



The Temperature People®  
Since 1943



09



# Compression FITTINGS

Product Guide

## Easy Ordering



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**Wire Transfer, Check  
or Money Order**

**U.S. Currency**

Electronic Development Labs, Inc.

244 Oakland Drive

Danville VA, 24540



**The Temperature People®**

## Feel confident in purchasing from EDL-

Since 1943, customer satisfaction has been our number one goal. By purchasing an EDL product, you are ensuring longevity and accuracy of your equipment, while minimizing costly downtimes associated with faulty equipment.

## Solve your manufacturing dilemma -

Our advisors are proven problem solvers with practical hands-on knowledge and technical expertise. Let us find the right product for you. Don't see what you need? We will engineer a solution based on your specific needs.

## Get ongoing technical support -

EDL combines technical expertise with a broad selection of products to ensure you're getting the right product. Once EDL has provided a custom solution to fit your needs our support staff remain available for ongoing assistance.

## USA crafted - Best product available -

All of our products are hand crafted by skilled toolmen and engineers here in the USA. We are The Temperature People® and we will supply you with the best solution for your manufacturing quandary.

## The Temperature People®-

EDL is known for prompt service, superior quality and competitive pricing. Call The Temperature People® or visit our website to learn more about EDL's innovative temperature measuring equipment, calibration product line, and compression fittings and glands.

For more information on any of the of the products listed in this catalog, or if you are looking for a product not listed here, call us at 800.342.5335 or email [sales@edl-inc.com](mailto:sales@edl-inc.com).

Check out additional products at:  
**[www.edl-inc.com](http://www.edl-inc.com)**



## About Us -

**W**hen you do business with EDL, you get a partner committed to your ultimate satisfaction. You can expect quality parts delivered on time, every time. The expertise of our employees, attained through over 60 years in the temperature business, is something you expect from The Temperature People®.

The accumulated knowledge and skill of our engineers, designers, toolmakers, set-up personnel, machine operators and managers are yours when you make us your choice for temperature compression fittings and glands. EDL is pleased to manufacture prototypes or small lots based on your requirements. Our skilled machinists have the ability to hand-craft any part you need; no job is too big or too small.

We produce the best bore thru compression fittings available, tailored to fit your needs. Our skilled experts create compression fittings from multiple materials (Teflon®, Stainless Steel, Copper, Lava, and Neoprene to name a few) and with features such as specialized threads, milled flats, knurls, and cross holes – all based on your application requirements. At EDL, our experts are here to design and produce what you need when you need it.

*Drilling, tapping, forming, threading, knurling, and deburring are quickly and accurately accomplished in-house by our own seasoned professionals. Tell us what you need.*

## Why Choose Compression Fittings From EDL?

**E**DL's compression fittings have been in production and used internationally for over 20 years. They are designed for a broad range of markets and for use in: municipal pressure and gravity piping systems, wastewater, oil and gas, Methane gas, salt water, compressed air, irrigation, food and beverage, mining, geo thermal applications, waterworks, electrical systems, plumbing systems, telecommunications, radiant heating, and any fluid conduction application.

EDL's fittings can be used in new installations, or in repair/maintenance situations. Our fittings are easily installed, resulting in labor and equipment cost savings for you!

### Other features/benefits include:

- EDL fittings are durable and long-lasting.
- Typical product rating is 3000 psi in all sizes and configurations.
- Maximum temperature 815° C.
- Compression fittings come in various series and sizes and are used to create access points into pipes, furnaces/ovens, chambers, etc.



## BORE THRU COMPRESSION FITTINGS

EDL'S bore through compression fittings provide an effective and flexible way to insert a sensor into a process environment. EDL standard NPT bore through sizes (shown below) are usually available for same day shipping. Additional installation styles and threads series are also available. EDL manufactures metric threads with standard bore sizes and NPT series threads with metric bore sizes. Our unique fitting design and flexible manufacturing methods are used to provide short delivery times on unusual thread and bore sizes. Unlike traditional fittings, the EDL fitting is adjustable! Traditional stainless steel ferrules cannot be moved after the fitting has been tightened. Using EDL'S lava or Teflon® gland fittings allow the sensor to be adjusted, or even replaced, after tightening. Replaceable glands can be purchased separately and easily replaced when changing sensors. The EDL "Bore Through" fitting was originally designed for use with our line of temperature sensors; please ask for our general product catalog for more information on our temperature measurement products.

All of our fittings are machined from solid 316 stainless steel Hex bar stock (304 stainless steel and other high temperature materials available upon request) and each piece is individually hand inspected for conformance to EDL's quality control standards. EDL's compression fittings are supplied fully assembled and individually bagged, allowing for clean efficient make-up. Contact our engineering department for more specific information.

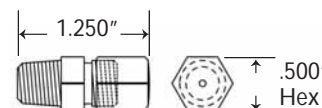
*316 stainless steel fittings for mounting probes. Heavy duty, non-corrosive fittings designed for probes using many diameter sheaths. EDL fittings have an excellent service life and are designed for withstanding high temperatures and thermal cycling.*

### 1/8" NPT



### 1/8" - 27 NPT Thread Bore Thru

316 Stainless Steel threaded into a 1/8" NPT; ID range from .062 to .187 standard, additional sizes available upon request.

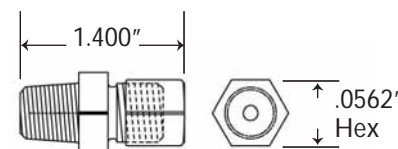


### 1/4" NPT



### 1/4" - 18 NPT Thread Bore Thru

316 Stainless Steel threaded into a 1/4" NPT; ID range from .125 to .312 standard.

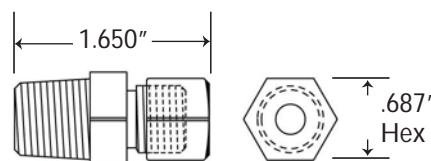


### 3/8" NPT



### 3/8" - 18 NPT Thread Bore Thru

316 Stainless Steel threaded into a 3/8" NPT; ID range from .125 to .312 standard.

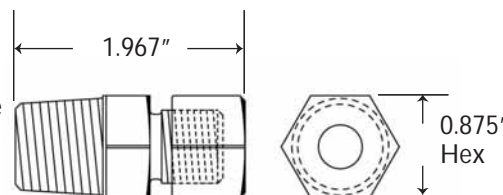


### 1/2" NPT



### 1/2" - 14 NPT Thread Bore Thru

316 Stainless Steel threaded into a 1/2" NPT; ID range from .187 to .375 standard.

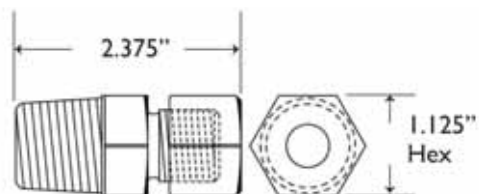


### 3/4" NPT



### 3/4" - 14 NPT Thread Bore Thru

316 Stainless Steel threaded into a 3/4" NPT; ID range from .250 to .500 standard.



# COMPRESSION FITTINGS ORDERING INFORMATION

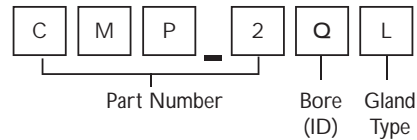


EDL compression fittings provide an efficient, economical and convenient means of securing and sealing a variety of sensors into tanks, chambers, vessels, and pipes. All fittings are constructed of 316 Stainless Steel and are rated up to 3000 psi., maximum temperature 815 °C.

## How To Order -

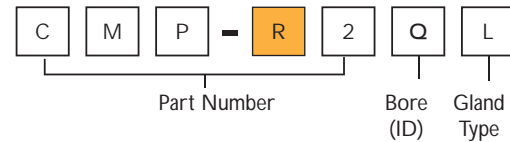
EDL fittings are ordered by part # as listed in this catalog. The numbering system is designed so that you can easily identify the type, configuration, NPT size, bore ID, and material of the gland. Please refer to the examples below.

## Compression Fittings Part # Example



Example part # for a 1/8" NPT thread, .093 bore inside diameter, Lava gland compression fitting.

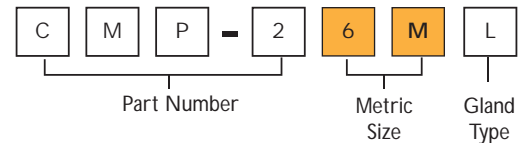
## Replaceable Gland Part # Example



Example part # for a 1/8" NPT thread, .093 bore inside diameter, Lava gland for replacement gland.

\*R denotes replacement gland

## For Bore Metric Size Part # Example



Example part # for a 1/8" NPT thread, 6mm Metric size, & Lava gland compression fitting.

\*Determine size & add M to denote metric size.

Part # Ordering System			
Fitting Type	NPT	BORE (ID)	Gland Type
CMP-2	1/8"	R= .020	T, L
		B= .030	
		P= .040	T, L, S
		K= .0625	
		Q= .093	
		D= .125	
V= .187			
CMP-4	1/4"	D= .125	T, L, S
		V= .187	
		A= .250	
		C= .312	
		G= .375	
CMP-6	3/8"	D= .125	T, L, S
		V= .187	
		A= .250	
		C= .312	
		G= .375	
CMP-8	1/2"	V= .187	T, L, S
		A= .250	
		C= .312	
		G= .375	
CMP-12	3/4"	A= .250	T, L, S
		C= .312	
		G= .375	
		Z= .437	
		J= .500	

Please refer to the above compression fittings chart for determining part numbers.

## Glands

Type of Glands	
Teflon	= T (250 °C)
Lava	= L (815 °C)
Stainless	= S (815 °C)

Use the above table to determine type of gland.



Teflon Glands  
250° C



Lava Glands  
815° C



Stainless Steel  
Glands  
815° C

\*non-adjustable



The Temperature People®

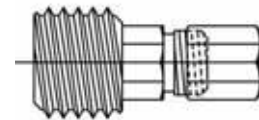
# SPECIAL COMPRESSION FITTINGS

EDL produces special compression fittings for various applications. Shown below are examples of compression fittings built to specific customer requirements:

**3/4" UNC**



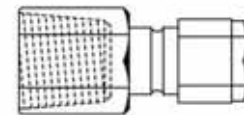
**GE Turbine Bearing Thermocouple Fitting**  
3/4" standard 10 thread UNC, 316 Stainless Steel, with .187 ID, designed to hold thermocouple in position.



**1/2" NPT, 1/4"**



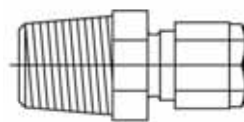
**1/2" NPT Thread, Female 1/4" Bore Thru**  
316 Stainless Steel.



**M20 x 1.5"**



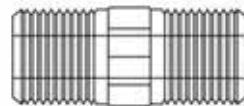
**Thread M20 x 1.5" Tapered Pipe Thread**  
Bore thru available in Imperial or Metric, 316 Stainless Steel.



**1/2" x 1/2" NPT**



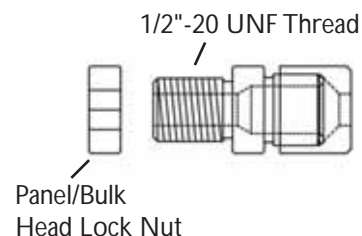
**Thermowell Junction Head Adapter**  
1/2" NPT x 1/2" NPT, 316 Stainless Steel.



**1/2" - 20 UNF**



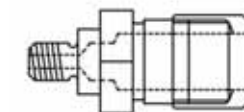
**1/2" - 20 UNF Panel / Bulk Head Style Mounting**  
1 1/16" Hex, 316 Stainless Steel.



**1/4" - 28 UNF**



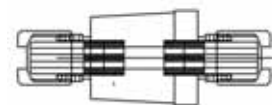
**1/4" - 28 UNF Standard Grease Fitting Adapter**  
1/4"-28 UNF to 1/4" tube with O-ring, 316 Stainless Steel.



**1/2" NPT**



**1/2" NPT Thread Bore Thru**  
1/2"NPT, tube to tube through wall, 316 Stainless Steel.



**3/4" - 10 UNC**



**3/4" - 10 UNC Special Mounting Hardware**  
3/4" - 10 UNC, Hardware for mounting a thermocouple sensor into a bearing journal, 316 Stainless Steel.



**3/4" NPTM**



**3/4" NPTM to 1/2" NPTF**  
316 Stainless Steel.



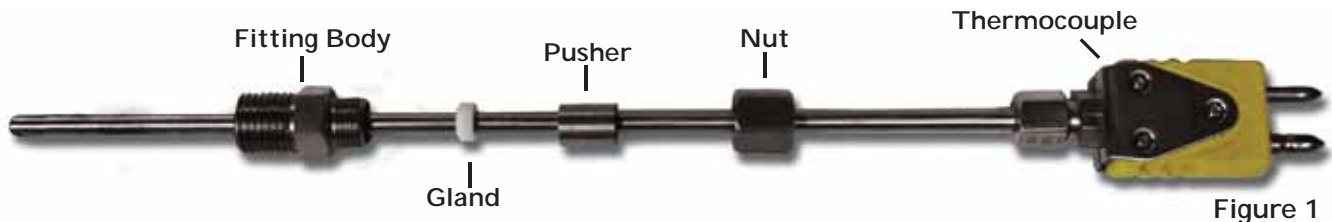


Figure 1

## Assembly Instructions-

1. Should disassembly or gland replacement be required reassembly of fitting is shown in Fig. 1.
2. Place sensor into fitting until tip reaches the desired immersion. Mark the sensor on the nut side using a marker or piece of tape. Remove sensor from the fitting.
3. Install fitting into the tapped hole. Tighten fitting body until a seal is achieved; the use of tapes or thread sealants may be used at the discretion of the installer, see Fig. 3.

Note: Torque values for installing tapered threads are not given due to the complexity of an interference fit, various thread materials, and the different properties of fluids or gasses. ASTM and ASME provide guidance in this area.

4. Install the sensor and finger tighten, see Fig. 2.
5. Tighten the nut using a wrench, making sure an additional wrench is used to support the fitting body, see Fig. 4. Torque values are given in Table 1.

## Replacement Instructions-

Teflon®: loosen compression fitting, slide thermocouple out, replace new gland and tighten.

Lava: loosen compression fitting until thermocouple is loose, slide gland out or remove nut, remove pusher, clean debris and position new gland. Repeat steps 3 and 4.



Figure 3



Figure 2



Figure 4

Torque Values (in/lbs)		
Thread Size	304 SS	316 SS
3/8 - 24	255	170
7/16 - 24	417	278
1/2 - 18	619	412
9/16 - 20	881	587
5/8 - 18	1237	825
11/16 - 16	1636	1091
3/4 - 16	2164	1442

Theoretical torque values were obtained using the following equation. Actual values will vary depending on the gland used and the sealing environment. For further support consult the EDL engineering staff.

$$T = F_1 * d * K$$

T = Torque  
 K = Torque Factor = 0.2  
 F<sub>i</sub> = Preload Factor  
 D = Major Diameter

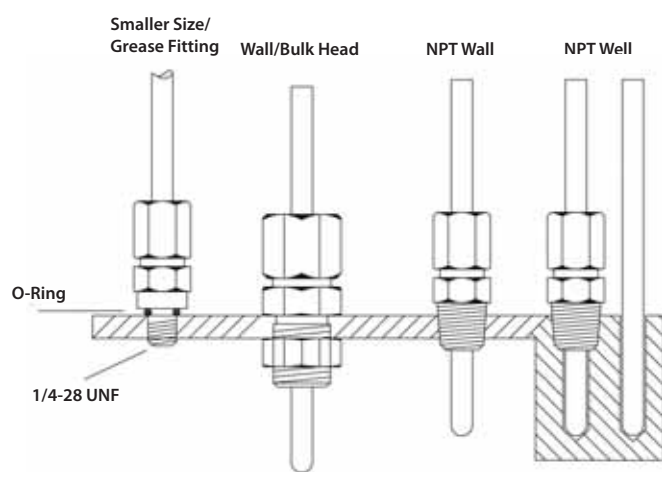


Figure 5

The figure to the left (Fig.5) demonstrates various methods of installation using different fittings manufactured by EDL. It may be beneficial to use a bulkhead style fitting on thin walls or where pressure is static. Also shown are fittings that can be used to replace grease fittings with tube style fittings. Compression fittings provide a convenient way to install temperature sensors into pillow blocks and other applications where thermo-wells are impractical.



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