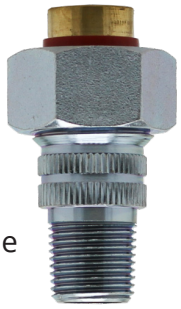
DU-NL SERIES NO LEAD DIELECTRIC UNIONS

Dielectric Unions prevent accelerated corrosion and deterioration in piping systems due to galvanic corrosion and stray current. Commonly used for hot water heater hookup.



MATERIAL LIST		
No	**Part Name**	**Material**
1	Solder Connection	No Lead Brass (C89550)
2	Plastic Insulator	Nylon
3	Nut	Galvanized Steel (ASTM 1020)
4	Gasket	Silicone Rubber
5	NPT Threaded Connection	Galvanized Steel (ASTM 1020)

APPLICATIONS:

- Ideal in hot water heater connections, water piping applications, air conditioners, processing tanks, and non-combustible gas applications
- Not suitable for combustible gases (such as, but not limited to, natural gas/propane), steam, ethylene glycol or propylene glycol transfer applications. As fluid temperature increases the rate of corrosion also increases
- Installed between pipes made from dissimilar metals
- Used in commercial and residential applications

SPECIFICATIONS:

- Threads conform to ANSI/ASME B1.20.1
- Solder connection conform to ANSI/ASME B16.18
- Conforms to ASTM A108

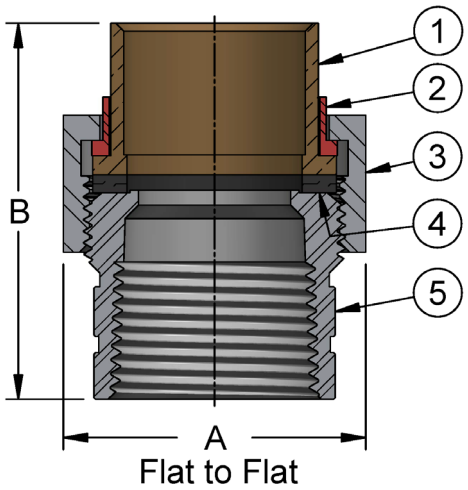
CERTIFICATIONS:

- NSF/ANSI Standard 372 Certified (Drinking Water System Components - Lead Content)

RATINGS:

- Maximum pressure rating: 250 PSI
- Maximum temperature rating: 180°F (82°C)

DIMENSIONS							
Part No.	**Steel Connection**	**Sweat Connection**	**A**		**B**		**Weight**
			in	**mm**	**in**	**mm**	**g**
DU-05FSNL	1/2" FPT	1/2"	1.61	41.0	1.77	45.0	154
DU-07F05SNL	3/4" FPT	1/2"	1.85	47.0	1.93	49.0	230
DU-07FSNL	3/4" FPT	3/4"	1.85	47.0	2.09	53.0	206
DU-10FSNL	1" FPT	1"	2.17	55.0	2.28	58.0	286
DU-12FSNL	1-1/4" FPT	1-1/4"	2.64	67.0	2.60	66.0	430
DU-15FSNL	1-1/2" FPT	1-1/2"	3.15	80.0	2.76	70.0	642
DU-20FSNL	2" FPT	2"	4.02	102.0	3.09	78.5	1067
DU-05MSNL	1/2" MPT	1/2"	1.61	41.0	2.76	70.0	190
DU-07MSNL	3/4" MPT	3/4"	1.85	47.0	2.93	74.5	276

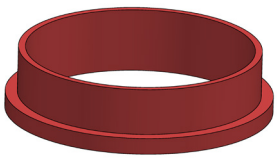


DU-NL SERIES REPACEMENT PARTS:

Replacement plastic insulators and gaskets are available for the DU-NL series dielectric unions.

PLASTIC INSULATOR:

DIMENSIONS	
Part No.	**Size**
DU-PI05	1/2"
DU-PI07	3/4"
DU-PI10	1"
DU-PI12	1-1/4"
DU-PI15	1-1/2"
DU-PI20	2"



GASKET:

DIMENSIONS	
Part No.	**Size**
DU-G05	1/2"
DU-G07	3/4"
DU-G10	1"
DU-G12	1-1/4"
DU-G15	1-1/2"
DU-G20	2"

Warning: Before using any dielectric unions with any chemical substance, the user must determine the suitability of the product for the intended use. The user assumes all risk and liability for use of the product with any chemical or other substance. It is always advisable that the product be field tested under actual conditions, as material resistance to the effects of chemicals depends not only upon the particular chemical, but also on other factors such as length of exposure, service temperature, pressure, fluid velocity, and the relative concentration of each component in multi-component mixtures. Boshart Industries cannot gaurantee or warranty any product that is used in an application where it is not intended.

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INSTALLATION INSTRUCTIONS

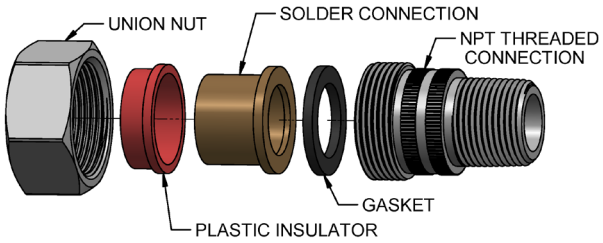
GETTING STARTED

Please review all of the steps in the installation instructions before getting started to prevent injury or damage to the equipment and property. This guide is designed to provide step by step instructions on how to properly install a dielectric union.

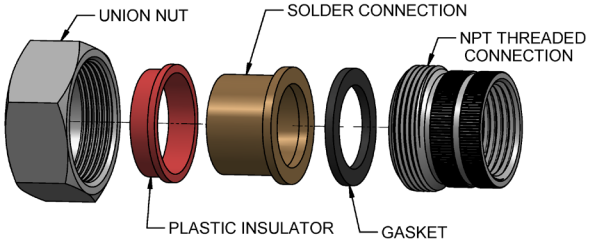
OPERATION

Dielectric unions are used in commercial and residential applications to prevent corrosion in the piping system due to galvanic and stray current. Electric water heaters are sometimes plumbed with piping made up of two different materials; usually galvanized steel and copper. When water heaters with steel inlet/outlet connections are joined to copper plumbing systems is when this could occur. Joining these two materials can create **electrolysis,** which is a chemical reaction caused by the flow of electrical current between the dissimilar metals. Corrosive damage to the piping may occur over time. To prevent electrolysis, install a dielectric union.

DU-07MSNL



DU-10FSNL



MATERIALS AND TOOLS REQUIRED

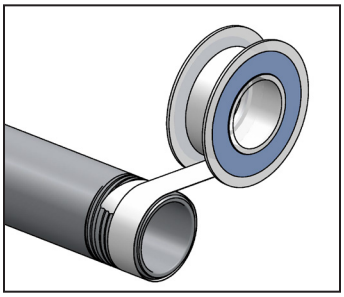
- Thread Sealing Tape (PTFE) or Compound
- Pipe Wrenches and a large adjustable wrench
- Propane Torch
- Acid-free Flux
- No Lead Solder

INSTALLATION GUIDELINES

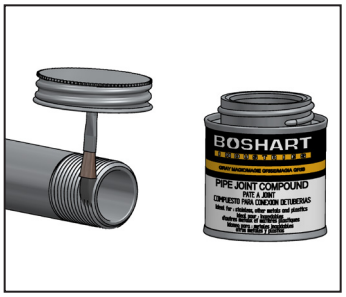
Step #1 - Apply PTFE tape or a thread sealing compound

For Polytetrafluoroethylene (PTFE) tape:
In a clockwise direction, wrap a few layers of pipe sealing tape over the threads of the galvanized steel pipe. Overlap each wrap by about halfway.

For thread sealing compound:
Always follow thread sealant manufacturer's instructions.



PTFE TAPE



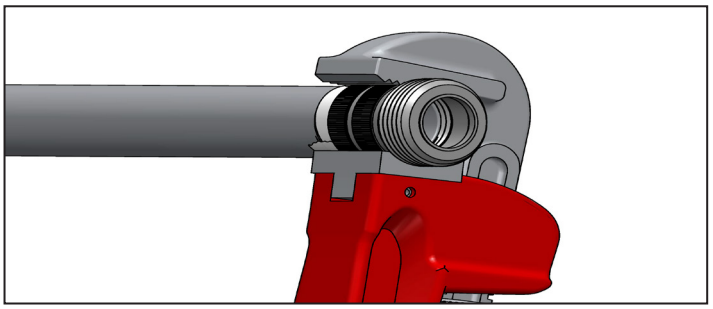
THREAD SEALING COMPOUND

Step #2 - Install threaded end to pipe

Install the threaded end of the dielectric union body onto the galvanized pipe, or steel hot water heater connections. Turn the union clockwise and hand tighten. Then, tighten using a wrench. A general guideline for making threaded connections for metal fittings is as follows:
After hand-tight engagement, tighten an additional:

- 1-1/2 to 3 full turns for sizes up to 1"
- 1to 2-1/2" full turns for sizes 1-1/4" and larger

There should be between 3-1/2 and 6 threads engaged. Thread engagement outside of this range may indicate under or over tightening of the joint, or out of tolerance threads.



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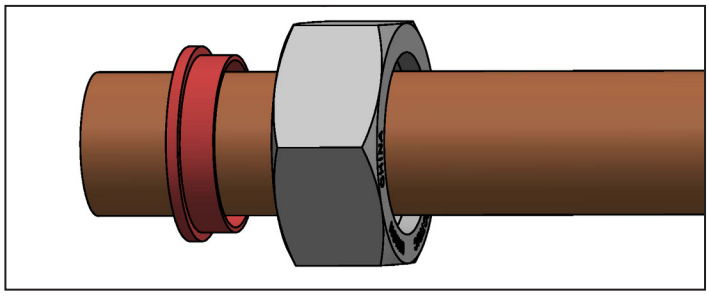
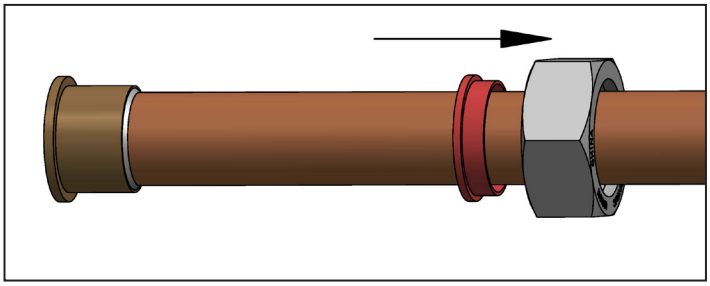
Step #3 - Slide union nut onto copper pipe

Ensure all components are free of dirt and foreign debris, and the pipe is free of any burrs.
Slide the union nut over the end of the copper pipe, followed by the plastic insulator. Install the plastic insulator, as far away to avoid melting it when soldering.



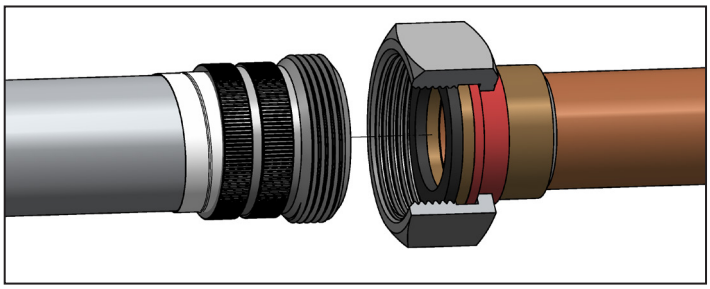
Step #4 - Solder brass connection to copper pipe

Install the brass solder connection onto the copper pipe. Ensure the pipe is fully seated inside the brass solder connection. Taking care to keep the plastic insulator far enough away to avoid melting, solder the brass end to the copper pipe using a propane torch, acid-free flux and no lead solder. Allow pipe to cool. Always follow solder/flux manufacturer's instructions.



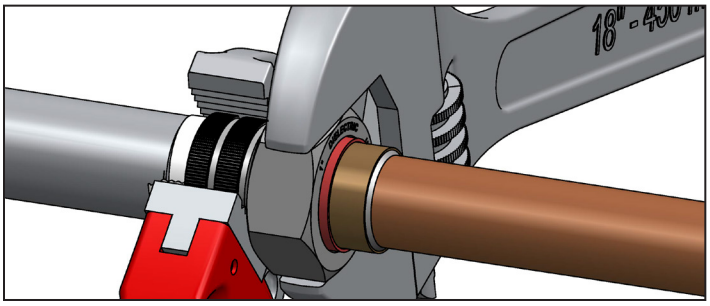
Step #5 - Install rubber gasket

Install the rubber gasket between the union nut and the brass solder connection. Slide union nut forward and turn it clockwise over NPT threaded connection end on galvanized steel pipe. Hand tighten.



Step #6 - Complete assembly of union and check for leaks

Use the pipe wrench on the NPT threaded connection to hold the pipe from turning. Hand tighten the union nut. Then, using the large adjustable wrench fully tighten the union nut.



Step #7 - Check for leaks

WARNING! The expansion and contraction of the union gasket due to fluctuation in water temperature may cause the union to leak. Check the union frequently to ensure you have made a water tight connection.

For more information on installation, adjustment, repair & operation, visit Boshart Knowledge Base at

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