	5334-TB	5344	5354	5364	5374	5274
WMG-LT5	1-1/4	5335	5345	5355	5365	—	5275
WMG-LT6	1-1/2	5336	5346	5356	5366	—	5276
WMG-LT7	2	5337	5347	5357	5367	—	5277
WMG-LT8	2-1/2	5338	5348	5358	5368	—	5278
WMG-LT9	3	5339	5349	5359	5369	—	—
WMG-LT10	4	5340	5350	5360	5370	—	—

Order wiremesh grip separately; no need to duplicate inventory

Liquidtight Flexible Metal Conduit Fittings

Stainless Steel

The strength of steel – with superior corrosion-resistance!

Until now, there's been no ideal conduit fitting solution for use in heavily corrosive environments. Traditional metallic fittings corrode and require frequent replacement. Nonmetallic fittings offer less strength, lower UV-resistance, and don't stand up well in extreme temperatures. T&B Stainless Steel Liquidtight Conduit Connectors are constructed of 304 stainless steel to resist corrosion while offering high strength, high UV-resistance, and high endurance. Choose among a full range of fittings in straight, 45°, and 90° angled configurations for 3/8 in. to 2 in. conduit sizes. Look for the distinctive blue insulator and sealing ring for assurance of T&B quality.

- Ideal for industrial MRO and OEM applications in food and beverage, pharmaceutical, petrochemical, waste water, salt water, and other corrosive environments
- Connects metallic-cored liquidtight conduit to a box or enclosure
- 304 stainless steel body and gland-nut resists corrosion far better than other metallic fittings
- Stronger, more UV-resistant than nonmetallic fittings
- Available in straight, 45°, and 90° angled configurations to fit conduit from 3/8 in. to 2 in.
- UL Listed Ratings: 3, 3R, 4, 4X
- 5262 Sealing Ring Gasket (sold separately) includes a stainless steel retaining ring to prevent elongation of the gasket and is made from Santoprene™ material, ensuring a superior seal



Liquidtight Conduit Fittings

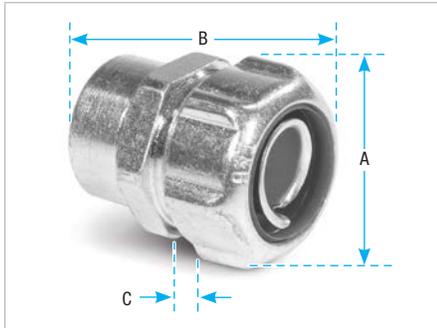


Cat. No	Size (in.)	Dimensions (in.)			Std. Pkg. Qty.
		A	B	C	
Straight					
5331SST *	3/8	1.360	1.02	—	25
5332SST	1/2	1.360	1.18	—	25
5333SST	3/4	1.388	1.37	—	25
5334SST	1	1.562	1.77	—	5
5335SST	1-1/4	1.720	2.12	—	20
5336SST	1-1/2	2.020	2.48	—	5
5337SST	2	2.335	3.04	—	2
45° Angled					
5341SST *	3/8	1.84	1.02	1.43	25
5342SST	1/2	1.62	1.18	2.04	25
5343SST	3/4	2.32	1.37	1.93	10
5344SST	1	2.86	1.77	2.37	5
5345SST	1-1/4	3.33	2.12	2.80	5
5346SST	1-1/2	3.94	2.48	3.39	2
5347SST	2	4.73	3.04	4.23	1

Cat. No	Size (in.)	Dimensions (in.)			Std. Pkg. Qty.
		A	B	C	
90° Angled					
5351SST *	3/8	1.95	1.02	1.84	25
5352SST	1/2	2.12	1.18	2.07	25
5353SST	3/4	2.47	1.37	2.44	10
5354SST	1	2.98	1.77	2.90	5
5355SST	1-1/4	3.53	2.12	3.36	5
5356SST	1-1/2	4.16	2.48	3.88	2
5357SST	2	8.60	3.04	4.69	1
Sealing Gasket					
5261	3/8	—	—	—	50
5262	1/2	—	—	—	50
5263	3/4	—	—	—	25
5264	1	—	—	—	25
5265	1-1/4	—	—	—	5
5266	1-1/2	—	—	—	5
5267	2	—	—	—	5

Locknut not included
* 3/8 in. conduit fitting has 3/8 in. hub

Liquidtight Flexible Metal Conduit Fittings



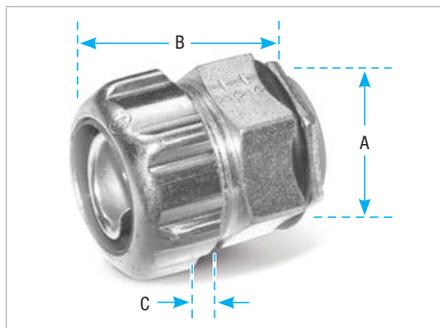
Liquidtight Adapter To Connect Liquidtight to Threaded Rigid Conduit



Cat. No.	Conduit Size (in.)	Dimensions (in.)			Std. Pkg.
		A	B	C	
5271	3/8	1-5/32	1-9/16	1-3/8	50
5272	1/2	1-3/8	1-11/16	1-3/8	50
5273	3/4	1-21/32	1-3/4	1-3/8	50
5274	1	1-7/8	2-1/8	1-3/8	25
5275	1-1/4	2-9/32	2-1/2	1-3/8	25
5276	1-1/2	2-3/4	2-11/16	1-3/8	10
5277	2	3-15/32	3-1/16	1-3/8	5

With SAFE-EDGE™ ground cone and double bevel sealing ring (through 2 in.)
 For Hazardous Location applications, please refer to CEC Section 18.

Liquidtight Flexible Metal Conduit Fittings

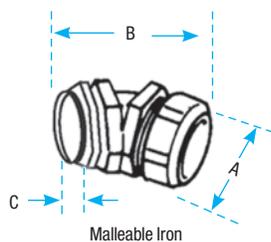


Nylon Insulated CHASE® Fittings Steel or Malleable Iron



Cat. No.	Conduit Size (in.)	Dimensions (in.)			Std. Pkg.
		A	B	C	
5361	3/8	1-3/32	1-3/8	1/8	100
5362	1/2	1-3/8	1-3/8	3/16	100
5363	3/4	1-11/16	1-5/8	1/4	50
5364	1	2-1/32	2-1/16	1/4	25
5365	1-1/4	2-3/8	2-3/8	5/16	25
5366	1-1/2	2-15/16	2-3/4	3/8	10
5367	2	2-9/16	3	3/8	5
5368	2-1/2	4-3/8	3-15/16	7/16	5
5369	3	5-1/8	4-1/8	1/2	5
5370	4	5-1/8	4-3/8	1/2	5

With SAFE-EDGE™ ground cone and double bevel sealing ring (through 2 in.)
 Note: UL Listed Liquidtight; and CSA Certified Watertight
 For Hazardous Location applications, please refer to CEC Section 18.



Nylon Insulated 90° Angle CHASE® Connectors

Cat. No.	Conduit Size (in.)	Dimensions (in.)		
		A	B	C
5371 †	3/8	1-1/32	1-1/2	3/16
5372 †	1/2	1-15/64	1-15/32	3/16
5373 †	3/4	1-31/64	1-7/8	9/32
5374 †	1	1-23/32	2-1/4	11/32

With SAFE-EDGE™ ground cone and double bevel sealing ring
 Note: UL Listed Liquidtight; & CSA certified watertight. Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general purpose equipment is specifically permitted per NEC © Section 500-2(a).
 † UL Listed as grounding means under NEC 351-7.

Liquidtight Flexible Metal Conduit Fittings

Specifications — External Bonding

Application

- Used where external bonding jumper is required around liquidtight flexible metal conduit
- To positively bond conduit to box or enclosure
- Used where flexible raceway is installed in outdoor or indoor locations where exposed to continuous or intermittent moisture

Features

- Designed with provision to install bonding jumper in several positions
- Designed to accept mechanical or compression lug
- Ability to install quickly with low torque effort
 - (i) Compresses metallic convolutions; assures ground contact with low impedance and high raceway holding power (A)
 - (ii) Single helical thread on ground cone is easy to install without cross threading; accepts variations in raceway diameters and convolution pitch (B)
 - (iii) Rolled over edge protects conductors (C)
- Sealing ring design has following exclusive features:
 - (i) Grips and seals at leading and trailing edge — will not abrade raceway jacket (D)
 - (ii) Provided with grooves on inside diameter for anti-sleeving (E)
 - (iii) Shoulders on both ends for extra sealing (F)
 - (iv) Symmetrical shape assures foolproof assembly
- Can be disconnected and reused
- Watertight/oiltight installation at box or enclosure termination is assured by:
 1. External taper thread hub on 5331GR Series and use of sealing gasket 5262 Series (G)
 2. Taper tapped hole on 5271 Series
- For Hazardous Location applications, please refer to CEC Section 18
- Conforms with JIC requirements

- CEC Rule 12-1306 stipulates “a separate bonding conductor shall be installed in liquidtight flexible conduit in accordance with section 10”
- CEC Rule 10-618 (3) “The armour of flexible metal conduit and liquidtight flexible metal conduit shall not be considered as fulfilling the requirements of a bonding conductor for the purposes of this rule, and a separate bonding conductor shall be run within the conduit”

Standard Material

Lugs: High conductivity copper (for copper conductor only)

Body, Gland, Locknut & Ground

Cones: All steel or malleable iron

Sealing Ring and Insulator:

All thermoplastic

Sealing Gasket: Stainless Steel & Buna N

Strap: Steel

Standard Finish

All Electro Zinc Plated and Chromate Coated except lugs

Lugs: Bright Dipped

Range

- 5331GR Series (straight fittings with male hub): 3/8 in. thru 6 in. conduit
 - 5341GR Series (45°): 3/8 in. thru 4 in. conduit
 - 5351GR Series (90°): 3/8 in. thru 4 in. conduit
 - 5271GR Series (straight fittings with female hub): 3/8 in. thru 1-1/4 in. conduit
- All hubs provided with taper pipe threads (NPT)

Conformity

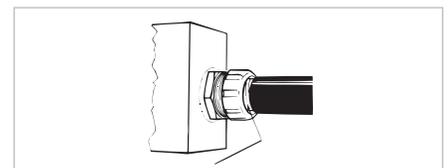
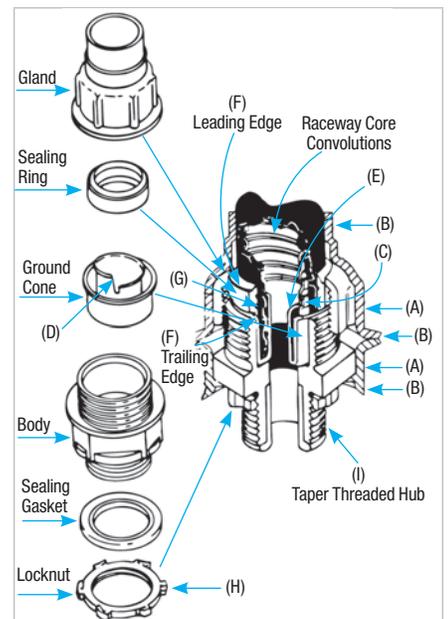
UL 467
 UL 514B
 CSA C22.2 No. 18.3
 CSA C22.2 No. 41
 NEMA FB-1
 NFPA 70-2008 (ANSI)
 JIC EGP1
 JIC EMP1
 Federal Specification W-F-406
 Federal Standard H-28 (threads)



Series 5331GR

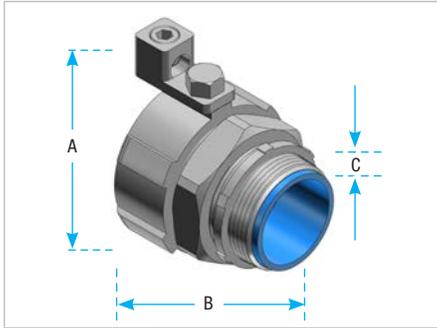


Series 5271GR



Sleeving
 Raceway Jacket pulls off — exposing core and affecting liquidtight termination. Feature (E) on sealing ring helps overcome this problem.

Liquidtight Flexible Metal Conduit Fittings



Malleable iron, tapered hub threads

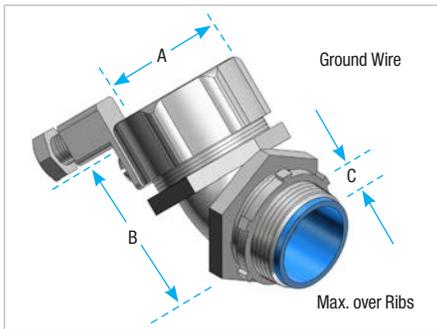
Straight Grounding Fittings



Cat. No.	Steel Insulated	Steel Non-insulated	Aluminum Non-insulated	Conduit Size (in.)	Dimensions (in.)			Ground Wire
					A	B	C	
5331GR**	5231GR	5231ALGR*		3/8	1-5/32	1-1/2	9/16	14-8
5332GR	5232GR	5232ALGR*		1/2	1-3/8	1-9/16	9/16	14-8
5333GR	5233GR	5233ALGR*		3/4	1-21/32	1-5/8	9/16	14-4
5334GR	5234GR	5234ALGR*		1	1-7/8	2-1/16	3/4	14-4
5335GR	5235GR			1-1/4	2-1/4	2-1/2	13/16	8-1/0
5336GR	5236GR			1-1/2	3-1/4	2-11/16	13/16	4-2/0
5337GR	5237GR			2	3-13/16	3-1/16	7/8	4-2/0
5338GR	5238GR			2-1/2	4-7/16	4-1/8	1	2-4/0
5339GR	5239GR			3	5-3/16	4-1/4	1	2-4/0
5340GR	5240GR			4	6-1/8	4-1/2	1-1/8	2-4/0
5385GR	5285GR			5	8-9/16	7	1-7/8	2-4/0
5386GR	—			6	8-17/32	8-1/2	2	2-4/0

* Not CSA Certified

** 3/8 in. conduit fittings have 1/2 in. trade size hub. With safe-edge ground cone (through 4 in.) and double bevel sealing ring (through 2 in.).



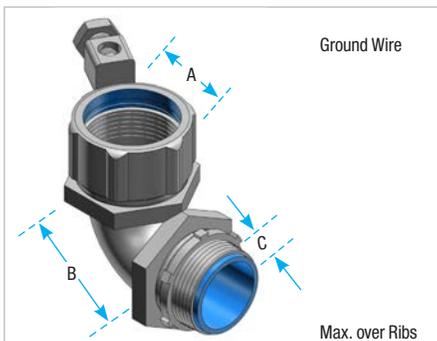
Malleable iron, tapered hub threads

45° Angle Grounding Fittings



Cat. No.	Steel Insulated	Steel Non-insulated	Conduit Size (in.)	Dimensions (in.)			Ground Wire
				A	B	C	
5341GR**	5241GR**		3/8	1-5/32	1-9/16	9/16	14-8
5342GR	5242GR		1/2	1-3/8	1-7/8	9/16	14-8
5343GR	5243GR		3/4	1-21/32	2-1/8	9/16	14-4
5344GR	5244GR		1	1-7/8	2-1/4	3/4	14-4
5345GR	5245GR		1-1/4	2-1/4	2-3/4	13/16	8-1/0
5346GR	5246GR		1-1/2	3-1/4	3-3/8	13/16	4-2/0
5347GR	5247GR		2	3-13/16	3-7/8	7/8	4-2/0
5348GR	5248GR		2-1/2	4-7/16	4-1/4	1	2-4/0
5349GR	5249GR		3	5-3/16	4-1/4	1	2-4/0
5350GR	5250GR		4	6-1/8	4-5/8	1-1/8	2-4/0

** 3/8 in. conduit fittings have 1/2 in. trade size hub. With safe-edge ground cone (through 4 in.) and double bevel sealing ring (through 2 in.).



Malleable iron, tapered hub threads

90° Angle Grounding Fittings

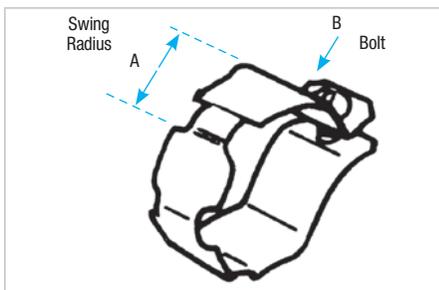


Cat. No.	Steel Insulated	Steel Non-insulated	Aluminum Non-insulated	Conduit Size (in.)	Dimensions (in.)			Ground Wire
					A	B	C	
5351GR**	5251GR**	5251ALGR*		3/8	1-5/32	1-1/4	9/16	14-8
5352GR	5252GR	5252ALGR*		1/2	1-3/8	1-7/16	9/16	14-8
5353GR	5253GR	5253ALGR*		3/4	1-21/32	1-13/16	9/16	14-4
5354GR	5254GR	5254ALGR*		1	1-7/8	2-1/16	3/4	14-4
5355GR	5255GR			1-1/4	2-1/4	2-1/2	13/16	8-1/0
5356GR	5256GR			1-1/2	3-1/4	2-15/16	13/16	4-2/0
5357GR	5257GR			2	3-13/16	3-7/16	7/8	4-2/0
5358GR	5258GR			2-1/2	4-7/16	8-7/8	1	2-4/0
5359GR	5259GR			3	5-3/16	10-1/4	1	2-4/0
5360GR	5260GR			4	6-1/8	12-5/8	1-1/8	2-4/0

* Not CSA Certified

** 3/8 in. conduit fittings have 1/2 in. trade size hub. With safe-edge ground cone (through 4 in.) and double bevel sealing ring (through 2 in.).

Liquidtight Flexible Metal Conduit Fittings

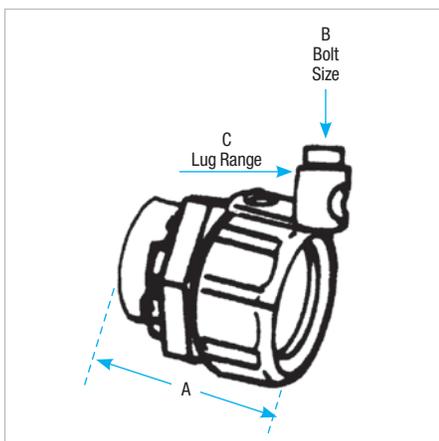


For retrofit applications.
Includes strap, nut and bolt

External Grounding Strap



Cat. No.	Conduit Size (in.)	A Swing Radius (in.)	B Bolt Sizes
GR1W	3/8	1	10-24
GR2W	1/2	1-1/16	10-24
GR3W	3/4	1-3/8	1/4-20
GR4W	1	1-1/2	1/4-20
GR5W	1-1/4	1-7/8	5/16-18



Liquidtight to Rigid External Ground Adaptor



Cat. No.	Conduit Size (in.)	A Overall Length (in.)	B Bolt Sizes	C Lug Range
5271GR*	3/8	1-15/32	10-24	14-8
5272GR	1/2	1-3/8	10-24	14-8
5273GR	3/4	1-21/32	1/4-20	14-4
5274GR	1	1-7/8	1/4-20	14-4
5275GR	1-1/4	2-1/4	5/16-18	8-1/0
5276GR	1-1/4	2-29/32	3/8-16	3/8-16

* 3/8 in. conduit fittings have 1/2 in. trade size hub
For Dura-Plate® finish add prefix 040- to Cat. No. Consult your Regional Sales Office for details



Revolver™ Grounding Device



Cat. No.	Conduit Size (in.)
38GR-TB	3/8
12GR-TB	1/2
34GR-TB	3/4
1GR-TB	1

The grounding device is a combination of a set screw and a grounding lug that can be used to retrofit any existing liquidtight fitting to an externally grounded version

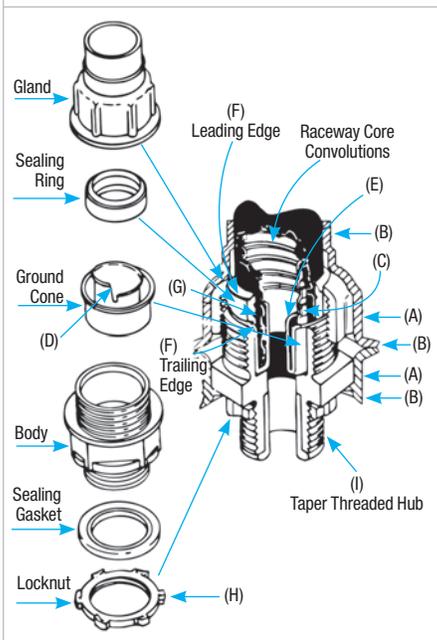
Liquidtight Flexible Metal Conduit Fittings

Specifications — PVC Coated



3321 Series*

*3361 Series...same as 3321, except 90°
3341 Series...same as 3321, except 45°



Application

- Used where liquidtight flexible metal conduit is installed in outdoor or indoor locations where exposed to environmental conditions that are more than normally corrosive to exposed surfaces
- To positively bond conduit to box or enclosure

Features

- PVC coated to protect fitting from extremely corrosive surroundings without affecting integrity of electrical grounding path (A)
- Provided with overlapping sleeve for additional seal (B)
- Ability to install quickly with low torque effort
- Ground cone design offers following advantages:
 - (i) Compresses metallic convolutions; provides high quality ground contact with low impedance and high raceway holding power (C)
 - (ii) Single helical thread on ground cone is easy to install without cross threading; accepts variations in raceway diameters and convolution pitch (D)
 - (iii) Rolled over edge protects conductors (E)
- Sealing ring design has following exclusive features:
 - (1) Grips and seals at leading and trailing edge—will not abrade raceway jacket (F)
 - (2) Provided with grooves on inside diameter for anti-sleeving (G)
 - (3) Shoulders on both ends for extra sealing
 - (4) Symmetrical shape assures foolproof assembly
- Hardened steel or malleable iron locknut (H)
- Can be disconnected and reused
- Watertight/oiltight installation at box or enclosure termination is provided by external taper thread hub and sealing gasket (I)
- Conforms with JIC requirements

Standard Material

Body, Gland, Locknut and Ground Cones:

All steel or malleable iron

Sealing Ring and Insulator:

All thermoplastic

Sealing Gasket, Retainer: Stainless Steel

Resilient Seal: Buna N

Coating: PVC

Standard Finish

Outside of body and gland:

PVC Coated 0.040 min. Thickness

Inside of body and gland:

Electro Zinc Plated and Chromate Coated

Locknut, Sealing Gasket, and Retainer:

Electro Zinc Plated and Chromate Coated

Range

- 3321, 3361 and 3341 Series
3/8 in. thru 4 in. conduit

All hubs provided with taper pipe threads (NPT).

Conformity

UL 514B

CSA C22.2 No. 18.3

NEMA FB-1

NFPA 70-2008 (ANSI)

JIC EGP1

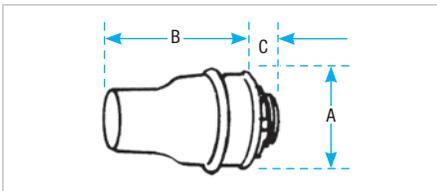
JIC EMP1

Federal Specification W-F-406

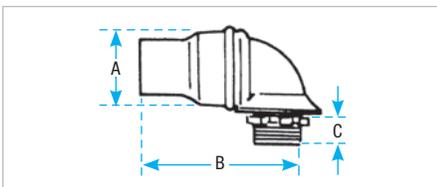
Federal Standard H-28 (THREADS)

Liquidtight Flexible Metal Conduit Fittings

Corrosion Resistant PVC Jacketed Liquidtight Fittings



Straight PVC Coated
Nylon Insulated
Steel or Malleable Iron
NPT hub threads



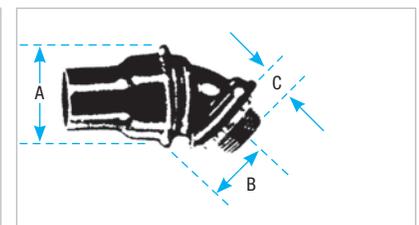
90° PVC Coated
Nylon Insulated
NPT hub threads

Cat. No.	Conduit Size (in.)	Dimensions (in.)		
		A	B	C
Straight PVC Coated				
3321	3/8	1-15/32	2-5/16	9/16
3322	1/2	1-5/8	2-1/2	9/16
3323	3/4	1-15/16	2-25/32	9/16
3324	1	2-1/4	3-15/32	3/4
3325	1-1/4	2-11/16	4-1/4	13/16
3326	1-1/2	3-1/8	4-11/16	13/16
3327	2	3-5/8	5-5/16	7/8
3328-TB	2-1/2	4-3/8	6-3/8	1
3329	3	5-3/16	6-1/2	1
3331	4	6-7/16	6-3/4	1-1/8
90° PVC Coated				
3361	3/8	1-15/32	2-3/16	9/16
3362	1/2	1-5/8	2-1/2	9/16
3363	3/4	1-15/16	2-29/32	9/16
3364	1	2-1/4	3-19/32	3/4
3365	1-1/4	2-11/16	4-1/2	13/16
3366	1-1/2	3-1/8	4-15/16	13/16
3367	2	3-5/8	5-11/16	7/8
3368	2-1/2	4-3/8	11-1/8	1
3369	3	5-3/16	12-1/2	1
3371	4	6-7/16	14-7/8	1-1/8
45° PVC Coated				
3341	3/8	1-15/32	1-1/8	9/16
3342	1/2	1-5/8	1-1/4	9/16
3343	3/4	1-15/16	1-7/16	9/16
3344-TB	1	2-1/4	1-13/16	3/4
3345	1-1/4	2-11/16	2-1/16	13/16
3346	1-1/2	3-1/8	2-11/16	13/16
3347	2	3-5/8	3-3/16	7/8
3348-TB	2-1/2	4-3/8	3-13/16	1
3349	3	5-3/16	4-9/16	1
3352	4	6-7/16	5-3/4	1-1/8

Complies with JIC standards and Federal Specs W-F-406B, W-F-408B

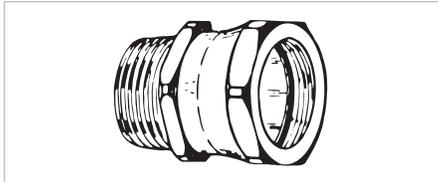


45° PVC Coated Nylon Insulated NPT hub threads

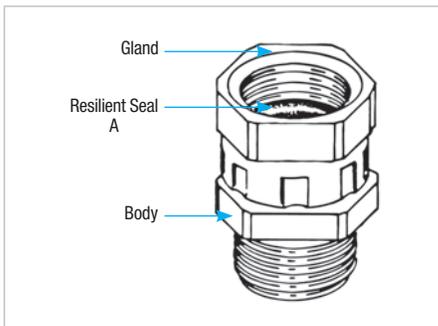
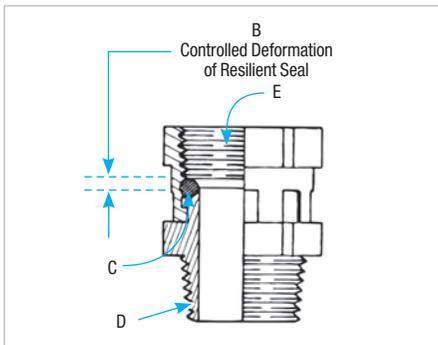


Liquidtight Flexible Metal Conduit Fittings

Specifications — Liquidtight Union for Threaded Hub



41 Series



Application

- To couple threaded end of a fitting or a pipe to a tapped opening in a box or enclosure where rotation of fitting or pipe is limited or restricted

Features

- Provides high quality bond between fitting or pipe to the union
- Provided with resilient seal (A)
- Resilient seal subjected to controlled deformation; positive seal and reusability are assured (B)
- Unique design centralizes throat openings of threaded hub and union (C)
- Permits orientation of fitting in any predetermined direction for a safe, functional and neat assembly
- Provided with taper-threaded hub for liquidtight assembly (D)
- Straight pipe threads on gland accept a straight-or taper-threaded hub on fitting or pipe to be coupled (E)
- Suitable for hazardous location use per CEC Rule J18-106 Class I, Div. 1; CEC Rule 18-202 Class II, Div. 1; CEC Rule 18-252 Class II, Div. 2; CEC Rule 18-302 Class III, Div. 1; CEC Rule 18-352 Class III, Div. 2;

Standard Material/Finish

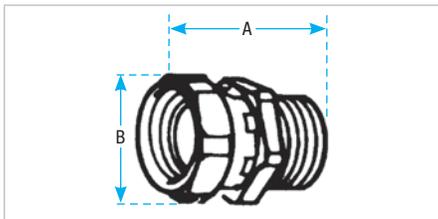
- Gland** Steel/Electro Zinc Chromate Coated
- Body** Steel/Electro Zinc Chromate Coated
- 'O' Ring** Buna N/As Molded

Range

- Hub (External Thread) 1/2 in. and 3/4 in. NPT
- Gland (Internal Threads) 1/2 in. and 3/4 in. NPS

Conformity

- UL 514B
- CSA C22.2 No. 18.3
- NEMA FB-1
- ANSI C80.4
- NFPA 70-2008 (ANSI)
- Federal Specification W-F-408
- Federal Specification W-F-406
- Federal Standard H-28 (Threads)



Steel, zinc plated and chromated. Ideal for angle fittings where swing clearance is not available

Liquidtight Union for Threaded Hub



Cat. No.	Conduit Size (in.)	Dimensions (in.)	
		A	B
41TB	1/2	1-29/64	1
42TB	3/4	1-15/16	1-1/4

Liquidtight Flexible Metal Conduit Fittings



45° Metallic Fittings



Cat. No.	Conduit Size (in.)	Hub Thread	Dimensions (in.)	
			A	B
3730-TB*	3/8	1/2 — 14 NPT	1-5/32	2-13/32
3731-TB	1/2	1/2 — 14 NPT	1-3/8	2-9/16
3732	3/4	3/4 — 14 NPT	1-5/8	3
3733-TB	1	1 — 11-1/2 NPT	1-7/8	3-1/2
3734-TB	1-1/4	1-1/4 — 11-1/2 NPT	2-3/8	4-1/8
3735-TB	1-1/2	1-1/2 — 11-1/2 NPT	2-3/4	4-7/8
3736	2	2 — 11-1/2 NPT	3-17/32	5-1/2

* Not UL Listed
 CSA not applicable
 Available with Dura-Plate® Finish. Consult your Regional Sales Office for details

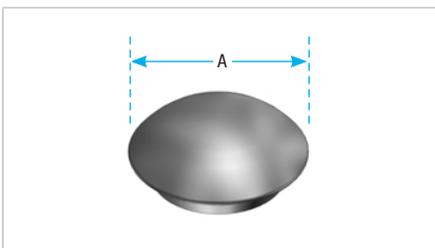


90° Metallic Fittings



Cat. No.	Conduit Size (in.)	Hub Thread	Dimensions (in.)	
			A	B
3740*	3/8	1/2 — 14 NPT	1-5/32	1-5/8
3741	1/2	1/2 — 14 NPT	1-3/8	1-3/4
3742	3/4	3/4 — 14 NPT	1-5/8	2-1/4
3743-TB	1	1 — 11-1/2 NPT	1-7/8	2-9/16
3744-TB	1-1/4	1-1/4 — 11-1/2 NPT	2-3/8	3-1/4
3745	1-1/2	1-1/2 — 11-1/2 NPT	2-3/4	3-1/2
3746-TB	2	2 — 11-1/2 NPT	2-17/32	4-1/8

* Not UL Listed
 CSA not applicable
 Available with Dura-Plate® Finish. Consult Regional Sales Office for details



NEMA 3R, 4, 6 & 13

Temperature range — -30°C to 105°C.

Liquidtight K.O. Plugs

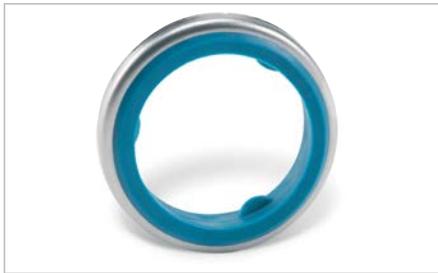


Cat. No.	Size (in.)	Dimensions (in.)
		A
5710	1/2	1-9/32
5711	3/4	1-1/2
5712	1	1-27/32
5713	1-1/4	27/32
5714	1-1/2	2-1/2
5715	2	3-3/32
5716	2-1/2	3-21/32
5717	3	4-19/64
5718	4	5-19/64

UL Listed liquidtight
 CSA not applicable
 Meets Coast Guard Regulation CG293

Liquidtight Flexible Metal Conduit Fittings

Specifications — Liquidtight Sealing Gaskets



5262 Series

Application

- When used with an externally threaded fitting provides a tight seal against oil, fumes or moisture at the knockout opening

Features

- Locks resilient sealing material in steel.
- Steel retainer protects seal from extruding out under torque and limits compression to an optimum predetermined value; provides high quality seal
- Resilient material flows and seals rough surfaces

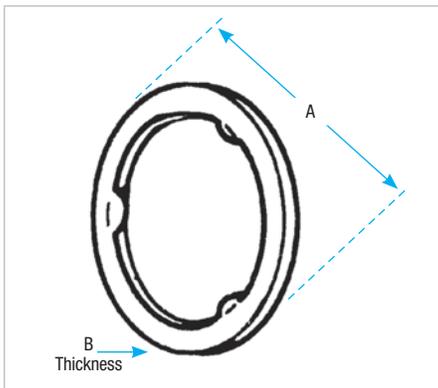
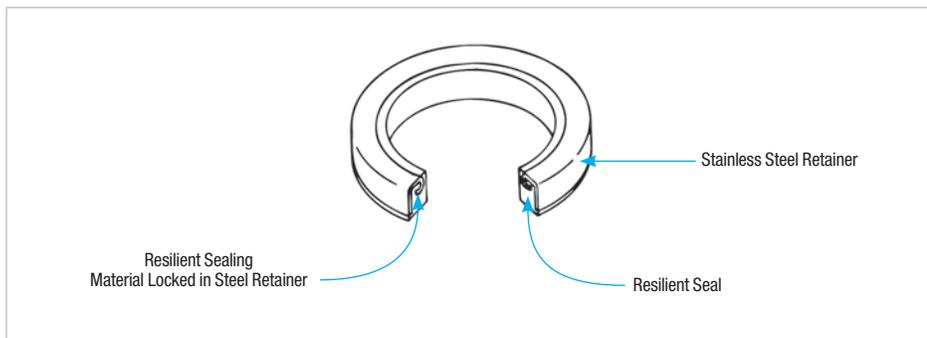
Standard Material

Retainer Stainless Steel

Sealing Material Buna N

Range

- 1/2 in. thru 4 in. Hub Size



NEMA 3R, 4, 6 & 13

For use with T&B® Fittings. Sealing material resists oil, coolants, and hydraulic fluids as well as water

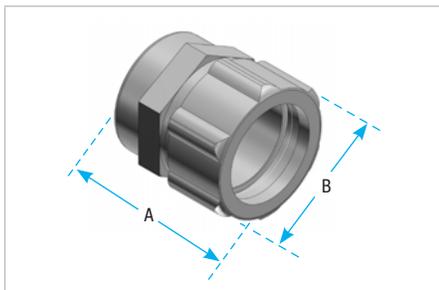
Sealing Ring with Stainless Steel Retainer



Cat. No.	Conduit Size (in.)	Dimensions (in.)	
		A	B
5299**	1/4	0.80	0.11
5261**	3/8	0.95	0.11
5262	1/2	1.16	0.18
5263	3/4	1.49	0.19
5264	1	1.75	0.19
5265	1-1/4	2.15	0.22
5266	1-1/2	2.42	0.23
5267	2	2.92	0.23
5268	2-1/2	3.44	0.23
5269	3	4.08	0.23
5270	4	5.29	0.31

** UL not applicable

Liquidtight Flexible Metal Conduit Fittings



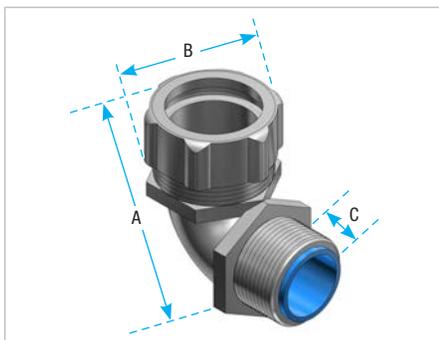
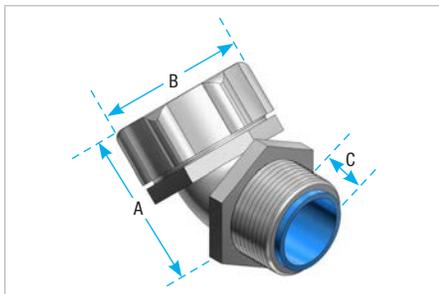
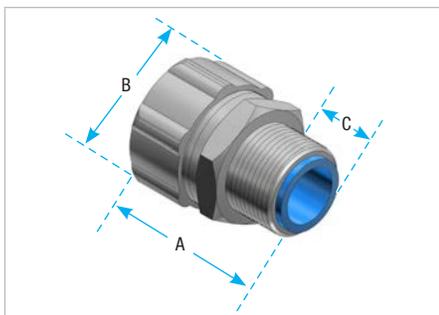
T&B Liquidtight flexible metal and Liquidtight flexible nonmetallic fittings with internal threads to accept AN-MS fitting shells

Material: Steel

Liquidtight Flexible Metal/MS Fittings



Cat. No.	Trade Size (in.)	AN-MS conn. Shell Size	Internal Thread		
			Thread Size	Dimensions (in.)	
				A	B
LTA03810	3/8	10SL, 12, 12S	5/8 — 24 UNEF-2B	1-5/32	1
LTA03814	3/8	14, 14S	3/4 — 20 UNEF-2B	1-5/32	1
LTA05014	1/2	14, 14S	3/4 — 20 UNEF-2B	1-5/16	1-1/4
LTA05016	1/2	16, 16S	7/8 — 20 UNEF-2B	1-5/16	1-1/4
LTA05018	1/2	18	1 — 20 UNEF-2B	1-5/16	1-1/4
LTA07516	3/4	16, 16S	7/8 — 20 UNEF-2B	1-7/16	1-1/2
LTA07518	3/4	18	1 — 20 UNEF-2B	1-7/16	1-1/2
LTA07520	3/4	20, 22	1-3/16 — 18 UNEF-2B	1-7/16	1-1/2
LTA10020	1	20, 22	1-3/16 — 18 UNEF-2B	1-3/4	1-23/32
LTA10024	1	25, 28	1-7/16 — 18 UNEF-2B	1-3/4	1-23/32



Fittings for Liquidtight flexible metal conduit with metric threads of PG Form (DIN 40430)

PG Metric Thread Liquidtight Fittings



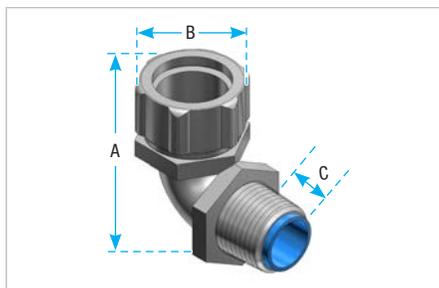
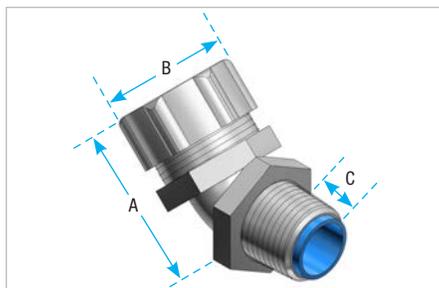
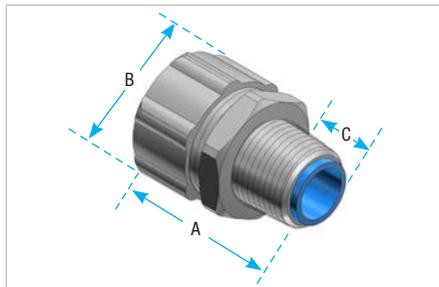
Cat. No.	Flexible Conduit Size (in.)	Metric PG Thread	Dimensions (mm)		
			A	B	C
Nylon insulated straight fittings					
7330**	1/4	9	36	21	12
7360**	5/16	9	36	26	12
7361*	3/8	11	40	29	14
7362*	3/8	13.5	40	29	14
7363*	1/2	16	41	35	14
7364*	3/4	21	43	42	14
7365	1	29	56	47	19
7366	1-1/4	36	67	58	21
7367	1-1/2	42	72	69	21
7368	2	48	81	83	21
Nylon insulated 45° angle fittings					
7341	3/8	11	27	29	14
7342	3/8	13.5	27	29	14
7343	1/2	16	30	35	14
7344-TB	3/4	21	34	42	14
7345	1	29	44	47	19
7346	1-1/4	36	51	58	19
7347	1-1/2	42	60	69	21
7348-TB	2	48	73	76	24
Nylon insulated 90° angle fittings					
7351	3/8	11	37	29	14
7352	3/8	13.5	37	29	14
7353	1/2	16	40	35	14
7354	3/4	21	44	42	14
7355	1	29	56	47	21
7356	1-1/4	36	70	58	21
7357	1-1/2	42	75	69	21
7358	2	48	87	83	24

UL Listed liquidtight

*CSA Certified dusttight and watertight

**UL not applicable and not CSA Certified

Liquidtight Flexible Metal Conduit Fittings



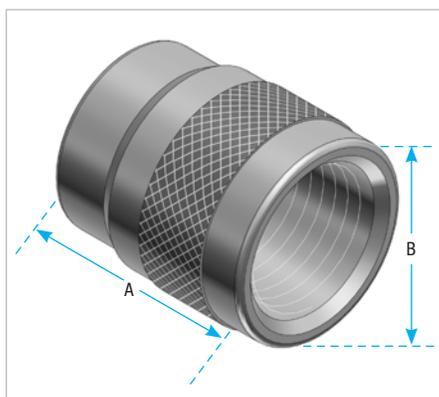
Fittings for Liquidtight flexible metal conduit with metric threads of ISO Form (BS-4568-SA BS 162)

ISO Metric Thread Liquidtight Fittings



Cat. No.	Flexible Conduit Size (in.)	Metric ISO Thread	Dimensions (mm)		
			A	B	C
Nylon insulated straight fittings					
9330	1/4	16	36	21	12
9331	1/4	20	36	21	12
9306	5/16	16	36	26	12
9360	3/8	16	40	29	16
9361	3/8	20	40	29	16
9362	1/2	20	42	35	16
9363	3/4	25	45	42	16
9364	1	32	54	47	23
Nylon insulated 45° angle fittings					
9340	3/8	16	27	29	16
9341	3/8	20	27	29	16
9342	1/2	20	27	35	16
9343TB	3/4	25	31	42	16
9344	1	32	34	47	23
Nylon insulated 90° angle fittings					
9350	3/8	16	35	29	16
9351	3/8	20	35	29	16
9352TB	1/2	20	39	35	16
9353TB	3/4	25	43	42	16
9354TB	1	32	48	47	23

UL Listed Liquidtight



Mechanical adapter with internal threads to mate with NPT threaded fittings and MS type fittings

Material: aluminum

NPT/MS Fitting Adaptors



Cat. No.	N.P.T. Thread (in.)	AN-MS Fitting Shell Size	Thread Size	Dimensions (in.)		Fig.
				A	B	
MSA05014	1/2	14, 14S	3/4 — 20 UNEF-2B	1.000	1.175	1
MSA05016		16, 16S	7/8 — 20 UNEF-2B	1.000	1.175	2
MSA05018		18	1 — 20 UNEF-2B	1.125	1.175	3
MSA07516	3/4	16, 16S	7/8 — 20 UNEF-2B	1.250	1.356	1
MSA07518		18	1 — 20 UNEF-2B	1.250	1.300	1
MSA07520		20, 22	1-3/16 — 18 UNEF-2B	1.375	1.300	3
MSA10020	1	20, 22	1-3/16 — 18 UNEF-2B	1.500	1.431	1
MSA10024		24, 28	1-7/16 — 18 UNEF-2B	1.625	1.313	3
MSA10032		32	1-3/4 — 18 UNS-2B	2.000	1.576	3
MSA10036		36	2 — 18 UNS-2B	2.250	1.738	3

Not CSA Certified