Spence™ Uniflex Pipe Coupling

Figure 1. *Uniflex Pipe Coupling Assembly*

Features

- **No Energy Losses —** from expensive steam and process fluid leaks. A spiral-wound gasket ensures a leak-tight seal.
- **Lower Maintenance/Labor Costs —** Replacement of the union housing is eliminated. Only a change of gasket is required when the Uniflex Coupling is disassembled. No need to spring the pipe during make-up or disassembly. It is less costly to make and break than flanges.
- **Lower Inventory Costs —** Only a few Uniflex Pipe Couplings and gasket kits in each size are required to back up installations. One Uniflex satisfies all pressure series of flanges in pipe sizes NPS 1/2 to 2 / DN 15 to 50.
- **Ease of Installation —** The gasket is held firmly in place with a retainer. There is no danger of damaging the seal during installation as it is fully protected from overtorquing.
- **Welded Piping Systems —** With the gasket removed while welding coupling into the piping, the danger of damaging the seal is eliminated. Costly removal of sections of pipe to replace leaky unions is eliminated.
- **Component Interchangeability —** All components of the Uniflex Couplings, in each size class, are fully interchangeable. End connections can be socket weld, threaded or a combination of both.

Introduction

The Uniflex Pipe Coupling (SUA) solves frequent leakage, intensive maintenance and stocking difficulties associated with ground joint-pipe unions.

The SUA Series is a modified forged steel or stainless steel pipe union utilizing a Spiral-Wound Gasket to provide a leak-tight joint. This design, similar in principle to flange joints, has been proven in the field for many years. Because the joint seal is formed by the replaceable gasket (not a ground joint finish), failures caused by poor mating surfaces are eliminated.

Uniflex Coupling

Specifications

This section lists the specifications for the Uniflex Coupling. Factory specifications are stamped on the nameplate fastened on the coupling at the factory.

Available Configuration
- **Type SUA-T:** Threaded Carbon Steel
- **Type SUA-SW:** Socket weld Carbon Steel
- **Type SUASS-T:** Threaded Stainless Steel
- **Type SUASS-SW:** Socket weld Stainless Steel

Replacement Kit
- **Type SUG:** Gasket Kit includes 10 gaskets.
- **Type SUGR:** Gasket Kit includes 10 gaskets and 10 retaining rings

Body Size
NPS 1/2, 3/4, 1, 1-1/4, 1-1/2 and 2 / DN 15, 20, 25, 32, 40 and 50

End Connection
NPT and Socket Weld

Maximum Operating Pressure[1]
See Table 1

Maximum Operating Temperature[1]
See Table 1

Materials of Construction
- **Housing:** Forged carbon steel or 316/316L SST
- **Gasket:** Stainless steel with graphite fill
- **Gasket Retainer:** Stainless steel

Applications
Steam Systems–up to 1500 psig / 103 bar Superheat
Dowtherm
Variety of process fluids and gases to 3000 psig / 207 bar CWP, i.e.: Acids, Caustics, Nitrogen, etc.
Steam Trap, Valve, Pump and Compressor
Manifolds
Nuclear Power Plants
Hydraulic Fluids/Hot Oils

Options
Teflon Gasket Filler or Flexite Super™
Retainer ring options: Type 347 or Type 316 stainless steel (other materials available on request)

Approximate Weight
See Table 3

1. The pressure/temperature limits in this Bulletin and any applicable standard or code limitation should not be exceeded.

Table 1. *SUA Series Temperature and Pressure Ratings*[1]

TEMPERATURE		CARBON STEEL		316L SS	
°F	°C	psig	bar	psig	bar
100	37.8	3000 (-20°F)[2]	207 (-29°C)[2]	2430 (-325°F)[2]	168 (-198°C)[2]
200	93.3	2735	189	2050	141
300	149	2655	183	1835	127
400	204	2565	177	1670	115
500	260	2425	167	1545	107
600	316	2220	153	1460	101
700	371	2155	149	1390	95.8
800	427	- - - -	- - - -	1330	91.7
850	454	- - - -	- - - -	1300	89.6

1. For 3000 lbs / 1361 kg unions from MSS SP-83.
2. Minimum recommended temperature.

Installation

Note

Installation Tip: Use UNIFLEX in all regulator and trap stations through NPS 2 / DN 50 to simplify future changeouts.

Threaded Union Installation

The installation procedure for the Uniflex Coupling is similar to the installation procedure for any standard pipe union, with the following exceptions:

1. Care must be taken in positioning the spiral-wound gasket without a retainer.
2. Apply a thin film of silicone grease or thread lubricant in the groove of the inlet housing before inserting the gasket. Gaskets with a retainer do not require this step.
3. Apply thread lubricant to the external threads of the union to have proper sealing force.
4. Properly tigthen the union to ensure leak-proof seal.
5. Retighten the union after it reaches full temperature.

Socket Weld Unions Installation

Whenever welding is performed adjacent to the Uniflex Couplings, the following steps must be taken to avoid destruction of the gasket by heat and/or arcing of the Union surfaces.

1. Remove gasket from the Uniflex Coupling.
2. Wrench-tighten the Uniflex Coupling after gasket has been removed.
3. Place grounding clamp as close as possible to the point of the weld.
4. Allow the Uniflex Coupling to cool before installing the gasket.
5. Always use new gasket when the Uniflex Coupling is disassembled.

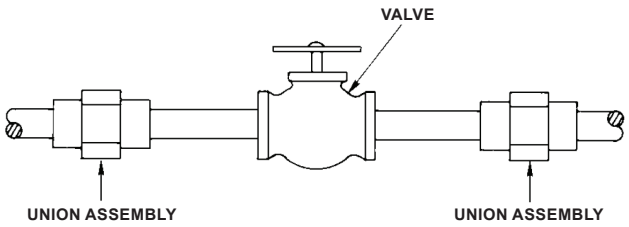

Figure 2. *Typical Uniflex Union Assembly Installation*

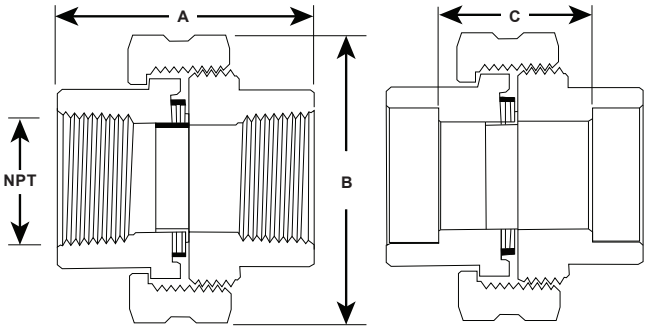

Figure 3. *SUA Series Dimensions*

Table 2. *Minimum Torque*

UNION SIZE		TORQUE	
NPS	DN	Ft-lbs	N•m
1/2	15	100	135.6
3/4	20	120	162.7
1	25	120	162.7

Table 3. *SUA Series Dimensions*

BODY SIZE		A		B		C		WEIGHT	
NPS	DN	In.	mm	In.	mm	In.	mm	lbs	kg
1/2	15	2.0	51	1.8	46	0.9	24	0.8	0.36
3/4	20	2.2	56	2.2	56	1.1	29	1.2	0.55
1	25	2.4	62	2.6	65	1.1	29	1.6	0.73
1-1/4	32	2.8	71	3.0	77	1.4	35	2.5	1.2
1-1/2	40	3.0	76	3.4	86	1.5	38	3.3	1.5
2	50	3.4	86	4.1	103	1.6	41	4.7	2.2
1. Average weights listed–actual weights may vary slightly.									

Replacemet Kit Installation

1. Dismantle union housing.
2. Remove and discard the spiral-wound gasket.
3. Install one of the replacement gaskets. Refer to Type SUA Uniflex Union Assembly Installation Sheet, VCIMD-14918, for the replacement parts kit.
4. For Type SUG - gaskets without retainers, apply a thin film of silicone grease or thread lubricant in the groove of the inlet housing before inserting the gasket.
5. Type SUGR - gaskets with retainers, ensure the gasket is positioned correctly within the union.
6. Apply thread lubricant to the external threads of the union to have proper sealing force.
7. Properly tigthen the union to ensure leak-proof seal. Tighten according to recommended sequence. Use 25% increments to a minimum torque as indicated in Table 2.
8. Retighten the union after it reaches full temperature.

Uniflex Coupling

Ordering Information

When ordering, complete the ordering guide on this page. Refer to the Specifications section on page 2.

Review the description to the right of each specification and the information in each referenced table or figure. Specify your choice whenever a selection is offered.

Ordering Guide

Type (Select One)
- ☐ Type SUA-T
- ☐ Type SUA-SW
- ☐ Type SUASS-T
- ☐ Type SUASS-SW

Body Size (Select One)
- ☐ NPS 1/2 / DN 15
- ☐ NPS 3/4 / DN 20
- ☐ NPS 1 / DN 20
- ☐ NPS 1-1/4 / DN 32
- ☐ NPS 1-1/2 / DN 40
- ☐ NPS 2 / DN 50

Female End Connection (Select One)
- ☐ NPT
- ☐ Socket Weld

Male End Connection (Select One)
- ☐ NPT
- ☐ Socket Weld

Repair Kit
- ☐ Type SUG
- ☐ Type SUGR

Options
- ☐ Gasket Filler Material Graphite
- ☐ Teflon Gasket Filler
- ☐ Gasket Filler Material Flexit Super™
- ☐ Type 347 stainless steel

Winding Material
- ☐ Type 316L stainless steel
- ☐ Other materials please specify _____

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