

# 3300XL Transducer Accessories

## Datasheet

Bently Nevada Machinery Condition Monitoring

145668 Rev. J



### Description

Accessories contribute to a reliable transducer system. Installing proximity probes during outages usually requires one or more mounting accessories to help simplify the task. These accessories allow you to quickly and efficiently install proximity probes and route the associated cables out of the machine case. These parts also help shield the cables from electrical noise and adverse environmental conditions. Having the proper mounting hardware on-site during the probe installation saves time and money for those responsible for the project.

### Junction Boxes

Junction boxes are normally mounted on or near the exterior of a machine case and enclose electrical connections in weatherproof or explosion-proof environments.

### Sealtite Flexible Conduit

Flexible conduit routes probe cables safely to the sensor housing and then back to the monitors. The conduit protects transducer wiring from damage that splashing liquids or accidental contact with other equipment can cause.

Sealtite flexible conduit consists of a galvanized steel core with an extruded thermoplastic cover. Pipe fittings are made of steel with a zinc-plated, chromate finish and are compatible with fittings found on our watertight equipment enclosures.

### Probe Mounting Brackets

Probe mounting brackets attach internally mounted proximity probes to the machine case. Supplied mounting

bolts attach the bracket to the bearing or other location inside the machine casing. The bracket holds the probe and allows for adjustment of the probe tip relative to the observed surface.

For most installations, use the standard 137492 non-clamping aluminum probe bracket. When using the 137491 brackets for 3/8-inch diameter smooth case probes, tightening the bolts will compress the probe hole around the probe and lock the probe into its preset gapped position. If your application requires additional electrical isolation from the mounting location (as in some generator and electric motor bearing locations), use the 27474 phenolic probe bracket. These mounting brackets are compatible with our 3300 and 3300 XL proximity probe systems, including 5 mm, 8 mm and NSv™ probes.

To ensure that the brackets screws remain fastened within the machine, secure the screws with safety wire. Each mounting bracket includes special screws with holes drilled for safety wire.

## Cable Seal

The optional 10076 Cable Seal is mainly for use in cable routing applications. It restrains the coaxial cable from movement, prevents abrasion, and provides splash protection. One end of the cable seal has a 1/4-18 NPT thread that allows you to thread it into a 4190-36 Adapter.

The cable seal has an aluminum body and an oil-resistant, slit grommet so that you can install it over armored or non-armored cable without removing the connectors.

## Adapter

The optional 4190 Adapter attaches a junction box to the machine case. It also allows mounting of the proximity probe in some instances.

The adapter offers a variety of threads and configurations. Adapter threads and configurations that are not listed in this data sheet may be available. Please contact your sales representative for more information.

## Explosion-proof Fittings

Explosion-proof fittings provide seals for housings in Division 1 and in Zone 0 and 1 hazardous areas. The fittings include sealing compound, packing fiber, and the appropriate adapter. Fitting kits are available. Refer to Explosion-Proof Fittings on page 6 for details and part numbers.

## Low-pressure Cable Seal

The 43501 Low Pressure Cable Seal provides a means to pass through a single hole in a machine case or other barrier one to four 95-ohm transducer cables or one to two 25mm DE and 50mm DE transducer cables. A molded silicone rubber grommet provides a seal to prevent leakage of fluids along the outer jacket of the cable(s). The seal mounts in a hole tapped with either 1/2-NPT or 3/4-NPT pipe threads in the machine and has external pipe threads on both ends to mate to the tapped hole and to mating conduit or housings.

The seal is rated to 345 kPa (50 psi) across grommet high pressure to low pressure. The seal is rated only on the cable outer jacket and seal body itself. It does not seal leaks through the cable braid or center conductor due to pinholes or cuts in the cable jacket or through the probe or connector. The primary intended usage is to seal lube oil to exit bearing housings and machine cases.

The seal is rated to 1.0 psi absolute, but is limited in practice by the cable, probe, and connector as with pressure.

## High-Temperature Cable Ties

The 173873 high-temperature cable tie is an economical alternative to metal brackets in high-temperature applications. These cable ties are molded from VICTREX PEEK polymer for multiple uses in extreme environments up to +180°C (+356°F).

## Specifications

### Junction Boxes

#### Cylindrical Junction Box P/N 03818016

Components	Description
Main body and blank cover	Dimensions
Overall Height	76 mm (3.0 in)
Body Diameter	89 mm (3.5 in)
Hub-to-Hub	121 mm (4.75 in)
Base to Hub Center	16 mm (0.64 in)
Fittings	3/4-14 NPT 5 places
Material	Aluminum

#### Optional Extension for 03818016 P/N 03818022

Components	Description
Main body and blank cover	Dimensions
Overall Height	93mm (3.7 in)
Body Diameter	90mm (3.6 in)
Hub-to-Hub (flats)	91 mm (3.6 in)
Total Extended Height	150 mm (5.90 in)
Material	Aluminum

#### Rectangular Junction Box P/N 03818065

Components	Description
Main body and blank	Dimensions

Components	Description
cover	
Overall Height	27.9 mm (1.10 in)
Width of Body	38.1 mm (1.50 in)
Length of Body	95.3 mm (3.75 in)
Fittings	1/2-14 NPT 2 places
Material	Aluminum

#### Rectangular Junction Box P/N 03818066

Components	Description
Main body and blank cover	Dimensions
Overall Height	61.0 mm (2.40 in)
Width of Body	44.5 mm (1.75 in)
Length of Body	102 mm (4.00 in)
Fittings	3/4-14 NPT 2 places
Material	Aluminum

### Sealtite Flexible Conduit

Item	Description
Components	Refer to <a href="#">Figure 6: Non-Clamping Aluminum Probe Bracket</a> .
Fitting Options	1/2-14 NPT 3/4-14 NPT
Length	As ordered

### Brackets

#### Clamp Mounting Bracket for 3/8-inch diameter smooth body probes

Item	Description
Dimensions	Refer to <a href="#">Figure 5: Clamping Aluminum Probe Bracket</a> .
Mounting Screw Thread Size Options	10-24 UNC-2A M5 x 0.8-6g
Material	Aluminum

### Non-Clamping Mounting Bracket for threaded case probes

Item	Description
Dimensions	Refer to <a href="#">Figure 6: Non-Clamping Aluminum Probe Bracket</a> .
Mounting Screw Thread Size	10-24 UNC-2A or M5 x 0.8-6g
Material	Aluminum

### Probe Lock Nut

Item	Description
Thread Sizes	3/8-24 UNF-2BM10 x 1-6H
Features	Lock nut with holes to attach safety wire.

### Cable Seal (P/N 10076)

Item	Description
Components	Refer to <a href="#">Figure 7: Cable Seal</a>
Overall length (assembled)	35mm (1.4 inches) in tightened condition

### Adapters

Item	Description
Features	Refer to <a href="#">Figure 8: 4190 Adapter - 304 stainless steel (-34 Shown)</a>

Item	Description
<b>4190-01</b>	
Internal Diameter	9.53 mm (0.375 in)
Internal thread type	1/4-18 NPT
External thread type	1/2-14 NPT
Overall Length	38.1 mm (1.50 in)
<b>4190-03</b>	
Internal Diameter	11.1 mm (0.437 in)
Internal thread type	1/4-18 NPT
External thread type	3/4-14 NPT
Overall Length	46.0 mm (1.81 in)
<b>4190-04</b>	
Internal Diameter	7.14 mm (0.281 in)
Internal thread type	1/4-28 UNF-2B
External thread type	1/2-14 NPT
Overall Length	38.1 mm (1.50 in)
<b>4190-06</b>	
Internal Diameter	10.3 mm (0.406 in)
Internal thread type	3/8-24 UNF-2B
External thread type	1/2-14 NPT
Overall Length	38.1 mm (1.50 in)
<b>4190-16</b>	
Internal Diameter	10.3 mm (0.406 in)
Internal thread type	3/8-24 UNF-2B
External thread type	3/4-14 NPT
Overall Length	46.0 mm (1.81 in)
<b>4190-20</b>	
Internal Diameter	16.7 mm (0.656 in)
Internal thread type	5/8-18 UNF-2B

Item	Description
External thread type	3/4-14 NPT
Overall Length	46.0 mm (1.81 in)
<b>4190-34</b>	
Internal Diameter	7.14 mm (0.281 in)
Internal thread type	1/4-28 UNF-2B
External thread type	3/4-14 NPT
Overall Length	56.1 mm (2.21 in)
<b>4190-36</b>	
Internal Diameter	10.3 mm (0.406 in)
Internal thread type	1/4-18 NPT 3/8-24 UNF-2B
External thread type	3/4-14 NPT
Overall Length	56.1 mm (2.21 in)
Material	304 Stainless Steel

## Explosion-Proof Fittings

### 29368-01 Optional Fitting Kit

Item	Description
03818056	Hazardous area 3/4" sealing fitting, conduit
04576120	4 OZ adhesive sealant
20892-02	fiber seal
03839246	.750" aluminum plug

### 72340 Fitting Kit

Item	Description
03839246	.750" aluminum plug
03850021	3/4 to 1/2 reducer thread fitting

Item	Description
49871-01	cable grip assembly
03839153	grommet sealing 250-312 ring
03839154	grommet sealing 312-375 ring
20892-02	fiber seal
03818056	3/4 conduit fitting
03839155	ring cable fitting
04576127	8 OZ adhesive sealant
04576120	4 OZ adhesive sealant
04760000	string tag label

## Features

Refer to [Figure 9: Explosion-proof fitting](#).

Item	Dimensions
<b>03818055</b>	
Conduit size	1/2-14 NPT
Overall Length	69.9 mm (2.75 in)
Width	49.3 mm (1.94 in)
Min. turn radius	63.5 mm (2.50 in)
<b>03818056</b>	
Conduit size	3/4-14 NPT
Overall Length	69.9 mm (2.75 in)
Width	49.3 mm (1.94 in)
Min. turn radius	63.5 mm (2.50 in)
<b>03818058</b>	
Conduit size	1-1/4 NPT
Overall Length	102 mm (4.00 in)
Width	54.1 mm (2.13 in)

Item	Dimensions
Min. turn radius	57.2 mm (2.25 in)
Material	Aluminum

### Low Pressure Cable Seal

Item	Description
Dimensions	Refer to <a href="#">Figure 10: Low Pressure Cable Seal</a>
Fitting Options	1/2-14 NPT 3/4-14 NPT

### High Temperature Cable Ties

Item	Description
Temperature	Up to +180°C (+356°F)
Material	VICTREX PEEK polymer

## Ordering Information



For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from [Bently.com](http://Bently.com).

### Sealtite Flexible Conduit

14847-AXX

3/4-14 NPT Assembly

14848-AXX

3/4-14 NPT assembly

1/2-14 NPT Assembly

**A:** Length Option in feet

Order in Increments of 1.0 ft (305mm)

Minimum length: 1 foot

Maximum length: 99 feet

Example:  
 01 = 1 foot  
 99 = 99 feet

## Aluminum Clamp Mounting Bracket for 3/8-inch Diameter Smooth Body Probes

137491-AXX

**A:** Mounting Screw Thread Size

01	10-24 UNC-2A mounting screws
02	M5 x 0.8-6g mounting screws

## Aluminum Non-Clamping Mounting Bracket for Threaded Case Probes

137492-AXX

**A:** Thread Size Option

01	3/8-24 UNF-2B
02	1/4-28 UNF-2B
03	M8 x 1-6H
04	M10 x 1-6H

The -01 and -02 option are supplied with two 10-24 UNC-2A mounting screws with safety wire holes. The -03 and -04 options are supplied with two M5 x 0.8-6g mounting screws with safety wire holes.

## Phenolic Mounting Bracket

27474-AXX

**A:** Thread Size Option

01	3/8-24 UNF-2B
02	1/4-28 UNF-2B
03	M8 x 1-6H
04	M10 x 1-6H

The -0 1 and -0 2 options are supplied with two 10-24 UNC-2A mounting screws with safety wire holes. The -0 3 and -0 4 options are supplied with two M5 x 0.8-6g mounting screws with safety wire holes. The dimensions are identical to the aluminum mounting bracket 137492.

## Cable Seal

### 10076-AXX

#### A: Cable Size Option

0 1	50 $\Omega$ , without armor
0 2	75/95 $\Omega$ , without armor
0 3	75/95 $\Omega$ , with armor
0 4	50 $\Omega$ , with armor

## Adapter

### 4190-AXX

XX	See Specifications section for dimension details.
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Additional sizes and configurations are available in both standard product and special modifications. Contact your local sales representative for details.

## Low Pressure Cable Seal

### 43501 – AXX – BXX – CXX

#### A: High Pressure Side Thread Size

0 1	1/2-14 NPT
0 2	3/4-14 NPT

#### B: Cable Grommet and Washer

0 0	Solid grommet (no holes). Holes must be punched in grommet.
0 2	Grommet will accommodate up to two 25mm and 50mm DE cables. One hole is punched and one is partially pre-drilled.

0 4	Grommet will accommodate up to 4 cables. One hole is punched and three are partially pre-drilled.
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#### C: Low Pressure Side Thread Size

0 1	1/2-14 NPT
0 2	3/4-14 NPT

## Junction Boxes

03818016	Cylindrical Junction Box.
03818022	Optional Extension for Cylindrical Junction Box.
03818065	Rectangular Junction Box. Dimensions (W x L x D) 38.1mm x 95.3mm x 29.7mm (1.10in x 1.50in x 3.75in x 1.10in).
03818066	Rectangular Junction Box. Dimensions (W x L x D) 44.5mm x 102mm x 61.0mm (1.75in x 4.00in x 61.0in).

## Explosion-Proof Fittings

03818055	1/2-14 NPT Fitting
03818056	3/4-14 NPT Fitting
03818057	1 to 1½ NPT Fitting
03818058	1¼ to 1½ NPT Fitting

## Probe Lock Nuts

04301007	3/8-24 UNF-2B.
04301008	M10 x 1-6H.

## Accessories for Low Pressure Cable Seal

04490104	Punch tool kit for solid grommet option.
43574-04	Replacement grommet. For up to 4 cables.

43575-04	Replacement washer
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## Field Wiring

02173006	2-conductor, twisted, shielded 18 AWG (1.0 mm <sup>2</sup> ).
02173008	3-conductor, twisted, shielded 22 AWG (0.5 mm <sup>2</sup> ).
02173009	3-conductor, twisted, shielded 18 AWG (1.0 mm <sup>2</sup> ).



Use 2-conductor cable with velocity transducers. Use 3-conductor cable with Proximity Sensors and interface modules. Specify number of feet when ordering.

## High Temperature Cable Ties

### 173873

Bag of 50 Multiple-Use VICTREX PEEK Polymer Cable ties. For extreme environments up to +180°C (+356°F). One or more sizes/quantities available(?), including 7 inches long.

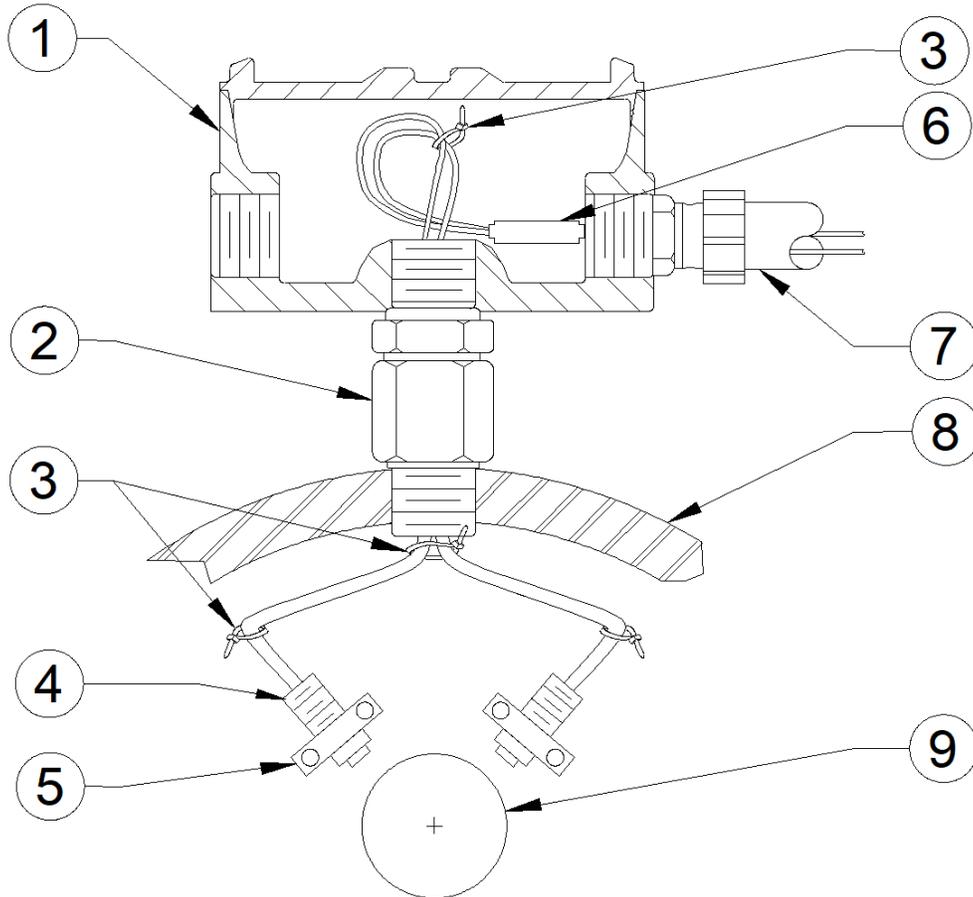
## Electrical Isolator

### 19094-01

7200 Proximity Sensor and Interface Module Isolator. Provides electrical isolation for the 7200 Proximity Sensor, velocity to displacement converters, and accelerometer interface modules.

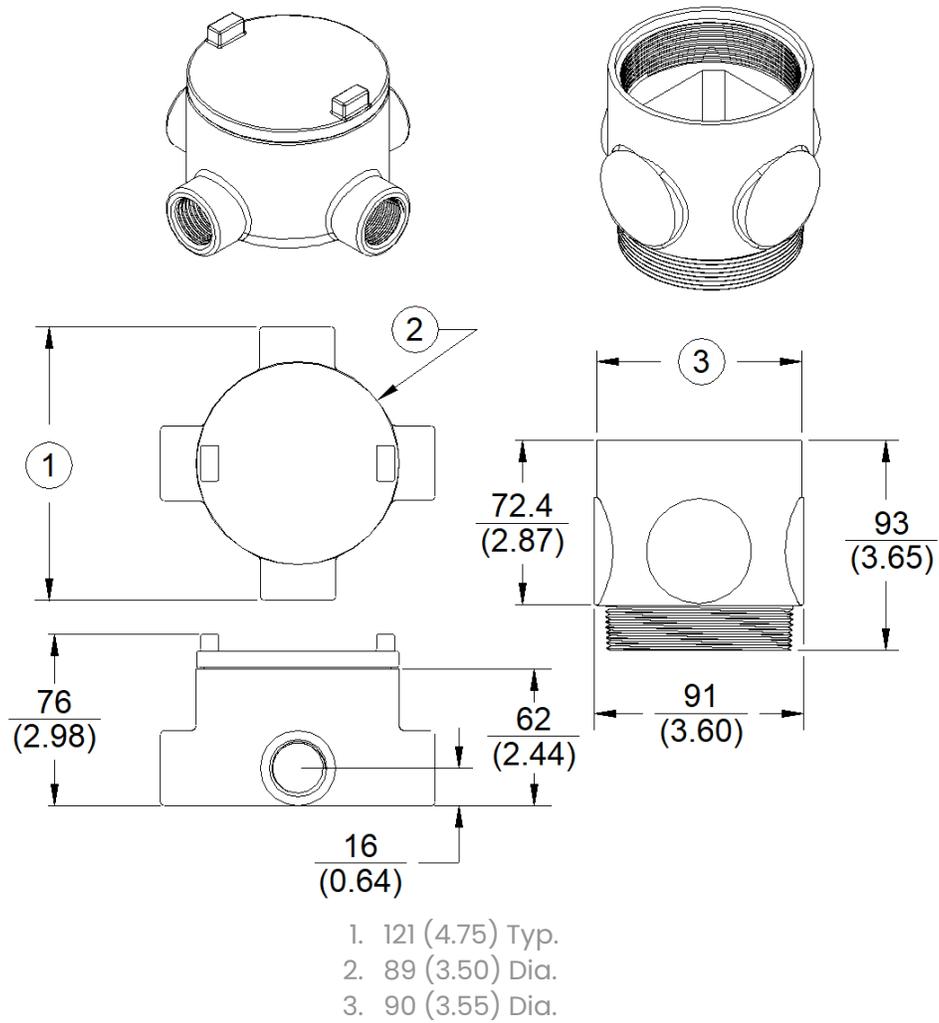
## Graphs and Figures

All dimensions shown in millimeters (inches).

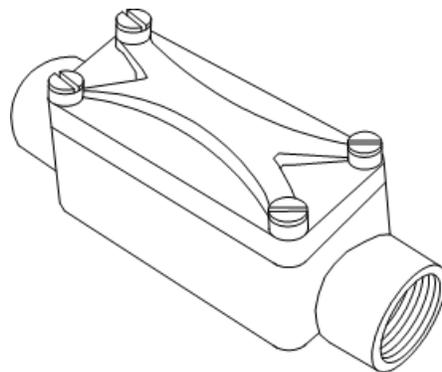


1. Junction Box (03818016)
2. Low Pressure Cable Seal (43501-02-04-02)
3. High Temperature Cable Ties (173873)
4. 3300 XL 8mm Probe (330101)
5. Probe Mounting Brackets (137492-01)
6. Connector Protectors (40113-02)
7. Flexible Conduit (14848)
8. Machine Case
9. Machine Shaft

**Figure 1: Typical Internal Mounting Arrangement for an XY Proximity Probe Application**



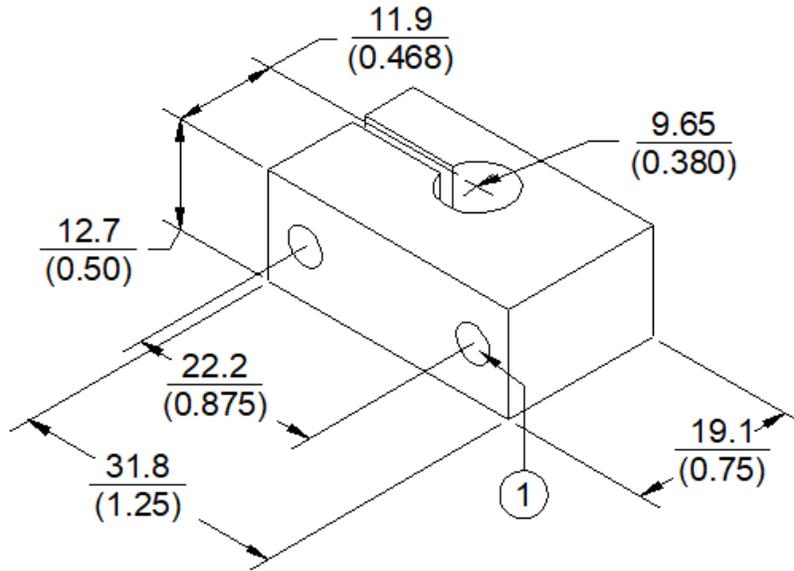
**Figure 2: Cylindrical Junction Box and Optional Extension**



**Figure 3: Junction Box**

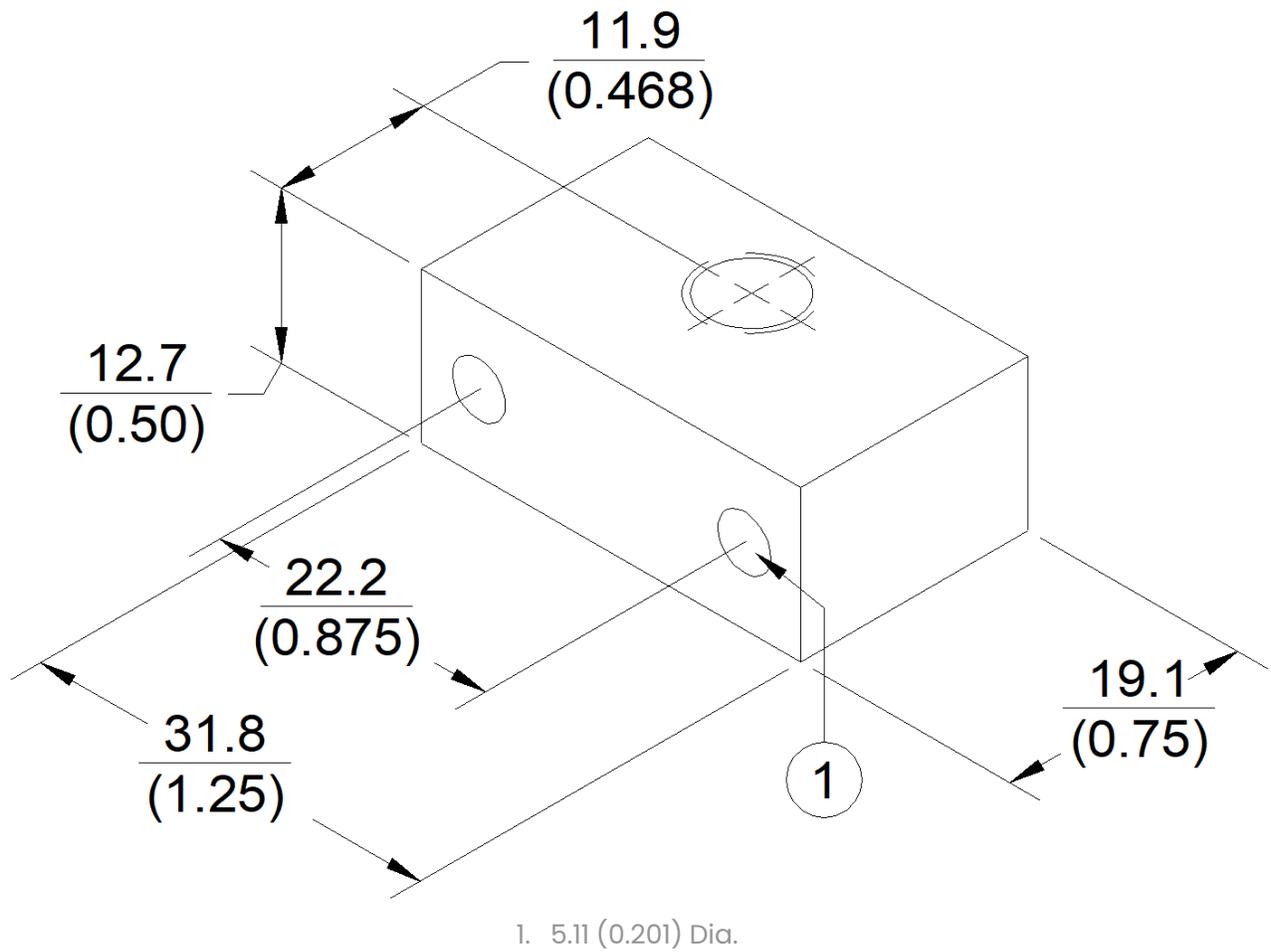


**Figure 4: Sealtite Flexible Conduit**

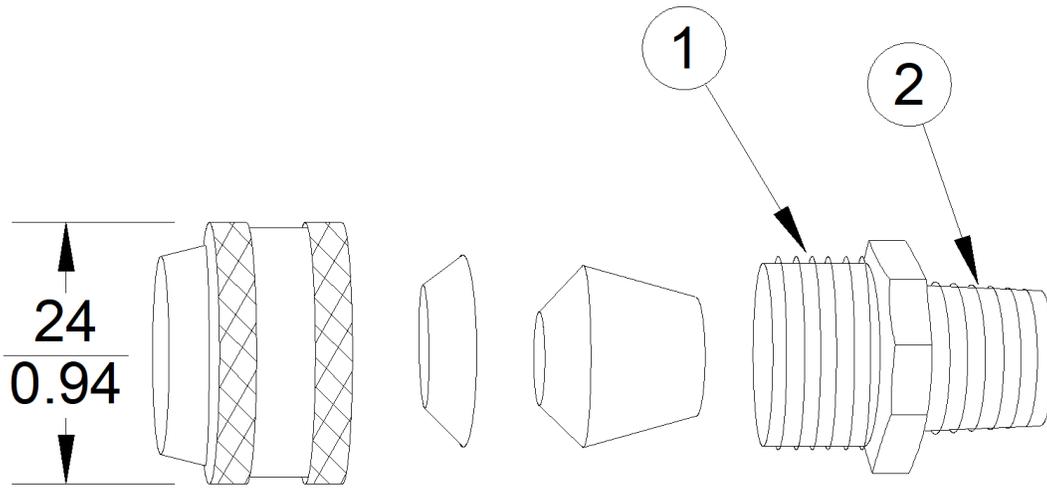


1. 5.11 (0.201) Dia.

**Figure 5: Clamping Aluminum Probe Bracket**

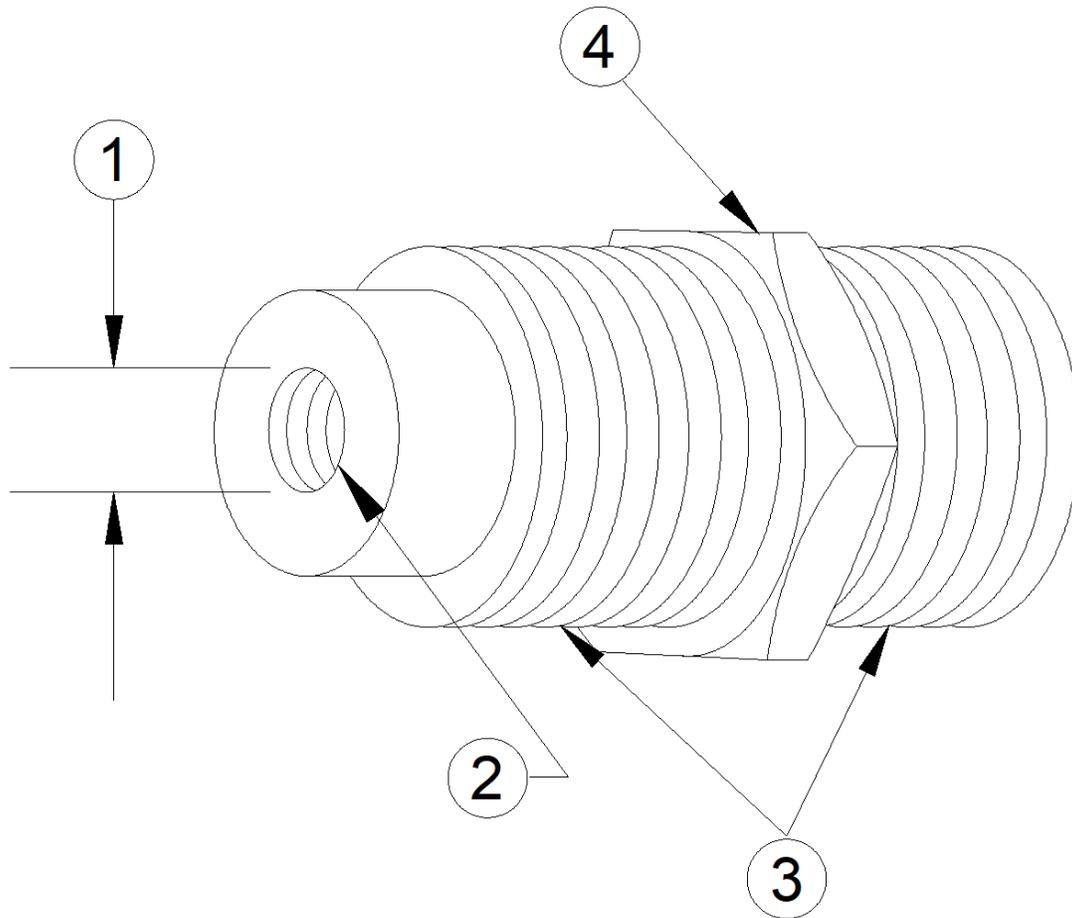


**Figure 6: Non-Clamping Aluminum Probe Bracket**



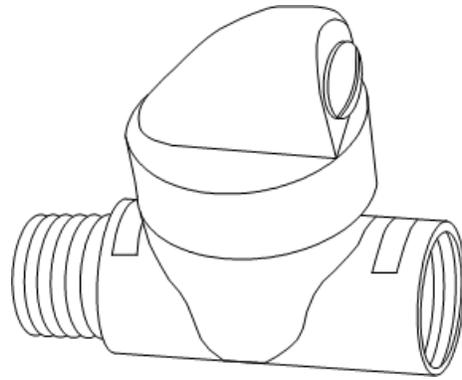
- 1. 3/4 Hex
- 2. 1/4 NPT

**Figure 7: Cable Seal**

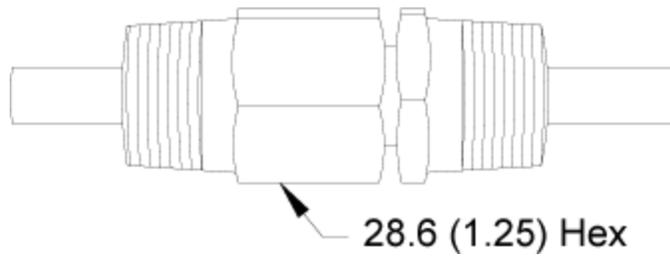


- 1. Internal Diameter
- 2. Internal Thread
- 3. External Thread
- 4. 1-1/8 Hex

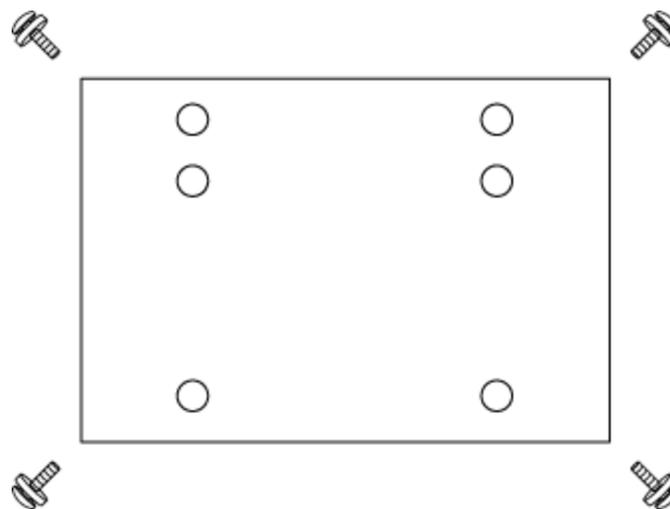
**Figure 8: 4190 Adapter - 304 stainless steel (-34 Shown)**



**Figure 9: Explosion-proof fitting**



**Figure 10: Low Pressure Cable Seal**



**Figure 11: Isolator**

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