

# Cool Drawer Single Sensor

The Cool Drawer™ Single Sensors allow crystal installation into the sensor from the side, convenient for systems with insufficient room for front load crystal installation. The Cool Drawer Single Sensor employs the Cool Drawer Crystal Holder which is thermally shielded by the water-cooled housing ensuring excellent crystal performance.

## Sensor Configurations

Two sensor configurations are offered: The standard version and the right angle version. The standard version is designed for installation from the side or bottom of the chamber and the cooling tubes and the crystal face are parallel. The right angle version is designed for installation through the top of the vacuum system and the water cooling tubes are perpendicular to the crystal face. Both versions are available with or without a crystal shutter.

The exposed crystal electrode is fully grounded to effectively eliminate problems due to RF interference. The housing is provided with two tapped (4-40) holes for convenient mounting.

## Feedthroughs

INFICON offers two choices for feedthrough connection types: either a 1 in. bolt feedthrough or a 2¾ in. ConFlat® feedthrough.

## Feedthrough Connections

Cool Drawer Single Sensors must be ordered in combination with a feedthrough. The sensor / feedthrough connection can be either welded or made with compression fittings.

Compression fittings allow for easy adjustability without the need for brazing or welding. The feedthrough can be moved along the length of the tubes allowing the length inside the vacuum system to be adjusted over a range of 10 – 66 cm (4 – 26 in.). Once the desired length is determined, the compression fittings allow for a finger tight tube seal.

When selected with the welded CF40, the sensor is designed for high temperature processes where reliability is critical. Constructed of stainless steel and ceramic materials it is suitable for applications requiring high temperature bakeout (see specifications).



## ADVANTAGES

- No internal cables
- Cool Drawer crystal holder
- Easy installation
- Bakeable if ordered with welded CF40 flange
- Available with:
  - CF40 feedthrough
  - 2.54 cm (1 in.) bolt feedthrough
- Adjustable length if ordered with compression fittings
- No brazing required if ordered with compression fittings
- Sensor / feedthrough combinations available welded to customer specified lengths

## ORDERING INFORMATION

### Cool Drawer Single Sensor (with conductor tube)

#### Type of sensor (includes user manual, crystal sold separately)

Standard cool drawer .....  
 (water lines parallel to crystal face)  
 Right angle cool drawer .....  
 (water lines perpendicular to crystal face)

#### Shutter assembly

None .....  
 Standard shutter .....

#### Length of sensor (see notes 1 and 3)

Length: 10 – 66 cm (4 – 26 in.) .....

#### Feedthrough (see notes 2 and 4)

1 in. bolt .....  
 CF40 .....

#### Feedthrough connection (see notes 2, 3, and 4)

Sensor welded to feedthrough .....  
 Feedthrough equipped with Ultra-Torr compression fittings .....  
 (allows for adjustable sensor length).  
 NOT AVAILABLE WITH CF40 FEEDTHROUGH  
 AND SHUTTER COMBINATION

Welded sensor length .....  
 (use only when feedthrough connection is 7)  
 (see notes 1 and 2)

Not required when feedthrough connection option is 8.

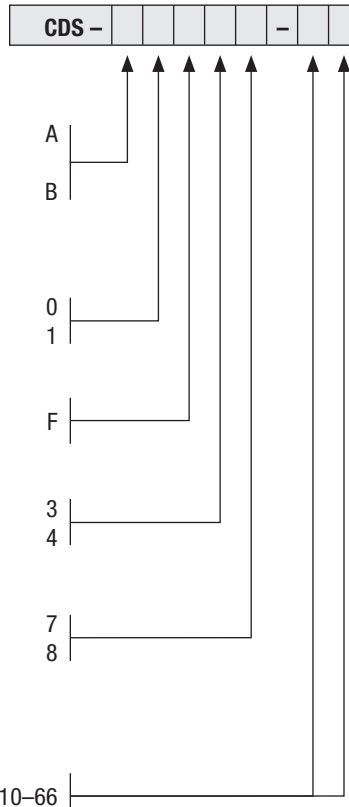
Weld length in centimeters, 10 – 66 cm (4 – 26 in.).

\*\*\* Other lengths may be available: contact factory.

Other lengths will be considered a special order  
 and will be subject to additional cost and lead time.

**The following combinations are not available:** CDS-A1F48, CDS-B1F48

Examples of non-valid part numbers include all options with compression fittings and a welded sensor length; for example, CDS-A0F48-20, etc.



#### NOTE 1:

Orders for a WELDED sensor/feedthrough combination are measured from center of the crystal to the vacuum side (sealing surface) of the feedthrough. Once a welded sensor order is confirmed, it can not be cancelled.

#### NOTE 2:

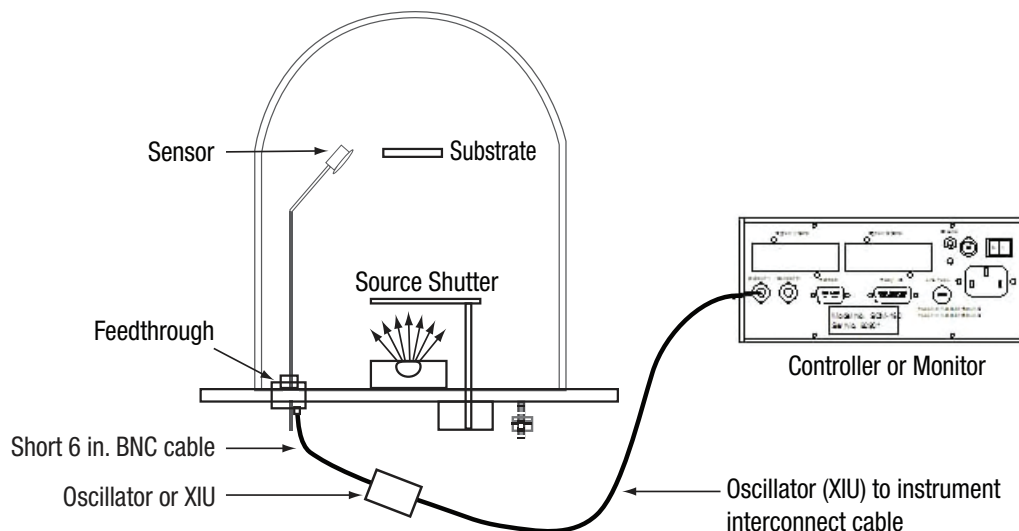
Feedthrough configuration varies depending on options selected (type of feedthrough and connection). Example: CDS-A1F47-XX and -B1F47-XX use a two-piece hybrid feedthrough design due to dimensional limits of a standard CF40.

#### NOTE 3:

For sensors ordered without a weld connection (option "8"), tubes are made to a length of approximately 76.2 cm (30 in.) for standard Cool Drawer Sensors and approximately 66 cm (26 in.) for Right Angle Cool Drawer Sensors.

#### NOTE 4:

Cool Drawer Sensors are not available without a feedthrough and must be either welded or connected with Ultra-Torr fittings.



## SPECIFICATIONS

### CDS series Cool Drawer Single Sensor specifications

Finish	Stainless steel, gold plated cool drawer
Cooling water	0.2 GPM using 1/8 in. O.D. tube (Do not allow to freeze)
Electrical connection	One standard female BNC on atmosphere side
Crystal	Industry standard 0.550 in. diameter
Air supply	Shuttered sensors require 55–60 psi regulated.

#### 1 in. bolt and compression fitting terminations:

Materials	304 stainless steel, Teflon®, ceramic, beryllium nickel, VITON®
Temperature	Operational environment to 300°C with water cooling or 165°C without
Mounting	1.015 in. ±0.010 in. diameter aperture

#### CF 40 welded terminations:

Materials	304 stainless steel, Teflon, ceramic, beryllium nickel
Temperature	Operational environment to 450°C with water cooling or 200°C without
Mounting	Mates with 2 3/4 in. ConFlat type flanges with 1.375 in. I.D. min.

## SPARE PARTS LIST

P/N	Description
123417	Shutter bracket
123418	Bellows cover
123419	Shutter
147207	Bellows and cover assembly (Items marked with * are included in 1470207)
147402	Link
* 147403	Actuator
* 147406	Bellows support
* 147407	Bellows cover
* 147408	Threaded shaft
147411	Spacer
* 147424	Bellows tube
* 084-026	Hex nut

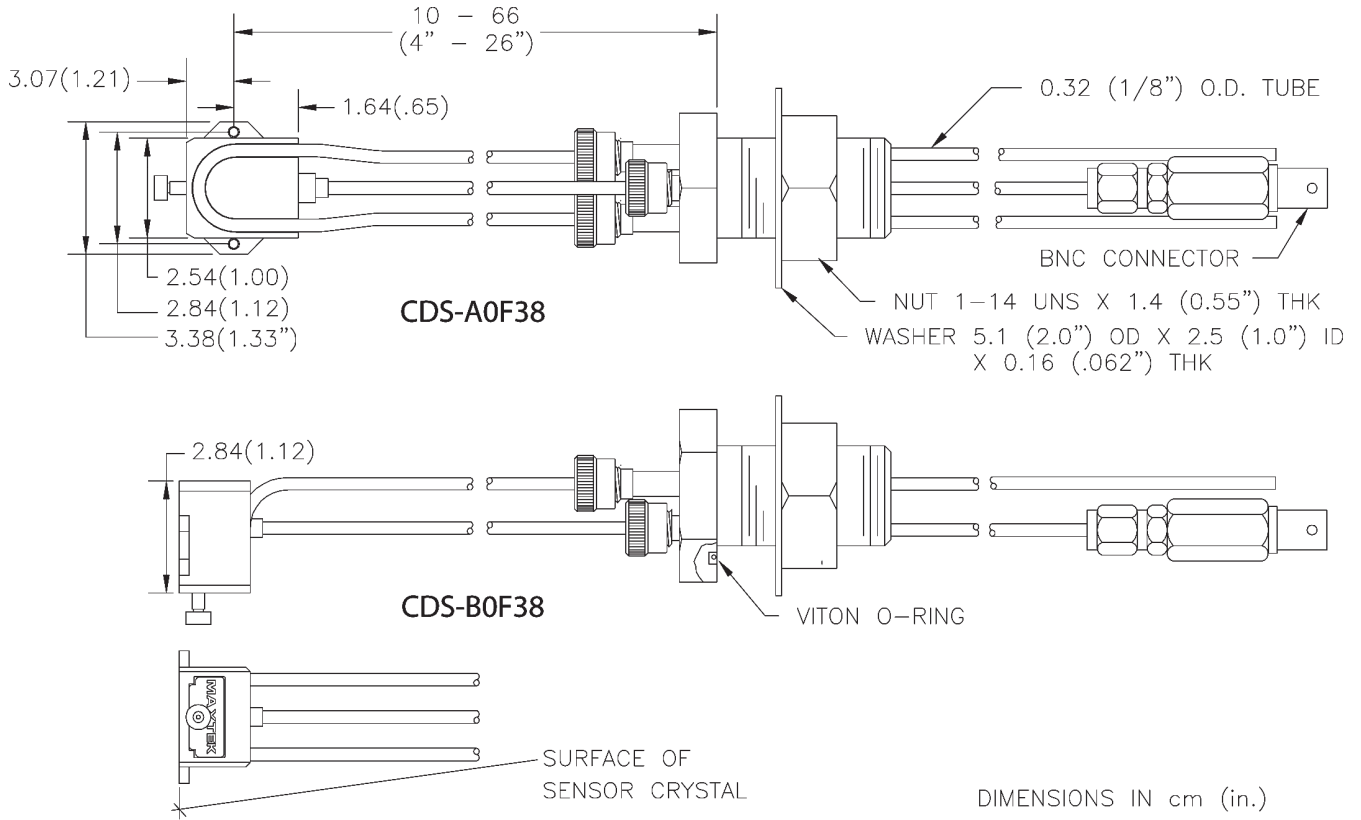
* 084-064	Lockwasher
* 084-205	#4-40 x 3/16 Philips screw
800128	#4 Lockwasher
800371	Shoulder screw
800372	Washer
* 800416	6-32 x 3/16 in. set screw
* 803313	Spring
123223-1	Conduit brazed assembly – long pin
123223-2	Conduit brazed assembly – short pin
* 147206-2	Bellows with 35 in. tube
803102	O-Ring for five port adjustable feedthrough
803261	Washer for five port adjustable feedthrough

## DIMENSIONS

### CDS-A0F38 and CDS-B0F38

#### Cool Drawer Single Sensor / feedthrough combinations

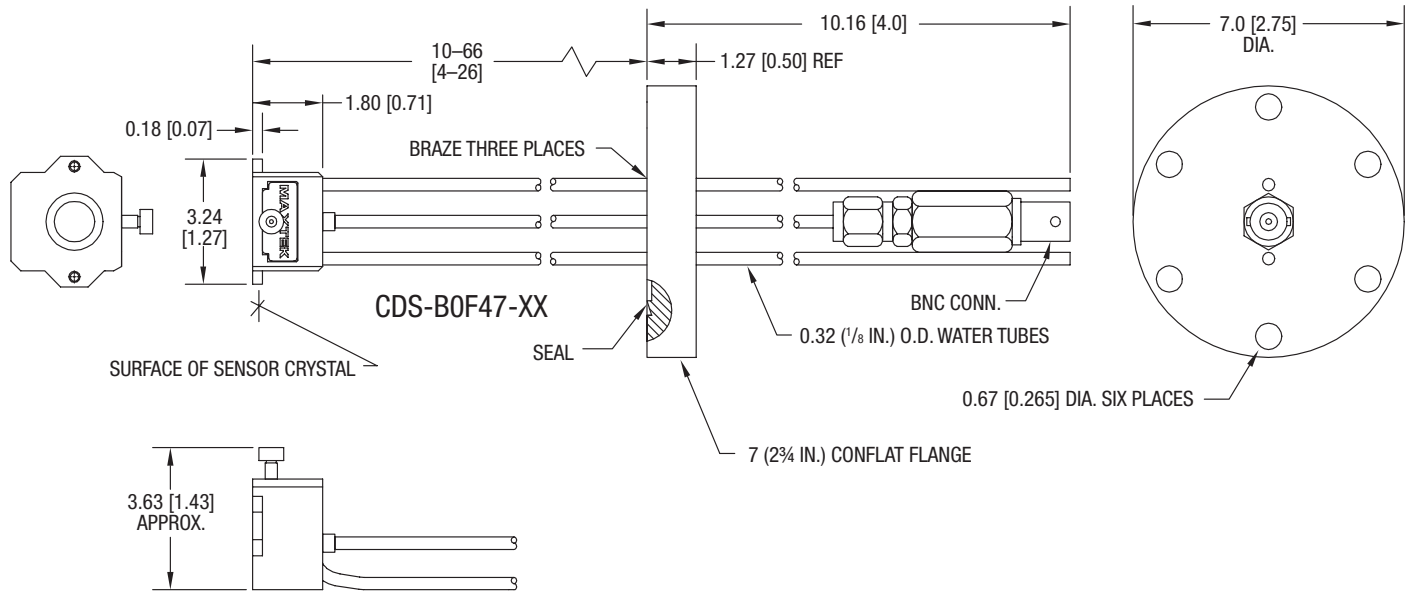
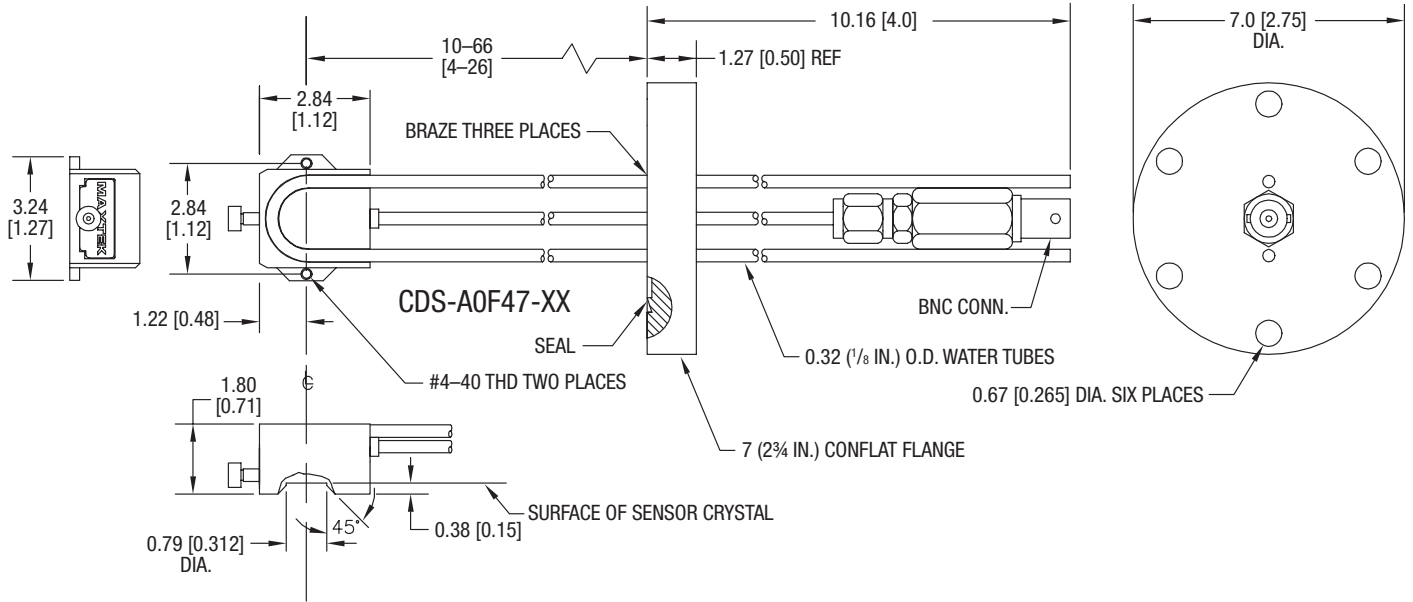
NOTE: Measurements in cm [in.]



# DIMENSIONS

## CDS-A0F47-XX and CDS-B0F47-XX Cool Drawer Single Sensor / feedthrough combinations

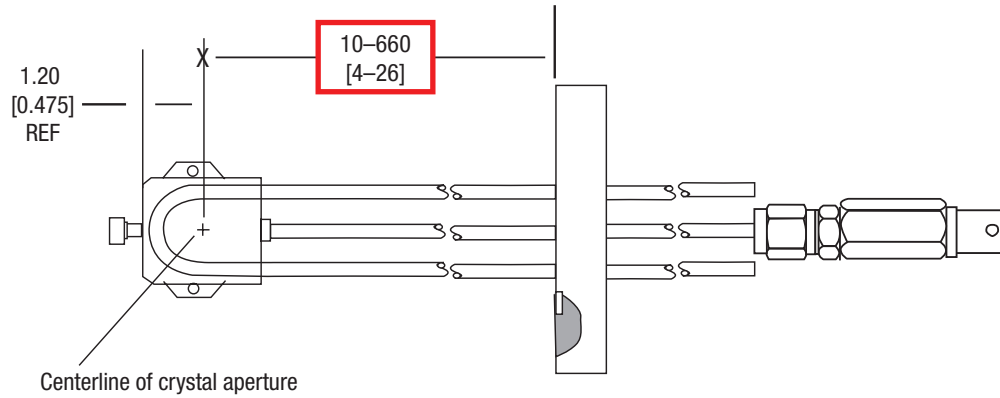
NOTE: Measurements in cm [in.]



## DIMENSIONS

### Sensor length specification for CDS-A0F47-XX sensor / feedthrough combinations

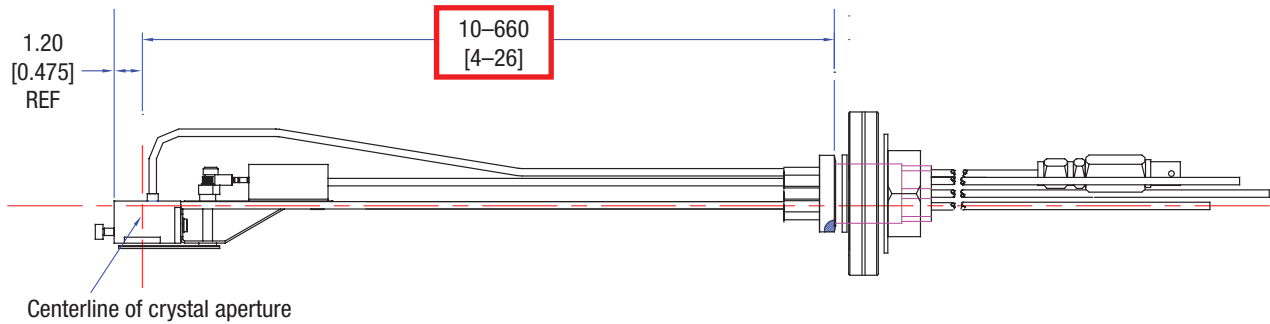
NOTE: Measurements in cm [in.]



## DIMENSIONS

### Sensor length specification for CDS-A1F47-XX sensor / feedthrough combinations

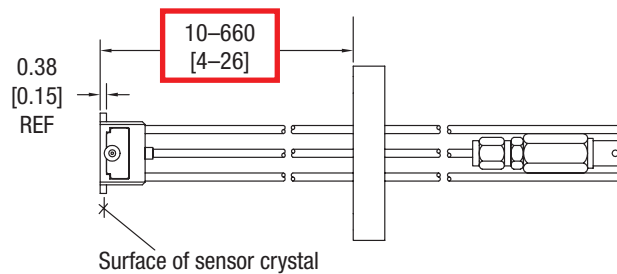
NOTE: Measurements in cm [in.]



## DIMENSIONS

### Sensor length specification for CDS-B0F47-XX sensor / feedthrough combinations

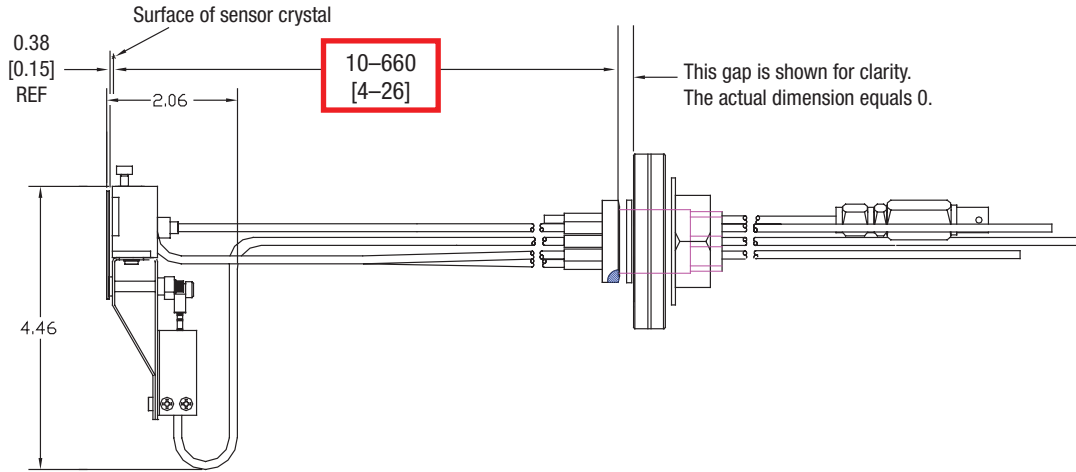
NOTE: Measurements in cm [in.]



## DIMENSIONS

### Sensor length specification for CDS-B1F47-XX sensor / feedthrough combinations

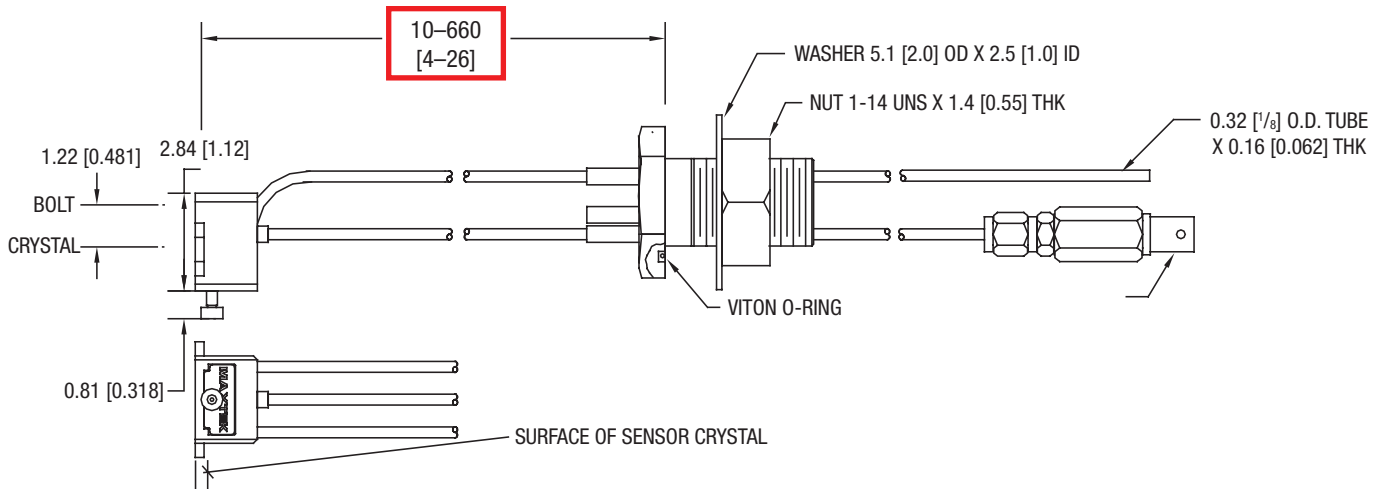
NOTE: Measurements in cm [in.]



## DIMENSIONS

### Sensor length specification for CDS-B0F37-XX sensor / feedthrough combinations

NOTE: Measurements in cm [in.]



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